

INSTITUTE OF SEISMOLOGY
University of Helsinki

PRELIMINARY
SEISMOLOGICAL BULLETIN
1963

Helsinki

INSTITUTE OF SEISMOLOGY
 UNIVERSITY OF HELSINKI

 PRELIMINARY
 SEISMOLOGICAL BULLETIN

1963

Address:

 Institute of Seismology
 University of Helsinki
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 Finland

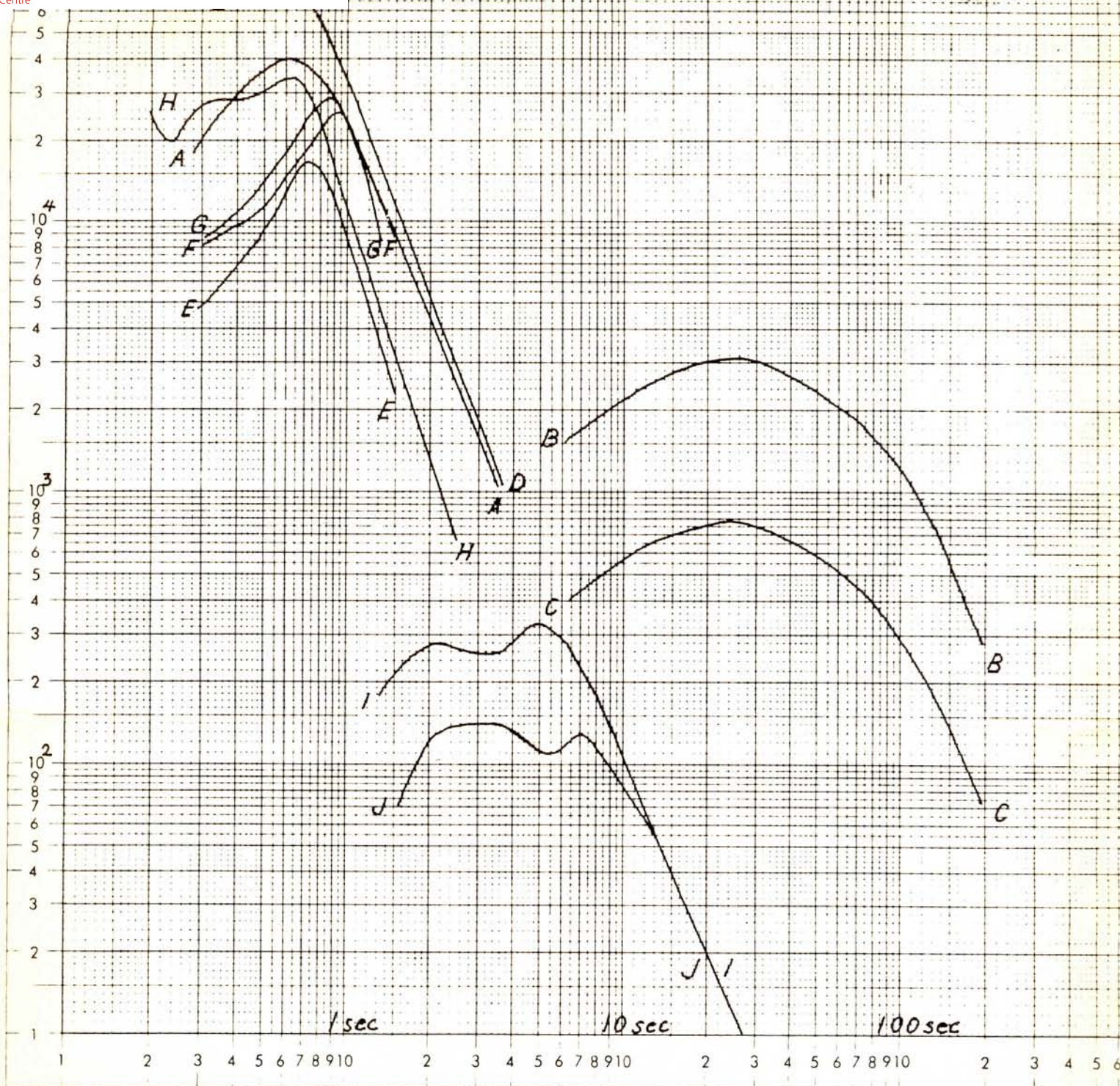
Stations:

Helsinki	(HEL)	60°10'32"N	24°57'25"E
Nurmijärvi	(NUR)	60°30'32"N	24°39'18"E
Sodankylä	(SOD)	67°22'16"N	26°37'45"E
Kajaani	(KJN)	64.1° N	27.7° E
Kevo	(KEV)	69°45.3' N	27°00.6' E

Unless otherwise stated, the locations and depths are according to the USCGS preliminary determinations.

Direction of earth's movement: U = up, D = down

Seismometer	Instrumental constants		Max. Magn.	Damp. ratio	Recording
	Period sec. Seism.	Galv.			
HEL					
Mainka E	10		140	3 :1	Smoked paper
Mainka N	10		330	3 :1	Smoked paper
Willmore Z	0.75		34 000	3.3:1	Ink record
KEV					
Sprengnether Z	30	100	780	17:1	Photo paper
Sprengnether N	30	100	780	17:1	Photo paper
Sprengnether E	30	100	780	17:1	Photo paper
Benioff Z	1.0	0.75	40 000	17:1	Photo paper
Benioff N	1.0	0.75	40 000	17:1	Photo paper
Benioff E	1.0	0.75	40 000	17:1	Photo paper
Nurmia Z	0.4		60 000	2:1	Smoked paper
KJN					
Willmore Z	1.0	1.5	16 500	3:1	Photo paper
Willmore N	1.0	1.6	25 000	3:1	Photo paper
Willmore E	1.0	1.5	29 000	3:1	Photo paper
NUR					
Sprengnether Z	30	100	3 100	17:1	Photo paper
Sprengnether N	30	100	3 100	17:1	Photo paper
Sprengnether E	30	100	3 100	17:1	Photo paper
Benioff Z	1.0	0.74	40 000	17:1	Photo paper
Benioff N	1.0	0.74	40 000	17:1	Photo paper
Benioff E	1.0	0.74	40 000	17:1	Photo paper
Nurmia Z	1.0		60 000	3:1	Smoked paper
SOD					
Benioff Z	1.0	0.2	77 000	15:1	Photo paper
Nurmia N	0.5	1.1	35 000	3:1	Photo paper
Nurmia E	0.5	1.1	35 000	3:1	Photo paper
Nurmia Z	0.5		60 000	2:1	Smoked paper



MAGNIFICATION CURVES

Instruments of the standard stations:

- A-A Short-period seismographs, NUR and KEV
- B-B Long-period seismographs, NUR
- C-C Long-period seismographs, KEV

Other instruments:

- D-D Benioff Z, SOD
- E-E Willmore Z, KJN
- F-F Willmore N, KJN
- G-G Willmore E, KJN
- H-H Willmore Z (telerecord. system), HEL
- I-I Mainka N, HEL
- J-J Mainka E, HEL

January

1 SOD iP 14 00 16.6
Mariana Islands
20.8 N, 144.6 E, 43 km

1 NUR iP 23 49 30.3 U
iS 57 54.1
iScS 59 28
eP'P' 24 18 45
SOD iP 23 48 42.0
iS 56 28
iScS 58 23
eP'P' 24 18 42
KJN iP 23 49 06.1 U
iPcP 52
iS 57 10
iScS 58 48
eP'P' 24 18 54
KEV eP 23 48 25
i 52 09
iS 55 54
Alaska Peninsula
56.6 N, 157.7 W, 50 km

3 HEL eP 03 16 24
NUR iP 03 16 24.0
eS 25 54
eSS 30 52
eSSS 34 08
SOD eP 03 16 00
KJN eP 03 16 06
KEV eS 03 24 36
Ryukyu Islands
29.7 N, 130.1 E, 33 km

3 NUR ePKP 09 58 23
ePS 10 08 40
eSS 15 22
eSSS 19 30
New Britain
5.3 S, 151.5 E, 74 km

3 HEL eP 19 09 36
NUR iP 19 09 37.2
SOD eP 19 10 03
KJN eP 19 09 55

4 HEL eP 00 35 11
i 18
NUR eP 00 35 13
i 20
SOD iP 00 35 40.2 U
KJN eP 00 35 31
i 39
KEV iP 00 35 48.0
i 55
Cape Verde Islands
1.2 N, 27.7 W, 33 km

January

4 HEL eP 05 54 23
NUR iP 05 54 25.2
SOD iP 05 53 57.3 U
iPcP 54 20
KJN eP 05 54 05
KEV eP 05 53 47
Bonin Islands
29.7 N, 142.2 E, 33 km

4 NUR iPKP 07 03 21.8
i 33
KJN ePKP 07 03 20
Kermadec Islands
32.6 S, 178.6 W, 44 km

5 HEL eP 00 00 52
NUR eP 00 00 51
Kurile Islands
46.5 N, 153.7 E, 33 km

5 KJN eP 00 33 15
Halmahera
3.2 N, 127.0 E, 33 km

5 HEL eP 00 46 39
NUR eP 00 46 38
KJN eP 00 46 31

5 HEL iP 03 46 30.5
NUR iP 03 46 30.0
SOD iP 03 46 20.2
KJN iP 03 46 21.1
Sangihe Islands
3.4 N, 125.3 E, 126 km

5 HEL eP 07 16 03
NUR iP 07 16 02.7 D
SOD iP 07 15 22.6 D
Kurile Islands
46.8 N, 153.7 E, 33 km

5 NUR ePS 13 44 10
eSS 49 30
SOD eP 13 30 32
Timor
10.0 S, 124.0 E, 33 km

6 NUR eP 03 32 05
SOD eP 03 31 57
Philippine Islands
6.0 N, 125.3 E, 143 km

January

6 NUR eP 07 40 34
SOD iP 07 39 54.4
i 40 25
KEV eP 07 39 41
Kurile Islands
46.8 N, 153.6 E, 33 km

6 SOD eP 10 08 26

6 SOD eP 10 46 42

6 HEL iP 17 35 31.1
NUR iP 17 35 28.5
SOD iP 17 34 38.9 D
ipP 35 05
KJN eP 17 35 04
KEV eP 17 34 20
Central Alaska
62.7 N, 151.1 W, 116 km

6 SOD eP 20 00 44
Near Flores
8.9 S, 123.8 E, 33 km

6 HEL eP 21 31 39
i 54
NUR iP 21 31 37.0 D
i 52
e 40 10
i(S) 22
eSS 44 40
SOD iP 21 30 56.5 D
e 31 13
KJN eP 21 31 12
KEV eP 21 30 42
Kurile Islands
47.4 N, 155.9 E, 33 km

6 SOD eP 22 15 37
Mediterranean Sea
33.9 N, 28.0 E, 33 km

7 NUR eP 12 01 41
ePP 05 35
ePS 14 10
eSS 19 18
SOD eP 12 01 34
KJN eP 12 01 33
KEV eP 12 01 32
Halmahera
0.6 N, 126.7 E, 42 km

7 NUR eP 15 00 06

January

7 NUR ePKP 19 38 47
New Hebrides
17.5 S, 167.7 E, 19 km

8 HEL iP 15 57 42.0 D
NUR iP 15 57 41.9 D
i 58 08
i 25
SOD iP 15 57 16.8 D
iPeP 47
KJN eP 15 57 23
KEV iP 15 57 10.2 D
i 22
Kyushu, Japan
31.2 N, 130.2 E, 177 km

9 HEL iPKP 02 22 07.0
i 29
NUR iPKP 02 22 06.4 U
i 23
i 41
Kermadec Islands
28.9 S, 177.4 W, 71 km

9 HEL eP 03 25 55
NUR eP 03 25 54
SOD eP 03 25 32
ipP 26 19
KJN eP 03 25 39
ipP 26 22
KEV iP 03 25 25.1 D
epP 26 10
Mariana Islands
18.6 N, 145.4 E, 192 km

9 HEL eP 18 33 01
NUR eP 18 33 03
ePP 35 27
SOD eP 18 33 40
Republic of the Congo
3.3 S, 29.4 E, 33 km

9 SOD eP 23 04 15

11 HEL eP 01 16 34
NUR eP 01 16 35
SOD eP 01 16 23
KJN eP 01 16 20
Tsinghai Province
37.7 N, 101.6 E, 33 km

January

11 HEL ePKP 12 31 28.
NUR ePKP 12 31 28
ePKS . 34 57
SOD ePKP 12 31 35
Southern Chile
45.0 S, 75.7 W, 33 km

11 HEL iP KP 17 24 53.2 D
NUR iP KP 17 24 52.8 D
i 25 31
iSKP 28 11
SOD ePKP 17 24 29
KJN ePKP 17 24 42
Kermadec Islands
29.4 S, 178.6 W, 225 km

12 HEL eP 03 53 31
NUR eP 03 53 30
Northern Colombia
4.8 N, 76.7 W, 102 km

12 HEL iP 06 27 17.3 D
NUR iP 06 27 19.8 D
i(pP) 50
i(sP) 28 21
iPP 40
SOD iP 06 27 37.5 D
i 28 26
KJN iP 06 27 19.6
ePP 28 39
Hindu Kush
36.1 N, 69.6 E, 97 km

14 HEL iP 18 36 39.9 D
NUR iP 18 36 44.6 D
i 37 07
iS 39 15.8
SOD iP 18 38 05.4
iS 42 12.8
KJN iP 18 37 28.9 D
eS 40 40
KEV iP 18 38 29.4 D
i 39 00
eS 42 52
Romania
45.7 N, 26.6 E, 132 km

15 SOD eP 01 19 39

15 NUR eP 01 36 45
eS 40 14
i 22
SOD iP 01 36 03.7 D
KJN eP 01 36 28
KEV iP 01 36 02.1 U
iS 38 48
Denmark Strait
68.9 N, 17.1 W, 33 km

January

15 NUR iP 02 45 48.6
eSKS 56 14
eS 48
eSS 03 03 34
SOD iP 02 45 28.1 D
KJN eP 02 45 34
KEV iP 02 45 22.0 D
Mariana Islands
13.4 N, 145.3 E, 38 km

15 SOD eP 02 54 23

15 HEL eP 05 27 35
NUR eP 05 27 33
eS 30 56
SOD eP 05 26 53
i 57
KJN eP 05 27 19
eS 30 49
KEV iP 05 26 44.4 U
i 50
iS 29 36
Jan Mayen Island
69.0 N, 16.6 W, 33 km

15 SOD iP 05 59 35.1

15 NUR eP 12 31 40
SOD eP 12 31 25
Tsinghai, China
36.7 N, 102.1 E, 33 km

15 SOD iP 13 20 02.0
KJN eP 13 20 05
KEV eP 13 19 57
Near coast of Formosa
24.9 N, 122.0 E, 47 km

15 NUR eP 15 09 28
SOD eP 15 10 29
Mediterranean Sea
36.0 N, 23.9 E, 81 km

15 NUR eP 16 42 27

15 SOD iP 16 50 59.3

15 NUR ePKP 17 58 02
Fiji Islands
17.1 S, 179.6 W, 276 km

January				January			
15	HEL	ePKP	19 44 52	17	HEL	eP	04 02 02
		i	45 00		NUR	eP	04 02 05
	NUR	ePKP	19 44 49		SOD	eP	04 01 24
		i	59		Sea of Okhotsk		
		iSKP	47 45		52.3 N, 152.5 E, 454 km		
		iPKS	48 33	17	HEL	eP	06 08 42
	SOD	ePKP	19 44 40		SOD	iP	06 08 35.1 U
		i	47		KJN	iP	06 08 35.8 U
		iSKP	47 24		Philippine Islands		
		iPKS	48 11		14.0 N, 120.6 E, 207 km		
		eSKKP	57 25	17	HEL	eP	20 52 31
	KEV	ePKP	19 44 43			iPcP	48
		iPKS	48 06		NUR	iP	20 52 30.7 D
	Fiji Islands					iPcP	47
	20.5 S, 177.9 W, 496 km				SOD	eP	20 52 11
16	SOD	eP	02 28 50		KJN	iP	20 52 15.2 D
16	SOD	iP	05 00 32.1 U		Ryukyu Islands		
	Nicobar Islands				25.6 N, 125.2 E, 140 km		
	9.7 N, 93.9 E, 70 km			18	HEL	eP	03 22 42
16	HEL	eP	05 55 43		NUR	iP	03 22 40.9 U
	NUR	iP	05 55 41.1 U		SOD	eP	03 22 14
		i	55		KJN	iP	03 22 22.4
	SOD	iP	05 54 56.1 U		South of Honshu		
	Andreanof Islands				33.1 N, 135.8 E, 425 km		
	51.3 N, 179.9 W, 38 km			18	NUR	eP	12 44 30
16	NUR	eP	06 51 08		Kurile Islands		
	SOD	eP	06 51 13		46.5 N, 154.2 E, 33 km		
	Southwest of Iceland			19	HEL	eP	02 42 20
	54.3 N, 35.2 W, 33 km				NUR	eP	02 42 21
16	HEL	eP	12 07 11		SOD	eP	02 42 31
	NUR	eP	12 07 17		Sinkiang Province		
	SOD	eP	12 08 08		38.8 N, 74.8 E, 33 km		
	Northeastern Turkey			19	SOD	eP	07 32 42
	41.1 N, 41.9 E, 33 km				South of Hokkaido		
16	NUR	eP	12 38 57		40.9 N, 142.4 E, 33 km		
	Southwest of Iceland			20	NUR	eP	09 06 58
	54.4 N, 35.0 W, 33 km				Andreanof Islands		
16	NUR	eP	15 37 03		51.9 N, 173.2 W, 30 km		
	SOD	iP	15 37 19.3 D	20	NUR	iP	18 59 48.7
	KJN	eP	15 37 02		SOD	iP	18 59 10.3
	Hindu Kush			20	NUR	ePKP	22 56 21
	36.3 N, 70.3 E, 243 km				New Hebrides		
16	KJN	eP	21 22 03		15.4 S, 167.7 E, 107 km		
	South of Java						
	11.1 S, 111.6 E, 94 km						

January				January			
21	HEL	eP	01 52 24	24	HEL	iP	22 40 22.9
	NUR	eP	01 52 21		NUR	iP	22 40 21.6
21	NUR	eP	04 47 58			i	41 14
	SOD	eP	04 47 37			ePP	43 40
21	SOD	eP	08 55 08			ePPP	45 44
21	HEL	eP	14 57 09			iSKS	50 56
	NUR	eP	14 57 09			eS	51 14
	SOD	iP	14 56 20.4			ePS	52 06
	Kenai Peninsula					eSS	57 14
	59.5 N, 151.2 W, 67 km				SOD	eP	22 40 10
22	HEL	eP	16 17 48		Philippine Islands		
	NUR	eP	16 17 46		8.0 N, 126.8 E, 67 km		
	Kurile Islands			24	HEL	eP	22 45 32
	48.3 N, 155.2 E, 50 km				NUR	iP	22 45 31.1
22	HEL	eP	16 22 16			eS	56 06
	NUR	eP	16 22 14		SOD	iP	22 45 19.7 D
	Kurile Islands			24	HEL	eP	22 57 08
	48.4 N, 155.2 E, 50 km				NUR	eP	22 57 07
24	HEL	eP	04 03 32		SOD	eP	22 56 50
	NUR	eP	04 03 35		Philippine Islands		
24	HEL	eP	09 41 37		8.0 N, 126.6 E, 44 km		
	NUR	eP	09 41 37	24	HEL	eP	23 34 55
	Java Sea				NUR	eP	23 34 54
	6.0 S, 112.6 E, 493 km				SOD	eP	23 34 42
24	NUR	ePKP	12 28 18		Philippine Islands		
	Tonga Islands				7.7 N, 126.0 E, 150 km		
	15.2 S, 173.6 W, 33 km			25	NUR	ePKP	00 35 05
24	HEL	iP	15 49 34.7		Loyalty Islands		
	NUR	iP	15 49 36.9 U		20.3 S, 169.6 E, 135 km		
		i	45	25	HEL	eP	04 23 24
	SOD	iP	15 50 12.3		NUR	eP	04 23 24
	Southern Iran				Philippine Islands		
	28.6 N, 56.4 E, 100 km				8.0 N, 127.0 E, 70 km		
24	NUR	eP	21 54 17	25	NUR	eP	12 04 58
	SOD	iP	21 53 39.5 D	25	HEL	iP	13 01 52.7 U
	King County					i(sP)	03 13.5
	47.5 N, 121.9 W, 33 km				NUR	iP	13 01 52.5 U
						i(pP)	02 45
						i(sP)	03 13
					SOD	iP	13 01 29.5 U
						i(pP)	02 12
						i(sP)	40
					KEV	eP	13 01 22
					Mariana Islands		
					21.8 N, 143.8 E, 190 km		

January

26 HEL e(S) 03 30 46
 NUR e(S) 03 30 39
 SOD ePn 03 28 41
 eSn 29 39

26 SOD eP 04 01 07
 Jan Mayen Island
 71.6 N, 9.2 W, 33 km

27 HEL iP 01 18 28.9
 iPcP 42
 NUR iP 01 18 28.5 D
 iPcP 42
 SOD iP 01 18 08.2 D
 i 20
 KEV eP 01 18 02
 i 15
 Ryukyu Islands
 25.6 N, 128.3 E, 61 km

27 NUR eP 01 53 47
 Seward Peninsula
 66.9 N, 162.4 W, 33 km

27 HEL eP 11 57 40
 NUR eP 11 57 37
 ipP 59
 isP 58 15
 SOD eP 11 56 49
 ipP 57 10
 isP 26
 Gulf of Alaska
 59.4 N, 153.4 W, 94 km

27 HEL eP 15 36 02
 NUR iP 15 35 58.8 U
 SOD iP 15 35 23.0
 Idaho
 44.3 N, 114.5 W, 31 km

27 HEL iP 19 40 31.1 D
 NUR iP 19 40 33.9 D
 iS 44 52
 SOD iP 19 41 14.6 D
 KEV eP 19 41 31
 i 51
 iS 46 34
 i 47 35
 Caspian Sea
 41.2 N, 49.8 E, 33 km

27 NUR iP 21 26 08.2

January

28 HEL eP 04 16 13
 NUR eP 04 16 12
 iSSS 32 20
 SOD eP 04 15 41
 iPoP 16 24
 Hokkaido, Japan
 43.5 N, 144.6 E, 33 km

28 NUR ePKP 12 30 16
 iPP 31 16
 e 34 42
 eSKS 37 22
 iS 38 46
 iPS 40 14
 i 36
 iSS 46 26
 SOD eP 12 26 28
 KEV eSKS 12 37 08
 ePS 39 16
 e 40 00
 iSS 45 28
 New Britain
 2.6 S, 149.9 E, 33 km

28 HEL iP 13 11 32.3
 eP'P' 40 11
 NUR iP 13 11 28.9 U
 iS 20 12
 eP'P' 40 07
 SOD iP 13 10 42.9 U
 eP'P' 40 28
 KEV eP 13 10 25
 Alaska Peninsula
 54.7 N, 161.6 W, 33 km

28 NUR iP 14 00 24.8
 SOD eP 13 59 37
 Alaska Peninsula
 55.8 N, 162.9 W, 33 km

28 HEL eSKP 14 11 24
 NUR ePKP 14 08 32
 i 43
 iSKP 11 21
 SOD iSKP 14 11 01
 Fiji Islands
 19.7 S, 178.1 W, 587 km

28 NUR eP 16 17 50

28 HEL iPKP 16 26 58.9
 NUR iPKP 16 26 58.3 D
 SOD iPKP 16 26 40.9
 Kermadec Islands
 31.2 S, 177.7 W, 33 km

January

28 NUR eP 16 37 18
e 38 19

28 HEL iP KP 17 24 30.4
NUR iP KP 17 24 29.6 U
i 42
Kermadec Islands
29.8 S, 178.4 W, 182 km

29 HEL eP 08 12 28
NUR iP 08 12 26.5
i 38
SOD iP 08 11 52.6
i 12 05
Off coast of Honshu
40.3 N, 144.2 E, 27 km

29 NUR eP 08 42 33

29 HEL iP 09 31 29.8 U
iPcP 32 05
NUR iP 09 31 28.5 U
epP 32 01
iPcP 05
iPP 33 44
ipPP 34 16
iPPP 35 27
iPcS 36 08
eS 39 54
ePPS 40 29
eSS 44 30
SOD iP 09 30 46.9 U
i 32 17
iPP 49
KEV iP 09 30 31.9 U
iPPS 38 50
Kurile Islands
49.7 N, 154.9 E, 126 km

