

MAGYAR ÁLLAMI EÖTVÖS LORÁND GEOFIZIKAI INTÉZET  
AZ ORSZÁGOS FÖLDRENGÉSVIZSGÁLÓ INTÉZET KIADVÁNYAI  
SZERKESZTI: DR. SIMON BÉLA

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A: SOROZAT  
SERIE

AZ ORSZÁGOS FÖLDRENGÉSVIZSGÁLÓ INTÉZET  
MIKROSZEIZMIKUS JELENTÉSE

1954

RAPPORT MICROSÉISMIQUE  
DE L'INSTITUT NATIONAL  
SÉISMOLOGIQUE DE  
HONGRIE

FELDOLGOZTÁK: M<sup>me</sup> M. SZILBER  
PAR: D. CSOMOR  
Z. KISS



MŰSZAKI KÖNYVKIADÓ

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1955



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1955



Felelős kiadó: Solt Sándor

|                            |                                    |                            |
|----------------------------|------------------------------------|----------------------------|
| Műszaki szerkesztő:        | Ívterjedelem: $6\frac{1}{4}$ (A/5) | Megrendelve: 1955. IX. 30. |
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8333. Franklin-nyomda Budapest, VIII., Szentkirályi utca 28.

Felelős: Vértés Ferenc



## BUDAPEST (B)

Longitude: 19°03'55'' E. Gr.  
Altitude: 110 m.

Latitude: 47°29'29'' N.  
Sous-sol: Alluvion.

Instrument: Pendule Wiechert (masse: 1000 kg)

## KALOCSA (K)

Longitude: 18°58'35'' E. Gr.  
Altitude: 98 m.

Latitude: 46°31'43'' N.  
Sous-sol: Sédiment friable  
alluvial.

Instrument: Pendule Wiechert horizontal (masse: 200 kg)

## KECSKEMÉT (Ke)

Longitude: 19°41'54'' E. Gr.  
Altitude: 122 m.

Latitude: 46°54'44'' N.  
Sous-sol: Alluvion.

Instrument: Pendules Krumbach (masse: 100 kg)

## SZEGED (Sz)

Longitude: 20°08'29'' E. Gr.  
Altitude: 82 m.

Latitude: 46°14'54'' N.  
Sous-sol: Alluvion.

Instrument: Une paire de pendules Mainka (masse: 210 kg)

| Date          | Comp. | V   |    |     |     | T <sub>0</sub> |     |     |     | ε:1 |     |     |     | $\frac{r}{T_0^2}$ |        |       |        |
|---------------|-------|-----|----|-----|-----|----------------|-----|-----|-----|-----|-----|-----|-----|-------------------|--------|-------|--------|
|               |       | B   | K  | Ke  | Sz  | B              | K   | Ke  | Sz  | B   | K   | Ke  | Sz  | B                 | K      | Ke    | Sz     |
| Janvier...    | N     | 184 | 92 | 97  | 127 | 9,1            | 2,9 | 3,0 | 4,2 | 4,6 | 4,2 | 4,6 | 4,3 | 0,0048            | 0,0394 | 0,021 | 0,0081 |
|               | E     | 189 | 87 | 87  | 144 | 8,9            | 3,0 | 3,2 | 4,0 | 3,8 | 4,6 | 4,5 | 4,4 | 0,0047            | 0,0226 | 0,026 | 0,015  |
| Février...    | N     | 180 | 96 | 98  | 127 | 9,1            | 2,9 | 3,0 | 4,1 | 5,1 | 3,8 | 4,8 | 4,2 | 0,0040            | 0,0214 | 0,021 | 0,012  |
|               | E     | 186 | 84 | 98  | 150 | 8,9            | 3,0 | 3,1 | 4,0 | 4,9 | 4,4 | 4,2 | 4,2 | 0,0042            | 0,0216 | 0,028 | 0,015  |
| Mars...       | N     | 188 | 94 | 89  | 121 | 8,9            | 2,9 | 3,0 | 4,2 | 4,9 | 4,6 | 4,7 | 4,2 | 0,0034            | 0,0248 | 0,023 | 0,0075 |
|               | E     | 177 | 84 | 92  | 144 | 9,1            | 3,0 | 3,1 | 4,0 | 4,8 | 4,0 | 4,6 | 4,4 | 0,0041            | 0,0130 | 0,021 | 0,0107 |
| Avril .....   | N     | 187 | 91 | 98  | 121 | 9,0            | 2,9 | 3,0 | 4,2 | 5,3 | 4,2 | 4,8 | 4,3 | 0,0037            | 0,0211 | 0,018 | 0,0107 |
|               | E     | 180 | 90 | 87  | 146 | 8,9            | 3,0 | 3,1 | 4,0 | 4,6 | 3,6 | 4,8 | 4,5 | 0,0034            | 0,0187 | 0,022 | 0,0193 |
| Mai .....     | N     | 181 | 90 | 98  | 118 | 9,1            | 2,9 | 3,0 | 4,2 | 5,7 | 4,4 | 4,4 | 4,3 | 0,0040            | 0,0248 | 0,019 | 0,0108 |
|               | E     | 184 | 91 | 95  | 151 | 9,0            | 3,0 | 3,1 | 4,0 | 4,1 | 3,7 | 5,4 | 4,3 | 0,0042            | 0,0184 | 0,015 | 0,0152 |
| Juin .....    | N     | 187 | 92 | 97  | 127 | 9,2            | 2,9 | 3,0 | 4,2 | 4,9 | 4,7 | 4,3 | 4,4 | 0,0037            | 0,0362 | 0,034 | 0,0184 |
|               | E     | 192 | 92 | 94  | 146 | 8,8            | 3,0 | 3,1 | 4,0 | 4,8 | 4,4 | 5,1 | 4,1 | 0,0049            | 0,0207 | 0,025 | 0,0221 |
| Juillet ..... | N     | 194 | 96 | 84  | 152 | 9,4            | 2,9 | 3,0 | 4,2 | 4,4 | 4,8 | 4,1 | 4,5 | 0,0066            | 0,0217 | 0,028 | 0,0113 |
|               | E     | 193 | 58 | 94  | 148 | 8,6            | 3,2 | 3,1 | 4,0 | 4,2 | 4,1 | 4,5 | 4,1 | 0,0092            | 0,0237 | 0,030 | 0,0294 |
| Août .....    | N     | 178 | 90 | 97  | 164 | 10,4           | 2,9 | 3,0 | 4,1 | 4,9 | 4,7 | 4,4 | 4,5 | 0,0051            | 0,0309 | 0,041 | 0,0184 |
|               | E     | 186 | 59 | 94  | 147 | 9,2            | 3,1 | 3,1 | 4,0 | 4,8 | 4,6 | 4,4 | 4,3 | 0,0097            | 0,0196 | 0,023 | 0,0275 |
| Septembre ..  | N     | 182 | 90 | 97  | 181 | 9,9            | 3,0 | 3,0 | 4,0 | 3,8 | 4,8 | 5,0 | 4,1 | 0,0096            | 0,0280 | 0,022 | 0,0162 |
|               | E     | 191 | 88 | 94  | 148 | 8,6            | 3,1 | 3,1 | 3,9 | 4,6 | 4,0 | 4,9 | 4,2 | 0,0082            | 0,0265 | 0,016 | 0,0283 |
| Octobre ..... | N     | 160 | 98 | 97  | 152 | 10,7           | 2,9 | 3,0 | 4,0 | 3,7 | 4,4 | 4,7 | 4,4 | 0,0094            | 0,0407 | 0,024 | 0,0102 |
|               | E     | 194 | 88 | 94  | 151 | 8,7            | 3,0 | 3,0 | 4,0 | 4,5 | 4,5 | 4,8 | 4,1 | 0,0067            | 0,0269 | 0,024 | 0,0307 |
| Novembre...   | N     | 175 | 94 | 100 | 147 | 9,8            | 2,9 | 3,0 | 4,2 | 3,6 | 4,8 | 4,4 | 4,2 | 0,0123            | 0,0240 | 0,050 | 0,0232 |
|               | E     | 192 | 90 | 94  | 145 | 8,8            | 3,0 | 3,0 | 4,0 | 4,5 | 4,3 | 4,4 | 4,3 | 0,0077            | 0,0203 | 0,027 | 0,0312 |
| Décembre ...  | N     | 175 | 94 | 98  | 147 | 9,8            | 2,9 | 3,0 | 4,1 | 3,6 | 4,8 | 5,4 | 4,5 | 0,0123            | 0,0240 | 0,022 | 0,0105 |
|               | E     | 192 | 90 | 94  | 147 | 8,8            | 3,0 | 3,0 | 3,9 | 4,5 | 4,3 | 4,8 | 4,2 | 0,0077            | 0,0203 | 0,014 | 0,0180 |







| N° | Date | Station | Comp. | Phase               | H e u r e<br>de Greenwich |                |                | Péri-<br>ode<br>s | Amplitude,                                                                                                                                                 |             | $\Delta$<br><br>Degré,<br>km | Remarques                                                                       |
|----|------|---------|-------|---------------------|---------------------------|----------------|----------------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------------------------|---------------------------------------------------------------------------------|
|    |      |         |       |                     | h                         | m              | s              |                   | $A_N$                                                                                                                                                      | $A_E$       |                              |                                                                                 |
| 4. | 13.  | B       | N-S   | ePKP <sub>2</sub>   | 00                        | 33             | 49             |                   |                                                                                                                                                            |             | 157,5<br>17500               | Nouvelle<br>Zélande<br>49° S, 165° E<br>H = 00 <sup>h</sup> 13' 06''<br>(USCGS) |
|    |      |         |       | PP                  |                           | 37             | 27             |                   |                                                                                                                                                            |             |                              |                                                                                 |
|    |      |         |       | eSKS                |                           | 39             | 52             |                   |                                                                                                                                                            |             |                              |                                                                                 |
|    |      |         |       | ePPP                |                           | 40             | 43             |                   |                                                                                                                                                            |             |                              |                                                                                 |
|    |      |         |       | eSS                 |                           | 57             | 22             |                   |                                                                                                                                                            |             |                              |                                                                                 |
|    |      |         |       | eL                  | 01                        | 36             | 40             |                   |                                                                                                                                                            |             |                              |                                                                                 |
|    |      |         |       | F                   | 02                        | 20             | 00             |                   |                                                                                                                                                            |             |                              |                                                                                 |
|    |      |         | E-W   | ePKP <sub>2</sub>   | 00                        | 33             | 53             |                   |                                                                                                                                                            |             |                              |                                                                                 |
|    |      |         |       | SKS                 |                           | 39             | 53             |                   |                                                                                                                                                            |             |                              |                                                                                 |
|    |      |         |       | PPP                 |                           | 41             | 00             |                   |                                                                                                                                                            |             |                              |                                                                                 |
|    |      |         |       | PPS                 |                           | 50             | 18             |                   |                                                                                                                                                            |             |                              |                                                                                 |
|    |      |         |       | eSSP                |                           | 58             | 11             |                   |                                                                                                                                                            |             |                              |                                                                                 |
|    |      |         |       | eL                  | 01                        | 34             | 40             |                   |                                                                                                                                                            |             |                              |                                                                                 |
|    |      |         |       | F                   | 02                        | 30             | 00             |                   |                                                                                                                                                            |             |                              |                                                                                 |
|    |      | Sz      | N-S   | PKP                 | 00                        | 33             | 09             |                   |                                                                                                                                                            |             | 156,4<br>17400               |                                                                                 |
|    |      |         |       | e                   |                           | 34             | 06             |                   |                                                                                                                                                            |             |                              |                                                                                 |
|    |      |         |       | PPP                 |                           | 41             | 14             |                   |                                                                                                                                                            |             |                              |                                                                                 |
|    |      |         |       | F                   |                           | 55             | 00             |                   |                                                                                                                                                            |             |                              |                                                                                 |
|    |      |         | E-W   | PKP <sub>2</sub>    | 00                        | 33             | 35             |                   |                                                                                                                                                            |             |                              |                                                                                 |
|    |      |         |       | e                   |                           | 34             | 30             |                   |                                                                                                                                                            |             |                              |                                                                                 |
|    |      |         |       | e                   |                           | 38             | 58             |                   |                                                                                                                                                            |             |                              |                                                                                 |
|    |      |         |       | SKKKS<br>SSPKP<br>F |                           | 44<br>48<br>55 | 46<br>26<br>00 |                   |                                                                                                                                                            |             |                              |                                                                                 |
| 5. | 18.  | B       | N-S   | ePPP                | 14                        | 19             | 10             | 10,8<br>1200      | Près de la<br>côte W de la<br>Grèce<br>36 <sup>3</sup> / <sub>4</sub> ° N,<br>21 <sup>1</sup> / <sub>4</sub> ° E<br>H = 14 <sup>h</sup> 16' 10''<br>(BCIS) |             |                              |                                                                                 |
|    |      |         |       | e                   |                           |                | 28             |                   |                                                                                                                                                            |             |                              |                                                                                 |
|    |      |         |       | eS                  |                           | 20             | 40             |                   |                                                                                                                                                            |             |                              |                                                                                 |
|    |      |         |       | e                   |                           | 21             | 49             |                   |                                                                                                                                                            |             |                              |                                                                                 |
|    |      |         |       | e                   |                           | 22             | 24             |                   |                                                                                                                                                            |             |                              |                                                                                 |
|    |      |         |       | F                   |                           | 31             | 00             |                   |                                                                                                                                                            |             |                              |                                                                                 |
|    |      |         | E-W   | ePP                 | 14                        | 18             | 58             |                   |                                                                                                                                                            |             |                              |                                                                                 |
|    |      |         |       | e                   |                           | 19             | 29             |                   |                                                                                                                                                            |             |                              |                                                                                 |
|    |      |         |       | eL                  |                           | 21             | 55             |                   |                                                                                                                                                            |             |                              |                                                                                 |
|    |      |         |       | F                   |                           | 30             | 00             |                   |                                                                                                                                                            |             |                              |                                                                                 |
|    |      | Sz      | N-S   | P                   | 14                        | 18             | 35             |                   |                                                                                                                                                            | 9,5<br>1060 |                              |                                                                                 |
|    |      |         |       | $\bar{P}$           |                           | 19             | 28             |                   |                                                                                                                                                            |             |                              |                                                                                 |
|    |      |         |       | S                   |                           | 20             | 19             |                   |                                                                                                                                                            |             |                              |                                                                                 |
|    |      |         |       | e                   |                           |                | 29             |                   |                                                                                                                                                            |             |                              |                                                                                 |
|    |      |         | eS*   |                     | 21                        | 10             | 5              | 5                 |                                                                                                                                                            |             |                              |                                                                                 |
|    |      |         | M     |                     | 24                        | 00             |                |                   |                                                                                                                                                            |             |                              |                                                                                 |
|    |      |         | F     |                     | 33                        | 00             |                |                   |                                                                                                                                                            |             |                              |                                                                                 |
|    |      |         |       |                     |                           |                |                |                   |                                                                                                                                                            |             |                              |                                                                                 |



| №                | Date | Station           | Comp. | Phase            | Heure<br>de Greenwich |    |    | Péri-<br>ode<br><br>s | Amplitude |       | $\Delta$<br><br>Degré,<br>km | Remarques                                                                              |
|------------------|------|-------------------|-------|------------------|-----------------------|----|----|-----------------------|-----------|-------|------------------------------|----------------------------------------------------------------------------------------|
|                  |      |                   |       |                  | h                     | m  | s  |                       | $A_N$     | $A_E$ |                              |                                                                                        |
| 6.               | 23.  | B                 | E-W   | $\bar{P}$        | 14                    | 19 | 19 |                       |           |       | 39,8<br>44,20                | Tadjik<br>37 1/2°N, 72 1/2°E<br>H = 16 <sup>h</sup> 06' 30''<br>(USCGS)<br>Agit. micr. |
|                  |      |                   |       | S                |                       | 20 | 23 |                       |           |       |                              |                                                                                        |
|                  |      |                   |       | eS*              |                       | 21 | 11 |                       |           |       |                              |                                                                                        |
|                  |      |                   |       | F                |                       | 33 | 00 |                       |           |       |                              |                                                                                        |
|                  |      |                   | N-S   | P                | 16                    | 14 | 11 |                       |           |       |                              |                                                                                        |
|                  |      |                   |       | e                |                       | 19 | 14 |                       |           |       |                              |                                                                                        |
|                  |      |                   |       | eS               |                       | 20 | 15 |                       |           |       |                              |                                                                                        |
|                  |      |                   |       | SS               |                       | 23 | 09 |                       |           |       |                              |                                                                                        |
|                  |      |                   |       | S <sub>c</sub> S |                       | 24 | 17 |                       |           |       |                              |                                                                                        |
|                  |      |                   |       | F                | après 17 <sup>h</sup> |    |    |                       |           |       |                              |                                                                                        |
|                  |      |                   | E-W   | P                | 16                    | 14 | 10 |                       |           |       |                              |                                                                                        |
|                  |      |                   |       | PPP              |                       | 15 | 59 |                       |           |       |                              |                                                                                        |
|                  |      |                   |       | P <sub>c</sub> S |                       | 19 | 47 |                       |           |       |                              |                                                                                        |
|                  |      |                   |       | SSS              |                       | 23 | 27 |                       |           |       |                              |                                                                                        |
|                  |      |                   |       | e                |                       | 32 | 00 |                       |           |       |                              |                                                                                        |
|                  |      |                   |       | F                |                       | 55 | 00 |                       |           |       |                              |                                                                                        |
|                  |      | K                 | N-S   | eP               | 16                    | 15 | 06 |                       |           |       |                              |                                                                                        |
|                  |      |                   |       | P <sub>c</sub> P |                       | 16 | 11 |                       |           |       |                              |                                                                                        |
|                  |      |                   |       | F                |                       | 19 | 00 |                       |           |       |                              |                                                                                        |
|                  |      | E-W               | P     | 16               | 13                    | 56 |    |                       |           |       |                              |                                                                                        |
|                  |      |                   | PPP   |                  | 15                    | 59 |    |                       |           |       |                              |                                                                                        |
|                  |      |                   | e     |                  | 16                    | 49 |    |                       |           |       |                              |                                                                                        |
|                  |      |                   | e     |                  | 17                    | 57 |    |                       |           |       |                              |                                                                                        |
| P <sub>c</sub> S |      |                   | 19    | 50               |                       |    |    |                       |           |       |                              |                                                                                        |
| F                |      |                   | 35    | 00               |                       |    |    |                       |           |       |                              |                                                                                        |
| Sz               | N-S  | eP <sub>c</sub> P | 16    | 16               | 32                    |    |    |                       |           |       |                              |                                                                                        |
|                  |      | F                 |       | 45               | 00                    |    |    |                       |           |       |                              |                                                                                        |
|                  | E-W  | eP                | 16    | 14               | 08                    |    |    |                       |           |       |                              |                                                                                        |
|                  |      | PP                |       | 15               | 40                    |    |    |                       |           |       |                              |                                                                                        |
| 7.               | 23.  | K                 | N-S   | eP               | 20                    | 19 | 48 |                       |           |       |                              |                                                                                        |
|                  |      |                   |       | e                |                       | 20 | 43 |                       |           |       |                              |                                                                                        |
|                  |      |                   |       | F                |                       | 30 | 00 |                       |           |       |                              |                                                                                        |
|                  |      |                   | E-W   | eP               | 20                    | 19 | 28 |                       |           |       |                              |                                                                                        |
|                  |      |                   |       | e                |                       | 20 | 09 |                       |           |       |                              |                                                                                        |
|                  |      |                   |       | e                |                       | 21 | 35 |                       |           |       |                              |                                                                                        |
|                  |      |                   |       | F                |                       | 25 | 00 |                       |           |       |                              |                                                                                        |
|                  |      |                   |       | Sz               | N-S                   | e  | 20 | 18                    | 46        |       |                              |                                                                                        |
|                  |      | eL                |       |                  |                       | 19 | 12 |                       |           |       |                              |                                                                                        |
|                  |      | F                 |       |                  | 30                    | 00 |    |                       |           |       |                              |                                                                                        |
|                  |      | E-W               | eL    |                  | 20                    | 19 | 12 |                       |           |       |                              |                                                                                        |
|                  |      |                   | F     |                  | 30                    | 00 |    |                       |           |       |                              |                                                                                        |



| N   | Date    | Station | Comp. | Phase                                                             | Heure<br>de Greenwich |    |                                                                            | Péri-<br>ode<br>s    | Amplitude            |                | Δ<br>Degré,<br>km | Remarques                                                                                                       |
|-----|---------|---------|-------|-------------------------------------------------------------------|-----------------------|----|----------------------------------------------------------------------------|----------------------|----------------------|----------------|-------------------|-----------------------------------------------------------------------------------------------------------------|
|     |         |         |       |                                                                   | h                     | m  | s                                                                          |                      | A <sub>N</sub>       | A <sub>E</sub> |                   |                                                                                                                 |
| 8.  | 24.     | Sz      | N-S   | eS<br>S<br>F                                                      | 13                    | 36 | 27<br>37<br>50                                                             |                      |                      |                | 8,5<br>940        | Près de la<br>côte W de la<br>Grèce 37,8° N,<br>20,5° E<br>H = 13 <sup>h</sup> 32' 48''<br>(BCIS)               |
|     |         |         | E-W   | S<br>F                                                            | 13                    | 36 | 34<br>50                                                                   |                      |                      |                |                   |                                                                                                                 |
| 9.  | 30.     | B       | N-S   | eP<br>e<br>L<br>F                                                 | 03<br>04              | 58 | 56<br>42<br>10<br>00                                                       |                      |                      |                | 9,3<br>1030       | Ile de Cépha-<br>lonie 38 <sup>1</sup> / <sub>4</sub> ° N,<br>20,5° E<br>H = 03 <sup>h</sup> 55' 48''<br>(BCIS) |
|     |         |         | E-W   | eP*<br>eS<br>F                                                    | 03<br>04              | 58 | 23<br>00<br>00                                                             |                      |                      |                |                   |                                                                                                                 |
|     |         | Sz      | N-S   | e<br>S*<br>eS<br>F                                                | 03<br>04              | 58 | 45<br>01<br>20<br>00                                                       |                      |                      |                | 8<br>890          |                                                                                                                 |
|     |         |         | E-W   | S<br>F                                                            | 03                    | 59 | 24<br>10                                                                   |                      |                      |                |                   |                                                                                                                 |
| 10. | 31.     | B       | N-S   | e<br>PP<br>PPS<br>e<br>e<br>eL<br>F                               | 11<br>12              | 56 | 10<br>00<br>40<br>58<br>00<br>20<br>incertaine                             |                      |                      |                | 75,4<br>8380      | E du Kam-<br>tchatka 52° N,<br>160° E<br>H = 11 <sup>h</sup> 43' 27''<br>(USCGS)                                |
|     |         |         | E-W   | e<br>e<br>e                                                       | 12                    | 26 | 00<br>40<br>10                                                             |                      |                      |                |                   |                                                                                                                 |
| 11. | Févr. 1 | B       | N-S   | eP<br>e<br>PPP<br>SKS<br>SKKS<br>S<br>PS<br>e<br>M<br>M<br>M<br>F | 01<br>02              | 20 | 06<br>13<br>56<br>41<br>54<br>11<br>25<br>41<br>10<br>10<br>00<br>00<br>00 | 21<br>17<br>17<br>17 | 19<br>66<br>35<br>38 |                | 91,9<br>10210     | Au large S des<br>Iles Bonin<br>24,5° N,<br>142,5° E<br>H = 01 <sup>h</sup> 06' 51''<br>(USCGS)                 |



| N   | Date | Station | Comp. | Phase | Heure<br>de Greenwich |      |    | Péri-<br>ode<br>s | Amplitude |    | $\Delta$<br>Degré,<br>km | Remarques                                                              |
|-----|------|---------|-------|-------|-----------------------|------|----|-------------------|-----------|----|--------------------------|------------------------------------------------------------------------|
|     |      |         |       |       | h                     | m    | s  |                   | AN        | AE |                          |                                                                        |
| 12. | 5.   | B       | E-W   | P     | 01                    | 20   | 08 |                   |           |    |                          | Nouvelle<br>Bretagne<br>4,5° S, 15,3° E<br>H = 09° 19' 42''<br>(USCGS) |
|     |      |         |       | e     |                       |      | 24 |                   |           |    |                          |                                                                        |
|     |      |         |       | ePP   |                       | 23   | 21 |                   |           |    |                          |                                                                        |
|     |      |         |       | ePPP  |                       | 25   | 41 |                   |           |    |                          |                                                                        |
|     |      |         |       | SKS   |                       | 30   | 41 |                   |           |    |                          |                                                                        |
|     |      |         |       | S     |                       | 31   | 16 |                   |           |    |                          |                                                                        |
|     |      |         |       | PS    |                       | 32   | 25 |                   |           |    |                          |                                                                        |
|     |      |         |       | e     |                       | 36   | 21 |                   |           |    |                          |                                                                        |
|     |      |         |       | eL    |                       | 50   | 40 |                   |           |    |                          |                                                                        |
|     |      |         |       | M     |                       | 59   | 40 | 16                |           | 27 |                          |                                                                        |
|     |      |         |       | M     | 02                    | 04   | 10 | 18                |           | 32 |                          |                                                                        |
|     |      |         |       | M     |                       | 07   | 15 | 17                |           | 58 |                          |                                                                        |
|     |      |         |       | M     |                       | 10   | 00 | 17                |           | 29 |                          |                                                                        |
|     |      |         |       | F     |                       | 52   | 00 |                   |           |    |                          |                                                                        |
|     |      | Sz      | N-S   | P     | 01                    | 20   | 39 |                   |           |    | 92,1                     |                                                                        |
|     |      |         |       | SKKS  |                       | 30   | 47 |                   |           |    | 10230                    |                                                                        |
|     |      |         |       | eS    |                       |      | 20 |                   |           |    |                          |                                                                        |
|     |      |         |       | PPS   |                       | 32   | 40 |                   |           |    |                          |                                                                        |
|     |      |         |       | eL    |                       | 59   | 00 |                   |           |    |                          |                                                                        |
|     |      |         |       | F     | 02                    | 35   | 00 |                   |           |    |                          |                                                                        |
|     |      |         | E-W   | eP    | 01                    | 20   | 08 |                   |           |    |                          |                                                                        |
|     |      |         |       | PP    |                       | 23   | 33 |                   |           |    |                          |                                                                        |
|     |      |         |       | SKKS  |                       | 30   | 47 |                   |           |    |                          |                                                                        |
|     |      |         |       | eS    |                       | 31   | 20 |                   |           |    |                          |                                                                        |
|     |      |         |       | PS    |                       | 32   | 24 |                   |           |    |                          |                                                                        |
|     |      |         |       | eL    |                       | 59   |    |                   |           |    |                          |                                                                        |
|     |      |         | N-S   | F     | 02                    | 35   | 00 |                   |           |    |                          |                                                                        |
|     |      |         |       | e     | 09                    | 40   | 52 |                   |           |    | 121,7                    |                                                                        |
|     |      |         |       | ePKS  |                       | 42   | 06 |                   |           |    | 13520                    |                                                                        |
|     |      |         |       | SKS   |                       | 45   | 38 |                   |           |    |                          |                                                                        |
|     |      |         |       | e     |                       | 47   | 16 |                   |           |    |                          |                                                                        |
|     |      |         |       | e     |                       | 52   | 16 |                   |           |    |                          |                                                                        |
|     |      |         |       | eSS   |                       | 57   | 08 |                   |           |    |                          |                                                                        |
|     |      |         |       | eSSS  | 10                    | 01   | 35 |                   |           |    |                          |                                                                        |
|     |      |         |       | eL    |                       | 14,5 |    |                   |           |    |                          |                                                                        |
|     |      |         |       | M     |                       | 19   | 40 | 28                | 53        |    |                          |                                                                        |
|     |      |         |       | F     |                       | 11   | 00 |                   |           |    |                          |                                                                        |
|     |      |         | E-W   | e     | 09                    | 41   | 00 |                   |           |    |                          |                                                                        |
|     |      |         |       | SKS   |                       | 45   | 44 |                   |           |    |                          |                                                                        |
|     |      |         |       | e     |                       | 47   | 14 |                   |           |    |                          |                                                                        |
|     |      |         |       | PS    |                       | 50   | 09 |                   |           |    |                          |                                                                        |
|     |      |         |       | eSS   |                       | 56   | 56 |                   |           |    |                          |                                                                        |
|     |      |         |       | SSS   | 10                    | 01   | 00 |                   |           |    |                          |                                                                        |
|     |      | Sz      | N-S   | eL    |                       | 15   | 40 |                   |           |    |                          |                                                                        |
|     |      |         |       | F     |                       | 50   | 00 |                   |           |    |                          |                                                                        |
|     |      |         |       | e     | 09                    | 39   | 40 |                   |           |    | 121,7                    |                                                                        |
|     |      |         |       | PP    |                       | 40   | 18 |                   |           |    | 13520                    |                                                                        |
|     |      |         |       | PKS   |                       | 42   | 12 |                   |           |    |                          |                                                                        |
|     |      |         |       | ePPP  |                       | 43   | 12 |                   |           |    |                          |                                                                        |
|     |      |         |       | F     | 10                    | 06   | 00 |                   |           |    |                          |                                                                        |



| N   | Date | Station | Comp. | Phase             | Heure<br>de Greenwich |      |    | Péri-<br>ode<br>s | Amplitude |       | $\Delta$<br>Degré,<br>km | Remarques                                                           |
|-----|------|---------|-------|-------------------|-----------------------|------|----|-------------------|-----------|-------|--------------------------|---------------------------------------------------------------------|
|     |      |         |       |                   | h                     | m    | s  |                   | $A_N$     | $A_E$ |                          |                                                                     |
| 13. | 11.  | B       | E-W   | PP                | 09                    | 40   | 20 |                   |           |       |                          | Chine<br>39,5° N, 101° E<br>H = 00 <sup>h</sup> 30' 16''<br>(USCGS) |
|     |      |         |       | ePPP              |                       | 43   | 05 |                   |           |       |                          |                                                                     |
|     |      |         |       | SKS               |                       | 45   | 48 |                   |           |       |                          |                                                                     |
|     |      |         |       | F                 | 10                    | 06   | 00 |                   |           |       |                          |                                                                     |
|     |      |         | N-S   | P                 | 00                    | 40   | 09 |                   |           |       | 57,2                     |                                                                     |
|     |      |         |       | i                 |                       |      | 14 |                   |           |       | 6350                     |                                                                     |
|     |      |         |       | eP <sub>c</sub> P |                       | 41   | 18 |                   |           |       |                          |                                                                     |
|     |      |         |       | PPP               |                       | 43   | 27 |                   |           |       |                          |                                                                     |
|     |      |         |       | S                 |                       | 47   | 56 |                   |           |       |                          |                                                                     |
|     |      |         |       | PS                |                       | 48   | 12 |                   |           |       |                          |                                                                     |
|     |      |         |       | e                 |                       | 49   | 34 |                   |           |       |                          |                                                                     |
|     |      |         |       | S <sub>c</sub> S  |                       | 50   | 00 |                   |           |       |                          |                                                                     |
|     |      |         |       | eSSS              |                       | 53   | 34 |                   |           |       |                          |                                                                     |
|     |      |         |       | L                 |                       | 58,5 |    |                   |           |       |                          |                                                                     |
|     |      |         |       | M                 | 01                    | 06   | 00 | 12                | 96        |       |                          |                                                                     |
|     |      |         |       | M                 |                       |      | 50 | 10                | 50        |       |                          |                                                                     |
|     |      |         |       | M                 |                       | 12,5 |    | 12                | 53        |       |                          |                                                                     |
|     |      |         |       | F                 | 02                    | 25   | 00 |                   |           |       |                          |                                                                     |
|     |      |         | E-W   | iP                | 00                    | 40   | 09 | 5                 |           |       |                          |                                                                     |
|     |      |         |       | i                 |                       |      | 14 |                   |           |       |                          |                                                                     |
|     |      |         |       | PPP               |                       | 43   | 34 |                   |           |       |                          |                                                                     |
|     |      |         |       | e                 |                       | 47   | 10 |                   |           |       |                          |                                                                     |
|     |      |         |       | PS                |                       | 48   | 14 |                   |           |       |                          |                                                                     |
|     |      |         |       | PPS               |                       |      | 34 |                   |           |       |                          |                                                                     |
|     |      |         |       | S <sub>c</sub> S  |                       | 50   | 00 |                   |           |       |                          |                                                                     |
|     |      |         |       | eSSS              |                       | 53   | 34 |                   |           |       |                          |                                                                     |
|     |      |         |       | L                 |                       | 59   | 00 |                   |           |       |                          |                                                                     |
|     |      |         |       | M                 |                       | 59,5 |    | 10                |           | 22    |                          |                                                                     |
|     |      |         |       | M                 | 01                    | 05,5 |    | 12                |           | 103   |                          |                                                                     |
|     |      |         |       | M                 |                       | 08,5 |    | 11                |           | 63    |                          |                                                                     |
|     |      |         |       | M                 |                       | 11   | 20 | 10                |           | 32    |                          |                                                                     |
|     |      |         |       | F                 | 02                    | 25   | 00 |                   |           |       |                          |                                                                     |
|     |      |         | N-S   | eP                | 00                    | 40   | 13 |                   |           |       | 57                       |                                                                     |
|     |      |         |       | PP                |                       | 42   | 13 |                   |           |       | 6330                     |                                                                     |
|     |      |         |       | ePPP              |                       | 43   | 45 |                   |           |       |                          |                                                                     |
|     |      |         |       | PPS               |                       | 48   | 13 |                   |           |       |                          |                                                                     |
|     |      |         |       | eL                | 01                    | 00   | 00 |                   |           |       |                          |                                                                     |
|     |      |         |       | M                 | 02                    | 51   | 00 | 6                 | 43        |       |                          |                                                                     |
|     |      |         |       | F                 |                       | 30   | 00 |                   |           |       |                          |                                                                     |
|     |      |         | E-W   | eP                | 00                    | 40   | 13 |                   |           |       |                          |                                                                     |
|     |      |         |       | PPP               |                       | 43   | 25 |                   |           |       |                          |                                                                     |
|     |      |         |       | PS                |                       | 48   | 05 |                   |           |       |                          |                                                                     |
|     |      |         |       | eL                | 01                    | 00   | 00 |                   |           |       |                          |                                                                     |
|     |      |         |       | M                 |                       | 05,5 | 00 | 9                 | 154       |       |                          |                                                                     |
|     |      |         |       | F                 |                       | 30   | 00 |                   |           |       |                          |                                                                     |



| N   | Date | Station | Comp. | Phase            | Heure<br>de Greenwich |      |    | Péri-<br>ode<br>s | Amplitude |       | $\Delta$<br>Degré,<br>km | Remarques                                                                                        |
|-----|------|---------|-------|------------------|-----------------------|------|----|-------------------|-----------|-------|--------------------------|--------------------------------------------------------------------------------------------------|
|     |      |         |       |                  | h                     | m    | s  |                   | $A_N$     | $A_E$ |                          |                                                                                                  |
| 14. | 17.  | Sz      | N-S   | eP               | 00                    | 40   | 12 |                   |           |       | 57                       | Traces<br>Côte SE du<br>Kamtchatka<br>51,5° N, 160° E<br>H = 01 <sup>h</sup> 38' 50''<br>(USCGG) |
|     |      |         |       | P <sub>c</sub> P |                       |      | 59 |                   |           |       | 6330                     |                                                                                                  |
|     |      |         |       | ePPP             |                       | 43   | 06 |                   |           |       |                          |                                                                                                  |
|     |      |         |       | ePPS             |                       | 48   | 23 |                   |           |       |                          |                                                                                                  |
|     |      |         |       | S <sub>c</sub> S |                       | 49   | 57 |                   |           |       |                          |                                                                                                  |
|     |      |         |       | eSSS             |                       | 53   | 19 |                   |           |       |                          |                                                                                                  |
|     |      |         |       | M                | 01                    | 00   | 36 | 7                 | 61        |       |                          |                                                                                                  |
|     |      |         |       | M                |                       | 45   | 07 | 7                 | 113       |       |                          |                                                                                                  |
|     |      |         |       | M                |                       | 15   | 00 | 7                 | 57        |       |                          |                                                                                                  |
|     |      |         |       | F                | 02                    | 10   | 00 |                   |           |       |                          |                                                                                                  |
|     |      |         | E-W   | P                | 00                    | 40   | 04 |                   |           |       |                          |                                                                                                  |
|     |      |         |       | PP               |                       | 41   | 59 |                   |           |       |                          |                                                                                                  |
|     |      |         |       | ePPP             |                       | 43   | 02 |                   |           |       |                          |                                                                                                  |
|     |      |         |       | PS               |                       | 48   | 15 |                   |           |       |                          |                                                                                                  |
|     |      |         |       | S <sub>c</sub> S |                       | 49   | 59 |                   |           |       |                          |                                                                                                  |
|     |      |         |       | eSSS             |                       | 53   | 05 |                   |           |       |                          |                                                                                                  |
|     |      |         |       | M                | 01                    | 03   | 04 | 7                 |           | 82    |                          |                                                                                                  |
|     |      |         |       | M                |                       | 04   | 59 | 6                 |           | 71    |                          |                                                                                                  |
|     |      |         |       | M                |                       | 15   | 14 | 7                 |           | 44    |                          |                                                                                                  |
|     |      |         |       | F                | 02                    | 10   | 00 |                   |           |       |                          |                                                                                                  |
|     |      | B       | N-S   | eP               | 01                    | 50   | 38 |                   |           |       | 75,5                     |                                                                                                  |
|     |      |         |       | e                | 02                    | 15   | 55 |                   |           |       | 8390                     |                                                                                                  |
|     |      |         |       | e                |                       | 22,5 |    |                   |           |       |                          |                                                                                                  |
|     |      |         |       | L                |                       | 28   |    |                   |           |       |                          |                                                                                                  |
|     |      |         |       | F                |                       | 38   |    |                   |           |       |                          |                                                                                                  |
|     |      |         | E-W   | eP               | 01                    | 50   | 41 |                   |           |       |                          |                                                                                                  |
|     |      |         |       | e                |                       | 56   | 30 |                   |           |       |                          |                                                                                                  |
|     |      |         |       | e                | 02                    | 22,5 |    |                   |           |       |                          |                                                                                                  |
| 15. | 19.  | B       | N-S   | eL               |                       | 27   |    |                   |           |       |                          |                                                                                                  |
|     |      |         |       | F                |                       | 40   |    |                   |           |       |                          |                                                                                                  |
|     |      |         |       | e                | 01                    | 02   | 35 |                   |           |       | 92,4                     |                                                                                                  |
|     |      |         |       | e                |                       | 03   | 41 |                   |           |       | 10270                    |                                                                                                  |
|     |      |         |       | e                |                       | 06   | 07 |                   |           |       |                          |                                                                                                  |
|     |      |         |       | e                |                       | 16,5 |    |                   |           |       |                          |                                                                                                  |
|     |      |         |       | eL               |                       | 25,5 |    |                   |           |       |                          |                                                                                                  |
|     |      |         |       | M                |                       | 30   |    | 20                | 12        |       |                          |                                                                                                  |
|     |      |         |       | M                |                       | 33   |    | 17                | 11        |       |                          |                                                                                                  |
|     |      |         |       | F                | 02                    | 02   |    |                   |           |       |                          |                                                                                                  |
|     |      |         | E-W   | e                | 01                    | 04   | 48 |                   |           |       |                          |                                                                                                  |
|     |      |         |       | e                |                       | 06   | 12 |                   |           |       |                          |                                                                                                  |
|     |      |         |       | e                |                       | 11,5 |    |                   |           |       |                          |                                                                                                  |
|     |      |         |       | eL               |                       | 25,5 |    |                   |           |       |                          |                                                                                                  |
|     |      |         |       | M                |                       | 31   |    | 20                |           | 37    |                          |                                                                                                  |
|     |      |         |       | M                |                       | 39   |    | 16                |           | 11    |                          |                                                                                                  |
|     |      |         |       | F                | 02                    | 02   |    |                   |           |       |                          |                                                                                                  |







| №   | Date | Station | Comp. | Phase | Heure<br>de Greenwich |      |    | Péri-<br>ode<br>s | Amplitude      |                | Δ<br><br>Degré,<br>km | Remarques                                                                                |          |  |                |  |                |                                                                              |
|-----|------|---------|-------|-------|-----------------------|------|----|-------------------|----------------|----------------|-----------------------|------------------------------------------------------------------------------------------|----------|--|----------------|--|----------------|------------------------------------------------------------------------------|
|     |      |         |       |       | h                     | m    | s  |                   | A <sub>N</sub> | A <sub>E</sub> |                       |                                                                                          |          |  |                |  |                |                                                                              |
| 19. | 20.  | B       | N-S   | PKP   | 18                    | 51   | 56 |                   |                |                | 105,5<br>11720        | Mer de Flores<br>7° S, 124,5° E<br>H = 18 <sup>h</sup> 35' 05''<br>h = 600 km<br>(USCGS) |          |  |                |  |                |                                                                              |
|     |      |         |       | PP    |                       | 53   | 49 |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      |         |       | PPP   |                       | 56   | 03 |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      |         |       | SKS   |                       | 58   | 15 |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      |         |       | S     |                       | 59   | 36 |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      |         |       | e     | 19                    | 00   | 53 |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      |         |       | e     |                       | 02   | 09 |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      |         |       | F     | 20                    | 05   |    |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      |         | E-W   | PKP   | 18                    | 51   | 46 |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      |         |       | PP    |                       | 53   | 52 |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      |         |       | ePPP  |                       | 55   | 41 |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      |         |       | SKS   |                       | 58   | 09 |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      |         |       | S     |                       | 59   | 37 |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      |         |       | e     | 19                    | 02   | 08 |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      |         |       | F     | 20                    | 00   |    |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      | Ke      | N-S   | SKS   | 18                    | 58   | 03 |                   |                |                |                       |                                                                                          |          |  | 105,3<br>11700 |  |                |                                                                              |
|     |      |         |       | e     | 19                    | 01   | 45 |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      |         | E-W   | SKS   | 18                    | 58   | 03 |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      | Sz      | N-S   | PKP   | 18                    | 52   | 17 |                   |                |                | 5<br>5                |                                                                                          | 13<br>10 |  | 105<br>11670   |  |                |                                                                              |
|     |      |         |       | PP    |                       | 53   | 45 |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      |         |       | e     |                       | 55   | 20 |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      |         |       | PPP   |                       | 56   | 07 |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      |         |       | eSKS  |                       | 58   | 11 |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      |         |       | e     |                       |      | 30 |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      |         |       | S     |                       | 59   | 30 |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      |         |       | M     | 19                    | 01   | 30 |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      |         |       | M     |                       | 04   | 06 |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      |         |       | F     |                       | 36   |    |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      |         | E-W   | e     | 18                    | 52   | 50 |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      |         |       | PP    |                       | 53   | 43 |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      |         |       | pPKP  |                       | 54   | 37 |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      |         |       | PPP   |                       | 56   | 08 |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      |         |       | e     |                       | 58   | 08 |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      |         |       | iSKS  |                       |      | 13 |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      |         |       | S     |                       | 59   | 23 |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      |         |       | F     | 19                    | 36   |    |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
| 20. | 22.  |         |       | B     | N-S                   | ePKP | 12 | 22                | 18             |                |                       |                                                                                          |          |  |                |  | 115,3<br>12810 | Iles Sandwich<br>66,5° S, 26,5° W<br>H = 12 <sup>h</sup> 03' 23''<br>(USCGS) |
|     |      |         |       |       |                       | e    |    |                   | 38             |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      |         |       |       |                       | ePP  |    |                   | 52             |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      | e       |       |       |                       | 26   | 40 |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      | e       |       |       |                       | 32   | 00 |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      | PS      |       |       |                       | 33   | 00 |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      | eL      | 13    |       |                       | 06,5 |    |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      | F       |       |       |                       | 30   |    |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      |         |       |       |                       |      |    |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |
|     |      |         |       |       |                       |      |    |                   |                |                |                       |                                                                                          |          |  |                |  |                |                                                                              |



| N   | Date    | Station | Comp. | Phase             | Heure<br>de Greenwich |      |    | Péri-<br>ode<br>s | Amplitude |       | $\Delta$<br>Degré,<br>km | Remarques                                                                                |
|-----|---------|---------|-------|-------------------|-----------------------|------|----|-------------------|-----------|-------|--------------------------|------------------------------------------------------------------------------------------|
|     |         |         |       |                   | h                     | m    | s  |                   | $A_N$     | $A_E$ |                          |                                                                                          |
| 21. | 23.     | B       | E-W   | ePP               | 12                    | 22   | 51 |                   |           |       |                          | SE Tibet<br>28,5° N, 91,5° E<br>H = 06 <sup>h</sup> 40' 35''<br>(USCGS)                  |
|     |         |         |       | e                 |                       | 31   | 49 |                   |           |       |                          |                                                                                          |
|     |         |         |       | PPS               |                       | 34   | 00 |                   |           |       |                          |                                                                                          |
|     |         |         |       | F                 | 13                    | 30   |    |                   |           |       |                          |                                                                                          |
|     |         |         | N-S   | eP                | 06                    | 50   | 32 |                   |           |       | 57,9                     |                                                                                          |
|     |         |         |       | S                 |                       | 58   | 39 |                   |           |       | 6430                     |                                                                                          |
|     |         |         |       | eSS               | 07                    | 02   | 26 |                   |           |       |                          |                                                                                          |
|     |         |         |       | e                 |                       | 05   | 49 |                   |           |       |                          |                                                                                          |
|     |         |         |       | L                 |                       | 14   |    |                   |           |       |                          |                                                                                          |
|     |         |         |       | F                 |                       | 35   |    |                   |           |       |                          |                                                                                          |
| 22. | 28.     | B       | E-W   | eP                | 06                    | 50   | 32 |                   |           |       |                          | Région des<br>îles Riou-Kiou<br>27° N, 132° E<br>H = 00 <sup>h</sup> 55' 22''<br>(USCGS) |
|     |         |         |       | S                 |                       | 58   | 39 |                   |           |       |                          |                                                                                          |
|     |         |         |       | eS <sub>c</sub> S | 07                    | 01   | 26 |                   |           |       |                          |                                                                                          |
|     |         |         |       | e                 |                       | 05   | 40 |                   |           |       |                          |                                                                                          |
|     |         |         |       | F                 |                       | 33   |    |                   |           |       |                          |                                                                                          |
|     |         |         | N-S   | eP                | 01                    | 08   | 07 |                   |           |       | 83,7                     |                                                                                          |
|     |         |         |       | ePP               |                       | 11   | 23 |                   |           |       | 9300                     |                                                                                          |
|     |         |         |       | eL                |                       | 38   |    |                   |           |       |                          |                                                                                          |
|     |         |         |       | M                 |                       | 44   | 25 | 19                | 19        |       |                          |                                                                                          |
|     |         |         |       | F                 | 02                    | 07   |    |                   |           |       |                          |                                                                                          |
|     |         |         |       |                   |                       |      |    |                   |           |       |                          |                                                                                          |
| 23. | Mars 3. | B       | E-W   | eP                | 01                    | 07   | 55 |                   |           |       |                          | Nouvelle Gui-<br>née C<br>5,5° S, 142,5° E<br>H = 06 <sup>h</sup> 02' 55''<br>(USCGS)    |
|     |         |         |       | e                 |                       | 08   | 15 |                   |           |       |                          |                                                                                          |
|     |         |         |       | eS <sub>c</sub> S |                       | 18   | 23 |                   |           |       |                          |                                                                                          |
|     |         |         |       | L                 |                       | 39   | 20 |                   |           |       |                          |                                                                                          |
|     |         |         |       | M                 |                       | 48,5 |    | 17                |           | 12    |                          |                                                                                          |
|     |         |         |       | F                 | 02                    | 07   |    |                   |           |       |                          |                                                                                          |
|     |         |         | N-S   | ePKP              | 06                    | 22   | 11 |                   |           |       | 116,2                    |                                                                                          |
|     |         |         |       | SKKS              |                       | 29   | 36 |                   |           |       | 12910                    |                                                                                          |
|     |         |         |       | e                 |                       | 31   | 52 |                   |           |       |                          |                                                                                          |
|     |         |         |       | ePS               |                       | 33   | 38 |                   |           |       |                          |                                                                                          |
|     |         |         |       | L                 | 07                    | 02   | 50 |                   |           |       |                          |                                                                                          |
|     |         |         |       | M                 |                       | 14   |    | 16                | 16        |       |                          |                                                                                          |
|     |         |         |       | M                 |                       | 16   |    | 18                | 21        |       |                          |                                                                                          |
|     |         |         |       | F                 | 08                    | 30   |    |                   |           |       |                          |                                                                                          |
|     |         |         | E-W   | eP                | 06                    | 20   | 50 |                   |           |       |                          |                                                                                          |
|     |         |         |       | ePKP              |                       | 22   | 00 |                   |           |       |                          |                                                                                          |
|     |         |         |       | e                 |                       | 31   | 40 |                   |           |       |                          |                                                                                          |
|     |         |         |       | S <sub>c</sub> SP |                       | 32   | 45 |                   |           |       |                          |                                                                                          |
|     |         |         |       | e                 |                       | 42   | 20 |                   |           |       |                          |                                                                                          |
|     |         |         |       | L                 | 07                    | 02,5 |    |                   |           |       |                          |                                                                                          |
|     |         |         | N-S   | M                 |                       | 13   | 50 | 20                |           | 30    |                          |                                                                                          |
|     |         |         |       | M                 |                       | 16   |    | 19                |           | 22    |                          |                                                                                          |
|     |         |         |       | F                 | 08                    | 30   |    |                   |           |       |                          |                                                                                          |
|     |         |         | K     | e                 | 06                    | 21   | 28 |                   |           |       | 116,6                    |                                                                                          |
|     |         |         |       | PP                |                       | 23   | 04 |                   |           |       | 12950                    |                                                                                          |
|     |         |         |       | e                 |                       | 24   | 24 |                   |           |       |                          |                                                                                          |



| N°  | Date | Station | Comp. | Phase       | Heure<br>de Greenwich |      |    | Péri-<br>ode<br>s | Amplitude |       | $\Delta$<br>Degré,<br>km | Remarques                   |
|-----|------|---------|-------|-------------|-----------------------|------|----|-------------------|-----------|-------|--------------------------|-----------------------------|
|     |      |         |       |             | h                     | m    | s  |                   | $A_N$     | $A_E$ |                          |                             |
|     |      |         |       | eSKKS       |                       | 29   | 35 |                   |           |       |                          |                             |
|     |      |         |       | PS          |                       | 32   | 31 |                   |           |       |                          |                             |
|     |      |         |       | ePPS        |                       | 33   | 24 |                   |           |       |                          |                             |
|     |      |         |       | e           |                       | 35   | 10 |                   |           |       |                          |                             |
|     |      |         |       | F           |                       | 50   |    |                   |           |       |                          |                             |
|     |      |         | E-W   | e           | 06                    | 21   | 24 |                   |           |       |                          |                             |
|     |      |         |       | e           |                       | 23   | 11 |                   |           |       |                          |                             |
|     |      |         |       | eSKS        |                       | 28   | 38 |                   |           |       |                          |                             |
|     |      |         |       | eSKKS       |                       | 29   | 46 |                   |           |       |                          |                             |
|     |      |         |       | e           |                       | 30   | 36 |                   |           |       |                          |                             |
|     |      |         |       | PS          |                       | 32   | 28 |                   |           |       |                          |                             |
|     |      |         |       | F           |                       | 50   |    |                   |           |       |                          |                             |
| 24. | 7.   | Sz      |       | iP          | 06                    | 53   | 53 |                   |           |       |                          | Local                       |
|     |      |         |       | F           |                       | 54,5 |    |                   |           |       |                          |                             |
| 25. | 8.   | B       | N-S   | e $\bar{P}$ | 08                    | 20   | 28 |                   |           |       | 9,4                      | Iles Ioniennes              |
|     |      |         |       | eS          |                       | 21   | 34 |                   |           |       | 1050                     | 38° N, 20,5° E              |
|     |      |         |       | eL          |                       | 22   | 53 |                   |           |       |                          | H = 08 <sup>h</sup> 17' 19" |
|     |      |         |       | M           |                       | 25   | 16 | 10                | 18        |       |                          | (USCGS)                     |
|     |      |         |       | M           |                       | 26   | 50 | 8                 | 4         |       |                          |                             |
|     |      |         |       | F           |                       | 35   |    |                   |           |       |                          |                             |
|     |      |         | E-W   | e $\bar{P}$ | 08                    | 20   | 36 |                   |           |       |                          |                             |
|     |      |         |       | eS          |                       | 21   | 38 |                   |           |       |                          |                             |
|     |      |         |       | $\bar{S}$   |                       | 22   | 31 |                   |           |       |                          |                             |
|     |      |         |       | eL          |                       |      | 50 |                   |           |       |                          |                             |
|     |      |         |       | M           |                       | 26   |    | 8                 |           | 9     |                          |                             |
|     |      |         |       | M           |                       | 28   | 50 | 6                 |           | 5     |                          |                             |
|     |      |         |       | F           |                       | 35   |    |                   |           |       |                          |                             |
|     |      | Ke      | N-S   | e           | 08                    | 20   | 31 |                   |           |       | 8,9                      |                             |
|     |      |         |       | S*          |                       | 21   | 49 |                   |           |       | 990                      |                             |
|     |      |         |       | F           |                       | 40   |    |                   |           |       |                          |                             |
|     |      |         | E-W   | e           | 08                    | 21   | 25 |                   |           |       |                          |                             |
|     |      |         |       | F           |                       | 40   |    |                   |           |       |                          |                             |
|     |      | Sz      | N-S   | e           | 08                    | 19   | 58 |                   |           |       | 8,3                      |                             |
|     |      |         |       | S           |                       | 21   | 04 |                   |           |       | 920                      |                             |
|     |      |         |       | S*          |                       |      | 32 |                   |           |       |                          |                             |
|     |      |         |       | $\bar{S}$   |                       |      | 50 |                   |           |       |                          |                             |
|     |      |         |       | M           |                       | 22   | 43 | 5                 | 22        |       |                          |                             |
|     |      |         |       | M           |                       | 26   | 16 | 6                 | 24        |       |                          |                             |
|     |      |         |       | M           |                       | 29,5 |    | 5                 | 10        |       |                          |                             |
|     |      |         |       | F           |                       | 38   |    |                   |           |       |                          |                             |
|     |      |         | E-W   | e           | 08                    | 20   | 34 |                   |           |       |                          |                             |
|     |      |         |       | eS*         |                       | 21   | 22 |                   |           |       |                          |                             |
|     |      |         |       | M           |                       | 22   | 52 | 5                 |           | 11    |                          |                             |
|     |      |         |       | M           |                       | 25   | 13 | 6                 |           | 42    |                          |                             |
|     |      |         |       | M           |                       | 30,5 |    | 6                 |           | 7     |                          |                             |
|     |      |         |       | F           |                       | 38   |    |                   |           |       |                          |                             |