29 NUR eP 23 01 12
SOD eP 23 00 23
Fox Islands
52.7 N, 168.4 W, 33 km

30 HEL eP 04 50 38
NUR iP 04 50 35.2 U
SOD iP 04 49 48.7 U
Alaska Peninsula
54.8 N, 161.6 W, 33 km

30 SOD eP 06 21 35
Northern Celebes
0.2 N, 123.4 E, 33 km

January

30 HEL ePKP 10 28 57
NUR eP 10 25 40
ePKP 28 57
e 30 08
ePP 30
e 32 10
iSKS 36 06
iSKKS 37 36
ePKKP 38 55
e 40 20
e 42
SOD ePKP 10 29 08
iPP 31 13
i 32 34
KEV iP KP 10 29 13.8 U
ePP 31 36
iPKS 32 54
Sandwich Islands
55.6 S, 28.3 W, 33 km

30 HEL eP 10 42 33
NUR iP 10 42 33.8 D
SOD iP 10 42 44.3
KEV iP 10 42 50.4 D
India-Nepal border
29.7 N, 80.5 E, 57 km

30 NUR eP 11 04 07
SOD iP 11 04 19.5

30 SOD eP 15 56 37

30 HEL eP 19 54 00
NUR iP 19 53 59.8

31 HEL eP 01 09 36
NUR eP 01 09 35

31 HEL eP 03 19 36
NUR iP 03 19 34.0 D
SOD iP 03 18 44.3 D
Central Alaska
63.5 N, 149.4 W, 56 km

31 SOD eP 04 56 08

January

31 HEL eP 05 18 08
 NUR eP 05 18 06
 i 33
 ePP 20 52
 iPPP 22 36
 iS 27 30
 iPS 28 10
 eSS 32 12
 SOD iP 05 17 46.8
 i 18 08
 iPP 20 17
 KEV eP 05 17 40
 i 18 10
 e 19 56
 ePP 20 10
 ePPP 21 54
 e 25 08
 iS 26 42
 ePS 27 08
 eSS 31 02

Ryukyu Islands
27.9 N, 126.3 E, 33 km

31 SOD eP 07 46 41
 eS 48 27
 KEV eP 07 46 12
 eS 47 32

31 SOD eP 09 54 51

31 HEL eP 11 38 11
 NUR iP 11 38 09.1 D
 SOD iP 11 37 22.5 D
 KEV eP 11 37 04

Alaska Peninsula
54.7 N, 161.7 W, 33 km

31 HEL eP 15 12 17
 eS 16 36
 NUR iP 15 12 18.8
 eS 16 38
 e 42
 e 17 34
 SOD iP 15 13 22.3 D
 i 34
 KEV eP 15 13 43 D
 i 55

Ionian Sea
35.8 N, 21.9 E, 33 km

January

31 HEL eP 17 11 20 D
 NUR iP 17 11 23.1 D
 i 13 26
 eS 15 46
 e 50
 SOD iP 17 12 03.4
 i 36
 KEV eP 17 12 19
 iPP 13 21

Turkmen S.S.R.
41.4 N, 50.2 E, 33 km

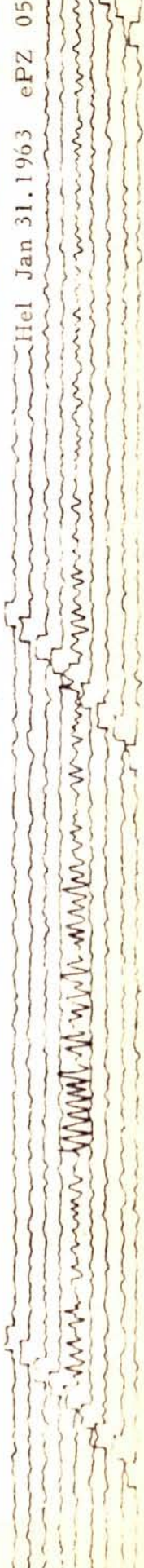
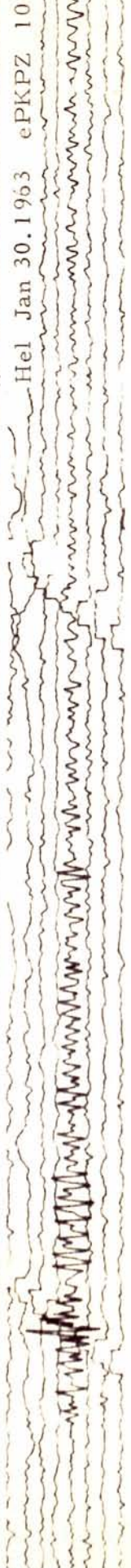
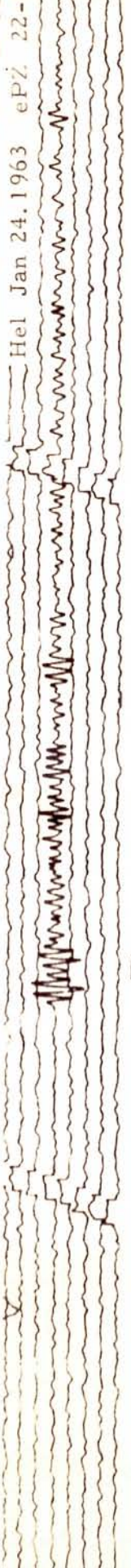
31 HEL eP 18 54 51
 NUR iP 18 54 49.0 U
 SOD iP 18 54 03.5 D
 KEV eP 18 53 45

Fox Islands
52.7 N, 168.7 W, 33 km

31 NUR eP 19 20 38
 i 46
 Bering Sea
54.2 N, 167.5 E, 53 km

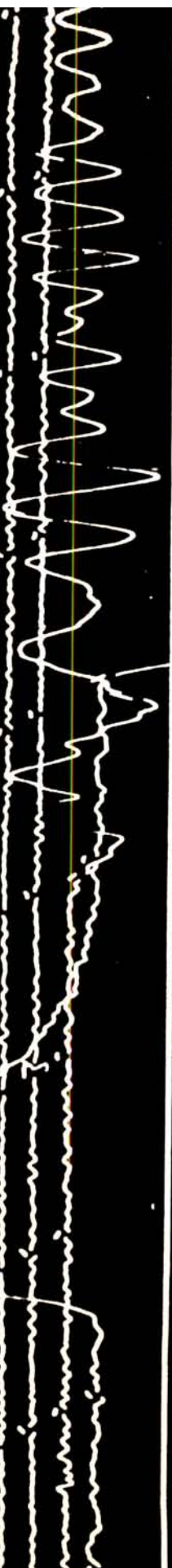
May 21, 1963

M. T. Porkka
Aili Huovila



Nur Jan 15. 1963 ePN 05-

05-27



Nur Jan 24. 1963 iSKSE 22-

22-50



Nur Jan 24. 1963 eSN 22-51-14

22-50



Nur Jan 27. 1963 iSE 19-46-34

19-46



Kev Jan 30. 1963 iSZ 05-26-42

05-25



Periods and amplitudes.

The maximal center-to-peak ground amplitudes (A) in millimicrons and the corresponding periods (T) in seconds are reported for the P phases. They are read from the short-period vertical seismograms of the Standard Stations at Nurmijärvi and Kevo.

February				February			
		T	A			T	A
1	NUR eP	07 19	15	4	NUR eP	16 26	46
1	HEL ePKP	09 08	48		SOD iP	16 26	27.9 U
	NUR iP	09 08	48.4		KJN eP	16 26	30
	Kermadec Islands				KEV eP	16 26	22
	30.6 S, 178.1 W, 54 km				Ryukyu Islands		
					26.1 N, 124.1 E, 33 km		
2	HEL eP	10 13	33	4	HEL iP	23 31	36.7 D
	NUR eP	10 13	31		NUR iP	23 31	35.4 D
					iPcP	32 11	
					eS	40 06	
					ePS	20	
3	HEL eP	13 04	57		SOD eP	23 30	54
	NUR iP	13 04	56.1 D		iPcP	31 46	
	SOD iP	13 04	54.8 D		KJN eP	23 31	09
	Venezuela-Colombia				iPcP	55	
	7.6 N, 72.1 W, 33 km				KEV iP	23 30	40.3
					iPcP	31 38	
					Kurile Islands		
					48.5 N, 154.9 E, 85 km		
3	NUR eP	14 30	36	5	SOD eP	02 00	42
	SOD eP	14 29	30		KJN eP	02 00	41
	Greenland				Celebes region		
	79.0 N, 21.2 W, 33 km				0.0, 123.8 E, 164 km		
4	NUR ePKP	01 35	36	5	NUR eP	05 16	52
	New Britain				SOD iP	05 16	23.8
	6.3 S, 149.1 E, 36 km				KJN eP	05 16	30
					Mariana Islands		
					19.2 N, 147.1 E, 38 km		
4	NUR eP	05 21	47	5	HEL eP	12 19	05
	SOD eP	05 22	28		NUR eP	12 19	05
	KJN eP	05 21	59		SOD eP	12 18	18
	KEV eP	05 22	42		KJN eP	12 18	39
	Southern Iran				KEV eP	12 18	01
	27.3 N, 54.2 E, 34 km				Fox Islands		
					53.7 N, 165.4 W, 33 km		
4	NUR eP	07 25	29	5	NUR ePKP	14 22	41
	SOD eP	07 26	06		Kermadec Islands		
	KJN eP	07 25	39		31.8 S, 179.4 W, 137 km		
	KEV iP	07 26	19.8 U				
	Southern Iran						
	27.7 N, 54.6 E, 33 km						

February

February

				T	A					T	A
8	NUR	eP	10 12 20	0.6	5	9	NUR	ePKP	23 20 38		
	SOD	iP	10 11 35.7				Tonga Islands				
	KJN	eP	10 11 54				21.7 S, 176.9 W, 66 km				
	Kamchatka					10	SOD	eP	05 20 49		
	54.1 N, 159.8 E, 33 km						Fox Islands				
8	HEL	eP	22 41 07				54.1 N, 166.5 W, 33 km				
	NUR	eP	22 41 06			10	NUR	eP	06 56 37		
	Kurile Islands						SOD	eP	06 56 09		
	46.7 N, 153.6 E, 56 km						KJN	eP	06 56 09		
9	NUR	eP	04 04 09	1.1	22		ePP		57 46		
	SOD	eP	04 03 40				Lake Baikal				
	KJN	eP	04 03 50				52.0 N, 108.1 E, 27 km				
	Central Honshu					10	HEL	eP	12 11 23		
	36.4 N, 137.9 E, 33 km						NUR	iP	12 11 22.5	0.6	16
9	SOD	eP	04 51 21				SOD	iP	12 10 48.1		
9	HEL	eP	08 10 44				KJN	eP	12 10 59		
	NUR	iP	08 10 42.7 D	1.1	41		Hokkaido, Japan				
	SOD	eP	08 09 58				42.4 N, 142.1 E, 54 km				
	KJN	eP	08 10 17			10	HEL	eP	15 11 40		
	Andreanof Islands						NUR	iP	15 11 42.9	0.7	16
	51.2 N, 179.8 W, 33 km						SOD	eP	15 11 41		
9	NUR	ePKP	08 55 14				North Atlantic Ocean				
	New Hebrides						53.5 N, 33.4 W, 41 km				
	15.0 S, 167.4 E, 127 km					10	HEL	iP	21 46 27.7 D		
9	HEL	eP	16 13 31				NUR	iP	21 46 26.7 D	0.7	104
	NUR	eP	16 13 28				i		50		
	SOD	eP	16 13 26				iS		55 04		
	KJN	eP	16 13 19				SOD	iP	21 45 49.2 D		
9	HEL	eP	16 15 57				e		48 52		
	NUR	eP	16 15 55	0.6	23		KJN	eP	21 46 03 D		
	SOD	iP	16 15 18.8				KEV	eP	21 45 36	0.9	41
	i		29				Kurile Islands				
	i		53				44.6 N, 147.8 E, 67 km				
	KJN	eP	16 15 31			11	HEL	ePKP	04 55 08		
	KEV	iP	16 15 04.5	0.7	15		NUR	iPKP	04 55 06.9 D	0.9	29
	Kurile Islands						Kermadec Islands				
	43.7 N, 150.6 E, 33 km						29.8 S, 179.1 E, 528 km				
9	NUR	ePKP	17 14 29			11	NUR	eP	06 28 05	0.7	3
	SOD	ePKP	17 14 19				SOD	eP	06 28 14		
	KJN	ePKP	17 14 27				KJN	eP	06 28 06		
	North Island					11	NUR	eP	08 25 11	0.6	6
	35.9 S, 177.9 E, 172 km						KJN	eP	08 24 54		
9	HEL	eP	17 24 19			11	HEL	iP	21 30 11.9		
	NUR	eP	17 24 17				NUR	iP	21 30 10.9	0.8	19
	KJN	eP	17 24 43								

February				T	A	February				T	A	
12	HEL	eP	00 38 22			13	HEL	iP	09 01 27.9 U			
	NUR	eP	00 38 20	0.7	7		NUR	iP	09 01 27.0 U	2.7	4150	
	SOD	eP	00 38 04				i		02 49			
	KJN	eP	00 38 07				ePP		04 08			
	KEV	eP	00 38 04	0.9	14		iPPP		05 57			
	Philippine Islands						i		06 12			
	17.7 N, 122.3 E, 33 km						iS		10 47			
							eP'P'		29 05			
12	SOD	eP	21 45 16				SOD	iP	09 01 10.1 U			
	KJN	eP	21 45 57				ePP		03 45			
							ePPP		05 28			
12	HEL	i	23 25 42				iPcS		42			
	NUR	ePKP	23 25 28				iS		10 16			
		i	41	0.8	35		e		34			
		epPKP	28 02				iScS		11 06			
		iPP	17				eP'P'		29 14			
		iSKP	22				KJN	iP	09 01 12.7 U			
		iPKS	29 12				ePP		03 45			
	SOD	ePKP	23 25 27				iPPP		05 32			
		iSKP	27 56				ePcS		47			
	KJN	ePKP	23 25 33				iS		10 19			
		iSKP	28 05				iPS		45			
	KEV	ePKP	23 25 25	0.7	23		iScS		11 11			
	Fiji Islands						i		12 09			
	17.8 S, 178.6 W, 583 km						iP'P'		29 11			
							KEV	iP	09 01 05.8 U	2.8	3590	
13	NUR	eP	00 35 43				i		03 25			
	SOD	iP	00 35 30.2				iPP		39			
	Guatemala						iPPP		05 20			
	13.4 N, 91.0 W, 116 km						iS		10 06			
							iP'P'		29 15			
13	NUR	iP	01 43 57.2 U	1.0	26		Northern Formosa					
		i	44 07				24.5 N, 121.8 E, 33 km					
		ePP	45 53									
		ePS	51 36				13	HEL	eP	09 20 54		
	SOD	iP	01 44 31.3 U				NUR	eP	09 20 54			
		i	41				SOD	iP	09 20 37.2			
	KJN	iP	01 44 10.0 U				KJN	eP	09 20 39			
		i	30				KEV	eP	09 20 33	0.6	12	
	Arabian Sea											
	13.0 N, 57.9 E, 33 km											
							13	HEL	eP	09 41 58		
13	HEL	eP	03 13 58				NUR	eP	09 41 57	1.4	91	
	NUR	iP	03 14 01.6 U				SOD	eP	09 41 41			
	SOD	eP	03 14 39				KJN	eP	09 41 43			
	KJN	eP	03 14 16				Northern Formosa					
	KEV	eP	03 14 52				24.8 N, 121.7 E, 33 km					
	Southern Iran											
	27.6 N, 55.1 E, 33 km											
13	HEL	eP	03 17 00				13	NUR	eP	12 49 47		
	NUR	eP	03 17 01				KJN	eP	12 50 26			
	SOD	eP	03 16 18				BCIS:					
		i	51				South of Italy					
							40.5 N, 15.8 E					

February

February

February				T	A	February				T	A
13	HEL	ePKP	18 32 46	0.8	14	SOD	iP	07 18 10.1	1.2	43	
	NUR	ePKP	18 32 42			ePP	22 25				
		iPP	34 12			e	23 48				
		e	38 36			iPKKP	34 21				
		eSKS	39 38			KJN	iP 07 18 10.0				
		eSKKS	40 42			i	16				
		eS	41 52			e	22 24				
		ePS	43 44			eSKS	28 32				
		eSS	50 04			i	39				
	KJN	ePKP	18 32 39			ePKKP	34 20				
	KEV	ePP	18 33 18			KEV	ePKKP 07 34 29				
		e	37 04			Banda Sea					
		ePS	42 48			7.2 S, 128.2 E, 197 km					
		eSS	49 10								
		eSSS	53 10								
	Solomon Islands							14			HEL
	9.9 S, 160.8 E, 29 km						NUR	eP	12 20 37		
								eS	29 56		
								iPS	30 38		
								eSS	34 24		
13	HEL	eP	19 13 33			SOD	eP	12 21 02			
	NUR	eP	19 13 31			i	07				
	SOD	eP	19 13 14			KJN	eP	12 20 56			
	KJN	eP	19 13 16			KEV	eP	12 21 14	1.3	94	
	Northern Formosa					ePS	31 04				
	24.6 N, 122.1 E, 33 km					eSS	36 12				
						Mid-Atlantic Ocean					
13	HEL	eP	20 05 02	1.0	12	0.9 N, 30.0 W, 33 km					
	NUR	eP	20 05 02			14	NUR	eP	12 52 36		
	SOD	eP	20 05 36				SQD	eP	12 53 41		
	KJN	eP	20 05 15				KJN	eP	12 53 16		
	Socotra region						Albania				
	11.6 N, 57.7 E, 33 km						40.4 N, 19.9 E, 33 km				
						14	HEL	eP	13 22 49		
14	HEL	eP	07 15 39				NUR	eP	13 22 54	1.0	42
	NUR	eP	07 15 37				SOD	iP	13 24 07.3		
		e	21 21				KJN	iP	13 23 37.4		
		e	54				i	42			
	SOD	eP	07 14 46				KEV	eP	13 24 30		
		e	21 12				Yugoslavia				
	KJN	eP	07 15 13				44.5 N, 15.5 E, 36 km				
		e	21 19								
	KEV	eP	07 14 19								
						14	HEL	eP	18 03 17		
14	HEL	eP	07 18 19				NUR	eP	18 03 15	0.9	23
	NUR	eP	07 18 18				KJN	eP	18 03 04		
		ePP	22 48								
		esPP	23 40								
		e	24 26								
		iSKS	28 43								
		eS	29 50								
		ePKKP	34 08			14	NUR	eP	22 06 31		
		eSS	37 18				SOD	eP	22 06 37		
							KJN	eP	22 06 41		

cont.

February

February

				T	A					T	A
14	NUR	eP	22 22 11	0.6	2	16	HEL	eP	06 26 16		
		ePKP	26 17				NUR	eP	06 26 19		
		ePP	35				Turkey				
		iSKS	32 42				36.7 N, 38.0 E, 101 km				
		eS	34 14			16	HEL	eP	08 44 27		
		iPS	36 04				NUR	eP	08 44 27		
		eSS	42 00				SOD	iP	08 44 16.6		
	SOD	eP	22 22 06					i	29		
	KJN	eP	22 21 58				KJN	eP	08 44 16		
		ePKP	26 11				KEV	eP	08 44 15	0.9	17
	KEV	ePP	22 26 24				Philippine Islands				
		iSKS	32 23				9.7 N, 122.5 E, 28 km				
		e	33 24			16	HEL	i	08 49 34		
		ePS	35 08				NUR	ePKP	08 49 27		
		eSS	40 50					i	33		
		e	41 32				KJN	ePKP	08 49 25		
	Eastern New Guinea						Fiji Islands				
	5.0 S, 144.6 E, 80 km						17.7 S, 178.6 W, 534 km				
15	HEL	iPKP	01 08 32.9 D	0.9	102	16	HEL	eP	10 58 55		
	NUR	iPKP	01 08 32.6 D				NUR	eP	10 58 55	0.6	6
	SOD	ePKP	01 08 15				Flores Sea				
	KJN	ePKP	01 08 21				7.0 S, 117.3 E, 561 km				
	Kermadec Islands					16	HEL	iP	12 26 24.2 U		
	33.2 S, 179.2 W, 42 km							i	52		
15	HEL	ePKP	07 14 50	0.7	10		NUR	iP	12 26 26.0 U	1.1	157
	NUR	iPKP	07 14 49.8					i	52		
	KJN	ePKP	07 14 43					epP	27 09		
	Fiji Islands							ePP	46		
	14.9 S, 178.7 W, 33 km						SOD	iP	12 26 42.8 U		
15	HEL	eP	10 22 57					e(sP)	27 48		
	NUR	iP	10 23 00.0	1.0	52			iPP	28 16		
		eS	26 52				KJN	iP	12 26 26.2		
		eLQ	29 24					epP	27 09		
	SOD	eP	10 24 09					esP	32		
	KJN	eP	10 23 39				KEV	iP	12 26 51.9 U	0.9	98
	Albania						Hindu Kush				
	40.6 N, 20.3 E, 33 km						36.5 N, 70.5 E, 216 km				
15	HEL	eP	10 47 10			17	NUR	eP	00 09 28	0.8	6
	NUR	iP	10 47 08.9 U				KJN	eP	00 09 29		
	KJN	eP	10 46 57				North Atlantic Ocean				
							54.0 N, 35.1 W, 32 km				
15	HEL	eP	16 41 11			17	NUR	eP	02 43 08		
		i	24				SOD	eP	02 42 51		
	NUR	iP	16 41 11.6	0.7	6		KJN	eP	02 42 54		
		i	25				Ryukyu Islands				
	SOD	iP	16 41 17.6				24.1 N, 122.5 E, 33 km				
	KJN	eP	16 41 09								
	Sumatra										
	4.3 N, 96.3 E, 33 km										

February				T	A	February				T	A
24	HEL	eP	13 47 01			25	HEL	eP	09 23 53		
		e	50 12				NUR	eP	09 23 53		
		i	35				SOD	iP	09 23 43.8		
	NUR	iP	13 46 58.0	1.0	37			i	24 02		
		ePP	50 32				KJN	eP	09 23 42		
		eSKS	57 20				Philippine Islands				
		ePS	58 24				10.4 N, 121.8 E, 46 km				
		eSS	14 03 20			25	HEL	iP	17 22 30.2		
	SOD	iP	13 46 46.0 U				NUR	iP	17 22 30.0 U	1.0	61
		iPP	50 09					iS	31 50		
	KJN	eP	13 46 55				SOD	iP	17 22 12.4		
		ePP	50 27				KJN	iP	17 22 15.0		
	KEV	iP	13 46 40.5				KEV	iP	17 22 07.8 D	1.0	32
		iS	57 08				Formosa				
		ePS	54				24.4 N, 123.4 E, 33 km				
	Central Guatemala					25	HEL	eP	19 33 39		
	14.6 N, 91.4 W, 135 km						NUR	eP	19 33 39	1.1	10
24	NUR	eP	22 26 21				SOD	eP	19 33 25		
	SOD	eP	22 27 27				KJN	eP	19 33 26		
	KJN	eP	22 26 57				Philippine Islands				
24	NUR	eP	22 44 43	0.8	6		19.5 N, 121.8 E, 33 km				
	SOD	eP	22 44 56			25	HEL	eP	23 57 24		
	KJN	eP	22 44 58				NUR	eP	23 57 24		
	KEV	eP	22 45 00					eS	24 07 22		
	North Atlantic Ocean						SOD	eP	23 57 11		
	26.4 N, 44.5 W, 33 km							i	17		
25	HEL	eP	01 51 05				KJN	eP	23 57 12		
	NUR	eP	01 51 03	0.9	7		KEV	eP	23 57 10		
25	SOD	eP	03 04 02				Philippine Islands				
							15.5 N, 121.3 E, 33 km				
25	SOD	eP	05 01 58			26	HEL	eP	02 25 06		
	KJN	eP	05 01 50				NUR	eP	02 25 06		
	Philippine Islands						SOD	iP	02 24 53.1		
	15.0 N, 122.7 E, 58 km							i	25 01		
25	NUR	eP	07 27 08				KJN	eP	02 24 53		
	SOD	eP	07 26 01				KEV	iP	02 24 48.9	0.5	9
	KJN	iP	07 26 42.6				Philippine Islands				
	KEV	eP	07 25 40				19.3 N, 121.0 E, 56 km				
	Greenland Sea					26	HEL	iP	20 28 26.8		
	72.3 N, 5.5 E, 33 km							iPKP	32 24		
25	NUR	eP	07 29 19					e(PP)	59		
	SOD	eP	07 28 24					iPKKP	43 18		
	Kamchatka						NUR	iP	20 28 26.5	0.8	119
	51.1 N, 159.8 E, 40 km							i	29 13		
25	KJN	eP	07 40 33					iPKP	32 23.3	1.1	129
								e	49		
								iPP	33 08		
								e	58		
								esPP	34 08		
								iSKS	38 47		

cont.

February

February

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eSKKS 20 39 48
iS 40 30
ePS 42 26
ePKKP 43 16
e 46 45
eSS 48 25
SOD iP 20 28 09.3
e 32 18
iPP 36
iSKS 38 30
iS 39 51
iPS 41 28
iPKKP 43 28
i 46 56
KJN iP 20 28 14.6
ePKP 32 23
iPP 48
isPP 33 49
iSKS 38 33
iSKKS 39 27
iS 40 07
ePS 42 11
ePKKP 43 24
e 46 53
eSS 47 53
KEV iP 20 28 05.0 D 1.0 227
iPKP 32 11.2
ePP 26
e 33 08
e 35 18
iSKS 38 27
eSKKS 39 20
iS 48
ePS 41 06
iPKKP 43 33
iSS 47 30
e 50 00

Eastern New Guinea
7.5 S, 146.2 E, 171 km

27 HEL e 04 48 45
ePKKP 59 27
NUR eP 04 44 48
ePKP 48 33 1.0 12
ePP 49 20
ePPP 51 46
eSKS 55 26
e 41
eSKKS 56 30
ePS 58 52
ePKKP 59 26
eSS 05 05 15
SOD ePP 04 49 08
KJN ePKP 04 48 33

cont.

KEV eP 04 44 12
ePP 48 38
e 51 00
eSKS 55 06
iPS 58 12
eSS 05 04 02
eSSS 08 20

New Britain region
6.0 S, 149.4 E, 52 km

27 HEL eP 20 43 04
NUR eP 20 43 04 0.6 2
SOD eP 20 42 43
KJN eP 20 42 50

New Britain
4.6 S, 152.9 E, 100 km

27 HEL eP 20 47 02
NUR eP 20 47 02 0.8 18

27 HEL eP 23 47 01
NUR iP 23 46 58.7 U 0.7 44
SOD iP 23 46 12.0
KJN iP 23 46 34.5
KEV eP 23 46 02

Alaska Peninsula
54.8 N, 161.6 W, 33 km

28 NUR eP 01 16 56
Kurile Islands
45.9 N, 146.1 E, 100 km

28 HEL eP 01 43 38
NUR eP 01 43 39 0.9 9
eS 54 12
eSS 59 26
KJN eP 01 43 45

Indian Ocean
16.3 S, 66.0 E, 33 km

28 NUR eP 06 26 10
SOD eP 06 25 31
KJN eP 06 25 48
Honshu, Japan
38.2 N, 141.7 E, 61 km

28 HEL eP 19 21 52
NUR eP 19 21 55 1.0 13

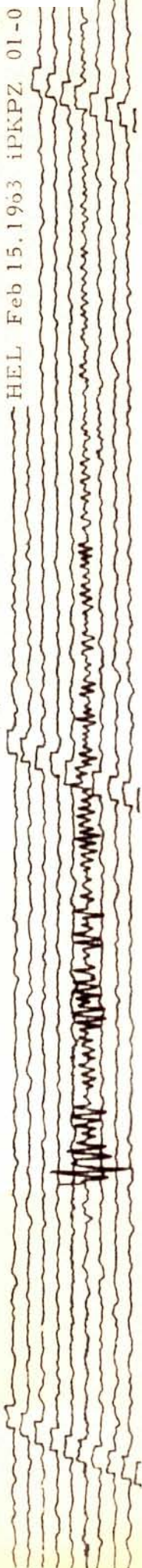
July 1, 1963

M. T. Porkka
Aili Huovila

HEL Feb 13, 1963 iPZ 09-01



HEL Feb 15, 1963 iPKPZ 01-0



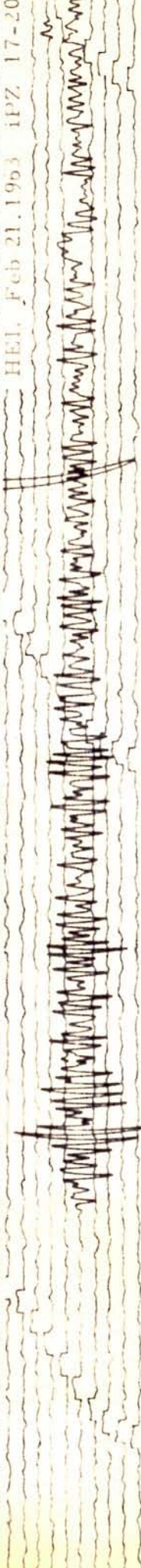
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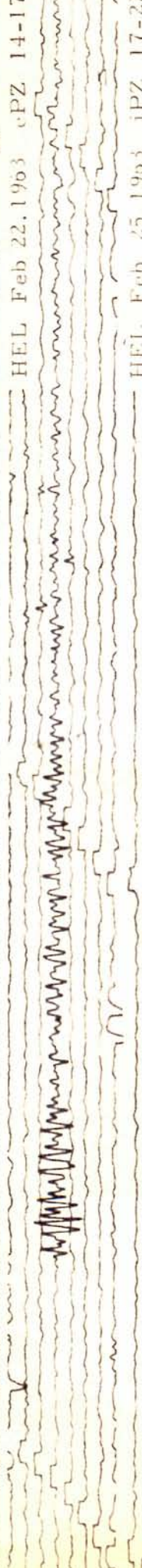
HEL Feb 18, 1963 iPZ 14-32-10



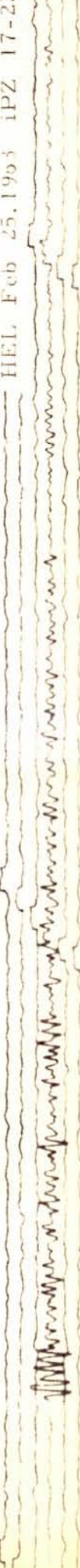
HEL Feb 21, 1963 iPZ 17-20-21.7



HEL Feb 22, 1963 ePZ 14-17-25



HEL Feb 25, 1963 iPZ 17-22-30.2



NUR Feb 05.1963 iPPZ 21

21-00



KEV Feb 05.1963 iPPZ 21

21-00



KEV Feb 05.1963 ISSN 21-18-06

21-13



KEV Feb 05.1963 iPPE 21-00-36

20-57



NUR Feb 14.1963 iPSZ 12-30-38

12-29



NUR Feb 14.1963 iPSE 12-30-38

12-29



NUR Feb 14.1963 iPSZ 12.

12-11

NUR Feb 21.1963 iSE 17

17-24

NUR Feb 24.1963 eSKSE 13-57-20

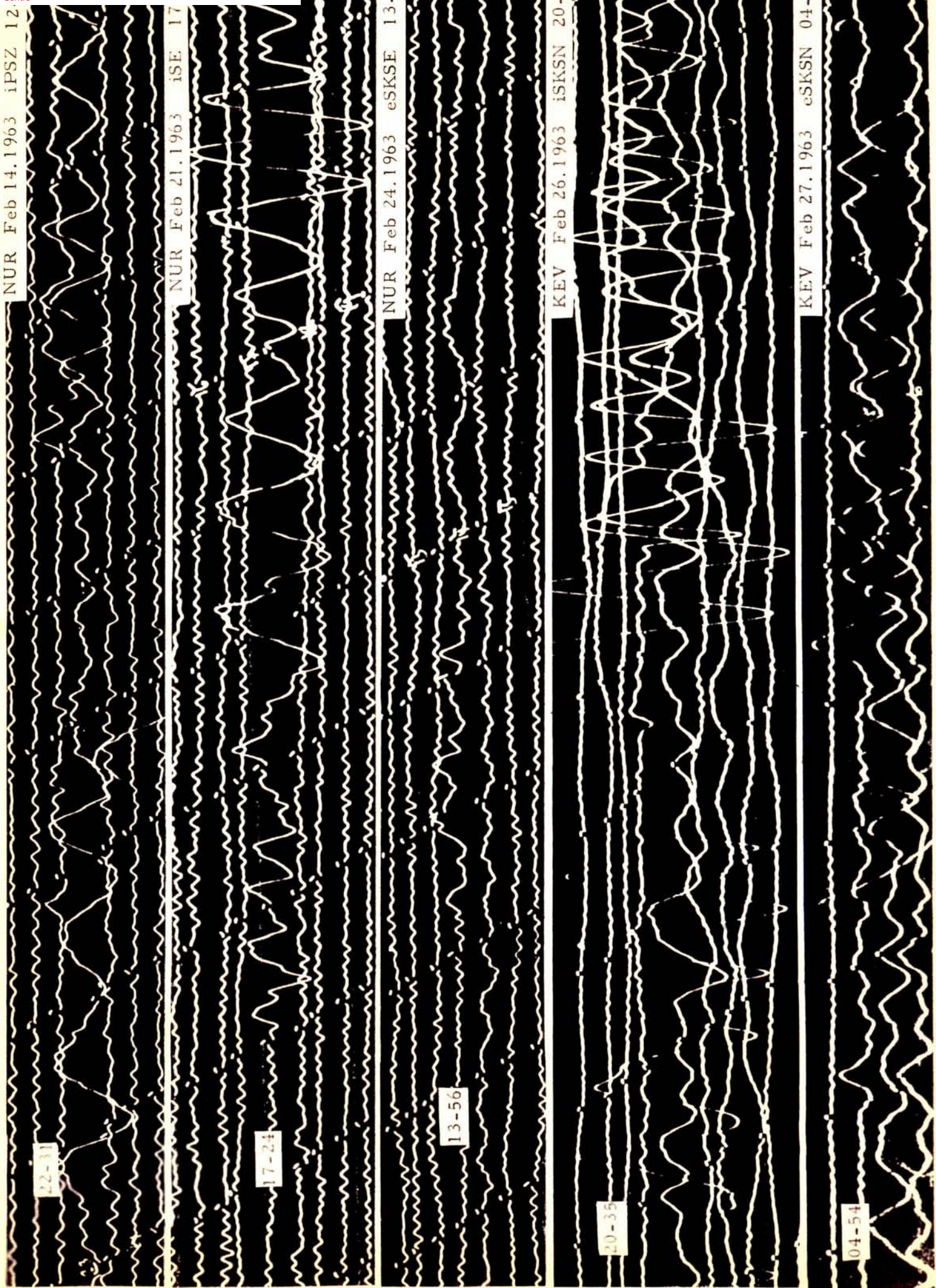
13-56

KEV Feb 26.1963 iSKSN 20-38-27

20-35

KEV Feb 27.1963 eSKSN 04-55-06

04-54





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 Helsinki, Finland
 Prel. Bull. 1963

March

March

			T	A				T	A
1	HEL eP	03 26 38			2	HEL eP	09 36 39		
	NUR eP	03 26 40				NUR iP	09 36 37.4	0.6	13
	SOD e	03 26 42				SOD eP	09 35 58		
	KJN eP	03 26 48				KJN eP	09 36 15		
	Northeastern Iran					Kurile Islands			
	35.7 N, 59.9 E, 33 km					46.1 N, 153.1 E, 33 km			
1	HEL eP	09 35 50			2	HEL eP	11 22 45		
	NUR eP	09 35 52				NUR iP	11 22 44.3	0.5	8
	South of Greece					Kurile Islands			
	35.8 N, 23.1 E, 156 km					46.0 N, 153.0 E, 33 km			
1	HEL eP	10 56 47			2	HEL eP	16 02 48		
	NUR iP	10 56 44.9	0.9	35		NUR eP	16 02 51		
		i 57 08			2	HEL eP	16 19 34		
	SOD iP	10 56 10.3 D				NUR eP	16 19 33	0.6	9
		i 24				SOD eP	16 19 22		
	KJN eP	10 56 23				KJN eP	16 19 23		
	KEV eP	10 56 01				Philippine Islands			
	eSS	11 08 24				10.1 N, 126.1 E, 92 km			
	South of Hokkaido								
	41.2 N, 142.9 E, 41 km								
1	HEL eP	12 02 43			2	NUR eP	17 17 15		
	NUR eP	12 02 39	0.3	22		KJN eP	17 17 57		
	SOD eP	12 02 45			2	HEL eP	17 40 17		
	KJN eP	12 02 34				NUR eP	17 40 17		
	Sinkiang Province					Kurile Islands			
	41.9 N, 80.8 E, 33 km					10.0 N, 126.0 E, 67 km			
1	NUR eP	12 32 49			2	SOD eP	21 12 30		
1	HEL eP	14 43 00			2	NUR ePKP	22 35 26	1.0	10
	NUR eP	14 43 01				KJN ePKP	22 35 18		
	Hokkaido, Japan					Tonga Islands			
	42.2 N, 141.2 E, 33 km					17.1 S, 175.0 W, 240 km			
1	NUR eP	19 25 34	0.8	5	3	HEL iP	01 55 05.5		
	e(S)	35 10				NUR iP	01 55 07.5 U	0.5	21
	SOD eP	19 26 02				SOD iP	01 55 23.1		
	KJN eP	19 25 58				KJN eP	01 55 08		
	KEV eS	19 36 06				Hindu Kush			
	eSS	41 18				36.7 N, 71.4 E, 209 km			
	Atlantic Ocean								
	1.4 N, 29.6 W, 33 km								
2	SOD eP	02 55 34			3	NUR eP	09 50 29		
	East Pakistan-India					Unimak Island			
	23.8 N, 92.2 E, 36 km					54.5 N, 164.9 W, 103 km			
					3	HEL eP	16 58 27		
						NUR iP	16 58 21.3	0.8	18

March

March

3 HEL eP 17 12 05
 NUR iP 17 12 07.4
 i 31
 SOD iP 17 12 23.7
 KJN eP 17 12 08
 e 32

Hindu Kush
 36.4 N, 71.3 E, 156 km

3 HEL eP 17 41 24
 NUR eP 17 41 20
 SOD eP 17 40 55
 KJN eP 17 41 11

Missouri
 36.7 N, 90.1 W, 18 km

3 HEL eP 18 47 13
 NUR eP 18 47 14
 SOD eP 18 47 41
 KJN eP 18 47 23
 KEV eP 18 47 51

Maldiv Islands
 0.3 N, 67.1 E, 33 km

3 NUR eP 23 04 35 1.2 18

3 HEL iP 23 10 29.7
 NUR iP 23 10 29.0 U 0.7 39
 iS 19 17.4
 SOD iP 23 10 03.3 U
 KJN iP 23 10 11.2 U
 KEV iP 23 09 55.4 U 0.7 65

South of Honshu
 30.7 N, 136.9 E, 491 km

4 HEL eP 07 47 03
 NUR iP 07 47 01.4 1.9 170
 iS 51 17
 SOD eP 07 45 46
 eS 49 10
 KJN eP 07 46 27
 eS 50 17
 e 31
 KEV iP 07 45 16.4 1.3 80

North Polar region
 82.9 N, 7.7 W, 33 km

4 NUR eP 12 48 05 0.8 6
 Kurile Islands
 47.7 N, 152.5 E, 140 km

4 NUR eP 13 00 57 0.8 6
 Kurile Islands
 46.3 N, 153.1 E, 33 km

4 HEL eP 13 50 03
 NUR iP 13 50 06.5 1.4 40
 eS 59 27
 eSS 14 04 06
 eSSS 07 14
 SOD iP 13 49 49.7
 eS 58 54

KJN eP 13 49 51
 eS 58 58

KEV eP 13 49 47 2.5 434
 eS 58 50
 eSS 14 03 14
 eSSS 06 26

Formosa
 24.2 N, 121.7 E, 33 km

4 HEL eP 15 15 41
 NUR iP 15 15 43.1
 iS 20 13
 i 30

SOD iP 15 16 44.8
 KJN eP 15 16 14
 iS 21 04

KEV eP 15 17 07 1.1 25
 Crete
 35.2 N, 25.4 E, 42 km

4 NUR eP 15 56 55 1.4 22
 eSKS 16 07 38
 ePS 10 11
 eSS 15 40
 eSSS 19 46
 KEV eSKKS 16 08 06
 ePS 09 54
 eSS 15 18
 eSSS 19 08

Northern Peru
 4.5 S, 81.6 W, 33 km

4 KJN eP 16 04 24

4 NUR eP 20 45 19

5 SOD iP 02 05 40.9
 Northern Morocco
 34.8 N, 5.4 W, 33 km

5 NUR eP 02 43 50
 SOD eP 02 43 59
 Nepal
 29.2 N, 81.2 E, 33 km

March

March

March				T	A	March				T	A	
5	NUR	eP	07 18 52			6	NUR	eP	23 34 08			
		e	31 40				KJN	eP	23 33 48			
		ePS	32 04				Honshu, Japan					
		eSS	37 52				37.0 N, 140.8 E, 71 km					
		e	38 06									
	Northern Peru					7	NUR	ePn	04 29 24	0.5	7	
	4.5 S, 81.5 W, 31 km							eSn	31 18			
5	HEL	eP	07 58 49					eSg	32 20			
	NUR	eP	07 58 51				KJN	eSg	04 32 48			
	Aegean Sea					7	NUR	eP	05 25 03	0.7	8	
	36.1 N, 26.2 E, 77 km						Kurile Islands					
5	SOD	eP	13 18 40				44.4 N, 152.1 E, 33 km					
	KJN	eP	13 18 48			7	NUR	ePKP	05 41 20			
	Bonin Islands							ePP	44 01			
	27.0 N, 140.0 E, 504 km							eSS	06 02 00			
5	NUR	eP	21 23 59				SOD	ePKP	05 41 14			
6	NUR	eP	04 12 22				KJN	ePKP	05 41 18			
6	NUR	iP	04 49 12.0	1.0	24			ePP	43 56			
		e	21				KEV	ePP	05 43 28			
	SOD	eP	04 48 47					ePKS	44 40			
	KJN	eP	04 48 55					e	50 30			
	KEV	eP	04 48 34					ePS	53 44			
	Ryukyu Islands							e	06 00 42			
	28.9 N, 132.2 E, 55 km							iSS	01 10			
6	NUR	eP	07 05 53	0.9	13			eSSS	06 04			
	SOD	eP	07 05 08					e	09 38			
	KJN	eP	07 05 26				Easter Island					
	KEV	eP	07 04 53				27.0 S, 113.5 W, 33 km					
	Kamchatka					7	NUR	ePKP	12 35 35	0.9	36	
	53.8 N, 161.2 E, 33 km							ePP	38 06			
6	NUR	iP	08 42 42.8	0.9	14			iPKS	39 04			
	SOD	eP	08 42 59					i	13			
	KEV	eP	08 43 05					eSS	55 38			
	West Pakistan							eSSS	13 00 28			
	33.8 N, 72.6 E, 36 km						SOD	ePKP	12 35 38			
6	NUR	iPKP	18 12 01.3 D	0.7	28			iPKS	39 06			
	KJN	ePKP	18 11 55				KJN	ePKP	12 35 26			
	Santa Cruz Islands							i	43			
	11.4 S, 166.5 E, 195 km							ePKS	39 12			
6	NUR	eP	22 39 45	0.9	13		KEV	ePKS	12 39 14			
	KJN	eP	22 40 24				Southern Chile					
							44.3 S, 75.3 W, 45 km					
						7	NUR	eP	13 53 52	0.6	12	
								eSS	14 06 48			
							SOD	iP	13 53 07.1			
							KJN	eP	13 53 27			
							Rat Islands					
							50.8 N, 178.6 E, 33 km					

March				T	A	March				T	A	
7	NUR	iP	21 56 34.2 D	0.8	66	KEV	iP	02 26 50.2 U	1.3	134		
		ipP	57 09				ePcP	27 55				
		isP	26			Arabian Sea						
		ePP	58 16			21.9 N, 62.0 E, 33 km						
	SOD	iP	21 56 49.8									
	KJN	iP	21 56 33.9			9	NUR	ePKP 03 07 56	0.6	4		
		iPP	57 57			Kermadec Islands						
	KEV	iP	21 56 58.1 U	0.7	16	27.1 S, 177.1 W, 33 km						
		isP	57 53									
	Hindu Kush											
	36.1 N, 71.2 E, 202 km											
7	NUR	eP	22 02 24			9	NUR	iP 06 54 41.2	0.6	13		
	SOD	iP	22 02 26.6				SOD	eP 06 54 10				
8	NUR	eP	00 04 53				KJN	eP 06 54 23				
	SOD	eP	00 04 18				KEV	eP 06 53 58	0.7	20		
	Northwestern Oregon											
	44.8 N, 123.4 W, 33 km											
8	NUR	eP	00 21 32			9	HEL	eP 17 09 04				
	Queen Elisabeth Islands											
	76.8 N, 94.7 W, 33 km											
8	NUR	ePKP	03 03 42				NUR	eP 17 09 03	1.1	12		
	New Hebrides											
	19.2 S, 169.7 E, 33 km											
8	NUR	ePKP	03 44 06	0.8	6		SOD	eP 17 08 53				
	KJN	ePKP	03 43 59				KJN	eP 17 08 54				
	New Hebrides											
	19.2 S, 169.6 E, 49 km											
8	HEL	eP	15 17 29			9	HEL	eP 20 19 05				
	NUR	eP'	15 17 28	1.6	57		NUR	eP 20 19 06	0.7	6		
		e	22 57									
		ePS	27 26			9	HEL	e 23 02 10				
		eSS	31 32					e 16				
		e	35 08				NUR	ePKP 23 02 04				
	SOD	iP	15 17 53.8					e 14				
	KEV	eP	15 18 05	1.0	21		KJN	ePKP 23 02 06				
		eS	27 59				Fiji Islands region					
	Mid-Atlantic Ocean											
	1.1 N, 29.9 W, 33 km											
9	HEL	eP	02 26 05			10	HEL	iP 01 36 35.6 U				
		ePcP	27 38				NUR	iP 01 36 33.6 U	0.7	87		
	NUR	iP	02 26 06.7 U	0.8	32			eS 45 07				
		iPcP	27 40	0.8	18		SOD	iP 01 35 46.5 U				
		e	28 12				KJN	eP 01 36 11				
	SOD	iP	02 26 37.9 U					iPcP 55				
		ePcP	27 54				KEV	eP 01 35 29 U	0.8	82		
	KJN	iP	02 26 17.1				Kodiak Island					
	cont.											
	56.2 N, 153.8 E, 33 km											
						10	HEL	ePKP 01 38 27 U				
							NUR	ePKP 01 38 25	0.9	40		
							SOD	iPKP 01 38 15.3				
							KJN	ePKP 01 38 19				
							KEV	ePKP 01 38 12	0.8	27		
	New Hebrides											
	15.2 S, 167.2 E, 142 km											

March				T	A	March				T	A		
10	HEL	iP	03 04 57.6	1.6	203	11	HEL	eP	07 32 18	1.6	270		
	NUR	eP	03 04 57				i	22					
		eS	14 16				NUR	iP	07 32 21.1 U				
		ePS	50				i	26.8					
		eSS	19 24				iS	36 30					
	SOD	iP	03 04 40.2 U		SOD	iP	07 33 24.4 U						
	KJN	iP	03 04 42.9	0.8	20		i	49					
	KEV	eP	03 04 36				KJN	eP	07 32 56				
		ePP	07 04				i	33 10					
		ePPP	08 48				KEV	eP	07 33 45				
		eS	13 38				iPP	34 40					
		eSS	18 20				eS	38 56					
		eSSS	21 28				Turkey						
	Formosa						38.1 N, 29.3 E, 33 km						
	24.7 N, 122.1 E, 33 km												
10	HEL	ePKP	11 10 30					11	HEL	eP	10 34 41		
	NUR	ePKP	11 10 28				NUR	iP	10 34 42.2	0.6	21		
		ePS	21 26				ipP	35 34					
		ePPS	22 50				iPP	36 17					
		eSS	28 06				SOD	iP	10 34 57.6 U				
		eSSS	32 22				KJN	eP	10 34 42				
	SOD	ePKP	11 10 33				epP	35 33					
	KJN	ePKP	11 10 33				esP	36 03					
	Central Chile						KEV	eP	10 35 06	0.7	20		
	29.9 S, 71.2 W, 70 km						Hindu Kush						
							36.7 N, 71.1 E, 189 km						
10	NUR	eP	11 26 53			11	NUR	eP	14 33 03	0.8	11		
							SOD	eP	14 32 37				
							South of Honshu						
							31.1 N, 138.2 E, 396 km						
10	HEL	eP	12 01 24	0.7	5	11	NUR	eP	15 43 11				
	NUR	eP	12 01 20					SOD	iP	15 42 54.7			
	SOD	eP	12 00 47					KEV	eP	15 42 47			
	KJN	eP	12 00 59					Guerrero, Mexico					
							17.6 N, 100.8 W, 33 km						
10	HEL	eP	12 01 38 U	0.7	43	11	HEL	eP	23 57 56				
	NUR	iP	12 01 36.2 U					NUR	eP	23 57 54	0.8	13	
	SOD	iP	12 01 03.8 U					KJN	eP	23 57 30			
	KJN	eP	12 01 15 U										
	KEV	eP	12 00 53					12	NUR	eP	03 35 06	0.8	6
	Honshu, Japan												
	39.4 N, 141.7 E, 60 km												
10	HEL	eP	14 04 18	0.9	17	12	HEL	eP	08 16 00				
	NUR	eP	14 04 18					NUR	eP	08 15 59	0.9	33	
	SOD	eP	14 04 10					SOD	iP	08 15 13.8 U			
	KJN	eP	14 04 09					KJN	eP	08 15 31			
								KEV	eP	08 14 57			
	Celebes Sea						Kamchatka						
	2.4 N, 126.6 E, 41 km						53.9 N, 160.6 E, 33 km						