| №   | Date | Station | Comp. | Phase             | Heure<br>de Greenwich |      |    | Péri-<br>ode<br>s | Amplitude      |                | Marques                                                                                        |
|-----|------|---------|-------|-------------------|-----------------------|------|----|-------------------|----------------|----------------|------------------------------------------------------------------------------------------------|
|     |      |         |       |                   | h                     | m    | s  |                   | A <sub>N</sub> | A <sub>E</sub> |                                                                                                |
| 26. | 9.   | B       | N-S   | P                 | 02                    | 32   | 15 |                   |                |                | 62,8<br>6980 Crête mé-<br>ane de l'Atla-<br>lique<br>1 1/2° N, 3°<br>H = 02°<br>(USCGS)        |
|     |      |         |       | PP                |                       | 34   | 24 |                   |                |                |                                                                                                |
|     |      |         |       | PPP               |                       | 36   | 04 |                   |                |                |                                                                                                |
|     |      |         |       | S                 |                       | 40   | 49 |                   |                |                |                                                                                                |
|     |      |         |       | e                 |                       | 43   | 53 |                   |                |                |                                                                                                |
|     |      |         |       | e                 |                       | 51   | 15 |                   |                |                |                                                                                                |
|     |      |         |       | L                 |                       | 53   | 15 |                   |                |                |                                                                                                |
|     |      |         |       | F                 | 03                    | 20   |    |                   |                |                |                                                                                                |
|     |      |         | E-W   | P                 | 02                    | 32   | 15 |                   |                |                |                                                                                                |
|     |      |         |       | P <sub>c</sub> P  |                       | 33   | 02 |                   |                |                |                                                                                                |
|     |      |         |       | PP                |                       | 34   | 30 |                   |                |                |                                                                                                |
|     |      |         |       | PPP               |                       | 36   | 05 |                   |                |                |                                                                                                |
|     |      |         |       | S                 |                       | 40   | 53 |                   |                |                |                                                                                                |
|     |      |         |       | eSKS              |                       | 41   | 46 |                   |                |                |                                                                                                |
|     |      |         |       | L                 |                       | 55   | 15 |                   |                |                |                                                                                                |
|     |      |         |       | F                 | 03                    | 15   |    |                   |                |                |                                                                                                |
|     |      | Sz      | N-S   | eP                | 02                    | 32   | 33 |                   |                |                | 62,8<br>6980                                                                                   |
|     |      |         |       | P <sub>c</sub> P  |                       | 33   | 13 |                   |                |                |                                                                                                |
|     |      |         |       | ePP               |                       | 34   | 48 |                   |                |                |                                                                                                |
|     |      |         |       | eP <sub>c</sub> S |                       | 37   | 26 |                   |                |                |                                                                                                |
|     |      |         |       | S                 |                       | 41   | 09 |                   |                |                |                                                                                                |
|     |      |         |       | F                 |                       | 55   |    |                   |                |                |                                                                                                |
|     |      |         | E-W   | e                 | 02                    | 32   | 17 |                   |                |                |                                                                                                |
|     |      |         |       | P <sub>c</sub> P  |                       | 33   | 08 |                   |                |                |                                                                                                |
|     |      |         |       | e                 |                       | 34   | 22 |                   |                |                |                                                                                                |
|     |      |         |       | F                 |                       | 55   |    |                   |                |                |                                                                                                |
| 27. |      | B       | N-S   | P                 | 05                    | 51   | 15 |                   |                |                | 76<br>8400 Côte S du<br>Kamtchatka<br>50° N, 157° E<br>H = 05 <sup>h</sup> 39' 20''<br>(USCGS) |
|     |      |         |       | eS                | 06                    | 01   | 00 |                   |                |                |                                                                                                |
|     |      |         |       | e                 |                       | 14   | 38 |                   |                |                |                                                                                                |
|     |      |         |       | e                 |                       | 22   | 45 |                   |                |                |                                                                                                |
|     |      |         |       | L                 |                       | 28   | 15 |                   |                |                |                                                                                                |
|     |      |         |       | M                 |                       | 29   | 15 | 15                | 19             |                |                                                                                                |
|     |      |         |       | M                 |                       | 32   | 45 | 14                | 9              |                |                                                                                                |
|     |      |         |       | F                 |                       | 45   |    |                   |                |                |                                                                                                |
|     |      |         | E-W   | P <sub>c</sub> P  | 05                    | 51   | 21 |                   |                |                |                                                                                                |
|     |      |         |       | ePP               |                       | 53   | 49 |                   |                |                |                                                                                                |
|     |      |         |       | eS                | 06                    | 01   | 05 |                   |                |                |                                                                                                |
|     |      |         |       | e                 |                       | 22   | 45 |                   |                |                |                                                                                                |
|     |      |         |       | L                 |                       | 28   | 15 |                   |                |                |                                                                                                |
|     |      |         |       | M                 |                       | 29   | 15 | 15                | 10             |                |                                                                                                |
|     |      |         |       | F                 |                       | 45   |    |                   |                |                |                                                                                                |
|     |      | Sz      | N-S   | P <sub>c</sub> P  | 05                    | 51   | 20 |                   |                |                | 76,8<br>8530                                                                                   |
|     |      |         |       | e                 |                       | 54   | 41 |                   |                |                |                                                                                                |
|     |      |         |       | eL                | 06                    | 20   |    |                   |                |                |                                                                                                |
|     |      |         |       | F                 |                       | 40   |    |                   |                |                |                                                                                                |
|     |      |         | E-W   | eP <sub>c</sub> P | 05                    | 51   | 20 |                   |                |                |                                                                                                |
|     |      |         |       | eL                | 06                    | 20,5 |    |                   |                |                |                                                                                                |
|     |      |         |       | F                 |                       | 40   |    |                   |                |                |                                                                                                |



| N   | Date | Station | Comp. | Phase                                                                                       | Heure<br>de Greenwich |    |                                                                                                                | Péri-<br>ode<br>s | Amplitude |       | $\Delta$<br>Degré,<br>km | Remarques                                                                                       |
|-----|------|---------|-------|---------------------------------------------------------------------------------------------|-----------------------|----|----------------------------------------------------------------------------------------------------------------|-------------------|-----------|-------|--------------------------|-------------------------------------------------------------------------------------------------|
|     |      |         |       |                                                                                             | h                     | m  | s                                                                                                              |                   | $A_N$     | $A_E$ |                          |                                                                                                 |
| 28. | 14.  | B       | N-S   | eL<br>F                                                                                     | 18                    | 34 | 10<br>47                                                                                                       |                   |           |       | 75,5<br>8390             | Réplique<br>51,5° N, 160° E<br>H = 17 <sup>h</sup> 44' 28''<br>(USCGS)                          |
|     |      |         | E-W   | e<br>e<br>L<br>F                                                                            | 18                    | 25 | 40<br>48<br>10<br>46                                                                                           |                   |           |       |                          |                                                                                                 |
| 29. | 19.  | B       | N-S   | e $\bar{S}$<br>e<br>F                                                                       | 02                    | 18 | 48<br>19<br>24<br>26                                                                                           |                   |           |       | 7<br>780                 | Albanie<br>40,5° N, 20,3° E<br>H = 02 <sup>h</sup> 14' 44''<br>(BCIS)                           |
|     |      |         | E-W   | e $\bar{S}$<br>e<br>F                                                                       | 02                    | 18 | 48<br>21<br>24                                                                                                 |                   |           |       |                          |                                                                                                 |
|     |      | Sz      | N-S   | $\bar{S}$<br>e<br>F                                                                         | 02                    | 17 | 59<br>19<br>30                                                                                                 |                   |           |       | 5,8<br>640               |                                                                                                 |
|     |      |         | E-W   | $\bar{S}$<br>F                                                                              | 02                    | 17 | 58<br>30                                                                                                       |                   |           |       |                          |                                                                                                 |
| 30. | 21.  | B       | N-S   | P<br>i<br>PP<br>S<br>PPS<br>iS <sub>e</sub> S<br>SS<br>e<br>eSSS<br>M<br>M<br>F             | 23                    | 52 | 24<br>26<br>29<br>41<br>54<br>01<br>51<br>04<br>58<br>05<br>52<br>07<br>46<br>13<br>20<br>22<br>15<br>01<br>15 |                   |           |       | 62,9<br>6990             | NW de la<br>Birmanie<br>24,5° N, 95° E<br>H = 23 <sup>h</sup> 42' 05''<br>h = 150 km<br>(USCGS) |
|     |      |         | E-W   | iP<br>i<br>P <sub>e</sub> P<br>ePP<br>S<br>i<br>S <sub>e</sub> S<br>m<br>m<br>SSS<br>M<br>F | 23                    | 52 | 24<br>25<br>10<br>40<br>40<br>17<br>23<br>51<br>24<br>28<br>45<br>01<br>15                                     |                   |           |       |                          |                                                                                                 |
|     |      |         |       |                                                                                             |                       |    |                                                                                                                | 9                 | 37        |       |                          |                                                                                                 |
|     |      |         |       |                                                                                             |                       |    |                                                                                                                | 10                | 15        |       |                          |                                                                                                 |
|     |      |         |       |                                                                                             |                       |    |                                                                                                                | 12                | 21        |       |                          |                                                                                                 |
|     |      |         |       |                                                                                             |                       |    |                                                                                                                | 14                | 29        |       |                          |                                                                                                 |
|     |      |         |       |                                                                                             |                       |    |                                                                                                                |                   |           |       |                          |                                                                                                 |
|     |      |         |       |                                                                                             |                       |    |                                                                                                                | 8                 |           | 23    |                          |                                                                                                 |
|     |      |         |       |                                                                                             |                       |    |                                                                                                                | 8                 |           | 12    |                          |                                                                                                 |
|     |      |         |       |                                                                                             |                       |    |                                                                                                                | 8                 |           | 14    |                          |                                                                                                 |
|     |      |         |       |                                                                                             |                       |    |                                                                                                                | 12                |           | 22    |                          |                                                                                                 |
|     |      | K       | N-S   | ipP<br>e<br>ePP<br>ePPP<br>eS                                                               | 23                    | 52 | 28<br>30<br>38<br>46<br>42                                                                                     |                   |           |       | 63,1<br>7010             |                                                                                                 |



| N   | Date | Station | Comp. | Phase             | Heure<br>de Greenwich |    |       | Péri-<br>ode<br>s | Amplitude |       | $\Delta$<br>Degré,<br>km | Remarques |
|-----|------|---------|-------|-------------------|-----------------------|----|-------|-------------------|-----------|-------|--------------------------|-----------|
|     |      |         |       |                   | h                     | m  | s     |                   | $A_N$     | $A_E$ |                          |           |
| 31. | 23.  | Ke      | E-W   | L                 |                       |    | 02    |                   |           |       |                          |           |
|     |      |         |       | F                 |                       |    | 47    |                   |           |       |                          |           |
|     |      |         |       | ipP               | 23                    | 52 | 26    |                   |           |       |                          |           |
|     |      |         |       | eP <sub>c</sub> P |                       |    | 53 09 |                   |           |       |                          |           |
|     |      |         |       | eS                | 00                    | 00 | 42    |                   |           |       |                          |           |
|     |      |         |       | e                 |                       |    | 01 54 |                   |           |       |                          |           |
|     |      |         | N-S   | L                 |                       |    | 03    |                   |           |       |                          |           |
|     |      |         |       | F                 |                       |    | 45    |                   |           |       |                          |           |
|     |      |         |       | P                 | 23                    | 52 | 22    |                   |           |       | 62,6                     |           |
|     |      |         |       | eS                | 00                    | 00 | 32    |                   |           |       | 6950                     |           |
|     |      |         |       | sS                |                       |    | 01 42 |                   |           |       |                          |           |
|     |      |         |       | F                 |                       |    | 25    |                   |           |       |                          |           |
|     |      |         | E-W   | P                 | 23                    | 52 | 24    |                   |           |       |                          |           |
|     |      |         |       | iS                | 00                    | 00 | 35    |                   |           |       |                          |           |
|     |      |         |       | sS                |                       |    | 01 47 |                   |           |       |                          |           |
|     |      |         | Sz    | F                 |                       |    | 25    |                   |           |       |                          |           |
|     |      |         |       | iP                | 23                    | 52 | 25    |                   |           |       | 62,4                     |           |
|     |      |         |       | S                 | 00                    | 00 | 23    |                   |           |       | 6930                     |           |
|     |      |         |       | m                 |                       |    | 35    | 5                 | 24        |       |                          |           |
|     |      |         |       | sS                |                       |    | 01 48 |                   |           |       |                          |           |
|     |      |         |       | M                 |                       |    | 03 25 | 6                 | 45        |       |                          |           |
|     |      |         | E-W   | M                 |                       |    | 05 40 | 6                 | 3         |       |                          |           |
|     |      |         |       | F                 |                       |    | 58    |                   |           |       |                          |           |
|     |      |         |       | eP                | 23                    | 52 | 23    |                   |           |       |                          |           |
|     |      |         |       | pP                |                       |    | 53 00 |                   |           |       |                          |           |
|     |      |         |       | S                 | 00                    | 00 | 23    |                   |           |       |                          |           |
|     |      |         |       | m                 |                       |    | 01 48 | 6                 |           | 37    |                          |           |
|     |      |         |       | sS                |                       |    | 58    |                   |           |       |                          |           |
|     |      |         |       | F                 |                       |    | 55    |                   |           |       |                          |           |
|     |      | B       | N-S   | e                 | 13                    | 02 | 49    |                   |           |       | 9,2                      |           |
|     |      |         |       | eS*               |                       |    | 03 34 |                   |           |       | 1020                     |           |
|     |      |         |       | $\bar{S}$         |                       |    | 04 10 |                   |           |       |                          |           |
|     |      |         |       | eL                |                       |    | 05 25 |                   |           |       |                          |           |
|     |      |         |       | F                 |                       |    | 10 00 |                   |           |       |                          |           |
|     |      |         |       |                   |                       |    |       |                   |           |       |                          |           |
|     |      |         | E-W   | e                 | 13                    | 02 | 41    |                   |           |       |                          |           |
|     |      |         |       | eS*               |                       |    | 03 32 |                   |           |       |                          |           |
|     |      |         |       | $\bar{S}$         |                       |    | 04 04 |                   |           |       |                          |           |
|     |      |         |       | L                 |                       |    | 05 13 |                   |           |       |                          |           |
|     |      |         |       | F                 |                       |    | 13 00 |                   |           |       |                          |           |
|     |      |         |       |                   |                       |    |       |                   |           |       |                          |           |
|     |      | K       | N-S   | e                 | 13                    | 01 | 24    |                   |           |       | 8,6                      |           |
|     |      |         |       | i                 |                       |    | 03 21 |                   |           |       | 950                      |           |
|     |      |         |       | e                 |                       |    | 48    |                   |           |       |                          |           |
|     |      |         |       | F                 |                       |    | 06 00 |                   |           |       |                          |           |
|     |      |         | E-W   | e                 | 13                    | 01 | 33    |                   |           |       |                          |           |
|     |      |         |       | i                 |                       |    | 03 20 |                   |           |       |                          |           |
|     |      |         |       | e $\bar{S}$       |                       |    | 38    |                   |           |       |                          |           |



| N   | Date | Station | Comp. | Phase            | Heure<br>de Greenwich |    |       | Péri-<br>ode<br>s | Amplitude |       | $\Delta$<br>Degré<br>km | Remarques                                                            |
|-----|------|---------|-------|------------------|-----------------------|----|-------|-------------------|-----------|-------|-------------------------|----------------------------------------------------------------------|
|     |      |         |       |                  | h                     | m  | s     |                   | $A_N$     | $A_E$ |                         |                                                                      |
| 32. | 28.  | Ke      | N-S   | e                | 04                    | 12 |       |                   |           |       |                         |                                                                      |
|     |      |         |       | F                | 15                    | 00 |       |                   |           |       |                         |                                                                      |
|     |      |         |       | e                | 13                    | 03 | 00    |                   |           |       |                         |                                                                      |
|     |      |         |       | e                |                       |    | 23    |                   |           |       |                         |                                                                      |
|     |      |         |       | e                |                       |    | 33    |                   |           |       |                         |                                                                      |
|     |      |         |       | e                |                       |    | 45    |                   |           |       |                         |                                                                      |
|     |      |         |       | F                | 09                    | 00 |       |                   |           |       |                         |                                                                      |
|     |      |         | E-W   | e                | 13                    | 03 | 23    |                   |           |       |                         |                                                                      |
|     |      |         |       | e                |                       |    | 04 15 |                   |           |       |                         |                                                                      |
|     |      |         |       | F                | 09                    | 00 |       |                   |           |       |                         |                                                                      |
|     |      | Sz      | E-W   | S*               | 13                    | 02 | 45    |                   |           |       |                         |                                                                      |
|     |      |         |       | e                |                       |    | 52    |                   |           |       | 7,9                     | La comp N-S<br>pas mesurable                                         |
|     |      |         |       | e                | 03                    |    | 28    |                   |           |       | n'est                   |                                                                      |
|     |      |         |       | F                | 15                    | 00 |       |                   |           |       |                         |                                                                      |
|     |      | B       | N-S   | P                | 20                    | 48 | 32    |                   |           |       | 78,6                    | Aléoutes<br>52° N, 176° E<br>H = 20 <sup>h</sup> 36' 22''<br>(USCGS) |
|     |      |         |       | ePP              |                       | 51 | 05    |                   |           |       | 8730                    |                                                                      |
|     |      |         |       | S <sub>c</sub> S |                       | 58 | 47    |                   |           |       |                         |                                                                      |
|     |      |         |       | ePPS             |                       | 59 | 13    |                   |           |       |                         |                                                                      |
|     |      |         |       | SS               | 21                    | 03 | 34    |                   |           |       |                         |                                                                      |
|     |      |         |       | SSS              |                       | 06 | 44    |                   |           |       |                         |                                                                      |
|     |      |         |       | L                |                       | 21 | 00    |                   |           |       |                         |                                                                      |
|     |      |         |       | M                |                       | 28 | 30    | 14                | 15        |       |                         |                                                                      |
|     |      |         |       | M                |                       | 30 | 00    | 14                | 11        |       |                         |                                                                      |
|     |      |         |       | F                | 22                    | 11 | 00    |                   |           |       |                         |                                                                      |
|     |      |         | E-W   | P                | 20                    | 48 | 33    |                   |           |       |                         |                                                                      |
|     |      |         |       | P <sub>c</sub> P |                       |    | 41    |                   |           |       |                         |                                                                      |
|     |      |         |       | ePP              |                       | 51 | 23    |                   |           |       |                         |                                                                      |
|     |      |         |       | eSKS             |                       | 58 | 36    |                   |           |       |                         |                                                                      |
|     |      |         |       | PS               |                       | 59 | 00    |                   |           |       |                         |                                                                      |
|     |      |         |       | SSS              | 21                    | 06 | 31    |                   |           |       |                         |                                                                      |
|     |      |         |       | eL               |                       | 20 | 00    |                   |           |       |                         |                                                                      |
|     |      |         |       | M                |                       | 29 | 11    | 15                |           |       | 9                       |                                                                      |
|     |      |         |       | F                |                       | 55 | 00    |                   |           |       |                         |                                                                      |
|     |      | Sz      | N-S   | e                | 20                    | 49 | 35    |                   |           |       | 79,6                    |                                                                      |
|     |      |         |       | PP               |                       | 51 | 36    |                   |           |       | 8840                    |                                                                      |
|     |      |         |       | eL               | 21                    | 20 | 00    |                   |           |       |                         |                                                                      |
|     |      |         |       | F                |                       | 50 | 00    |                   |           |       |                         |                                                                      |
|     |      |         | E-W   | e                | 20                    | 49 | 04    |                   |           |       |                         |                                                                      |
|     |      |         |       | PP               |                       | 51 | 41    |                   |           |       |                         |                                                                      |
|     |      |         |       | eL               | 21                    | 24 | 00    |                   |           |       |                         |                                                                      |
|     |      |         |       | F                |                       | 50 | 00    |                   |           |       |                         |                                                                      |



| N°  | Date | Station | Comp. | Phase             | Heure<br>de Greenwich |    |    | Péri-<br>ode<br>s | Amplitude |       | $\Delta$<br><br>Degré,<br>km | Remarques                                                                                                                                        |
|-----|------|---------|-------|-------------------|-----------------------|----|----|-------------------|-----------|-------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
|     |      |         |       |                   | h                     | m  | s  |                   | $A_N$     | $A_E$ |                              |                                                                                                                                                  |
| 33. | 29.  | B       | N-S   | eP                | 04                    | 13 | 43 |                   |           |       | 83,7<br>9300                 | Près de la<br>côte N de<br>Luzon<br>$19\frac{1}{2}^\circ\text{N}, 121\frac{1}{2}^\circ\text{E}$<br><br>$H = 04^\circ 01' 10''$<br>(USCGS)        |
|     |      |         |       | e                 |                       | 20 | 05 |                   |           |       |                              |                                                                                                                                                  |
|     |      |         |       | S                 |                       | 24 | 04 |                   |           |       |                              |                                                                                                                                                  |
|     |      |         |       | ePS               |                       |    | 46 |                   |           |       |                              |                                                                                                                                                  |
|     |      |         |       | eSS               |                       | 29 | 5  |                   |           |       |                              |                                                                                                                                                  |
|     |      |         |       | eSSS              |                       | 33 | 00 |                   |           |       |                              |                                                                                                                                                  |
|     |      |         |       | L                 |                       | 51 | 00 |                   |           |       |                              |                                                                                                                                                  |
|     |      |         |       | F                 |                       | 05 | 10 |                   |           |       |                              |                                                                                                                                                  |
|     |      |         | E-W   | eP                | 04                    | 13 | 45 |                   |           |       |                              |                                                                                                                                                  |
|     |      |         |       | ePP               |                       | 17 | 09 |                   |           |       |                              |                                                                                                                                                  |
|     |      |         |       | S                 |                       | 24 | 05 |                   |           |       |                              |                                                                                                                                                  |
|     |      |         |       | S <sub>c</sub> S  |                       |    | 24 |                   |           |       |                              |                                                                                                                                                  |
|     |      |         |       | ePPS              |                       | 25 | 15 |                   |           |       |                              |                                                                                                                                                  |
|     |      |         |       | eL                |                       | 53 | 00 |                   |           |       |                              |                                                                                                                                                  |
|     |      |         |       | F                 | 05                    | 10 | 00 |                   |           |       |                              |                                                                                                                                                  |
| 34. | 29.  | B       | N-S   | P                 | 06                    | 20 | 56 |                   |           |       | 19,6<br>2180                 | Près de la<br>côte N-S de<br>l'Espagne<br>$37^\circ\text{N}, 3\frac{1}{2}^\circ\text{W}$<br>$H = 06' 17' 05''$<br>$h = 650\text{ km}$<br>(USCGS) |
|     |      |         |       | i                 |                       | 21 | 03 |                   |           |       |                              |                                                                                                                                                  |
|     |      |         |       | sP                |                       | 23 | 25 |                   |           |       |                              |                                                                                                                                                  |
|     |      |         |       | i                 |                       |    | 45 |                   |           |       |                              |                                                                                                                                                  |
|     |      |         |       | S                 |                       | 24 | 09 |                   |           |       |                              |                                                                                                                                                  |
|     |      |         |       | M                 |                       | 28 | 50 | 8                 | 33        |       |                              |                                                                                                                                                  |
|     |      |         |       | M                 |                       | 33 | 08 | 10                | 30        |       |                              |                                                                                                                                                  |
|     |      |         |       | M                 |                       | 39 | 43 | 11                | 27        |       |                              |                                                                                                                                                  |
|     |      |         |       | M                 |                       | 40 | 30 | 11                | 18        |       |                              |                                                                                                                                                  |
|     |      |         |       | F                 | 07                    | 45 | 00 |                   |           |       |                              |                                                                                                                                                  |
|     |      |         | E-W   | iP                | 06                    | 20 | 56 |                   |           |       |                              |                                                                                                                                                  |
|     |      |         |       | i                 |                       | 21 | 03 |                   |           |       |                              |                                                                                                                                                  |
|     |      |         |       | e                 |                       | 22 | 30 |                   |           |       |                              |                                                                                                                                                  |
|     |      |         |       | sP                |                       | 23 | 30 |                   |           |       |                              |                                                                                                                                                  |
|     |      |         |       | e                 |                       |    | 43 |                   |           |       |                              |                                                                                                                                                  |
|     |      |         |       | eS                |                       | 24 | 17 |                   |           |       |                              |                                                                                                                                                  |
|     |      |         |       | M                 |                       | 28 | 10 | 10                | 89        |       |                              |                                                                                                                                                  |
|     |      |         |       | M                 |                       | 32 | 08 | 8                 | 28        |       |                              |                                                                                                                                                  |
|     |      |         |       | M                 |                       | 36 | 30 | 9                 | 31        |       |                              |                                                                                                                                                  |
|     |      |         |       | M                 |                       | 38 | 20 | 10                | 18        |       |                              |                                                                                                                                                  |
|     |      |         |       | F                 | 07                    | 45 | 00 |                   |           |       |                              |                                                                                                                                                  |
|     |      | K       | N-S   | iP                | 06                    | 20 | 58 |                   |           |       | 19,3<br>2140                 |                                                                                                                                                  |
|     |      |         |       | e                 |                       | 21 | 20 |                   |           |       |                              |                                                                                                                                                  |
|     |      |         |       | S                 |                       | 24 | 10 |                   |           |       |                              |                                                                                                                                                  |
|     |      |         |       | e                 |                       | 31 | 54 |                   |           |       |                              |                                                                                                                                                  |
|     |      |         |       | F                 |                       | 07 | 17 |                   |           |       |                              |                                                                                                                                                  |
|     |      |         | E-W   | iP                | 06                    | 20 | 54 |                   |           |       |                              |                                                                                                                                                  |
|     |      |         |       | e                 |                       | 21 | 16 |                   |           |       |                              |                                                                                                                                                  |
|     |      |         |       | eS                |                       | 23 | 44 |                   |           |       |                              |                                                                                                                                                  |
|     |      |         |       | eP <sub>c</sub> S |                       | 29 | 34 |                   |           |       |                              |                                                                                                                                                  |
|     |      |         |       | i                 |                       | 31 | 26 |                   |           |       |                              |                                                                                                                                                  |
|     |      |         |       | F                 |                       | 07 | 20 |                   |           |       |                              |                                                                                                                                                  |



| N°  | Date | Station | Comp. | Phase | Heure<br>de Greenwich |    |    | Péri-<br>ode<br>s | Amplitude    |       | $\Delta$<br><br>Degré,<br>km | Remarques                                                                                                                          |
|-----|------|---------|-------|-------|-----------------------|----|----|-------------------|--------------|-------|------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
|     |      |         |       |       | h                     | m  | s  |                   | $A_N$        | $A_E$ |                              |                                                                                                                                    |
| 35. | 30.  | Ke      | N-S   | P     | 06                    | 21 | 04 | 6                 | 138          |       | 19,8<br>2200                 | Près de la<br>côte S du<br>Péloponèse<br>$36\frac{3}{4}^{\circ}$ N, $22\frac{3}{4}^{\circ}$ E<br><br>H = $04^h 30' 35''$<br>(BCIS) |
|     |      |         |       | S     |                       | 24 | 11 |                   |              |       |                              |                                                                                                                                    |
|     |      |         |       | M     |                       | 25 | 54 |                   |              |       |                              |                                                                                                                                    |
|     |      |         |       | F     |                       | 55 | 00 |                   |              |       |                              |                                                                                                                                    |
|     |      |         | E-W   | eP    | 06                    | 21 | 00 |                   |              |       |                              |                                                                                                                                    |
|     |      |         |       | sP    |                       | 23 | 12 |                   |              |       |                              |                                                                                                                                    |
|     |      |         |       | S     |                       | 24 | 04 |                   |              |       |                              |                                                                                                                                    |
|     |      |         |       | F     |                       | 55 | 00 |                   |              |       |                              |                                                                                                                                    |
|     |      | Sz      | N-S   | P     | 06                    | 21 | 02 | 5                 | 98           |       | 19,8<br>2200                 |                                                                                                                                    |
|     |      |         |       | i     |                       | 22 | 20 |                   |              |       |                              |                                                                                                                                    |
|     |      |         |       | sP    |                       | 23 | 16 |                   |              |       |                              |                                                                                                                                    |
|     |      |         |       | S     |                       | 24 | 02 |                   |              |       |                              |                                                                                                                                    |
|     |      |         | E-W   | M     |                       |    | 30 | 5                 | 93           |       |                              |                                                                                                                                    |
|     |      |         |       | M     |                       | 28 | 30 |                   |              |       |                              |                                                                                                                                    |
|     |      |         |       | F     | 07                    | 35 | 00 |                   |              |       |                              |                                                                                                                                    |
|     |      |         |       | F     | 07                    | 35 | 00 |                   |              |       |                              |                                                                                                                                    |
| B   | N-S  | eS      | 04    | 35    | 24                    | 8  | 4  |                   | 11,1<br>1230 |       |                              |                                                                                                                                    |
|     |      | eL      |       | 37    | 23                    |    |    |                   |              |       |                              |                                                                                                                                    |
|     |      | M       |       | 38    | 35                    |    |    |                   |              |       |                              |                                                                                                                                    |
|     |      | F       |       | 45    | 00                    |    |    |                   |              |       |                              |                                                                                                                                    |
|     | E-W  | eS      | 04    | 35    | 27                    |    |    |                   | 78<br>49     |       |                              |                                                                                                                                    |
|     |      | e       |       |       | 39                    |    |    |                   |              |       |                              |                                                                                                                                    |
|     |      | e       |       | 36    | 37                    |    |    |                   |              |       |                              |                                                                                                                                    |
|     |      | eL      |       | 37    | 03                    |    |    |                   |              |       |                              |                                                                                                                                    |
| Sz  | N-S  | F       |       | 42    | 00                    | 35 | 38 |                   | 9,7<br>1080  |       |                              |                                                                                                                                    |
|     |      | S       | 04    | 34    | 58                    |    |    |                   |              |       |                              |                                                                                                                                    |
|     |      | S*      |       | 35    | 38                    |    |    |                   |              |       |                              |                                                                                                                                    |
|     |      | eS      |       | 36    | 12                    |    |    |                   |              |       |                              |                                                                                                                                    |
|     | E-W  | e       |       |       | 40                    |    |    |                   |              |       |                              |                                                                                                                                    |
|     |      | F       |       | 52    | 00                    |    |    |                   |              |       |                              |                                                                                                                                    |
|     |      | S       | 04    | 34    | 55                    |    |    |                   |              |       |                              |                                                                                                                                    |
|     |      | e       |       | 35    | 16                    |    |    |                   |              |       |                              |                                                                                                                                    |
| 36. | 30.  | B       | N-S   | S*    |                       |    | 38 |                   |              |       | Proche                       |                                                                                                                                    |
|     |      |         |       | e     |                       | 36 | 22 |                   |              |       |                              |                                                                                                                                    |
|     |      |         |       | F     |                       | 52 | 00 |                   |              |       |                              |                                                                                                                                    |
|     |      |         |       | F     | 10                    | 13 | 20 |                   |              |       |                              |                                                                                                                                    |
|     |      | E-W     | eP    |       | 14                    | 00 |    |                   |              |       |                              |                                                                                                                                    |
|     |      |         | S     | 10    | 12                    | 32 |    |                   |              |       |                              |                                                                                                                                    |
|     |      |         | L     |       | 13                    | 17 |    |                   |              |       |                              |                                                                                                                                    |
|     |      |         | F     |       |                       | 23 |    |                   |              |       |                              |                                                                                                                                    |



| N°  | Date | Station | Comp. | Phase             | Heure<br>de Greenwich |    |    | Péri-<br>ode<br>s | Amplitude |     | Δ<br>Degré,<br>km | Remarques                                                           |
|-----|------|---------|-------|-------------------|-----------------------|----|----|-------------------|-----------|-----|-------------------|---------------------------------------------------------------------|
|     |      |         |       |                   | h                     | m  | s  |                   | AN        | AE  |                   |                                                                     |
| 37. | 31.  | K       | N-S   | e                 | 10                    | 12 | 44 |                   |           |     |                   |                                                                     |
|     |      |         |       | e                 |                       | 13 | 04 |                   |           |     |                   |                                                                     |
|     |      |         |       | e                 |                       |    | 46 |                   |           |     |                   |                                                                     |
|     |      |         |       | F                 |                       | 18 | 00 |                   |           |     |                   |                                                                     |
|     |      |         | E-W   | e                 | 10                    | 12 | 56 |                   |           |     |                   |                                                                     |
|     |      |         |       | e                 |                       | 13 | 06 |                   |           |     |                   |                                                                     |
|     |      |         |       | F                 |                       | 18 | 00 |                   |           |     |                   |                                                                     |
|     |      | Ke      | N-S   | e                 | 10                    | 12 | 54 |                   |           |     |                   |                                                                     |
|     |      |         |       | e                 |                       | 13 | 14 |                   |           |     |                   |                                                                     |
|     |      |         |       | F                 |                       | 16 | 00 |                   |           |     |                   |                                                                     |
|     |      |         | E-W   | e                 | 10                    | 12 | 54 |                   |           |     |                   |                                                                     |
|     |      |         |       | F                 |                       | 16 | 00 |                   |           |     |                   |                                                                     |
|     |      | Sz      | N-S   | e                 | 10                    | 12 | 32 |                   |           |     |                   |                                                                     |
|     |      |         |       | e                 |                       |    | 47 |                   |           |     |                   |                                                                     |
|     |      |         |       | e                 |                       | 13 | 19 |                   |           |     |                   |                                                                     |
|     |      |         |       | F                 |                       | 19 | 00 |                   |           |     |                   |                                                                     |
|     |      |         | E-W   | e                 | 10                    | 12 | 32 |                   |           |     |                   |                                                                     |
|     |      |         |       | e                 |                       |    | 45 |                   |           |     |                   |                                                                     |
|     |      |         |       | e                 |                       | 13 | 17 |                   |           |     |                   |                                                                     |
|     |      |         |       | F                 |                       | 19 | 00 |                   |           |     |                   |                                                                     |
|     |      | B       | N-S   | P                 | 18                    | 34 | 29 |                   |           |     | 48                | Golfe Arabi-<br>que<br>13½° N, 58° E<br>H = 18° 25' 48''<br>(USCGS) |
|     |      |         |       | i                 |                       |    | 31 |                   |           |     | 5330              |                                                                     |
|     |      |         |       | PP                |                       | 36 | 24 |                   |           |     |                   |                                                                     |
|     |      |         |       | ePPP              |                       | 37 | 20 |                   |           |     |                   |                                                                     |
|     |      |         |       | S                 |                       | 41 | 29 |                   |           |     |                   |                                                                     |
|     |      |         |       | PPS               |                       |    | 44 |                   |           |     |                   |                                                                     |
|     |      |         |       | eSS               |                       | 44 | 56 |                   |           |     |                   |                                                                     |
|     |      |         |       | SSS               |                       | 46 | 13 |                   |           |     |                   |                                                                     |
|     |      |         |       | L                 |                       | 47 | 30 |                   |           |     |                   |                                                                     |
|     |      |         |       | M                 |                       | 57 | 10 | 13                | 116       |     |                   |                                                                     |
|     |      |         |       | M                 | 19                    | 00 | 00 | 16                | 91        |     |                   |                                                                     |
|     |      |         |       | M                 |                       | 01 | 00 | 14                | 66        |     |                   |                                                                     |
|     |      |         |       | F                 |                       | 30 | 00 |                   |           |     |                   |                                                                     |
|     |      |         | E-W   | P                 | 18                    | 34 | 27 |                   |           |     |                   |                                                                     |
|     |      |         |       | i                 |                       |    | 31 | 5                 |           | 12  |                   |                                                                     |
|     |      |         |       | PP                |                       | 36 | 24 |                   |           |     |                   |                                                                     |
|     |      |         |       | PPP               |                       | 37 | 06 |                   |           |     |                   |                                                                     |
|     |      |         |       | eP <sub>c</sub> P |                       | 40 | 10 |                   |           |     |                   |                                                                     |
|     |      |         |       | S                 |                       | 41 | 27 |                   |           |     |                   |                                                                     |
|     |      |         |       | e                 |                       | 42 | 00 |                   |           |     |                   |                                                                     |
|     |      |         |       | SS                |                       | 44 | 56 |                   |           |     |                   |                                                                     |
|     |      |         |       | m                 |                       | 45 | 55 | 10                |           | 24  |                   |                                                                     |
|     |      |         |       | m                 |                       | 46 | 55 | 12                |           | 57  |                   |                                                                     |
|     |      |         |       | L                 |                       | 47 | 25 |                   |           |     |                   |                                                                     |
|     |      |         |       | M                 |                       | 56 | 25 | 17                |           | 147 |                   |                                                                     |
|     |      |         |       | M                 |                       | 59 | 35 | 13                |           | 67  |                   |                                                                     |
|     |      |         |       | F                 | 19                    | 20 | 00 |                   |           |     |                   |                                                                     |



| N   | Date     | Station | Comp. | Phase             | Heure<br>de Greenwich |    |    | Péri-<br>ode<br>s | Amplitude |    | $\Delta$<br><br>Degré,<br>km | Remarques |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|     |          |         |       |                   | h                     | m  | s  |                   | AN        | AE |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 38. | Avril 1. | K       | N-S   | iP                | 18                    | 34 | 24 |                   |           |    | 46,4<br>5155                 |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | ePP               |                       | 36 | 18 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | iPPS              |                       | 41 | 22 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | eL                |                       | 46 | 00 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | F                 | 19                    | 23 | 00 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         | E-W   | iP                | 18                    | 34 | 24 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | ePP               |                       | 36 | 18 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | e                 |                       | 38 | 42 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | iS                |                       | 41 | 08 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | F                 |                       | 19 | 26 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          | Ke      | N-S   | P                 | 18                    | 34 | 26 |                   |           |    |                              |           |  |  | 47,5<br>5280 |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | ePPP              |                       | 37 | 30 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | eP <sub>c</sub> S |                       | 40 | 16 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | S                 |                       | 41 | 20 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | eSS               |                       | 45 | 10 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         | F     | 19                | 15                    | 00 |    |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         | E-W   | e                 | 18                    | 34 | 04 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | P                 |                       |    | 26 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | P <sub>c</sub> P  |                       | 35 | 48 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | PP                |                       | 36 | 18 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          | PPP     |       |                   | 37                    | 17 |    |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          | Sz      | N-S   | S                 |                       | 41 | 16 |                   |           |    |                              |           |  |  |              |  |  |  | 47<br>5220 |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | SS                |                       | 44 | 58 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | F                 | 19                    | 15 | 00 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | P                 | 18                    | 34 | 21 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | m                 |                       |    | 36 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         | E-W   | P <sub>c</sub> P  |                       |    | 49 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | PPP               |                       | 37 | 04 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | eS                |                       | 41 | 17 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | m                 |                       |    | 44 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | M                 |                       | 43 | 33 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          | B       | N-S   | F                 | 19                    | 52 | 00 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  | 69<br>64 |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | iP                | 18                    | 34 | 17 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | P <sub>c</sub> P  |                       | 35 | 46 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | PP                |                       | 36 | 16 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | ePPP              |                       |    | 51 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         | E-W   | iS                |                       | 41 | 12 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  | 51<br>58<br>70<br>31<br>148 |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | PS                |                       |    | 21 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | PPS               |                       |    | 34 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | M                 |                       | 44 | 18 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | M                 |                       | 59 | 30 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         | N-S   | F                 | 19                    | 52 | 00 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  | 77,9<br>8650 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | e                 | 18                    | 31 | 00 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | ePP               |                       | 34 | 12 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | S                 |                       | 41 | 05 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | eSS               |                       | 46 | 25 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | SSS               |                       | 49 | 23 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | eL                | 19                    | 01 | 00 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       | F                 |                       |    | 30 |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |          |         |       |                   |                       |    |    |                   |           |    |                              |           |  |  |              |  |  |  |            |  |  |  |          |  |  |  |                             |  |  |  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |







| N   | Date | Station           | Comp.            | Phase             | Heure<br>de Greenwich |              |    | Péri-<br>ode<br>s | Amplitude |       | $\Delta$<br><br>Degré,<br>km | Remarques |
|-----|------|-------------------|------------------|-------------------|-----------------------|--------------|----|-------------------|-----------|-------|------------------------------|-----------|
|     |      |                   |                  |                   | h                     | m            | s  |                   | $A_N$     | $A_E$ |                              |           |
| 41. |      | Ke                | N-S              | e                 | 10                    | 34           | 55 |                   |           |       | 47,5<br>5280                 |           |
|     |      |                   |                  | eP                |                       | 36           | 07 |                   |           |       |                              |           |
|     |      |                   |                  | S                 |                       | 41           | 09 |                   |           |       |                              |           |
|     |      |                   | E-W              | P                 | 10                    | 33           | 55 |                   |           |       |                              |           |
|     |      |                   |                  | PP                |                       | 36           | 07 |                   |           |       |                              |           |
|     |      |                   |                  | P <sub>c</sub> S  |                       | 39           | 20 |                   |           |       |                              |           |
|     |      | Sz                | N-S              | eP                | 10                    | 34           | 11 |                   |           |       | 46,8<br>5200                 |           |
|     |      |                   |                  | PP                |                       | 35           | 25 |                   |           |       |                              |           |
|     |      |                   |                  | iPP               |                       | 36           | 11 |                   |           |       |                              |           |
|     |      |                   |                  | eP <sub>c</sub> S |                       | 38           | 50 |                   |           |       |                              |           |
|     |      |                   |                  | eSS               |                       | 44           | 18 |                   |           |       |                              |           |
|     |      |                   |                  | E-W               | eP                    | 10           | 34 |                   |           |       |                              |           |
|     |      | PP                |                  |                   | 35                    | 48           |    |                   |           |       |                              |           |
|     |      | S                 |                  |                   | 40                    | 33           |    |                   |           |       |                              |           |
|     |      | PS                |                  |                   |                       | 42           |    |                   |           |       |                              |           |
|     |      | B                 | N-S              | P                 | 11                    | 00           | 48 |                   |           |       | 38,7<br>4320                 |           |
|     |      |                   |                  | F                 |                       | 30           |    |                   |           |       |                              |           |
|     |      |                   | E-W              | P                 | 11                    | 00           | 50 |                   |           |       |                              |           |
|     |      |                   |                  | F                 |                       | 30           |    |                   |           |       |                              |           |
|     |      | K                 | N-S              | iP                | 11                    | 00           | 49 |                   |           |       | 38,9<br>4320                 |           |
|     |      |                   |                  | F                 |                       | 25           |    |                   |           |       |                              |           |
|     |      |                   | E-W              | iP                | 11                    | 00           | 47 |                   |           |       |                              |           |
|     |      |                   |                  | PP                |                       | 02           | 26 |                   |           |       |                              |           |
|     |      |                   |                  | eP <sub>c</sub> P |                       | 03           | 26 |                   |           |       |                              |           |
|     |      | Ke                |                  | e                 | 11                    | 00           | 45 |                   |           |       | 38,3<br>4260                 |           |
| Sz  | N-S  | P                 | 11               | 00                | 44                    | 38,1<br>4230 |    |                   |           |       |                              |           |
|     |      | PP                |                  | 02                | 22                    |              |    |                   |           |       |                              |           |
|     |      | eP <sub>c</sub> P |                  | 03                | 16                    |              |    |                   |           |       |                              |           |
|     |      | ePPS              |                  | 07                | 17                    |              |    |                   |           |       |                              |           |
|     |      | F                 |                  | 35                |                       |              |    |                   |           |       |                              |           |
|     |      | E-W               | P                | 11                | 00                    |              | 44 |                   |           |       |                              |           |
|     |      |                   | e                |                   | 01                    |              | 26 |                   |           |       |                              |           |
|     |      |                   | P <sub>c</sub> P |                   | 02                    |              | 52 |                   |           |       |                              |           |
|     |      |                   | SS               |                   | 09                    |              | 25 |                   |           |       |                              |           |
|     |      |                   | F                |                   | 35                    |              |    |                   |           |       |                              |           |
| 42. | 13.  | B                 | N-S              | e                 | 10                    | 08           | 57 |                   |           |       |                              |           |
|     |      |                   |                  | e                 |                       | 09           | 08 |                   |           |       |                              |           |
|     |      |                   |                  | e                 |                       | 10           | 00 |                   |           |       |                              |           |
|     |      |                   |                  | F                 |                       | 13           |    |                   |           |       |                              |           |
|     |      | E-W               | e                | 10                | 08                    | 38           |    |                   |           |       |                              |           |
|     |      |                   | e                |                   |                       | 54           |    |                   |           |       |                              |           |
|     |      |                   | F                |                   | 13                    |              |    |                   |           |       |                              |           |
|     |      |                   |                  |                   |                       |              |    |                   |           |       |                              |           |



| N   | Date | Station | Comp. | Phase | Heure<br>de Greenwich |                  |    | Péri-<br>ode<br>s | Amplitude |        | $\Delta$<br><br>Degré,<br>km | Remarques                                                                |    |    |
|-----|------|---------|-------|-------|-----------------------|------------------|----|-------------------|-----------|--------|------------------------------|--------------------------------------------------------------------------|----|----|
|     |      |         |       |       | h                     | m                | s  |                   | $A_N$     | $A_E$  |                              |                                                                          |    |    |
| 43. | 15.  | Sz      | N-S   | e     | 10                    | 08               | 34 |                   |           |        |                              |                                                                          |    |    |
|     |      |         |       | e     |                       | 09               | 10 |                   |           |        |                              |                                                                          |    |    |
|     |      |         |       | e     |                       | 10               | 47 |                   |           |        |                              |                                                                          |    |    |
|     |      |         |       | F     |                       | 15               |    |                   |           |        |                              |                                                                          |    |    |
|     |      |         | E-W   | e     | 10                    | 08               | 33 |                   |           |        |                              |                                                                          |    |    |
|     |      |         |       | e     |                       | 09               | 07 |                   |           |        |                              |                                                                          |    |    |
|     |      |         |       | e     |                       |                  | 46 |                   |           |        |                              |                                                                          |    |    |
|     |      |         |       | F     |                       | 15               |    |                   |           |        |                              |                                                                          |    |    |
| B   | N-S  | i       | 08    | 49    | 40                    |                  |    |                   |           |        |                              |                                                                          |    |    |
|     |      | E-W     | e     | 08    | 49                    | 28               |    |                   |           |        |                              |                                                                          |    |    |
|     | K    | N-S     | e     | 08    | 48                    | 41               |    |                   |           |        |                              |                                                                          |    |    |
|     |      | E-W     | e     | 08    | 48                    | 58               |    |                   |           |        |                              |                                                                          |    |    |
| 44. | 15.  | Sz      |       | e     | 08                    | 49               | 15 |                   |           |        |                              |                                                                          |    |    |
|     |      | B       | N-S   | e     | 12                    | 03               | 42 |                   |           |        |                              |                                                                          |    |    |
|     |      |         |       | e     |                       | 07               | 40 |                   |           |        |                              |                                                                          |    |    |
|     |      |         |       | F     |                       | 20               |    |                   |           |        |                              |                                                                          |    |    |
|     |      |         | E-W   | e     | 11                    | 53               | 56 |                   |           |        |                              |                                                                          |    |    |
|     |      |         |       | e     | 12                    | 01               | 22 |                   |           |        |                              |                                                                          |    |    |
|     |      |         |       | m     |                       | 05               | 15 |                   |           |        |                              |                                                                          |    |    |
|     |      |         |       | m     |                       | 07               | 50 |                   |           |        |                              |                                                                          |    |    |
| F   |      |         |       | 20    |                       |                  |    |                   |           |        |                              |                                                                          |    |    |
| 45. | 17.  | B       | N-S   | P     | 20                    | 22               | 50 | 10<br>6           |           | 3<br>5 | 79,8<br>8870                 | Iles Aléouti-<br>ennes<br>51,5° N, 179° W<br>H = 20° 10' 37''<br>(USCGS) |    |    |
|     |      |         |       | e     |                       | 25               | 24 |                   |           |        |                              |                                                                          |    |    |
|     |      |         |       | PPP   |                       | 27               | 46 |                   |           |        |                              |                                                                          |    |    |
|     |      |         |       | SKS   |                       | 33               | 04 |                   |           |        |                              |                                                                          |    |    |
|     |      |         |       | PPS   |                       |                  | 57 |                   |           |        |                              |                                                                          |    |    |
|     |      |         |       | e     |                       | 38               | 23 |                   |           |        |                              |                                                                          |    |    |
|     |      |         |       | SSS   |                       | 41               | 20 |                   |           |        |                              |                                                                          |    |    |
|     |      |         |       |       | E-W                   | P                | 20 |                   |           |        |                              |                                                                          | 22 | 51 |
|     |      |         |       |       |                       | i                |    |                   |           |        |                              |                                                                          |    | 59 |
|     |      |         |       |       |                       | PP               |    |                   |           |        |                              |                                                                          | 25 | 52 |
|     |      |         |       |       |                       | ePPP             |    |                   |           |        |                              |                                                                          | 27 | 51 |
|     |      |         |       |       |                       | S <sub>c</sub> S |    |                   |           |        |                              |                                                                          | 33 | 10 |
|     |      |         |       |       |                       | PPS              |    |                   |           |        |                              |                                                                          |    | 51 |
|     |      |         |       |       |                       | L                |    |                   |           |        |                              |                                                                          | 47 |    |
|     |      |         |       | Sz    | N-S                   | P                | 20 |                   |           |        |                              |                                                                          | 22 | 47 |
|     |      |         |       |       |                       | PP               |    |                   |           |        |                              |                                                                          | 26 | 21 |
|     |      |         |       |       | E-W                   | e                | 20 |                   |           |        |                              |                                                                          | 23 | 30 |
|     |      |         |       |       |                       | ePPP             |    |                   |           |        |                              |                                                                          | 28 | 07 |