March				T	A	March				T	A	
15	NUR	iP	11 05 53.3 U	0.8	14	KEV	eP	08 54 38	1.0	308		
		e	06 09				ePP	56 50				
	SOD	iP	11 05 40.7				ePcS	59 26				
	KJN	eP	11 05 41				iS	09 02 36				
	KEV	eP	11 05 38	0.6	3		eP'P'	24 08				
	Philippine Islands						i	42				
	17.5 N, 119.8 E, 33 km						ePKPSKS	31 54				
15	NUR	iP	19 01 16.8 D	0.5	10	Kurile Islands						
	SOD	eP	19 00 43			46.5 N, 154.7 E, 26 km						
	KJN	eP	19 00 55			16	HEL	iP	22 35 52.7 U			
	Hokkaido, Japan						e	36 58				
	42.3 N, 142.3 E, 33 km						NUR	iP	22 35 54.3 U	0.6	21	
16	NUR	eP	01 52 49	0.6	5		e	36 07				
16	NUR	eP	02 36 50				iPP	37 10				
	SOD	eP	02 35 34				eSS	44 50				
	KJN	eP	02 36 11				SOD	iP	22 36 07.3 U			
	KEV	eP	02 35 04				e	37 30				
16	NUR	iP	03 45 04.7	0.8	17		KEV	eP	22 36 14			
	SOD	iP	03 45 05.7 U				e	37 42				
	i		19				Tadzhik S.S.R.					
	KJN	eP	03 44 59				38.9 N, 71.8 E, 73 km					
	Assam, India					17	HEL	eP	03 17 32			
	26.1 N, 92.8 E, 48 km						NUR	eP	03 17 31			
16	HEL	eP	08 55 33				SOD	eP	03 17 17			
	eP'P'		09 24 09			17	SOD	eP	04 02 22			
	NUR	iP	08 55 32.1			17	HEL	eP	08 53 01			
	ePP		57 59				NUR	eP	08 52 59			
	iS		09 04 19.9				SOD	iP	08 52 20.3 D			
	iScS		05 31				Kurile Islands					
	e		06 09				46.0 N, 155.0 E, 35 km					
	eP'P'		24 07			17	SOD	eP	13 18 56			
	ePKPPKS		27 59				Kurile Islands					
	ePKPSKS		32 23				46.2 N, 155.6 E, 33 km					
	SOD	iP	08 54 52.8 U			17	HEL	eP	14 22 01			
	iS		09 03 06				NUR	iP	14 22 04.6 D	1.0	107	
	eScS		04 50				i	08.6				
	eP'P'		24 06				i	22				
	i		22				i	47				
	ePKPSKS		32 15				eS	25 56				
	KJN	iP	08 55 08.6				SOD	iP	14 23 12.1 D			
	i		13				KEV	iP	14 23 33.2 D	1.0	33	
	eS		09 03 39				Greece					
	eScS		05 17				39.5 N, 21.5 E, 78 km					
	eP'P'		24 01			17	NUR	eP	19 48 02			
	e		15				SOD	eP	19 47 17			
	ePKPSKS		32 08				Eastern Siberia					
	cont.						64.9 N, 174.9 W, 33 km					

March				T	A	March				T	A
18	NUR	ePKP	04 20 10	0.8	7	19	HEL	eP	19 20 50		
	Kermadec Islands 26.6 S, 176.7 W, 33 km						NUR	eP	19 20 50	0.6	10
							SOD	eP	19 20 38		
							KJN	eP	19 20 40		
18	HEL	ePKP	04 45 42				KEV	eP	19 20 35	0.7	5
	NUR	ePKP	04 45 41	0.6	4	Philippine Islands 8.3 N, 126.6 E, 109 km					
	Kermadec Islands 33.2 S, 179.0 E, 33 km										
18	NUR	eP	10 03 58	0.7	9	20	HEL	e	05 01 20		
							eSKP		03 50		
							NUR	ePKP	05 01 08		
							i		20		
18	NUR	eP	10 09 26				iSKP		03 52		
	SOD	iP	10 10 19.3				ePKS		04 52		
	KEV	eP	10 10 36			SOD	ePKP	05 01 07			
	Southern Algeria 24.1 N, 5.0 E, 0 km						iSKP		03 31.1		
18	NUR	ePKP	13 34 29	1.0	20	KJN	ePKP	05 01 11			
	Fiji Islands 15.7 S, 178.4 W, 561 km						eSKP		03 41		
							ePKS		04 41		
						KEV	ePKP	05 01 04		0.7	6
							eSKP		03 25		
							ePKS		04 25		
18	HEL	eP	15 04 18			Fiji Islands 19.9 S, 179.1 W, 680 km					
	NUR	eP	15 04 16	0.9	12						
19	NUR	eP	04 57 04	0.7	6	20	HEL	eSKP	05 06 28		
	SOD	eP	04 55 51				NUR	ePKP	05 03 46		
	KJN	eP	04 56 26				e		56		
	Arctic Ocean 79.1 N, 2.0 E, 33 km						iSKP		06 27		
							ePKS		07 28		
19	NUR	eP	05 23 32	0.5	4	SOD	ePKP	05 03 39			
	SOD	eP	05 23 10				iSKP		06 06.3		
	KJN	eP	05 23 19				ePP		57		
	KEV	eP	05 23 03	0.5	5		ePKS		07 09		
	Mariana Islands 18.9 N, 145.3 E, 200 km					KJN	eSKP	05 06 16			
							ePKS		07 17		
19	NUR	ePKP	13 32 37	0.7	4	KEV	ePKP	05 03 38		0.7	9
	KJN	ePKP	13 32 31				eSKP		06 01		
	Loyalty Islands 22.6 S, 170.6 E, 49 km						i		15		
							ePKS		07 01		
19	NUR	ePKP	15 01 19	0.9	7	Fiji Islands 19.6 S, 179.3 W, 680 km					
		ePKS	04 48								
	KJN	ePKP	15 01 13			20	HEL	eP	07 15 06 U		
	Loyalty Islands 22.6 S, 170.8 E, 33 km						NUR	iP	07 15 04.8 U	0.7	12
							i		22		
							SOD	iP	07 14 25.3 U		
19	SOD	eP	17 32 29				KJN	eP	07 14 42		
	KJN	eP	17 32 26				KEV	iP	07 14 11.4	1.0	16
	Java 7.7 S, 106.9 E, 94 km					Kurile Islands 46.4 N, 154.5 E, 16 km					

March

March

March						March					
				T	A					T	A
20	HEL	eP	14 52 51	D							
	NUR	iP	14 52 52.2		0.8	10					
	SOD	iP	14 52 59.1	D							
	KJN	eP	14 52 49								
	KEV	eP	14 53 02		0.7	14					
	Andaman Islands										
	11.9 N, 93.1 E, 33 km										
20	SOD	eP	15 41 04								
20	NUR	eP	16 52 52								
		ePP	57 13								
		eSKS	17 03 28								
		eS	04 36								
		ePS	06 18								
		eSS	11 46								
	SOD	eP	16 52 41								
	KJN	eP	16 52 42								
	Western New Guinea										
	2.4 S, 138.4 E, 40 km										
21	HEL	eP	04 11 21	U							
	NUR	iP	04 11 20.1	U	0.9	60					
		i	32								
		i	57								
		ePP	13 52								
	SOD	iP	04 10 50.1	U							
		ePP	13 11								
	KJN	eP	04 11 01	U							
		e	14								
	KEV	eP	04 10 39		0.8	29					
		i	48								
		i	11 34								
	Honshu, Japan										
	36.5 N, 140.9 E, 50 km										
21	SOD	eP	09 31 59								
21	HEL	eP	14 21 48								
	NUR	eP	14 21 50		0.4	5					
	KJN	eP	14 21 40								
21	HEL	eP	18 04 01								
	NUR	eP	18 04 00								
	Kurile Islands										
	46.6 N, 154.9 E, 33 km										
21	HEL	eP	23 46 36								
	NUR	eP	23 46 34		0.7	4					
	SOD	eP	23 45 54								
	Kurile Islands										
	47.0 N, 155.6 E, 69 km										
22	NUR	eP	02 49 51						0.6	4	
	Honshu, Japan										
	36.7 N, 139.5 E, 83 km										
22	HEL	eP	04 07 50								
	NUR	eP	04 07 49						0.6	10	
	SOD	eP	04 07 10								
	Kurile Islands										
	46.0 N, 148.4 E, 115 km										
22	HEL	eP	22 32 14								
	NUR	eP	22 32 15								
22	HEL	eP	22 34 15								
	NUR	eP	22 34 19		0.8	9					
	Cyprus										
	34.8 N, 33.0 E, 33 km										
22	HEL	eP	22 35 19								
	NUR	eP	22 35 22		0.7	6					
22	HEL	eP	23 40 56								
		i	41 00								
	NUR	eP	23 40 58		0.9	8					
	Cyprus										
	34.2 N, 32.2 E, 33 km										
22	NUR	iPKP	23 55 57.0		1.1	26					
	KJN	ePKP	23 55 54								
	Tasmania										
	52.7 S, 137.4 E, 33 km										
23	HEL	eP	00 37 58								
	NUR	eP	00 38 06		0.7	4					
23	NUR	eSKP	01 32 02								
	KJN	eSKP	01 31 52								
	Fiji Islands										
	25.3 S, 179.2 E, 560 km										
23	NUR	eP	05 56 07		0.8	3					
	KJN	eP	05 55 57								
	Sinkiang Province										
	42.3 N, 84.3 E, 33 km										
23	HEL	eP	11 39 48								
	NUR	iP	11 39 47.7		1.1	12					
	KJN	eP	11 39 37								
23	HEL	eP	12 16 00								
	NUR	eP	12 16 02		0.9	9					

March

March

23	HEL	eSn	22 55 11		
		eSg	56 02		
	NUR	ePn	22 53 34	0.5	12
		eSn	55 04		
		iSg	53		
	SOD	iPn	22 52 51.6		
		ePb	53 00		
		iPg2	07.6		
		i	45		
		iSn	48		
		iSb	54 03		
		iSg2	15		
	KJN	eSn	22 54 22		
	KEV	eSn	22 53 58		
		iSg	54 27		

According to the Finnish,
Swedish, and Norwegian
seismograph station nets:
H : 22 51 35
Norway
67.2 N, 13.4 E

23	HEL	eP	23 54 57		
	NUR	eP	23 54 58	1.3	17

24	HEL	eP	02 21 02		
	NUR	eP	02 21 02	1.2	26
		i	09		
		e	24 30		
		ePP	25 14		
		eSKS	31 36		
		eS	32 42		
		ePS	34 06		
		ePPS	56		
		eSS	39 50		
	SOD	eP	02 21 06		
		ePP	25 02		
	KJN	eP	02 20 56		
		e	21 03		
		ePP	25 04		
		e	12		
	KEV	eP	02 21 04	0.8	11
		ePP	25 04		
		iSKS	31 31		
		e	32 10		
		eS	30		
		e	33 26		
		ePS	34 02		
		eSS	39 30		
		eSSS	42 50		

Sumba Island
9.7 S, 120.4 E, 33 km

24	NUR	eP	02 35 39			
		ePP	37 52			
	SOD	eP	02 35 03			
	KJN	eP	02 35 16			
		Andreanof Islands				
		51.6 N, 173.3 W, 55 km				

24	NUR	eP	05 52 18		
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24	HEL	eP	09 56 03		U
		i	16		
	NUR	iP	09 56 03.2	D	0.9 165
		i	16		
		i	46		
		ePP	59 31		
		eS	10 06 40		
		e	07 06		
		eSS	13 10		
		eSSS	16 42		
	SOD	iP	09 55 51.2	D	
	KJN	eP	09 55 54	U	
		e	56 05		
		i	18		
	KEV	iP	09 55 50.3	U	0.8 41
		i	56 02		
		i	13		

Philippine Islands
9.0 N, 125.6 E, 51 km

24	HEL	eP	12 50 09		
	NUR	iP	12 50 12.0		1.1 42
		i	32		
		ePP	51 11		
		iPcP	53 14		
		iS	55 04		
	SOD	iP	12 50 57.3	D	
		ePP	52 22		
	KJN	eP	12 50 30		
	KEV	eP	12 51 15		1.1 46
		i	50		
		iPP	52 39		
		ePPP	57		
		eS	57 11		
		eSS	59 35		

Western Iran
34.4 N, 47.9 E, 33 km

24	HEL	eP	21 46 12		
		i	29		
		ePcP	41		
		eP'P'	22 14 31		

cont.

March				T	A	March				T	A	
	NUR	iP	21 46 09.5	0.8	58	25	HEL	iP	22 58 25.3	D		
		i	23					i	37			
		iPcP	35				NUR	iP	22 58 26.0	D	0.9	69
		i	47 24					i	37			
		eS	54 50					eS	23 08 26			
		eP'P'	22 14 24					ePPS	09 36			
	SOD	iP	21 45 24.4	U			SOD	iP	22 58 32.6	D		
		i	36					ePPP	23 03 28			
		iPcP	46 11				KJN	eP	22 58 24	D		
		ePP	47 48					e	35			
		eP'P'	22 14 45					Sumatra				
	KJN	eP	21 45 46					0.7 N, 96.5 E, 30 km				
		iPcP	46 23									
		eP'P'	22 14 36				26	NUR	eP	05 41 39	0.5	4
	Andraeanof Islands						26	NUR	eP	05 54 49		
	51.8 N, 178.1 W, 57 km											
25	HEL	eSn	03 21 36			26	HEL	iPKP	10 07 54.3			
	NUR	ePn	03 18 12	0.6	1		NUR	eP	10 05 30			
		e	20 26					iPKP	07 52.8	D		
		eSn	21 41					e	09 46			
	SOD	eSn	03 24 12					ePP	11 20			
	KJN	eSn	03 23 06					iSKSP	21 30			
25	HEL	eP	04 07 18					e	27 58			
	NUR	eP	04 07 13					eSS	30 06			
	SOD	eP	04 07 06					e	44 20			
	KJN	eP	04 07 01				SOD	ePKP	10 07 34			
	Philippine Islands							ePP	10 40			
	14.0 N, 121.9 E, 33 km							e	43 50			
25	HEL	eP	08 20 58				KJN	ePKP	10 07 40			
	NUR	iP	08 20 56.3	0.9	17			ePKS	11 07			
	SOD	iP	08 20 45.3	U				e	12 11			
		i	21 27					e	44 03			
	KJN	eP	08 20 46					Kermadec Islands				
	Philippine Islands							29.7 S, 177.8 W, 45 km				
	16.3 N, 119.7 E, 36 km					26	NUR	eP	10 51 29	1.1	7	
25	NUR	eP	14 42 16	0.5	3	26	NUR	eP	10 52 54	0.9	14	
	SOD	eP	14 42 04			26	HEL	iPKP	12 05 37.3			
25	HEL	ePKP	20 36 50					i	50			
		i	54				NUR	iPKP	12 05 36.2	0.8	106	
	NUR	ePKP	20 36 50	1.6	50			i	50			
		i	56	1.2	96			e	07 54			
		eSS	21 00 05				SOD	ePKP	12 05 09			
	SOD	ePKP	20 36 50					e	12			
	KJN	ePKP	20 36 54				KJN	ePKP	12 05 25			
	Macquarie Islands							Kermadec Islands				
	56.3 S, 149.9 E, 39 km							30.1 S, 177.4 W, 50 km				
						26	NUR	eP	12 16 50	0.7	7	

March				T	A	March				T	A
26	HEL	iPKP	13 11 13.2			26	HEL	eP	19 24 18		
		i	21				NUR	eP	19 24 17	0.7	7
	NUR	iPKP	13 11 12.2	0.8	67	26	HEL	iP	19 58 19.7		
		i	22				e	50			
	SOD	ePKP	13 11 06				NUR	iP	19 58 18.0 U	0.7	80
	KJN	ePKP	13 11 02				ePcP	49			
	Kermadec Islands						ePP	20 00 40			
	29.9 S, 177.6 W, 60 km						SOD	iP	19 57 41.0		
26	HEL	eP	13 33 05				ePcP	58 25			
	NUR	eP	13 33 01	0.8	15		KJN	eP	19 57 54		
		i	07				Kurile Islands				
	29.8 S, 177.9 W, 42 km						44.4 N, 146.7 E, 110 km				
26	HEL	ePKP	13 44 36			26	HEL	eP	20 09 17		
		i	38				NUR	eP	20 09 15	0.8	10
	NUR	iPKP	13 44 34.6				SOD	eP	20 08 50		
		i	37			26	NUR	eP	20 59 10		
		e	48 36			26	HEL	eP	21 08 44		
		e	14 04 32				NUR	eP	21 08 42	0.5	3
	SOD	ePKP	13 44 18				SOD	eP	21 08 01		
		ePKS	47 42			26	HEL	iP	21 45 43.3		
		e	14 20 33				NUR	iP	21 45 42.0 U	1.1	178
	KJN	ePKP	13 44 25				i	47 52			
		e	47 15				ePP	48 06			
		ePKS	48 07				ePPP	49 56			
	Kermadec Islands						iS	54 45			
	29.8 S, 177.9 W, 42 km						eScS	55 38			
26	HEL	ePKP	14 53 25				e	56 24			
	NUR	ePKP	14 53 23	0.9	9		eSS	59 04			
	KJN	ePKP	14 53 17				i	22 02 32			
	New Hebrides						SOD	iP	21 45 14.5 D		
	18.0 S, 168.0 E, 32 km						eS	53 50			
26	HEL	eP	16 47 24				KJN	eP	21 45 23		
	NUR	eP	16 47 26	0.7	8		i	28			
26	HEL	eP	17 00 58				iS	54 07			
	NUR	eP	17 00 56	0.5	6		Honshu, Japan				
26	NUR	eP	18 28 53	0.7	3		36.0 N, 135.7 E, 33 km				
26	HEL	eP	18 38 13			26	HEL	eP	22 48 03		
		i	19				ipP	27			
		i	26				NUR	iP	22 48 02.3	0.6	14
	NUR	eP	18 38 11	0.8	46		ipP	26			
		i	17				SOD	iP	22 47 33.4 U		
		i	24				ipP	56			
26	HEL	eP	18 49 06				KJN	eP	22 47 43		
	NUR	eP	18 49 04	0.7	8		ipP	48 07			
	29.8 S, 177.9 W, 42 km						Honshu, Japan				
	18.0 S, 168.0 E, 32 km						34.0 N, 139.8 E, 100 km				

March				T	A	March				T	A
27	NUR	eP	03 38 53			28	HEL	eP	00 31 03		
	SOD	eP	03 38 28				NUR	iP	00 31 00.0	1.2	121
	KJN	eP	03 38 36				SOD	iP	00 30 34.4		
27	HEL	eP	03 46 03				KJN	eP	00 30 53		
	NUR	eP	03 46 04	0.5	3		Iceland				
	SOD	eP	03 46 19				66.3 N, 20.2 W, 33 km				
	KJN	eP	03 46 03			28	HEL	eP	00 31 45		
	Hindu Kush						NUR	iP	00 31 41.7	1.2	440
	37.0 N, 71.9 E, 189 km						SOD	eP	00 31 13		
27	HEL	eP	05 22 46				eS		34 40		
	NUR	iP	05 22 44.8	0.5	13		KJN	eP	00 31 34		
	SOD	iP	05 22 08.5				eS		35 15		
	KJN	eP	05 22 22			28	HEL	eP	01 04 15		
	Kurile Islands						NUR	iP	01 04 12.2	1.3	268
	44.5 N, 145.6 E, 33 km						SOD	eP	01 03 45		
27	HEL	eP	09 01 31				eS		07 12		
	NUR	iP	09 01 31.0	0.6	26		KJN	eP	01 04 06		
	KJN	eP	09 01 20				Iceland				
27	NUR	eP	11 18 46	0.9	9		66.4 N, 19.6 W, 33 km				
27	NUR	eP	12 06 39	0.6	3	28	NUR	eP	01 33 11		
27	NUR	eP	13 20 40	0.7	9		SOD	eP	01 32 46		
27	NUR	eP	14 13 20	0.8	6		KJN	eP	01 33 05		
27	NUR	eP	16 08 42	0.5	4		Iceland				
27	NUR	eP	16 24 20				66.6 N, 20.0 W, 33 km				
27	HEL	eP	19 31 00			28	NUR	eP	02 40 14	0.5	4
	NUR	eP	19 31 00	0.8	2		SOD	eP	02 40 14		
27	NUR	eP	21 46 01	0.6	3	28	NUR	eP	04 02 18		
27	HEL	eP	21 59 00				SOD	eP	04 02 25		
	NUR	iP	21 58 59.6	0.6	6		KJN	eP	04 02 14		
27	NUR	eP	22 21 59	0.8	5	28	HEL	eP	09 57 39		
28	HEL	eP	00 20 28				NUR	eP	09 57 37	0.8	4
	NUR	iP	00 20 23.0	1.2	1280		e		54		
	eS		24 11				SOD	eP	09 56 53		
	e		22				KJN	eP	09 57 07		
	SOD	iP	00 19 56.3 U				Kurile Islands				
	eS		23 24				49.0 N, 154.9 E, 53 km				
	KJN	eP	00 20 16			28	NUR	eP	10 35 39	0.5	3
	eS		24 03				HEL	iPKP	11 32 06.9		
	Iceland						NUR	iPKP	11 32 05.1	1.2	473
	66.3 N, 19.6 W, 15 km						e		35 43		
							SOD	ePKP	11 31 49		
							i		56		
							KJN	ePKP	11 31 53		
							ePKS		35 35		
							Kermadec Islands				
							30.2 S, 177.8 W, 38 km				

March			T	A	March			T	A
29	NUR	eP 21 57 33 Dodecanese Islands 35.6 N, 28.6 E, 33 km	0.8	1	iS	17 11 20			
					ePPS	12 06			
					eSS	15 56			
					eSSS	19 00			
30	NUR	eP 00 40 30	0.9	14	SOD	iP 17 02 02.2 D			
						iPcP 48			
30	HEL	ePKP 02 12 13 i 24			KJN	ePP 04 13			
		eSKP 15 33				eP 17 02 16 D			
	NUR	ePKP 02 12 12 e 22	0.7	121		ePcP 56			
		ipPKP 13 05			KEV	iP 17 01 49.5	1.1	55	
		ePP 14 47				i 02 08			
		iSKP 15 32				iPcP 41			
		iPKS 49				i 03 01			
		ipPKS 16 30				ePPP 05 14			
		e 40				eS 09 42			
		iSKKS 21 20				eSS 14 10			
		i 22 40							
		eSP 24 32							
		e 27 12							
		iSS 32 06							
		esSS 33 14							
	SOD	ipPKP 02 12 12.4 D e 24 35							
		eSKKP 25 11							
	KJN	ePKP 02 12 14 ePKS 15 34							
		eSKKS 20 56							
		eSKKP 25 11							
		New Hebrides 19.1 S, 169.1 E, 160 km							
30	NUR	eP 07 05 53 Fox Islands 51.8 N, 170.5 W, 33 km	1.0	15	30	NUR eP 17 30 30			
						SOD eP 17 31 12			
					30	NUR eP 17 37 37			
						Sinkiang Province 38.6 N, 75.8 E, 33 km			
					30	SOD eP 20 56 47			
					31	HEL eP 02 33 28			
						NUR iP 02 33 30.7	0.7	8	
						ePP 34 28			
						SOD eP 02 34 02			
						KJN eP 02 33 36			
						KEV eP 02 34 16	0.6	6	
						Northeastern Iran 36.9 N, 57.7 E, 33 km			
					31	SOD eP 02 44 20			
						KJN eP 02 44 38			
					31	NUR eP 04 23 50	0.5	3	
30	NUR	eP 14 57 53	0.8	8					
30	HEL	eP 17 02 41 iPcP 03 12			31	NUR ePP 05 04 08			
						eSKS 10 34			
	NUR	iP 17 02 40.0 D iPcP 03 10	0.8	104		eS 11 40			
		i 30				ePS 13 18			
		e(PP) 04 56				ePPS 14 18			
		ePPP 06 46				eSS 18 58			
						eSSS 22 48			
						KJN eP 04 59 34			

cont.

cont.