| N   | Date | Station | Comp. | Phase | Heure<br>de Greenwich |                  |        | Péri-<br>ode<br><br>s | Amplitude |    | $\Delta$<br><br>Degrés<br>km | Remarques                                                                                                                      |  |  |  |
|-----|------|---------|-------|-------|-----------------------|------------------|--------|-----------------------|-----------|----|------------------------------|--------------------------------------------------------------------------------------------------------------------------------|--|--|--|
|     |      |         |       |       | h                     | m                | s      |                       | AN        | AE |                              |                                                                                                                                |  |  |  |
| 46. |      | B       | N-S   | eP    | 20                    | 55               | 24     | 8                     |           | 10 | 9,8<br>1090                  | Début d'un<br>2 <sup>me</sup> séisme<br>superposé au<br>précédent<br>38°07' N 22°45 E<br>H = 20 <sup>h</sup> 52'47''<br>(BCIS) |  |  |  |
|     |      |         |       | e     |                       | 58               | 34     |                       |           |    |                              |                                                                                                                                |  |  |  |
|     |      |         |       | M     |                       | 59               | 46     |                       |           |    |                              |                                                                                                                                |  |  |  |
|     |      |         |       | F     | 22                    | 00               |        |                       |           |    |                              |                                                                                                                                |  |  |  |
|     |      |         | E-W   | eP    | 20                    | 55               | 24     |                       |           |    |                              |                                                                                                                                |  |  |  |
|     |      |         |       | e     |                       | 58               | 34     |                       |           |    |                              |                                                                                                                                |  |  |  |
|     |      |         |       | M     |                       | 59               | 50     |                       |           |    |                              |                                                                                                                                |  |  |  |
|     |      |         |       | F     | 21                    | 30               |        |                       |           |    |                              |                                                                                                                                |  |  |  |
|     |      | K       | N-S   | eP    | 20                    | 55               | 02     |                       |           |    |                              |                                                                                                                                |  |  |  |
|     |      |         |       | eS    |                       | 57               | 44     |                       |           |    |                              |                                                                                                                                |  |  |  |
|     |      |         |       | e     |                       | 58               | 27     |                       |           |    |                              |                                                                                                                                |  |  |  |
|     |      |         |       | F     | 21                    | 10               |        |                       |           |    |                              |                                                                                                                                |  |  |  |
|     |      |         | E-W   | eP    | 20                    | 59               | 09     |                       |           |    |                              |                                                                                                                                |  |  |  |
|     |      |         |       | eS    |                       | 56               | 45     |                       |           |    |                              |                                                                                                                                |  |  |  |
|     |      |         |       | sS*   |                       | 57               | 15     |                       |           |    |                              |                                                                                                                                |  |  |  |
|     |      |         |       | S     |                       |                  | 42     |                       |           |    |                              |                                                                                                                                |  |  |  |
|     |      | Sz      | N-S   | F     | 21                    | 09               | 6<br>6 | 35<br>40              |           |    | 8,3<br>920                   |                                                                                                                                |  |  |  |
|     |      |         |       | P     | 20                    | 54               |        |                       |           |    |                              | 58                                                                                                                             |  |  |  |
|     |      |         |       | P     |                       | 55               |        |                       |           |    |                              | 40                                                                                                                             |  |  |  |
|     |      |         |       | S     |                       | 56               |        |                       |           |    |                              | 29                                                                                                                             |  |  |  |
|     |      |         | sS*   |       |                       | 59               |        |                       |           |    |                              |                                                                                                                                |  |  |  |
|     |      |         |       | M     |                       | 59               |        |                       |           |    |                              | 49                                                                                                                             |  |  |  |
|     |      |         |       | M     | 21                    | 05               |        |                       |           |    |                              |                                                                                                                                |  |  |  |
|     |      |         |       | F     |                       | 20               |        |                       |           |    |                              |                                                                                                                                |  |  |  |
|     |      | E-W     | eP    | 05    | 40                    | 33               |        |                       |           |    |                              |                                                                                                                                |  |  |  |
|     |      |         | e     |       | 42                    | 14               |        |                       |           |    |                              |                                                                                                                                |  |  |  |
|     |      |         | F     |       | 46                    |                  |        |                       |           |    |                              |                                                                                                                                |  |  |  |
|     |      |         | 47.   | 19.   | B                     | N-S              | P      | 05                    | 40        | 20 |                              |                                                                                                                                |  |  |  |
|     |      |         |       |       |                       |                  | e      |                       |           | 49 |                              |                                                                                                                                |  |  |  |
|     |      |         |       |       |                       |                  | F      |                       | 43        |    |                              |                                                                                                                                |  |  |  |
|     |      |         |       |       |                       |                  |        |                       |           |    |                              |                                                                                                                                |  |  |  |
|     |      |         |       |       | Sz                    | N-S              | e      | 05                    | 39        | 23 |                              |                                                                                                                                |  |  |  |
| e   |      | 42      |       |       |                       |                  | 47     |                       |           |    |                              |                                                                                                                                |  |  |  |
| e   |      | 43      |       |       |                       |                  | 36     |                       |           |    |                              |                                                                                                                                |  |  |  |
|     |      |         |       |       |                       |                  |        |                       |           |    |                              |                                                                                                                                |  |  |  |
| E-W | e    | 05      |       |       | 39                    | 41               |        |                       |           |    |                              |                                                                                                                                |  |  |  |
|     | e    |         |       |       | 40                    | 48               |        |                       |           |    |                              |                                                                                                                                |  |  |  |
|     | e    |         |       |       | 42                    | 40               |        |                       |           |    |                              |                                                                                                                                |  |  |  |
|     |      |         |       |       |                       |                  |        |                       |           |    |                              |                                                                                                                                |  |  |  |
| 48. | 25.  | B       |       |       | N-S                   | e                | 00     | 37                    | 50        |    |                              |                                                                                                                                |  |  |  |
|     |      |         |       |       |                       | e                |        | 40                    | 16        |    |                              |                                                                                                                                |  |  |  |
|     |      |         |       |       |                       | P <sub>c</sub> S |        | 42                    | 23        |    |                              |                                                                                                                                |  |  |  |
|     |      |         |       |       |                       | PS               |        | 45                    | 32        |    |                              |                                                                                                                                |  |  |  |
|     |      |         | PPS   |       |                       |                  | 42     |                       |           |    |                              |                                                                                                                                |  |  |  |
|     |      |         | eSS   |       |                       | 49               | 17     |                       |           |    |                              |                                                                                                                                |  |  |  |
|     |      |         | SSS   |       |                       | 51               | 00     |                       |           |    |                              |                                                                                                                                |  |  |  |
|     |      |         | eL    |       |                       | 57,5             | 00     |                       |           |    |                              |                                                                                                                                |  |  |  |
|     |      |         | M     | 01    |                       | 01               |        |                       |           |    |                              |                                                                                                                                |  |  |  |
|     |      |         |       |       |                       |                  |        |                       |           |    |                              |                                                                                                                                |  |  |  |



| N°  | Date | Station | Comp. | Phase             | Heure<br>de Greenwich |      |    | Péri-<br>ode<br>s | Amplitude |    | Δ<br>Degré,<br>km | Remarques                                                                                                                                              |
|-----|------|---------|-------|-------------------|-----------------------|------|----|-------------------|-----------|----|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |      |         |       |                   | h                     | m    | s  |                   | AN        | AE |                   |                                                                                                                                                        |
| 49. |      |         |       | M                 | 03                    | 40   |    | 16                | 15        |    | 55,8<br>6200      |                                                                                                                                                        |
|     |      |         |       | M                 | 10                    |      |    | 11                | 3         |    |                   |                                                                                                                                                        |
|     |      |         |       | F                 | 30                    |      |    |                   |           |    |                   |                                                                                                                                                        |
|     |      |         | E-W   | e                 | 00                    | 37   | 47 |                   |           |    |                   |                                                                                                                                                        |
|     |      |         |       | PP                | 40                    | 03   |    |                   |           |    |                   |                                                                                                                                                        |
|     |      |         |       | ePPP              | 41                    | 13   |    |                   |           |    |                   |                                                                                                                                                        |
|     |      |         |       | PS                | 45                    | 38   |    |                   |           |    |                   |                                                                                                                                                        |
|     |      |         |       | e                 | 46                    | 30   |    |                   |           |    |                   |                                                                                                                                                        |
|     |      |         |       | eSS               | 49                    | 32   |    |                   |           |    |                   |                                                                                                                                                        |
|     |      |         |       | SSS               | 51                    | 04   |    |                   |           |    |                   |                                                                                                                                                        |
|     |      |         | Sz    | L                 | 58,5                  |      |    |                   |           |    |                   |                                                                                                                                                        |
|     |      |         |       | M                 | 01                    | 01   |    | 13                |           | 10 |                   |                                                                                                                                                        |
|     |      |         |       | F                 | 35                    |      |    |                   |           |    |                   |                                                                                                                                                        |
|     |      |         | N-S   | P                 | 00                    | 37   | 48 |                   |           |    |                   |                                                                                                                                                        |
|     |      |         |       | eL                |                       | 57,5 |    |                   |           |    |                   |                                                                                                                                                        |
|     |      |         |       | F                 | 01                    | 25   |    |                   |           |    |                   |                                                                                                                                                        |
|     |      |         | E-W   | P                 | 00                    | 37   | 48 |                   |           |    |                   |                                                                                                                                                        |
|     |      |         |       | S                 |                       | 45   | 38 |                   |           |    |                   |                                                                                                                                                        |
|     |      |         |       | eL                |                       | 57   | 40 |                   |           |    |                   |                                                                                                                                                        |
|     |      |         |       | F                 | 01                    | 25   |    |                   |           |    |                   |                                                                                                                                                        |
|     |      | Sz      | N-S   | e                 | 20                    | 07   | 07 |                   |           |    | 6,9               | Thessalie<br>39,5° N, 22, 2° E                                                                                                                         |
|     |      |         |       | F                 |                       | 35   |    |                   |           |    | 770               |                                                                                                                                                        |
|     |      | B       | N-S   |                   |                       |      |    |                   |           |    |                   | H = 20 <sup>h</sup> 03' 46''<br>(BCIS)<br><br>Au large de<br>la côte SE du<br>Kamtchatka<br>51° N, 158,5° E<br>H = 20 <sup>h</sup> 24' 47''<br>(USCGS) |
|     |      |         |       | P                 | 20                    | 36   | 28 |                   |           |    | 75,5              |                                                                                                                                                        |
|     |      |         |       | P <sub>c</sub> P  |                       |      | 40 |                   |           |    | 8390              |                                                                                                                                                        |
|     |      |         |       | PPP               | 41                    | 11   |    |                   |           |    |                   |                                                                                                                                                        |
|     |      |         |       | S                 | 46                    | 01   |    |                   |           |    |                   |                                                                                                                                                        |
|     |      |         |       | PPS               | 47                    | 10   |    |                   |           |    |                   |                                                                                                                                                        |
|     |      |         |       | SS                | 50                    | 56   |    |                   |           |    |                   |                                                                                                                                                        |
|     |      |         |       | eL                | 21                    | 05,5 |    |                   |           |    |                   |                                                                                                                                                        |
|     |      |         |       | M                 |                       | 13   | 30 | 19                | 21        |    |                   |                                                                                                                                                        |
|     |      |         |       | F                 |                       | 30   |    |                   |           |    |                   |                                                                                                                                                        |
|     |      |         | E-W   | P                 | 20                    | 36   | 28 |                   |           |    |                   |                                                                                                                                                        |
|     |      |         |       | P <sub>c</sub> P  |                       |      | 40 |                   |           |    |                   |                                                                                                                                                        |
|     |      |         |       | e                 |                       | 42   | 41 |                   |           |    |                   |                                                                                                                                                        |
|     |      |         |       | S                 |                       | 46   | 01 |                   |           |    |                   |                                                                                                                                                        |
|     |      |         |       | SKS               |                       |      | 31 |                   |           |    |                   |                                                                                                                                                        |
|     |      |         |       | PPS               |                       | 47   | 00 |                   |           |    |                   |                                                                                                                                                        |
|     |      |         |       | eL                | 21                    | 07,5 |    |                   |           |    |                   |                                                                                                                                                        |
|     |      |         |       | F                 |                       | 25   |    |                   |           |    |                   |                                                                                                                                                        |
|     |      | K       | N-S   | eP                | 20                    | 36   | 32 |                   |           |    | 76,4              |                                                                                                                                                        |
|     |      |         |       | P <sub>c</sub> P  |                       | 37   | 06 |                   |           |    | 8490              |                                                                                                                                                        |
|     |      |         |       | F                 |                       | 50   |    |                   |           |    |                   |                                                                                                                                                        |
|     |      |         | E-W   | eP                | 20                    | 36   | 44 |                   |           |    |                   |                                                                                                                                                        |
|     |      |         |       | eP <sub>c</sub> P |                       | 37   | 16 |                   |           |    |                   |                                                                                                                                                        |
|     |      |         |       | F                 |                       | 50   |    |                   |           |    |                   |                                                                                                                                                        |



| №   | Date | Station | Comp. | Phase | Heure<br>de Greenwich |      |    | Péri-<br>ode<br>s | Amplitude |    | $\Delta$<br>Degré,<br>km | Remarques                                                                                                              |
|-----|------|---------|-------|-------|-----------------------|------|----|-------------------|-----------|----|--------------------------|------------------------------------------------------------------------------------------------------------------------|
|     |      |         |       |       | h                     | m    | s  |                   | AN        | AE |                          |                                                                                                                        |
| 51. | 29.  | Sz      | N-S   | P     | 20                    | 36   | 30 |                   |           |    | 76,3                     | Golfe de Cali-<br>fornie<br>29,5° N, 112,5° W<br><br>H = 10 <sup>h</sup> 49' 27''<br>(USCGS)                           |
|     |      |         |       | e     |                       | 37   | 57 |                   |           |    | 8480                     |                                                                                                                        |
|     |      |         | E-W   | P     | 20                    | 36   | 32 |                   |           |    |                          |                                                                                                                        |
|     |      |         |       | F     | 21                    | 25   |    |                   |           |    |                          |                                                                                                                        |
|     |      | B       | N-S   | ePP   | 11                    | 06   | 40 |                   |           |    | 91,6                     |                                                                                                                        |
|     |      |         |       | eSKS  |                       | 13   | 05 |                   |           |    | 10180                    |                                                                                                                        |
|     |      |         |       | ePS   |                       | 14   | 58 |                   |           |    |                          |                                                                                                                        |
|     |      |         |       | PPS   |                       | 15   | 38 |                   |           |    |                          |                                                                                                                        |
|     |      |         |       | L     |                       | 35,5 |    |                   |           |    |                          |                                                                                                                        |
|     |      |         |       | M     |                       | 45   |    | 17                | 13        |    |                          |                                                                                                                        |
| 52. |      |         | E-W   | ePP   | 11                    | 06   | 13 |                   |           |    |                          | Ondes longues<br>d'un 2 <sup>me</sup> sé-<br>isme superposé<br>au précédent<br>H = 11 <sup>h</sup> 34' 34''<br>(USCGS) |
|     |      |         |       | S     |                       | 13   | 34 |                   |           |    |                          |                                                                                                                        |
|     |      |         |       | ePPS  |                       | 15   | 06 |                   |           |    |                          |                                                                                                                        |
|     |      |         |       | L     |                       | 35,5 |    |                   |           |    |                          |                                                                                                                        |
|     |      |         |       | M     |                       | 43   |    | 16                |           | 12 |                          |                                                                                                                        |
|     |      |         |       | M     |                       | 47   | 45 | 15                |           | 11 |                          |                                                                                                                        |
|     |      | Sz      |       | eL    | 11                    | 41   | 00 |                   |           |    | 93                       |                                                                                                                        |
|     |      |         |       |       |                       |      |    |                   |           |    | 10330                    |                                                                                                                        |
|     |      | B       | N-S   | L     | 12                    | 21,5 |    |                   |           |    |                          |                                                                                                                        |
|     |      |         |       | M     |                       | 23   | 10 | 23                | 123       |    | 91,6                     |                                                                                                                        |
|     |      |         |       | M     |                       | 25   | 40 | 21                | 85        |    | 10180                    |                                                                                                                        |
|     |      |         |       | M     |                       | 28   | 30 | 17                | 67        |    |                          |                                                                                                                        |
|     |      |         |       | F     | 13                    | 30   |    |                   |           |    |                          |                                                                                                                        |
|     |      |         | E-W   | L     | 12                    | 20,5 |    |                   |           |    |                          |                                                                                                                        |
|     |      |         |       | M     |                       | 25   | 30 | 22                |           | 64 |                          |                                                                                                                        |
|     |      |         |       | M     |                       | 28   |    | 18                |           | 46 |                          |                                                                                                                        |
|     |      |         |       | M     |                       | 36   | 45 | 15                |           | 20 |                          |                                                                                                                        |
|     |      |         |       | F     | 13                    | 20:  |    |                   |           |    |                          |                                                                                                                        |
|     |      | K       | N-S   | e     | 12                    | 23   | 00 |                   |           |    | 92,5                     |                                                                                                                        |
|     |      |         |       | M     |                       | 28   |    | 17                |           |    | 10280                    |                                                                                                                        |
|     |      |         |       | F     |                       | 40   |    |                   |           |    |                          |                                                                                                                        |
|     |      |         | E-W   | e     | 12                    | 23,5 |    |                   |           |    |                          |                                                                                                                        |
|     |      |         |       | M     |                       | 28   | 30 | 16                |           |    |                          |                                                                                                                        |
|     |      |         |       | F     |                       | 42   |    |                   |           |    |                          |                                                                                                                        |
|     |      | Ke      |       | eL    | 12                    | 23   |    |                   |           |    | 91,8                     |                                                                                                                        |
|     |      |         |       |       |                       |      |    |                   |           |    | 10200                    |                                                                                                                        |
|     |      | Sz      | N-S   | e     | 11                    | 58   | 30 |                   |           |    | 93                       |                                                                                                                        |
|     |      |         |       | eL    | 12                    | 19   |    |                   |           |    | 10330                    |                                                                                                                        |
|     |      |         |       | M     |                       | 30   |    | 15                | 6         |    |                          |                                                                                                                        |
|     |      |         |       | F     |                       | 55   |    |                   |           |    |                          |                                                                                                                        |
|     |      |         | E-W   | e     | 11                    | 58   | 02 |                   |           |    |                          |                                                                                                                        |
|     |      |         |       | eL    | 12                    | 20   |    |                   | 15        | 5  |                          |                                                                                                                        |
|     |      |         |       | M     |                       | 33,5 |    |                   |           |    |                          |                                                                                                                        |
|     |      |         |       | F     |                       | 55   |    |                   |           |    |                          |                                                                                                                        |



| №   | Date | Station | Comp. | Phase  | Heure<br>de Greenwich |    |          | Péri-<br>ode<br>s | Amplitude |     | Δ<br><br>Degré,<br>km | Remarques |            |            |                                                                                                                          |  |
|-----|------|---------|-------|--------|-----------------------|----|----------|-------------------|-----------|-----|-----------------------|-----------|------------|------------|--------------------------------------------------------------------------------------------------------------------------|--|
|     |      |         |       |        | h                     | m  | s        |                   | AN        | AE  |                       |           |            |            |                                                                                                                          |  |
| 53. | 30.  | B       | N-S   | e      | 13                    | 00 | 40       |                   |           |     |                       |           |            |            |                                                                                                                          |  |
|     |      |         | E-W   | e<br>F | 13                    | 00 | 20<br>03 |                   |           |     |                       |           |            |            |                                                                                                                          |  |
|     |      | K       | N-S   | e<br>F | 12<br>13              | 59 | 12<br>03 |                   |           |     |                       |           |            |            |                                                                                                                          |  |
|     |      |         | E-W   | e<br>F | 12<br>13              | 59 | 20<br>04 |                   |           |     |                       |           |            |            |                                                                                                                          |  |
| 54. |      | Sz      |       | e      | 12                    | 59 | 40       |                   |           |     |                       |           |            |            |                                                                                                                          |  |
|     |      |         | B     | N-S    | P                     | 13 | 04       | 45                |           |     |                       |           |            | 8,3<br>920 | Thessalie<br>39,5° N 22° E<br>H = 13 <sup>h</sup> 02' 36''<br>(USCGS)<br>ci-après l'ai-<br>guille a dépassé<br>le papier |  |
|     |      | i       |       |        |                       |    | 49       |                   |           |     |                       |           |            |            |                                                                                                                          |  |
|     |      | P*      |       |        |                       |    | 05       | 02                |           |     |                       |           |            |            |                                                                                                                          |  |
|     |      | P̄      |       |        |                       |    |          | 22                |           |     |                       |           |            |            |                                                                                                                          |  |
|     |      | S       |       |        |                       |    | 06       | 07                |           |     |                       |           |            |            |                                                                                                                          |  |
|     |      | S*      |       |        |                       |    |          | 46                |           |     |                       |           |            |            |                                                                                                                          |  |
|     |      | S̄      |       |        |                       |    | 07       | 17                |           |     |                       |           |            |            |                                                                                                                          |  |
|     |      | E-W     |       |        | P                     | 13 | 04       | 44                |           |     |                       |           |            |            |                                                                                                                          |  |
|     |      |         |       |        | e                     |    |          | 49                |           |     |                       |           |            |            |                                                                                                                          |  |
|     |      |         |       |        | P*                    |    |          | 05                | 05        |     |                       |           |            |            |                                                                                                                          |  |
|     |      |         |       |        | S                     |    |          | 06                | 13        |     |                       |           |            |            |                                                                                                                          |  |
|     |      |         |       |        | S*                    |    |          |                   | 54        |     |                       |           |            |            |                                                                                                                          |  |
|     |      |         | S̄    |        |                       | 07 | 10       |                   |           |     |                       |           |            |            |                                                                                                                          |  |
|     |      |         | L     |        |                       |    | 27       |                   |           |     |                       |           |            |            |                                                                                                                          |  |
|     |      |         | M     |        |                       | 08 | 30       | 10                |           | 555 |                       |           |            |            |                                                                                                                          |  |
|     |      | K       | N-S   | M      |                       |    | 12       | 12                | 6         |     | 170                   |           |            |            |                                                                                                                          |  |
|     |      |         |       | M      |                       |    | 14       | 15                | 10        |     | 233                   |           |            |            |                                                                                                                          |  |
|     |      |         |       | M      |                       |    | 17       | 28                | 7         |     | 115                   |           |            |            |                                                                                                                          |  |
|     |      |         |       | F      | 14                    | 50 |          |                   |           |     |                       |           |            |            |                                                                                                                          |  |
|     |      |         |       | P      | 13                    | 04 | 30       |                   |           |     |                       |           | 7,4<br>820 |            |                                                                                                                          |  |
|     |      |         |       | i      |                       |    | 36       |                   |           |     |                       |           |            |            |                                                                                                                          |  |
|     |      |         |       | P      |                       |    | 05       | 03                |           |     |                       |           |            |            |                                                                                                                          |  |
|     |      |         |       | S      |                       |    |          | 54                |           |     |                       |           |            |            |                                                                                                                          |  |
|     |      | S*      |       |        | 06                    | 22 |          |                   |           |     |                       |           |            |            |                                                                                                                          |  |
|     |      | L       |       |        | 07                    |    |          |                   |           |     |                       |           |            |            |                                                                                                                          |  |
|     |      | M       |       |        | 08                    | 35 | 5        |                   | 443       |     |                       |           |            |            |                                                                                                                          |  |
|     |      | M       |       |        | 11                    | 14 | 3        |                   | 68        |     |                       |           |            |            |                                                                                                                          |  |
|     | E-W  | M       |       |        | 16                    | 33 | 6        |                   | 160       |     |                       |           |            |            |                                                                                                                          |  |
|     |      | F       |       |        | 45                    |    |          |                   |           |     |                       |           |            |            |                                                                                                                          |  |
|     |      | P       | 13    | 04     | 31                    |    |          |                   |           |     |                       |           |            |            |                                                                                                                          |  |
|     |      | P*      |       |        | 42                    |    |          |                   |           |     |                       |           |            |            |                                                                                                                          |  |
|     |      | P̄      |       |        | 05                    | 06 |          |                   |           |     |                       |           |            |            |                                                                                                                          |  |
|     |      | S       |       |        |                       | 51 |          |                   |           |     |                       |           |            |            |                                                                                                                          |  |
|     |      | L       |       |        | 07                    |    |          |                   |           |     |                       |           |            |            |                                                                                                                          |  |
|     |      | M       |       |        |                       | 15 | 4        |                   | 271       |     |                       |           |            |            |                                                                                                                          |  |
|     |      | M       |       |        | 08                    | 50 | 3        |                   | 175       |     |                       |           |            |            |                                                                                                                          |  |
|     |      | M       |       |        | 16                    | 40 | 6        |                   | 97        |     |                       |           |            |            |                                                                                                                          |  |
|     |      | F       |       |        | 47                    |    |          |                   |           |     |                       |           |            |            |                                                                                                                          |  |



| №   | Date      | Station | Comp.     | Phase     | Heure<br>de Greenwich |    |    | Péri-<br>ode<br>s | Amplitude |       | $\Delta$     | Remarques |    |            |  |
|-----|-----------|---------|-----------|-----------|-----------------------|----|----|-------------------|-----------|-------|--------------|-----------|----|------------|--|
|     |           |         |           |           | h                     | m  | s  |                   | $A_N$     | $A_E$ | Degré,<br>km |           |    |            |  |
| 55. |           | Ke      | N-S       | P         | 13                    | 04 | 36 | 7                 |           |       | 7,6<br>840   |           |    |            |  |
|     |           |         |           | $\bar{P}$ |                       |    | 38 |                   |           |       |              |           |    |            |  |
|     |           |         |           | S         |                       | 05 | 15 |                   |           |       |              |           |    |            |  |
|     |           |         |           | S*        |                       |    | 59 |                   |           |       |              |           |    |            |  |
|     |           |         |           | F         |                       | 06 | 31 |                   |           |       |              |           |    |            |  |
|     |           |         |           |           |                       | 45 |    |                   |           |       |              |           |    |            |  |
|     |           | E-W     | P         | 13        | 04                    | 36 |    |                   |           |       |              |           |    |            |  |
|     |           |         | $\bar{P}$ |           | 05                    | 15 |    |                   |           |       |              |           |    |            |  |
|     |           |         | S*        |           | 06                    | 27 |    |                   |           |       |              |           |    |            |  |
|     |           |         | F         |           | 45                    |    |    |                   |           |       |              |           |    |            |  |
|     |           |         | Sz        | N-S       | iP                    | 13 | 04 |                   |           |       | 30           |           | 83 | 6,9<br>770 |  |
|     |           |         |           |           | P                     |    | 05 |                   |           |       | 02           |           |    |            |  |
| S*  |           | 06      |           |           | 20                    |    |    |                   |           |       |              |           |    |            |  |
| E-W | P         | 13      |           |           | 04                    | 30 |    |                   |           |       |              |           |    |            |  |
|     | $\bar{P}$ |         |           |           |                       | 59 |    |                   |           |       |              |           |    |            |  |
|     | eS        |         |           |           | 05                    | 49 |    |                   |           |       |              |           |    |            |  |
| S*  |           | 06      | 18        |           |                       |    |    |                   |           |       |              |           |    |            |  |
| K   | N-S       | e       | 13        | 47        | 37                    |    |    |                   | Réplique  |       |              |           |    |            |  |
|     |           | F       |           | 52        |                       |    |    |                   |           |       |              |           |    |            |  |
|     | E-W       | e       | 13        | 47        | 48                    |    |    |                   |           |       |              |           |    |            |  |
|     |           | e       |           | 48        | 39                    |    |    |                   |           |       |              |           |    |            |  |
| 56. |           | K       | N-S       | e         | 13                    | 59 | 53 |                   |           |       |              |           |    |            |  |
|     |           |         |           | F         | 14                    | 04 |    |                   |           |       |              |           |    |            |  |
|     |           | E-W     | e         | 14        | 00                    | 00 |    |                   |           |       |              |           |    |            |  |
|     |           |         | e         |           |                       | 34 |    |                   |           |       |              |           |    |            |  |
| 57. |           | K       | N-S       | e         | 14                    | 07 | 15 |                   |           |       |              |           |    |            |  |
|     |           |         |           | F         |                       | 09 | 13 |                   |           |       |              |           |    |            |  |
|     |           | E-W     | e         | 14        | 07                    | 40 |    |                   |           |       |              |           |    |            |  |
|     |           |         | e         |           | 09                    | 10 |    |                   |           |       |              |           |    |            |  |
| 58. |           | Sz      | N-S       | e         | 17                    | 19 | 58 |                   |           |       |              |           |    |            |  |
|     |           |         |           | F         |                       | 30 |    |                   |           |       |              |           |    |            |  |
|     |           | E-W     | e         | 17        | 20                    | 02 |    |                   |           |       |              |           |    |            |  |
|     |           |         | F         |           | 30                    |    |    |                   |           |       |              |           |    |            |  |
| 59. |           | E-W     | e         | 17        | 53                    | 43 |    |                   |           |       |              |           |    |            |  |
|     |           |         | F         |           | 58                    |    |    |                   |           |       |              |           |    |            |  |



| N°  | Date | Station | Comp. | Phase                                               | H e u r e<br>de Greenwich |    |                                              | Péri-<br>ode<br>s | Amplitude |       | $\Delta$<br><br>Degré,<br>km | Remarques                                |  |
|-----|------|---------|-------|-----------------------------------------------------|---------------------------|----|----------------------------------------------|-------------------|-----------|-------|------------------------------|------------------------------------------|--|
|     |      |         |       |                                                     | h                         | m  | s                                            |                   | $A_N$     | $A_E$ |                              |                                          |  |
| 60. |      | K       | N-S   | e<br>F                                              | 17                        | 53 | 22<br>57                                     |                   |           |       |                              |                                          |  |
|     |      |         | E-W   | e<br>F                                              | 17                        | 53 | 18<br>57                                     |                   |           |       |                              |                                          |  |
|     |      | Sz      | N-S   | e<br>F                                              | 17<br>18                  | 52 | 33<br>03                                     |                   |           |       |                              |                                          |  |
|     |      |         | E-W   | e<br>F                                              | 17<br>18                  | 52 | 39<br>03                                     |                   |           |       |                              |                                          |  |
|     |      | B       | E-W   | eP*<br>$\bar{P}$<br>eS<br>S*<br>$\bar{S}$<br>L<br>F | 19                        | 35 | 37<br>36<br>06<br>49<br>58<br>05<br>55       |                   |           |       | 8,3<br>920                   | Réplique<br>H = 19 <sup>h</sup> 33' 20'' |  |
|     |      | K       | N-S   | P<br>P*<br>e $\bar{P}$<br>S<br>L<br>F               | 19                        | 35 | 26<br>45<br>14<br>50<br>50<br>47             |                   |           |       | 7,4<br>820                   |                                          |  |
|     |      |         | E-W   | P*<br>e $\bar{P}$<br>eS*<br>L<br>F                  | 19                        | 35 | 28<br>21<br>25<br>45<br>47                   |                   |           |       |                              |                                          |  |
|     |      | Ke      | N-S   | eP<br>$\bar{S}$<br>F                                | 19                        | 36 | 09<br>08<br>50                               |                   |           |       | 7,6<br>840                   |                                          |  |
|     |      |         | E-W   | eP<br>$\bar{S}$<br>F                                | 19                        | 35 | 59<br>47<br>50                               |                   |           |       |                              |                                          |  |
|     |      | Sz      | N-S   | e<br>P<br>i<br>S*<br>$\bar{S}$<br>M<br>M<br>F       | 19                        | 35 | 27<br>51<br>12<br>02<br>22<br>47<br>40<br>56 |                   |           |       | 6,9<br>770                   |                                          |  |
|     |      |         |       |                                                     |                           |    |                                              | 5<br>6            | 19<br>34  |       |                              |                                          |  |
|     |      |         |       | E-W                                                 | P*<br>S<br>S*             | 19 | 35                                           | 46<br>38<br>02    |           |       |                              |                                          |  |







| N   | Date   | Station | Comp. | Phase | Heure<br>de Greenwich |    |    | Péri-<br>ode<br>s | Amplitude |              | $\Delta$<br><br>Degré,<br>km                             | Remarques                                          |  |            |  |
|-----|--------|---------|-------|-------|-----------------------|----|----|-------------------|-----------|--------------|----------------------------------------------------------|----------------------------------------------------|--|------------|--|
|     |        |         |       |       | h                     | m  | s  |                   | AN        | AE           |                                                          |                                                    |  |            |  |
| 66. | Mai 1. | K       | N-S   | eP    | 23                    | 14 | 20 |                   |           |              | 56,7<br>6300                                             |                                                    |  |            |  |
|     |        |         |       | eL    |                       | 36 |    |                   |           |              |                                                          |                                                    |  |            |  |
|     |        |         |       | F     |                       | 55 |    |                   |           |              |                                                          |                                                    |  |            |  |
|     |        |         | E-W   | eP    | 23                    | 14 | 19 |                   |           |              |                                                          |                                                    |  |            |  |
|     |        |         |       | ePcP  |                       | 15 | 00 |                   |           |              |                                                          |                                                    |  |            |  |
|     |        |         |       | e     |                       | 20 | 24 |                   |           |              |                                                          |                                                    |  |            |  |
|     |        | Sz      | N-S   | ePPS  |                       | 22 | 46 |                   |           |              |                                                          |                                                    |  |            |  |
|     |        |         |       | eL    |                       | 38 |    |                   |           |              |                                                          |                                                    |  |            |  |
|     |        |         |       | F     |                       | 50 |    |                   |           |              |                                                          |                                                    |  |            |  |
|     |        | Sz      | E-W   | eP    | 23                    | 14 | 38 |                   |           |              |                                                          |                                                    |  |            |  |
|     |        |         |       | ePPP  |                       | 18 | 22 |                   |           |              |                                                          |                                                    |  |            |  |
|     |        |         |       | S     |                       | 22 | 27 |                   |           |              |                                                          |                                                    |  |            |  |
|     |        | Sz      | N-S   | eL    |                       | 34 |    |                   |           |              |                                                          |                                                    |  |            |  |
|     |        |         |       | F     |                       | 59 |    |                   |           |              |                                                          |                                                    |  |            |  |
|     |        |         |       | E-W   | P                     | 23 | 14 |                   |           |              | 20                                                       |                                                    |  |            |  |
|     |        | eS      |       |       | 22                    | 02 |    |                   |           |              |                                                          |                                                    |  |            |  |
| eL  |        | 35      |       |       |                       |    |    |                   |           |              |                                                          |                                                    |  |            |  |
| Sz  | E-W    | F       |       | 59    |                       |    |    |                   |           |              |                                                          |                                                    |  |            |  |
|     |        | e       | 02    | 06    | 15                    |    |    |                   |           |              |                                                          |                                                    |  |            |  |
|     |        | e       |       | 07    | 53                    |    |    |                   |           |              |                                                          |                                                    |  |            |  |
| Sz  | N-S    | F       |       | 18    |                       |    |    |                   |           |              |                                                          |                                                    |  |            |  |
|     |        | E-W     | e     | 02    | 08                    | 01 |    |                   |           |              |                                                          |                                                    |  |            |  |
|     |        |         | F     |       | 18                    |    |    |                   |           |              |                                                          |                                                    |  |            |  |
| 67. |        |         | Sz    | N-S   | eS                    | 02 | 45 | 53                |           |              | 6,9<br>770                                               | Réplique du<br>No 54<br>H = 02' 41' 54''<br>(BCIS) |  |            |  |
|     |        | F       |       |       |                       | 57 |    |                   |           |              |                                                          |                                                    |  |            |  |
|     |        | E-W     | e     | 02    | 47                    | 17 |    |                   |           |              |                                                          |                                                    |  |            |  |
|     |        |         | F     |       | 57                    |    |    |                   |           |              |                                                          |                                                    |  |            |  |
| 68. |        | B       | N-S   | e     | 10                    | 02 | 52 |                   |           | 8,3<br>920   | Réplique du<br>No 54<br>H = 09' 58' 02''<br>(BCIS)       |                                                    |  |            |  |
|     |        |         |       | e     |                       | 04 | 34 |                   |           |              |                                                          |                                                    |  |            |  |
|     |        |         |       | F     |                       | 11 |    |                   |           |              |                                                          |                                                    |  |            |  |
|     |        |         | E-W   | e     | 10                    | 02 | 50 |                   |           |              |                                                          |                                                    |  |            |  |
|     |        | e       |       |       | 04                    | 44 |    |                   |           |              |                                                          |                                                    |  |            |  |
|     |        | F       |       |       | 10                    |    |    |                   |           |              |                                                          |                                                    |  |            |  |
|     |        | K       | N-S   | S     | 10                    | 01 | 24 |                   |           |              |                                                          |                                                    |  | 7,4<br>820 |  |
|     |        |         |       | S     |                       | 02 | 06 |                   |           |              |                                                          |                                                    |  |            |  |
| F   |        |         |       | 06    |                       |    |    |                   |           |              |                                                          |                                                    |  |            |  |
| E-W | S      |         | 10    | 02    | 07                    |    |    |                   |           |              |                                                          |                                                    |  |            |  |
|     | F      |         | 08    |       |                       |    |    |                   |           |              |                                                          |                                                    |  |            |  |
| 69. |        | B       | N-S   | eSS   | 15                    | 03 | 32 |                   |           | 12,1<br>1340 | Mer Egée<br>36,5° N, 26° E<br>H = 14' 58' 03''<br>(BCIS) |                                                    |  |            |  |
|     |        |         |       | eL    |                       | 04 | 07 |                   |           |              |                                                          |                                                    |  |            |  |
|     |        |         |       | F     |                       | 10 |    |                   |           |              |                                                          |                                                    |  |            |  |



| N°  | Date | Station | Comp. | Phase                          | Heure<br>de Greenwich |    |                                  | Péri-<br>ode<br>s | Amplitude |    | $\Delta$<br><br>Degré,<br>km | Remarques                                  |
|-----|------|---------|-------|--------------------------------|-----------------------|----|----------------------------------|-------------------|-----------|----|------------------------------|--------------------------------------------|
|     |      |         |       |                                | h                     | m  | s                                |                   | AN        | AE |                              |                                            |
| 70. |      |         | E-W   | e<br>e<br>SSS<br>F             | 15                    | 02 | 03<br>50<br>03 40<br>07          |                   |           |    |                              |                                            |
|     |      | K       | N-S   | ePPP<br>S<br>SS<br>F           | 15                    | 01 | 36<br>03 02<br>14<br>07          |                   |           |    | 11,3<br>1250                 |                                            |
|     |      |         | E-W   | ePPP<br>e<br>SSS<br>F          | 15                    | 01 | 35<br>02 20<br>03 34<br>08       |                   |           |    |                              |                                            |
|     |      | Sz      | N-S   | e<br>P*<br>$\bar{P}$<br>e<br>F | 15                    | 00 | 57<br>01 21<br>54<br>02 36<br>15 |                   |           |    | 10,7<br>1190                 |                                            |
|     |      |         | E-W   | e<br>$e\bar{P}$<br>eS<br>F     | 15                    | 01 | 08<br>45<br>02 50<br>15          |                   |           |    |                              |                                            |
|     |      | B       | N-S   | eSSS<br>e<br>L<br>F            | 15                    | 30 | 38<br>31 03<br>30<br>40          |                   |           |    | 12,1<br>1340                 | Prémonitoire<br>H = 15' 24' 53''<br>(BCIS) |
|     |      |         | E-W   | e<br>eS<br>e<br>L<br>F         | 15                    | 29 | 04<br>40<br>30 57<br>31,5<br>40  |                   |           |    |                              |                                            |
|     |      | K       | N-S   | e<br>e<br>F                    | 15                    | 30 | 33<br>32 28<br>38                |                   |           |    | 11,3<br>1250                 |                                            |
|     |      |         | E-W   | e<br>e<br>F                    | 15                    | 30 | 33<br>32 23<br>38                |                   |           |    |                              |                                            |
|     |      | Sz      | N-S   | e<br>S*<br>M                   | 15                    | 29 | 12<br>30 10<br>31 03             | 4                 | 11        |    | 10,7<br>1190                 |                                            |
|     |      |         | E-W   | e<br>e<br>F                    | 15                    | 29 | 57<br>30 27<br>45                |                   |           |    |                              |                                            |



| N   | Date | Station      | Comp. | Phase | Heure<br>de Greenwich |    |    | Péri-<br>ode<br>s | Amplitude    |                                                                                      | $\Delta$<br><br>Degré,<br>km | Remarques                                                  |    |    |
|-----|------|--------------|-------|-------|-----------------------|----|----|-------------------|--------------|--------------------------------------------------------------------------------------|------------------------------|------------------------------------------------------------|----|----|
|     |      |              |       |       | h                     | m  | s  |                   | AN           | AE                                                                                   |                              |                                                            |    |    |
| 71. |      | B            | N-S   | 2 e   | 20                    | 56 | 42 | 8                 | 5            |                                                                                      | 12,1<br>1340                 | Mer d'Egée<br>36,5° N 26° E<br>H = 20' 53' 16''<br>(USCGS) |    |    |
|     |      |              |       | 3 eS  |                       | 58 | 32 |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      |              |       | 6 SSS |                       | 59 | 04 |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      |              |       | 7 L   |                       |    | 26 |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      |              |       | 9 M   | 21                    | 02 | 50 |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      |              |       | F     |                       | 15 |    |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      |              | E-W   | 1 eP  | 20                    | 56 | 15 |                   |              |                                                                                      |                              |                                                            | 12 | 22 |
|     |      |              |       | 4 eSS |                       | 58 | 42 |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      |              |       | 5 SSS |                       | 59 | 00 |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      |              |       | 8 L   |                       |    | 26 |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      |              |       | M     | 21                    | 00 | 26 |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      |              |       | F     |                       | 15 |    |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      | K            | N-S   | e     | 20                    | 57 | 27 |                   | 11,3<br>1260 |                                                                                      |                              |                                                            |    |    |
|     |      |              |       | eSSS  |                       | 58 | 27 |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      |              |       | e     |                       | 59 | 12 |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      |              | F     | 21    | 07                    |    |    |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      |              | E-W   | eS    | 20                    | 57 | 54 |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      |              |       | SSS   |                       | 58 | 30 |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      | e            |       |       | 59                    | 21 |    |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      | Ke           |       | L     |                       |    | 45 |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      |              |       | F     | 21                    | 08 |    |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      |              |       |       |                       |    |    |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      |              | F     | e     | 20                    | 59 | 02 |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      |              |       | F     | 21                    | 12 |    |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      |              |       |       |                       |    |    |                   |              |                                                                                      |                              |                                                            |    |    |
| Sz  | N-S  | 1 $\bar{P}$  | 20    | 56    | 53                    | 4  | 27 | 10,7<br>1190      |              |                                                                                      |                              |                                                            |    |    |
|     |      | 3 e          |       | 57    | 36                    |    |    |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      | 5 S*         |       | 58    | 13                    |    |    |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      | 6 $\bar{S}$  |       | 59    | 01                    |    |    |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      | 7 M          | 21    | 00    | 00                    |    |    |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      | F            |       | 18    |                       |    |    |                   |              |                                                                                      |                              |                                                            |    |    |
|     | E-W  | 2 $\bar{eP}$ | 20    | 57    | 01                    |    |    |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      | 4 e          |       |       | 38                    |    |    |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      | F            | 21    | 18    |                       |    |    |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      |              |       |       |                       |    |    |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      |              |       |       |                       |    |    |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      |              |       |       |                       |    |    |                   |              |                                                                                      |                              |                                                            |    |    |
| 72. | 3.   | B            | N-S   | eP    | 05                    | 27 | 48 |                   | 11,6<br>1290 | Près de la<br>côte S de la<br>Grèce<br>36° N 21,5° E<br>H = 105h 24' 57''<br>(USCGS) |                              |                                                            |    |    |
|     |      |              |       | ePP   |                       |    | 58 |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      |              |       | eSS   |                       | 30 | 17 |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      |              |       | L     |                       | 32 | 48 |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      |              |       | F     |                       | 45 |    |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      |              |       |       |                       |    |    |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      |              | E-W   | ePPP  | 05                    | 28 | 02 |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      |              |       | e     |                       |    | 48 |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      |              |       | eSS   |                       | 30 | 12 |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      |              |       | e     |                       | 31 | 53 |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      |              |       | F     |                       | 45 |    |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      |              |       |       |                       |    |    |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      | K            | N-S   | e     | 05                    | 27 | 29 |                   | 10,7<br>1190 |                                                                                      |                              |                                                            |    |    |
|     |      |              |       | e     |                       | 29 | 46 |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      |              |       | L     |                       | 32 |    |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      |              |       | F     |                       | 40 |    |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      |              |       |       |                       |    |    |                   |              |                                                                                      |                              |                                                            |    |    |
|     |      |              |       |       |                       |    |    |                   |              |                                                                                      |                              |                                                            |    |    |



| N   | Date | Station | Comp. | Phase | H e u r e<br>de Greenwich |    |    | Péri-<br>ode<br>s | Amplitude      |                | $\Delta$<br><br>Degré,<br>km | Remarques                                                                           |    |
|-----|------|---------|-------|-------|---------------------------|----|----|-------------------|----------------|----------------|------------------------------|-------------------------------------------------------------------------------------|----|
|     |      |         |       |       | h                         | m  | s  |                   | A <sub>N</sub> | A <sub>E</sub> |                              |                                                                                     |    |
| 73. |      |         | E-W   | e     | 05                        | 28 | 00 |                   |                |                | 10,3<br>1140                 |                                                                                     |    |
|     |      |         |       | eS    |                           | 30 | 30 |                   |                |                |                              |                                                                                     |    |
|     |      |         |       | L     |                           | 31 | 40 |                   |                |                |                              |                                                                                     |    |
|     |      |         |       | F     |                           | 40 |    |                   |                |                |                              |                                                                                     |    |
|     |      |         | Sz    | N-S   | P                         | 05 | 27 |                   |                |                |                              |                                                                                     | 32 |
|     |      |         |       |       | S                         |    | 29 |                   |                |                |                              |                                                                                     | 25 |
|     |      |         |       |       | S*                        |    | 30 |                   |                |                |                              |                                                                                     | 06 |
|     |      |         |       |       | F                         |    | 46 |                   |                |                |                              |                                                                                     |    |
|     |      |         | E-W   | e     | 05                        | 28 | 54 |                   |                |                |                              |                                                                                     |    |
|     |      |         |       | S*    |                           | 29 | 51 |                   |                |                |                              |                                                                                     |    |
|     |      |         |       | S     |                           | 30 | 42 |                   |                |                |                              |                                                                                     |    |
|     |      |         |       | F     |                           | 46 |    |                   |                |                |                              |                                                                                     |    |
| K   | N-S  | e       | 08    | 19    | 55                        |    |    |                   |                |                |                              |                                                                                     |    |
|     |      | F       |       | 25    |                           |    |    |                   |                |                |                              |                                                                                     |    |
|     | E-W  | e       | 08    | 19    | 18                        |    |    |                   |                |                |                              |                                                                                     |    |
|     |      | L       |       | 21    | 26                        |    |    |                   |                |                |                              |                                                                                     |    |
| Sz  | N-S  | e       | 08    | 19    | 32                        |    |    |                   |                |                |                              |                                                                                     |    |
|     |      | F       |       | 30    |                           |    |    |                   |                |                |                              |                                                                                     |    |
|     | E-W  | e       | 08    | 19    | 52                        |    |    |                   |                |                |                              |                                                                                     |    |
|     |      | F       |       | 30    |                           |    |    |                   |                |                |                              |                                                                                     |    |
| 74. | 3.   | B       | N-S   | ePP   | 08                        | 54 | 14 | 12                | 9              |                | 11,6<br>1290                 | Près de la<br>côte S de la<br>Grèce<br>36° N' 21,5° E<br>H = 08h51' 17''<br>(USCGS) |    |
|     |      |         |       | eS    |                           | 56 | 07 |                   |                |                |                              |                                                                                     |    |
|     |      |         |       | eSSS  |                           |    | 35 |                   |                |                |                              |                                                                                     |    |
|     |      |         |       | e     |                           | 58 | 23 |                   |                |                |                              |                                                                                     |    |
|     |      |         |       | L     |                           | 59 | 20 |                   |                |                |                              |                                                                                     |    |
|     |      |         |       | M     | 09                        | 00 | 25 |                   |                |                |                              |                                                                                     |    |
|     |      |         |       | F     |                           | 10 |    |                   |                |                |                              |                                                                                     |    |
|     |      |         |       | E-W   | e                         | 08 | 54 |                   |                |                |                              |                                                                                     | 06 |
|     |      |         |       |       | e                         |    |    |                   |                |                |                              |                                                                                     | 54 |
|     |      |         |       |       | eS                        |    | 56 |                   |                |                |                              |                                                                                     | 09 |
|     |      |         |       |       | eL                        |    | 59 |                   |                |                |                              |                                                                                     | 10 |
|     |      |         |       |       | M                         | 09 | 02 |                   |                |                |                              |                                                                                     | 03 |
|     |      |         | F     |       |                           | 10 |    |                   |                |                |                              |                                                                                     |    |
|     |      |         | K     | N-S   | eP                        | 08 | 54 |                   |                |                |                              |                                                                                     | 06 |
|     |      |         |       |       | eP                        |    |    |                   |                |                |                              |                                                                                     | 47 |
|     |      |         |       |       | eS*                       |    | 56 |                   |                |                |                              |                                                                                     | 11 |
|     |      |         |       |       | L                         |    | 58 |                   |                |                |                              |                                                                                     | 20 |
|     |      |         |       |       | F                         | 09 | 05 |                   |                |                |                              |                                                                                     |    |
|     |      |         |       |       |                           |    |    |                   |                |                |                              |                                                                                     |    |
|     |      |         | Sz    | N-S   | e                         | 08 | 54 |                   |                |                |                              |                                                                                     | 49 |
|     |      |         |       |       | eS                        |    | 55 |                   |                |                |                              |                                                                                     | 46 |
|     |      |         |       |       | S*                        |    | 56 |                   |                |                |                              |                                                                                     | 18 |
|     |      |         |       |       | eS                        |    |    |                   |                |                |                              |                                                                                     | 37 |
|     |      |         |       |       | F                         | 09 | 15 |                   |                |                |                              |                                                                                     |    |
|     |      |         |       |       |                           |    |    |                   |                |                |                              |                                                                                     |    |
|     |      |         |       |       |                           |    |    |                   |                |                |                              |                                                                                     |    |
|     |      |         |       |       |                           |    |    |                   |                |                |                              |                                                                                     |    |



| N°  | Date | Station | Comp. | Phase | Heure<br>de Greenwich |    |    | Péri-<br>ode<br>s | Amplitude |    | Δ<br>Degré,<br>km | Remarques                                                 |
|-----|------|---------|-------|-------|-----------------------|----|----|-------------------|-----------|----|-------------------|-----------------------------------------------------------|
|     |      |         |       |       | h                     | m  | s  |                   | AN        | AE |                   |                                                           |
| 75. |      | B       | E-W   | e     | 08                    | 54 | 49 |                   |           |    |                   | Dodécanèse<br>36° N, 27° E<br>H = 13h 29' 42''<br>(USCGS) |
|     |      |         |       | eS    |                       | 55 | 43 |                   |           |    |                   |                                                           |
|     |      |         |       | eS    |                       | 56 | 40 |                   |           |    |                   |                                                           |
|     |      |         |       | F     | 09                    | 15 |    |                   |           |    |                   |                                                           |
|     |      |         | N-S   | eP    | 13                    | 33 | 00 |                   |           |    | 12,9              |                                                           |
|     |      |         |       | ePPP  |                       | 34 | 08 |                   |           |    | 1430              |                                                           |
|     |      |         |       | e     |                       |    | 23 |                   |           |    |                   |                                                           |
|     |      |         |       | e     |                       | 36 | 23 |                   |           |    |                   |                                                           |
|     |      |         |       | eL    |                       | 37 | 40 |                   |           |    |                   |                                                           |
|     |      |         |       | F     |                       | 50 |    |                   |           |    |                   |                                                           |
|     |      |         | E-W   | eP    | 13                    | 32 | 56 |                   |           |    |                   |                                                           |
|     |      |         |       | e     |                       | 33 | 31 |                   |           |    |                   |                                                           |
|     |      |         |       | eSS   |                       | 35 | 43 |                   |           |    |                   |                                                           |
|     |      |         |       | eSSS  |                       |    | 54 |                   |           |    |                   |                                                           |
|     |      |         | N-S   | L     |                       | 37 | 20 |                   |           |    |                   |                                                           |
|     |      |         |       | F     |                       | 50 |    |                   |           |    |                   |                                                           |
|     |      |         |       | ePP   | 13                    | 32 | 49 |                   |           |    | 12,1              |                                                           |
|     |      |         |       | e     |                       | 33 | 09 |                   |           |    | 1340              |                                                           |
|     |      |         |       | e     |                       | 36 | 46 |                   |           |    |                   |                                                           |
|     |      |         |       | F     |                       | 38 |    |                   |           |    |                   |                                                           |
| 76. |      | B       | N-S   | P     | 13                    | 32 | 40 |                   |           |    | 11,5              | E-W n'est<br>pas mesurable                                |
|     |      |         |       | S     |                       | 34 | 55 |                   |           |    | 1280              |                                                           |
|     |      |         |       | F     |                       | 52 |    |                   |           |    |                   |                                                           |
|     |      |         |       |       |                       |    |    |                   |           |    |                   |                                                           |
|     |      |         | E-W   | P     | 13                    | 32 | 41 |                   |           |    |                   |                                                           |
|     |      |         |       | S     |                       | 35 | 00 |                   |           |    |                   |                                                           |
|     |      |         |       | F     |                       | 52 |    |                   |           |    |                   |                                                           |
|     |      |         |       |       |                       |    |    |                   |           |    |                   |                                                           |
|     |      |         | N-S   | P     | 15                    | 41 | 31 |                   |           |    | 75,4              |                                                           |
|     |      |         |       | PcP   |                       |    | 42 |                   |           |    | 8370              |                                                           |
|     |      |         |       | PP    |                       | 44 | 18 |                   |           |    |                   |                                                           |
|     |      |         |       | S     |                       | 51 | 13 |                   |           |    |                   |                                                           |
|     |      |         |       | SKS   |                       |    | 32 |                   |           |    |                   |                                                           |
|     |      |         |       | PS    |                       |    | 44 |                   |           |    |                   |                                                           |
|     |      |         |       | PPS   |                       |    | 57 |                   |           |    |                   |                                                           |
|     |      |         |       | SS    |                       | 55 | 57 |                   |           |    |                   |                                                           |
|     |      |         |       | L     | 16                    | 10 | 20 |                   |           |    |                   |                                                           |
|     |      |         |       | M     |                       | 16 | 40 | 17                | 28        |    |                   |                                                           |
|     |      |         |       | M     |                       | 20 | 23 | 15                | 41        |    |                   |                                                           |
|     |      |         |       | M     |                       | 22 | 50 | 16                | 19        |    |                   |                                                           |
|     |      |         |       | F     |                       | 55 |    |                   |           |    |                   |                                                           |
|     |      |         | E-W   | eP    | 15                    | 41 | 32 |                   |           |    |                   |                                                           |
|     |      |         |       | PcP   |                       |    | 41 |                   |           |    |                   |                                                           |
|     |      |         |       | SKS   |                       | 51 | 29 | 8                 |           | 3  |                   |                                                           |
|     |      |         |       | PS    |                       |    | 44 |                   |           |    |                   |                                                           |
|     |      |         |       | PPS   |                       | 52 | 00 |                   |           |    |                   |                                                           |
|     |      |         |       | L     | 16                    | 11 | 20 |                   |           |    |                   |                                                           |
|     |      |         |       | M     |                       | 21 |    | 15                |           | 18 |                   |                                                           |
|     |      |         |       | F     |                       | 55 |    |                   |           |    |                   |                                                           |