March				T	A	March				T	A		
31	SOD	eP	17 47 37			31	HBL	eP	19 47 59				
							NUR	iP	19 47 59.2	0.6		20	
31	NUR	iP	18 39 57.0	0.6	4	31	HBL	eP	19 51 20				
							NUR	eP	19 51 20	0.5		7	
31	NUR	eP	19 14 34	0.7	7								
31	NUR	eP	19 17 49	0.8	3	31	HBL	eP	20 25 43				
							NUR	eP	20 25 42	0.7		3	
31	HBL	iPKP	19 42 27.7			31	SOD	eP	21 28 30				
	NUR	iPKP	19 42 26.8	0.9	681								
		i	28			31	NUR	eP	21 45 45	0.8		6	
		i	45										
		ePP	45 46			31	NUR	eP	23 49 13	0.7		4	
		eSKS	49 06										
		eSKSP	55 54										
		eSS	20 05 00										
SOD	ePKP		19 42 08										
KJN	ePKP		19 42 15										
	ePKS		45 53										
KEV	ePKP		19 42 03	1.1	22								
	e		11										
	e		31										
	ePP		45 10										
	iPKS		46										
	eSKSP		55 16										
Kermadec Islands						October 2, 1963							
30.0 S, 178.0 W, 50 km						M. T. Porkka							
						Aili Huovila							

Nur Mar 04.1963 iPN 07-47-0

07-47

Nur Mar 04.1963 iSE 07-51-1

07-51

Nur Mar 04.1963 iSE 13-59-27

13-59

Kev Mar 04.1963 eSSN 14-06-26

14-06

Kev Mar 07.1963 iSSN 06-01-10

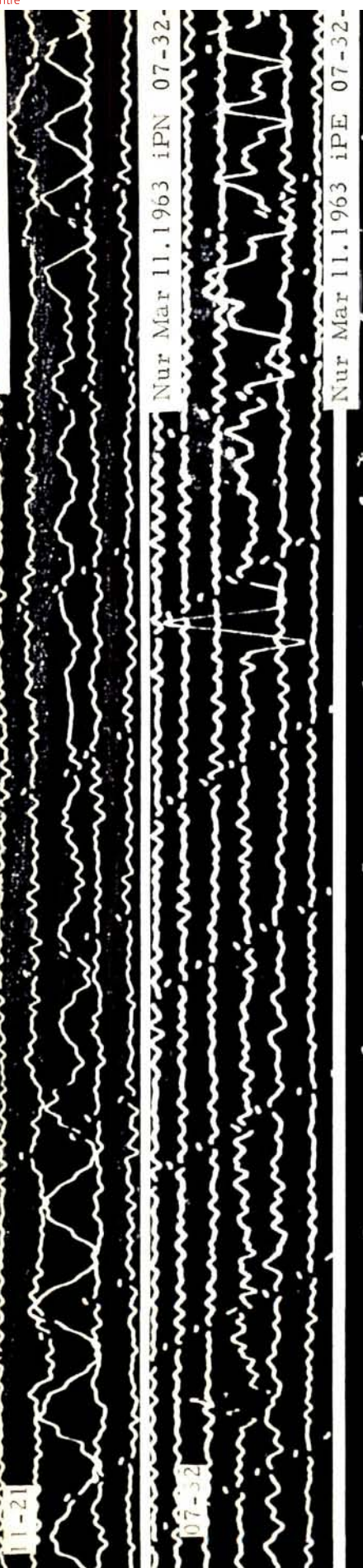
06-01

Kev Mar 07.1963 iSSE 06-01-10

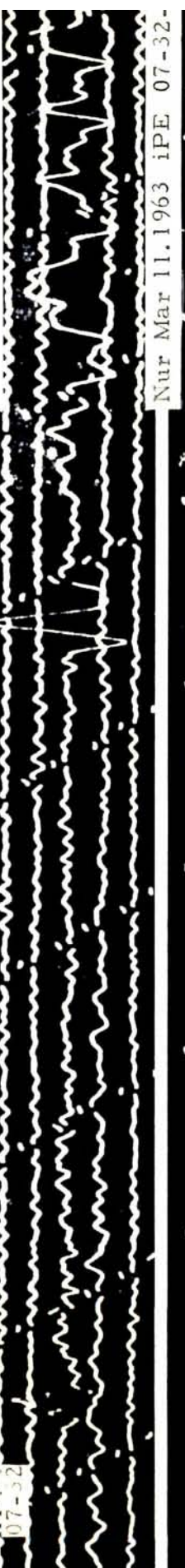
06-01



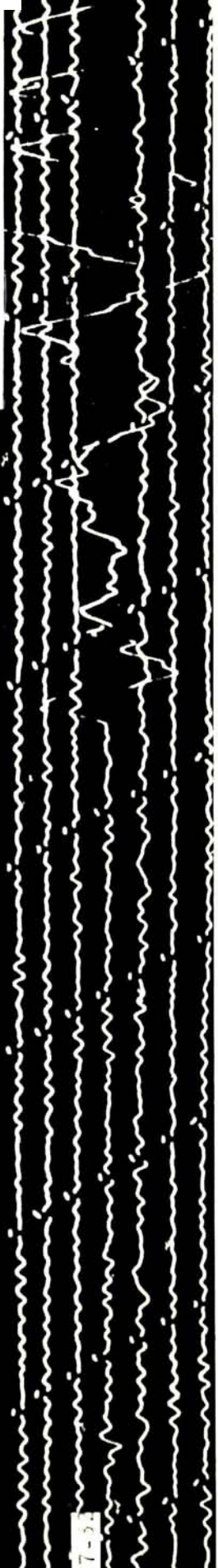
Nur Mar 10. 1963 ePS 11-21



Nur Mar 11. 1963 iPN 07-32



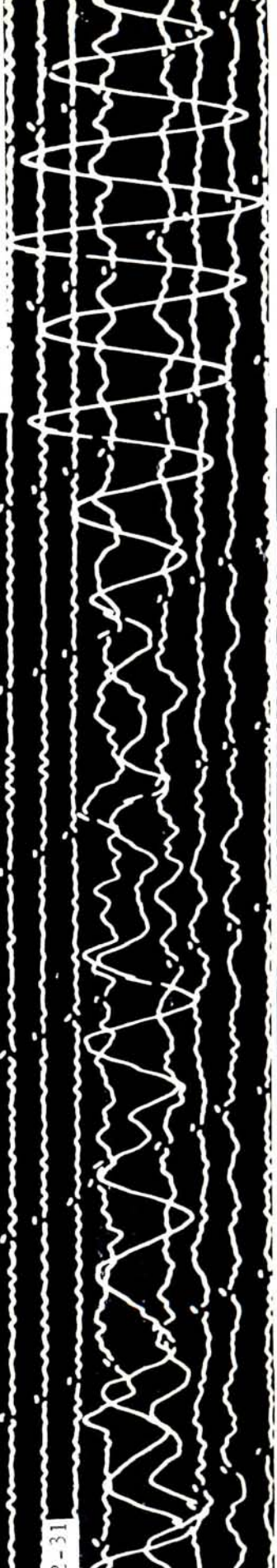
Nur Mar 11. 1963 iPE 07-32



Nur Mar 14. 1963 eSE 08-21-39



Nur Mar 24. 1963 eSESE 02-31-56



Kev Mar 24. 1963 iSKSE 02-31-31



11-21

07-32

07-32

08-21

02-31

02-31

Nur Mar 24.1963 iPE 12-50-

12-50



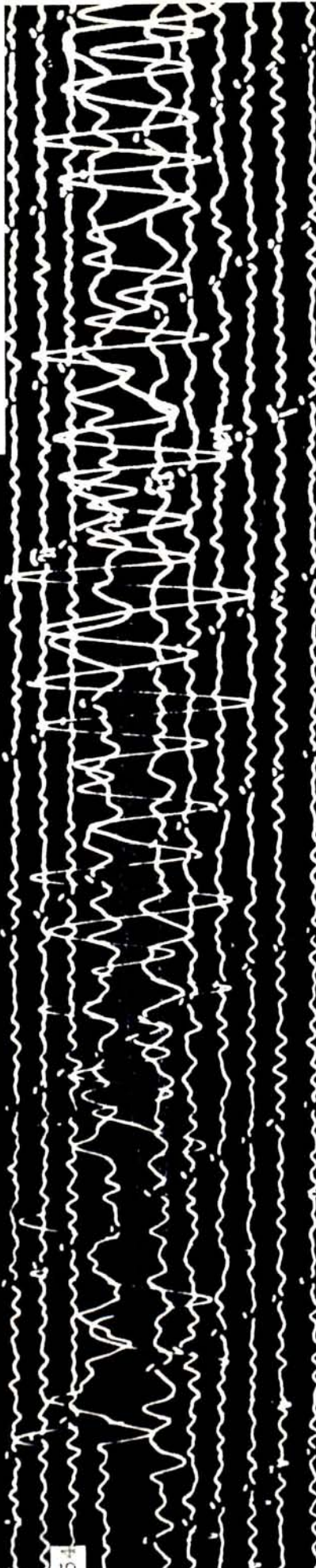
Kev Mar 24.1963 ePZ 12-51

12-51



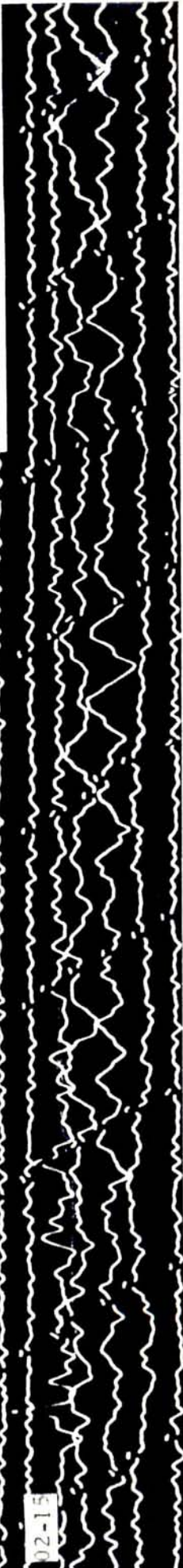
Nur Mar 26.1963 iSE 21-54-

21-54



Nur Mar 30.1963 iSKPZ 02-15-32

02-15



Nur Mar 30.1963 iSKPE 02-15-32

02-15



Nur Mar 31, 1963 iPKPZ 05-50

05-50

Nur Mar 31, 1963 iPKPN 05-50

05-50

Nur Mar 31, 1963 iPKPE 05-50-23.0

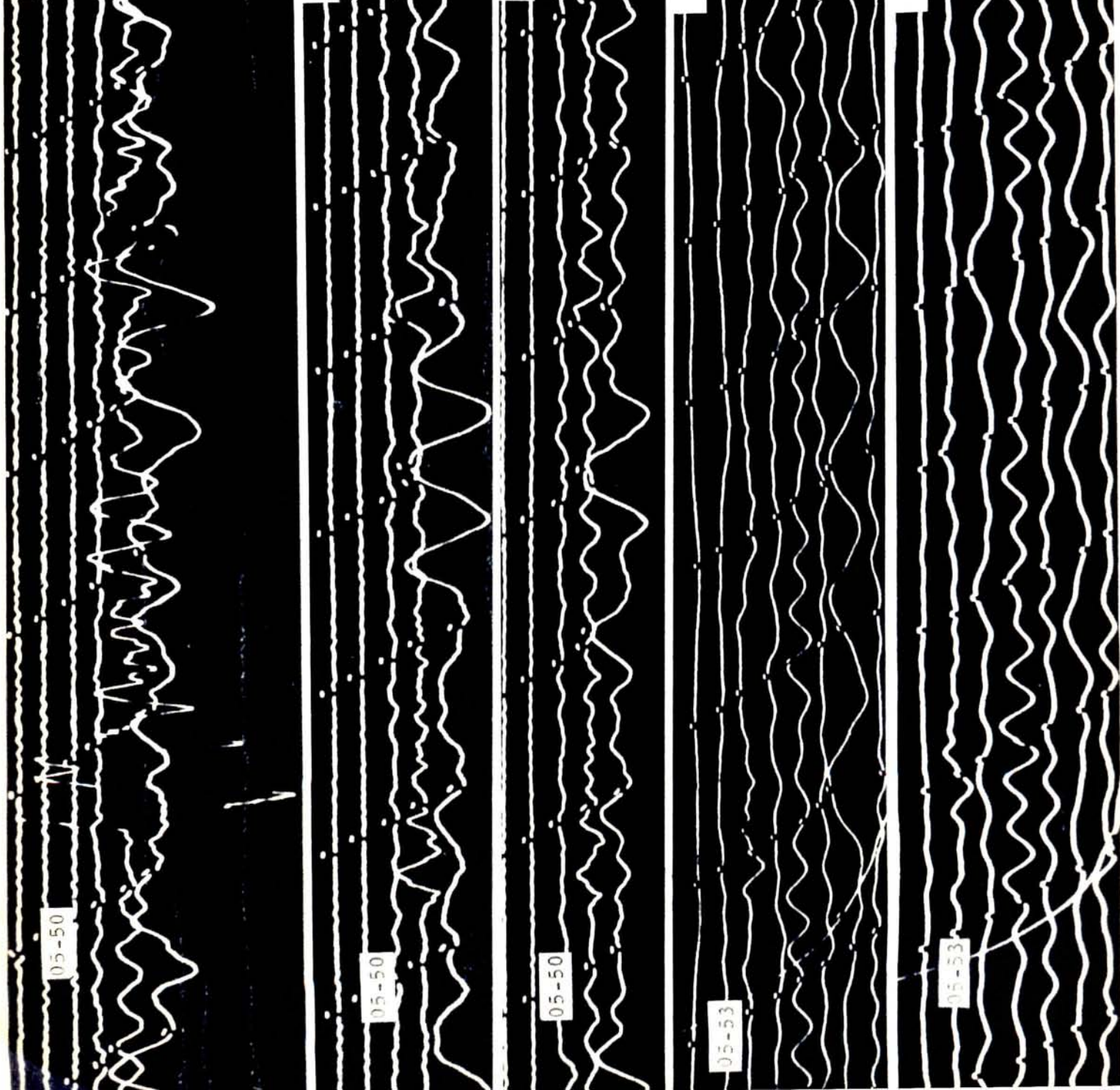
05-50

Kev Mar 31, 1963 ePKSN 05-53-40

05-53

Kev Mar 31, 1963 ePKSE 05-53-40

05-53



April				T	A	April				T	A		
1	HEL	eP	00 11 42	0.8	11	1	HEL	eP	09 30 00	0.8	12		
	NUR	eP	00 11 42			NUR	eP	09 30 02					
1	HEL	eP	04 07 52	0.8	6			ipP	22				
	NUR	eP	04 07 52					esP	39				
	SOD	eP	04 07 40					ePP	31 28				
	KJN	eP	04 07 37					ePcP	32 26				
1	NUR	ePKP	04 10 24					eS	35 44				
	SOD	ePKP	04 10 14			SOD	eP	09 30 21					
	KJN	ePKP	04 10 17					esP	57				
	KEV	ePKP	04 10 09					e	32 35				
	Santa Cruz Islands					KJN	eP	09 30 02					
	13.0 S, 167.1 E, 213 km							e	31 51				
1	HEL	eP	04 38 46	0.6	72			KEV	eP	09 30 30	0.9	11	
		ePcP	39 21							e	31 57		
	NUR	iP	04 38 45.0							ePP	32 08		
		iPcP	39 21							eS	36 36		
		eS	46 50							eSS	39 26		
		eScS	48 09							Hindu Kush			
		e	53 26							35.4 N, 69.8 E, 100 km			
		i	54 08					1	SOD	eP	10 04 48		
	SOD	iP	04 38 09.8					1	NUR	eP	10 21 22	0.8	5
		iPcP	59					1	NUR	iPKP	11 36 21.4	0.8	18
		epP	39 10					i	37				
		epPcP	40 00					Kermadec Islands					
		e	55					28.8 S, 178.0 W, 33 km					
		iS	45 46			1	NUR	eP	13 22 13				
		eScS	47 32			1	NUR	eP	13 36 02				
	KJN	eP	04 38 22			1	NUR	eP	14 16 20	0.7	3		
		iS	46 08					SOD	eP	14 15 48			
	KEV	iP	04 37 58.8	0.7	29			KJN	eP	14 15 57			
		ePP	40 04			1	SOD	eP	16 38 42				
		eS	45 22					Sinkiang Province					
		eScS	47 18					39.1 N, 77.5 E, 203 km					
		e	51 14			1	NUR	iP	18 43 22.0	0.6	16		
	Hokkaido, Japan							epP	44 10				
	44.8 N, 141.1 E, 255 km							esP	35				
1	NUR	iP	06 49 45.5	0.8	15			ePP	53				
		i	50 08					SOD	eP	18 43 37			
	KJN	eP	06 49 34					KJN	eP	18 43 20			
1	HEL	ePKP	08 50 12	0.8	36			KEV	eP	18 43 45	0.7	7	
	NUR	iPKP	08 50 09.8							Hindu Kush			
		i	21							36.5 N, 71.4 E, 244 km			
	Kermadec Islands												
	29.2 S, 176.6 W, 38 km												



April						April						
				T	A					T	A	
1	NUR	eP	22 31 35	0.9	12	2	NUR	eP	11 48 44	0.7	10	
1	HEL	eP	22 37 57				KJN	eP	11 48 41			
	NUR	iP	22 37 57.4	0.9	25		Sumatra 5.8 S, 105.0 E, 91 km					
2	HEL	eP	01 04 55			2	HEL	eP	16 29 30			
	NUR	eP	01 04 55	0.8	9			ipP	30 11			
		i	05 12				NUR	iP	16 29 27.2	0.8	165	
2	HEL	ePKP	03 52 47					ipP	30 08.5			
	NUR	ePKP	03 52 45	1.0	17			i	31 46			
		i	57	1.0	42			iS	38 02			
	KJN	ePKP	03 52 33					eScS	39 06			
	Kermadec Islands							eSS	42 16			
	31.0 S, 177.6 W, 33 km							eP'P'	57 51			
2	HEL	eP	04 17 01				SOD	iP	16 28 41.9			
	NUR	eP	04 16 57	1.2	30			ipP	29 21			
	KJN	eP	04 16 30					esP	36			
	Kamchatka							eS	36 37			
	55.2 N, 160.3 E, 33 km							eP'P'	58 06			
2	HEL	eP	04 22 49				KJN	iP	16 29 02.0			
	NUR	iP	04 22 47.5	0.8	12			ipP	42			
2	HEL	ePKP	05 03 04					eS	37 16			
	NUR	iPKP	05 03 03.8	0.6	29			eP'P'	57 58			
	SOD	ePKP	05 02 44				KEV	eP	16 28 25	0.8	110	
	KJN	ePKP	05 02 55					ipP	29 05			
	Kermadec Islands							e	27			
	29.7 S, 177.1 W, 51 km							eS	36 05			
2	HEL	ePKP	05 24 43					esS	37 08			
	NUR	iPKP	05 24 42.2	0.9	23			eP'P'	58 21			
	Kermadec Islands							Andreasnof Islands				
	29.7 S, 177.0 W, 36 km							53.2 N, 171.7 W, 142 km				
2	HEL	ePKP	05 40 27			2	NUR	eP	22 53 35			
	NUR	iPKP	05 40 27.2	0.7	14	2	NUR	eP	22 57 29			
	Kermadec Islands											
	31.1 S, 177.5 W, 33 km						3	SOD	eP	01 24 03		
2	NUR	eP	10 48 12	0.7	4		KJN	eP	01 24 12			
	KJN	eP	10 48 51				KEV	eP	01 24 22	1.0	15	
2	HEL	ePKP	11 45 05				North Atlantic Ocean					
	NUR	iPKP	11 45 03.7	0.6	21		17.0 N, 46.5 W, 33 km					
	Kermadec Islands						3	NUR	eP	08 40 42	0.9	11
	30.1 S, 177.1 W, 48 km											
						3	HEL	ePKP	11 41 24			
								i	40			
							NUR	iPKP	11 41 22.5	0.8	37	
							Kermadec Islands					
							29.6 S, 177.2 W, 48 km					

April						April				
				T	A					
5	NUR	eP	14 36 52			6	HEL	ePKP	15 29 19	
		eS	40 17				NUR	iPKP	15 29 18.3	0.6
	SOD	eP	14 35 19				Kermadec Islands			9
		e	22				30.2 S, 177.9 W, 33 km			
		eS	37 32			6	NUR	iP	16 36 47.1	0.6
	KJN	e	14 36 04				SOD	eP	16 36 12	7
	KEV	eP	14 34 47				KJN	eP	16 36 16	
		eS	36 38				Hokkaido, Japan			
5	NUR	eP	15 04 24				41.6 N, 141.7 E, 80 km			
5	NUR	eP	20 16 24	0.8	6	6	NUR	eP	17 57 13	1.0
							e	18 03 50		23
6	SOD	eP	02 48 22				eS	04 04		
	Celebes region						eSS	07 14		
	1.7 N, 124.9 E, 38 km						SOD	eP	17 57 19	
6	HEL	ePKP	05 53 48				KJN	eP	17 57 07	
	NUR	ePKP	05 53 46	1.0	29		KEV	eP	17 57 18	
	Kermadec Islands						Tibet			
	30.3 S, 177.0 W, 33 km						33.6 N, 82.8 E, 33 km			
6	NUR	ePKP	07 21 11			6	HEL	ePKP	18 21 57	
		i	23	1.1	17		NUR	ePKP	18 21 57	1.0
		iSKP	24 03				KJN	ePKP	18 21 46	29
		i	07				Kermadec Islands			
		iPKS	53				32.1 S, 178.1 E, 197 km			
	SOD	ePKP	07 21 10			6	NUR	ePPS	22 05 10	
		eSKP	23 41				eSS	10 50		
	KJN	ePKP	07 21 07				New Britain			
		e	14				6.0 S, 149.9 E, 49 km			
		iSKP	23 49			7	NUR	ePKP	04 16 41	0.8
	Fiji Islands						ePKS	20 15		12
	17.5 S, 178.9 W, 526 km						KJN	ePKP	04 16 39	
6	HEL	eP	11 29 03				Tonga Islands			
	NUR	iP	11 29 01.2	0.9	84		24.5 S, 177.0 W, 114 km			
		e	20			7	NUR	eP	11 07 38	0.9
	SOD	iP	11 28 11.6 U				Jan Mayen Island			5
	KJN	iP	11 28 35.4				70.3 N, 13.6 W, 71 km			
	KEV	eP	11 27 52	1.1	54	7	NUR	eP	11 20 15	
	Central Alaska						eS	23 48		
	63.4 N, 149.5 W, 39 km						SOD	eP	11 19 23	
6	HEL	eP	12 16 47				KJN	eP	11 19 51	
	NUR	iP	12 16 44.8	0.7	26		Jan Mayen Island			
	SOD	iP	12 15 54.7				71.5 N, 13.0 W, 33 km			
	KJN	eP	12 16 19			7	NUR	eP	13 16 43	0.8
	KEV	eP	12 15 36	0.6	5		SOD	eP	13 16 25	D
	Central Alaska						KJN	eP	13 16 28	
	63.6 N, 149.5 W, 55 km						Ryukyu Islands			
							25.0 N, 125.1 E, 125 km			

April				T	A	April				T	A
7	HEL	eP	15 19 08			8	NUR	eP	01 18 40		
	NUR	eP	15 19 07	0.7	11	8	NUR	eP	02 41 23		
	SOD	iP	15 18 45.2			8	NUR	iP	04 18 58.2 D	0.7	9
	KEV	eP	15 18 39	0.7	10	8	NUR	eP	06 50 08	0.6	4
	Ryukyu Islands						SOD	eP	06 50 17		
	27.0 N, 129.2 E, 33 km						Kirghiz S.S.R.				
7	NUR	iP	15 38 25.5	0.9	26		41.9 N, 72.8 E, 33 km				
		ipP	39 11			8	NUR	ePKP	08 15 59		
		e	39				New Hebrides				
	SOD	eP	15 37 40				18.8 S, 168.5 E, 33 km				
		epP	38 26			8	NUR	eP	14 48 04		
	KJN	eP	15 38 01				eS	56 06			
		epP	49				e	15 02 16			
	KEV	epP	15 38 08	0.8	9		SOD	eP	14 48 14		
	Fox Islands						KJN	eP	14 48 17		
	53.7 N, 170.1 W, 202 km						KEV	iP	14 48 17.6	1.0	73
7	SOD	eP	18 03 20				eS	56 26			
7	HEL	iP	22 48 49.6				North Atlantic Ocean				
	NUR	iP	22 48 50.2 U	1.1	560		27.7 N, 44.3 W, 33 km				
		e	49 07			8	NUR	iSKP	22 58 57.0	0.7	14
		ipP	52 18				KJN	eSKP	22 58 46		
		e	55 46				South of Fiji Islands				
		e	58 10				24.7 S, 179.8 E, 424 km				
		eSKS	59 12			9	NUR	eP	00 13 21	1.0	11
		iS	32				India				
		e	23 00 00				22.2 N, 85.6 E, 33 km				
		ePS	40			9	NUR	eP	01 43 22	1.0	8
		eSS	05 10				SOD	eP	01 42 38		
		ePKKP	06 31				KJN	eP	01 43 09		
	SOD	iP	22 48 53.6 U				Greenland				
		ePP	52 19				71.2 N, 12.7 W, 20 km				
		ePPP	54 17			9	NUR	eP	01 46 17	1.3	47
		e	52				SOD	eP	01 45 35		
		iS	59 38				KJN	eP	01 46 00		
		i	58			9	HEL	e	02 20 41		
	KJN	iP	22 48 48				eSKP	23 20			
		iS	59 27				NUR	ePKP	02 20 26		
		i	48				i	40	0.8	49	
	KEV	eP	22 48 55 U	1.0	360		e	22 53			
		i	49 12				iSKP	23 19			
		ePP	52 30				iPKS	24 11			
		ePPP	54 32				Sumatra				
		eSKS	59 18				4.9 S, 103.2 E, 72 km				
		iS	44								
		e	23 00 08								
		ePS	01 08								
		eSS	06 02								

cont.

April				April			
		T	A			T	A
	SOD iPKP	02 20	28.0		11 NUR eP	13 13 15	0.7 4
	iSKP	22 56			SOD eP	13 12 27	
	KJN ePKP	02 20	33		Fox Islands		
	iSKP	23 06			53.8 N, 164.8 W, 33 km		
	KEV ePKP	02 20	21		11 NUR eP	14 23 44	
	i	24	0.9 30		SOD eP	14 22 19	
	Fiji Islands				KJN eP	14 23 05	
	17.7 S, 178.7 W, 538 km				KEV eP	14 21 51	
9	HEL eP	18 54	24		i	22 07	
	NUR eP	18 54	24	1.0 17	Svalbard region		
	SOD iP	18 54	13.4 U		79.1 N, 1.4 E, 15 km		
	KJN eP	18 54	13		12 HEL iP	00 49 42.8 D	
	Philippine Islands				e	52 23	
	10.5 N, 122.6 E, 55 km				NUR iP	00 49 44.4 D	0.8 85
10	NUR eP	02 12	55	0.9 5	SOD iP	00 49 55.2 U	
10	SOD eP	03 40	22		e	51 54	
	KEV eP	03 39	44	1.0 60	KJN iP	00 49 43.4 U	
10	NUR eSKS	08 15	10		KEV iP	00 50 01.4 U	0.8 31
	ePS	17 40			Northern India		
	ePPS	18 40			31.9 N, 78.8 E, 33 km		
	eSS	23 26			12 HEL ePKP	09 01 36	
	e(SSS)	26 54			NUR iPKP	09 01 35.9	0.8 47
	KEV eSS	08 22	52		e	31 24	
	eSSS	27 52			e	34 50	
	Timor				e	36 12	
	9.2 S, 125.0 E, 33 km				SOD iPKP	09 01 23.0	
10	NUR eP	23 23	26	0.9 5	KJN ePKP	09 01 28	
	SOD eP	23 23	13		KEV ePKP	09 01 17	1.0 47
	KJN eP	23 23	23		eSKSP	24 40	
	Chiapas, Mexico				North Island		
	16.8 N, 94.1 W, 130 km				39.0 S, 176.7 E, 106 km		
11	SOD eP	03 11	51		12 NUR eP	13 48 54	0.6 8
	Halmahera				SOD eP	13 48 03	
	1.8 N, 128.0 E, 33 km				KJN eP	13 48 29	
11	HEL eP	10 15	15	0.6 8	KEV eP	13 47 53	1.2 27
	NUR eP	10 15	16		Andreanof Islands		
	SOD eP	10 14	37		51.6 N, 175.0 W, 33 km		
	KJN eP	10 14	52		12 HEL eP	19 52 34	
	KEV eP	10 14	16	1.0 19	NUR eP	19 52 27	1.2 63
	Kurile Islands				eS	56 07	
	46.8 N, 155.5 E, 80 km				SOD iP	19 51 04.7	
11	HEL eP	11 45	31	0.8 10	iS	53 24	
	NUR eP	11 45	28		KJN eP	19 51 47	
	SOD iP	11 44	38.6		KEV eP	19 50 35	0.8 28
	Central Alaska				i	57	
	63.7 N, 148.6 W, 70 km				eS	52 33	
					Svalbard region		
					79.6 N, 5.1 E, 33 km		

April				T	A	April				T	A
12	NUR	eP	20 29 36	0.8	5	13	HEL	eP	02 38 25		
							NUR	iP	02 38 25.3	0.7	32
							SOD	iP	02 38 28.9		
							KJN	iP	02 38 22.9		
							KEV	eP	02 38 31		
12	HEL	ePKP	21 07 34	0.9	18						
	NUR	ePKP	21 07 33								
	Tonga Islands										
	16.7 S, 173.7 W, 33 km					13	NUR	eP	14 02 27	0.6	8
							SOD	eP	14 03 02		
13	HEL	eP	00 04 10	0.8	17	13	HEL	eP	14 45 19		
	NUR	eP	00 04 12				e		31		
	SOD	eP	00 05 16				ePP		49 35		
	KJN	eP	00 04 47				NUR	eP	14 45 18	0.9	16
	Ionian Sea						e		31	0.9	25
	36.8 N, 22.3 E, 33 km						ePP		49 36		
							e		48		
13	NUR	eP	02 11 16	0.8	8		eSKS		55 48		
							e		56 12		
							ePS		58 36		
							ePKKP	15 01 15			
13	HEL	eP	02 34 36				eSS	03 54			
		ePP	38 37				e(SSS)	08 26			
	NUR	eP	02 34 33	1.5	137		SOD	eP	14 45 05		
		e	35 16				e		17		
		e	37 37				e		48 31		
		ePP	38 36				ePP		49 20		
		eSKS	45 01				ePKKP	15 01 21			
		eS	48				KJN	eP	14 45 05		
		esS	46 50				ePP		49 17		
		eSP	47 34				e		31		
		esSP	48 12				ePKKP	15 01 33			
		e	50 56				KEV	eP	14 45 01	0.8	19
		e	52 40				e		16		
		eSS	53 08				eSKS		55 34		
		esSS	40				ePS		58 02		
		e	55 50				New Guinea				
	SOD	iP	02 34 32.9				3.4 S, 135.4 E, 31 km				
		ePP	38 37								
		ePKKP	51 07								
	KJN	iP	02 34 38.1			13	HEL	eP	14 56 44		
		ePP	38 46				NUR	iP	14 56 46.0	0.7	21
		ePKKP	51 42				SOD	iP	14 57 02.9 D		
	KEV	eP	02 34 27				KJN	eP	14 56 46		
		ePP	38 36				KEV	iP	14 57 12.0	0.7	10
		eSKS	45 02								
		eS	58								
		esS	46 36			13	NUR	eP	19 55 52	0.9	7
		ePS	47 32				SOD	eP	19 55 28		
		ePPS	48 28				KJN	eP	19 55 35		
		e	50 24				Volcano Islands				
		e	52 28				25.2 N, 141.7 E, 106 km				
		eSS	53 06								
		e	55 16								
	Central Peru					13	HEL	ePKP	22 26 52		
	6.2 S, 76.5 W, 125 km						NUR	iPKP	22 26 48.9	0.8	30
							KJN	ePKP	22 26 36		
							Kermadec Islands				
							31.5 S, 179.6 E, 421 km				

April				April					
			T	A			T	A	
14	SOD	eP	00 59 56			16	HEL	eP	01 42 54
14	HEL	iPKP	05 52 13.9				NUR	eP	01 42 51
	NUR	ePKP	05 52 13	U	0.9	140	e		44 20
	SOD	ePKP	05 51 55				e		46 34
	KJN	iPKP	05 52 01.5				ePP		47 07
	Kermadec Islands						eSKS		53 26
	31.4 S, 177.8 W, 33 km						e		57 06
14	SOD	eP	07 35 44				ePKKP		59 53
	South of Honshu						SOD	eP	01 42 42
	30.4 N, 140.7 E, 33 km						e		56
14	SOD	eP	08 03 13				e		45 54
	South of Honshu						ePP		46 47
	30.6 N, 140.8 E, 33 km						e		49 12
14	HEL	eP	10 01 22				eSKS		53 15
	NUR	eP	10 01 22	0.7	8		eS		54 02
14	NUR	eP	15 14 46	0.9	9		ePKKP		59 48
	SOD	eP	15 14 59				KJN	eP	01 42 41
	KJN	eP	15 14 51				e		43 04
14	NUR	eP	19 10 10	1.0	13		e		46 09
	SOD	eP	19 09 42				ePP		33
	KJN	eP	19 09 51				eSKS		53 17
	South of Honshu						ePKKP		59 39
	30.7 N, 139.8 E, 110 km						Halmahera region		
14	NUR	eP	20 48 23	0.8	5		0.8 S, 128.0 E, 33 km		
	SOD	eP	20 47 56			16	NUR	eP	01 50 27
	KJN	eP	20 48 04				SOD	eP	01 50 22
	South of Honshu						e		32
	30.6 N, 139.8 E, 113 km						KJN	eP	01 50 31
15	HEL	eP	07 42 56				Halmahera region		
	NUR	iP	07 42 54.1	0.8	11		1.2 S, 128.4 E, 33 km		
	SOD	iP	07 42 05.5	D		16	NUR	eP	02 08 48
		ePcP	43 10				e		12 03
	KJN	eP	07 42 30				ePP		44
	Kenai Peninsula						eSKS		19 38
	60.8 N, 147.5 W, 57 km						ePKKP		25 25
15	SOD	eP	21 32 23				SOD	eP	02 08 33
	KJN	eP	21 32 18				e		49
15	NUR	ePKP	23 58 43	1.0	19		e		11 50
	SOD	ePKP	23 58 34				ePP		12 24
	KJN	ePKP	23 58 38				eSKS		19 28
	Tonga Islands						ePKKP		25 32
	18.3 S, 173.7 W, 33 km						KJN	eP	02 08 32
							e		50
							ePP		12 30
							eSKS		19 24
							ePKKP		25 33
							Halmahera region		
							0.7 S, 128.0 E, 32 km		
						16	SOD	eP	02 16 47

April				April					
			T	A			T	A	
16	NUR eP	02 19 30			17	HEL e	02 30 42		
	SOD eP	02 19 12				NUR ePKP	02 30 31		
	Halmahera region					i	42	1.1	75
	1.3 S, 126.9 E, 33 km					ePP	33 16		
16	NUR ePKP	05 50 04				ePKS	34 14		
	e	15				e	41 42		
	Fiji Islands					eSKSP	43 10		
	18.4 S, 177.7 E, 557 km					ePPS	45 12		
16	NUR ePP	12 21 01				e	49 02		
	eSKS	27 52				eSS	51 08		
	ePS	29 56				eSSS	56 44		
	eSS	35 02				SOD ePKP	02 30 31		
	SOD eP	12 16 48				KJN ePKP	02 30 29		
	KJN eP	12 17 04				ePKS	33 59		
	Halmahera region					KEV ePKP	02 30 29	1.0	30
	1.0 S, 127.6 E, 33 km					ePP	32 20		
16	NUR eP	18 35 38	1.1	16		ePKS	33 44		
	SOD eP	18 35 24				ePS	42 18		
	KJN eP	18 35 14				ePPS	43 56		
						eSS	49 31		
						eSSS	54 14		
						Fiji Islands			
						19.6 S, 178.6 E, 33 km			
16	HEL eP	18 52 48			17	HEL ePKP	08 42 35		
	NUR eP	18 52 52	1.1	23		NUR ePKP	08 42 36	0.9	16
	e	53 37				KJN ePKP	08 42 27		
	e	54 13				Samoa Islands			
	eS	57 37				15.7 S, 174.1 W, 124 km			
	SOD iP	18 53 40.7			17	NUR eP	09 22 05	0.8	6
	esP	54 24				KJN eP	09 21 55		
	KJN eP	18 53 12			17	HEL eP	10 52 25		
	KEV eP	18 54 07				e	42		
	e	19 01 50				NUR eP	10 52 28	0.5	6
	Iraq					e	45		
	35.4 N, 44.3 E, 104 km					e	53 05		
16	HEL eP	22 11 25				SOD iP	10 53 02.8		
	NUR eP	22 11 26	0.9	10		e	54 31		
	KJN eP	22 11 15				KJN eP	10 52 32		
						e	46		
16	NUR eP	23 32 53				KEV eP	10 53 05	0.5	30
						Hindu Kush			
						36.2 N, 70.7 E, 140 km			
17	NUR eSKS	01 34 19			17	NUR eP	17 55 22		
	ePS	36 20				North Atlantic Ocean			
	eSS	41 24				58.3 N, 32.4 W, 33 km			
	KEV ePS	01 35 54			17	NUR eP	18 00 54		
	eSS	41 10				North Atlantic Ocean			
	Halmahera region					58.3 N, 32.3 W, 33 km			
	0.6 S, 128.1 E, 89 km								

April				April					
	T	A		T	A				
23	NUR	eP	06 44 42	24	SOD	eP	06 05 03		
	SOD	eP	06 45 44		Halmahera region				
	KJN	eP	06 44 49		1.1 S, 127.2 E, 33 km				
23	NUR	ePKP	07 38 45	24	NUR	iP	13 43 44.0	0.6	21
	SOD	ePKP	07 38 56			i	55	0.8	63
	KJN	ePKP	07 38 50			e	46 07		
	Sandwich Islands					eS	53 13		
	60.7 S, 24.7 W, 33 km					eSS	58 30		
						e(SSS)	14 02 00		
23	NUR	eP	10 05 17	SOD	eP	13 43 22			
	SOD	eP	10 05 12			e	34		
		e	34			ePP	46 04		
		ePcP	57	KJN	eP	13 43 27			
		ePP	07 25			i	38		
	KJN	eP	10 05 08		Ryukyu Islands				
	Yunnan Province				27.0 N, 128.8 E, 33 km				
	25.7 N, 99.5 E, 33 km			24	NUR	eP	20 38 17		
23	NUR	eP	11 49 37		KJN	eP	20 38 17		
	SOD	iP	11 49 23.9		Hindu Kush				
	KJN	eP	11 49 26		36.3 N, 71.4 E, 125 km				
	Philippine Islands			24	NUR	ePKP	21 07 51	1.0	26
	12.2 N, 125.7 E, 30 km				Kermadec Islands				
23	NUR	eP	14 07 09		30.1 S, 177.8 E, 33 km				
	SOD	iP	14 08 20.1	24	NUR	ePKP	22 00 53	0.7	5
	KJN	eP	14 07 51			i	01 03	0.8	19
	Yugoslavia-Albania					iSKP	03 41.0		
	42.6 N, 19.5 E, 38 km					i	49		
23	KJN	eP	14 10 08			ePKS	04 37		
	BCIS:				SOD	ePKP	22 00 51		
	Yugoslavia-Albania					iSKP	03 21		
	42.3 N, 19.5 E					ePKS	04 27		
23	KJN	eP	14 19 25		KJN	ePKP	22 00 43		
	BCIS:					e	56		
	Yugoslavia-Albania					iSKP	03 29		
	42.3 N, 19.5 E					ePKS	04 25		
23	NUR	eSKP	20 11 12		Fiji Islands				
	South of Fiji Islands				20.8 S, 179.1 W, 603 km				
	23.8 S, 179.9 E, 540 km			24	NUR	eP	23 29 38		
23	SOD	eP	22 33 43	25	NUR	eP	04 43 31	1.5	19
23	NUR	eP	23 08 36		SOD	eP	04 44 05		
					KJN	eP	04 43 43		
24	NUR	ePKP	04 14 03	25	NUR	eP	06 09 46	0.7	4
	KJN	ePKP	04 13 56			e	14 44		
	Tonga Islands				SOD	eP	06 10 55		
	17.2 S, 174.5 W, 190 km				KJN	eP	06 10 26		
					Yugoslavia-Albania				
					42.4 N, 19.4 E, 44 km				

April				T	A	April				T	A	
25	NUR	iP	08 24 52.3 U	1.0	36	SOD	eP	16 49 20				
		epP	27 02				e	52 43				
		ePP	28 36				ePP	53 22				
		eSKS	34 24			KJN	eP	16 49 21				
		eS	49			Halmahera region						
		epSKS	37 30			1.3 S, 128.7 E, 33 km						
		esS	38 36									
		eSS	41 10			25	NUR	eP	18 00 48	0.7	4	
		e	44 40				SOD	eP	18 00 36			
	SOD	eP	08 24 44 U				KJN	eP	18 00 38			
		i	25 20									
		e	26 07			25	NUR	ePKP	18 08 55	0.7	17	
		e	41				i	09 05				
		epP	55				eSKP	12 03				
		ePP	28 24			SOD	ePKP	18 08 53				
		iSKS	34 12				eSKP	11 44				
		eS	34			KJN	ePKP	18 08 58				
		e	54				eSKP	11 53				
	KJN	iP	08 24 43.8 U			Fiji Islands						
		iSKS	34 13			21.6 S, 178.0 W, 380 km						
		iS	34									
	Celebes Sea					26	NUR	eP	15 32 11			
	4.7 N, 122.4 E, 610 km						SOD	eP	15 31 17			
							i	21				
25	NUR	eP	09 52 33	0.9	12	KJN	eP	15 31 41				
		e	48			Central Alaska						
	KJN	eP	09 52 24			64.4 N, 148.3 W, 139 km						
25	NUR	eP	11 19 53			26	HEL	eP	23 56 29			
	SOD	eP	11 20 22				NUR	iP	23 56 29.7 D	1.0	26	
	KJN	eP	11 20 04				eS	24 05 48				
	Maldive Islands						e	06 38				
	4.3 N, 62.4 E, 33 km						eSS	11 14				
							eSSS	14 45				
25	NUR	eP	11 30 51	0.7	8	SOD	eP	23 56 12				
		ePPP	35 24			KJN	eP	23 56 15				
	SOD	iP	11 30 24.4			Formosa						
	KJN	eP	11 30 33			24.1 N, 122.5 E, 33 km						
	South of Honshu											
	31.7 N, 140.5 E, 53 km											
25	NUR	iP	13 40 35.1 D	0.8	17	27	HEL	eP	03 47 08			
		e	46 26				NUR	eP	03 47 06			
	SOD	eP	13 41 35				eS	50 54				
	KJN	eP	13 41 13				KJN	eP	03 46 58			
	Southeastern France						Iceland					
	45.2 N, 5.9 E, 33 km						66.7 N, 19.2 W, 33 km					
25	NUR	eP	16 49 31	0.9	7	27	NUR	iP	08 56 28.7			
		ePP	53 14				eSKS	09 07 08				
		eSKS	17 00 08				eS	48				
		eS	50				e	09 40				
		ePS	02 16				SOD	eP	08 56 17			
		eSS	07 36			Halmahera region						
						0.6 S, 128.4 E, 33 km						

cont.

April				T	A	April				T	A
27	HEL	eP	15 20 05			29	NUR	ePKP ₁	15 11 44		
	NUR	eP	15 20 02					ePKP ₂	12 23	1.5	48
		i	13					e	14 54		
	SOD	eP	15 19 13					ePP	16 06		
	KJN	eP	15 19 36					eSKSP	26 30		
	Southern Alaska							e(SS)	36 52		
	61.4 N, 148.3 W, 39 km							eSSS	41 34		
28	NUR	eP	00 46 35				SOD	iPKP ₂	15 12 29.9		
		eS	50 34				KEV	ePKP ₁	15 11 45	1.1	19
	KJN	eP	00 47 11					ePKP ₂	12 31		
	Northwestern Turkey							ePP	16 14		
	40.5 N, 27.4 E, 160 km							eSS	37 28		
28	NUR	eP	04 16 18				Balleny Islands				
	SOD	eP	04 15 54				63.9 S, 159.5 E, 33 km				
	KJN	eP	04 15 59			29	NUR	eP	20 48 28	0.8	15
	Southern Kyushu						SOD	eP	20 48 14		
	30.9 N, 131.1 E, 64 km						KJN	eP	20 48 24		
28	NUR	eSKP	14 37 06	0.8	6		KEV	eP	20 48 09	0.9	34
	KJN	eSKP	14 36 53				Chiapas, Mexico				
	Fiji Islands						17.4 N, 92.7 W, 27 km				
	17.6 S, 178.5 W, 505 km					29	HEL	eP	21 55 06		
28	HEL	eP	19 57 16				NUR	eP	21 55 01	1.0	58
	NUR	iP	19 57 18.2 U	0.9	44			i	02.8		
		epP	45					ePPP	59 08		
		ePP	58 43					eS	22 03 48		
	SOD	iP	19 57 34.1 U					ePS	04 26		
		epP	58 04					eSSS	11 10		
		e	56					eP'P'	23 36		
	KJN	eP	19 57 18				SOD	iP	21 54 18.5		
	KEV	iP	19 57 42.8	0.8	15			iPcP	56		
	Hindu Kush							ePP	56 32		
	36.1 N, 71.3 E, 150 km							eP'P'	22 23 40		
29	NUR	eP	03 05 17				KJN	eP	21 54 36		
29	NUR	eP	05 14 56					e	55 16		
	SOD	eP	05 14 38					ePP	56 58		
	KJN	eP	05 14 39					eP'P'	22 23 43		
	KEV	eP	05 14 33	0.7	3		KEV	eP	21 54 00	0.9	20
	Northern Luzon							i	20		
	23.9 N, 121.6 E, 118 km							iPcP	55		
29	NUR	eP	09 34 03					ePP	56 12		
		eSS	49 36					e(P'P')	57 16		
	South Atlantic Ocean							eS	22 01 52		
	17.8 S, 13.2 W, 33 km							iPS	02 18		
								e	05 00		
								e	08 14		
							Andreanof Islands				
							51.4 N, 178.6 E, 60 km				

April				T	A	April				T	A	
29	NUR	eP	22 09 26	0.7	4	30	NUR	eP	07 18 40	0.9	12	
	SOD	eP	22 09 09					eS	27 40			
	KJN	eP	22 09 12					eSS	31 48			
30	NUR	eP	01 11 52	1.1	25		SOD	eP	07 17 55			
		ePP	16 08					ePcP	18 42			
		eSKS	22 26				KJN	eP	07 18 14			
		eS	23 48				KEV	eP	07 17 37	0.9	10	
		ePS	24 46					eSS	29 40			
		ePKKP	28 34				Rat Islands					
		eSS	30 14				51.6 N, 178.4 E, 64 km					
	SOD	eP	01 11 41				30	NUR	e	10 24 10		
		i	48.1					e	28 44			
		e	14 53				SOD	eP	10 03 33			
		ePKKP	28 39				30	NUR	eP	10 32 14	1.4	8
	KJN	eP	01 11 41					SOD	eP	10 32 07		
		i	49					KJN	eP	10 32 07		
		e	15 07				Andaman Islands					
		ePKKP	28 38				10.6 N, 94.4 E, 33 km					
	KEV	iP	01 11 45.4	1.6	93		30	NUR	eP	17 34 35	0.9	5
		ePP	15 38					SOD	eP	17 34 06		
		eSKS	22 12					KJN	eP	17 34 21		
		eSS	29 26				30	HEL	e	18 33 17		
	Halmahera region							NUR	iP	18 33 06.4	0.9	12
	0.7 S, 129.0 E, 33 km							i	16			
30	NUR	eP	02 47 48					e	19 16 20			
	SOD	eP	02 47 35				KJN	eP	18 32 55			
	Philippine Islands											
	7.3 N, 126.5 E, 34 km											
30	NUR	eP	03 29 35									
	SOD	eP	03 28 53									
	Rat Islands											
	51.4 N, 179.1 E, 50 km											
30	NUR	eP	03 36 50	1.0	17							
	SOD	eP	03 36 05									
	KJN	eP	03 36 24									
	KEV	eP	03 36 02	0.8	3							
	Rat Islands											
	51.2 N, 178.6 E, 50 km											
30	NUR	eP	05 25 28	0.7	9							
	SOD	eP	05 26 35									
	KJN	eP	05 26 07									
	Albania-Greece border											
	39.9 N, 20.9 E, 33 km											
30	NUR	eP	06 57 12	0.6	3							
	KJN	eP	06 57 10									