| N°  | Date | Station | Comp. | Phase            | Heure<br>de Greenwich |            |                                                                | Péri-<br>ode<br>s | Amplitude |    | $\Delta$<br><br>Degré,<br>km | Remarques                                                                        |                        |
|-----|------|---------|-------|------------------|-----------------------|------------|----------------------------------------------------------------|-------------------|-----------|----|------------------------------|----------------------------------------------------------------------------------|------------------------|
|     |      |         |       |                  | h                     | m          | s                                                              |                   | AN        | AE |                              |                                                                                  |                        |
| 77. | 4.   | K       | N-S   | eP               | 15                    | 41         | 38                                                             |                   |           |    | 76,3<br>8480                 |                                                                                  |                        |
|     |      |         |       | P <sub>c</sub> P |                       |            | 50                                                             |                   |           |    |                              |                                                                                  |                        |
|     |      |         |       | S                |                       | 51         | 22                                                             |                   |           |    |                              |                                                                                  |                        |
|     |      |         |       | SKS              |                       |            | 46                                                             |                   |           |    |                              |                                                                                  |                        |
|     |      |         |       | eL               | 16                    | 20,5       |                                                                |                   |           |    |                              |                                                                                  |                        |
|     |      |         |       | F                |                       | 30         |                                                                |                   |           |    |                              |                                                                                  |                        |
|     |      | Sz      | E-W   | eP               | 15                    | 41         | 31                                                             |                   |           |    | 76,2<br>8460                 |                                                                                  | N-S pas me-<br>surable |
|     |      |         |       | e                |                       | 42         | 15                                                             |                   |           |    |                              |                                                                                  |                        |
|     |      |         |       | eS               |                       | 51         | 33                                                             |                   |           |    |                              |                                                                                  |                        |
|     |      |         |       | PPS              |                       | 52         | 32                                                             |                   |           |    |                              |                                                                                  |                        |
|     |      |         |       | eL               | 16                    | 14         |                                                                |                   |           |    |                              |                                                                                  |                        |
|     |      |         |       | F                |                       | 30         |                                                                |                   |           |    |                              |                                                                                  |                        |
| Sz  | N-S  | e       | 17    | 48               | 54                    | 6,9<br>770 | Réplique du<br>No 54<br>H = 17 <sup>h</sup> 46' 11''<br>(BCIS) |                   |           |    |                              |                                                                                  |                        |
|     |      | e       |       | 50               | 18                    |            |                                                                |                   |           |    |                              |                                                                                  |                        |
|     |      | F       | 18    | 05               |                       |            |                                                                |                   |           |    |                              |                                                                                  |                        |
|     |      |         |       |                  |                       |            |                                                                |                   |           |    |                              |                                                                                  |                        |
| Sz  | E-W  | e       | 17    | 50               | 12                    |            |                                                                |                   |           |    |                              |                                                                                  |                        |
|     |      | F       | 18    | 05               |                       |            |                                                                |                   |           |    |                              |                                                                                  |                        |
|     |      |         |       |                  |                       |            |                                                                |                   |           |    |                              |                                                                                  |                        |
|     |      |         |       |                  |                       |            |                                                                |                   |           |    |                              |                                                                                  |                        |
| 78. | 4.   | B       | N-S   | e                | 08                    | 39         | 22                                                             |                   |           |    | 9,7<br>1080                  | Grèce cent-<br>rale<br>38° N, 22° E<br>H = 08 <sup>h</sup> 33' 44''<br>(BCIS)    |                        |
|     |      |         |       | e                |                       | 40         | 30                                                             |                   |           |    |                              |                                                                                  |                        |
|     |      |         |       | F                |                       | 47         |                                                                |                   |           |    |                              |                                                                                  |                        |
|     |      |         |       | e $\bar{S}$      | 08                    | 38         | 58                                                             |                   |           |    |                              |                                                                                  |                        |
|     |      |         |       | e                |                       | 40         | 30                                                             |                   |           |    |                              |                                                                                  |                        |
|     |      |         |       | F                |                       | 47         |                                                                |                   |           |    |                              |                                                                                  |                        |
|     |      | K       | N-S   | eS               | 08                    | 36         | 49                                                             |                   |           |    | 8,7<br>970                   |                                                                                  |                        |
|     |      |         |       | e                |                       | 39         | 09                                                             |                   |           |    |                              |                                                                                  |                        |
|     |      |         |       | F                |                       | 45         |                                                                |                   |           |    |                              |                                                                                  |                        |
|     |      |         |       | e $\bar{S}$      | 08                    | 37         | 47                                                             |                   |           |    |                              |                                                                                  |                        |
|     |      |         |       |                  |                       |            |                                                                |                   |           |    |                              |                                                                                  |                        |
|     |      |         |       |                  |                       |            |                                                                |                   |           |    |                              |                                                                                  |                        |
| Sz  | N-S  | e       | 08    | 36               | 44                    | 8,4<br>930 |                                                                |                   |           |    |                              |                                                                                  |                        |
|     |      | e       |       | 37               | 10                    |            |                                                                |                   |           |    |                              |                                                                                  |                        |
|     |      | F       |       | 55               |                       |            |                                                                |                   |           |    |                              |                                                                                  |                        |
|     |      |         |       |                  |                       |            |                                                                |                   |           |    |                              |                                                                                  |                        |
| Sz  | E-W  | S*      | 08    | 87               | 52                    |            |                                                                |                   |           |    |                              |                                                                                  |                        |
|     |      | F       |       | 55               |                       |            |                                                                |                   |           |    |                              |                                                                                  |                        |
|     |      |         |       |                  |                       |            |                                                                |                   |           |    |                              |                                                                                  |                        |
|     |      |         |       |                  |                       |            |                                                                |                   |           |    |                              |                                                                                  |                        |
| 79. | 4.   | B       | N-S   | eP               | 16                    | 45         | 28                                                             |                   |           |    | 7,8<br>870                   | Grèce cent-<br>rale<br>39,5° N, 22° E<br>H = 16 <sup>h</sup> 43' 22''<br>(USCGS) |                        |
|     |      |         |       | P*               |                       |            | 46                                                             |                   |           |    |                              |                                                                                  |                        |
|     |      |         |       | $\bar{P}$        |                       | 46         | 09                                                             |                   |           |    |                              |                                                                                  |                        |
|     |      |         |       | S                |                       |            | 54                                                             |                   |           |    |                              |                                                                                  |                        |
|     |      |         |       | S*               | 47                    | 22         |                                                                |                   |           |    |                              |                                                                                  |                        |
|     |      |         |       | $\bar{S}$        |                       | 40         |                                                                |                   |           |    |                              |                                                                                  |                        |
|     |      | Sz      | E-W   |                  |                       |            |                                                                |                   |           |    |                              |                                                                                  |                        |
|     |      |         |       |                  |                       |            |                                                                |                   |           |    |                              |                                                                                  |                        |
|     |      |         |       |                  |                       |            |                                                                |                   |           |    |                              |                                                                                  |                        |
|     |      |         |       |                  |                       |            |                                                                |                   |           |    |                              |                                                                                  |                        |
|     |      |         |       |                  |                       |            |                                                                |                   |           |    |                              |                                                                                  |                        |
|     |      |         |       |                  |                       |            |                                                                |                   |           |    |                              |                                                                                  |                        |



| N | Date | Station | Comp. | Phase       | Heure<br>de Greenwich |    |    | Péri-<br>ode<br>s | Amplitude |    | $\Delta$<br>Degré,<br>km | Remarques |
|---|------|---------|-------|-------------|-----------------------|----|----|-------------------|-----------|----|--------------------------|-----------|
|   |      |         |       |             | h                     | m  | s  |                   | AN        | AE |                          |           |
|   |      |         |       | L           |                       | 48 | 20 |                   |           |    |                          |           |
|   |      |         |       | M           |                       | 52 | 05 | 8                 | 24        |    |                          |           |
|   |      |         |       | M           |                       |    | 40 | 8                 | 26        |    |                          |           |
|   |      |         |       | M           |                       | 55 |    | 6                 | 16        |    |                          |           |
|   |      |         |       | F           | 17                    | 12 |    |                   |           |    |                          |           |
|   |      |         | E-W   | P           | 16                    | 45 | 28 |                   |           |    |                          |           |
|   |      |         |       | P*          |                       |    | 38 |                   |           |    |                          |           |
|   |      |         |       | $\bar{P}$   |                       | 46 | 05 |                   |           |    |                          |           |
|   |      |         |       | eS*         |                       | 47 | 22 |                   |           |    |                          |           |
|   |      |         |       | $\bar{S}$   |                       |    | 47 |                   |           |    |                          |           |
|   |      |         |       | L           |                       | 48 |    |                   |           |    |                          |           |
|   |      |         |       | M           |                       | 52 | 20 | 9                 |           | 17 |                          |           |
|   |      |         |       | M           |                       | 53 | 47 | 8                 |           | 21 |                          |           |
|   |      |         |       | M           |                       | 54 | 50 | 6                 |           | 8  |                          |           |
|   |      |         |       | F           | 17                    | 10 |    |                   |           |    |                          |           |
|   |      | K       | N-S   | eP          | 16                    | 45 | 16 |                   |           |    | 6,9                      |           |
|   |      |         |       | $\bar{P}$   |                       |    | 40 |                   |           |    | 770                      |           |
|   |      |         |       | S*          |                       | 46 | 50 |                   |           |    |                          |           |
|   |      |         |       | $\bar{S}$   |                       | 47 | 10 |                   |           |    |                          |           |
|   |      |         |       | L           |                       |    | 35 |                   |           |    |                          |           |
|   |      |         |       | M           |                       |    | 54 | 3                 |           |    |                          |           |
|   |      |         |       | F           | 17                    | 05 |    |                   |           |    |                          |           |
|   |      |         | E-W   | eP          | 16                    | 45 | 16 |                   |           |    |                          |           |
|   |      |         |       | eS*         |                       | 46 | 52 |                   |           |    |                          |           |
|   |      |         |       | e $\bar{S}$ |                       | 47 | 13 |                   |           |    |                          |           |
|   |      |         |       | L           |                       |    | 32 |                   |           |    |                          |           |
|   |      |         |       | M           |                       |    | 45 | 3                 |           |    |                          |           |
|   |      |         |       | M           |                       | 48 | 44 | 3                 |           |    |                          |           |
|   |      |         |       | M           |                       | 51 |    | 3                 |           |    |                          |           |
|   |      |         |       | F           | 17                    | 05 |    |                   |           |    |                          |           |
|   |      | Ke      | N-S   | $\bar{P}$   | 16                    | 45 | 48 |                   |           |    | 7,1                      |           |
|   |      |         |       | S           |                       | 46 | 30 |                   |           |    | 790                      |           |
|   |      |         |       | F           | 17                    | 07 |    |                   |           |    |                          |           |
|   |      |         | E-W   | e $\bar{P}$ | 16                    | 45 | 42 |                   |           |    |                          |           |
|   |      |         |       | eS          |                       | 46 | 42 |                   |           |    |                          |           |
|   |      |         |       | F           | 17                    | 07 |    |                   |           |    |                          |           |
|   |      | Sz      | N-S   | P           | 16                    | 45 | 10 |                   |           |    | 6,9                      |           |
|   |      |         |       | P*          |                       |    | 28 |                   |           |    | 770                      |           |
|   |      |         |       | $\bar{P}$   |                       |    | 42 |                   |           |    |                          |           |
|   |      |         |       | e           |                       | 46 | 00 |                   |           |    |                          |           |
|   |      |         |       | S*          |                       |    | 50 |                   |           |    |                          |           |
|   |      |         |       | M           |                       | 49 | 34 | 4                 | 58        |    |                          |           |
|   |      |         |       | M           |                       | 51 | 42 | 5                 | 93        |    |                          |           |
|   |      |         |       | M           |                       | 56 | 53 | 6                 | 60        |    |                          |           |
|   |      |         |       | F           | 17                    | 15 |    |                   |           |    |                          |           |
|   |      |         | E-W   | e           | 16                    | 45 | 18 |                   |           |    |                          |           |
|   |      |         |       | $\bar{P}$   |                       |    | 42 |                   |           |    |                          |           |
|   |      |         |       | e           |                       | 46 | 00 |                   |           |    |                          |           |



| №   | Date | Station | Comp. | Phase | Heure<br>de Greenwich |   |    | Péri-<br>ode<br>s | Amplitude |    | $\Delta$<br><br>Degré,<br>km                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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|     |      |         |       |       | h                     | m | s  |                   | AN        | AE |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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| 80. |      | B       | N-S   | S     |                       |   | 29 | 6                 |           | 78 | 8,3<br>920<br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><b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| N   | Date | Station | Comp. | Phase                     | Heure<br>de Greenwich |      |                            | Péri-<br>ode<br>s | Amplitude |    | $\Delta$<br>Degré,<br>km | Remarques                                                                            |
|-----|------|---------|-------|---------------------------|-----------------------|------|----------------------------|-------------------|-----------|----|--------------------------|--------------------------------------------------------------------------------------|
|     |      |         |       |                           | h                     | m    | s                          |                   | AN        | AE |                          |                                                                                      |
| 81. | 5.   | Sz      | N-S   | eS*                       | 01                    | 01   | 41                         |                   |           |    | 6,9<br>770               | Réplique du<br>No 54<br>H = 00h 58' 05''<br>(BCIS)                                   |
|     |      |         | E-W   | eS<br>F                   | 01                    | 01   | 07<br>13                   |                   |           |    |                          |                                                                                      |
| 82. |      | Sz      | N-S   | $\bar{P}$<br>S<br>eS<br>F | 03                    | 01   | 06<br>56<br>02<br>13       |                   |           |    | 6,9<br>770               | Réplique du<br>No 54<br>H = 02h 58' 49''<br>(BCIS)                                   |
|     |      |         | E-W   | e<br>S*<br>eS<br>F        | 03                    | 01   | 20<br>02<br>49<br>13       |                   |           |    |                          |                                                                                      |
| 83. |      | B       | N-S   | e<br>eL<br>M<br>F         | 13                    | 53   | 21<br>58,5                 | 17                | 11        |    | 86,6<br>9610             | Golfe de<br>Californie<br>27,5°N, 112,5°W<br><br>H = 13h 09' 46''<br>(USCGS)         |
|     |      |         | E-W   | e<br>F                    | 13                    | 58   | 21<br>14<br>21             |                   |           |    |                          |                                                                                      |
| 84. | 6.   | B       | .     | P                         | 09                    | 13   | 54                         |                   |           |    | 75,5<br>8390             | Côte S du<br>Kamtchatka<br>56° N, 155,5° E<br>H = 09h 02' 14''<br>h = 100<br>(USCGS) |
|     |      | K       | N-S   | PcP<br>e                  | 09                    | 14   | 13<br>22                   |                   |           |    | 76,4<br>8490             |                                                                                      |
|     |      |         | E-W   | PcP<br>eS<br>PPS          | 09                    | 14   | 19<br>22<br>47<br>24<br>46 |                   |           |    |                          |                                                                                      |
| 85. | 7.   | Sz      | N-S   | e<br>F                    | 03                    | 58   | 21<br>04<br>10             |                   |           |    |                          |                                                                                      |
|     |      |         | E-W   | e<br>F                    | 03                    | 58,5 | 10                         |                   |           |    |                          |                                                                                      |
| 86. |      | B       | N-S   | e<br>e<br>F               | 08                    | 38   | 46<br>39<br>56<br>43       |                   |           |    | 8,3<br>920               | Réplique du<br>No 54<br>H = 08h 33' 15''<br>(BCIS)                                   |
|     |      |         | E-W   | e<br>e<br>e<br>F          | 08                    | 38   | 43<br>40<br>00<br>37<br>43 |                   |           |    |                          |                                                                                      |
|     |      | K       | N-S   | e<br>F                    | 08                    | 36   | 11<br>40                   |                   |           |    | 7,4<br>820               |                                                                                      |
|     |      |         | E-W   | e $\bar{P}$<br>S<br>F     | 08                    | 35   | 53<br>37<br>25<br>42       |                   |           |    |                          |                                                                                      |







| N°  | Date | Station | Comp. | Phase | Heure<br>de Greenwich |     |     | Péri-<br>ode<br>s | Amplitude |    | $\Delta$<br><br>Degré,<br>km | Remarques                                          |                                                    |                                                            |    |    |  |  |
|-----|------|---------|-------|-------|-----------------------|-----|-----|-------------------|-----------|----|------------------------------|----------------------------------------------------|----------------------------------------------------|------------------------------------------------------------|----|----|--|--|
|     |      |         |       |       | h                     | m   | s   |                   | AN        | AE |                              |                                                    |                                                    |                                                            |    |    |  |  |
| 91. |      | K       | N-S   | e     | 16                    | 15  | 53  | 7                 | 10        |    | 7,4<br>820                   | Réplique de<br>No 54<br>H = 16h 13' 02''<br>(BCIS) |                                                    |                                                            |    |    |  |  |
|     |      |         |       | S*    |                       | 16  | 47  |                   |           |    |                              |                                                    |                                                    |                                                            |    |    |  |  |
|     |      |         |       | L     |                       | 17  | 18  |                   |           |    |                              |                                                    |                                                    |                                                            |    |    |  |  |
|     |      |         |       | F     |                       | 25  |     |                   |           |    |                              |                                                    |                                                    |                                                            |    |    |  |  |
|     |      |         | E-W   | P     | 16                    | 15  | 32  |                   |           |    |                              |                                                    |                                                    |                                                            |    |    |  |  |
|     |      |         |       | S     |                       | 16  | 20  |                   |           |    |                              |                                                    |                                                    |                                                            |    |    |  |  |
|     |      |         |       | L     |                       | 17  | 14  |                   |           |    |                              |                                                    |                                                    |                                                            |    |    |  |  |
|     |      |         |       | F     |                       | 25  |     |                   |           |    |                              |                                                    |                                                    |                                                            |    |    |  |  |
|     |      | Sz      | N-S   | P     | 16                    | 15  | 34  |                   |           |    |                              |                                                    |                                                    |                                                            |    |    |  |  |
|     |      |         |       | S     |                       | 16  | 22  |                   |           |    |                              |                                                    |                                                    |                                                            |    |    |  |  |
|     |      |         |       | eS*   |                       |     | 50  |                   |           |    |                              |                                                    |                                                    |                                                            |    |    |  |  |
|     |      |         |       | eS    |                       | 17  | 10  |                   |           |    |                              |                                                    |                                                    |                                                            |    |    |  |  |
|     | E-W  | M       |       | 20    | 22                    |     |     |                   |           |    |                              |                                                    |                                                    |                                                            |    |    |  |  |
|     |      | F       |       | 31    |                       |     |     |                   |           |    |                              |                                                    |                                                    |                                                            |    |    |  |  |
|     |      | eP      | 16    | 15    | 40                    |     |     |                   |           |    |                              |                                                    |                                                    |                                                            |    |    |  |  |
|     |      | eS      |       | 16    | 58                    |     |     |                   |           |    |                              |                                                    |                                                    |                                                            |    |    |  |  |
| 92. |      | K       | N-S   | eS    | 20                    | 17  |     | 48                |           |    |                              | 7,4<br>820                                         | Réplique du<br>No 54<br>H = 20h 13' 20''<br>(BCIS) |                                                            |    |    |  |  |
|     |      |         |       | F     |                       | 23  |     |                   |           |    |                              |                                                    |                                                    |                                                            |    |    |  |  |
|     |      |         |       |       | E-W                   | eS  | 20  | 17                |           |    |                              |                                                    |                                                    | 35                                                         |    |    |  |  |
|     |      |         |       |       |                       | F   |     | 23                |           |    |                              |                                                    |                                                    |                                                            |    |    |  |  |
|     |      | Sz      | N-S   |       |                       | e   | 20  | 17                |           |    |                              | 08                                                 |                                                    |                                                            |    |    |  |  |
|     |      |         |       |       |                       | F   |     | 26                |           |    |                              |                                                    |                                                    |                                                            |    |    |  |  |
|     |      |         |       |       | E-W                   | e   | 20  | 17                |           |    |                              | 11                                                 |                                                    |                                                            |    |    |  |  |
|     |      |         |       |       |                       | e   |     |                   |           |    |                              | 27                                                 |                                                    |                                                            |    |    |  |  |
|     |      | F       |       |       |                       | 26  |     |                   |           |    |                              |                                                    |                                                    |                                                            |    |    |  |  |
|     |      | 93.     | 11.   |       |                       | Sz  | N-S | e                 |           |    |                              | 22                                                 |                                                    | 44                                                         |    | 16 |  |  |
|     |      |         |       | F     |                       |     |     | 55                |           |    |                              |                                                    |                                                    |                                                            |    |    |  |  |
|     |      |         |       |       | E-W                   |     |     | e                 |           |    |                              | 22                                                 |                                                    | 44                                                         | 22 |    |  |  |
| F   |      |         |       |       |                       |     |     | 55                |           |    |                              |                                                    |                                                    |                                                            |    |    |  |  |
| 94. | 12.  | B       | N-S   |       |                       | eP  | 02  | 19                | 55        |    |                              |                                                    | 10<br>1110                                         | Péloponèse<br>37,6° N, 22° E<br>H = 02h 16' 33''<br>(BCIS) |    |    |  |  |
|     |      |         |       |       |                       | eS  |     | 20                | 49        |    |                              |                                                    |                                                    |                                                            |    |    |  |  |
|     |      |         |       | e     |                       | 22  | 21  |                   |           |    |                              |                                                    |                                                    |                                                            |    |    |  |  |
|     |      |         |       | L     |                       | 23  | 15  |                   |           |    |                              |                                                    |                                                    |                                                            |    |    |  |  |
|     |      |         |       | F     |                       | 30  |     |                   |           |    |                              |                                                    |                                                    |                                                            |    |    |  |  |
|     |      |         |       |       | E-W                   | eP  | 02  | 19                | 09        |    |                              |                                                    |                                                    |                                                            |    |    |  |  |
|     |      |         |       |       |                       | eS* |     | 21                | 43        |    |                              |                                                    |                                                    |                                                            |    |    |  |  |
|     |      |         |       |       |                       | e   |     | 22                | 23        |    |                              |                                                    |                                                    |                                                            |    |    |  |  |
|     |      | L       |       |       |                       | 23  | 22  |                   |           |    |                              |                                                    |                                                    |                                                            |    |    |  |  |
|     |      |         | K     | N-S   | F                     |     | 39  |                   |           |    |                              |                                                    |                                                    |                                                            |    |    |  |  |
|     |      |         |       |       | e                     | 02  | 19  | 25                |           |    |                              |                                                    |                                                    |                                                            |    |    |  |  |
|     |      |         |       |       | L                     |     | 22  |                   |           |    |                              |                                                    |                                                    |                                                            |    |    |  |  |
| F   |      |         |       |       | 28                    |     |     |                   |           |    |                              |                                                    |                                                    |                                                            |    |    |  |  |



| N   | Date | Station | Comp. | Phase                                       | Heure<br>de Greenwich             |    |                                              | Péri-<br>ode<br>s | Amplitude |    | $\Delta$<br><br>Degré,<br>km | Remarques                                                             |                         |
|-----|------|---------|-------|---------------------------------------------|-----------------------------------|----|----------------------------------------------|-------------------|-----------|----|------------------------------|-----------------------------------------------------------------------|-------------------------|
|     |      |         |       |                                             | h                                 | m  | s                                            |                   | AN        | AE |                              |                                                                       |                         |
| 95. | 13.  | Sz      | E-W   | e<br>L<br>F                                 | 02                                | 19 | 48<br>22<br>28                               | 4                 | 3         |    | 8,8<br>980                   | Dalmatie<br>42,9° N, 17,8° E<br>H = 01 <sup>h</sup> 19' 12'<br>(BCIS) |                         |
|     |      |         | N-S   | P*<br>$\bar{P}$<br>e<br>eS<br>eS*<br>M<br>F | 02                                | 19 | 07<br>31<br>47<br>20 33<br>21 05<br>23<br>35 |                   |           |    |                              |                                                                       |                         |
|     |      |         | E-W   | e<br>eS<br>$\bar{S}$<br>M<br>M<br>F         | 02                                | 20 | 07<br>37<br>21 30<br>25<br>27.5<br>35        |                   |           |    |                              |                                                                       |                         |
|     |      |         | N-S   | e $\bar{P}$<br>e $\bar{S}$<br>L<br>F        | 01                                | 20 | 46<br>21 48<br>22 12<br>25                   |                   |           |    |                              |                                                                       |                         |
|     |      |         | E-W   | e<br>eS*<br>e $\bar{S}$<br>F                | 01                                | 20 | 52<br>21 39<br>47<br>25                      |                   |           |    |                              |                                                                       |                         |
|     |      |         | K     | N-S                                         | $\bar{P}$<br>S<br>S*<br>F         | 01 | 20                                           |                   |           |    |                              |                                                                       | 28<br>21 14<br>22<br>25 |
|     |      | B       | E-W   | e<br>S<br>$\bar{S}$<br>F                    | 01                                | 21 | 00<br>11<br>32<br>25                         |                   |           |    | 3,8<br>420                   |                                                                       |                         |
|     |      |         | Sz    | N-S                                         | $\bar{P}$<br>S*<br>$\bar{S}$<br>F | 01 | 20                                           |                   |           |    |                              |                                                                       | 30<br>21 09<br>22<br>28 |
|     |      |         | E-W   | $\bar{P}$<br>S<br>$\bar{S}$<br>F            | 01                                | 20 | 30<br>21 00<br>07<br>28                      |                   |           |    |                              |                                                                       |                         |
|     |      |         | N-S   | epP<br>eSKS<br>eS                           | 15                                | 00 | 10<br>10 09<br>22                            |                   |           |    |                              |                                                                       |                         |
|     |      |         |       |                                             |                                   |    |                                              |                   |           |    |                              |                                                                       |                         |
|     |      |         |       |                                             |                                   |    |                                              |                   |           |    |                              |                                                                       |                         |



| N   | Date | Station | Comp. | Phase | H e u r e<br>de Greenwich |    |    | Péri-<br>ode<br>s | Amplitude |    | Δ<br><br>Degré,<br>km | Remarques                                                                                  |  |
|-----|------|---------|-------|-------|---------------------------|----|----|-------------------|-----------|----|-----------------------|--------------------------------------------------------------------------------------------|--|
|     |      |         |       |       | h                         | m  | s  |                   | AN        | AE |                       |                                                                                            |  |
| 97. | 14.  | B       | E-W   | e     | 12                        | 32 |    |                   |           |    | 79,8<br>8870          | Près de la<br>côte de Honshu<br>36° N, 137° E<br>H = 22h 39' 25''<br>h = 250 km<br>(USCGS) |  |
|     |      |         |       | eL    | 34                        | 15 |    |                   |           |    |                       |                                                                                            |  |
|     |      |         |       | F     | 55                        |    |    |                   |           |    |                       |                                                                                            |  |
|     |      |         |       | pP    | 15                        | 00 | 07 |                   |           |    |                       |                                                                                            |  |
|     |      |         |       | S     | 10                        | 20 |    |                   |           |    |                       |                                                                                            |  |
|     |      |         |       | esS   | 11                        | 31 |    |                   |           |    |                       |                                                                                            |  |
|     |      |         | N-S   | e     | 12                        | 37 |    |                   |           |    |                       |                                                                                            |  |
|     |      |         |       | eL    | 32                        | 15 |    |                   |           |    |                       |                                                                                            |  |
|     |      |         |       | F     | 55                        |    |    |                   |           |    |                       |                                                                                            |  |
|     |      |         |       | P     | 22                        | 51 | 15 |                   |           |    |                       |                                                                                            |  |
|     |      |         |       | pP    |                           |    | 54 |                   |           |    |                       |                                                                                            |  |
|     |      |         |       | S     | 23                        | 00 | 56 |                   |           |    |                       |                                                                                            |  |
|     |      |         | E-W   | sS    | 02                        | 36 |    |                   |           |    |                       |                                                                                            |  |
|     |      |         |       | e     | 12                        | 10 |    |                   |           |    |                       |                                                                                            |  |
|     |      |         |       | L     | 20                        | 10 |    |                   |           |    |                       |                                                                                            |  |
|     |      |         |       | M     | 24                        | 12 | 15 | 27                |           |    |                       |                                                                                            |  |
|     |      |         |       | M     | 29                        | 50 | 16 | 14                |           |    |                       |                                                                                            |  |
|     |      |         |       | M     | 32                        |    | 14 | 13                |           |    |                       |                                                                                            |  |
|     |      | E-W     | F     | 00    | 10                        |    |    |                   |           |    |                       |                                                                                            |  |
|     |      |         | P     | 22    | 51                        | 16 |    |                   |           |    |                       |                                                                                            |  |
|     |      |         | pP    |       |                           | 51 |    |                   |           |    |                       |                                                                                            |  |
|     |      |         | S     | 23    | 00                        | 57 |    |                   |           |    |                       |                                                                                            |  |
|     |      |         | sS    | 02    | 25                        |    |    |                   |           |    |                       |                                                                                            |  |
|     |      |         | L     | 21    | 10                        |    |    |                   |           |    |                       |                                                                                            |  |
|     |      | K       | N-S   | M     | 24                        | 10 | 15 | 14                |           |    |                       |                                                                                            |  |
|     |      |         |       | M     | 31                        | 15 | 14 | 11                |           |    |                       |                                                                                            |  |
|     |      |         |       | F     | 00                        | 05 |    |                   |           |    |                       |                                                                                            |  |
|     |      |         |       | P     | 22                        | 51 | 16 |                   |           |    |                       |                                                                                            |  |
|     |      |         |       | epP   |                           | 52 | 00 |                   |           |    |                       |                                                                                            |  |
|     |      |         |       | eSKS  | 23                        | 00 | 35 |                   |           |    |                       |                                                                                            |  |
|     |      | Sz      | E-W   | S     | 01                        | 14 |    |                   |           |    |                       |                                                                                            |  |
|     |      |         |       | eL    | 03                        | 09 |    |                   |           |    |                       |                                                                                            |  |
|     |      |         |       | F     | 10                        |    |    |                   |           |    |                       |                                                                                            |  |
|     |      |         |       | P     | 22                        | 51 | 16 |                   |           |    |                       |                                                                                            |  |
|     |      |         |       | pP    |                           | 52 | 00 |                   |           |    |                       |                                                                                            |  |
|     |      |         |       | S     | 23                        | 01 | 00 |                   |           |    |                       |                                                                                            |  |
| N-S | eL   |         | 03    | 06    |                           |    |    |                   |           |    |                       |                                                                                            |  |
|     | F    |         | 10    |       |                           |    |    |                   |           |    |                       |                                                                                            |  |
|     | P    |         | 22    | 51    | 15                        |    |    |                   |           |    |                       |                                                                                            |  |
|     | PP   |         |       | 54    | 34                        |    |    |                   |           |    |                       |                                                                                            |  |
|     | sS   |         | 23    | 02    | 42                        |    |    |                   |           |    |                       |                                                                                            |  |
|     | F    |         | 50    |       |                           |    |    |                   |           |    |                       |                                                                                            |  |
| E-W | P    |         | 22    | 51    | 15                        |    |    |                   |           |    |                       |                                                                                            |  |
|     | pP   |         |       | 52    | 12                        |    |    |                   |           |    |                       |                                                                                            |  |
|     | PP   |         |       | 54    | 36                        |    |    |                   |           |    |                       |                                                                                            |  |
|     | ScS  |         | 23    | 01    | 57                        |    |    |                   |           |    |                       |                                                                                            |  |
|     | F    |         | 50    |       |                           |    |    |                   |           |    |                       |                                                                                            |  |
|     |      |         |       |       |                           |    |    |                   |           |    |                       |                                                                                            |  |



| N°   | Date | Station     | Comp. | Phase       | Heure<br>de Greenwich |    |            | Péri-<br>ode | Amplitude    |    | $\Delta$     | Remarques                                                    |              |
|------|------|-------------|-------|-------------|-----------------------|----|------------|--------------|--------------|----|--------------|--------------------------------------------------------------|--------------|
|      |      |             |       |             | h                     | m  | s          |              | s            | AN | AE           |                                                              | Degré,<br>km |
| 98.  | 15.  | B           | N-S   | e           | 12                    | 28 | 51         |              |              |    | 11,4<br>1270 | Péloponèse<br>36,2° N, 21,7° E<br>H = 12h 24' 34''<br>(BCIS) |              |
|      |      |             |       | eL          |                       | 31 | 32         |              |              |    |              |                                                              |              |
|      |      |             |       | F           |                       |    | 55         |              |              |    |              |                                                              |              |
|      |      |             | E-W   | eS          | 12                    | 29 | 25         |              |              |    |              |                                                              |              |
|      |      |             |       | eL          |                       | 31 | 10         |              |              |    |              |                                                              |              |
|      |      |             |       | F           |                       |    | 45         |              |              |    |              |                                                              |              |
|      |      | K           | N-S   | $\bar{P}$   | 12                    | 28 | 00         |              |              |    |              |                                                              | 10,5<br>1170 |
|      |      |             |       | e           |                       |    | 27         |              |              |    |              |                                                              |              |
|      |      |             |       | eL          |                       | 31 | 13         |              |              |    |              |                                                              |              |
|      |      |             | E-W   | F           |                       |    | 36         |              |              |    |              |                                                              |              |
| S    | 12   |             |       | 29          | 10                    |    |            |              |              |    |              |                                                              |              |
| eL   |      |             |       | 31          | 10                    |    |            |              |              |    |              |                                                              |              |
|      | F    |             |       |             | 37                    |    |            |              |              |    |              |                                                              |              |
|      |      | Sz          | N-S   | eS*         | 12                    | 29 | 27         |              | 10,1<br>1120 |    |              |                                                              |              |
|      |      |             |       | e           |                       | 30 | 28         |              |              |    |              |                                                              |              |
| M    |      |             |       | 35          |                       |    |            |              |              |    |              |                                                              |              |
|      | E-W  | F           |       |             | 45                    |    |            |              |              |    |              |                                                              |              |
|      |      | S*          | 12    | 29          | 39                    | 5  | 5          |              |              |    |              |                                                              |              |
|      |      | e           |       | 30          | 30                    |    |            |              |              |    |              |                                                              |              |
|      | F    |             |       |             | 32,5                  |    |            | 6            | 7            |    |              |                                                              |              |
|      |      | M           |       |             | 45                    |    |            |              |              |    |              |                                                              |              |
|      |      | F           |       |             |                       |    |            |              |              |    |              |                                                              |              |
| 99.  | 16.  | B           | N-S   | e           | 16                    | 04 | 32         |              |              |    | 8,3<br>920   | Traces<br>Réplique du<br>No 54<br>H = 15h 58' 48''<br>(BCIS) |              |
|      |      |             |       | e           |                       |    |            |              |              |    |              |                                                              |              |
|      |      |             |       | e           |                       |    |            |              |              |    |              |                                                              |              |
|      |      |             | E-W   | e $\bar{S}$ | 16                    | 03 | 28         |              |              |    |              |                                                              |              |
|      |      |             |       | e           |                       | 04 | 28         |              |              |    |              |                                                              |              |
|      |      |             |       | e           |                       | 05 | 15         |              |              |    |              |                                                              |              |
|      |      | K           | N-S   | e           | 16                    | 03 | 16         |              |              |    |              |                                                              | 7,4<br>820   |
|      |      |             |       | F           |                       |    | 07         |              |              |    |              |                                                              |              |
|      |      |             |       | e           |                       |    |            |              |              |    |              |                                                              |              |
|      |      |             | E-W   | $\bar{S}$   | 16                    | 03 | 00         |              |              |    |              |                                                              |              |
|      |      |             |       | F           |                       | 07 |            |              |              |    |              |                                                              |              |
|      |      |             |       | e           |                       |    |            |              |              |    |              |                                                              |              |
| Sz   | N-S  | $\bar{P}$   | 16    | 01          | 07                    |    | 6,9<br>770 |              |              |    |              |                                                              |              |
|      |      | eS*         |       | 02          | 09                    |    |            |              |              |    |              |                                                              |              |
|      |      | e $\bar{S}$ |       |             | 49                    |    |            |              |              |    |              |                                                              |              |
|      | E-W  | F           |       | 13          |                       |    |            |              |              |    |              |                                                              |              |
|      |      | $\bar{S}$   | 16    | 02          |                       |    |            | 30           |              |    |              |                                                              |              |
|      |      | F           |       | 13          |                       |    |            |              |              |    |              |                                                              |              |
| 100. | 17.  | B           | N-S   | e           | 11                    | 22 | 10         |              |              |    | 8,3<br>920   | Traces<br>Réplique du<br>No 54<br>H = 11h 17' 12''<br>(BCIS) |              |
|      |      |             |       | e           |                       | 29 | 32         |              |              |    |              |                                                              |              |
|      |      |             |       | e           |                       | 31 | 23         |              |              |    |              |                                                              |              |
|      |      |             | E-W   | e           | 11                    | 22 | 10         |              |              |    |              |                                                              |              |
|      |      |             |       | e           |                       | 29 | 10         |              |              |    |              |                                                              |              |
|      |      |             |       | F           |                       | 35 |            |              |              |    |              |                                                              |              |



| N°   | Date | Station | Comp.            | Phase                                      | Heure<br>de Greenwich                         |                                                 |                                  | Péri-<br>ode<br>s | Amplitude |    | $\Delta$<br><br>Degré,<br>km | Remarques                                                  |                            |                                  |    |  |  |            |
|------|------|---------|------------------|--------------------------------------------|-----------------------------------------------|-------------------------------------------------|----------------------------------|-------------------|-----------|----|------------------------------|------------------------------------------------------------|----------------------------|----------------------------------|----|--|--|------------|
|      |      |         |                  |                                            | h                                             | m                                               | s                                |                   | AN        | AE |                              |                                                            |                            |                                  |    |  |  |            |
| 101. |      | K       | N-S              | e                                          | 11                                            | 21                                              | 33                               |                   |           |    | 7,4<br>820                   |                                                            |                            |                                  |    |  |  |            |
|      |      |         |                  | e<br>F                                     |                                               | 22<br>25                                        |                                  |                   |           |    |                              |                                                            |                            |                                  |    |  |  |            |
|      |      |         | E-W              | $\bar{S}$                                  | 11                                            | 21                                              | 22                               |                   |           |    |                              |                                                            | 50                         |                                  |    |  |  |            |
|      |      |         |                  | e<br>e<br>F                                |                                               | 22<br>25                                        | 20                               |                   |           |    |                              |                                                            |                            |                                  |    |  |  |            |
|      |      | Sz      | N-S              | e<br>F                                     | 11                                            | 21                                              | 19                               |                   |           |    | 34                           |                                                            | 6,9<br>770                 |                                  |    |  |  |            |
|      |      |         |                  | E-W                                        | e<br>F                                        | 11                                              | 21                               |                   |           |    |                              |                                                            |                            | 26                               | 34 |  |  |            |
|      |      | Sz      | N-S              | e<br>e<br>F                                | 22                                            | 29                                              | 56                               |                   |           |    | 40<br>20                     |                                                            |                            |                                  |    |  |  |            |
|      |      |         |                  | 23                                         | 05                                            |                                                 |                                  |                   |           |    |                              |                                                            |                            |                                  |    |  |  |            |
|      |      |         | E-W              | e<br>e<br>e<br>F                           | 22                                            | 30                                              | 14<br>34<br>35<br>30             |                   |           |    |                              |                                                            |                            |                                  |    |  |  |            |
|      |      |         |                  | 23                                         | 05                                            |                                                 |                                  |                   |           |    |                              |                                                            |                            |                                  |    |  |  |            |
| 102. | 19.  | B       | N-S              | eP<br>$\bar{P}$<br>S<br>eS*<br>S<br>e<br>F | 09                                            | 37                                              | 04<br>35<br>25<br>04<br>21<br>56 |                   |           |    | 7,9<br>880                   | S Suisse<br>46,5° N, 7,5° E<br>H = 09h 34' 56''<br>(USCGS) |                            |                                  |    |  |  |            |
|      |      |         |                  |                                            | 38                                            |                                                 |                                  |                   |           |    |                              |                                                            |                            |                                  |    |  |  |            |
|      |      |         |                  | E-W                                        | eP<br>e $\bar{P}$<br>S<br>$\bar{S}$<br>e<br>F | 09                                              | 37                               |                   |           |    |                              |                                                            | 00<br>48<br>28<br>22<br>16 |                                  |    |  |  |            |
|      |      |         |                  |                                            |                                               | 38                                              |                                  |                   |           |    |                              |                                                            |                            |                                  |    |  |  |            |
|      |      |         |                  |                                            |                                               | 39                                              |                                  |                   |           |    |                              |                                                            |                            |                                  |    |  |  |            |
|      |      |         |                  |                                            |                                               | 40                                              |                                  |                   |           |    |                              |                                                            |                            |                                  |    |  |  |            |
|      |      |         |                  | K                                          | N-S                                           | e $\bar{P}$<br>S*<br>e $\bar{S}$<br>L<br>M<br>F | 09                               |                   |           |    |                              |                                                            | 37                         | 36<br>57<br>20<br>42<br>40<br>52 | 3  |  |  | 7,9<br>880 |
|      |      |         |                  |                                            |                                               |                                                 | 38                               |                   |           |    |                              |                                                            |                            |                                  |    |  |  |            |
|      |      |         |                  |                                            |                                               |                                                 | 39                               |                   |           |    |                              |                                                            |                            |                                  |    |  |  |            |
|      |      |         |                  |                                            |                                               |                                                 |                                  |                   |           |    |                              |                                                            |                            |                                  |    |  |  |            |
|      |      |         | 40               |                                            |                                               |                                                 |                                  |                   |           |    |                              |                                                            |                            |                                  |    |  |  |            |
|      |      |         | 52               |                                            |                                               |                                                 |                                  |                   |           |    |                              |                                                            |                            |                                  |    |  |  |            |
|      |      | E-W     | e<br>e<br>L<br>F | 09                                         | 37                                            | 42<br>10<br>40                                  |                                  |                   |           |    |                              |                                                            |                            |                                  |    |  |  |            |
|      |      |         |                  | 38                                         |                                               |                                                 |                                  |                   |           |    |                              |                                                            |                            |                                  |    |  |  |            |
|      |      |         |                  | 39                                         |                                               |                                                 |                                  |                   |           |    |                              |                                                            |                            |                                  |    |  |  |            |
|      |      |         |                  | 52                                         |                                               |                                                 |                                  |                   |           |    |                              |                                                            |                            |                                  |    |  |  |            |
|      |      | Sz      | N-S              | e<br>eS*<br>e $\bar{S}$<br>F               | 09                                            | 38                                              | 31<br>31<br>56<br>58             |                   |           |    | 8,7<br>970                   |                                                            |                            |                                  |    |  |  |            |
|      |      |         |                  |                                            | 39                                            |                                                 |                                  |                   |           |    |                              |                                                            |                            |                                  |    |  |  |            |
|      |      |         |                  |                                            |                                               |                                                 |                                  |                   |           |    |                              |                                                            |                            |                                  |    |  |  |            |
|      |      |         |                  |                                            | 58                                            |                                                 |                                  |                   |           |    |                              |                                                            |                            |                                  |    |  |  |            |



| N°   | Date | Station | Comp. | Phase                                                            | Heure<br>de Greenwich |     |    | Péri-<br>ode<br>s | Amplitude |    | $\Delta$<br>Degré,<br>km | Remarques                                                                |
|------|------|---------|-------|------------------------------------------------------------------|-----------------------|-----|----|-------------------|-----------|----|--------------------------|--------------------------------------------------------------------------|
|      |      |         |       |                                                                  | h                     | m   | s  |                   | AN        | AE |                          |                                                                          |
| 103. | 25.  | B       | E-W   | e<br>$\bar{S}$<br>F                                              | 09                    | 38  | 24 |                   |           |    |                          |                                                                          |
|      |      |         |       |                                                                  |                       | 39  | 42 |                   |           |    |                          |                                                                          |
|      |      |         |       |                                                                  |                       | 58  | .  |                   |           |    |                          |                                                                          |
|      |      |         | N-S   | eP<br>$\bar{P}$<br>S<br>S*<br>$\bar{S}$<br>L<br>M<br>M<br>F      | 22                    | 05  | 41 |                   |           |    | 8,3<br>920               | Grèce cent-<br>rale. Réplique<br>du No 54<br>H = 22h 03' 34''<br>(USCGS) |
|      |      |         |       |                                                                  |                       | 06  | 21 |                   |           |    |                          |                                                                          |
|      |      |         |       |                                                                  |                       | 07  | 19 |                   |           |    |                          |                                                                          |
|      |      |         |       |                                                                  |                       |     | 39 |                   |           |    |                          |                                                                          |
|      |      |         |       |                                                                  |                       | 08  | 13 |                   |           |    |                          |                                                                          |
|      |      |         |       |                                                                  |                       |     | 25 |                   |           |    |                          |                                                                          |
|      |      |         |       |                                                                  |                       | 10  | 15 | 8                 | 14        |    |                          |                                                                          |
|      |      |         |       |                                                                  |                       | 12  | 10 | 9                 | 11        |    |                          |                                                                          |
|      |      |         |       |                                                                  |                       | 35  |    |                   |           |    |                          |                                                                          |
|      |      |         | E-W   | P<br>P*<br>$\bar{P}$<br>S<br>S*<br>$\bar{S}$<br>L<br>M<br>M<br>F | 22                    | 05  | 41 |                   |           |    |                          |                                                                          |
|      |      |         |       |                                                                  |                       |     | 56 |                   |           |    |                          |                                                                          |
|      |      |         |       |                                                                  |                       | 06  | 22 |                   |           |    |                          |                                                                          |
|      |      |         |       |                                                                  |                       | 07  | 10 |                   |           |    |                          |                                                                          |
|      |      |         |       |                                                                  |                       |     | 41 |                   |           |    |                          |                                                                          |
|      |      |         |       |                                                                  |                       | 08  | 16 |                   |           |    |                          |                                                                          |
|      |      |         |       |                                                                  |                       |     | 28 |                   |           |    |                          |                                                                          |
|      |      |         |       |                                                                  |                       | 10  | 10 | 8                 | 14        |    |                          |                                                                          |
|      |      |         |       |                                                                  |                       | 11  | 55 | 9                 | 14        |    |                          |                                                                          |
|      |      |         |       |                                                                  |                       | 35  |    |                   |           |    |                          |                                                                          |
|      |      | K       | N-S   | eP<br>$\bar{P}$<br>e<br>S*<br>$\bar{S}$<br>L<br>M<br>F           | 22                    | 05  | 32 |                   |           |    | 7,4<br>820               |                                                                          |
|      |      |         |       |                                                                  |                       | 06  | 03 |                   |           |    |                          |                                                                          |
|      |      |         |       |                                                                  |                       |     | 39 |                   |           |    |                          |                                                                          |
|      |      |         |       |                                                                  |                       | 07  | 17 |                   |           |    |                          |                                                                          |
|      |      |         |       |                                                                  |                       |     | 37 |                   |           |    |                          |                                                                          |
|      |      |         |       |                                                                  |                       | 08  |    |                   |           |    |                          |                                                                          |
|      |      |         |       |                                                                  |                       |     | 24 | 3                 |           |    |                          |                                                                          |
|      |      |         |       |                                                                  |                       | 25  |    |                   |           |    |                          |                                                                          |
|      |      |         | E-W   | eP*<br>e<br>S<br>eS*<br>e $\bar{S}$<br>L<br>F                    | 22                    | 05  | 37 |                   |           |    |                          |                                                                          |
|      |      |         |       |                                                                  |                       | 06  | 17 |                   |           |    |                          |                                                                          |
|      |      |         |       |                                                                  |                       |     | 50 |                   |           |    |                          |                                                                          |
|      |      |         |       |                                                                  |                       | 07  | 10 |                   |           |    |                          |                                                                          |
|      |      | Ke      | N-S   | eP<br>$\bar{P}$<br>eS<br>$\bar{S}$<br>F                          | 22                    | 05  | 37 |                   |           |    | 7,1<br>790               |                                                                          |
|      |      |         |       |                                                                  |                       | 06  | 19 |                   |           |    |                          |                                                                          |
|      |      |         |       |                                                                  |                       | 07  | 09 |                   |           |    |                          |                                                                          |
|      |      |         |       |                                                                  |                       |     | 54 |                   |           |    |                          |                                                                          |
|      |      |         |       |                                                                  |                       | 22  |    |                   |           |    |                          |                                                                          |
|      |      |         | E-W   | eP<br>$\bar{P}$<br>F                                             | 22                    | 05  | 38 |                   |           |    |                          |                                                                          |
|      |      |         |       |                                                                  |                       | 07  | 58 |                   |           |    |                          |                                                                          |
|      |      |         |       |                                                                  |                       | 22  |    |                   |           |    |                          |                                                                          |
|      |      | Sz      | E-W   | eP*<br>$\bar{S}$<br>M                                            | 22                    | 05  | 30 |                   |           |    | 6,9<br>770               | N-S pas me-<br>surable                                                   |
|      |      |         |       |                                                                  |                       | 07  | 23 |                   |           |    |                          |                                                                          |
|      |      |         |       |                                                                  |                       | 8,5 |    | 4                 |           | 18 |                          |                                                                          |



| N    | Date    | Station | Comp. | Phase      | Heure<br>de Greenwich |    |    | Péri-<br>ode<br>s | Amplitude |    | $\Delta$<br>Degré,<br>km | Remarques        |
|------|---------|---------|-------|------------|-----------------------|----|----|-------------------|-----------|----|--------------------------|------------------|
|      |         |         |       |            | h                     | m  | s  |                   | AN        | AE |                          |                  |
| 104. | 28.     | Sz      |       | M<br>F     | 13                    | 07 |    | 6                 |           | 23 |                          |                  |
|      |         |         |       |            | 31                    |    |    |                   |           |    |                          |                  |
|      |         |         |       | $\bar{eP}$ | 01                    | 59 | 20 |                   |           |    | 6,9                      | Réplique du      |
|      |         |         |       | e          | 02                    | 01 | 16 |                   |           |    | 770                      | No 54            |
|      |         |         |       | F          |                       | 10 |    |                   |           |    |                          | H = 01h 57' 08'' |
| 105. |         | B       | N-S   | eP         | 07                    | 45 | 07 |                   |           |    | 8,3                      | (BCIS)           |
|      |         |         |       | eS         |                       | 46 | 34 |                   |           |    | 920                      | Réplique du      |
|      |         |         |       | eS*        |                       | 47 | 21 |                   |           |    |                          | No 54            |
|      |         |         |       | $\bar{S}$  |                       |    | 38 |                   |           |    |                          | H = 07h 43' 00'' |
|      |         |         |       | F          | 08                    | 00 |    |                   |           |    |                          | (USCGS)          |
|      |         |         | E-W   | eP         | 07                    | 45 | 10 |                   |           |    |                          |                  |
|      |         |         |       | e          |                       | 46 | 25 |                   |           |    |                          |                  |
|      |         |         |       | $\bar{S}$  |                       | 47 | 27 |                   |           |    |                          |                  |
|      |         |         |       | M          |                       | 51 | 18 | 6                 |           | 3  |                          |                  |
|      |         |         |       | F          | 08                    | 00 |    |                   |           |    |                          |                  |
|      |         | K       | N-S   | P*         | 07                    | 45 | 19 |                   |           |    | 7,4                      |                  |
|      |         |         |       | S          |                       | 46 | 24 |                   |           |    | 820                      |                  |
|      |         |         |       | L          |                       | 47 | 20 |                   |           |    |                          |                  |
|      |         |         |       | F          |                       | 55 |    |                   |           |    |                          |                  |
|      |         |         | E-W   | $\bar{P}$  | 07                    | 45 | 36 |                   |           |    |                          |                  |
|      |         |         |       | eL         |                       | 47 | 10 |                   |           |    |                          |                  |
|      |         |         |       | F          |                       | 55 |    |                   |           |    |                          |                  |
|      |         | Sz      | E-W   | $\bar{P}$  | 07                    | 45 | 25 |                   |           |    |                          | N-S pas          |
|      |         |         |       | e          |                       |    | 46 |                   |           |    |                          | mesurable        |
|      |         |         |       | e          |                       | 47 | 13 |                   |           |    |                          |                  |
|      |         |         |       | F          | 08                    | 05 |    |                   |           |    |                          |                  |
| 106. | Juin 4. | Sz      | E-W   | e          | 01                    | 55 | 39 |                   |           |    |                          | N-S pas          |
|      |         |         |       | e          |                       | 58 | 22 |                   |           |    |                          | mesurable        |
|      |         |         |       | F          |                       | 02 | 05 |                   |           |    |                          |                  |
| 107. | 5.      | B       | N-S   | eP         | 14                    | 07 | 41 |                   |           |    | 8,2                      | Réplique du      |
|      |         |         |       | $\bar{P}$  |                       | 08 | 20 |                   |           |    | 910                      | No 54            |
|      |         |         |       | $\bar{S}$  |                       | 10 | 08 |                   |           |    |                          | H = 14h 05' 32'' |
|      |         |         |       | L          |                       |    | 41 |                   |           |    |                          | (BCIS)           |
|      |         |         |       | M          |                       | 14 |    | 8                 | 4         |    |                          |                  |
|      |         |         |       | F          |                       | 20 |    |                   |           |    |                          |                  |
|      |         |         | E-W   | eP         | 14                    | 07 | 36 |                   |           |    |                          |                  |
|      |         |         |       | $\bar{eP}$ |                       | 08 | 27 |                   |           |    |                          |                  |
|      |         |         |       | e          |                       | 09 | 28 |                   |           |    |                          |                  |
|      |         |         |       | $\bar{S}$  |                       | 10 | 14 |                   |           |    |                          |                  |
|      |         |         |       | e          |                       |    | 28 |                   |           |    |                          |                  |
|      |         |         |       | M          |                       | 11 | 10 | 6                 |           | 3  |                          |                  |
|      |         |         |       | F          |                       | 20 |    |                   |           |    |                          |                  |







| N°   | Date | Station | Comp. | Phase | Heure<br>de Greenwich |      |    | Péri-<br>ode<br>s | Amplitude |    | Δ<br>Degré,<br>km | Remarques                                                                                               |
|------|------|---------|-------|-------|-----------------------|------|----|-------------------|-----------|----|-------------------|---------------------------------------------------------------------------------------------------------|
|      |      |         |       |       | h                     | m    | s  |                   | AN        | AE |                   |                                                                                                         |
| 109. | 7.   | B       | N-S   | PS    |                       | 19   | 14 |                   |           |    |                   | Région de la<br>Nouvelle Bre-<br>tagne<br>3,5° S, 152,5° E<br>H = 10h 15' 33''<br>h = 450 km<br>(USCGS) |
|      |      |         |       | F     | 18                    | 15   |    |                   |           |    |                   |                                                                                                         |
|      |      |         |       | pPKP  | 10                    | 35   | 13 |                   |           |    |                   |                                                                                                         |
|      |      |         |       | eSKS  |                       | 39   | 54 |                   |           |    |                   |                                                                                                         |
|      |      |         |       | e     |                       | 41   | 26 |                   |           |    |                   |                                                                                                         |
|      |      |         |       | S     |                       | 42   | 35 |                   |           |    |                   |                                                                                                         |
|      |      |         |       | e     |                       | 43   | 10 |                   |           |    |                   |                                                                                                         |
|      |      |         | E-W   | e     | 10                    | 34   | 48 |                   |           |    |                   |                                                                                                         |
|      |      |         |       | ipPKP |                       | 35   | 15 |                   |           |    |                   |                                                                                                         |
|      |      |         |       | eSKS  |                       | 39   | 52 |                   |           |    |                   |                                                                                                         |
|      |      |         |       | eS    |                       | 42   | 39 |                   |           |    |                   |                                                                                                         |
|      |      |         |       | e     |                       | 43   | 15 |                   |           |    |                   |                                                                                                         |
|      |      |         |       | L ?   |                       | 44,5 |    |                   |           |    |                   |                                                                                                         |
|      |      |         |       | F     | 11                    | 00   |    |                   |           |    |                   |                                                                                                         |
|      |      | K       | N-S   | ePKP  | 10                    | 34   | 00 |                   |           |    | 121,1<br>13450    |                                                                                                         |
|      |      |         | E-W   | ePKP  | 10                    | 34   | 20 |                   |           |    |                   |                                                                                                         |
|      |      | Sz      | E-W   | pPKP  | 10                    | 35   | 16 |                   |           |    | 120,6<br>13400    | N-S pas<br>mesurable                                                                                    |
|      |      |         |       | PKS   |                       | 37   | 35 |                   |           |    |                   |                                                                                                         |
|      |      |         |       | SKS   |                       | 39   | 44 |                   |           |    |                   |                                                                                                         |
|      |      |         |       | eS    |                       | 41   | 25 |                   |           |    |                   |                                                                                                         |
|      |      |         |       | sS    |                       | 44   | 59 |                   |           |    |                   |                                                                                                         |
|      |      |         |       | F     | 11                    | 06   |    |                   |           |    |                   |                                                                                                         |
| 110. |      | B       | N-S   | eS*   | 12                    | 53   | 21 |                   |           |    | 7,2<br>800        | Proche.<br>Traces<br>41,8° N, 23,3° E<br>H = 12h 49' 41''<br>(BCIS)                                     |
|      |      |         |       | eS̄   |                       |      | 37 |                   |           |    |                   |                                                                                                         |
|      |      |         |       | e     |                       |      | 50 |                   |           |    |                   |                                                                                                         |
|      |      |         |       | F     | 13                    | 00   |    |                   |           |    |                   |                                                                                                         |
|      |      |         | E-W   | S̄    | 12                    | 53   | 37 |                   |           |    |                   |                                                                                                         |
|      |      |         |       | F     | 13                    | 00   |    |                   |           |    |                   |                                                                                                         |
|      |      | K       | N-S   | S*    | 12                    | 52   | 58 |                   |           |    | 6,5<br>720        |                                                                                                         |
|      |      |         |       | F     |                       |      | 59 |                   |           |    |                   |                                                                                                         |
|      |      |         | E-W   | S*    | 12                    | 52   | 57 |                   |           |    |                   |                                                                                                         |
|      |      |         |       | S̄    |                       | 53   | 16 |                   |           |    |                   |                                                                                                         |
| 111. |      | Sz      | E-W   | F     |                       | 59   |    |                   |           |    |                   |                                                                                                         |
|      |      |         |       | S*    | 12                    | 52   | 32 |                   |           |    | 5,8<br>640        | N-S pas<br>mesurable                                                                                    |
|      |      |         |       | S̄    |                       |      | 47 |                   |           |    |                   |                                                                                                         |
|      |      |         |       | F     | 13                    | 15   |    |                   |           |    |                   |                                                                                                         |
| 112. | 14.  | B       | N-S   | e     | 14                    | 46   | 51 |                   |           |    |                   | Région W<br>de la Grèce<br>38,25° N, 21,5° E<br>H = 20h 06' 23''<br>(BCIS)                              |
|      |      |         |       | F     | 15                    | 30   |    |                   |           |    |                   |                                                                                                         |
| 112. | 14.  | B       | N-S   | eS̄   | 20                    | 11   | 44 |                   |           |    | 9,4<br>1040       | Région W<br>de la Grèce<br>38,25° N, 21,5° E<br>H = 20h 06' 23''<br>(BCIS)                              |
|      |      |         |       | e     |                       | 13   | 10 |                   |           |    |                   |                                                                                                         |
|      |      |         |       | F     |                       | 20   |    |                   |           |    |                   |                                                                                                         |



| N°   | Date | Station | Comp. | Phase       | Heure<br>de Greenwich |    |    | Péri-<br>ode<br>s | Amplitude |    | $\Delta$<br>Degré,<br>km | Remarques                                         |
|------|------|---------|-------|-------------|-----------------------|----|----|-------------------|-----------|----|--------------------------|---------------------------------------------------|
|      |      |         |       |             | h                     | m  | s  |                   | AN        | AE |                          |                                                   |
| 113. | 16.  | Sz      | E-W   | e $\bar{S}$ | 20                    | 11 | 37 |                   |           |    | 8,1<br>900               |                                                   |
|      |      |         |       | e           |                       | 12 | 22 |                   |           |    |                          |                                                   |
|      |      |         |       | eL          |                       | 13 | 45 |                   |           |    |                          |                                                   |
|      |      |         |       | F           |                       | 21 |    |                   |           |    |                          |                                                   |
|      |      |         | N-S   | $\bar{P}$   | 20                    | 08 | 57 |                   |           |    |                          |                                                   |
|      |      |         |       | e           |                       | 10 | 43 |                   |           |    |                          |                                                   |
|      |      |         |       | $\bar{S}$   |                       | 11 | 44 |                   |           |    |                          |                                                   |
|      |      |         |       | F           |                       | 23 |    |                   |           |    |                          |                                                   |
|      |      |         | E-W   | $\bar{P}$   | 20                    | 09 | 50 |                   |           |    |                          |                                                   |
|      |      |         |       | eS*         |                       | 10 | 33 |                   |           |    |                          |                                                   |
|      |      |         |       | F           |                       | 23 |    |                   |           |    |                          |                                                   |
|      |      |         | N-S   | e           | 15                    | 52 | 04 |                   |           |    |                          |                                                   |
| 114. |      | Sz      |       | e           | 16                    | 00 | 37 |                   |           |    |                          | Grèce cent-<br>rale<br>H = 22h 08' 00''<br>(BCIS) |
|      |      |         |       | e           |                       | 07 | 27 |                   |           |    |                          |                                                   |
|      |      |         |       | F           | 17                    | 10 |    |                   |           |    |                          |                                                   |
|      |      |         | E-W   | e           | 15                    | 32 | 47 |                   |           |    |                          |                                                   |
|      |      |         |       | e           |                       | 51 | 34 |                   |           |    |                          |                                                   |
|      |      |         |       | e           | 16                    | 00 | 14 |                   |           |    |                          |                                                   |
|      |      |         |       | F           | 17                    | 10 |    |                   |           |    |                          |                                                   |
|      |      | B       | N-S   | e           | 22                    | 13 | 24 |                   |           |    |                          |                                                   |
|      |      |         |       | e           |                       |    | 47 |                   |           |    |                          |                                                   |
|      |      |         |       | e           |                       | 15 | 10 |                   |           |    |                          |                                                   |
|      |      |         |       | F           |                       | 20 |    |                   |           |    |                          |                                                   |
|      |      |         | E-W   | e           | 22                    | 12 | 27 |                   |           |    |                          |                                                   |
|      |      |         |       | e           |                       | 13 | 16 |                   |           |    |                          |                                                   |
|      |      |         |       | e           |                       | 14 | 35 |                   |           |    |                          |                                                   |
|      |      |         |       | F           |                       | 22 |    |                   |           |    |                          |                                                   |
|      |      | K       | N-S   | e           | 22                    | 11 | 21 |                   |           |    |                          |                                                   |
|      |      |         |       | e           |                       | 12 | 43 |                   |           |    |                          |                                                   |
|      |      |         |       | F           |                       | 27 |    |                   |           |    |                          |                                                   |
|      |      |         | E-W   | e           | 22                    | 11 | 55 |                   |           |    |                          |                                                   |
|      |      |         |       | e           |                       | 12 | 32 |                   |           |    |                          |                                                   |
|      |      |         |       | F           |                       | 27 |    |                   |           |    |                          |                                                   |
|      |      | Sz      | N-S   | e           | 22                    | 10 | 27 |                   |           |    |                          |                                                   |
|      |      |         |       | e           |                       | 11 | 28 |                   |           |    |                          |                                                   |
|      |      |         |       | e           |                       | 12 | 29 |                   |           |    |                          |                                                   |
|      |      |         |       | F           |                       | 25 |    |                   |           |    |                          |                                                   |
|      |      |         | E-W   | e           | 22                    | 10 | 46 |                   |           |    |                          |                                                   |
|      |      |         |       | e           |                       | 12 | 22 |                   |           |    |                          |                                                   |
|      |      |         |       | F           |                       | 25 |    |                   |           |    |                          |                                                   |



| N    | Date | Station | Comp. | Phase | H e u r e<br>de Greenwich |     |    | Péri-<br>ode<br>s | Amplitude                                                     |              | $\Delta$<br><br>Degré,<br>km                                                | Remarques |    |    |              |
|------|------|---------|-------|-------|---------------------------|-----|----|-------------------|---------------------------------------------------------------|--------------|-----------------------------------------------------------------------------|-----------|----|----|--------------|
|      |      |         |       |       | h                         | m   | s  |                   | AN                                                            | AE           |                                                                             |           |    |    |              |
| 115. | 17.  | B       | N-S   | P     | 01                        | 54  | 25 | 15                | 6                                                             | 76,5<br>8500 | Côte S de l'île<br>Kodiak<br>56° N, 154,5° W<br>H = 01h 42' 22''<br>(USCGS) |           |    |    |              |
|      |      |         |       | S     | 02                        | 04  | 05 |                   |                                                               |              |                                                                             |           |    |    |              |
|      |      |         |       | PS    |                           |     | 32 |                   |                                                               |              |                                                                             |           |    |    |              |
|      |      |         |       | L     |                           | 25  | 10 |                   |                                                               |              |                                                                             |           |    |    |              |
|      |      |         |       | M     |                           | 37  | 10 |                   |                                                               |              |                                                                             |           |    |    |              |
|      |      |         |       | F     | 03                        | 10  |    |                   |                                                               |              |                                                                             |           |    |    |              |
|      |      |         | E-W   | P     | 01                        | 54  | 22 | 13                | 3                                                             |              |                                                                             |           |    |    |              |
|      |      |         |       | S     | 02                        | 04  | 04 |                   |                                                               |              |                                                                             |           |    |    |              |
|      |      |         |       | SKS   |                           |     | 18 |                   |                                                               |              |                                                                             |           |    |    |              |
|      |      |         |       | eL    |                           | 27  | 40 |                   |                                                               |              |                                                                             |           |    |    |              |
|      |      |         |       | M     |                           | 42  | 18 |                   |                                                               |              |                                                                             |           |    |    |              |
|      |      |         |       | F     | 03                        | 05  |    |                   |                                                               |              |                                                                             |           |    |    |              |
| Sz   | N-S  | P       | 01    | 54    | 23                        |     |    | 77,7<br>8630      |                                                               |              |                                                                             |           |    |    |              |
|      |      | F       | 02    | 50    |                           |     |    |                   |                                                               |              |                                                                             |           |    |    |              |
|      | E-W  | eP      | 01    | 54    | 31                        |     |    |                   |                                                               |              |                                                                             |           |    |    |              |
|      |      | F       | 02    | 55    |                           |     |    |                   |                                                               |              |                                                                             |           |    |    |              |
| 116. | 18.  | Sz      | N-S   | e     | 17                        | 48  | 58 |                   |                                                               |              |                                                                             |           |    |    |              |
|      |      |         |       | e     |                           | 49  | 24 |                   |                                                               |              |                                                                             |           |    |    |              |
|      |      |         |       | e     |                           | 50  | 01 |                   |                                                               |              |                                                                             |           |    |    |              |
|      |      |         |       | F     |                           | 57  |    |                   |                                                               |              |                                                                             |           |    |    |              |
|      |      |         | E-W   | e     | 17                        | 49  | 00 |                   |                                                               |              |                                                                             |           |    |    |              |
|      |      |         |       | e     |                           | 50  | 07 |                   |                                                               |              |                                                                             |           |    |    |              |
|      |      |         | F     |       | 57                        |     |    |                   |                                                               |              |                                                                             |           |    |    |              |
|      |      |         | 117.  | 19.   | B                         | N-S | eP |                   |                                                               |              |                                                                             | 02        | 08 | 47 | 80,4<br>8930 |
|      |      | ePPP    |       |       |                           |     |    |                   |                                                               |              |                                                                             | 13        | 57 |    |              |
|      |      | S       |       |       |                           |     |    |                   |                                                               |              |                                                                             | 18        | 45 |    |              |
|      |      | eSS     |       |       |                           |     |    |                   |                                                               |              |                                                                             | 24        | 10 |    |              |
|      |      | eSSS    |       |       |                           |     |    |                   |                                                               |              |                                                                             | 27        | 00 |    |              |
| eL   |      | 47      |       |       |                           |     |    |                   |                                                               |              |                                                                             |           |    |    |              |
|      | E-W  | F       | 03    | 10    |                           |     |    |                   |                                                               |              |                                                                             |           |    |    |              |
|      |      | eP      | 02    | 08    | 48                        |     |    |                   |                                                               |              |                                                                             |           |    |    |              |
|      |      | SKS     |       | 18    | 56                        |     |    |                   |                                                               |              |                                                                             |           |    |    |              |
|      |      | PS      |       | 19    | 26                        |     |    |                   |                                                               |              |                                                                             |           |    |    |              |
|      |      | L       |       | 48    |                           |     |    |                   |                                                               |              |                                                                             |           |    |    |              |
|      |      | F       | 03    | 00    |                           |     |    |                   |                                                               |              |                                                                             |           |    |    |              |
| 118. |      | B       | N-S   | eS*   | 07                        | 42  | 00 | 4,6<br>510        | Yougoslavie<br>43,2° N, 17,9° E<br>H = 07h 39' 33''<br>(BCIS) |              |                                                                             |           |    |    |              |
|      |      |         |       | F     |                           | 50  |    |                   |                                                               |              |                                                                             |           |    |    |              |
|      |      |         | E-W   | eS    | 07                        | 41  | 47 |                   |                                                               |              |                                                                             |           |    |    |              |
|      |      |         |       | eS*   |                           |     | 56 |                   |                                                               |              |                                                                             |           |    |    |              |
|      |      |         |       | e     |                           | 42  | 15 |                   |                                                               |              |                                                                             |           |    |    |              |
|      |      |         |       | F     |                           | 45  |    |                   |                                                               |              |                                                                             |           |    |    |              |



| N    | Date | Station | Comp.      | Phase      | Heure<br>de Greenwich |    |    | Péri-<br>ode | Amplitude |    | $\Delta$                            | Remarque                                                                  |
|------|------|---------|------------|------------|-----------------------|----|----|--------------|-----------|----|-------------------------------------|---------------------------------------------------------------------------|
|      |      |         |            |            | h                     | m  | s  | s            | AN        | AE | Degré,<br>km                        |                                                                           |
| 119. | 20.  | K       | N-S        | S          | 07                    | 41 | 09 |              |           |    | 3,4<br>380                          |                                                                           |
|      |      |         |            | $\bar{S}$  |                       |    | 24 |              |           |    |                                     |                                                                           |
|      |      |         | F          |            |                       | 47 |    |              |           |    |                                     |                                                                           |
|      |      |         | E-W        | S*         | 07                    | 41 | 20 |              |           |    |                                     |                                                                           |
|      |      | e       |            |            | 42                    | 09 |    |              |           |    |                                     |                                                                           |
|      |      | Sz      | N-S        | $e\bar{P}$ | 07                    | 40 | 48 |              |           |    | 3,4<br>380                          |                                                                           |
|      |      |         |            | S          |                       | 41 | 07 |              |           |    |                                     |                                                                           |
|      |      |         | e          |            |                       | 33 |    |              |           |    |                                     |                                                                           |
|      |      |         | F          |            |                       | 48 |    |              |           |    |                                     |                                                                           |
|      |      | E-W     | $e\bar{S}$ | 07         | 41                    | 29 |    |              |           |    |                                     |                                                                           |
| F    |      |         | 48         |            |                       |    |    |              |           |    |                                     |                                                                           |
| Sz   | N-S  | e       | 17         | 09         | 58                    |    |    |              |           |    |                                     |                                                                           |
|      |      | e       |            | 26         | 50                    |    |    |              |           |    |                                     |                                                                           |
|      | F    |         | 40         |            |                       |    |    |              |           |    |                                     |                                                                           |
|      | E-W  | e       | 17         | 09         | 50                    |    |    |              |           |    |                                     |                                                                           |
| e    |      |         | 24         | 50         |                       |    |    |              |           |    |                                     |                                                                           |
| e    |      | 26      | 50         |            |                       |    |    |              |           |    |                                     |                                                                           |
| F    |      | 40      |            |            |                       |    |    |              |           |    |                                     |                                                                           |
| 120. | 21.  | B       | N-S        | pPKP       | 02                    | 06 | 58 |              |           |    | 105,2<br>11690                      | N du Chili<br>23° S, 68,5° W<br>H = 01h 48' 44''<br>h = 150 km<br>(USCGS) |
|      |      |         |            | E-W        | ePKP                  | 02 | 06 |              |           |    |                                     |                                                                           |
|      |      | e       |            |            | 55                    |    |    |              |           |    |                                     |                                                                           |
|      |      | pPKP    |            | 07         | 19                    |    |    |              |           |    |                                     |                                                                           |
|      |      | e       |            | 13         | 32                    |    |    |              |           |    |                                     |                                                                           |
|      |      | S       |            | 14         | 24                    |    |    |              |           |    |                                     |                                                                           |
|      |      | e       |            | 16         | 18                    |    |    |              |           |    |                                     |                                                                           |
|      |      | K       | N-S        | pPKP       | 02                    | 07 | 13 |              |           |    | 104,8<br>11640                      |                                                                           |
|      |      |         |            | E-W        | pPKP                  | 02 | 07 |              |           |    |                                     |                                                                           |
|      |      | Sz      | N-S        | e          | 02                    | 08 | 06 |              |           |    | 105,5<br>11720                      |                                                                           |
| E-W  | e    |         |            | 02         | 08                    | 50 |    |              |           |    |                                     |                                                                           |
| 121. | 23.  | Sz      | N-S        | e          | 16                    | 17 | 47 |              |           |    |                                     |                                                                           |
|      |      |         |            | F          | 17                    | 07 |    |              |           |    |                                     |                                                                           |
|      |      | E-W     | e          | 16         | 17                    | 36 |    |              |           |    |                                     |                                                                           |
|      |      |         | F          | 17         | 07                    |    |    |              |           |    |                                     |                                                                           |
| 122. | 25.  | Sz      | N-S        | e          | 06                    | 33 | 24 |              |           |    | Grèce<br>H = 06h 29' 24''<br>(BCIS) |                                                                           |
|      |      |         |            | e          |                       | 34 | 28 |              |           |    |                                     |                                                                           |
|      |      | F       |            | 42         |                       |    |    |              |           |    |                                     |                                                                           |
|      |      | E-W     | e          | 06         | 33                    | 39 |    |              |           |    |                                     |                                                                           |
| F    |      | 42      |            |            |                       |    |    |              |           |    |                                     |                                                                           |

Grèce  
H = 06h 29' 24''  
(BCIS)



| N    | Date | Station | Comp. | Phase | Heure<br>de Greenwich |    |    | Péri-<br>ode<br>s | Amplitude |              | Δ<br><br>Degré,<br>km | Remarques                                                          |
|------|------|---------|-------|-------|-----------------------|----|----|-------------------|-----------|--------------|-----------------------|--------------------------------------------------------------------|
|      |      |         |       |       | h                     | m  | s  |                   | AN        | AE           |                       |                                                                    |
| 123. | 30.  | B       | N-S   | iP    | 13                    | 35 | 07 |                   |           |              | 43,4<br>4820          | S de l'Ethi-<br>opie<br>7° N, 37° E<br>H = 13h 26' 50''<br>(USCGS) |
|      |      |         |       | e     |                       |    | 34 |                   |           |              |                       |                                                                    |
|      |      |         |       | S     |                       | 41 | 42 |                   |           |              |                       |                                                                    |
|      |      |         |       | PS    |                       |    | 48 |                   |           |              |                       |                                                                    |
|      |      |         |       | ScS   |                       | 44 | 59 |                   |           |              |                       |                                                                    |
|      |      |         |       | e     |                       | 48 | 36 |                   |           |              |                       |                                                                    |
|      |      |         |       | L     |                       |    | 55 |                   |           |              |                       |                                                                    |
|      |      |         |       | F     | 14                    | 20 |    |                   |           |              |                       |                                                                    |
|      |      |         | E-W   | eP    | 13                    | 35 | 10 |                   |           |              |                       |                                                                    |
|      |      |         |       | e     |                       |    | 34 |                   |           |              |                       |                                                                    |
|      |      |         |       | PPP   |                       | 37 | 54 |                   |           |              |                       |                                                                    |
|      |      |         |       | S     |                       | 41 | 46 |                   |           |              |                       |                                                                    |
|      |      |         |       | eSS   |                       | 45 | 10 |                   |           |              |                       |                                                                    |
|      |      |         |       | e     |                       | 48 | 34 |                   |           |              |                       |                                                                    |
|      |      |         |       | eL    |                       |    | 52 |                   |           |              |                       |                                                                    |
|      |      |         |       | F     | 14                    | 25 |    |                   |           |              |                       |                                                                    |
|      |      | K       | eP    | 13    | 35                    | 00 |    |                   |           | 42,4<br>4710 |                       |                                                                    |
|      |      |         |       | F     |                       | 48 |    |                   |           |              |                       |                                                                    |
|      |      |         | Sz    | N-S   | P                     | 13 | 34 | 56                |           |              | 41,8<br>4640          |                                                                    |
|      |      |         |       |       | PP                    |    | 36 | 45                |           |              |                       |                                                                    |
|      |      | PPP     |       |       |                       | 37 | 16 |                   |           |              |                       |                                                                    |
|      |      | e       |       |       |                       | 39 | 22 |                   |           |              |                       |                                                                    |
|      |      | E-W     |       | PcS   |                       | 40 | 39 |                   |           |              |                       |                                                                    |
|      |      |         |       | e     |                       | 46 | 30 |                   |           |              |                       |                                                                    |
| F    | 14   |         |       | 10    |                       |    |    |                   |           |              |                       |                                                                    |
| P    | 13   |         |       | 34    | 56                    |    |    |                   |           |              |                       |                                                                    |
|      |      | e       |       | 39    | 24                    |    |    |                   |           |              |                       |                                                                    |
|      |      | eS      |       | 41    | 25                    |    |    |                   |           |              |                       |                                                                    |
|      |      | e       |       | 46    | 35                    |    |    |                   |           |              |                       |                                                                    |
|      |      | F       | 14    | 10    |                       |    |    |                   |           |              |                       |                                                                    |
|      |      |         | e     | 21    | 04                    | 17 |    |                   |           |              |                       |                                                                    |
|      |      |         | e     |       | 05                    | 45 |    |                   |           |              |                       |                                                                    |
|      | e    |         |       | 07    | 28                    |    |    |                   |           |              |                       |                                                                    |
|      | e    |         |       | 12    | 34                    |    |    |                   |           |              |                       |                                                                    |
|      | e    |         |       | 17    | 47                    |    |    |                   |           |              |                       |                                                                    |
|      | F    |         |       | 37    |                       |    |    |                   |           |              |                       |                                                                    |
|      | K    | N-S     | e     | 21    | 18                    | 46 |    |                   |           |              |                       |                                                                    |
|      |      |         | F     |       | 40                    |    |    |                   |           |              |                       |                                                                    |
| E-W  |      | e       | 21    | 19    | 12                    |    |    |                   |           |              |                       |                                                                    |
|      |      | F       |       | 40    |                       |    |    |                   |           |              |                       |                                                                    |
|      |      |         |       |       |                       |    |    |                   |           |              |                       |                                                                    |
|      |      |         |       |       |                       |    |    |                   |           |              |                       |                                                                    |
|      |      |         |       |       |                       |    |    |                   |           |              |                       |                                                                    |
|      |      |         |       |       |                       |    |    |                   |           |              |                       |                                                                    |
|      |      |         |       |       |                       |    |    |                   |           |              |                       |                                                                    |
|      |      |         |       |       |                       |    |    |                   |           |              |                       |                                                                    |



| N°   | Date | Station | Comp. | Phase | Heure<br>de Greenwich |     |    | Péri-<br>ode<br>s | Amplitude |               | Δ<br><br>Degré,<br>km                                                                             | Remarques                                                    |  |  |              |    |    |  |  |               |
|------|------|---------|-------|-------|-----------------------|-----|----|-------------------|-----------|---------------|---------------------------------------------------------------------------------------------------|--------------------------------------------------------------|--|--|--------------|----|----|--|--|---------------|
|      |      |         |       |       | h                     | m   | s  |                   | AN        | AE            |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
| 125. | 2.   | B       | N-S   | P     | 02                    | 58  | 13 | 20                | 31        |               | 89,5<br>9940                                                                                      | SE de Luzon<br>13° N, 124,5° E<br>H = 02h45' 08''<br>(USCGS) |  |  |              |    |    |  |  |               |
|      |      |         |       | e     | 03                    | 02  | 14 |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      |         |       | S     |                       | 08  | 53 |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      |         |       | e     |                       | 09  | 36 |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      |         |       | PPS   |                       | 10  | 46 |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      |         |       | SSS   |                       | 19  | 42 |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      |         |       | L     |                       | 33  | 40 |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      |         |       | M     |                       | 36  | 20 |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      |         |       | F     | 04                    | 20  |    |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      |         | E-W   | P     | 02                    | 58  | 13 |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      |         |       | PP    | 03                    | 01  | 42 |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      |         |       | SKS   |                       | 08  | 37 |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      |         |       | SKKS  |                       |     | 50 |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      |         |       | S     |                       | 09  | 09 |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      |         |       | ePS   |                       |     | 45 |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      |         |       | PPS   |                       | 10  | 25 |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      |         |       | eL    |                       | 35  | 45 |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      |         |       | F     | 04                    | 10  |    |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      | K       | N-S   | P     | 02                    | 58  | 10 |                   |           |               |                                                                                                   |                                                              |  |  | 89,9<br>9940 |    |    |  |  |               |
|      |      |         |       | eSKS  | 03                    | 08  | 15 |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      |         |       | F     |                       | 25  |    |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      |         | E-W   | e     | 02                    | 58  | 22 |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      |         |       | F     | 03                    | 25  |    |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      |         |       | Sz    | N-S                   | P   | 02 |                   |           |               |                                                                                                   |                                                              |  |  |              | 58 | 20 |  |  | 90,3<br>10030 |
|      |      |         |       |       |                       | ePP | 03 |                   |           |               |                                                                                                   |                                                              |  |  |              | 02 | 03 |  |  |               |
|      |      |         |       |       |                       | SKS |    |                   |           |               |                                                                                                   |                                                              |  |  |              | 08 | 48 |  |  |               |
|      |      |         |       |       | eScS                  |     | 09 |                   |           |               |                                                                                                   |                                                              |  |  |              | 35 |    |  |  |               |
|      |      | PS      |       |       | 10                    | 17  |    |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      | F       |       |       | 30                    |     |    |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      | E-W     | eP    |       | 02                    | 58  | 16 |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      |         | ePP   |       | 03                    | 01  | 48 |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      |         | SKS   |       |                       | 08  | 48 |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      |         | S     |       | 09                    | 11  |    |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      |         | eScS  |       |                       | 35  |    |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      |         | PPS   |       | 10                    | 48  |    |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      | F       |       | 50    |                       |     |    |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
| 126. | 3.   | Sz      | N-S   | e     | 13                    | 13  | 22 |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      |         |       | F     |                       | 20  |    |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      | E-W     | e     | 13    | 13                    | 36  |    |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      |         | F     |       | 20                    |     |    |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
| 127. |      | B       | N-S   | P     | 22                    | 44  | 32 |                   |           | 92,7<br>10300 | Près de la<br>côte SW de<br>Java<br>6,5° S, 105,5° E<br>H = 22h 31' 25''<br>h = 100 km<br>(USCGS) |                                                              |  |  |              |    |    |  |  |               |
|      |      |         |       | pP    |                       |     | 53 |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      |         |       | e     |                       | 47  | 32 |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      |         |       | e     |                       | 48  | 34 |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      |         |       | S     |                       | 55  | 36 |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |
|      |      |         |       | sS    |                       | 56  | 09 |                   |           |               |                                                                                                   |                                                              |  |  |              |    |    |  |  |               |



| N    | Date | Station | Comp. | Phase | Heure<br>de Greenwich |    |    | Péri-<br>ode<br>s | Amplitude |               | Δ<br><br>Degré,<br>km | Remarques |
|------|------|---------|-------|-------|-----------------------|----|----|-------------------|-----------|---------------|-----------------------|-----------|
|      |      |         |       |       | h                     | m  | s  |                   | AN        | AE            |                       |           |
| 128. | 6.   | K       | E-W   | L     | 23                    | 25 | 10 | 6                 | 4         | 92,7<br>10300 |                       |           |
|      |      |         |       | F     | 00                    | 10 |    |                   |           |               |                       |           |
|      |      |         |       | iP    | 22                    | 44 | 32 |                   |           |               |                       |           |
|      |      |         |       | PP    |                       | 47 | 58 |                   |           |               |                       |           |
|      |      |         |       | eSKS  |                       | 55 | 00 |                   |           |               |                       |           |
|      |      |         |       | S     |                       |    | 36 |                   |           |               |                       |           |
|      |      |         |       | sS    |                       | 56 | 00 |                   |           |               |                       |           |
|      |      |         |       | e     |                       | 57 | 25 |                   |           |               |                       |           |
|      |      |         | N-S   | L     | 23                    | 23 | 10 |                   |           |               |                       |           |
|      |      |         |       | F     | 00                    | 10 |    |                   |           |               |                       |           |
|      |      |         |       | P     | 22                    | 44 | 33 |                   |           |               |                       |           |
|      |      |         |       | PP    |                       | 48 | 13 |                   |           |               |                       |           |
|      |      |         | SKKS  |       | 55                    | 24 |    |                   |           |               |                       |           |
|      |      |         | F     | 23    | 05                    |    |    |                   |           |               |                       |           |
|      |      |         | E-W   | P     | 22                    | 44 | 32 |                   |           |               |                       |           |
|      |      |         |       | e     |                       | 47 | 51 |                   |           |               |                       |           |
|      |      |         |       | PP    |                       | 48 | 12 |                   |           |               |                       |           |
|      |      |         |       | S     |                       | 55 | 32 |                   |           |               |                       |           |
|      |      |         |       | e     |                       |    | 56 |                   |           |               |                       |           |
|      |      |         |       | F     | 23                    | 05 |    |                   |           |               |                       |           |
|      |      |         |       | Sz    | N-S                   | eP | 22 | 44                | 30        |               |                       |           |
|      |      |         |       |       |                       | PP |    | 48                | 10        |               |                       |           |
|      |      | S       |       |       |                       | 55 | 29 |                   |           |               |                       |           |
|      |      | sS      |       |       |                       | 56 | 01 |                   |           |               |                       |           |
|      |      | F       | 23    |       | 25                    |    |    |                   |           |               |                       |           |
|      |      | E-W     | P     |       | 22                    | 44 | 30 |                   |           |               |                       |           |
|      |      |         | PP    |       |                       | 48 | 10 |                   |           |               |                       |           |
|      |      |         | SKS   |       |                       | 54 | 56 |                   |           |               |                       |           |
|      |      |         | F     | 23    | 25                    |    |    |                   |           |               |                       |           |
|      |      | B       | N-S   | P     | 08                    | 16 | 35 |                   |           |               |                       |           |
|      |      |         |       | PcP   |                       |    | 53 |                   |           |               |                       |           |
|      |      |         |       | S     |                       | 26 | 28 |                   |           |               |                       |           |
|      |      |         |       | eSS   |                       | 30 | 50 |                   |           |               |                       |           |
|      |      |         |       | SSS   |                       | 34 | 56 |                   |           |               |                       |           |
|      |      |         |       | L     |                       | 45 |    |                   |           |               |                       |           |
|      |      |         |       | M     |                       | 53 | 15 | 18                |           |               |                       |           |
|      |      |         |       | M     |                       | 55 | 14 | 16                |           |               |                       |           |
|      |      |         |       | M     | 09                    | 00 | 10 | 13                |           |               |                       |           |
|      |      |         |       | F     | 10                    | 10 |    |                   |           |               |                       |           |
|      |      |         |       | E-W   | P                     | 08 | 16 | 35                |           |               |                       |           |
| PcP  |      |         |       |       |                       | 47 |    |                   |           |               |                       |           |
| PP   |      |         |       |       | 19                    | 37 |    |                   |           |               |                       |           |
| S    |      |         |       |       | 26                    | 27 |    |                   |           |               |                       |           |
| eSSS |      |         |       |       | 34                    | 44 |    |                   |           |               |                       |           |
|      | L    |         |       | 43    | 40                    |    |    |                   |           |               |                       |           |
|      | M    |         |       | 55    | 35                    | 14 |    |                   |           |               |                       |           |
|      | F    |         | 09    | 45    |                       |    |    |                   |           |               |                       |           |
|      |      |         |       |       |                       | 16 |    |                   |           |               |                       |           |
|      |      |         |       |       |                       |    |    |                   |           |               |                       |           |

Iles Kouriles  
46,5° N, 153,5° E  
H = 08h 04' 42"  
h = 100 km  
(USCGS)

Iles Kouriles  
46,5° N, 153,5° E  
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(USCGS)



| N°   | Date | Station | Comp. | Phase | Heure<br>de Greenwich |              |    | Péri-<br>ode<br>s | Amplitude |              | $\Delta$<br><br>Degré,<br>km                                                                                  | Remarques                                                                 |
|------|------|---------|-------|-------|-----------------------|--------------|----|-------------------|-----------|--------------|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
|      |      |         |       |       | h                     | m            | s  |                   | AN        | AE           |                                                                                                               |                                                                           |
| 129. |      | K       | N-S   | e     | 08                    | 16           | 41 | 15                | 41        | 78,2<br>8750 |                                                                                                               |                                                                           |
|      |      |         |       | eL    |                       | 48           |    |                   |           |              |                                                                                                               |                                                                           |
|      |      |         |       | F     | 09                    | 18           |    |                   |           |              |                                                                                                               |                                                                           |
|      |      |         | E-W   | P     | 08                    | 16           | 31 |                   |           |              |                                                                                                               |                                                                           |
|      |      |         |       | e     |                       | 19           | 57 |                   |           |              |                                                                                                               |                                                                           |
|      |      |         |       | F     | 09                    | 48           |    |                   |           |              |                                                                                                               |                                                                           |
|      |      | Sz      | N-S   | P     | 08                    | 16           | 38 |                   |           | 78,6<br>8730 |                                                                                                               |                                                                           |
|      |      |         |       | pP    |                       | 17           | 08 |                   |           |              |                                                                                                               |                                                                           |
|      |      |         |       | S     |                       | 26           | 03 |                   |           |              |                                                                                                               |                                                                           |
|      |      |         | eL    |       | 50                    |              |    |                   |           |              |                                                                                                               |                                                                           |
|      |      |         | M     |       | 53,5                  |              |    |                   |           |              |                                                                                                               |                                                                           |
|      |      |         | F     | 09    | 30                    |              |    |                   |           |              |                                                                                                               |                                                                           |
|      |      | B       | N-S   | eP    | 11                    | 26           | 04 |                   |           | 85,2<br>9470 |                                                                                                               | Pr s · Fal-<br>lon<br>39,5° N,<br>118,5° W<br>H = 11h 13' 19''<br>(USCGS) |
|      |      |         |       | S     |                       | 36           | 36 |                   |           |              |                                                                                                               |                                                                           |
|      |      |         |       | PS    |                       | 37           | 26 |                   |           |              |                                                                                                               |                                                                           |
|      |      |         | L     |       | 58                    | 00           |    |                   |           |              |                                                                                                               |                                                                           |
|      |      |         | F     | 12    | 30                    |              |    |                   |           |              |                                                                                                               |                                                                           |
|      |      |         |       |       |                       |              |    |                   |           |              |                                                                                                               |                                                                           |
|      |      | E-W     | ePcP  | 11    | 26                    | 13           |    |                   |           |              |                                                                                                               |                                                                           |
|      |      |         | S     |       | 36                    | 35           |    |                   |           |              |                                                                                                               |                                                                           |
|      |      |         | eScS  |       |                       | 53           |    |                   |           |              |                                                                                                               |                                                                           |
|      |      |         | eL    |       | 58                    |              |    |                   |           |              |                                                                                                               |                                                                           |
|      |      |         | F     | 12    | 25                    |              |    |                   |           |              |                                                                                                               |                                                                           |
|      |      |         |       |       |                       |              |    |                   |           |              |                                                                                                               |                                                                           |
| K    |      | eP      | 11    | 26    | 15                    | 86,6<br>9620 |    |                   |           |              |                                                                                                               |                                                                           |
|      |      | F       |       | 33    |                       |              |    |                   |           |              |                                                                                                               |                                                                           |
|      | Sz   | N-S     | P     | 11    | 26                    |              | 20 |                   |           |              |                                                                                                               |                                                                           |
|      |      |         | PP    |       | 29                    |              | 24 |                   |           |              |                                                                                                               |                                                                           |
|      |      |         | S     |       | 36                    |              | 42 |                   |           |              |                                                                                                               |                                                                           |
|      |      |         | F     | 12    | 10                    |              |    |                   |           |              |                                                                                                               |                                                                           |
| E-W  | eP   | 11      | 26    | 20    |                       |              |    |                   |           |              |                                                                                                               |                                                                           |
|      | S    |         | 36    | 39    |                       |              |    |                   |           |              |                                                                                                               |                                                                           |
|      | F    | 12      | 20    |       |                       |              |    |                   |           |              |                                                                                                               |                                                                           |
|      |      |         |       |       |                       |              |    |                   |           |              |                                                                                                               |                                                                           |
|      |      |         |       |       |                       |              |    |                   |           |              |                                                                                                               |                                                                           |
|      |      |         |       |       |                       |              |    |                   |           |              |                                                                                                               |                                                                           |
| 130. |      | Sz      | E-W   | e     | 22                    | 20           | 12 |                   |           | 86,6<br>9620 | Réplique du<br>N° 129                                                                                         |                                                                           |
| F    | 23   | 10      |       |       |                       |              |    |                   |           |              |                                                                                                               |                                                                           |
| 131. | 10.  | B       | N-S   | P     | 23                    | 04           | 10 |                   |           | 38,7<br>4300 | N-S n'est pas<br>mesurable<br>Hindou-<br>Kouch<br>37° N, 70,5 °E<br>H = 22h 56' 53''<br>h = 200 km<br>(USCGS) |                                                                           |
| ePcP |      |         |       | 06    | 45                    |              |    |                   |           |              |                                                                                                               |                                                                           |
| F    |      | 15      |       |       |                       |              |    |                   |           |              |                                                                                                               |                                                                           |
| E-W  | P    | 23      | 04    | 04    |                       |              |    |                   |           |              |                                                                                                               |                                                                           |
|      | e    |         |       | 19    |                       |              |    |                   |           |              |                                                                                                               |                                                                           |
|      | PP   |         | 05    | 44    |                       |              |    |                   |           |              |                                                                                                               |                                                                           |
|      | PPP  |         | 06    | 20    |                       |              |    |                   |           |              |                                                                                                               |                                                                           |
|      | PcP  |         |       | 43    |                       |              |    |                   |           |              |                                                                                                               |                                                                           |
|      | F    |         | 16    |       |                       |              |    |                   |           |              |                                                                                                               |                                                                           |
|      |      |         |       |       |                       |              |    |                   |           |              |                                                                                                               |                                                                           |



| N    | Date | Station | Comp. | Phase                            | Heure<br>de Greenwich |    |                                              | Péri-<br>ode<br>s | Amplitude |    | $\Delta$<br>Degré,<br>km | Remarques                                                        |
|------|------|---------|-------|----------------------------------|-----------------------|----|----------------------------------------------|-------------------|-----------|----|--------------------------|------------------------------------------------------------------|
|      |      |         |       |                                  | h                     | m  | s                                            |                   | AN        | AE |                          |                                                                  |
| 132. | 12.  | K       | N-S   | P<br>ePP<br>F                    | 23                    | 04 | 10<br>05 18<br>13                            |                   |           |    | 38,9<br>4320             |                                                                  |
|      |      |         |       | P<br>ePP<br>PcP<br>F             | 23                    | 04 | 09<br>05 18<br>06 26<br>13                   |                   |           |    |                          |                                                                  |
|      |      | Sz      | N-S   | eP<br>PP<br>PcP<br>S<br>PcS<br>F | 23                    | 04 | 03<br>05 25<br>06 29<br>09 47<br>10 07<br>25 |                   |           |    | 38,1<br>4230             |                                                                  |
|      |      |         |       | P<br>PcP<br>eS<br>eScS<br>F      | 23                    | 04 | 04<br>06 29<br>09 31<br>14 41<br>25          |                   |           |    |                          |                                                                  |
|      |      | B       | N-S   | eP<br>e<br>F                     | 22                    | 49 | 59<br>50 54<br>55                            |                   |           |    | 3,6<br>400               |                                                                  |
|      |      |         |       | eP<br>eS<br>e<br>F               | 22                    | 50 | 02<br>37<br>51 13<br>56                      |                   |           |    |                          |                                                                  |
|      |      | K       | N-S   | eP<br>eS<br>F                    | 22                    | 49 | 45<br>50 16<br>58                            |                   |           |    | 2,4<br>270               |                                                                  |
|      |      |         |       | eS<br>eS<br>F                    | 22                    | 49 | 55<br>50 13<br>58                            |                   |           |    |                          |                                                                  |
|      |      | Sz      | N-S   | e<br>S<br>e<br>F                 | 22                    | 49 | 39<br>50 03<br>15                            |                   |           |    | 2,4<br>270               |                                                                  |
|      |      |         |       | e<br>S<br>e<br>F                 | 22                    | 49 | 39<br>50 05<br>16                            |                   |           |    |                          |                                                                  |
| 133. | 17.  | B       |       | e<br>F                           | 09                    | 48 | 10<br>10 00                                  |                   |           |    | 8,8<br>980               | Iles Ioniennes<br>38,7° N, 20,5° E<br>H = 09h 42' 49''<br>(BCIS) |
|      |      | Sz      | N-S   | P<br>F                           | 09                    | 45 | 20<br>55                                     |                   |           |    | 7,6<br>840               |                                                                  |



| N°   | Date          | Station | Comp. | Phase                       | Heure<br>de Greenwich |    |    | Péri-<br>ode | Amplitude |           | Δ            | Remarques    |                                                                                   |
|------|---------------|---------|-------|-----------------------------|-----------------------|----|----|--------------|-----------|-----------|--------------|--------------|-----------------------------------------------------------------------------------|
|      |               |         |       |                             | h                     | m  | s  |              | s         | AN        |              |              | AE                                                                                |
| 134. | 18.           | B       | E-W   | e<br>F                      | 09                    | 45 | 37 |              |           |           |              | 81,9<br>9100 | Près de la<br>côte du Hondo<br>35,5° N, 140,5° E<br>H = 09h 07' 44''<br>(USCGS)   |
|      |               |         | N-S   | eP<br>PcP<br>PP             | 09                    | 20 | 00 |              |           |           |              |              |                                                                                   |
|      |               |         |       | e                           |                       | 23 | 07 |              |           |           |              |              |                                                                                   |
|      |               |         |       | S                           |                       | 24 | 36 |              |           |           |              |              |                                                                                   |
|      |               |         |       | e                           |                       | 30 | 12 |              |           |           |              |              |                                                                                   |
|      |               |         |       | L                           |                       |    | 30 |              |           |           |              |              |                                                                                   |
|      |               |         |       | F                           |                       | 51 |    |              |           |           |              |              |                                                                                   |
|      |               |         |       |                             | 10                    | 15 |    |              |           |           |              |              |                                                                                   |
|      |               |         | E-W   | P<br>PP<br>S<br>eL<br>F     | 09                    | 20 | 01 |              |           |           |              |              |                                                                                   |
|      |               |         |       |                             |                       | 23 | 07 |              |           |           |              |              |                                                                                   |
|      |               |         |       |                             |                       | 30 | 08 |              |           |           |              |              |                                                                                   |
|      |               |         |       |                             |                       | 51 |    |              |           |           |              |              |                                                                                   |
|      |               |         |       |                             | 10                    | 10 |    |              |           |           |              |              |                                                                                   |
|      |               |         | K     | P<br>F                      | 09                    | 20 | 04 |              |           |           |              |              |                                                                                   |
|      |               |         |       |                             |                       | 27 |    |              |           |           | 82,6<br>9180 |              |                                                                                   |
| 135. |               | Sz      | N-S   | P<br>PP<br>S<br>F           | 09                    | 20 | 02 |              |           |           |              | 82,2<br>9130 | Près de la côte<br>S de la Grèce<br>37,5° N, 23° E<br>H = 13h 18' 55''<br>(USCGS) |
|      |               |         |       |                             |                       |    | 23 | 27           |           |           |              |              |                                                                                   |
|      |               |         |       |                             |                       |    | 30 | 16           |           |           |              |              |                                                                                   |
|      |               |         |       |                             |                       |    | 42 |              |           |           |              |              |                                                                                   |
|      |               | B       | N-S   | e<br>e<br>e<br>F            | 13                    | 25 | 18 |              |           |           |              | 10,4<br>1160 |                                                                                   |
|      |               |         |       |                             |                       |    | 27 |              |           |           |              |              |                                                                                   |
|      |               |         |       |                             |                       |    | 48 |              |           |           |              |              |                                                                                   |
|      |               |         |       |                             |                       |    | 35 |              |           |           |              |              |                                                                                   |
|      |               |         | E-W   | e<br>eS<br>e<br>e<br>e<br>F | 13                    | 22 | 34 |              |           |           |              |              |                                                                                   |
|      |               |         |       |                             |                       | 23 | 24 |              |           |           |              |              |                                                                                   |
|      |               |         |       |                             |                       | 24 | 50 |              |           |           |              |              |                                                                                   |
|      |               |         |       |                             |                       | 25 | 14 |              |           |           |              |              |                                                                                   |
|      |               |         |       |                             |                       | 26 | 45 |              |           |           |              |              |                                                                                   |
|      |               |         |       |                             |                       | 37 |    |              |           |           |              |              |                                                                                   |
|      |               | K       | N-S   | S<br>S<br>F                 | 13                    | 23 | 06 |              |           |           |              | 9,5<br>1050  |                                                                                   |
|      |               |         |       | 24                          | 17                    |    |    |              |           |           |              |              |                                                                                   |
|      |               |         |       | 32                          |                       |    |    |              |           |           |              |              |                                                                                   |
| E-W  | eP<br>eS<br>F |         | 13    | 22                          | 17                    |    |    |              |           |           |              |              |                                                                                   |
|      |               |         |       | 24                          | 20                    |    |    |              |           |           |              |              |                                                                                   |
|      |               |         |       | 32                          |                       |    |    |              |           |           |              |              |                                                                                   |
| Sz   | N-S           | e<br>F  | 13    | 21                          | 47                    |    |    |              |           | 9<br>1000 |              |              |                                                                                   |
|      |               |         |       | 40                          |                       |    |    |              |           |           |              |              |                                                                                   |
|      | E-W           | e<br>F  | 13    | 23                          | 43                    |    |    |              |           |           |              |              |                                                                                   |
|      |               |         |       |                             |                       | 40 |    |              |           |           |              |              |                                                                                   |



| N    | Date | Station | Comp. | Phase | H e u r e<br>de Greenwich |      |    | Péri-<br>ode<br>s | Amplitude |                | Δ<br><br>Degré,<br>km                                        | Remarques                                                                            |            |
|------|------|---------|-------|-------|---------------------------|------|----|-------------------|-----------|----------------|--------------------------------------------------------------|--------------------------------------------------------------------------------------|------------|
|      |      |         |       |       | h                         | m    | s  |                   | AN        | AE             |                                                              |                                                                                      |            |
| 136. |      | B       | N-S   | P     | 14                        | 45   | 11 | 8                 | 7         | 8              | 9,6<br>1070                                                  | Près de la<br>côte W de la<br>Grèce<br>38,5° N, 21,5° E<br>H = 14h42'38''<br>(USCGS) |            |
|      |      |         |       | P*    |                           |      | 26 |                   |           |                |                                                              |                                                                                      |            |
|      |      |         |       | S*    |                           | 47   | 38 |                   |           |                |                                                              |                                                                                      |            |
|      |      |         |       | e     |                           | 48   | 23 |                   |           |                |                                                              |                                                                                      |            |
|      |      |         |       | L     |                           | 49   | 15 |                   |           |                |                                                              |                                                                                      |            |
|      |      |         |       | M     |                           | 50   | 37 |                   |           |                |                                                              |                                                                                      |            |
|      |      |         |       | M     |                           | 51   | 28 |                   |           |                |                                                              |                                                                                      |            |
|      |      |         |       | F     | 15                        | 05   |    |                   |           |                |                                                              |                                                                                      |            |
|      |      |         | E-W   | e     | 14                        | 45   | 20 | 5                 | 6         | 7              |                                                              |                                                                                      |            |
|      |      |         |       | eS    |                           | 46   | 38 |                   |           |                |                                                              |                                                                                      |            |
|      |      |         |       | e     |                           | 47   | 20 |                   |           |                |                                                              |                                                                                      |            |
|      |      |         |       | S     |                           |      | 55 |                   |           |                |                                                              |                                                                                      |            |
|      |      |         |       | L     |                           | 48   | 40 |                   |           |                |                                                              |                                                                                      |            |
|      |      |         |       | M     |                           | 50   | 12 |                   |           |                |                                                              |                                                                                      |            |
|      |      |         |       | M     |                           |      | 40 |                   |           |                |                                                              |                                                                                      |            |
|      |      |         |       | M     |                           | 53   |    |                   |           |                |                                                              |                                                                                      |            |
|      |      |         | F     | 15    | 05                        |      |    |                   |           |                |                                                              |                                                                                      |            |
|      |      |         | K     | N-S   | P                         | 14   | 45 | 25                |           |                |                                                              |                                                                                      | 8,6<br>960 |
|      |      |         |       |       | S                         |      | 46 | 18                |           |                |                                                              |                                                                                      |            |
|      |      |         |       |       | S*                        |      |    | 52                |           |                |                                                              |                                                                                      |            |
|      |      |         |       |       | e                         |      | 48 |                   |           |                |                                                              |                                                                                      |            |
|      |      |         |       | E-W   | F                         |      | 59 |                   |           |                |                                                              |                                                                                      |            |
|      |      |         |       |       | P                         | 14   | 45 | 23                |           |                |                                                              |                                                                                      |            |
|      |      |         |       |       | e                         |      | 47 | 39                |           |                |                                                              |                                                                                      |            |
|      |      |         |       |       | F                         |      | 59 |                   |           |                |                                                              |                                                                                      |            |
|      |      | Sz      | N-S   | P     | 14                        | 44   | 57 | 5                 | 18        | 19             | 7                                                            |                                                                                      | 8,3<br>920 |
|      |      |         |       | eP*   |                           |      | 23 |                   |           |                |                                                              |                                                                                      |            |
|      |      |         |       | e     |                           | 46   | 01 |                   |           |                |                                                              |                                                                                      |            |
|      |      |         |       | eS    |                           |      | 28 |                   |           |                |                                                              |                                                                                      |            |
|      |      |         |       | eS*   |                           | 47   | 01 |                   |           |                |                                                              |                                                                                      |            |
|      |      |         |       | M     |                           | 49   | 10 |                   |           |                |                                                              |                                                                                      |            |
|      |      |         |       | M     |                           | 53,5 |    |                   |           |                |                                                              |                                                                                      |            |
|      |      |         |       | M     |                           | 56   |    |                   |           |                |                                                              |                                                                                      |            |
|      |      |         | F     | 15    | 08                        |      |    |                   |           |                |                                                              |                                                                                      |            |
|      |      |         | E-W   | P*    | 14                        | 45   | 18 | 4                 | 7         | 21             |                                                              |                                                                                      |            |
|      |      |         |       | e     |                           | 46   | 01 |                   |           |                |                                                              |                                                                                      |            |
|      |      |         |       | S*    |                           | 47   | 07 |                   |           |                |                                                              |                                                                                      |            |
| S    |      |         |       |       | 32                        |      |    |                   |           |                |                                                              |                                                                                      |            |
| M    |      |         |       | 51    | 37                        |      |    |                   |           |                |                                                              |                                                                                      |            |
| M    |      | 52,5    |       |       |                           |      |    |                   |           |                |                                                              |                                                                                      |            |
| M    |      | 55      | 32    |       |                           |      |    |                   |           |                |                                                              |                                                                                      |            |
| F    | 15   | 08      |       |       |                           |      |    |                   |           |                |                                                              |                                                                                      |            |
| 137. | 26.  | B       | N-S   | eL    | 21                        | 25   |    |                   |           | 120,1<br>13340 | Chili central<br>41,5° S, 73° W<br>H = 20h15'45''<br>(USCGS) |                                                                                      |            |
|      |      |         |       | F     |                           | 45   |    |                   |           |                |                                                              |                                                                                      |            |
|      |      |         | E-W   | e     | 20                        | 43   |    |                   |           |                |                                                              | 45                                                                                   |            |
|      |      |         |       | eL    |                           | 22   |    |                   |           |                |                                                              |                                                                                      |            |
|      |      |         |       | F     |                           | 45   |    |                   |           |                |                                                              |                                                                                      |            |