November 5, 1963

M. T. Porkka
Aili Huovila

NUR Apr 07.1963 eSE 11-23

11-23

NUR Apr 07.1963 iPE 22-48

22-49

NUR Apr 10.1963 ePSE 08-17-40

08-17

NUR Apr 12.1963 eSKSE 02-45-01

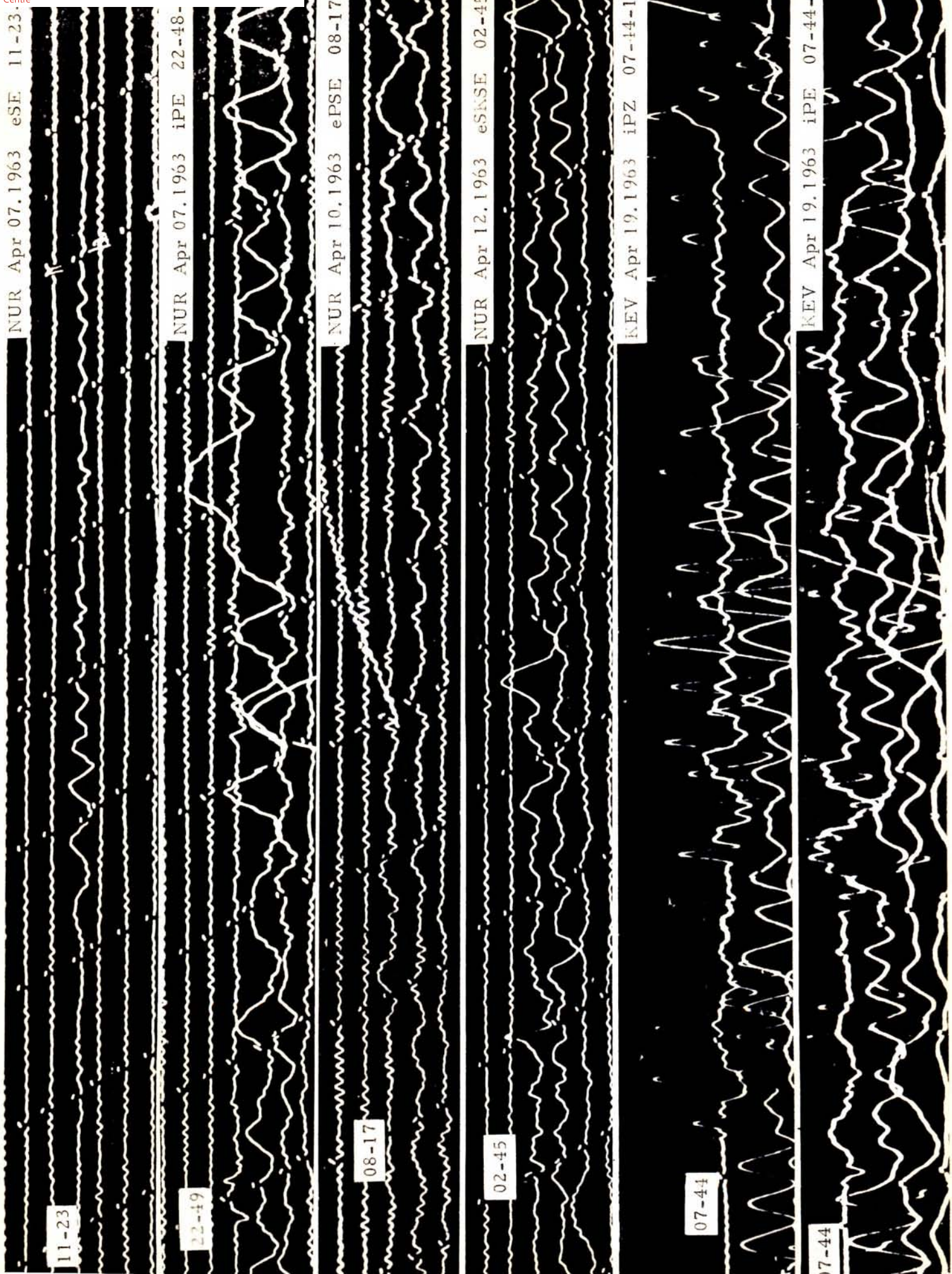
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KEV Apr 19.1963 iPZ 07-14-16.1

07-44

KEV Apr 19.1963 iPE 07-44-16.1

17-44



NUR Apr 21.1963 ePPZ 04-54

04-54

NUR Apr 21.1963 eSN 04-59

04-59

NUR Apr 21.1963 eSE 04-59-06

04-59

NUR Apr 28.1963 ePN 00-53-34

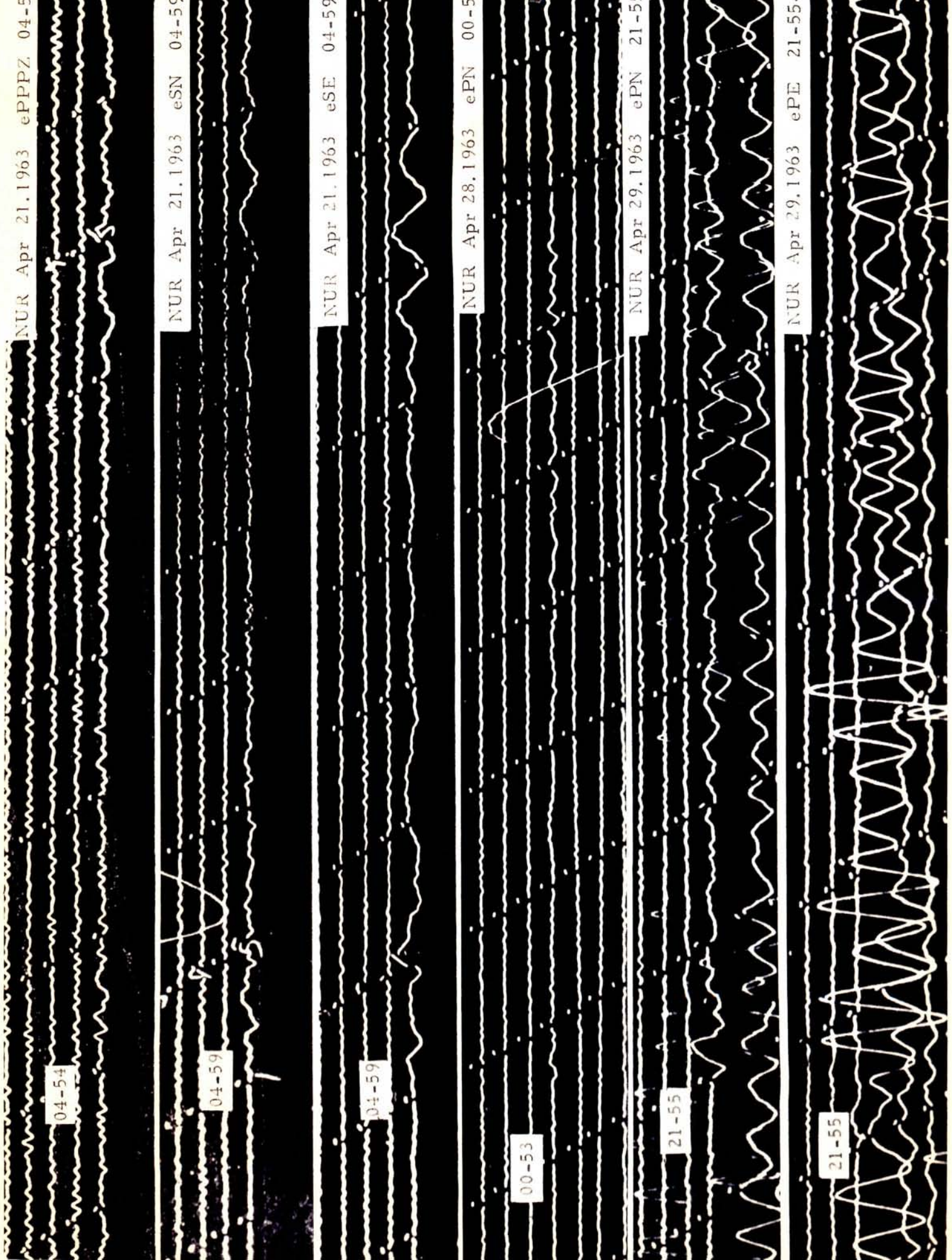
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NUR Apr 29.1963 ePN 21-55-01

21-55

NUR Apr 29.1963 ePE 21-55-01

21-55



KEV Apr 29.1963 eSN 22-01-

22-02

KEV Apr 29.1963 eSE 22-01-

22-02

KEV Apr 30.1963 eSKSE 01-22-12

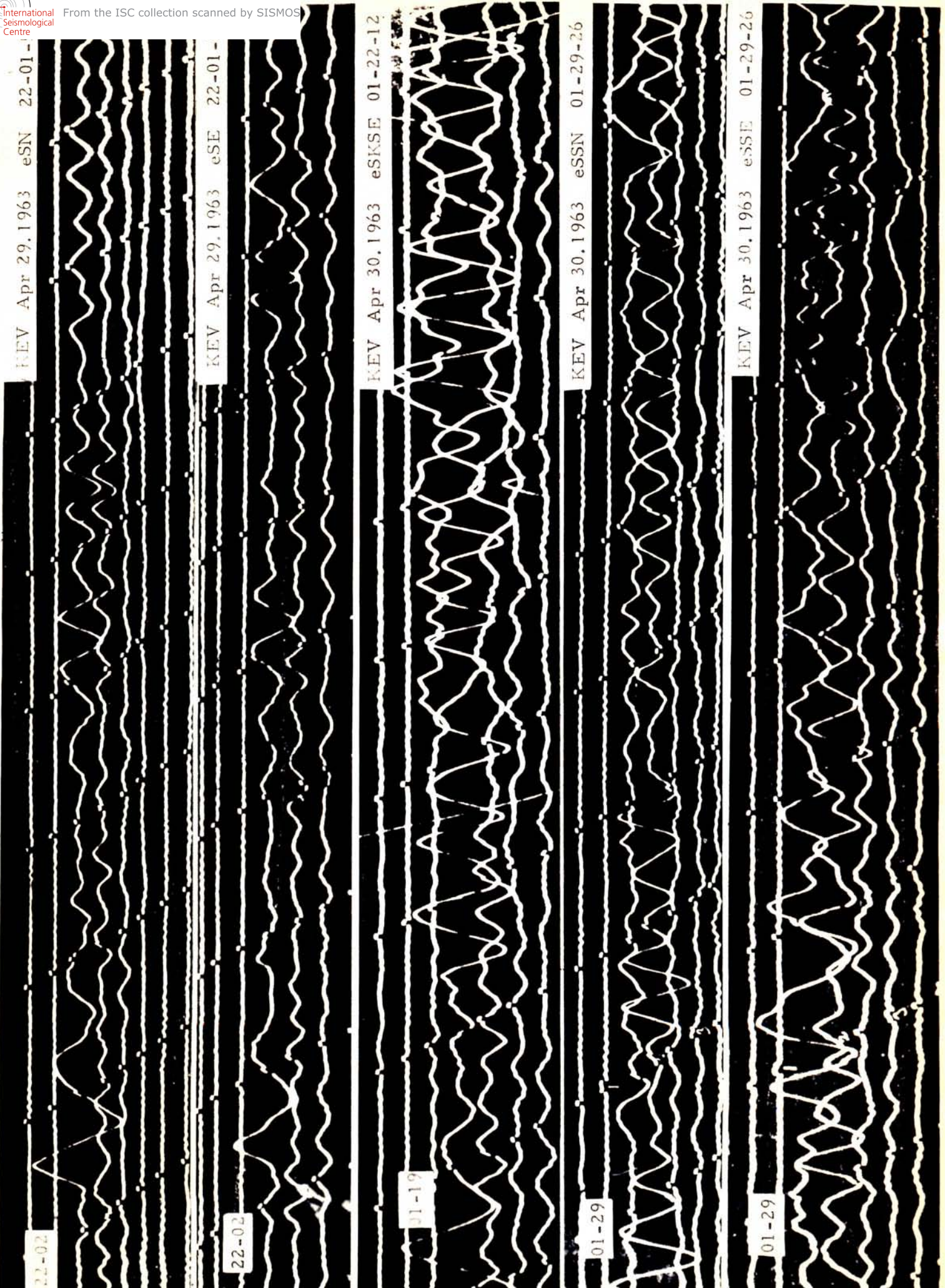
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KEV Apr 30.1963 eSSN 01-29-26

01-29

KEV Apr 30.1963 eSSE 01-29-26

01-29



May				T	A	May				T	A		
1	NUR	eP	01 16 01	0.6	5.2	ePKS	25	12					
		e	19			e		48					
	SOD	eP	01 15 15			eSKS	28	50					
		e	33			e	29	32					
	KJN	eP	01 15 35			eSKKS	30	06					
		e	54			eS	31	30					
	KEV	e	01 15 17	0.6	7.7	e	32	40					
						eSKSP	33	40					
	Andreanof Islands					ePS	34	14					
	52.4 N, 174.5 W, 78 km					esSP	35	26					
						eSS	40	20					
						eLQ	10	55					
1	HEL	ePKP	10 22 08			New Hebrides							
		e	16			19.0 S, 169.0 E, 140 km							
		e	23 08										
		eSKP	25 27										
		e	33										
	NUR	ePKP	10 22 11	0.5	5.4	1	SOD	eP	19 59 39				
		i	16.1			0.8	117.7						
		ipPKP	54				Sinkiang Province						
		ePP	24 34				38.4 N, 75.4 E, 145 km						
		ipPP	25 09			2	HEL	eP	02 05 38				
		iSKP	27				NUR	iP	02 05 39.8	D	0.6	14.4	
		iPKS	42				SOD	eP	02 06 17				
		e	26 11				KJN	eP	02 05 54				
		esPKS	19				KEV	eP	02 06 33		0.7	9.3	
		e	36				Southern Iran						
		eSKKS	31 13				28.5 N, 54.8 E, 45 km						
		e	32 20			2	HEL	eP	23 22 48				
		e	34 03				NUR	eP	23 22 48		0.7	13.2	
		eSKKP	35 04				SOD	eP	23 21 56				
		e	37 02				KJN	eP	23 22 19				
		iSS	41 55				KEV	eP	23 21 36		0.8	13.4	
		eLQ	10 58				Central Alaska						
		eLR	11 05				63.2 N, 148.9 W, 81 km						
	SOD	ePKP	10 22 06			3	NUR	eP	01 27 58		0.6	2.6	
		esPP	24 33										
		eSKP	25 12			3	NUR	eP	10 51 19		1.0	14.5	
		ePKKP	31 41					ePP	52 37				
		e	34 38				SOD	eP	10 51 59				
		eSKKP	35 20					e(PP)	53 25				
	KJN	ePKP	10 22 02				KJN	eP	10 51 33				
		i	09				KEV	eP	10 52 14		0.7	6.5	
		e	48				Iran						
		epPKP	23 10				30.7 N, 51.7 E, 25 km						
		esPP	24 47										
		iSKP	25 16			3	NUR	ePKP	11 14 01		1.2	11.7	
		esPKS	26 05					eSKSP	26 24				
		e	28 00					eLR	11 57.4				
		e	34 02				KJN	ePKP	11 13 53				
		eSKKP	35 11				KEV	ePKP	11 13 52		0.6	2.6	
	KEV	ePKP	10 21 51				Tonga Islands						
		i	22 02	0.9	99.2		15.0 S, 173.3 W, 33 km						
		epPKP	43										
		ipPP	24 18										

cont.



May						May					
				T	A					T	A
3	NUR	eP	23 11 25	0.9	8.2	4	NUR	eP	23 37 50	0.8	4.2
4	NUR	eP	02 09 27	0.7	7.5	5	KJN	eP	08 33 57		
4	NUR	eP	03 34 03	1.0	7.8	5	SOD	eP	11 15 03		
	KJN	eP	03 34 21						South of Honshu		
									32.7 N, 139.8 E, 132 km		
4	NUR	eP	04 11 21	0.8	12.6	5	SOD	ePKP	15 35 36		
	SOD	iP	04 10 56.6 D						Northern Chile		
									24.7 S, 69.5 W, 50 km		
4	NUR	eP	05 38 25	0.6	11.1	6	NUR	eP	08 10 15	0.4	14.6
4	NUR	iP	06 06 50.3	1.1	18.5		SOD	eP	08 09 38		
	i		07 06				KJN	eP	08 09 52		
	eLR		06 27.9				KEV	iP	08 09 26.2	0.5	8.0
	SOD	eP	06 06 05			6	NUR	eP	08 51 57	0.7	6.1
	i		20				eSKS		09 02 30		
	KJN	eP	06 06 25				eS		03 10		
	KEV	iP	06 06 03.3 U	1.0	26.5		e		15 36		
			Andreanof Islands				eLR		09 25		
			51.8 N, 175.4 W, 69 km				SOD	eP	08 51 45		
4	NUR	eP	10 01 22	0.8	4.2		KJN	eP	08 51 52		
	SOD	eP	10 02 26				eSKS		09 02 21		
4	NUR	eP	15 47 48	1.2	16.7		KEV	eP	08 51 56	0.7	2.6
	SOD	eP	15 48 55						South coast of Java		
									9.1 S, 112.5 E, 84 km		
4	NUR	eP	16 36 53	0.9	17.9	6	NUR	eP	19 35 14	0.8	6.8
	SOD	eP	16 36 08				eS		39 18		
	KJN	eP	16 36 27				eLQ		19 40.5		
4	NUR	eP	16 51 48	0.8	8.4		eLR		19 41.2		
	eS		54 40				SOD	eP	19 36 20		
	SOD	eP	16 53 12				KJN	eP	19 35 52		
	KJN	eP	16 52 36						Greece-Albania border		
									39.5 N, 20.6 E, 33 km		
4	NUR	ePKP	18 43 50	1.2	11.1	7	NUR	eP	02 25 36	0.9	16.3
	SOD	ePKP	18 43 51				ePP		27 16		
	KJN	ePKP	18 43 48				eSS		35 10		
			South of Australia				SOD	eP	02 25 44		
			54.4 S, 144.0 E, 33 km				e		26 03		
4	NUR	eP	19 39 39	0.5	6.4		KJN	eP	02 25 28		
	SOD	eP	19 40 12				KEV	eP	02 25 47	0.9	17.5
	e		42 02						Sinkiang Province		
	KJN	eP	19 39 54						36.7 N, 83.1 E, 33 km		
4	NUR	eP	22 20 37	0.6	3.6	7	NUR	iP	03 23 35.9	0.6	13.3
	SOD	eP	22 20 09				SOD	eP	03 23 51		
	KJN	eP	22 20 18				KJN	eP	03 23 35		
			South of Honshu						Hindu Kush region		
			33.0 N, 140.5 E, 169 km						36.6 N, 70.8 E, 230 km		

May				T	A	May				T	A
7	NUR	eP	04 38 04	0.7	2.5	SOD	iP	10 32 48.5	U		
	Kurile Islands					KJN	iP	10 32 59.2	U		
	47.9 N, 156.2 E, 33 km					KEV	iP	10 32 39.3	U	1.0	73.4
							i	52			
7	NUR	eP	04 57 41	0.5	7.7		ePP	35 00			
	KJN	eP	04 57 41				ePPP	36 44			
							iS	41 13			
7	SOD	eP	05 13 10				ePS	36			
	Mariana Islands						eScS	42 36			
	18.8 N, 145.5 E, 93 km						eSS	45 18			
							eLQ	10 50.2			
							eLR	10 53.5			
7	NUR	eP	05 25 52	0.6	3.6	Honshu, Japan					
	SOD	eP	05 25 02			36.6 N, 141.0 E, 53 km					
	KJN	eP	05 25 23								
	Central Alaska										
	64.5 N, 146.9 W, 33 km					8	NUR	eP	15 36 54	0.9	6.5
							e	37 09			
7	NUR	eP	11 28 05	0.8	9.8		eSKS	47 38			
							ePS	49 14			
7	NUR	eP	13 09 43				eSS	54 34			
							eSSS	58 16			
7	NUR	eP	17 26 53	0.5	5.1		eL	16 05			
						SOD	eP	15 36 46			
7	NUR	eP	17 37 15	0.7	8.8		i	59			
						KJN	eP	15 36 46			
8	NUR	eP	00 18 45	0.9	6.5		i	37 00			
						Philippine Islands					
						5.3 N, 125.7 E, 70 km					
8	NUR	iP	09 01 26.0	0.7	15.0						
		ipP	51								
		ePS	10 28			8	NUR	eP	16 09 06	0.7	5.0
		eLR	09 21.5								
	SOD	iP	09 00 39.1			8	NUR	eP	20 58 25		
	KJN	eP	09 01 02								
	KEV	iP	09 00 22.1	0.8	17.6	8	NUR	eP	21 38 28	0.9	6.4
	Unimak Island						SOD	eP	21 37 59		
	54.9 N, 163.9 W, 89 km						KJN	eP	21 38 06		
						South of Honshu					
						32.1 N, 141.5 E, 39 km					
8	NUR	eP	10 07 07	0.6	3.6						
	KJN	eP	10 06 45			9	NUR	iP	04 50 28.5	U	1.2 38.9
8	HEL	eP	10 33 20								
		i	32			9	NUR	eP	06 26 19	0.7	7.5
	NUR	iP	10 33 19.6	U	1.1 175.6		SOD	eP	06 26 08		
		e	32				KJN	eP	06 26 07		
		ePP	35 55			9	HEL	ePKP	07 44 57		
		ePPP	37 38				NUR	iPKP	07 44 56.1	D	0.7 37.5
		eS	42 24			Kermadec Islands					
		ePS	53			28.5 S, 179.0 W, 267 km					
		e	43 40								
		eSS	46 54			9	NUR	eP	11 35 09	0.9	17.9
		eSSS	49 50				SOD	iP	11 34 40.6	U	
		eLQ	10 52				KJN	eP	11 34 51		
		eLR	10 55.7			South of Honshu					
						31.7 N, 142.3 E, 33 km					

cont.