| №    | Date | Station | Comp.     | Phase     | Heure<br>de Greenwich |           |    | Péri-<br>ode<br>s | Amplitude |    | Δ<br><br>Degré<br>km | Remarques                                                                              |  |              |            |
|------|------|---------|-----------|-----------|-----------------------|-----------|----|-------------------|-----------|----|----------------------|----------------------------------------------------------------------------------------|--|--------------|------------|
|      |      |         |           |           | h                     | m         | s  |                   | AN        | AE |                      |                                                                                        |  |              |            |
| 138. | 29.  | B       | N-S       | P         | 03                    | 46        | 21 |                   |           |    | 76,7<br>8520         | Près de la<br>côte S du<br>Kamtchatka<br>49,5° N, 158° E<br>H = 03h34' 20''<br>(USCGS) |  |              |            |
|      |      |         |           | PP        |                       | 49        | 28 |                   |           |    |                      |                                                                                        |  |              |            |
|      |      |         |           | PPP       |                       | 50        | 55 |                   |           |    |                      |                                                                                        |  |              |            |
|      |      |         |           | S         |                       | 55        | 09 |                   |           |    |                      |                                                                                        |  |              |            |
|      |      |         |           | SKS       |                       | 56        | 20 |                   |           |    |                      |                                                                                        |  |              |            |
|      |      |         |           | PS        |                       |           | 39 |                   |           |    |                      |                                                                                        |  |              |            |
|      |      |         |           | ePPS      |                       | 57        | 28 |                   |           |    |                      |                                                                                        |  |              |            |
|      |      |         |           | e         | 04                    | 01        | 00 |                   |           |    |                      |                                                                                        |  |              |            |
|      |      |         | E-W       | e         | 03                    | 46        | 34 |                   |           |    |                      |                                                                                        |  |              |            |
|      |      |         |           | PP        |                       | 49        | 20 |                   |           |    |                      |                                                                                        |  |              |            |
|      |      |         |           | S         |                       | 56        | 10 |                   |           |    |                      |                                                                                        |  |              |            |
|      |      |         |           | SKS       |                       |           | 14 |                   |           |    |                      |                                                                                        |  |              |            |
|      |      |         |           | ScS       |                       |           | 39 |                   |           |    |                      |                                                                                        |  |              |            |
|      |      |         |           | e         | 04                    | 00        | 19 |                   |           |    |                      |                                                                                        |  |              |            |
|      |      |         |           | eSSS      |                       | 04        | 50 |                   |           |    |                      |                                                                                        |  |              |            |
|      |      |         |           | eL        |                       | 18,5      |    |                   |           |    |                      |                                                                                        |  |              |            |
|      |      | F       |           | 30        |                       |           |    |                   |           |    |                      |                                                                                        |  |              |            |
|      |      | K       | N-S       | eP        | 03                    | 46        | 00 |                   |           |    | 77,6<br>8620         |                                                                                        |  |              |            |
|      |      |         |           | E-W       | ePcP                  | 03        | 46 | 30                |           |    |                      |                                                                                        |  |              |            |
|      |      |         | Sz        | N-S       | eP                    | 03        | 46 | 20                |           |    |                      |                                                                                        |  | 77,5<br>8610 |            |
|      |      |         |           |           | F                     | 04        | 30 |                   |           |    |                      |                                                                                        |  |              |            |
|      |      |         | E-W       | P         | 03                    | 46        | 14 |                   |           |    |                      |                                                                                        |  |              |            |
|      |      |         |           | F         | 04                    | 30        |    |                   |           |    |                      |                                                                                        |  |              |            |
| 139. |      | B       | N-S       | $\bar{P}$ | 04                    | 45        | 09 |                   |           |    | 8<br>890             | Suisse<br>46,3° N, 7,5° E<br>H = 04h 42' 27''<br>(BCIS)                                |  |              |            |
|      |      |         |           | eS        |                       | 46        | 06 |                   |           |    |                      |                                                                                        |  |              |            |
|      |      |         |           | eS*       |                       |           | 23 |                   |           |    |                      |                                                                                        |  |              |            |
|      |      |         |           | e         |                       |           | 47 |                   |           |    |                      |                                                                                        |  |              |            |
|      |      |         |           | L         |                       | 47        |    |                   |           |    |                      |                                                                                        |  |              |            |
|      |      |         |           | F         |                       | 55        |    |                   |           |    |                      |                                                                                        |  |              |            |
|      |      |         |           | E-W       | P                     | 04        | 44 | 35                |           |    |                      |                                                                                        |  |              |            |
|      |      |         |           |           | e                     |           | 45 | 34                |           |    |                      |                                                                                        |  |              |            |
|      |      |         | S*        |           |                       | 46        | 36 |                   |           |    |                      |                                                                                        |  |              |            |
|      |      |         | $\bar{S}$ |           |                       |           | 53 |                   |           |    |                      |                                                                                        |  |              |            |
|      |      |         | L         |           |                       | 47        |    |                   |           |    |                      |                                                                                        |  |              |            |
|      |      |         | F         |           |                       | 55        |    |                   |           |    |                      |                                                                                        |  |              |            |
|      |      |         | K         |           | N-S                   | S         | 04 | 45                | 56        |    |                      |                                                                                        |  |              | 7,9<br>880 |
|      |      |         |           |           |                       | $\bar{S}$ |    | 46                | 47        |    |                      |                                                                                        |  |              |            |
|      |      |         |           | F         |                       |           | 55 |                   |           |    |                      |                                                                                        |  |              |            |
|      |      |         |           |           |                       |           |    |                   |           |    |                      |                                                                                        |  |              |            |
|      |      |         | E-W       | S         | 04                    | 46        | 00 |                   |           |    |                      |                                                                                        |  |              |            |
|      |      |         |           | e         |                       | 47        | 11 |                   |           |    |                      |                                                                                        |  |              |            |
|      |      |         |           | F         |                       | 55        |    |                   |           |    |                      |                                                                                        |  |              |            |
|      |      |         |           |           |                       |           |    |                   |           |    |                      |                                                                                        |  |              |            |
|      |      | Ke      | N-S       | e         | 04                    | 46        | 22 |                   |           |    | 8,4<br>930           |                                                                                        |  |              |            |
|      |      |         |           | $\bar{S}$ |                       | 47        | 12 |                   |           |    |                      |                                                                                        |  |              |            |
|      |      |         |           | F         |                       | 53        |    |                   |           |    |                      |                                                                                        |  |              |            |
|      |      |         |           |           |                       |           |    |                   |           |    |                      |                                                                                        |  |              |            |



| N    | Date | Station | Comp. | Phase                                                             | Heure<br>de Greenwich |    |                                                                                       | Péri-<br>ode<br>s | Amplitude           |                      | Δ<br>Degré,<br>km | Remarques                                                                                                                                                             |
|------|------|---------|-------|-------------------------------------------------------------------|-----------------------|----|---------------------------------------------------------------------------------------|-------------------|---------------------|----------------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      |      |         |       |                                                                   | h                     | m  | s                                                                                     |                   | AN                  | AE                   |                   |                                                                                                                                                                       |
| 140. |      | Sz      | E-W   | e<br>S<br>F                                                       | 04                    | 46 | 28<br>47 12<br>53                                                                     |                   |                     |                      |                   |                                                                                                                                                                       |
|      |      |         | N-S   | e<br>S<br>F                                                       | 04                    | 47 | 09<br>23                                                                              |                   |                     |                      | 8,7<br>970        |                                                                                                                                                                       |
|      |      |         | E-W   | eS<br>S*<br>S<br>F                                                | 04                    | 46 | 18<br>58<br>47 23<br>05 01                                                            |                   |                     |                      |                   |                                                                                                                                                                       |
| 141. | 30.  | Sz      | N-S   | e<br>ePP                                                          | 09                    | 06 | 25<br>11                                                                              |                   |                     |                      | 132,3<br>14700    | Pacifique au<br>SE de l'île de<br>Pâques<br>35,5° S, 97,5° W<br>H = 08h 46' 11''<br>h = 100 km ca<br>(USCGS)<br>Chine<br>39° N, 104° E<br>H = 00h 59' 57''<br>(USCGS) |
|      |      |         | E-W   | e                                                                 | 09                    | 06 | 44                                                                                    |                   |                     |                      |                   |                                                                                                                                                                       |
| 142. | 31.  | B       | N-S   | P<br>e<br>PPP<br>S<br>PPS<br>ScS<br>e<br>M<br>M<br>M<br>M<br>F    | 01                    | 10 | 14<br>36<br>48<br>21<br>41<br>07<br>25,5<br>30 55<br>33 50<br>39 40<br>44 40<br>02 40 |                   |                     |                      | 59,3<br>6590      |                                                                                                                                                                       |
|      |      |         | E-W   | P<br>PPP<br>S<br>PPS<br>ScS<br>SS<br>SSS<br>L<br>M<br>M<br>M<br>M | 01                    | 10 | 11<br>43<br>16<br>41<br>58<br>29<br>21<br>27<br>32 12<br>33 10<br>40 05<br>42 15      |                   | 11<br>9<br>11<br>11 | 11<br>16<br>34<br>24 |                   |                                                                                                                                                                       |
|      |      | Ke      | N-S   | ePcP                                                              | 01                    | 11 | 13                                                                                    |                   |                     |                      | 59,2<br>6580      |                                                                                                                                                                       |
|      |      |         | E-W   | ePcP<br>ePcS                                                      | 01                    | 11 | 11<br>45                                                                              |                   |                     |                      |                   |                                                                                                                                                                       |
|      |      | Sz      | N-S   | P<br>PcP                                                          | 01                    | 10 | 26<br>11 14                                                                           |                   |                     |                      | 59,2<br>6580      |                                                                                                                                                                       |



| N°   | Date    | Station | Comp. | Phase     | Heure<br>de Greenwich |    |    | Péri-<br>ode<br>s | Amplitude |    | $\Delta$<br>Degré,<br>km | Remarques                                             |
|------|---------|---------|-------|-----------|-----------------------|----|----|-------------------|-----------|----|--------------------------|-------------------------------------------------------|
|      |         |         |       |           | h                     | m  | s  |                   | AN        | AE |                          |                                                       |
| 143. | Août 3. | B       | E-W   | e         | 13                    | 20 |    |                   |           |    |                          |                                                       |
|      |         |         |       | S         | 20                    | 05 |    |                   |           |    |                          |                                                       |
|      |         |         |       | SSS       | 25                    | 47 |    |                   |           |    |                          |                                                       |
|      |         |         |       | eL        | 32                    | 28 |    |                   |           |    |                          |                                                       |
|      |         |         |       | M         | 33                    |    |    | 6                 | 30        |    |                          |                                                       |
|      |         |         |       | M         | 35                    | 32 |    | 7                 | 96        |    |                          |                                                       |
|      |         |         |       | M         | 41                    | 11 |    | 7                 | 55        |    |                          |                                                       |
|      |         |         |       | M         | 53                    |    |    | 6                 | 6         |    |                          |                                                       |
|      |         |         |       | F         | 02                    | 10 |    |                   |           |    |                          |                                                       |
|      |         |         |       | P         | 01                    | 10 | 26 |                   |           |    |                          |                                                       |
|      |         |         |       | ePcP      | 11                    | 22 |    |                   |           |    |                          |                                                       |
|      |         |         |       | PP        | 12                    | 35 |    |                   |           |    |                          |                                                       |
|      |         |         |       | eScS      | 20                    | 12 |    |                   |           |    |                          |                                                       |
|      |         |         |       | M         | 36                    | 24 |    | 7                 | 45        |    |                          |                                                       |
|      |         |         |       | M         | 42                    | 59 |    | 7                 | 31        |    |                          |                                                       |
|      |         |         |       | F         | 02                    | 10 |    |                   |           |    |                          |                                                       |
|      |         | K       | N-S   | eP*       | 18                    | 20 | 28 |                   |           |    | 8,6                      | N Grèce<br>40° N, 25° E<br>H = 18h 18' 05''<br>(BCIS) |
|      |         |         |       | $\bar{P}$ | 21                    | 02 |    |                   |           |    | 960                      |                                                       |
|      |         |         |       | e         |                       | 37 |    |                   |           |    |                          |                                                       |
|      |         |         |       | eS        | 22                    | 07 |    |                   |           |    |                          |                                                       |
|      |         |         |       | S*        |                       | 26 |    |                   |           |    |                          |                                                       |
|      |         |         |       | $\bar{S}$ |                       | 45 |    |                   |           |    |                          |                                                       |
|      |         |         |       | F         | 19                    | 00 |    |                   |           |    |                          |                                                       |
|      |         |         |       | P         | 18                    | 20 | 17 |                   |           |    |                          |                                                       |
|      |         |         |       | P*        |                       | 31 |    |                   |           |    |                          |                                                       |
|      |         |         |       | $\bar{P}$ | 21                    | 01 |    |                   |           |    |                          |                                                       |
|      |         |         |       |           |                       | 43 |    |                   |           |    |                          |                                                       |
|      |         |         |       | S*        | 22                    | 19 |    |                   |           |    |                          |                                                       |
|      |         |         |       | $\bar{S}$ |                       | 46 |    |                   |           |    |                          |                                                       |
|      |         |         |       | F         | 55                    |    |    |                   |           |    |                          |                                                       |
|      |         | Ke      | N-S   | P         | 18                    | 20 | 16 |                   |           |    | 7,8                      |                                                       |
|      |         |         |       | eP*       |                       | 46 |    |                   |           |    | 870                      |                                                       |
|      |         |         |       | S         | 21                    | 51 |    |                   |           |    |                          |                                                       |
|      |         |         |       | S*        | 22                    | 20 |    |                   |           |    |                          |                                                       |
|      |         |         |       | M         | 23                    | 48 |    | 3                 |           |    |                          |                                                       |
|      |         |         |       | M         | 26                    | 42 |    | 3                 |           |    |                          |                                                       |
|      |         |         |       | F         | 40                    |    |    |                   |           |    |                          |                                                       |
|      |         |         |       | E-W       | 18                    | 20 | 20 |                   |           |    |                          |                                                       |
|      |         |         |       | eP*       |                       | 47 |    |                   |           |    |                          |                                                       |
|      |         |         |       | S         | 21                    | 48 |    |                   |           |    |                          |                                                       |
|      |         |         |       | S*        | 22                    | 23 |    |                   |           |    |                          |                                                       |
|      |         |         |       | M         |                       | 30 |    | 3                 |           |    |                          |                                                       |
|      |         |         |       | M         | 27                    | 25 |    | 3                 |           |    |                          |                                                       |
|      |         |         |       | F         | 40                    |    |    |                   |           |    |                          |                                                       |
|      |         |         |       | P         | 18                    | 20 | 20 |                   |           |    | 7,9                      |                                                       |
|      |         |         |       | eP*       |                       | 46 |    |                   |           |    | 880                      |                                                       |
|      |         |         |       | eS        | 21                    | 59 |    |                   |           |    |                          |                                                       |
|      |         |         |       | S*        | 22                    | 25 |    |                   |           |    |                          |                                                       |
|      |         |         |       | F         | 40                    |    |    |                   |           |    |                          |                                                       |



| N    | Date | Station | Comp. | Phase       | Heure de Greenwich |      |    | Période<br>s | Amplitude |    | $\Delta$<br>Degré, km | Remarques |
|------|------|---------|-------|-------------|--------------------|------|----|--------------|-----------|----|-----------------------|-----------|
|      |      |         |       |             | h                  | m    | s  |              | AN        | AE |                       |           |
| 144. |      | Sz      | E-W   | P           | 18                 | 20   | 20 |              |           |    |                       |           |
|      |      |         |       | $\bar{P}$   |                    | 21   | 02 |              |           |    |                       |           |
|      |      |         |       | eS          |                    | 22   | 00 |              |           |    |                       |           |
|      |      |         |       | S*          |                    |      | 20 |              |           |    |                       |           |
|      |      |         | N-S   | F           |                    | 40   |    |              |           |    |                       |           |
|      |      |         |       | P           | 18                 | 20   | 05 |              |           |    | 7,2                   |           |
|      |      |         |       | $\bar{P}$   |                    |      | 43 |              |           |    | 800                   |           |
|      |      |         |       | S           |                    | 21   | 35 |              |           |    |                       |           |
|      |      |         |       | S*          |                    | 22   | 01 |              |           |    |                       |           |
|      |      |         |       | $\bar{S}$   |                    |      | 23 |              |           |    |                       |           |
|      |      |         |       | M           |                    | 23   | 07 | 4            | 146       |    |                       |           |
|      |      |         |       | M           |                    | 27,5 |    | 4            | 50        |    |                       |           |
|      |      |         |       | M           |                    | 36   |    | 6            | 12        |    |                       |           |
|      |      |         |       | F           |                    | 55   |    |              |           |    |                       |           |
|      |      |         | E-W   | P           | 18                 | 20   | 06 |              |           |    |                       |           |
|      |      |         |       | eP*         |                    |      | 27 |              |           |    |                       |           |
|      |      |         |       | $\bar{P}$   |                    |      | 43 |              |           |    |                       |           |
|      |      |         |       | S*          |                    | 21   | 58 |              |           |    |                       |           |
| 145. | 4.   | Sz      | N-S   | M           |                    | 22   | 31 | 3            | 100       |    |                       |           |
|      |      |         |       | M           |                    | 28,5 |    | 4            | 51        |    |                       |           |
|      |      |         |       | F           |                    | 55   |    |              |           |    |                       |           |
|      |      |         | E-W   | e           | 23                 | 20   | 47 |              |           |    | 7,2                   |           |
|      |      |         |       | S*          |                    | 21   | 23 |              |           |    | 820                   |           |
|      |      |         |       | e           |                    |      | 57 |              |           |    |                       |           |
|      |      |         |       | F           |                    | 32   |    |              |           |    |                       |           |
|      |      |         | E-W   | e           | 23                 | 20   | 55 |              |           |    |                       |           |
|      |      |         |       | e           |                    | 21   | 19 |              |           |    |                       |           |
|      |      |         | F     |             |                    | 32   |    |              |           |    |                       |           |
| 146. | 5.   | Sz      | N-S   | e           | 01                 | 15   | 36 |              |           |    | 7,2                   |           |
|      |      |         |       | F           |                    | 25   |    |              |           |    | 800                   |           |
|      |      |         | E-W   | S*          | 01                 | 16   | 23 |              |           |    |                       |           |
|      |      |         |       | F           |                    | 25   |    |              |           |    |                       |           |
|      |      | B       | N-S   | eS          | 03                 | 52   | 07 |              |           |    | 8,3                   |           |
|      |      |         |       | e $\bar{S}$ | 53                 | 53   | 08 |              |           |    | 920                   |           |
|      |      |         |       | L           |                    | 53,5 |    |              |           |    |                       |           |
|      |      |         |       | F           | 04                 | 01   |    |              |           |    |                       |           |
|      |      |         | E-W   | eP          | 03                 | 50   | 37 |              |           |    |                       |           |
|      |      |         |       | e $\bar{P}$ |                    | 51   | 11 |              |           |    |                       |           |
|      |      |         |       | e $\bar{S}$ |                    | 53   | 00 |              |           |    |                       |           |
|      |      |         |       | L           |                    | 53,5 |    |              |           |    |                       |           |
|      |      | K       | N-S   | F           | 04                 | 01   |    |              |           |    |                       |           |
|      |      |         |       | e $\bar{P}$ | 03                 | 50   | 56 |              |           |    | 7,4                   |           |
|      |      |         |       | eS*         |                    | 52   | 28 |              |           |    | 820                   |           |
|      |      |         |       | $\bar{S}$   |                    |      | 41 |              |           |    |                       |           |
|      |      |         |       | F           | 04                 | 01   |    |              |           |    |                       |           |
|      |      |         |       |             |                    |      |    |              |           |    |                       |           |



| N    | Date | Station     | Comp. | Phase       | Heure<br>de Greenwich |    |    | Péri-<br>ode<br><br>s | Amplitude  |    | $\Delta$<br><br>Degré,<br>km | Remarques                                            |
|------|------|-------------|-------|-------------|-----------------------|----|----|-----------------------|------------|----|------------------------------|------------------------------------------------------|
|      |      |             |       |             | h                     | m  | s  |                       | AN         | AE |                              |                                                      |
| 147. |      | Sz          | E-W   | e           | 03                    | 51 | 18 |                       |            |    | 6,6<br>730                   | Réplique du<br>No 143<br>H = 04h 12' 54''<br>(USCGS) |
|      |      |             |       | S*          |                       | 52 | 10 |                       |            |    |                              |                                                      |
|      |      |             |       | $\bar{S}$   |                       |    | 36 |                       |            |    |                              |                                                      |
|      |      |             |       | F           | 04                    | 01 |    |                       |            |    |                              |                                                      |
|      |      | Sz          | N-S   | eP          | 03                    | 50 | 12 |                       |            |    | 6,6<br>730                   |                                                      |
|      |      |             |       | P*          |                       |    | 24 |                       |            |    |                              |                                                      |
|      |      |             |       | $\bar{P}$   |                       |    | 39 |                       |            |    |                              |                                                      |
|      |      |             |       | S*          |                       | 51 | 46 |                       |            |    |                              |                                                      |
|      |      |             |       | F           | 04                    | 05 |    |                       |            |    | 8,6<br>960                   |                                                      |
|      |      |             |       | $\bar{P}$   | 03                    | 50 | 39 |                       |            |    |                              |                                                      |
|      |      |             |       | e $\bar{S}$ |                       | 52 | 16 |                       |            |    |                              |                                                      |
|      |      |             |       | F           | 04                    | 05 |    |                       |            |    |                              |                                                      |
|      |      | B           | N-S   | $\bar{P}$   | 04                    | 15 | 47 |                       |            |    | 8,6<br>960                   |                                                      |
|      |      |             |       | S*          |                       | 17 | 12 |                       |            |    |                              |                                                      |
|      |      |             |       | e $\bar{S}$ |                       |    | 35 |                       |            |    |                              |                                                      |
|      |      |             |       | L           |                       |    | 56 |                       |            |    |                              |                                                      |
|      |      |             |       | F           |                       | 32 |    |                       |            |    | 7,8<br>870                   |                                                      |
|      |      |             |       | $\bar{P}$   | 04                    | 15 | 51 |                       |            |    |                              |                                                      |
|      |      |             |       | S           |                       | 16 | 45 |                       |            |    |                              |                                                      |
|      |      |             |       | S*          |                       | 17 | 12 |                       |            |    |                              |                                                      |
|      |      | e $\bar{S}$ |       |             | 32                    |    |    |                       | 7,2<br>800 |    |                              |                                                      |
|      |      | L           |       |             | 47                    |    |    |                       |            |    |                              |                                                      |
|      |      | F           |       | 20          |                       |    |    |                       |            |    |                              |                                                      |
|      |      | $\bar{P}$   | 04    | 15          | 33                    |    |    |                       |            |    |                              |                                                      |
|      |      | eS          | 04    | 16          | 17                    |    |    |                       | 7,2<br>800 |    |                              |                                                      |
|      |      | S*          |       |             | 54                    |    |    |                       |            |    |                              |                                                      |
|      |      | $\bar{S}$   |       | 17          | 12                    |    |    |                       |            |    |                              |                                                      |
|      |      | F           |       | 28          |                       |    |    |                       |            |    |                              |                                                      |
|      |      | e $\bar{P}$ | 04    | 15          | 39                    |    |    |                       | 7,2<br>800 |    |                              |                                                      |
|      |      | eS          |       | 16          | 36                    |    |    |                       |            |    |                              |                                                      |
|      |      | S*          |       |             | 56                    |    |    |                       |            |    |                              |                                                      |
|      |      | F           |       | 28          |                       |    |    |                       |            |    |                              |                                                      |
| Sz   | N-S  | e $\bar{P}$ | 04    | 15          | 39                    |    |    |                       | 7,2<br>800 |    |                              |                                                      |
|      |      | eS          |       | 16          | 13                    |    |    |                       |            |    |                              |                                                      |
|      |      | S*          |       |             | 31                    |    |    |                       |            |    |                              |                                                      |
|      |      | F           |       | 36          |                       |    |    |                       |            |    |                              |                                                      |
|      |      | e           | 04    | 15          | 38                    |    |    |                       | 8,6<br>960 |    |                              |                                                      |
|      |      | S*          |       | 16          | 32                    |    |    |                       |            |    |                              |                                                      |
|      |      | F           |       | 36          |                       |    |    |                       |            |    |                              |                                                      |
|      |      | e           | 04    | 41          | 02                    |    |    |                       |            |    |                              |                                                      |
| B    | N-S  | eS*         |       |             | 45                    |    |    |                       | 8,6<br>960 |    |                              |                                                      |
|      |      | e $\bar{S}$ |       | 42          | 11                    |    |    |                       |            |    |                              |                                                      |
|      |      | L           |       | 43          |                       |    |    |                       |            |    |                              |                                                      |
|      |      | F           |       | 52          |                       |    |    |                       |            |    |                              |                                                      |



| №    | Date | Station | Comp. | Phase     | Heure<br>de Greenwich |      |    | Péri-<br>ode<br>s | Amplitude |    | Δ<br>Degré,<br>km | Remarques                                                            |
|------|------|---------|-------|-----------|-----------------------|------|----|-------------------|-----------|----|-------------------|----------------------------------------------------------------------|
|      |      |         |       |           | h                     | m    | s  |                   | AN        | AE |                   |                                                                      |
| 149. |      | K       | E-W   | e         | 04                    | 40   | 38 |                   |           |    |                   |                                                                      |
|      |      |         |       | eS*       |                       | 41   | 53 |                   |           |    |                   |                                                                      |
|      |      |         |       | e         |                       | 42   | 14 |                   |           |    |                   |                                                                      |
|      |      |         |       | e         |                       |      | 32 |                   |           |    |                   |                                                                      |
|      |      | K       | N-S   | F         |                       | 52   |    |                   |           |    |                   |                                                                      |
|      |      |         |       | $\bar{P}$ | 04                    | 40   | 09 |                   |           |    | 7,8               |                                                                      |
|      |      |         |       | eS        |                       | 41   | 09 |                   |           |    | 870               |                                                                      |
|      |      |         |       | S*        |                       |      | 30 |                   |           |    |                   |                                                                      |
|      |      |         |       | $\bar{S}$ |                       |      | 52 |                   |           |    |                   |                                                                      |
|      |      |         |       | F         |                       | 50   |    |                   |           |    |                   |                                                                      |
|      |      | Sz      | E-W   | e         | 04                    | 40   | 44 |                   |           |    |                   |                                                                      |
|      |      |         |       | eS        |                       | 41   | 09 |                   |           |    |                   |                                                                      |
|      |      |         |       | eS*       |                       |      | 22 |                   |           |    |                   |                                                                      |
|      |      |         |       | F         |                       | 50   |    |                   |           |    |                   |                                                                      |
| 150. |      | Sz      | N-S   | P         | 04                    | 39   | 25 |                   |           |    | 7,2               |                                                                      |
|      |      |         |       | P*        |                       |      | 41 |                   |           |    | 800               |                                                                      |
|      |      |         |       | S         |                       | 40   | 44 |                   |           |    |                   |                                                                      |
|      |      |         |       | S*        |                       | 41   | 08 |                   |           |    |                   |                                                                      |
|      |      | B       | E-W   | $\bar{S}$ |                       |      | 31 |                   |           |    |                   |                                                                      |
|      |      |         |       | F         |                       | 58   |    |                   |           |    |                   |                                                                      |
|      |      |         |       | S*        | 04                    | 41   | 08 |                   |           |    |                   |                                                                      |
|      |      |         |       | F         |                       | 58   |    |                   |           |    |                   |                                                                      |
|      |      | B       | N-S   | e         | 17                    | 29   | 20 |                   |           |    | 8,7               |                                                                      |
|      |      |         |       | e         |                       |      | 54 |                   |           |    |                   |                                                                      |
|      |      |         |       | F         |                       | 35   |    |                   |           |    |                   |                                                                      |
|      |      |         |       |           |                       |      |    |                   |           |    |                   | Traces<br>Mer Egée<br>39,8° N, 24,7° E<br>H = 17h 24' 25''<br>(BCIS) |
|      |      | Sz      | E-W   | e         | 17                    | 29   | 02 |                   |           |    |                   |                                                                      |
|      |      |         |       | e         |                       |      | 42 |                   |           |    |                   |                                                                      |
|      |      |         |       | F         |                       | 36   |    |                   |           |    |                   |                                                                      |
|      |      |         |       |           |                       |      |    |                   |           |    |                   |                                                                      |
| 150. |      | Sz      | N-S   | S*        | 17                    | 28   | 12 |                   |           |    | 7,3               |                                                                      |
|      |      |         |       | $\bar{S}$ |                       |      | 31 |                   |           |    | 810               |                                                                      |
|      |      |         |       | F         |                       | 38   |    |                   |           |    |                   |                                                                      |
|      |      |         |       |           |                       |      |    |                   |           |    |                   |                                                                      |
|      |      | B       | E-W   | S*        | 17                    | 28   | 08 |                   |           |    |                   |                                                                      |
|      |      |         |       | F         |                       | 38   |    |                   |           |    |                   |                                                                      |
|      |      |         |       |           |                       |      |    |                   |           |    |                   |                                                                      |
|      |      |         |       |           |                       |      |    |                   |           |    |                   |                                                                      |
|      |      | B       | N-S   | e         | 20                    | 47   |    |                   |           |    | 11,4              |                                                                      |
|      |      |         |       | F         |                       | 58   |    |                   |           |    | 1270              |                                                                      |
|      |      |         |       |           |                       |      |    |                   |           |    |                   |                                                                      |
|      |      |         |       |           |                       |      |    |                   |           |    |                   |                                                                      |
|      |      | Sz      | E-W   | e         | 20                    | 47,5 |    |                   |           |    |                   |                                                                      |
|      |      |         |       | F         |                       | 55   |    |                   |           |    |                   |                                                                      |
|      |      |         |       |           |                       |      |    |                   |           |    |                   |                                                                      |
|      |      |         |       |           |                       |      |    |                   |           |    |                   |                                                                      |
|      |      | Sz      | N-S   | e         | 20                    | 42   | 21 |                   |           |    | 10                |                                                                      |
|      |      |         |       | e         |                       | 45   | 15 |                   |           |    | 1110              |                                                                      |
|      |      |         |       | F         |                       | 59   |    |                   |           |    |                   |                                                                      |
|      |      |         |       |           |                       |      |    |                   |           |    |                   |                                                                      |
|      |      | Sz      | E-W   | e         | 20                    | 42   | 39 |                   |           |    |                   |                                                                      |
|      |      |         |       | e         |                       | 45   | 26 |                   |           |    |                   |                                                                      |
|      |      |         |       | F         |                       | 59   |    |                   |           |    |                   |                                                                      |
|      |      |         |       |           |                       |      |    |                   |           |    |                   |                                                                      |



| N°   | Date | Station | Comp. | Phase                           | Heure<br>de Greenwich |    |                                              | Péri-<br>ode<br>s | Amplitude      |                | $\Delta$<br>Degré,<br>km | Remarques                                                                            |
|------|------|---------|-------|---------------------------------|-----------------------|----|----------------------------------------------|-------------------|----------------|----------------|--------------------------|--------------------------------------------------------------------------------------|
|      |      |         |       |                                 | h                     | m  | s                                            |                   | A <sub>N</sub> | A <sub>E</sub> |                          |                                                                                      |
| 151. | 6.   | Sz      | N-S   | e<br>e<br>F                     | 11                    | 37 | 31<br>38<br>49                               |                   |                |                | 11,9<br>1320             | Près de la<br>côte S de la<br>Grèce<br>36,5° N, 23° E<br>H = 11h 33' 41''<br>(USCGS) |
|      |      |         | E-W   | eS<br>F                         | 11                    | 38 | 40<br>49                                     |                   |                |                |                          |                                                                                      |
| 152. |      | B       | N-S   | eS<br>e<br>F                    | 16                    | 05 | 54<br>06<br>15                               |                   |                |                | 8,8<br>980               | Mer Egée<br>39,75° N, 25° E<br>H = 16h 01' 03''<br>(BCIS)                            |
|      |      |         | E-W   | e<br>e<br>L<br>F                | 16                    | 05 | 46<br>06<br>40<br>15                         |                   |                |                |                          |                                                                                      |
|      |      | K       | N-S   | e<br>S<br>F                     | 16                    | 04 | 00<br>05<br>23<br>11                         |                   |                |                | 8<br>890                 |                                                                                      |
|      |      |         | E-W   | S*<br>F                         | 16                    | 05 | 00<br>11                                     |                   |                |                |                          |                                                                                      |
|      |      | Sz      | N-S   | S<br>S<br>F                     | 16                    | 04 | 32<br>05<br>18<br>20                         |                   |                |                | 7,4<br>820               |                                                                                      |
|      |      |         | E-W   | e<br>S<br>F                     | 16                    | 04 | 38<br>05<br>12<br>20                         |                   |                |                |                          |                                                                                      |
| 153. |      | B       | N-S   | eP*<br>P<br>eS<br>S<br>L<br>F   | 19                    | 23 | 24<br>37<br>24<br>28<br>25<br>00<br>25<br>35 |                   |                |                | 6,8<br>760               | S Italie<br>41° N, 16° E<br>H = 19h 21' 14''<br>(USCGS)                              |
|      |      |         | E-W   | eP*<br>eS<br>eS*<br>S<br>L<br>F | 19                    | 23 | 27<br>24<br>24<br>43<br>25<br>00<br>25<br>35 |                   |                |                |                          |                                                                                      |
|      |      | K       | N-S   | P<br>F                          | 19                    | 23 | 19<br>34                                     |                   |                |                | 5,9<br>650               |                                                                                      |
|      |      |         | E-W   | P<br>S<br>e<br>F                | 19                    | 23 | 19<br>24<br>33<br>55<br>34                   |                   |                |                |                          |                                                                                      |



| №    | Date | Station | Comp. | Phase | H u r e<br>de Greenwich |      |    | Péri-<br>ode<br>s | Amplitude      |                                                                         | Δ<br><br>Degré,<br>km | Remarques                                                                                         |
|------|------|---------|-------|-------|-------------------------|------|----|-------------------|----------------|-------------------------------------------------------------------------|-----------------------|---------------------------------------------------------------------------------------------------|
|      |      |         |       |       | h                       | m    | s  |                   | AN             | AE                                                                      |                       |                                                                                                   |
| 154. | 9.   | Sz      | N-S   | eP̄   | 19                      | 23   | 18 | 15                | 9              |                                                                         | 6<br>670              | Près de la<br>côte E du<br>Kamtchatka<br>53° N, 161° E<br>H = 19h 16'48''<br>h = 60 km<br>(USCGS) |
|      |      |         |       | S     |                         | 55   |    |                   |                |                                                                         |                       |                                                                                                   |
|      |      |         |       | F     |                         | 45   |    |                   |                |                                                                         |                       |                                                                                                   |
|      |      |         | E-W   | e     | 19                      | 23   | 22 |                   |                |                                                                         |                       |                                                                                                   |
|      |      | eS*     |       |       | 24                      | 23   |    |                   |                |                                                                         |                       |                                                                                                   |
|      |      | F       |       |       | 45                      |      |    |                   |                |                                                                         |                       |                                                                                                   |
|      |      | B       | N-S   | P     | 19                      | 28   | 29 |                   |                |                                                                         |                       |                                                                                                   |
|      |      |         |       | PcP   |                         |      | 41 |                   |                |                                                                         |                       |                                                                                                   |
|      |      |         |       | S     |                         | 38   | 02 |                   |                |                                                                         |                       |                                                                                                   |
|      |      |         |       | SKS   |                         |      | 19 |                   |                |                                                                         |                       |                                                                                                   |
|      |      |         |       | eL    |                         | 59,5 |    |                   |                |                                                                         |                       |                                                                                                   |
|      |      |         |       | M     | 20                      | 07   | 05 |                   |                |                                                                         |                       |                                                                                                   |
|      |      |         | E-W   | F     |                         | 25   |    |                   |                |                                                                         |                       |                                                                                                   |
|      |      |         |       | P     | 19                      | 28   | 28 |                   |                |                                                                         |                       |                                                                                                   |
|      |      |         |       | PcP   |                         |      | 43 |                   |                |                                                                         |                       |                                                                                                   |
|      |      |         |       | S     |                         | 38   | 00 |                   |                |                                                                         |                       |                                                                                                   |
|      |      | Sz      | N-S   | e     |                         |      | 05 |                   |                |                                                                         |                       |                                                                                                   |
| L    |      |         |       | 59,5  |                         |      |    |                   |                |                                                                         |                       |                                                                                                   |
| F    | 20   |         |       | 25    |                         |      |    |                   |                |                                                                         |                       |                                                                                                   |
|      |      | N-S     | P     | 19    | 28                      | 36   |    |                   |                |                                                                         |                       |                                                                                                   |
|      |      |         | S     |       | 38                      | 09   |    |                   |                |                                                                         |                       |                                                                                                   |
|      |      |         | SKS   |       |                         | 36   |    |                   |                |                                                                         |                       |                                                                                                   |
|      |      |         | eL    | 20    | 00                      | 00   |    |                   |                |                                                                         |                       |                                                                                                   |
|      | E-W  | F       |       | 25    |                         |      |    |                   |                |                                                                         |                       |                                                                                                   |
|      |      | P       | 19    | 28    | 35                      |      |    |                   |                |                                                                         |                       |                                                                                                   |
|      |      | S       |       | 38    | 08                      |      |    |                   |                |                                                                         |                       |                                                                                                   |
|      |      | SKS     |       |       | 34                      |      |    |                   |                |                                                                         |                       |                                                                                                   |
|      |      | eL      | 20    | 00    |                         |      |    |                   |                |                                                                         |                       |                                                                                                   |
|      |      | F       |       | 25    |                         |      |    |                   |                |                                                                         |                       |                                                                                                   |
| 155. | 10.  | Sz      | N-S   | e     | 15                      | 38   | 16 |                   |                |                                                                         |                       |                                                                                                   |
|      |      |         |       | e     |                         | 39   | 12 |                   |                |                                                                         |                       |                                                                                                   |
|      |      |         |       | e     |                         | 40   | 28 |                   |                |                                                                         |                       |                                                                                                   |
|      |      |         |       | e     |                         | 41   | 00 |                   |                |                                                                         |                       |                                                                                                   |
|      |      |         |       | e     |                         | 48   | 40 |                   |                |                                                                         |                       |                                                                                                   |
|      |      |         |       | e     |                         | 50   | 04 |                   |                |                                                                         |                       |                                                                                                   |
|      |      |         |       | F     | 16                      | 08   |    |                   |                |                                                                         |                       |                                                                                                   |
|      |      |         |       | E-W   | e                       | 15   | 39 | 10                |                |                                                                         |                       |                                                                                                   |
|      |      |         | e     |       |                         | 40   | 26 |                   |                |                                                                         |                       |                                                                                                   |
|      |      |         | e     |       |                         | 41   | 01 |                   |                |                                                                         |                       |                                                                                                   |
|      |      |         | e     |       |                         | 48   | 40 |                   |                |                                                                         |                       |                                                                                                   |
|      |      |         |       | N-S   | e                       |      | 50 | 07                |                |                                                                         |                       |                                                                                                   |
|      |      | F       |       |       | 16                      | 08   |    |                   |                |                                                                         |                       |                                                                                                   |
|      |      | ePKP    |       |       | 05                      | 01   | 56 |                   |                |                                                                         |                       |                                                                                                   |
|      |      | pPKP    |       |       |                         | 02   | 28 |                   |                |                                                                         |                       |                                                                                                   |
|      |      | ePP     |       |       |                         | 05   | 28 |                   |                |                                                                         |                       |                                                                                                   |
|      |      | B       | N-S   | eSKS  |                         | 08   | 57 |                   |                |                                                                         |                       |                                                                                                   |
| F    |      |         |       | 48    |                         |      |    |                   |                |                                                                         |                       |                                                                                                   |
| 156. | 18.  | B       | N-S   |       |                         |      |    |                   | 151,3<br>16810 | Iles Tonga<br>21,5° S, 176° W<br>H = 04h 42' 20''<br>h = 150<br>(USCGS) |                       |                                                                                                   |
|      |      |         |       |       |                         |      |    |                   |                |                                                                         |                       |                                                                                                   |



| N    | Date             | Station          | Comp.            | Phase             | Heure<br>de Greenwich |     |     | Péri-<br>ode<br>s | Amplitude    |              | $\Delta$<br><br>Degré,<br>km | Remarques                                                                                              |  |              |
|------|------------------|------------------|------------------|-------------------|-----------------------|-----|-----|-------------------|--------------|--------------|------------------------------|--------------------------------------------------------------------------------------------------------|--|--------------|
|      |                  |                  |                  |                   | h                     | m   | s   |                   | AN           | AE           |                              |                                                                                                        |  |              |
| 157. | 19.              | K                | E-W              | PKP               | 05                    | 02  | 02  |                   |              |              | 152,2<br>16910               | Près de la<br>côte N de la<br>Turquie<br>41,3° N, 36,3° E<br>H = 21 <sup>h</sup> 03' 23'<br>(Kandilli) |  |              |
|      |                  |                  |                  | epPKP             |                       |     | 16  |                   |              |              |                              |                                                                                                        |  |              |
|      |                  |                  |                  | PP                |                       | 05  | 36  |                   |              |              |                              |                                                                                                        |  |              |
|      |                  |                  |                  | SKS               |                       | 08  | 35  |                   |              |              |                              |                                                                                                        |  |              |
|      |                  |                  | N-S              | F                 |                       | 48  |     |                   |              |              |                              |                                                                                                        |  |              |
|      |                  |                  |                  | ePKP              | 05                    | 02  | 06  |                   |              |              |                              |                                                                                                        |  |              |
|      |                  |                  |                  | E-W               | ePKP                  | 05  | 02  | 10                |              |              |                              |                                                                                                        |  |              |
|      |                  |                  |                  |                   | Sz                    | N-S | PKP | 05                | 02           | 05           |                              |                                                                                                        |  |              |
|      |                  |                  | PKP <sub>2</sub> |                   |                       |     |     |                   | 19           |              |                              |                                                                                                        |  |              |
|      |                  |                  | PKS              |                   |                       |     |     | 05                | 28           |              |                              |                                                                                                        |  |              |
|      |                  |                  | SKKS             |                   |                       |     | 12  | 18                |              |              |                              |                                                                                                        |  |              |
|      |                  |                  | E-W              | PKP               | 05                    | 02  | 05  |                   |              |              |                              |                                                                                                        |  |              |
|      |                  | ePP              |                  |                   | 06                    | 16  |     |                   |              |              |                              |                                                                                                        |  |              |
|      |                  | SKKS             |                  |                   | 12                    | 21  |     |                   |              |              |                              |                                                                                                        |  |              |
|      |                  | B                |                  | N-S               | e                     | 21  | 07  | 40                |              |              | 13,8<br>1530                 |                                                                                                        |  |              |
|      |                  |                  | S                |                   |                       | 09  | 24  |                   |              |              |                              |                                                                                                        |  |              |
|      |                  |                  | SSS              |                   |                       |     | 40  |                   |              |              |                              |                                                                                                        |  |              |
|      |                  |                  | e                |                   |                       | 10  | 48  |                   |              |              |                              |                                                                                                        |  |              |
|      |                  |                  | E-W              | eP <sub>c</sub> P |                       | 11  | 58  |                   |              |              |                              |                                                                                                        |  |              |
|      |                  |                  |                  | eL                |                       | 13  | 20  |                   |              |              |                              |                                                                                                        |  |              |
|      |                  |                  |                  | F                 |                       | 26  |     |                   |              |              |                              |                                                                                                        |  |              |
|      |                  |                  |                  | K                 | N-S                   | eP  | 21  | 06                | 50           |              |                              |                                                                                                        |  | 13,5<br>1500 |
|      |                  |                  | eS               |                   |                       |     | 09  | 22                |              |              |                              |                                                                                                        |  |              |
|      |                  |                  | SS               |                   |                       |     |     | 32                |              |              |                              |                                                                                                        |  |              |
| SSS  |                  |                  |                  |                   |                       | 54  |     |                   |              |              |                              |                                                                                                        |  |              |
| Sz   | E-W              |                  | P <sub>c</sub> P |                   | 12                    | 16  |     |                   | 12,6<br>1400 |              |                              |                                                                                                        |  |              |
|      |                  | e                |                  | 14                | 32                    |     |     |                   |              |              |                              |                                                                                                        |  |              |
|      |                  | P <sub>c</sub> S |                  | 15                | 42                    |     |     |                   |              |              |                              |                                                                                                        |  |              |
|      |                  | F                |                  | 23                |                       |     |     |                   |              |              |                              |                                                                                                        |  |              |
|      | N-S              | e                | 21               | 07                | 32                    |     |     |                   |              |              |                              |                                                                                                        |  |              |
|      |                  | e                |                  | 10                | 38                    |     |     |                   |              |              |                              |                                                                                                        |  |              |
|      |                  | F                |                  | 17                |                       |     |     |                   |              |              |                              |                                                                                                        |  |              |
|      |                  | E-W              | e                | 21                | 10                    | 41  |     |                   |              |              |                              |                                                                                                        |  |              |
|      | e                |                  |                  | 13                | 42                    |     |     |                   |              |              |                              |                                                                                                        |  |              |
|      | F                |                  |                  | 17                |                       |     |     |                   |              |              |                              |                                                                                                        |  |              |
|      | N-S              |                  | e                | 21                | 08                    | 28  |     |                   |              | 12,6<br>1400 |                              |                                                                                                        |  |              |
|      |                  | S                |                  |                   | 58                    |     |     |                   |              |              |                              |                                                                                                        |  |              |
| SSS  |                  |                  | 09               | 22                |                       |     |     |                   |              |              |                              |                                                                                                        |  |              |
| e    |                  |                  |                  | 57                |                       |     |     |                   |              |              |                              |                                                                                                        |  |              |
| E-W  | P <sub>c</sub> P |                  | 11               | 58                |                       |     |     |                   |              |              |                              |                                                                                                        |  |              |
|      | F                |                  | 25               |                   |                       |     |     |                   |              |              |                              |                                                                                                        |  |              |
|      | N-S              | e                | 21               | 08                | 29                    |     |     | 12,6<br>1400      |              |              |                              |                                                                                                        |  |              |
|      |                  | e                |                  | 09                | 57                    |     |     |                   |              |              |                              |                                                                                                        |  |              |
| F    |                  |                  | 25               |                   |                       |     |     |                   |              |              |                              |                                                                                                        |  |              |
| F    |                  |                  |                  |                   |                       |     |     |                   |              |              |                              |                                                                                                        |  |              |



| N    | Date | Station | Comp. | Phase                                                                 | Heure<br>de Greenwich |    |                                                                                                    | Péri-<br>ode<br>s | Amplitude     |    | $\Delta$<br>Degré,<br>km | Remarques                                                                |
|------|------|---------|-------|-----------------------------------------------------------------------|-----------------------|----|----------------------------------------------------------------------------------------------------|-------------------|---------------|----|--------------------------|--------------------------------------------------------------------------|
|      |      |         |       |                                                                       | h                     | m  | s                                                                                                  |                   | AN            | AE |                          |                                                                          |
| 158. | 21.  | B       | N-S   | e<br>e<br>e<br>L                                                      | 00                    | 32 | 10<br>42 44<br>44 10<br>45                                                                         |                   |               |    | 28,6<br>3180             | Prémonitoire<br>de l'île Mayen<br>72° N, 13° W<br>H = 00h 25' 35''       |
|      |      |         | E-W   | e<br>e<br>eL                                                          | 00                    | 32 | 43<br>43 27<br>46                                                                                  |                   |               |    |                          |                                                                          |
| 159. |      | B       | N-S   | P<br>ePP<br>PPP<br>PcP<br>S<br>SSS<br>e<br>L<br>F                     | 22                    | 57 | 00<br>38<br>58 04<br>23 00 03<br>01 44<br>03 19<br>34<br>10 10<br>20                               |                   |               |    | 28,6<br>3180             | Ile Jan Mayen<br>72° N, 13° W<br>H = 22h 51' 00''<br>(USCGS)             |
|      |      |         | E-W   | eP<br>ePP<br>e<br>ePcP<br>SSS<br>eL<br>F                              | 22                    | 57 | 08<br>36<br>59 28<br>23 00 17<br>03 17<br>08 40<br>20                                              |                   |               |    |                          |                                                                          |
| 160. | 22.  | B       | N-S   | e<br>e<br>e<br>e<br>L<br>F                                            | 17                    | 50 | 57<br>51 50<br>55 34<br>56 10<br>50<br>18 08                                                       |                   |               |    |                          |                                                                          |
|      |      |         | E-W   | e<br>e<br>e<br>L<br>F                                                 | 17                    | 54 | 20<br>30<br>15 50<br>18 08                                                                         |                   |               |    |                          |                                                                          |
| 161. | 24.  | B       | N-S   | P<br>PP<br>PPP<br>S<br>ScS<br>PS<br>PPS<br>e<br>L<br>M<br>M<br>M<br>F | 06                    | 04 | 17<br>37<br>09 26<br>14 45<br>53<br>15 34<br>57<br>24 12<br>31 10<br>42<br>45 10<br>48 40<br>07 30 |                   |               |    | 85,2<br>9470             | Près de Fal-<br>lon<br>39,5° N, 118,5° W<br>H = 05h 51' 31,5'<br>(USCGS) |
|      |      |         |       |                                                                       |                       |    |                                                                                                    | 18<br>16<br>12    | 36<br>42<br>9 |    |                          |                                                                          |



| N    | Date | Station | Comp. | Phase | Heure<br>de Greenwich |      |      | Péri-<br>ode<br>s | Amplitude |     | $\Delta$<br><br>Degré,<br>km | Remarques                                                                              |               |
|------|------|---------|-------|-------|-----------------------|------|------|-------------------|-----------|-----|------------------------------|----------------------------------------------------------------------------------------|---------------|
|      |      |         |       |       | h                     | m    | s    |                   | AN        | AE  |                              |                                                                                        |               |
| 162. | 27.  | B       | E-W   | P     | 06                    | 04   | 17   | 15                |           | 17  | 86,5<br>9610                 | Traces. Iles<br>Volcane<br>24,5° N, 143° E<br>H = 10h 55' 02"<br>h = 100 km<br>(USCGS) |               |
|      |      |         |       | PPP   |                       | 09   | 37   |                   |           |     |                              |                                                                                        |               |
|      |      |         |       | S     |                       | 14   | 43   |                   |           |     |                              |                                                                                        |               |
|      |      |         |       | ScS   |                       |      | 52   |                   |           |     |                              |                                                                                        |               |
|      |      |         |       | PPS   |                       | 15   | 55   |                   |           |     |                              |                                                                                        |               |
|      |      |         |       | e     |                       | 24   | 47   |                   |           |     |                              |                                                                                        |               |
|      |      |         |       | eL    |                       | 31   | 27   |                   |           |     |                              |                                                                                        |               |
|      |      |         |       | M     |                       | 43   | 20   |                   |           |     |                              |                                                                                        |               |
|      |      |         |       | M     |                       | 45   | 10   |                   |           |     |                              |                                                                                        |               |
|      |      |         |       | M     |                       | 49   | 42   |                   |           |     |                              |                                                                                        |               |
|      |      |         |       | F     | 07                    | 40   |      |                   |           |     |                              |                                                                                        |               |
|      |      |         | K     | N-S   | eP                    | 06   | 04   | 22                | 14        |     | 15                           |                                                                                        | 37            |
|      |      |         |       |       | eS                    |      | 15   | 00                |           |     |                              |                                                                                        |               |
|      |      |         |       |       | eSSS                  |      | 24   | 40                |           |     |                              |                                                                                        |               |
|      |      |         |       |       | F                     |      | 58   |                   |           |     |                              |                                                                                        |               |
|      |      |         | E-W   | eP    | 06                    | 04   | 22   |                   |           |     |                              |                                                                                        |               |
|      |      |         |       | eSS   |                       | 14   | 37   |                   |           |     |                              |                                                                                        |               |
|      |      |         |       | eSSS  |                       | 24   | 45   |                   |           |     |                              |                                                                                        |               |
|      |      |         |       | F     |                       | 52   |      |                   |           |     |                              |                                                                                        |               |
|      |      |         | Sz    | N-S   | eP                    | 06   | 04   | 24                | 17        | 70  |                              |                                                                                        | 86,6<br>9620  |
|      |      |         |       |       | ePP                   |      | 08   | 20                |           |     |                              |                                                                                        |               |
|      |      |         |       |       | S                     |      | 15   | 01                |           |     |                              |                                                                                        |               |
|      |      |         |       |       | eL                    |      | 37,5 |                   |           |     |                              |                                                                                        |               |
|      |      |         |       |       | M                     |      | 45,5 |                   |           |     |                              |                                                                                        |               |
|      |      |         |       |       | F                     | 07   | 15   |                   |           |     |                              |                                                                                        |               |
|      |      |         | E-W   | P     | 06                    | 04   | 32   | 14                |           | 125 |                              |                                                                                        |               |
|      |      |         |       | PP    |                       | 07   | 55   |                   |           |     |                              |                                                                                        |               |
|      |      |         |       | S     |                       | 15   | 01   |                   |           |     |                              |                                                                                        |               |
|      |      |         |       | eL    |                       | 37,5 |      |                   |           |     |                              |                                                                                        |               |
|      |      |         |       | M     |                       | 47   |      |                   |           |     |                              |                                                                                        |               |
|      |      |         |       | F     | 07                    | 15   |      |                   |           |     |                              |                                                                                        |               |
|      |      |         | N-S   | e     | 11                    | 08   | 33   |                   |           |     | 92,1<br>10230                |                                                                                        |               |
|      |      |         |       | eS    |                       | 18   | 12   |                   |           |     |                              |                                                                                        |               |
|      |      |         |       | e     |                       | 20   | 25   |                   |           |     |                              |                                                                                        |               |
|      |      |         |       | eL    |                       | 43   | 50   |                   |           |     |                              |                                                                                        |               |
|      |      |         |       | M     |                       | 47   | 40   |                   |           |     |                              |                                                                                        |               |
|      |      |         |       | F     | 12                    | 38   |      |                   |           |     |                              |                                                                                        |               |
|      |      |         | E-W   | eP    | 11                    | 08   | 26   |                   |           |     | 12                           |                                                                                        |               |
|      |      |         |       | e     |                       | 17   | 12   |                   |           |     |                              |                                                                                        |               |
|      |      |         |       | e     |                       | 18   | 34   |                   |           |     |                              |                                                                                        |               |
|      |      |         |       | eL    |                       | 44   | 50   |                   |           |     |                              |                                                                                        |               |
|      |      |         |       | M     |                       | 54   | 45   |                   |           |     |                              |                                                                                        |               |
|      |      |         |       | F     | 12                    | 36   |      |                   |           |     |                              |                                                                                        |               |
|      |      |         | Sz    | N-S   | e                     | 11   | 17   | 54                | 16        |     |                              |                                                                                        | 92,5<br>10300 |
|      |      |         |       |       | E-W                   | SKS  | 11   | 18                |           |     |                              |                                                                                        |               |

Traces. Iles  
Volcane  
24,5° N, 143° E  
H = 10h 55' 02"  
h = 100 km  
(USCGS)



| №    | Date     | Station | Comp. | Phase                                                        | Heure<br>de Greenwich |                                        |                                                    | Péri-<br>ode<br>s | Amplitude      |                | $\Delta$<br>Degré,<br>km | Remarques                                                                          |
|------|----------|---------|-------|--------------------------------------------------------------|-----------------------|----------------------------------------|----------------------------------------------------|-------------------|----------------|----------------|--------------------------|------------------------------------------------------------------------------------|
|      |          |         |       |                                                              | h                     | m                                      | s                                                  |                   | A <sub>N</sub> | A <sub>E</sub> |                          |                                                                                    |
| 163. |          | Sz      | N-S   | e<br>F                                                       | 14<br>15              | 56<br>42                               | 06                                                 |                   |                |                |                          |                                                                                    |
|      |          |         | E-W   | e<br>F                                                       | 14<br>15              | 56<br>42                               | 31                                                 |                   |                |                |                          |                                                                                    |
| 164. | 30.      | B       | N-S   | P<br>S<br>PS<br>PPS<br>eSS<br>e<br>L<br>F                    | 08                    | 09<br>19<br>20                         | 24<br>31<br>07<br>26<br>45<br>48<br>10<br>56       |                   |                |                | 77,9<br>8650             | Iles Kouriles<br>44° N, 147,5° E<br>H = 07h 57' 25''<br>h = 60 km<br>(USCGS)       |
|      |          |         | E-W   | P<br>P <sub>c</sub> P<br>ePP<br>S<br>PPS<br>e<br>e<br>L<br>F | 08                    | 09<br>12<br>19<br>20<br>24<br>28<br>41 | 25<br>39<br>20<br>34<br>20<br>12<br>40<br>10<br>00 |                   |                |                |                          |                                                                                    |
| 165. | Sept. 2. | B       | N-S   | eP*<br>S<br>eS*<br>e<br>F                                    | 01                    | 56<br>57                               | 13<br>02<br>20<br>28                               |                   |                |                | 5,5<br>610               | Frontière<br>Albano-Yougo-<br>slave<br>42° N, 20° E<br>H = 01h 54' 32''<br>(USCGS) |
|      |          |         | E-W   | P<br>S<br>eS<br>F                                            | 01<br>02              | 56<br>57<br>09                         | 02<br>00<br>30                                     |                   |                |                |                          |                                                                                    |
|      |          | K       | N-S   | eP*<br>$\bar{P}$<br>S<br>L<br>F                              | 01                    | 55<br>56<br>57                         | 53<br>05<br>39                                     |                   |                |                | 4,7<br>520               |                                                                                    |
|      |          |         | E-W   | e $\bar{P}$<br>S<br>L<br>F                                   | 01<br>02              | 56<br>57<br>05                         | 02<br>38<br>02                                     |                   |                |                |                          |                                                                                    |
|      |          | Ke      | N-S   | $\bar{P}$<br>S<br>e<br>F                                     | 01<br>02              | 56<br>57<br>10                         | 13<br>51<br>07                                     |                   |                |                | 4,9<br>540               |                                                                                    |
|      |          |         | E-W   | e<br>eS*<br>F                                                | 01<br>02              | 56<br>57<br>10                         | 23<br>01                                           |                   |                |                |                          |                                                                                    |



| N    | Date | Station | Comp.             | Phase | Heure<br>de Greenwich |    |    | Péri-<br>ode<br>s | Amplitude |                | $\Delta$<br><br>Degré,<br>km | Remarques                                                                                                       |                                                                                                                                                                                      |
|------|------|---------|-------------------|-------|-----------------------|----|----|-------------------|-----------|----------------|------------------------------|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      |      |         |                   |       | h                     | m  | s  |                   | AN        | AE             |                              |                                                                                                                 |                                                                                                                                                                                      |
| 166. | 4.   | Sz      | N-S               | eP*   | 01                    | 55 | 53 |                   |           |                | 4,3<br>480                   |                                                                                                                 |                                                                                                                                                                                      |
|      |      |         |                   | P     |                       | 59 |    |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
|      |      |         |                   | e     |                       | 56 | 26 |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
|      |      | B       | E-W               | S     |                       | 53 |    |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
|      |      |         |                   | F     | 02                    | 11 |    |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
|      |      |         |                   |       |                       |    |    |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
|      | 5.   | B       | N-S               | eP    | 09                    | 05 | 58 |                   |           |                | 82,9<br>9210                 |                                                                                                                 | SE de For-<br>mose<br>21,5° N, 122,5° E<br>H = 08 <sup>h</sup> 53' 20''<br>(USCGS)<br>Traces<br>Région des<br>Iles Fidji<br>19° S, 176° E<br>H = 07 <sup>h</sup> 45' 31''<br>(USCGS) |
|      |      |         |                   |       |                       |    |    |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
|      |      |         |                   |       |                       |    |    |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
|      |      | B       | E-W               | PKP   | 08                    | 05 | 21 |                   |           |                | 145,9<br>16210               |                                                                                                                 |                                                                                                                                                                                      |
|      |      |         |                   | e     |                       | 06 | 30 |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
|      |      |         |                   | e     |                       | 10 | 13 |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
| 6.   | B    | N-S     | eL                |       | 55                    | 10 |    |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
|      |      |         | F                 | 09    | 05                    |    |    |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
|      |      |         |                   |       |                       |    |    |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
|      | K    | E-W     | PKP               | 08    | 05                    | 21 |    |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
|      |      |         | e                 |       | 06                    | 36 |    |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
|      |      |         | eL                |       | 55                    | 10 |    |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
| 167. | K    | N-S     | F                 | 09    | 05                    |    |    |                   |           | 146,6<br>16270 | Ondes longues<br>Traces      |                                                                                                                 |                                                                                                                                                                                      |
|      |      |         |                   |       |                       |    |    |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
|      |      |         |                   |       |                       |    |    |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
|      | Sz   | E-W     | PKP <sub>2</sub>  | 08    | 05                    | 23 |    |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
|      |      |         | e                 |       | 06                    | 37 |    |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
|      |      |         | F                 |       | 13                    |    |    |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
| 168. | Sz   | E-W     | ePKP <sub>2</sub> | 08    | 05                    | 24 |    |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
|      |      |         | F                 |       | 12                    |    |    |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
|      |      |         |                   |       |                       |    |    |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
|      | B    | N-S     | PKP               | 08    | 05                    | 23 |    |                   |           | 144,5<br>16100 |                              |                                                                                                                 |                                                                                                                                                                                      |
|      |      |         | e                 | 17    | 35                    | 13 |    |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
|      |      |         |                   |       |                       |    |    |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
| 168. | 6.   | B       | E-W               | F     | 17                    | 32 | 10 |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
|      |      |         |                   |       |                       | 51 |    |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
|      |      |         |                   |       |                       |    |    |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
|      |      | B       | N-S               | P     | 18                    | 42 | 32 |                   |           |                | 75,4<br>8380                 | Près de la<br>côte SE du<br>Kamtchatka<br>51° N, 158° E<br>H = 18 <sup>h</sup> 30' 48''<br>h = 60 km<br>(USCGS) |                                                                                                                                                                                      |
|      |      |         |                   | PcP   |                       |    | 56 |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
|      |      |         |                   | e     |                       | 45 | 48 |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
|      | B    | E-W     | PPP               |       | 47                    | 24 |    |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
|      |      |         | S                 |       | 52                    | 13 |    |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
|      |      |         | SKS               |       |                       | 35 |    |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
|      | 168. | B       | E-W               | L     | 19                    | 24 |    |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
|      |      |         |                   | F     |                       | 35 |    |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
|      |      |         |                   |       |                       |    |    |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
| B    |      | E-W     | P                 | 18    | 42                    | 33 |    |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
|      |      |         | PcP               |       |                       | 57 |    |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
|      |      |         | PP                |       | 45                    | 26 |    |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
| 168. | 6.   | B       | E-W               | S     |                       | 52 | 13 |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
|      |      |         |                   | SKS   |                       |    | 34 |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
|      |      |         |                   | PPS   |                       | 53 | 00 |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |
| 168. | 6.   | B       | E-W               | SS    |                       | 56 | 58 |                   |           |                |                              |                                                                                                                 |                                                                                                                                                                                      |



| N    | Date | Station | Comp.          | Phase            | Heure<br>de Greenwich |    |    | Péri-<br>ode<br>s | Amplitude |     | $\Delta$<br>Degré,<br>km | Remarques                                                |
|------|------|---------|----------------|------------------|-----------------------|----|----|-------------------|-----------|-----|--------------------------|----------------------------------------------------------|
|      |      |         |                |                  | h                     | m  | s  |                   | AN        | AE  |                          |                                                          |
| 169. | 9.   | K       | N-S            | L                | 19                    | 13 | 15 |                   |           |     |                          | La comp<br>E-W n'est<br>pas mesurable                    |
|      |      |         |                | M                |                       | 19 |    | 20                |           | 32  |                          |                                                          |
|      |      |         |                | M                |                       | 20 | 20 | 16                |           | 20  |                          |                                                          |
|      |      |         |                | F                |                       | 45 |    |                   |           |     |                          |                                                          |
|      |      |         |                | P                | 18                    | 42 | 38 |                   |           |     | 76,3                     |                                                          |
|      |      |         |                | PP               |                       | 45 | 47 |                   |           |     | 8480                     |                                                          |
|      |      |         |                | F                |                       | 55 |    |                   |           |     |                          |                                                          |
|      |      |         | S <sub>z</sub> | P                | 18                    | 42 | 39 |                   |           |     | 76,2                     |                                                          |
|      |      |         |                | PP               |                       | 45 | 26 |                   |           |     | 8400                     |                                                          |
|      |      |         |                | PPP              |                       | 47 | 29 |                   |           |     |                          |                                                          |
|      |      |         |                | F                | 19                    | 30 |    |                   |           |     |                          |                                                          |
|      |      |         | E-W            | P                | 18                    | 42 | 38 |                   |           |     |                          |                                                          |
|      |      |         |                | PP               |                       | 45 | 26 |                   |           |     |                          |                                                          |
|      |      |         |                | F                | 19                    | 30 |    |                   |           |     |                          |                                                          |
|      |      | B       | N-S            | P                | 01                    | 08 | 40 |                   |           |     | 17,4                     | N Algerie<br>36° N, 1,5° E<br>H = 01h 04' 37"<br>(USCGS) |
|      |      |         |                | PP               |                       |    | 57 |                   |           |     | 1930                     |                                                          |
|      |      |         |                | PPP              |                       | 09 | 25 |                   |           |     |                          |                                                          |
|      |      |         |                | S                |                       | 11 | 56 |                   |           |     |                          |                                                          |
|      |      |         |                | SS               |                       | 12 | 13 |                   |           |     |                          |                                                          |
|      |      |         |                | SSS              |                       |    | 38 |                   |           |     |                          |                                                          |
|      |      |         |                | P <sub>c</sub> P |                       | 13 | 19 |                   |           |     |                          |                                                          |
|      |      |         |                | M                |                       | 15 | 38 | 12                | 169       |     |                          |                                                          |
|      |      |         |                | M                |                       | 16 | 50 | 13                | 184       |     |                          |                                                          |
|      |      |         |                | M                |                       | 21 | 50 | 9                 | 51        |     |                          |                                                          |
|      |      |         |                | F                | 02                    | 40 |    |                   |           |     |                          |                                                          |
|      |      |         | E-W            | P                | 01                    | 08 | 40 |                   |           |     |                          |                                                          |
|      |      |         |                | PP               |                       |    | 55 |                   |           |     |                          |                                                          |
|      |      |         |                | PPP              |                       | 09 | 27 |                   |           |     |                          |                                                          |
|      |      |         |                | SS               |                       | 12 | 13 |                   |           |     |                          |                                                          |
|      |      |         |                | eSSS             |                       |    | 40 |                   |           |     |                          |                                                          |
|      |      |         |                | P <sub>c</sub> P |                       | 13 | 29 |                   |           |     |                          |                                                          |
|      |      |         |                | M                |                       | 15 | 15 | 15                |           | 130 |                          |                                                          |
|      |      |         |                | M                |                       | 17 | 55 | 11                |           | 63  |                          |                                                          |
|      |      |         |                | M                |                       | 21 | 53 | 9                 |           | 39  |                          |                                                          |
|      |      |         |                | F                | 02                    | 40 |    |                   |           |     |                          |                                                          |
|      |      | K       | N-S            | P                | 01                    | 08 | 36 |                   |           |     | 16,8                     |                                                          |
|      |      |         |                | PP               |                       |    | 49 |                   |           |     | 1870                     |                                                          |
|      |      |         |                | PPP              |                       |    | 54 |                   |           |     |                          |                                                          |
|      |      |         |                | SS               |                       | 12 | 00 |                   |           |     |                          |                                                          |
|      |      |         |                | SSS              |                       |    | 21 |                   |           |     |                          |                                                          |
|      |      |         |                | P <sub>c</sub> P |                       | 13 | 20 |                   |           |     |                          |                                                          |
|      |      |         | E-W            | L                |                       | 16 |    |                   |           |     |                          |                                                          |
|      |      |         |                | F                |                       | 55 |    |                   |           |     |                          |                                                          |
|      |      |         |                | P                | 01                    | 08 | 34 |                   |           |     |                          |                                                          |
|      |      |         |                | PP               |                       |    | 43 |                   |           |     |                          |                                                          |
|      |      |         |                | e                |                       | 09 | 16 |                   |           |     |                          |                                                          |
|      |      |         |                | P <sub>c</sub> P |                       | 13 | 28 |                   |           |     |                          |                                                          |
|      |      |         |                | L                |                       | 16 |    |                   |           |     |                          |                                                          |
|      |      |         |                | F                |                       | 55 |    |                   |           |     |                          |                                                          |











| №    | Date | Station | Comp. | Phase | Heure<br>de Greenwich |    |    | Péri-<br>ode |  | Amplitude |    | $\Delta$<br>Degré<br>km | Remarques |
|------|------|---------|-------|-------|-----------------------|----|----|--------------|--|-----------|----|-------------------------|-----------|
|      |      |         |       |       | h                     | m  | s  | s            |  | AN        | AE |                         |           |
| 174. | 15.  | Sz      | N-S   | SKS   |                       | 36 | 56 |              |  |           |    |                         |           |
|      |      |         |       | L     |                       | 53 | 10 |              |  |           |    |                         |           |
|      |      |         |       | F     | 03                    | 16 |    |              |  |           |    |                         |           |
|      |      |         |       | PKP   | 02                    | 29 | 39 |              |  |           |    | 151,7                   |           |
|      |      |         |       |       |                       |    |    |              |  |           |    | 16800                   |           |
|      |      |         |       | E-W   | 02                    | 29 | 45 |              |  |           |    |                         |           |
|      |      |         |       | PKP   |                       |    |    |              |  |           |    |                         |           |
|      |      |         |       | iPKP  | 18                    | 14 | 52 |              |  |           |    | 147,2                   |           |
|      |      |         |       | e     |                       | 15 | 57 |              |  |           |    | 16350                   |           |
|      |      |         |       | PP    |                       | 18 | 13 |              |  |           |    |                         |           |
| 175. | 17.  | B       | N-S   |       |                       |    |    |              |  |           |    |                         |           |
|      |      |         |       | E-W   | 18                    | 14 | 53 |              |  |           |    |                         |           |
|      |      |         |       | iPKP  |                       | 15 | 18 |              |  |           |    |                         |           |
|      |      |         |       | e     |                       | 16 | 25 |              |  |           |    |                         |           |
|      |      |         |       | PKP   | 18                    | 14 | 55 |              |  |           |    | 147,8                   |           |
|      |      |         |       | pPKP  |                       | 16 | 44 |              |  |           |    | 16400                   |           |
|      |      |         |       | E-W   | 18                    | 14 | 54 |              |  |           |    |                         |           |
|      |      |         |       | PKP   | 11                    | 22 | 41 |              |  |           |    | 149,9                   |           |
|      |      |         |       | e     |                       | 24 | 34 |              |  |           |    | 16650                   |           |
|      |      |         |       | PP    |                       | 26 | 28 |              |  |           |    |                         |           |
| 176. | 20.  | B       | N-S   | e     |                       | 32 | 17 |              |  |           |    |                         |           |
|      |      |         |       | e     |                       | 37 | 55 |              |  |           |    |                         |           |
|      |      |         |       | F     | 12                    | 35 |    |              |  |           |    |                         |           |
|      |      |         |       | E-W   | 11                    | 22 | 41 |              |  |           |    |                         |           |
|      |      |         |       | PKP   |                       | 23 | 24 |              |  |           |    |                         |           |
|      |      |         |       | pPKP  |                       | 29 | 48 |              |  |           |    |                         |           |
|      |      |         |       | ePPP  |                       | 32 | 43 |              |  |           |    |                         |           |
|      |      |         |       | e     | 12                    | 35 |    |              |  |           |    |                         |           |
|      |      |         |       | F     |                       |    |    |              |  |           |    |                         |           |
|      |      |         |       | PKP   | 11                    | 22 | 40 |              |  |           |    | 150,5                   |           |
| 177. | 22.  | Sz      | N-S   | pPKP  |                       | 23 | 34 |              |  |           |    | 16700                   |           |
|      |      |         |       | ePP   |                       | 25 | 56 |              |  |           |    |                         |           |
|      |      |         |       | F     | 12                    | 05 |    |              |  |           |    |                         |           |
|      |      |         |       | E-W   | 11                    | 22 | 44 |              |  |           |    |                         |           |
|      |      |         |       | PKP   |                       |    |    |              |  |           |    |                         |           |
|      |      |         |       | F     | 12                    | 05 |    |              |  |           |    |                         |           |
|      |      |         |       | eS    | 02                    | 56 | 00 |              |  |           |    | 8,2                     |           |
|      |      |         |       | eS    |                       |    | 29 |              |  |           |    | 910                     |           |
|      |      |         |       | e     |                       | 57 | 25 |              |  |           |    |                         |           |
|      |      |         |       | F     | 03                    | 00 |    |              |  |           |    |                         |           |
| 178. | 20.  | B       | N-S   | eS    | 02                    | 55 | 57 |              |  |           |    |                         |           |
|      |      |         |       | e     |                       | 56 | 38 |              |  |           |    |                         |           |
|      |      |         |       | F     | 03                    | 00 |    |              |  |           |    |                         |           |
|      |      |         |       | E-W   | 02                    | 55 | 57 |              |  |           |    |                         |           |
|      |      |         |       | eS    |                       |    |    |              |  |           |    |                         |           |
|      |      |         |       | e     |                       |    |    |              |  |           |    |                         |           |
|      |      |         |       | F     | 03                    | 00 |    |              |  |           |    |                         |           |
|      |      |         |       | S*    | 02                    | 55 | 14 |              |  |           |    | 6,8                     |           |
|      |      |         |       | eS    |                       |    | 30 |              |  |           |    | 760                     |           |
|      |      |         |       | F     | 03                    | 06 |    |              |  |           |    |                         |           |



| N°   | Date    | Station | Comp. | Phase     | Heure<br>de Greenwich |      |    | Péri-<br>ode<br>s | Amplitude |    | $\Delta$<br>Degré,<br>km | Remarques                                                                                           |
|------|---------|---------|-------|-----------|-----------------------|------|----|-------------------|-----------|----|--------------------------|-----------------------------------------------------------------------------------------------------|
|      |         |         |       |           | h                     | m    | s  |                   | AN        | AE |                          |                                                                                                     |
| 177. | 23.     | B       | E-W   | e         | 02                    | 55   | 27 |                   |           |    |                          | Iles Kouriles<br>49° N, 156° E<br>H = 21h 43 <sup>t</sup> 36''<br>(USCGS)                           |
|      |         |         |       | $\bar{S}$ |                       |      | 36 |                   |           |    |                          |                                                                                                     |
|      |         |         |       | F         | 03                    | 06   |    |                   |           |    |                          |                                                                                                     |
|      |         |         | N-S   | P         | 21                    | 55   | 34 |                   |           |    | 76,9                     |                                                                                                     |
|      |         |         |       | PcP       |                       |      | 46 |                   |           |    | 8540                     |                                                                                                     |
|      |         |         |       | e         | 22                    | 04   | 40 |                   |           |    |                          |                                                                                                     |
|      |         |         |       | S         |                       | 05   | 36 |                   |           |    |                          |                                                                                                     |
|      |         |         |       | PS        |                       | 06   | 00 |                   |           |    |                          |                                                                                                     |
|      |         |         |       | eSSS      |                       | 14   | 13 |                   |           |    |                          |                                                                                                     |
|      |         |         |       | eL        |                       | 26   | 45 |                   |           |    |                          |                                                                                                     |
|      |         |         |       | M         |                       | 32   | 45 | 18                | 16        |    |                          |                                                                                                     |
|      |         |         |       | M         |                       | 35   | 23 | 13                | 6         |    |                          |                                                                                                     |
|      |         |         |       | M         |                       | 37   | 50 | 13                | 7         |    |                          |                                                                                                     |
|      |         |         |       | F         | 23                    | 12   |    |                   |           |    |                          |                                                                                                     |
|      |         |         | E-W   | P         | 21                    | 55   | 33 |                   |           |    |                          |                                                                                                     |
|      |         |         |       | PcP       |                       |      | 43 |                   |           |    |                          |                                                                                                     |
|      |         |         |       | ePP       |                       | 58   | 50 |                   |           |    |                          |                                                                                                     |
|      |         |         |       | S         | 22                    | 05   | 35 |                   |           |    |                          |                                                                                                     |
|      |         |         |       | e         |                       | 14   | 53 |                   |           |    |                          |                                                                                                     |
|      |         |         |       | eL        |                       | 25   | 10 |                   |           |    |                          |                                                                                                     |
| 178. | 28.     | B       |       | M         |                       | 33   | 35 | 16                |           | 10 |                          | Traces. Près<br>de la côte SE<br>du Kamt-<br>chatka<br>52° N, 160° E<br>H = 00h 25' 00''<br>(USCGS) |
|      |         |         |       | M         |                       | 37   | 45 | 16                |           | 16 |                          |                                                                                                     |
|      |         |         |       | F         | 23                    | 10   |    |                   |           |    |                          |                                                                                                     |
|      |         | Sz      | N-S   | P         | 21                    | 55   | 38 |                   |           |    | 77,2                     |                                                                                                     |
|      |         |         |       | PPP       | 22                    | 00   | 23 |                   |           |    | 8580                     |                                                                                                     |
|      |         |         |       | S         |                       | 05   | 21 |                   |           |    |                          |                                                                                                     |
|      |         |         |       | ePPS      |                       | 07   | 05 |                   |           |    |                          |                                                                                                     |
|      |         |         |       | eL        |                       | 27,5 |    |                   |           |    |                          |                                                                                                     |
|      |         |         |       | F         | 23                    | 05   |    |                   |           |    |                          |                                                                                                     |
|      |         |         | E-W   | P         | 21                    | 55   | 38 |                   |           |    |                          |                                                                                                     |
|      |         |         |       | eL        | 22                    | 27   | 5  |                   |           |    |                          |                                                                                                     |
|      |         |         |       | F         | 23                    | 05   |    |                   |           |    |                          |                                                                                                     |
|      |         |         | N-S   | eP        | 00                    | 36   | 48 |                   |           |    | 75,1                     |                                                                                                     |
|      |         |         |       | eL        | 01                    | 13   | 15 |                   |           |    | 8340                     |                                                                                                     |
|      |         |         | E-W   | ePcP      | 00                    | 36   | 56 |                   |           |    |                          |                                                                                                     |
|      |         |         |       | e         |                       | 38   | 27 |                   |           |    |                          |                                                                                                     |
|      |         |         |       | e         |                       | 44   | 42 |                   |           |    |                          |                                                                                                     |
|      |         |         |       | eL        | 01                    | 13   | 15 |                   |           |    |                          |                                                                                                     |
| 179. | Oct. 1. | B       | N-S   | ePP       | 03                    | 17   | 32 |                   |           |    | 134,2                    | Santa-Cruz<br>11° S, 166° E<br>H = 02h 55' 31''<br>(USCGS)                                          |
|      |         |         |       | PKS       |                       | 18   | 19 |                   |           |    | 14910                    |                                                                                                     |
|      |         |         |       | PPP       |                       | 20   | 26 |                   |           |    |                          |                                                                                                     |
|      |         |         |       | ePPS      |                       | 28   | 51 |                   |           |    |                          |                                                                                                     |
|      |         |         |       | SSP       |                       | 35   | 20 |                   |           |    |                          |                                                                                                     |
|      |         |         |       | eL        | 04                    | 03   | 10 |                   |           |    |                          |                                                                                                     |
|      |         |         |       | F         | 05                    | 10   |    |                   |           |    |                          |                                                                                                     |



| N°   | Date | Station | Comp. | Phase             | Heure<br>de Greenwich |    |    | Péri-<br>ode<br>s | Amplitude |    | $\Delta$<br>Degré,<br>km | Remarques |
|------|------|---------|-------|-------------------|-----------------------|----|----|-------------------|-----------|----|--------------------------|-----------|
|      |      |         |       |                   | h                     | m  | s  |                   | AN        | AE |                          |           |
| 180. |      |         | E-W   | ePP               | 03                    | 17 | 29 |                   |           |    |                          |           |
|      |      |         |       | PKS               |                       | 18 | 32 |                   |           |    |                          |           |
|      |      |         |       | PPP               |                       | 20 | 21 |                   |           |    |                          |           |
|      |      |         |       | SKKS              |                       | 24 | 24 |                   |           |    |                          |           |
|      |      |         |       | PPS               |                       | 29 | 13 |                   |           |    |                          |           |
|      |      |         |       | SSP               |                       | 35 | 13 |                   |           |    |                          |           |
|      |      |         |       | SSS               |                       | 40 | 10 |                   |           |    |                          |           |
|      |      |         |       | eL                | 04                    | 09 |    |                   |           |    |                          |           |
|      |      |         |       | F                 | 05                    | 10 |    |                   |           |    |                          |           |
|      |      | K       | N-S   | ePP               | 03                    | 17 | 17 |                   |           |    | 134,8                    |           |
|      |      |         |       | ePKS              |                       | 18 | 39 |                   |           |    | 14980                    |           |
| 181. |      |         | E-W   | e                 | 03                    | 12 | 46 |                   |           |    |                          |           |
|      |      |         |       | ePKS              |                       | 18 | 44 |                   |           |    |                          |           |
|      |      | Sz      | N-S   | e                 | 03                    | 17 | 02 |                   |           |    | 134,4                    |           |
|      |      |         |       | PP                |                       |    | 25 |                   |           |    | 14930                    |           |
|      |      |         | E-W   | e                 | 03                    | 16 | 56 |                   |           |    |                          |           |
|      |      |         |       | PKS               |                       | 18 | 17 |                   |           |    |                          |           |
|      |      | B       |       | ePKP              | 07                    | 10 | 16 |                   |           |    | 145,5                    |           |
|      |      | K       | N-S   | e                 | 07                    | 10 | 54 |                   |           |    | 16160                    |           |
|      |      |         |       | ePKP <sub>2</sub> |                       | 11 | 34 |                   |           |    | 146,4                    |           |
|      |      |         | E-W   | ePKP              | 07                    | 10 | 15 |                   |           |    | 16260                    |           |
|      |      |         |       | ePKP <sub>2</sub> |                       | 11 | 21 |                   |           |    |                          |           |
|      |      | B       | N-S   | e                 | 13                    | 32 | 24 |                   |           |    |                          |           |
|      |      |         |       | e                 |                       | 33 | 24 |                   |           |    |                          |           |
|      |      |         |       | e                 |                       | 34 | 09 |                   |           |    |                          |           |
|      |      |         |       | e                 |                       |    | 18 |                   |           |    |                          |           |
|      |      |         | E-W   | F                 |                       | 37 |    |                   |           |    |                          |           |
|      |      |         |       | e                 | 13                    | 31 | 26 |                   |           |    |                          |           |
|      |      |         |       | e                 |                       |    | 50 |                   |           |    |                          |           |
|      |      |         |       | e                 |                       | 32 | 30 |                   |           |    |                          |           |
|      |      |         |       | e                 |                       | 34 | 18 |                   |           |    |                          |           |
|      |      |         |       | F                 |                       | 37 |    |                   |           |    |                          |           |
|      |      |         | K     | e                 | 13                    | 33 | 0  |                   |           |    |                          |           |
|      |      |         |       | F                 |                       | 37 |    |                   |           |    |                          |           |
|      |      | Sz      | N-S   | e                 | 13                    | 31 | 34 |                   |           |    |                          |           |
|      |      |         |       | e                 |                       | 32 | 31 |                   |           |    |                          |           |
|      |      |         |       | e                 |                       | 33 | 18 |                   |           |    |                          |           |
|      |      |         |       | F                 |                       | 42 |    |                   |           |    |                          |           |
|      |      |         | E-W   | e                 | 13                    | 32 | 42 |                   |           |    |                          |           |
|      |      |         |       | F                 |                       | 42 |    |                   |           |    |                          |           |

Proche

 Iles Samoa  
 14,5° S, 173° W  
 H = 06h 50' 24"  
 h = 60 km  
 (USCGS)



| N                | Date | Station | Comp. | Phase            | Heure<br>de Greenwich |    |    | Péri-<br>ode<br>s | Amplitude |    | Δ<br><br>Degré,<br>km | Remarques                                                              |  |              |                                                                                  |
|------------------|------|---------|-------|------------------|-----------------------|----|----|-------------------|-----------|----|-----------------------|------------------------------------------------------------------------|--|--------------|----------------------------------------------------------------------------------|
|                  |      |         |       |                  | h                     | m  | s  |                   | AN        | AE |                       |                                                                        |  |              |                                                                                  |
| 182.             | 3.   | B       | N-S   | ePPP             | 03                    | 09 | 18 |                   |           |    | 133,3<br>14810        | Santa Cruz<br>10° S, 166° E<br>H = 02 <sup>h</sup> 47' 19''<br>(USCGS) |  |              |                                                                                  |
|                  |      |         |       | PKS              |                       | 10 | 44 |                   |           |    |                       |                                                                        |  |              |                                                                                  |
|                  |      |         |       | PPP              |                       | 12 | 13 |                   |           |    |                       |                                                                        |  |              |                                                                                  |
|                  |      |         |       | PS               | 19                    | 13 |    |                   |           |    |                       |                                                                        |  |              |                                                                                  |
|                  |      |         |       | L                |                       | 51 | 15 |                   |           |    |                       |                                                                        |  |              |                                                                                  |
|                  |      |         |       | M                |                       | 57 | 53 | 20                | 35        |    |                       |                                                                        |  |              |                                                                                  |
|                  |      |         |       | M                |                       | 59 | 10 | 17                | 20        |    |                       |                                                                        |  |              |                                                                                  |
|                  |      |         |       | F                | 05                    | 00 |    |                   |           |    |                       |                                                                        |  |              |                                                                                  |
|                  |      |         | E-W   | ePKP             | 03                    | 07 | 05 |                   |           |    |                       |                                                                        |  |              |                                                                                  |
|                  |      |         |       | ePP              |                       | 09 | 30 |                   |           |    |                       |                                                                        |  |              |                                                                                  |
|                  |      |         |       | ePKS             |                       |    | 54 |                   |           |    |                       |                                                                        |  |              |                                                                                  |
|                  |      |         |       | m                |                       | 11 | 18 | 7                 |           | 3  |                       |                                                                        |  |              |                                                                                  |
|                  |      |         |       | eSKKS            |                       | 16 | 54 |                   |           |    |                       |                                                                        |  |              |                                                                                  |
|                  |      |         |       | SPP              |                       | 27 | 28 |                   |           |    |                       |                                                                        |  |              |                                                                                  |
|                  |      |         |       | L                |                       | 52 | 10 |                   |           |    |                       |                                                                        |  |              |                                                                                  |
|                  |      |         |       | M                | 04                    | 05 | 33 | 18                |           | 12 |                       |                                                                        |  |              |                                                                                  |
|                  |      |         |       | F                | 05                    | 00 |    |                   |           |    |                       |                                                                        |  |              |                                                                                  |
|                  |      | K       | N-S   | PP               | 03                    | 09 | 13 |                   |           |    | 133,8<br>14850        |                                                                        |  |              |                                                                                  |
|                  |      |         |       | ePKS             |                       | 10 | 28 |                   |           |    |                       |                                                                        |  |              |                                                                                  |
|                  |      |         | E-W   | ePP              | 03                    | 09 | 25 |                   |           |    |                       |                                                                        |  |              |                                                                                  |
|                  |      |         |       | PKS              |                       | 10 | 10 |                   |           |    |                       |                                                                        |  |              |                                                                                  |
|                  |      | Sz      | N-S   | e                |                       | 11 | 27 |                   |           |    |                       |                                                                        |  |              |                                                                                  |
|                  |      |         |       |                  | 03                    | 07 | 32 |                   |           |    | 132,3<br>14700        |                                                                        |  |              |                                                                                  |
|                  |      |         | E-W   | PKP              | 03                    | 06 | 27 |                   |           |    |                       |                                                                        |  |              |                                                                                  |
|                  |      |         |       | PP               |                       | 09 | 05 |                   |           |    |                       |                                                                        |  |              |                                                                                  |
|                  |      | 183.    |       | B                | N-S                   | P  | 11 | 30                | 03        |    |                       |                                                                        |  | 72,2<br>8020 | Alaska<br>60° N, 151° W<br>H = 11 <sup>h</sup> 18' 46''<br>h = 100 km<br>(USCGS) |
|                  |      |         |       |                  |                       | i  |    |                   | 07        |    |                       |                                                                        |  |              |                                                                                  |
| P <sub>c</sub> P |      |         |       |                  |                       |    | 24 |                   |           |    |                       |                                                                        |  |              |                                                                                  |
| S                |      |         |       |                  |                       | 39 | 47 |                   |           |    |                       |                                                                        |  |              |                                                                                  |
| PS               |      |         |       |                  |                       | 40 | 05 |                   |           |    |                       |                                                                        |  |              |                                                                                  |
| e                |      |         |       |                  |                       |    | 44 |                   |           |    |                       |                                                                        |  |              |                                                                                  |
| L                | 12   |         |       |                  |                       | 08 | 45 |                   |           |    |                       |                                                                        |  |              |                                                                                  |
| F                |      |         |       |                  |                       | 35 |    |                   |           |    |                       |                                                                        |  |              |                                                                                  |
| E-W              | P    |         |       |                  | 11                    | 30 | 06 |                   |           |    |                       |                                                                        |  |              |                                                                                  |
|                  | ePP  |         |       |                  |                       | 32 | 39 |                   |           |    |                       |                                                                        |  |              |                                                                                  |
|                  | eS   |         |       |                  |                       | 39 | 25 | 11                |           | 6  |                       |                                                                        |  |              |                                                                                  |
|                  | PS   |         |       |                  |                       |    | 53 |                   |           |    |                       |                                                                        |  |              |                                                                                  |
|                  | ePPS |         |       |                  |                       | 40 | 13 |                   |           |    |                       |                                                                        |  |              |                                                                                  |
|                  | eL   |         |       |                  | 12                    | 09 | 10 |                   |           |    |                       |                                                                        |  |              |                                                                                  |
|                  | F    |         |       |                  |                       | 35 |    |                   |           |    |                       |                                                                        |  |              |                                                                                  |
|                  |      |         |       |                  |                       |    |    |                   |           |    |                       |                                                                        |  |              |                                                                                  |
|                  |      |         |       |                  |                       |    |    |                   |           |    |                       |                                                                        |  |              |                                                                                  |
| K                | N-S  |         |       | P                | 11                    | 30 | 15 |                   |           |    | 73,2<br>8130          |                                                                        |  |              |                                                                                  |
|                  |      |         |       | P <sub>c</sub> P |                       |    | 38 |                   |           |    |                       |                                                                        |  |              |                                                                                  |
|                  |      |         |       | eS               |                       | 39 | 11 |                   |           |    |                       |                                                                        |  |              |                                                                                  |
|                  |      |         |       | SKS              |                       | 40 | 13 |                   |           |    |                       |                                                                        |  |              |                                                                                  |
|                  |      |         |       | PPS              |                       |    | 22 |                   |           |    |                       |                                                                        |  |              |                                                                                  |
|                  |      |         |       | F                |                       | 47 |    |                   |           |    |                       |                                                                        |  |              |                                                                                  |
|                  |      |         |       |                  |                       |    |    |                   |           |    |                       |                                                                        |  |              |                                                                                  |
|                  |      |         |       |                  |                       |    |    |                   |           |    |                       |                                                                        |  |              |                                                                                  |
|                  |      |         |       |                  |                       |    |    |                   |           |    |                       |                                                                        |  |              |                                                                                  |



| №    | Date | Station | Comp. | Phase | Heure<br>de Greenwich |    |    | Péri-<br>ode<br>s | Amplitude |    | Δ            | Remarques                                                |
|------|------|---------|-------|-------|-----------------------|----|----|-------------------|-----------|----|--------------|----------------------------------------------------------|
|      |      |         |       |       | h                     | m  | s  |                   | AN        | AE |              |                                                          |
| 184. | 6.   | Sz      | E-W   | P     | 11                    | 30 | 16 |                   |           |    | 73,5<br>8200 |                                                          |
|      |      |         |       | PcP   |                       |    |    | 38                |           |    |              |                                                          |
|      |      |         |       | SKS   |                       | 40 | 12 |                   |           |    |              |                                                          |
|      |      |         |       | PPS   |                       |    | 22 |                   |           |    |              |                                                          |
|      |      |         |       | F     |                       | 47 |    |                   |           |    |              |                                                          |
|      |      |         | N-S   | P     | 11                    | 30 | 13 |                   |           |    |              |                                                          |
|      |      |         |       | S     |                       | 39 | 43 |                   |           |    |              |                                                          |
|      |      |         |       | PS    |                       | 40 | 03 |                   |           |    |              |                                                          |
|      |      |         |       | PPS   |                       |    | 26 |                   |           |    |              |                                                          |
|      |      |         |       | F     | 12                    | 10 |    |                   |           |    |              |                                                          |
|      |      |         | E-W   | P     | 11                    | 30 | 13 |                   |           |    |              |                                                          |
|      |      |         |       | PcP   |                       |    | 28 |                   |           |    |              |                                                          |
|      |      |         |       | eS    |                       | 39 | 37 |                   |           |    |              |                                                          |
|      |      |         |       | PS    |                       | 40 | 07 |                   |           |    |              |                                                          |
|      |      |         |       | SKS   |                       |    | 12 |                   |           |    |              |                                                          |
| N-S  | ePPS |         |       | 32    |                       |    |    |                   |           |    |              |                                                          |
|      | F    | 12      | 10    |       |                       |    |    |                   |           |    |              |                                                          |
|      | e    | 12      | 06    | 17    |                       |    |    |                   |           |    |              |                                                          |
|      | e    |         |       | 27    |                       |    |    |                   |           |    |              |                                                          |
|      | e    |         | 07    | 02    |                       |    |    |                   |           |    |              |                                                          |
| E-W  | F    |         | 09    |       |                       |    |    |                   |           |    |              |                                                          |
|      | e    | 12      | 06    | 27    |                       |    |    |                   |           |    |              |                                                          |
|      | e    |         | 07    | 02    |                       |    |    |                   |           |    |              |                                                          |
|      | F    |         | 09    |       |                       |    |    |                   |           |    |              |                                                          |
|      | 185. | 11.     | B     | N-S   | e                     | 16 | 47 | 06                |           |    | 4,3<br>470   | Italie<br>46,25° N, 13° E<br>H = 16h 45' 25''<br>(USCGS) |
| S    |      |         |       |       |                       |    | 23 |                   |           |    |              |                                                          |
| eS*  |      |         |       |       |                       |    | 40 |                   |           |    |              |                                                          |
| eS̄  |      |         |       |       |                       |    | 52 |                   |           |    |              |                                                          |
| M    |      |         |       |       |                       | 48 | 18 |                   |           |    |              |                                                          |
| E-W  |      |         |       | F     |                       | 51 |    |                   |           |    |              |                                                          |
|      |      |         |       | eP*   | 16                    | 46 | 42 |                   |           |    |              |                                                          |
|      |      |         |       | S*    |                       | 47 | 39 |                   |           |    |              |                                                          |
|      |      |         |       | S̄    |                       |    | 47 |                   |           |    |              |                                                          |
|      |      |         |       | eL    |                       | 48 | 05 |                   |           |    |              |                                                          |
| N-S  |      |         |       | F     |                       | 53 |    |                   |           |    |              |                                                          |
|      |      |         |       | P*    | 16                    | 46 | 36 |                   |           |    |              |                                                          |
|      |      |         |       | eP    |                       | 47 | 01 |                   |           |    |              |                                                          |
|      |      |         |       | S     |                       |    | 43 |                   |           |    |              |                                                          |
|      |      |         |       | F     |                       | 56 |    |                   |           |    |              |                                                          |
| E-W  | eP*  | 16      | 46    | 44    |                       |    |    |                   |           |    |              |                                                          |
|      | S̄   |         | 47    | 46    |                       |    |    |                   |           |    |              |                                                          |
|      | F    |         | 56    |       |                       |    |    |                   |           |    |              |                                                          |
|      | N-S  | e       | 16    | 47    | 28                    |    |    |                   |           |    |              |                                                          |
|      |      | eS̄     |       | 48    | 06                    |    |    |                   |           |    |              |                                                          |
| F    |      | 17      | 01    |       |                       |    |    |                   |           |    |              |                                                          |



| №    | Date | Station | Comp. | Phase           | Heure<br>de Greenwich |      |    | Péri-<br>ode<br>s | Amplitude |    | Δ<br>Degré,<br>km | Remarques                                                                                                       |
|------|------|---------|-------|-----------------|-----------------------|------|----|-------------------|-----------|----|-------------------|-----------------------------------------------------------------------------------------------------------------|
|      |      |         |       |                 | h                     | m    | s  |                   | AN        | AE |                   |                                                                                                                 |
| 186. | 17.  | B       | E-W   | eS <sub>-</sub> | 16                    | 47   | 47 |                   |           |    |                   | 91,5<br>10170<br><br>Ondes longu-<br>es. Imperial<br>Valley<br>31,5° N, 116,5° W<br>H = 22h 57' 18''<br>(USCGS) |
|      |      |         |       | eS <sub>-</sub> |                       | 48   | 06 |                   |           |    |                   |                                                                                                                 |
|      |      |         | N-S   | F               | 17                    | 01   |    |                   |           |    |                   |                                                                                                                 |
| 187. | 19.  | B       |       | e               | 23                    | 45   | 00 |                   |           |    |                   | 32,4<br>3570<br><br>N Océan At-<br>lantique<br>57,5° N, 32,5° W<br>H = 17h 48' 14''<br>(USCGS)                  |
|      |      |         |       | F               | 00                    | 06   |    |                   |           |    |                   |                                                                                                                 |
|      |      |         | E-W   | e               | 23                    | 51   | 00 |                   |           |    |                   |                                                                                                                 |
| 188. | 20.  | B       |       | F               | 00                    | 05   |    |                   |           |    |                   | Traces                                                                                                          |
|      |      |         | N-S   | e               | 18                    | 00   | 00 |                   |           |    |                   |                                                                                                                 |
|      |      |         |       | eL              |                       | 06   |    |                   |           |    |                   |                                                                                                                 |
| 189. | 21.  | B       |       | F               |                       | 17   |    |                   |           |    |                   | Roumanie<br>45° N, 26,5° E<br>H = 12h 03' 18''<br>(BCIS)                                                        |
|      |      |         | E-W   | e               | 18                    | 00   | 00 |                   |           |    |                   |                                                                                                                 |
|      |      |         |       | eL              |                       | 08   |    |                   |           |    |                   |                                                                                                                 |
| 190. | 23.  | B       |       | F               |                       | 15   |    |                   |           |    |                   | Proche                                                                                                          |
|      |      |         | N-S   | e               | 00                    | 29   | 00 |                   |           |    |                   |                                                                                                                 |
|      |      |         |       | L               |                       | 37   | 00 |                   |           |    |                   |                                                                                                                 |
| 190. | 23.  | B       |       | F               | 01                    | 50   |    |                   |           |    |                   | Proche                                                                                                          |
|      |      |         | E-W   | e               | 00                    | 29,5 |    |                   |           |    |                   |                                                                                                                 |
|      |      |         |       | e               |                       | 30   | 00 |                   |           |    |                   |                                                                                                                 |
| 190. | 23.  | B       |       | L               |                       | 36   | 00 |                   |           |    |                   | Proche                                                                                                          |
|      |      |         |       | F               | 01                    | 50   |    |                   |           |    |                   |                                                                                                                 |
|      |      |         | N-S   | eS <sub>-</sub> | 12                    | 05   | 56 |                   |           |    |                   |                                                                                                                 |
| 190. | 23.  | B       |       | eS <sub>-</sub> |                       | 06   | 34 |                   |           |    |                   | Proche                                                                                                          |
|      |      |         |       | L               |                       | 07   | 36 |                   |           |    |                   |                                                                                                                 |
|      |      |         | E-W   | eS <sub>-</sub> | 12                    | 05   | 53 |                   |           |    |                   |                                                                                                                 |
| 190. | 23.  | B       |       | eS <sub>-</sub> |                       | 06   | 35 |                   |           |    |                   | Proche                                                                                                          |
|      |      |         |       | eL              |                       | 07   | 07 |                   |           |    |                   |                                                                                                                 |
|      |      |         |       | F               |                       | 09   |    |                   |           |    |                   |                                                                                                                 |
| 190. | 23.  | B       | N-S   | eP              | 19                    | 08   | 32 |                   |           |    |                   | Proche                                                                                                          |
|      |      |         |       | F               |                       | 10   |    |                   |           |    |                   |                                                                                                                 |
|      |      |         | E-W   | eP              | 19                    | 08   | 35 |                   |           |    |                   |                                                                                                                 |
| 190. | 23.  | B       |       | F               |                       | 10   |    |                   |           |    |                   | Proche                                                                                                          |
|      |      |         | N-S   | e               | 19                    | 07   | 15 |                   |           |    |                   |                                                                                                                 |
|      |      |         |       | e               |                       | 32   |    |                   |           |    |                   |                                                                                                                 |
| 190. | 23.  | B       |       | e               |                       | 08   | 15 |                   |           |    |                   | Proche                                                                                                          |
|      |      |         |       | e               |                       | 11   |    |                   |           |    |                   |                                                                                                                 |
|      |      |         | N-S   | F               |                       |      |    |                   |           |    |                   |                                                                                                                 |
| 190. | 23.  | B       | E-W   | e               | 19                    | 08   | 45 |                   |           |    |                   | Proche                                                                                                          |
|      |      |         |       | e               |                       | 55   |    |                   |           |    |                   |                                                                                                                 |
|      |      |         |       | F               |                       | 11   |    |                   |           |    |                   |                                                                                                                 |



| N    | Date | Station | Comp. | Phase          | Heure<br>de Greenwich |    |    | Péri-<br>ode<br>s | Amplitude                  |                            | $\Delta$<br><br>Degré,<br>km | Remarques                                                            |    |  |  |  |              |  |
|------|------|---------|-------|----------------|-----------------------|----|----|-------------------|----------------------------|----------------------------|------------------------------|----------------------------------------------------------------------|----|--|--|--|--------------|--|
|      |      |         |       |                | h                     | m  | s  |                   | AN                         | AE                         |                              |                                                                      |    |  |  |  |              |  |
| 191. | 24.  | B       | N-S   | e              | 23                    | 40 | 47 | 8<br>7            | 3<br>2                     |                            | 9,8<br>1090                  | W de la Tur-<br>quie<br>39,5° N, 27° E<br>H = 23h 37' 10'<br>(USCGS) |    |  |  |  |              |  |
|      |      |         |       | e <sub>-</sub> |                       | 42 | 24 |                   |                            |                            |                              |                                                                      |    |  |  |  |              |  |
|      |      |         |       | eS             |                       |    | 38 |                   |                            |                            |                              |                                                                      |    |  |  |  |              |  |
|      |      |         |       | L              |                       | 43 |    |                   |                            |                            |                              |                                                                      |    |  |  |  |              |  |
|      |      |         |       | M              |                       | 45 | 50 |                   |                            |                            |                              |                                                                      |    |  |  |  |              |  |
|      |      |         |       | M              |                       | 46 | 35 |                   |                            |                            |                              |                                                                      |    |  |  |  |              |  |
|      |      |         |       | F              |                       | 48 |    |                   |                            |                            |                              |                                                                      |    |  |  |  |              |  |
|      |      |         | E-W   | eP             | 23                    | 40 | 40 |                   |                            |                            |                              |                                                                      |    |  |  |  |              |  |
|      |      |         |       | S              |                       | 41 | 35 |                   |                            |                            |                              |                                                                      |    |  |  |  |              |  |
|      |      |         |       | e <sub>-</sub> |                       | 42 | 24 |                   |                            |                            |                              |                                                                      |    |  |  |  |              |  |
|      |      |         |       | S              |                       |    | 43 |                   |                            |                            |                              |                                                                      |    |  |  |  |              |  |
|      |      |         |       | L              |                       | 43 |    |                   |                            |                            |                              |                                                                      |    |  |  |  |              |  |
|      |      |         |       | F              |                       | 48 |    |                   |                            |                            |                              |                                                                      |    |  |  |  |              |  |
| Sz   | E-W  | e       | 23    | 40             | 36                    |    |    | 8,4<br>930        | N-S n'est<br>pas mesurable |                            |                              |                                                                      |    |  |  |  |              |  |
|      |      | S*      |       | 41             | 22                    |    |    |                   |                            |                            |                              |                                                                      |    |  |  |  |              |  |
|      |      | F       |       | 55             |                       |    |    |                   |                            |                            |                              |                                                                      |    |  |  |  |              |  |
| 192. | 26.  | B       | N-S   | e              | 02                    | 28 | 28 |                   |                            |                            | 6<br>670                     | Italie<br>42° N, 15, 5° E<br>H = 02h 25' 55'<br>(BCIS)               |    |  |  |  |              |  |
|      |      |         |       | eS             |                       | 29 | 29 |                   |                            |                            |                              |                                                                      |    |  |  |  |              |  |
|      |      |         |       | F              |                       | 32 |    |                   |                            |                            |                              |                                                                      |    |  |  |  |              |  |
|      |      |         | E-W   | e              | 02                    | 28 | 09 |                   |                            |                            |                              |                                                                      |    |  |  |  |              |  |
|      |      |         |       | eS             |                       | 29 | 11 |                   |                            |                            |                              |                                                                      |    |  |  |  |              |  |
|      |      |         |       | F              |                       | 32 |    |                   |                            |                            |                              |                                                                      |    |  |  |  |              |  |
|      |      |         | K     | N-S            | e                     | 02 | 27 |                   |                            |                            |                              |                                                                      | 57 |  |  |  | 5,2<br>580   |  |
|      |      |         |       |                | e                     |    | 28 |                   |                            |                            |                              |                                                                      | 05 |  |  |  |              |  |
|      |      |         |       |                | e                     |    | 29 |                   |                            |                            |                              |                                                                      | 58 |  |  |  |              |  |
|      |      |         |       |                | F                     |    | 36 |                   |                            |                            |                              |                                                                      |    |  |  |  |              |  |
|      |      |         |       |                |                       |    |    |                   |                            |                            |                              |                                                                      |    |  |  |  |              |  |
|      |      |         |       |                |                       |    |    |                   |                            |                            |                              |                                                                      |    |  |  |  |              |  |
|      |      |         | E-W   | eS*            | 02                    | 28 | 40 |                   |                            |                            |                              |                                                                      |    |  |  |  |              |  |
| e    |      | 29      |       | 11             |                       |    |    |                   |                            |                            |                              |                                                                      |    |  |  |  |              |  |
| F    |      | 34      |       |                |                       |    |    |                   |                            |                            |                              |                                                                      |    |  |  |  |              |  |
| Sz   | E-W  | e       | 02    | 28             | 13                    |    |    |                   | 5,4<br>600                 | N-S n'est<br>pas mesurable |                              |                                                                      |    |  |  |  |              |  |
|      |      | S       |       |                | 22                    |    |    |                   |                            |                            |                              |                                                                      |    |  |  |  |              |  |
|      |      | S*      |       |                | 35                    |    |    |                   |                            |                            |                              |                                                                      |    |  |  |  |              |  |
|      |      | F       |       | 36             |                       |    |    |                   |                            |                            |                              |                                                                      |    |  |  |  |              |  |
| 193. |      | B       | N-S   | e              | 10                    | 39 | 36 |                   |                            |                            | 16,8<br>1860                 | Turquie<br>40° N, 40° E<br>H = 10h 34' 18'<br>(Istambul)             |    |  |  |  |              |  |
|      |      |         |       | S              |                       | 41 |    |                   |                            |                            |                              |                                                                      |    |  |  |  |              |  |
|      |      |         |       | F              |                       | 47 |    |                   |                            |                            |                              |                                                                      |    |  |  |  |              |  |
|      |      |         | E-W   | e              | 10                    | 39 | 23 |                   |                            |                            |                              |                                                                      |    |  |  |  |              |  |
|      |      |         |       | e              |                       |    | 30 |                   |                            |                            |                              |                                                                      |    |  |  |  |              |  |
|      |      |         |       | e              |                       |    | 52 |                   |                            |                            |                              |                                                                      |    |  |  |  |              |  |
|      |      |         |       | F              |                       | 47 |    |                   |                            |                            |                              |                                                                      |    |  |  |  |              |  |
|      |      |         | Sz    | E-W            | P                     | 10 | 37 |                   |                            |                            |                              |                                                                      | 59 |  |  |  | 15,7<br>1740 |  |
|      |      |         |       |                | PPP                   |    | 38 |                   |                            |                            |                              |                                                                      | 36 |  |  |  |              |  |
|      |      |         |       |                | F                     |    | 49 |                   |                            |                            |                              |                                                                      |    |  |  |  |              |  |



| №    | Date    | Station | Comp. | Phase | Heure<br>de Greenwich |      |      | Péri-<br>ode<br>s | Amplitude |    | Δ<br><br>Degré,<br>km | Remarques                                                  |                |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|------|---------|---------|-------|-------|-----------------------|------|------|-------------------|-----------|----|-----------------------|------------------------------------------------------------|----------------|-----------------------------------------------------------------------------------------|-----|--|--------------|--|--|---|----|----|----|--|------------|--------------------------------------------------------------------------|----|
|      |         |         |       |       | h                     | m    | s    |                   | AN        | AE |                       |                                                            |                |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
| 194. | 30.     | B       | N-S   | eP    | 23                    | 48   | 17   |                   |           |    | 20,7<br>2300          | Azerbeïdjan<br>40° N, 46° E<br>H = 23h 43' 27''<br>(USCGS) |                |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|      |         |         |       | PP    |                       |      | 49   |                   |           |    |                       |                                                            | 32             |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|      |         |         |       | S     |                       |      | 52   |                   |           |    |                       |                                                            | 11             |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|      |         |         |       | e     |                       |      | 55   |                   |           |    |                       |                                                            | 10             |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|      |         |         |       | e     |                       |      | 57   |                   |           |    |                       |                                                            | 45             |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|      |         |         |       | F     | 00                    | 00   |      |                   |           |    |                       |                                                            |                |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|      |         |         | E-W   | eP    | 23                    | 48   | 17   |                   |           |    |                       |                                                            |                |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|      |         |         |       | e     |                       |      | 50   |                   |           |    |                       |                                                            | 10             |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|      |         |         |       | S     |                       |      | 52   |                   |           |    |                       |                                                            | 11             |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|      |         |         |       | e     |                       |      | 54   |                   |           |    |                       |                                                            | 10             |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|      |         |         |       | F     | 00                    | 00   |      |                   |           |    |                       |                                                            |                |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|      |         |         |       | K     | N-S                   | P    | 23   |                   |           |    |                       |                                                            | 48             | 15                                                                                      |     |  | 20,6<br>2290 |  |  |   |    |    |    |  |            |                                                                          |    |
|      |         | PPP     |       |       |                       |      |      | 52                |           |    |                       |                                                            |                |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|      |         | e       |       |       |                       |      | 49   | 08                |           |    |                       |                                                            |                |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|      |         | e       |       |       |                       |      | 52   | 08                |           |    |                       |                                                            |                |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|      |         | F       |       |       |                       | 59   |      |                   |           |    |                       |                                                            |                |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|      |         | E-W     | P     |       | 23                    | 48   | 13   |                   |           |    |                       |                                                            |                |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|      |         |         | PPP   |       |                       |      | 46   |                   |           |    |                       |                                                            |                |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|      |         |         |       |       |                       | e    |      |                   | 49        | 41 |                       |                                                            |                | 20,1<br>2230                                                                            |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
| e    |         |         |       |       |                       |      | 50   | 40                |           |    |                       |                                                            |                |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
| F    | 00      |         |       |       |                       | 00   |      |                   |           |    |                       |                                                            |                |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
| N-S  | P       |         |       |       |                       | 23   | 48   | 12                |           |    |                       |                                                            |                |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|      | S       |         |       |       |                       |      |      | 51                | 54        |    |                       |                                                            |                |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
| E-W  | P       |         |       |       |                       | 23   | 48   | 09                |           |    |                       |                                                            |                |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|      | eS      |         |       |       |                       | 51   | 46   |                   |           |    |                       |                                                            |                |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
| 195. | Nov. 2. |         |       | B     | N-S                   | ePP  | 08   | 42                | 12        |    |                       |                                                            | 102,2<br>11350 | Agit. micr.<br>Région de'Soum-<br>bava<br>7,5° S, 118° E<br>H = 08h 24' 08''<br>(USCGS) |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|      |         |         |       |       |                       | PPP  |      |                   | 44        |    |                       |                                                            |                |                                                                                         | 30  |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|      |         |         |       |       |                       | eS   |      |                   | 49        |    |                       |                                                            |                |                                                                                         | 34  |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|      |         |         |       |       |                       | PS   |      |                   | 51        |    |                       |                                                            |                |                                                                                         | 12  |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|      |         |         |       |       |                       | ePPS |      |                   | 52        |    |                       |                                                            |                |                                                                                         | 19  |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|      |         | eSS     |       |       |                       |      | 56   | 42                |           |    |                       |                                                            |                |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|      |         | eL      | 09    |       |                       | 28   | 15   |                   |           |    |                       |                                                            |                |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|      |         | F       |       |       |                       |      | 50   |                   |           |    |                       |                                                            |                |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|      |         | E-W     | ePP   |       |                       | 08   | 42   | 23                |           |    |                       |                                                            |                |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|      |         |         | e     |       |                       |      |      | 46                | 20        |    |                       |                                                            |                |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|      |         |         | SKS   |       |                       |      |      | 48                | 48        |    |                       |                                                            |                |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|      |         |         | S     |       |                       |      |      | 49                | 32        |    |                       |                                                            |                |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|      |         |         | ePPS  |       |                       |      | 51   | 56                |           |    |                       |                                                            |                |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|      |         |         | eL    |       | 09                    | 30   | 15   |                   |           |    |                       |                                                            |                |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|      |         |         |       |       |                       |      | F    |                   |           |    |                       |                                                            |                |                                                                                         | 45  |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|      |         |         |       |       |                       |      | 196. | 4.                | B         |    |                       |                                                            |                |                                                                                         | N-S |  |              |  |  | e | 19 | 57 | 49 |  | 7,9<br>880 | Grèce occi-<br>dentale<br>39,7° N, 20,6° E<br>H = 19h 52' 55''<br>(BCIS) |    |
|      |         |         |       |       |                       |      |      |                   |           |    |                       |                                                            |                |                                                                                         |     |  |              |  |  | e |    |    | 58 |  |            |                                                                          | 12 |
|      |         |         |       |       |                       |      |      |                   |           |    |                       |                                                            |                |                                                                                         |     |  |              |  |  | e |    |    |    |  |            |                                                                          | 41 |
|      |         |         |       |       |                       |      |      |                   |           |    |                       |                                                            |                |                                                                                         |     |  |              |  |  | F | 20 | 05 |    |  |            |                                                                          |    |
|      |         |         |       |       |                       |      |      |                   |           |    |                       |                                                            |                |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |
|      |         |         |       |       |                       |      |      |                   |           |    |                       |                                                            |                |                                                                                         |     |  |              |  |  |   |    |    |    |  |            |                                                                          |    |



| N           | Date | Station | Comp. | Phase       | Heure<br>de Greenwich |           |     | Péri-<br>ode<br>s | Amplitude |    | Δ<br><br>Degré,<br>km | Remarques |
|-------------|------|---------|-------|-------------|-----------------------|-----------|-----|-------------------|-----------|----|-----------------------|-----------|
|             |      |         |       |             | h                     | m         | s   |                   | AN        | AE |                       |           |
| 197.        |      | Sz      | E-W   | e           | 19                    | 57        | 49  |                   |           |    | 6,6<br>730            |           |
|             |      |         |       | e           |                       | 58        | 14  |                   |           |    |                       |           |
|             |      |         |       | e           |                       | 59        | 45  |                   |           |    |                       |           |
|             |      |         |       | F           | 20                    | 05        |     |                   |           |    |                       |           |
|             |      | Sz      | N-S   | $\bar{P}$   | 19                    | 55        | 06  |                   |           |    |                       |           |
|             |      |         |       | $\bar{S}$   |                       | 56        | 29  |                   |           |    |                       |           |
|             |      |         |       | e           |                       | 57        | 01  |                   |           |    |                       |           |
|             |      |         |       | F           |                       | 20        | 06  |                   |           |    |                       |           |
|             |      | B       | E-W   | e $\bar{S}$ | 19                    | 56        | 34  |                   |           |    |                       |           |
|             |      |         |       | e           |                       | 57        | 00  |                   |           |    |                       |           |
|             |      |         |       | F           | 20                    | 06        |     |                   |           |    |                       |           |
|             |      |         |       | B           | N-S                   | $\bar{S}$ | 20  |                   |           |    |                       |           |
| e           |      | 44      | 35    |             |                       |           |     |                   |           |    |                       |           |
| e           |      | 45      | 44    |             |                       |           |     |                   |           |    |                       |           |
| F           |      | 50      |       |             |                       |           |     |                   |           |    |                       |           |
| Sz          | E-W  | e       | 20    | 43          | 48                    |           |     |                   |           |    |                       |           |
|             |      | e       |       | 44          | 41                    |           |     |                   |           |    |                       |           |
|             |      | F       |       | 50          |                       |           |     |                   |           |    |                       |           |
|             |      | Sz      | N-S   | P           | 20                    | 40        | 08  |                   |           |    |                       |           |
| e $\bar{S}$ |      |         |       | 42          | 42                    |           |     |                   |           |    |                       |           |
| e           |      |         |       | 43          | 00                    |           |     |                   |           |    |                       |           |
| F           |      |         |       | 52          |                       |           |     |                   |           |    |                       |           |
| B           | E-W  | e       | 20    | 42          | 12                    |           |     |                   |           |    |                       |           |
|             |      | F       |       | 52          |                       |           |     |                   |           |    |                       |           |
|             |      | B       | N-S   | e           | 22                    | 58        | 37  |                   |           |    |                       |           |
|             |      |         |       | e           | 23                    | 35        | 00  |                   |           |    |                       |           |
| F           |      |         |       | 38          |                       |           |     |                   |           |    |                       |           |
| B           | E-W  |         |       | e           | 22                    | 58        | 30  |                   |           |    |                       |           |
|             |      | B       | E-W   | e           | 09                    | 10        | 07  |                   |           |    |                       |           |
|             |      |         |       | B           |                       | e         | 18  | 44                | 55        |    |                       |           |
|             |      |         |       |             |                       | B         | E-W | e                 | 22        | 08 | 52                    |           |
| B           | N-S  |         |       |             |                       |           |     | e                 | 05        | 59 | 12                    |           |
|             |      | eL      | 06    |             |                       |           |     | 04                |           |    |                       |           |
|             |      | F       |       | 15          |                       |           |     |                   |           |    |                       |           |
|             |      | B       | E-W   | e           | 06                    | 00        | 10  |                   |           |    |                       |           |
| eL          |      |         |       | 03          |                       |           |     |                   |           |    |                       |           |
| F           |      |         |       | 15          |                       |           |     |                   |           |    |                       |           |
|             |      |         |       |             |                       |           |     |                   |           |    |                       |           |



| №    | Date | Station | Comp. | Phase     | Heure<br>de Greenwich |    |    | Péri-<br>ode<br>s | Amplitude |    | Δ<br>Degré,<br>km | Remarques                                                                                      |
|------|------|---------|-------|-----------|-----------------------|----|----|-------------------|-----------|----|-------------------|------------------------------------------------------------------------------------------------|
|      |      |         |       |           | h                     | m  | s  |                   | AN        | AE |                   |                                                                                                |
| 203. |      | B       | N-S   | P         | 20                    | 57 | 07 |                   |           |    | 79,7<br>8850      | Honshu<br>39° N, 142° E<br>H = 20h 44' 55''<br>(USCGS)                                         |
|      |      |         |       | e         |                       | 59 | 52 |                   |           |    |                   |                                                                                                |
|      |      |         |       | e         | 21                    | 05 | 37 |                   |           |    |                   |                                                                                                |
|      |      |         |       | ScS       |                       | 07 | 31 |                   |           |    |                   |                                                                                                |
|      |      |         |       | SS        |                       | 12 | 12 |                   |           |    |                   |                                                                                                |
|      |      |         |       | eL        |                       | 28 | 40 |                   |           |    |                   |                                                                                                |
|      |      |         |       | M         |                       | 36 |    |                   |           |    |                   |                                                                                                |
|      |      |         |       | F         |                       | 50 |    |                   |           |    |                   |                                                                                                |
|      |      |         | E-W   | P         | 20                    | 57 | 07 |                   |           |    |                   |                                                                                                |
|      |      |         |       | PcP       |                       |    | 19 |                   |           |    |                   |                                                                                                |
|      |      |         |       | e         | 21                    | 05 | 37 |                   |           |    |                   |                                                                                                |
|      |      |         |       | ScS       |                       | 07 | 26 |                   |           |    |                   |                                                                                                |
|      |      |         |       | PS        |                       |    | 45 |                   |           |    |                   |                                                                                                |
|      |      |         |       | SS        |                       | 12 | 12 |                   |           |    |                   |                                                                                                |
|      |      |         |       | F         |                       | 43 |    |                   |           |    |                   |                                                                                                |
| 204. | 19.  | B       | N-S   | eP        | 06                    | 06 | 44 |                   |           |    | 73,2<br>8130      | Mer du Japon<br>41° N, 131,5° E<br>H = 05h 56' 03''<br>h = 600 km<br>(USCGS)                   |
|      |      |         |       | pP        |                       | 08 | 31 |                   |           |    |                   |                                                                                                |
|      |      |         |       | S         |                       | 15 | 30 |                   |           |    |                   |                                                                                                |
|      |      |         |       | e         |                       | 16 | 53 |                   |           |    |                   |                                                                                                |
|      |      |         |       | e         |                       | 18 | 10 |                   |           |    |                   |                                                                                                |
|      |      |         | E-W   | P         | 06                    | 06 | 34 |                   |           |    |                   |                                                                                                |
|      |      |         |       | pP        |                       | 08 | 35 |                   |           |    |                   |                                                                                                |
|      |      |         |       | eS        |                       | 15 | 29 |                   |           |    |                   |                                                                                                |
|      |      |         |       | esS       |                       | 19 | 12 |                   |           |    |                   |                                                                                                |
|      |      |         |       |           |                       |    |    |                   |           |    |                   |                                                                                                |
| 205. | 22.  | Sz      | N-S   | P         | 06                    | 07 | 32 |                   |           |    | 73,5<br>8160      |                                                                                                |
|      |      |         |       |           |                       |    |    |                   |           |    |                   |                                                                                                |
|      |      |         |       |           |                       |    |    |                   |           |    |                   |                                                                                                |
|      |      |         | E-W   | P         | 06                    | 07 | 38 |                   |           |    |                   |                                                                                                |
|      |      |         |       |           |                       |    |    |                   |           |    |                   |                                                                                                |
|      |      |         |       |           |                       |    |    |                   |           |    |                   |                                                                                                |
| 206. | 23.  | Sz      | N-S   | S         | 13                    | 22 | 19 |                   |           |    | 7,2<br>800        | Thessalie<br>39,3° N, 22,40° E<br>H = 13h 19' 18''<br>(BCIS)                                   |
|      |      |         |       | $\bar{S}$ |                       | 23 | 08 |                   |           |    |                   |                                                                                                |
| 207. |      | B       | N-S   | F         |                       | 35 |    |                   |           |    |                   |                                                                                                |
|      |      |         |       |           |                       |    |    |                   |           |    |                   |                                                                                                |
| 208. |      | B       | N-S   | e         | 10                    | 11 | 43 |                   |           |    | 74,6<br>8290      | Traces. Au<br>large de la côte<br>Kamtchatka<br>52,5° N, 160° E<br>H = 10h 17' 35''<br>(USCGS) |
|      |      |         |       |           |                       |    |    |                   |           |    |                   |                                                                                                |
|      |      |         |       |           |                       |    |    |                   |           |    |                   |                                                                                                |
|      |      |         |       |           |                       |    |    |                   |           |    |                   |                                                                                                |
|      |      |         | E-W   | e         | 10                    | 11 | 23 |                   |           |    |                   |                                                                                                |
|      |      |         |       |           |                       |    |    |                   |           |    |                   |                                                                                                |
|      |      |         |       |           |                       |    |    |                   |           |    |                   |                                                                                                |
|      |      |         |       |           |                       |    |    |                   |           |    |                   |                                                                                                |
|      |      |         | N-S   | eP        | 10                    | 29 | 17 |                   |           |    |                   |                                                                                                |
|      |      |         |       | PcP       |                       |    | 29 |                   |           |    |                   |                                                                                                |
|      |      |         |       | e         |                       | 37 | 32 |                   |           |    |                   |                                                                                                |
|      |      |         |       | e         |                       | 48 | 07 |                   |           |    |                   |                                                                                                |
|      |      |         | E-W   | eL        | 11                    | 05 |    |                   |           |    |                   |                                                                                                |
|      |      |         |       | P         | 10                    | 29 | 18 |                   |           |    |                   |                                                                                                |
|      |      |         |       | ePcP      |                       |    | 29 |                   |           |    |                   |                                                                                                |
|      |      |         |       | e         |                       | 37 | 48 |                   |           |    |                   |                                                                                                |



| N°   | Date | Station | Comp. | Phase                                                  | Heure<br>de Greenwich |    |                                                                               | Péri-<br>ode<br>s   | Amplitude |          | Δ<br>Degré,<br>km | Remarques                                                                                                 |
|------|------|---------|-------|--------------------------------------------------------|-----------------------|----|-------------------------------------------------------------------------------|---------------------|-----------|----------|-------------------|-----------------------------------------------------------------------------------------------------------|
|      |      |         |       |                                                        | h                     | m  | s                                                                             |                     | AN        | AE       |                   |                                                                                                           |
| 209. |      | B       | N-S   | eP<br>e<br>eL<br>F                                     | 21                    | 24 | 39<br>25 12<br>56<br>22 15                                                    |                     |           |          | 75,2<br>8350      | Au large de<br>la côte SE du<br>Kamtchatka<br>52° N, 160,5° E<br>H = 21h 12' 55''<br>h = 60 km<br>(USCGS) |
|      |      |         | E-W   | eP<br>eL<br>F                                          | 21                    | 24 | 38<br>55<br>22 13                                                             |                     |           |          |                   |                                                                                                           |
| 210. | 25.  | B       | N-S   | P<br>S<br>PS<br>PPS<br>eSS<br>L<br>M<br>M<br>F         | 11                    | 29 | 27<br>40 00<br>48<br>41 14<br>46 08<br>52 10<br>12 06 48<br>08 52<br>50       |                     |           |          | 86,7<br>9630      |                                                                                                           |
|      |      |         | E-W   | P<br>PPP<br>S<br>ScS<br>m<br>ePS<br>PPS<br>L<br>M<br>F | 11                    | 29 | 28<br>34 37<br>39 52<br>40 14<br>16<br>32<br>41 14<br>52 10<br>12 07 40<br>50 | 22<br>19<br>8<br>19 | 52<br>31  | 11<br>43 |                   |                                                                                                           |
|      |      | Ke      | N-S   | e<br>PP<br>eScS                                        | 11                    | 30 | 37<br>32 43<br>40 18                                                          |                     |           |          | 87,3<br>9700      |                                                                                                           |
|      |      |         | E-W   | e<br>eScS                                              | 11                    | 30 | 13<br>40 22                                                                   |                     |           |          |                   |                                                                                                           |
|      |      | Sz      | N-S   | eP<br>PP<br>PPP<br>SKS<br>SKKS<br>ScS<br>PS<br>F       | 11                    | 30 | 01<br>33 34<br>35 16<br>40 19<br>32<br>49<br>41 30<br>12 25                   |                     |           |          | 88,2<br>9800      |                                                                                                           |
|      |      |         | E-W   | e<br>SKKS<br>F                                         | 11                    | 30 | 35<br>40 34<br>12 25                                                          |                     |           |          |                   |                                                                                                           |



| №    | Date    | Station | Comp.               | Phase | H e u r e<br>de Greenwich |    |    | Péri-<br>ode<br>s | Amplitude |    | Δ<br><br>Degré,<br>km | Remarques                                                                                            |                                                                                               |    |  |  |  |
|------|---------|---------|---------------------|-------|---------------------------|----|----|-------------------|-----------|----|-----------------------|------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|----|--|--|--|
|      |         |         |                     |       | h                         | m  | s  |                   | AN        | AE |                       |                                                                                                      |                                                                                               |    |  |  |  |
| 211. |         | B       | N-S                 | ePKP  | 21                        | 52 | 20 |                   |           |    | 149,4<br>16600        | Région des<br>îles Fidji<br>21,5° S, 179° E<br>H = 21 <sup>h</sup> 33' 38''<br>h = 650 km<br>(USCGS) |                                                                                               |    |  |  |  |
|      |         |         |                     | epPKP |                           | 54 | 23 |                   |           |    |                       |                                                                                                      |                                                                                               |    |  |  |  |
|      |         |         |                     | PP    |                           | 56 | 00 |                   |           |    |                       |                                                                                                      |                                                                                               |    |  |  |  |
|      |         |         |                     | eSKS  |                           | 57 | 10 |                   |           |    |                       |                                                                                                      |                                                                                               |    |  |  |  |
|      |         | E-W     | ePKP<br>e           | 21    | 52                        | 22 |    |                   |           |    |                       |                                                                                                      |                                                                                               |    |  |  |  |
|      |         |         |                     |       | 55                        |    |    |                   |           |    |                       |                                                                                                      |                                                                                               |    |  |  |  |
| 212. | Déc. 2. | B       | N-S                 | e     | 18                        | 35 | 10 |                   |           |    | 8,5<br>940            |                                                                                                      | Agit. micr.<br>Thessalie<br>39,4° N, 22,6° E<br>H = 18 <sup>h</sup> 29' 47''<br>(BCIS)        |    |  |  |  |
|      |         |         |                     | eL    |                           | 36 | 30 |                   |           |    |                       |                                                                                                      |                                                                                               |    |  |  |  |
|      |         |         |                     | E-W   | eS̄<br>e<br>eL            | 18 | 34 |                   |           |    |                       |                                                                                                      |                                                                                               | 40 |  |  |  |
|      |         |         |                     |       |                           |    | 35 |                   |           |    |                       |                                                                                                      |                                                                                               | 12 |  |  |  |
|      |         |         |                     |       |                           | 36 | 10 |                   |           |    |                       |                                                                                                      |                                                                                               |    |  |  |  |
|      |         |         |                     |       |                           |    |    |                   |           |    |                       |                                                                                                      |                                                                                               |    |  |  |  |
| 213. | 3.      | B       | N-S                 | S     | 18                        | 32 | 55 |                   |           |    | 7,1<br>790            | Kirgiz.<br>41,5° N, 74,5° E<br>H = 21 <sup>h</sup> 38' 12''<br>(USCGS)                               |                                                                                               |    |  |  |  |
|      |         |         |                     | e     |                           | 34 | 12 |                   |           |    |                       |                                                                                                      |                                                                                               |    |  |  |  |
|      |         |         |                     | F     |                           | 45 |    |                   |           |    |                       |                                                                                                      |                                                                                               |    |  |  |  |
|      |         |         |                     |       |                           |    |    |                   |           |    |                       |                                                                                                      |                                                                                               |    |  |  |  |
|      |         | E-W     | e<br>F              | 18    | 33                        | 58 |    |                   |           |    |                       |                                                                                                      |                                                                                               |    |  |  |  |
|      |         |         |                     |       | 45                        |    |    |                   |           |    |                       |                                                                                                      |                                                                                               |    |  |  |  |
| 214. | 4.      | B       | N-S                 | eP    | 18                        | 43 | 10 |                   |           |    | 75,2<br>8360          |                                                                                                      | Près de Tri-<br>nidad<br>11° N, 61° W<br>H = 18 <sup>h</sup> 31' 07''<br>h = 60 km<br>(USCGS) |    |  |  |  |
|      |         |         |                     | e     |                           |    | 30 |                   |           |    |                       |                                                                                                      |                                                                                               |    |  |  |  |
|      |         |         |                     | F     |                           | 46 |    |                   |           |    |                       |                                                                                                      |                                                                                               |    |  |  |  |
|      |         |         |                     |       |                           |    |    |                   |           |    |                       |                                                                                                      |                                                                                               |    |  |  |  |
|      |         | E-W     | eP<br>PcP<br>e<br>F | 18    | 42                        | 57 |    |                   |           |    |                       |                                                                                                      |                                                                                               |    |  |  |  |
|      |         |         |                     |       | 43                        | 12 |    |                   |           |    |                       |                                                                                                      |                                                                                               |    |  |  |  |
|      | 44      |         |                     | 20    |                           |    |    |                   |           |    |                       |                                                                                                      |                                                                                               |    |  |  |  |
|      | 48      |         |                     |       |                           |    |    |                   |           |    |                       |                                                                                                      |                                                                                               |    |  |  |  |
| 215. | 5.      | B       | N-S                 | P     | 18                        | 42 | 58 |                   |           |    | 76,0<br>8400          |                                                                                                      |                                                                                               |    |  |  |  |
|      |         |         |                     | S     |                           | 52 | 43 |                   |           |    |                       |                                                                                                      |                                                                                               |    |  |  |  |
|      |         |         |                     | F     | 19                        | 10 |    |                   |           |    |                       |                                                                                                      |                                                                                               |    |  |  |  |
|      |         |         |                     |       |                           |    |    |                   |           |    |                       |                                                                                                      |                                                                                               |    |  |  |  |
|      |         | E-W     | P<br>S<br>F         | 18    | 42                        | 58 |    |                   |           |    |                       |                                                                                                      |                                                                                               |    |  |  |  |
|      |         |         |                     |       | 52                        | 43 |    |                   |           |    |                       |                                                                                                      |                                                                                               |    |  |  |  |



| N    | Date | Station | Comp. | Phase                                                 | Heure<br>de Greenwich |    |                                                                                                          | Péri-<br>ode<br>s | Amplitude |    | $\Delta$<br>Degré,<br>km | Remarques                                                                                           |
|------|------|---------|-------|-------------------------------------------------------|-----------------------|----|----------------------------------------------------------------------------------------------------------|-------------------|-----------|----|--------------------------|-----------------------------------------------------------------------------------------------------|
|      |      |         |       |                                                       | h                     | m  | s                                                                                                        |                   | AN        | AE |                          |                                                                                                     |
| 215. | 11.  | B       | N-S   | P<br>S<br>L<br>F                                      | 03                    | 42 | 14<br>49<br>34<br>18                                                                                     |                   |           |    | 56,6<br>6290             | Traces.<br>Au large de<br>la côte du Li-<br>beria<br>1,5° S, 13,5° W<br>H = 03h 32' 15''<br>(USCGS) |
|      |      |         | E-W   | P<br>e<br>e<br>eL<br>F                                | 03                    | 42 | 12<br>44<br>50<br>48<br>50<br>04<br>04<br>12                                                             |                   |           |    |                          |                                                                                                     |
| 216  |      | B       | N-S   | P<br>ePPP<br>eS<br>SSS<br>M<br>M<br>M<br>F            | 13                    | 03 | 44<br>05<br>37<br>09<br>14<br>11<br>04<br>15<br>18<br>21<br>05<br>14<br>05                               |                   |           |    | 32,5<br>3610             | Crête médiane<br>de l'Atlantique<br>52,5° N, 32° W<br>H = 12h 57' 07''<br>(USCGS)                   |
|      |      |         |       |                                                       |                       |    |                                                                                                          | 14                | 35        |    |                          |                                                                                                     |
|      |      |         |       |                                                       |                       |    |                                                                                                          | 12                | 20        |    |                          |                                                                                                     |
|      |      |         |       |                                                       |                       |    |                                                                                                          | 12                | 18        |    |                          |                                                                                                     |
|      |      |         | E-W   | P<br>ePP<br>ePcP<br>S<br>SSS<br>L<br>M<br>M<br>M<br>F | 13                    | 03 | 44<br>04<br>36<br>06<br>12<br>09<br>04<br>11<br>04<br>14<br>15<br>30<br>18<br>15<br>19<br>04<br>14<br>05 |                   |           |    |                          |                                                                                                     |
|      |      |         |       |                                                       |                       |    |                                                                                                          | 12                |           | 12 |                          |                                                                                                     |
|      |      |         |       |                                                       |                       |    |                                                                                                          | 11                |           | 15 |                          |                                                                                                     |
|      |      |         |       |                                                       |                       |    |                                                                                                          | 11                |           | 11 |                          |                                                                                                     |
|      |      | K       | N-S   | P<br>PP<br>ePcP<br>eL<br>F                            | 13                    | 03 | 58<br>04<br>53<br>06<br>12<br>14<br>35<br>36                                                             |                   |           |    | 32,9<br>3660             |                                                                                                     |
|      |      |         | E-W   | iP<br>PP<br>ePcP<br>eL<br>F                           | 13                    | 03 | 55<br>05<br>08<br>06<br>08<br>15<br>10<br>36                                                             |                   |           |    |                          |                                                                                                     |
|      |      | Ke      | N-S   | P<br>ScS                                              | 13                    | 03 | 52<br>14<br>10                                                                                           |                   |           |    | 33,2<br>3690             |                                                                                                     |
|      |      |         | E-W   | P                                                     | 13                    | 03 | 52                                                                                                       |                   |           |    |                          |                                                                                                     |
|      |      | Sz      | N-S   | P<br>eSSS<br>eL<br>M<br>F                             | 13                    | 03 | 55<br>12<br>47<br>15<br>19<br>45                                                                         | 8                 |           | 23 | 34,1<br>3790             |                                                                                                     |



| N°   | Date | Station | Comp. | Phase | Heure<br>de Greenwich |      |    | Péri-<br>ode<br>s | Amplitude |    | Δ<br>Degré,<br>km | Remarques                                                                           |
|------|------|---------|-------|-------|-----------------------|------|----|-------------------|-----------|----|-------------------|-------------------------------------------------------------------------------------|
|      |      |         |       |       | h                     | m    | s  |                   | AN        | AE |                   |                                                                                     |
| 217. | 12.  | B       | E-W   | P     | 13                    | 03   | 55 |                   |           |    |                   | Yougoslavie<br>43° N, 17,5° E<br>H = 18h 52' 58''<br>(BCIS)                         |
|      |      |         |       | eSSS  |                       | 12   | 37 |                   |           |    |                   |                                                                                     |
|      |      |         |       | F     |                       | 45   |    |                   |           |    |                   |                                                                                     |
|      |      |         | N-S   | P     | 18                    | 54   | 15 |                   |           |    | 4,6               |                                                                                     |
|      |      |         |       | S     |                       | 55   | 30 |                   |           |    | 510               |                                                                                     |
|      |      |         |       | e     |                       | 56   | 10 |                   |           |    |                   |                                                                                     |
| 218. | 15.  | Sz      | E-W   | P*    | 18                    | 54   | 23 |                   |           |    |                   | Près de la<br>côte W de la<br>Grèce<br>38° N, 21,1° E<br>H = 23h 35' 59''<br>(BCIS) |
|      |      |         |       | S     |                       | 55   | 27 |                   |           |    |                   |                                                                                     |
|      |      |         | N-S   | P     | 18                    | 54   | 11 |                   |           |    | 3,8               |                                                                                     |
|      |      |         |       | S     |                       |      | 57 |                   |           |    | 420               |                                                                                     |
|      |      |         |       | F     | 19                    | 05   |    |                   |           |    |                   |                                                                                     |
|      |      |         | E-W   | P     | 18                    | 54   | 12 |                   |           |    |                   |                                                                                     |
|      |      |         |       | S     |                       | 55   | 00 |                   |           |    |                   |                                                                                     |
|      |      |         |       | F     | 19                    | 05   |    |                   |           |    |                   |                                                                                     |
|      |      |         | N-S   | e     | 23                    | 39   | 59 |                   |           |    | 8,3               |                                                                                     |
|      |      |         |       | S     |                       | 40   | 31 |                   |           |    | 920               |                                                                                     |
| 219. | 16.  | B       | N-S   | F     |                       | 47   |    |                   |           |    |                   | Près de Fallon<br>39,5° N, 118° W<br>H = 11h 07' 10''<br>(USCGS)                    |
|      |      |         |       | e     | 23                    | 40   | 02 |                   |           |    |                   |                                                                                     |
|      |      |         |       | S     |                       |      | 34 |                   |           |    |                   |                                                                                     |
|      |      |         |       | F     |                       | 47   |    |                   |           |    |                   |                                                                                     |
|      |      |         |       | PcP   | 11                    | 19   | 57 |                   |           |    | 85,0              |                                                                                     |
|      |      |         |       | SKS   |                       | 29   | 54 |                   |           |    | 9440              |                                                                                     |
|      |      |         |       | ScS   |                       | 30   | 34 |                   |           |    |                   |                                                                                     |
|      |      |         |       | PS    |                       | 31   | 22 |                   |           |    |                   |                                                                                     |
|      |      |         |       | L     |                       | 46,5 |    |                   |           |    |                   |                                                                                     |
|      |      |         |       | M     |                       | 59   | 12 | 18                | 40        |    |                   |                                                                                     |
|      |      |         |       | M     | 12                    | 04   |    | 18                | 69        |    |                   |                                                                                     |
|      |      |         |       | M     |                       | 06,5 |    | 16                | 59        |    |                   |                                                                                     |
|      |      |         |       | F     | 13                    | 20   |    |                   |           |    |                   |                                                                                     |
|      |      | K       | E-W   | P     | 11                    | 19   | 52 |                   |           |    |                   |                                                                                     |
|      |      |         |       | PcP   |                       |      | 57 |                   |           |    |                   |                                                                                     |
|      |      |         |       | e     |                       | 20   | 32 |                   |           |    |                   |                                                                                     |
|      |      |         |       | eSKS  |                       | 30   | 00 |                   |           |    |                   |                                                                                     |
|      |      |         |       | ScS   |                       |      | 35 |                   |           |    |                   |                                                                                     |
|      |      |         |       | e     |                       | 34   | 46 |                   |           |    |                   |                                                                                     |
|      |      |         |       | L     |                       | 45   |    |                   |           |    |                   |                                                                                     |
|      |      |         |       | M     |                       | 56   | 50 | 20                |           | 83 |                   |                                                                                     |
|      |      |         |       | M     | 12                    | 05   |    | 16                |           | 54 |                   |                                                                                     |
|      |      |         |       | M     |                       | 09   | 16 | 16                |           | 50 |                   |                                                                                     |
|      |      |         |       | F     | 13                    | 25   |    |                   |           |    |                   |                                                                                     |
|      |      | K       | N-S   | eP    | 11                    | 20   | 12 |                   |           |    | 85,8              |                                                                                     |
|      |      |         |       | ePP   |                       | 22   | 27 |                   |           |    | 9530              |                                                                                     |
|      |      |         |       | ePPP  |                       | 24   | 35 |                   |           |    |                   |                                                                                     |
|      |      |         |       | eS    |                       | 30   | 43 |                   |           |    |                   |                                                                                     |
|      |      |         |       | L     |                       | 52   | 32 |                   |           |    |                   |                                                                                     |
|      |      |         |       | F     | 12                    | 20   |    |                   |           |    |                   |                                                                                     |



| N    | Date | Station   | Comp. | Phase             | Heure<br>de Greenwich |      |    | Péri-<br>ode<br>s | Amplitude      |                | $\Delta$<br><br>Degré,<br>km | Remarques |    |              |    |             |                                                                                   |    |
|------|------|-----------|-------|-------------------|-----------------------|------|----|-------------------|----------------|----------------|------------------------------|-----------|----|--------------|----|-------------|-----------------------------------------------------------------------------------|----|
|      |      |           |       |                   | h                     | m    | s  |                   | A <sub>N</sub> | A <sub>E</sub> |                              |           |    |              |    |             |                                                                                   |    |
| 220. | 21.  | B         | E-W   | eP                | 11                    | 20   | 10 |                   |                |                |                              |           |    |              |    |             |                                                                                   |    |
|      |      |           |       | eP <sub>c</sub> P |                       |      | 13 |                   |                |                |                              |           |    |              |    |             |                                                                                   |    |
|      |      |           |       | ePP               |                       | 22   | 48 |                   |                |                |                              |           |    |              |    |             |                                                                                   |    |
|      |      |           |       | ePPP              |                       | 25   | 17 |                   |                |                |                              |           |    |              |    |             |                                                                                   |    |
|      |      |           |       | eS                |                       | 30   | 43 |                   |                |                |                              |           |    |              |    |             |                                                                                   |    |
|      |      |           |       | L                 |                       | 50   |    |                   |                |                |                              |           |    |              |    |             |                                                                                   |    |
|      |      |           |       | F                 | 12                    | 26   |    |                   |                |                |                              |           |    |              |    |             |                                                                                   |    |
|      |      |           | Ke    | N-S               | eP                    | 11   | 20 |                   |                |                |                              |           | 09 |              |    |             | 85,7<br>9520                                                                      |    |
|      |      |           |       |                   | ePPP                  |      | 24 |                   |                |                |                              |           | 33 |              |    |             |                                                                                   |    |
|      |      |           | Sz    | E-W               | eP                    | 11   | 20 |                   |                |                |                              |           | 06 |              |    |             |                                                                                   |    |
|      |      |           |       |                   | N-S                   | P    | 11 |                   |                |                |                              |           | 20 |              |    |             |                                                                                   | 08 |
|      |      |           |       |                   |                       | eSKS |    |                   |                |                |                              |           | 29 |              |    |             |                                                                                   | 52 |
|      |      |           |       | PS                |                       |      | 31 |                   |                |                |                              |           | 33 |              |    |             |                                                                                   |    |
|      |      |           |       | L                 |                       |      | 53 |                   |                |                |                              |           |    |              |    |             |                                                                                   |    |
|      |      | F         |       | 12                | 40                    |      |    |                   |                |                |                              |           |    |              |    |             |                                                                                   |    |
|      |      | E-W       |       | P                 | 11                    | 20   | 08 |                   |                |                |                              |           |    |              |    |             |                                                                                   |    |
|      |      |           | PP    |                   | 23                    | 31   |    |                   |                |                |                              |           |    |              |    |             |                                                                                   |    |
|      |      |           | L     |                   | 53                    |      |    |                   |                |                |                              |           |    |              |    |             |                                                                                   |    |
|      |      |           | F     | 12                | 40                    |      |    |                   |                |                |                              |           |    |              |    |             |                                                                                   |    |
|      |      |           | N-S   | eP                | 20                    | 09   | 09 |                   |                |                |                              |           |    |              |    |             |                                                                                   |    |
|      |      |           |       | PP                |                       | 12   | 31 |                   |                |                |                              |           |    |              |    |             |                                                                                   |    |
|      |      |           |       | ScS               |                       | 19   | 50 |                   |                |                |                              |           |    |              |    |             |                                                                                   |    |
|      |      | PS        |       |                   | 20                    | 23   |    |                   |                |                |                              |           |    |              |    |             |                                                                                   |    |
|      |      | ePPS      |       |                   | 21                    | 23   |    |                   |                |                |                              |           |    |              |    |             |                                                                                   |    |
|      |      | L         |       |                   | 37,5                  |      |    |                   |                |                |                              |           |    |              |    |             |                                                                                   |    |
|      |      | M         |       |                   | 55                    |      |    |                   |                |                |                              |           |    |              |    |             |                                                                                   |    |
|      |      | B         | E-W   | F                 | 21                    | 30   |    | 11                | 7              |                |                              |           |    |              |    |             |                                                                                   |    |
| eP   | 20   |           |       | 09                | 12                    |      |    |                   |                |                |                              |           |    |              |    |             |                                                                                   |    |
| eScS |      |           |       | 19                | 39                    |      |    |                   |                |                |                              |           |    |              |    |             |                                                                                   |    |
| PS   |      |           |       | 20                | 17                    |      |    |                   |                |                |                              |           |    |              |    |             |                                                                                   |    |
| eL   |      |           |       | 39,5              |                       |      |    |                   |                |                |                              |           |    |              |    |             |                                                                                   |    |
| M    |      |           |       | 51                |                       |      |    |                   |                |                |                              |           |    |              |    |             |                                                                                   |    |
| F    | 21   |           |       | 30                |                       |      |    |                   |                |                |                              |           |    |              |    |             |                                                                                   |    |
| Sz   | N-S  |           | P     | 20                | 09                    | 21   |    |                   |                |                |                              |           |    | 87,1<br>9680 |    |             |                                                                                   |    |
|      |      |           | E-W   | eP <sub>c</sub> P | 20                    | 09   |    |                   |                |                |                              |           |    |              | 41 |             |                                                                                   |    |
| S    |      |           |       | 19                | 51                    |      |    |                   |                |                |                              |           |    |              |    |             |                                                                                   |    |
| F    | 21   |           |       | 45                |                       |      |    |                   |                |                |                              |           |    |              |    |             |                                                                                   |    |
| 221. | 23.  |           | B     | N-S               | eP*                   | 16   | 30 |                   |                |                |                              | 00        |    |              |    | 9,6<br>1070 | Près de la<br>côte W de la<br>Grèce<br>38° N, 21° E<br>H = 16h 27' 16''<br>(BCIS) |    |
|      |      |           |       |                   | $\bar{P}$             |      |    |                   |                |                |                              | 24        |    |              |    |             |                                                                                   |    |
|      |      | e         |       |                   |                       |      | 40 |                   |                |                |                              |           |    |              |    |             |                                                                                   |    |
|      |      | $\bar{S}$ |       |                   |                       | 32   | 26 |                   |                |                |                              |           |    |              |    |             |                                                                                   |    |
|      |      | L         |       |                   |                       | 33   | 37 |                   |                |                |                              |           |    |              |    |             |                                                                                   |    |
|      |      | M         |       |                   |                       | 35   | 35 |                   |                |                |                              |           |    |              |    |             |                                                                                   |    |
|      |      | M         |       |                   |                       | 36   | 40 |                   |                |                |                              |           |    |              |    |             |                                                                                   |    |
|      |      | F         |       |                   |                       | 50   |    |                   |                |                |                              |           |    |              |    |             |                                                                                   |    |
|      |      |           |       |                   |                       |      |    | 7                 | 9<br>11        |                |                              |           |    |              |    |             |                                                                                   |    |
|      |      |           |       |                   |                       |      |    | 8                 |                |                |                              |           |    |              |    |             |                                                                                   |    |



| N           | Date | Station | Comp.          | Phase | H e u r e<br>de Greenwich |     |    | Péri-<br>ode<br>s    | Amplitude                |                | $\Delta$<br><br>Degré,<br>km                                                             | Remarques |
|-------------|------|---------|----------------|-------|---------------------------|-----|----|----------------------|--------------------------|----------------|------------------------------------------------------------------------------------------|-----------|
|             |      |         |                |       | h                         | m   | s  |                      | AN                       | AE             |                                                                                          |           |
| 222.        | 28.  | Sz      | E-W            | P     | 16                        | 29  | 42 | 4<br>4<br>5<br><br>3 | 11<br>15<br>15<br><br>11 | 8,3<br>920     | Traces. Régi-<br>on Nouvelle<br>Bretagne<br>5° S , 152° E<br>H = 01h 00' 37''<br>(USCGS) |           |
|             |      |         | S*             |       | 32                        | 04  |    |                      |                          |                |                                                                                          |           |
|             |      |         | $\bar{S}$      |       |                           | 37  |    |                      |                          |                |                                                                                          |           |
|             |      |         | e              |       | 34                        |     |    |                      |                          |                |                                                                                          |           |
|             |      |         | F              |       | 50                        |     |    |                      |                          |                |                                                                                          |           |
|             |      |         | N-S            | 1. P  | 16                        | 29  | 31 |                      |                          |                |                                                                                          |           |
|             |      |         | 3. P*          |       |                           | 50  |    |                      |                          |                |                                                                                          |           |
|             |      |         | 5. e $\bar{P}$ |       | 30                        | 20  |    |                      |                          |                |                                                                                          |           |
|             |      |         | 6. eS          |       | 31                        | 15  |    |                      |                          |                |                                                                                          |           |
|             |      |         | 8. M           |       | 32                        | 25  |    |                      |                          |                |                                                                                          |           |
|             |      |         | 9. M           |       |                           | 57  |    |                      |                          |                |                                                                                          |           |
|             |      |         | 11. M          |       | 35                        | 21  |    |                      |                          |                |                                                                                          |           |
|             |      |         | F              |       | 48                        |     |    |                      |                          |                |                                                                                          |           |
|             |      |         | E-W            | 2. P* | 16                        | 29  | 48 |                      |                          |                |                                                                                          |           |
|             |      |         | 4. e $\bar{P}$ |       | 30                        | 15  |    |                      |                          |                |                                                                                          |           |
|             |      |         | 7. eS*         |       | 31                        | 25  |    |                      |                          |                |                                                                                          |           |
|             |      |         | 10. M          |       | 33                        | 30  |    |                      |                          |                |                                                                                          |           |
| F           |      | 48      |                |       |                           |     |    |                      |                          |                |                                                                                          |           |
| 223.        | 30.  | B       | N-S            | eSKKS | 01                        | 27  | 58 | 7<br><br><br><br>7   | 2                        | 121,8<br>13530 | Macédoine<br>40,6° N, 22,7° E<br>H = 02h 07' 22''<br>(BCIS)                              |           |
|             |      |         | L              |       | 59                        |     |    |                      |                          |                |                                                                                          |           |
|             |      |         | r              | 02    | 30                        |     |    |                      |                          |                |                                                                                          |           |
|             |      |         | E-W            | e     | 01                        | 26  | 00 |                      |                          |                |                                                                                          |           |
|             |      |         | e              |       | 33                        | 10  |    |                      |                          |                |                                                                                          |           |
|             |      |         | e              |       | 56                        |     |    |                      |                          |                |                                                                                          |           |
|             |      |         | F              | 02    | 30                        |     |    |                      |                          |                |                                                                                          |           |
|             |      |         | N-S            | 2. P  | 02                        | 09  | 16 |                      |                          |                |                                                                                          |           |
|             |      |         | 3. $\bar{P}$   |       |                           | 46  |    |                      |                          |                |                                                                                          |           |
|             |      |         | 4. $\bar{S}$   |       | 11                        | 32  |    |                      |                          |                |                                                                                          |           |
|             |      |         | 5. L           |       | 12                        | 10  |    |                      |                          |                |                                                                                          |           |
|             |      |         | 6. M           |       | 13                        | 25  |    |                      |                          |                |                                                                                          |           |
|             |      |         | F              |       | 20                        |     |    |                      |                          |                |                                                                                          |           |
|             |      |         | E-W            | 1. P  | 02                        | 09  | 13 |                      |                          |                |                                                                                          |           |
|             |      |         | 4. $\bar{S}$   |       | 11                        | 32  |    |                      |                          |                |                                                                                          |           |
|             |      |         | F              |       | 20                        |     |    |                      |                          |                |                                                                                          |           |
|             |      |         | 223.           | 30.   | K                         | N-S | eP |                      |                          |                |                                                                                          | 02        |
| eS          |      | 10      |                |       |                           | 16  |    |                      |                          |                |                                                                                          |           |
| e           |      | 13      |                |       |                           | 10  |    |                      |                          |                |                                                                                          |           |
| F           |      | 21      |                |       |                           |     |    |                      |                          |                |                                                                                          |           |
| E-W         | eP   | 02      |                |       |                           | 09  | 00 |                      |                          |                |                                                                                          |           |
| eS          |      | 10      |                |       |                           | 11  |    |                      |                          |                |                                                                                          |           |
| i $\bar{S}$ |      | 11      |                |       |                           | 07  |    |                      |                          |                |                                                                                          |           |
| F           |      | 19      |                |       |                           |     |    |                      |                          |                |                                                                                          |           |
| N-S         | P    | 02      |                |       |                           | 08  | 55 |                      |                          |                |                                                                                          |           |
| e $\bar{P}$ |      | 09      |                |       |                           | 25  |    |                      |                          |                |                                                                                          |           |
| e           |      |         |                |       |                           | 39  |    |                      |                          |                |                                                                                          |           |
| F           |      | 22      |                |       |                           |     |    |                      |                          |                |                                                                                          |           |



| №    | Date | Station | Comp. | Phase | H e u r e<br>de Greenwich |    |    | P e r i -<br>o d e<br>s | Amplitude      |                | $\Delta$<br><br>Degré,<br>km | Remarques                                                       |    |
|------|------|---------|-------|-------|---------------------------|----|----|-------------------------|----------------|----------------|------------------------------|-----------------------------------------------------------------|----|
|      |      |         |       |       | h                         | m  | s  |                         | A <sub>N</sub> | A <sub>E</sub> |                              |                                                                 |    |
| 224. |      | B       | E-W   | P     | 02                        | 08 | 53 | 11                      | 13             |                | 10,7<br>1190                 | Grèce<br>37° N, 22° E<br>H = 11 <sup>h</sup> 05' 58''<br>(BCIS) |    |
|      |      |         |       | e     |                           | 09 | 48 |                         |                |                |                              |                                                                 |    |
|      |      |         |       | S     |                           | 10 | 40 |                         |                |                |                              |                                                                 |    |
|      |      |         |       | F     |                           | 22 |    |                         |                |                |                              |                                                                 |    |
|      |      |         | N-S   | eP    | 11                        | 09 | 28 |                         |                |                |                              |                                                                 |    |
|      |      |         |       | eS    |                           | 10 | 53 |                         |                |                |                              |                                                                 |    |
|      |      |         |       | e     |                           | 12 | 08 |                         |                |                |                              |                                                                 |    |
|      |      |         |       | L     |                           |    | 45 |                         |                |                |                              |                                                                 |    |
|      |      |         |       | M     |                           | 14 |    |                         |                |                |                              |                                                                 |    |
|      |      |         |       | F     |                           | 27 |    |                         |                |                |                              |                                                                 |    |
|      |      |         |       | E-W   | eP                        | 11 | 09 |                         |                |                |                              |                                                                 | 41 |
|      |      |         |       |       | eS                        |    | 10 |                         |                |                |                              |                                                                 | 45 |
|      |      | eS      |       |       | 11                        | 43 |    |                         |                |                |                              |                                                                 |    |
|      |      | e       |       |       | 12                        | 08 |    |                         |                |                |                              |                                                                 |    |
|      |      |         | L     |       |                           | 48 |    |                         |                |                |                              |                                                                 |    |
|      |      |         | M     |       | 16                        | 22 |    |                         |                |                |                              |                                                                 |    |
|      |      |         | Ke    | N-S   | e                         | 11 | 07 | 20                      |                |                |                              |                                                                 |    |
|      |      |         |       |       | F                         |    | 20 |                         |                |                |                              |                                                                 |    |
|      |      | E-W     |       | S     | 11                        | 09 | 42 |                         |                |                |                              |                                                                 |    |
|      |      |         |       | F     |                           | 20 |    |                         |                |                |                              |                                                                 |    |
|      |      | Sz      | N-S   | e     | 11                        | 09 | 33 |                         |                |                |                              |                                                                 |    |
|      |      |         |       | M     |                           | 12 | 17 |                         |                |                |                              |                                                                 |    |
|      |      |         |       | M     |                           | 16 |    |                         |                |                |                              |                                                                 |    |
|      |      |         |       | F     |                           | 27 |    |                         |                |                |                              |                                                                 |    |
| E-W  | S    |         | 11    | 09    | 55                        |    |    |                         |                |                |                              |                                                                 |    |
|      | M    |         |       | 13    | 20                        |    |    |                         |                |                |                              |                                                                 |    |
|      | M    |         |       | 14    | 50                        |    |    |                         |                |                |                              |                                                                 |    |
|      | F    |         |       | 27    |                           |    |    |                         |                |                |                              |                                                                 |    |
|      |      |         |       |       |                           |    |    |                         |                |                |                              |                                                                 |    |
|      |      |         |       |       |                           |    |    |                         |                |                |                              |                                                                 |    |
|      |      |         |       |       |                           |    |    |                         |                |                |                              |                                                                 |    |
|      |      |         |       |       |                           |    |    |                         |                |                |                              |                                                                 |    |