May			T	A	May			T	A
9	NUR	eP 15 16 37	1.1	6.9	SOD	eP 22 36 10			
		eS 27 26				e 32			
		eSS 33 12				ePP 40 10			
		eLQ 15 42			KJN	eP 22 36 18			
	SOD	eP 15 16 26			KEV	eP 22 36 14	0.8	7.5	
	Nicaragua					e 46 34			
	12.2 N, 86.9 W, 34 km					eSKS 58			
						eS 47 40			
9	NUR	eP 20 55 57	1.0	21.4		ePS 49 02			
	SOD	eP 20 55 10				eSS 54 00			
	KJN	eP 20 55 32				eLQ 23 03.2			
	Fox Islands					Equador			
	53.9 N, 165.2 W, 33 km					2.2 S, 77.6 W, 33 km			
10	NUR	eP 02 00 45	0.8	9.8	11	NUR	eP 01 16 38	0.9	14.7
	SOD	eP 02 00 21				SOD	eP 01 17 42		
	KJN	eP 02 00 28				KJN	eP 01 17 14		
	KEV	eP 02 00 16	0.6	5.2		Off coast of Libya			
	South of Kyushu					32.8 N, 19.4 E, 33 km			
	30.2 N, 130.8 E, 33 km				11	NUR	eP 01 37 34	0.7	6.3
10	NUR	ePKP 04 47 53	0.9	11.4	11	NUR	ePKP 05 02 47	0.8	12.6
		e 48 07				SOD	ePKP 05 02 35		
	SOD	ePKP 04 47 42				KJN	ePKP 05 02 41		
	KJN	ePKP 04 47 47				KEV	ePKP 05 02 31	0.6	7.7
	KEV	iPKP 04 47 39.1	0.9	15.6		Fiji Islands			
	Loyalty Islands					15.4 S, 177.1 W, 400 km			
	20.0 S, 168.1 E, 33 km				11	HEL	eP 18 01 12		
10	HEL	eP 11 02 40				e 54			
	NUR	eP 11 02 37	0.6	9.7		NUR	eP 18 01 10	1.0	15.6
		i 43.5	0.7	43.7		e 26			
		eS 06 52				i 53.5	0.8	15.4	
	SOD	eP 11 03 24				e 02 14			
	KJN	eP 11 02 51				ePPP 05 32			
	Azerbaijan S.S.R.					eS 10 34			
	40.9 N, 47.8 E, 150 km					eScS 11 10			
						e 54			
10	NUR	eP 11 21 27	0.8	4.2		eSS 15 20			
	SOD	eP 11 21 55				eLQ 18 22			
	Indian Ocean					eLR 18 25			
	8.4 S, 67.6 E, 33 km				SOD	eP 18 00 52			
						i 01 36.2 D			
10	NUR	eP 22 36 19	0.7	2.5	KJN	eP 18 00 54			
		ePP 40 20				e 01 38			
		e 41 28			KEV	eP 18 00 48	0.8	4.5	
		eSKS 46 50				e 01 11			
		eS 47 40				i 31.5	0.6	14.2	
		ePS 49 14				e 02 10			
		e 54 06				ePPP 05 06			
		eSS 20				ePPS 10 36			
		eLQ 23 03				eLR 18 23			
	cont.					Formosa			
						24.2 N, 122.5 E, 33 km			

May						May						
				T	A							
				T	A							
11	SOD	ePKP	20 03 46			KEV	iP	20 17 54.0 D	1.0	267.0		
	Easter Island						i	18 05.0	1.4	330.1		
	34.9 S, 108.2 W, 33 km						iPcP	19 02				
							i	13				
12	NUR	eP	01 17 40				ePP	20 12				
	SOD	eP	01 17 08				e	22 10				
	KJN	eP	01 17 19				iS	25 23				
		epP	18 27				e	26 36				
	Sea of Japan						e	27 32				
	41.8 N, 136.5 E, 307 km						eSS	28 52				
							eLQ	20 30.9				
12	NUR	eP	03 08 26	0.9	8.2		eLR	20 34.5				
	SOD	eP	03 07 55				Kodiak Island					
	KJN	eP	03 08 06				57.4 N, 153.9 W, 80 km					
	KEV	eP	03 08 03									
	Honshu, Japan											
	36.5 N, 140.6 E, 33 km					12	HEL	eP	20 47 16			
12	NUR	eP	05 14 09	0.8	4.2		NUR	iP	20 47 13.0 U	1.4	145.8	
	SOD	eP	05 13 55				SOD	iP	20 46 26.1 U			
	KJN	eP	05 14 02					iPcP	47 35			
							KJN	iP	20 46 45.9 U			
								ePcP	47 45			
12	NUR	ePKP ₁	10 02 46	1.9	31.2		KEV	iP	20 46 10.0 U	0.9	15.6	
		iPKP ₂	03 18.5	1.1	29.6		Kamchatka					
		e	05 52				55.9 N, 163.1 E, 33 km					
	SOD	ePKP ₁	10 02 45									
		iPKP ₂	03 16.6 D									
		ePP ₂	07 50				13	NUR	eP	02 21 22	0.9	11.3
	KJN	ePKP ₁	10 02 44					SOD	eP	02 21 01		
		ePKP ₂	03 15									
	KEV	ePKP ₁	10 02 47	1.0	8.3							
		ePKP ₂	03 15	1.6	118.0		13	SOD	ePKP	07 29 03		
	Macquarie Islands								eSKP	31 50		
	57.5 S, 159.4 E, 44 km							KJN	eSKP	07 31 57		
								Fiji Islands				
								25.7 S, 179.6 E, 453 km				
12	HEL	iP	20 19 01.7									
	NUR	iP	20 18 59.4 D	0.8	386.4							
		i	19 10.9	1.0	451.2							
		iS	27 24				13	NUR	iP	09 55 03.2	0.8	8.3
		e	37					SOD	iP	09 54 30.3		
		eScS	28 50						e	43		
		eSS	31 24					KJN	eP	09 54 42		
		eLQ	20 34.3						e	55		
	SOD	eP	20 18 11.8 D					KEV	eP	09 54 20	0.8	11.9
		iS	25 55					Honshu, Japan				
	KJN	iP	20 18 35.3 D					40.4 N, 142.1 E, 52 km				
		i	46									
		ePcP	19 24									
		iS	26 39									
		e	50				13	NUR	eP	10 36 37	0.8	11.0
		e	57					SOD	eP	10 36 24		
		eP'P'	48 11					KJN	eP	10 36 27		
			cont.					KEV	eP	10 36 20		

May				T	A	May				T	A	
15	NUR	eP	15 43 40	0.8	10.0	17	HEL	eP	06 21 15			
	SOD	iP	15 43 22.9 D				NUR	iP	06 21 15.1 D	1.0	78.7	
	KJN	iP	15 43 25.6 D					i	37			
	KEV	eP	15 43 18	0.7	10.6			iS	31 05			
	Formosa							i	27			
	24.1 N, 122.8 E, 33 km							eScS	36			
								eSS	36 16			
15	SOD	eP	23 48 40					eLQ	06 43			
								eLR	06 47			
16	NUR	eP	01 49 05	0.8	5.7		SOD	iP	06 21 03.8 D			
							KJN	iP	06 21 03.7 D			
16	HEL	ePKP	09 20 59				KEV	iP	06 21 00.9 D	0.6	51.6	
	NUR	ePKP	09 20 59	0.5	7.7		Luzon					
	Kermadec Islands						15.7 N, 120.1 E, 80 km					
	30.0 S, 177.2 W, 53 km											
16	NUR	ePS	16 18 32			17	HEL	ePKP	07 52 16			
		eSS	24 23				NUR	ePKP	07 52 13			
		eLQ	16 35					i	15.0 D	1.0	159.3	
		eLR	16 39.8					epPKP	53 39			
	SOD	eP	16 05 38				SOD	ePKP	07 52 03			
	Halmahera region						KJN	ePKP	07 52 03			
	0.8 S, 128.5 E, 50 km						Kermadec Islands					
							31.0 S, 179.8 W, 358 km					
16	SOD	eP	16 31 22			17	HEL	eP	12 19 49			
	Halmahera region						NUR	iP	12 19 48.7 U	0.8	23.4	
	1.0 S, 128.8 E, 33 km							iPcP	20 23			
16	HEL	eP	21 17 24					eS	28 40			
	NUR	eP	21 17 29	0.5	10.5			ePS	29 06			
16	NUR	eP	22 16 36	0.9	8.3			eSS	33 22			
	South of Hokkaido							eSSS	36 07			
	41.6 N, 142.0 E, 65 km							eLQ	12 38			
								eLR	12 40			
16	NUR	eP	23 48 10	0.5	12.6		SOD	iP	12 19 14.7			
	SOD	iP	23 47 33.1				KJN	eP	12 19 26			
	Kurile Islands						KEV	eP	12 19 04	0.8	11.9	
	43.9 N, 147.1 E, 33 km							e	20 11			
								eLQ	12 35.5			
								eLR	12 36.9			
							South of Hokkaido					
							41.7 N, 141.9 E, 47 km					
17	HEL	eP	04 17 17				17	SOD	eP	17 28 48		
	NUR	iP	04 17 18.9	0.7	38.1			KJN	eP	17 28 47		
		iPcP	51									
		eSSS	33 38				17	HEL	ePKP	22 59 21		
		eLQ	04 36					NUR	ePKP	22 59 21	0.8	29.0
		eLR	04 38						i	28		
	SOD	eP	04 16 40						iSKP	23 02 54		
		iPcP	17 27						ePKS	03 09		
	KJN	eP	04 16 56				17	SOD	ePKP	22 59 06		
		ePcP	17 37						e	17		
	KEV	iP	04 16 28.1 U	0.8	35.8				eSKP	23 02 36		
		iPcP	17 10									
	Kurile Islands											
	45.3 N, 150.8 E, 33 km											

cont.

May				May					
		T	A		T	A			
KJN	ePKP	22 59	10		e	27 42			
	e		20		eSKKS	31 44			
	e	23 02	11		e	33 20			
	eSKP		43		eSKSP	35 04			
	ePKS		53		eSS	42 38			
KEV	ePKP	22 59	13	0.7	15.7	eSSS	47 08		
	eSKP	23 02	29		eLQ	02 00			
	ePKS		39		eLR	02 06			
Tonga Islands					SOD	ePKP	01 22 16		
24.4 S, 177.2 W, 70 km						i	25		
						ePP	25 11		
18	NUR	ePKP	05 52 13			ePKS	54		
		eLQ	06 23		KJN	ePKP	01 22 15		
	SOD	ePKP	05 52 13			e	23		
LaRioja, Argentina						ePP	24 58		
29.6 S, 68.5 W, 29 km						ePKS	25 54		
					KEV	ePKP	01 22 25		
18	NUR	eSKS	12 44 34			ePP	25 07		
		eS	45 28			ePKS	26 04		
		ePS	46 56			eSKKS	32 12		
		e	47 50			eSKSP	35 16		
		eSS	52 12			ePPS	37 28		
		eLQ	13 04			eSS	43 30		
		eLR	13 08			eSSS	48 18		
KEV	ePS	12 46	50			eLQ	02 00		
	eSS		52 22		Southern Chile				
Bali							46.5 S, 75.1 W, 33 km		
8.2 S, 115.6 E, 39 km									
18	NUR	eP	16 55 12		19	NUR	eP 04 46 24		
		eL	17 23			Guerrero, Mexico			
	SOD	eP	16 54 58			17.0 N, 100.0 W, 40 km			
	KJN	eP	16 54 57						
Luzon									
16.0 N, 119.5 E, 47 km					19	NUR	eP 10 01 07		
						SOD	eP 10 01 10		
18	NUR	iP	23 27 03.8	0.6	7.2				
	SOD	iP	23 26 30.1 D			KJN	eP 10 01 04		
	KJN	eP	23 26 41			Sumatra			
	KEV	eP	23 26 19	0.8	8.8	4.1 S, 103.1 E, 96 km			
Honshu, Japan									
41.0 N, 142.0 E, 52 km									
18	NUR	eP	23 57 41	1.5	26.9	19	HEL	eP 10 03 43	
	SOD	eP	23 57 00				NUR	eP 10 03 43	
Kurile Islands								i	48
49.5 N, 156.2 E, 70 km								eLQ	10 07
								eLR	10 07.5
						SOD	eP	10 05 01.3	
19	HEL	ePKP	01 22 17			KJN	eP	10 04 30	
	NUR	ePKP	01 22 13			KEV	eP	10 05 23	
		i	21.2	1.6	125.0			i	36
		ePP	24 40					eS	09 57
		e	25 46			Yugoslavia			
		ePKS	52			46.0 N, 14.7 E, 33 km			
			cont.						

May				T	A	May				T	A	
19	NUR	eP	19 34 27	1.3	23.1	SOD	iPKP	11 57 19.9				
	SOD	iP	19 34 15.6 U				ePKS	12 00 50				
	KJN	eP	19 34 15				e	08 14				
	Halmahera region					KJN	ePKP	11 57 26				
	2.3 N, 128.6 E, 166 km						iPKS	12 01 08				
19	HEL	eP	21 45 55			KEV	ePKP	11 57 14	1.0	12.4		
	NUR	iP	21 45 55.4 D	1.3	198.6		i	23	1.2	188.8		
		ePP	48 08				ePP	12 00 18				
		eS	53 55				ePKS	56				
		ePS	54 10				e	02 00				
		e	55 00				eSKSP	09 46				
		eSS	58 00				ePPS	12 36				
		eP'P'	22 15 13				eSS	19 40				
		eLQ	22 00.9				Kermadec Islands					
		eLR	22 03				30.7 S, 178.3 W, 34 km					
	SOD	iP	21 46 05.9 D			20	SOD	eP	12 33 34			
	KJN	eP	21 46 07 D			20	NUR	eP	13 07 33	0.6	6.1	
		eP'P'	22 15 15			20	SOD	eP	13 53 49			
	KEV	iP	21 46 08.7 D	1.2	233.6		KJN	eP	13 53 50			
		ePP	48 13			20	SOD	eP	14 04 19			
		iS	54 35				KJN	eP	14 04 21			
		iPS	52				KEV	eP	14 04 23	1.2	23.6	
		e	55 40				North Atlantic Ocean					
		eSS	58 35				24.1 N, 45.9 W, 33 km					
		eLQ	22 01.4			20	NUR	eP	14 42 38	1.8	55.6	
		eLR	22 03.7			20	NUR	eP	17 08 49	0.8	9.8	
	North Atlantic Ocean						ePcP	11 09				
	23.8 N, 45.9 W, 33 km						SOD	eP	17 07 56			
20	SOD	eP	00 09 35				e	08 36				
20	NUR	eP	09 19 52	0.9	6.5		KJN	eP	17 08 18			
	SOD	eP	09 19 37				KEV	eP	17 08 06			
	KJN	eP	09 19 39				eS	13 02				
	KEV	eP	09 19 34	0.6	6.5		Yakutsk U.S.S.R.					
	Luzon						72.1 N, 126.3 E, 33 km					
	19.1 N, 121.3 E, 50 km					20	NUR	eP	17 55 47	1.1	11.5	
20	SOD	eP	10 27 09			20	NUR	eP	21 18 04	1.2	22.2	
	KJN	eP	10 26 54				SOD	iP	21 17 51.3			
20	HEL	iPKP	11 57 39.0				KJN	eP	21 17 54			
	NUR	iPKP	11 57 37.0 D	1.0	1384.5		KEV	eP	21 17 50	1.1	17.2	
		ePP	12 01 00				Halmahera region					
		eSKS	04 34				2.5 N, 128.8 E, 148 km					
		eSKKS	07 48									
		eSKSP	11 13									
		ePPS	13 50									
		eSS	20 18									

cont.

May				T	A	May				T	A		
20	HEL	eP	22 07 26	0.7	7.5	22	HEL	eP	14 07 16	0.6	27.3		
	NUR	eP	22 07 24				i	20					
21	NUR	eP	13 55 07				NUR	eP	14 07 15	1.1	82.9		
								i	18				
								iPcP	53				
								e	09 24				
								ePP	38				
21	HEL	eP	16 33 54	0.6	6.2			ePPP	11 20				
	NUR	eP	16 33 52							ePcS	40		
	Kamchatka 51.4 N, 159.1 E, 33 km							e	15 40				
								iS	46				
								ePS	16 04				
								e	44				
21	NUR	eP	17 21 56	0.6	6.2			eScS	17 07				
	SOD	eP	17 21 26							e(SS)	20 38		
	KJN	eP	17 21 34							e	22 55		
	Honshu, Japan 36.3 N, 140.3 E, 33 km							eP'P'	36 09				
								eLQ	14 24				
								eLR	14 28				
21	NUR	ePKP	17 49 06	1.0	10.0		SOD	eP	14 06 34				
		ePS	18 00 26							i	38		
		e	02 26							e	07 05		
		e	06 28							ePcP	24		
		eSS	07 19							eP'P'	36 02		
		eSSS	11 42						KJN	eP	14 06 47		
		eLQ	18 20							i	54		
	KEV	eSS	18 05 40							iPcP	07 38		
		eSSS	10 08							e	16 17		
	Solomon Islands 11.1 S, 163.3 E, 33 km									eScS	36		
								eP'P'	36 06				
								Kurile Islands 48.6 N, 154.7 E, 22 km					
21	HEL	ePKP	18 29 40	0.8	11.4	22	NUR	eP	15 55 55	1.5	74.4		
	NUR	iPKP	18 29 42.2 D									i	56 10
	Kermadec Islands 29.5 S, 178.1 W, 82 km							i	27				
								e	58 26				
								ePP	59 41				
								eSKS	16 06 40				
22	NUR	eP	03 14 22	0.8	2.9			e	07 26				
										ePS	08 04		
								eSS	13 14				
22	NUR	eP	05 53 04				SOD	iP	15 55 45.1				
	Kurile Islands 46.0 N, 151.2 E, 86 km							i	56 04				
								i	14				
								eSKS	16 06 27				
22	HEL	ePKP	08 11 23	0.8	8.6		KJN	eP	15 55 45				
		e	40							e	56 02		
	NUR	ePKP	08 11 22	0.7	12.8			ePP	59 28				
		e	29							e	16 06 08		
		i	40							iSKS	33		
	Kermadec Islands 30.3 S, 177.6 W, 168 km							eS	58				
								Molucca Passage 4.3 N, 127.9 E, 58 km					

May						May					
				T	A						
				T	A						
	SOD	iP	15 24 47.3 D			25	HEL	eP	07 45 46		
	KJN	eP	15 24 49 D				NUR	eP	07 45 44	0.8	11.4
	KEV	iP	15 24 44.9 D	1.0	42.8		SOD	eP	07 44 59		
	Mindanao						KJN	eP	07 45 18		
	6.0 N, 126.1 E, 88 km						Rat Islands				
							51.7 N, 179.7 E, 83 km				
23	HEL	eP	16 38 20			25	HEL	iP	08 51 50.0		
	NUR	eP	16 38 19	0.8	17.4		NUR	iP	08 51 49.1 U	0.8	97.2
	SOD	eP	16 37 40				eS	09 00 52			
		ePcP	38 26				eLQ	09 10.7			
	KJN	eP	16 37 55				eLR	09 12.2			
	Kurile Islands						SOD	iP	08 51 13.3 U		
	46.6 N, 152.3 E, 52 km						i	29			
23	HEL	eP	19 33 54				ePcP	57			
	NUR	eP	19 33 54	0.7	5.2		KJN	iP	08 51 26.5 U		
23	HEL	ePKP	21 56 09				e	43			
		e	25				KEV	iP	08 51 01.9 U	0.9	90.6
	NUR	ePKP	21 56 11	0.8	6.6		e	21			
		e	20				Hokkaido, Japan				
	Kermadec Islands						42.7 N, 144.3 E, 80 km				
	30.6 S, 178.0 W, 33 km					25	NUR	ePKP	16 26 57		
24	HEL	e	07 06 46				ePP	28 30			
	NUR	eP	07 06 37	0.8	5.3		ePKS	30 30			
		e	45	1.1	28.4		eSKS	33 50			
24	HEL	eP	21 11 34				eSKKS	35 30			
	NUR	eP	21 11 32	1.0	8.2		ePS	38 30			
	SOD	eP	21 11 02				eSS	44 54			
	KJN	eP	21 11 12				SOD	ePKP	16 27 07		
	Honshu, Japan						e(PP)	29 46			
	37.1 N, 140.8 E, 52 km						KJN	ePKP	16 27 00		
25	HEL	eP	01 11 52				KEV	ePKP	16 27 14		
	NUR	eP	01 11 50	0.9	5.0		ePP	29 40			
							ePKS	30 34			
							Sandwich Islands				
							56.8 S, 25.0 W, 29 km				
25	HEL	eP	01 47 16			25	NUR	eP	16 57 26		
	NUR	eP	01 47 14	1.0	8.0		SOD	eP	16 57 13		
	SOD	eP	01 46 57				KJN	eP	16 57 12		
	KJN	eP	01 46 59				KEV	eP	16 57 08		
	KEV	eP	01 46 53	0.9	13.7		Formosa				
	Formosa						20.7 N, 120.9 E, 33 km				
	24.8 N, 121.9 E, 33 km					25	NUR	eP	20 08 57	1.1	14.2
25	HEL	eP	02 49 04				eS	18 34			
	NUR	eP	02 49 03	0.9	5.0		SOD	eP	20 08 29		
	SOD	eP	02 48 35				KJN	eP	20 08 39		
	KJN	eP	02 48 43				KEV	iP	20 08 20.4	1.3	27.8
	Honshu, Japan						Honshu, Japan				
	35.6 N, 139.7 E, 77 km						31.8 N, 141.3 E, 111 km				

May				T	A	May				T	A
25	HEL	iPKP	22 38 07.2			26	HEL	eP	23 16 54		/
		i	19.7				NUR	iP	23 16 54.2 U	1.3	105.1
	NUR	iPKP	22 38 07.1 U	0.7	14.1			ePP	19 08		
		i	19	0.8	20.0			ePPP	20 34		
	SOD	iPKP	22 37 52.2					eS	25 06		
	KJN	ePKP	22 37 58					eSS	29 06		
	North Island							eLQ	23 31.5		
	37.1 S, 179.5 E, 33 km						SOD	iP	23 16 07.3		
26	NUR	ePKP	00 19 16	1.3	13.5		KJN	eP	23 16 27		
	KJN	ePKP	00 19 09					ePP	18 35		
	KEV	iPKP	00 19 13.0	1.1	14.6		KEV	eP	23 15 54	0.8	4.4
	Tonga Islands							ePP	17 54		
	19.7 S, 174.3 W, 33 km							eS	23 10		
								eSS	26 48		
26	HEL	eP	04 53 24				Kamchatka				
	NUR	eP	04 53 22	0.7	15.3		55.2 N, 159.5 E, 47 km				
	SOD	iP	04 52 38.1			27	HEL	iP	04 08 46.8		
	KJN	eP	04 52 56				NUR	iP	04 08 45.2 U	1.6	378.0
	KEV	eP	04 52 22	0.7	3.9			ePP	11 00		
	Kamchatka							ePPP	12 22		
	53.2 N, 159.8 E, 33 km							eS	16 52		
26	NUR	eP	05 02 46	0.9	11.7			eSS	20 46		
		eS	11 14					eP'P'	38 17		
		eSS	15 40					eLQ	04 23.2		
	SOD	eP	05 02 02				SOD	iP	04 07 58.6 D		
	KJN	eP	05 02 19					ePP	09 54		
	KEV	eP	05 01 48	0.5	5.4		KJN	iP	04 08 18.6		
	Kamchatka							ePP	10 21		
	51.5 N, 159.8 E, 33 km						KEV	eP	04 07 43	1.6	55.5
26	SOD	eP	18 44 54					ePP	09 46		
	Volcano Islands							eS	14 42		
	22.5 N, 144.0 E, 33 km							eSS	18 40		
26	NUR	eP	19 36 25	0.9	8.4			e	23 20		
	SOD	eP	19 37 02				Kamchatka				
	KJN	eP	19 36 44				55.3 N, 160.1 E, 54 km				
	Mozambique					27	HEL	iSg	20 03 43.5		
	15.0 S, 35.2 E, 33 km						NUR	eSg	20 03 32		
26	HEL	eP	21 08 52				SOD	iPn	20 00 48.8		
		i	58					iSn	01 45.8		
	NUR	eP	21 08 55	0.7	7.7			iSb	02 11.3		
		i	09 01	0.9	25.0			iSg	21.0		
		e(S)	13 04				KJN	eSn	20 02 16		
	KJN	eP	21 09 09					eSg	52		
		e	13 26				KEV	eSn	20 02 02		
		i	34					eSg	36		
	KEV	eP	21 09 53				According to the Finnish				
		e	15 32				seismograph station net:				
	Caspian Sea						West coast of Norway				
	42.3 N, 48.6 E, 33 km						66.5 N, 13.5 E				
							H: 19 59 31				

May				T	A	May				T	A
27	NUR	eP	21 22 48	0.8	4.3	29	HEL	iP	00 54 56.3 U		
	SOD	eP	21 23 53				NUR	iP	00 54 59.0 U	0.7	23.0
	KJN	eP	21 23 25					ePP	56 28	0.9	16.7
								ePcP	57 17		
28	HEL	eP	00 19 38				SOD	eP	00 55 42		
	NUR	eP	00 19 37	0.8	17.2		KJN	eP	00 55 14		
		iPcP	20 07					i	19		
	SOD	iP	00 18 51.3					e	01 01 12		
		iPcP	19 39				KEV	iP	00 55 55.2	0.9	57.1
	KJN	eP	00 19 01					i	56 00.2		
	KEV	eP	00 18 36					ePP	57 35	1.1	27.1
	Andreanof Islands							ePcP	44		
	51.7 N, 177.7 E, 60 km						Western Iran				
							28.3 N, 52.2 E, 45 km				
28	NUR	eP	01 27 20	0.8	5.7	29	HEL	eP	05 00 39		
	SOD	eP	01 26 52					e	49		
	KJN	eP	01 27 01				NUR	eP	05 00 36	0.7	20.5
	Honshu, Japan							i	47		
	32.5 N, 142.5 E, 68 km						SOD	eP	04 59 48		
28	SOD	eP	01 34 20				KJN	eP	05 00 12		
	Ryukyu Islands						Kodiak Island				
	26.2 N, 125.5 E, 33 km						57.4 N, 154.0 W, 55 km				
28	NUR	eP	10 38 58	0.7	2.6	29	NUR	iP	05 59 33.9	1.2	22.7
	SOD	eP	10 39 35								
	KJN	eP	10 39 09			29	HEL	iP	08 42 39.7		
	Western Iran						NUR	iP	08 42 42.0 U	0.6	43.4
	35.5 N, 49.6 E, 33 km							ePP	44 20		
28	HEL	iP	21 14 35.5					ePcS	48 24		
		ePcP	15 11					eS	50 52		
	NUR	iP	21 14 32.2 U	0.6	24.8			eSS	51 26		
		ePcP	15 10					e	44		
	SOD	eP	21 13 54 U					eLQ	08 52.3		
	KJN	eP	21 14 10				SOD	iP	08 43 15.2 U		
	KEV	iP	21 13 40.8	0.7	19.8		KJN	eP	08 42 53		
	Kurile Islands						KEV	iP	08 43 28.5 U	0.8	138.2
	47.5 N, 152.4 E, 120 km							e	41		
28	HEL	eP	21 51 57					e	44 27		
	NUR	eP	21 51 55					e	54		
	SOD	eP	21 51 38					ePP	45 18		
	KJN	eP	21 51 51					eS	50 14		
	Mariana Islands							eSS	53 44		
	12.5 N, 142.1 E, 33 km						Southern Iran				
							27.2 N, 59.3 E, 33 km				
28	HEL	eP	22 09 36			29	HEL	iP	08 42 57.8		
	NUR	iP	22 09 35.5 U	0.6	13.6		NUR	iP	08 43 00.3 U	0.8	125.8
	SOD	eP	22 09 05					i	15		
	KJN	eP	22 09 15					iPP	44 31		
	KEV	iP	22 08 56.1	0.8	11.9			ePcS	48 50		
	Honshu, Japan							eS	49 10		
	36.1 N, 140.7 E, 78 km						cont.				

May						May					
				T	A						
				T	A						
	SOD	iP	08 43 33.6			30	NUR	eP	17 50 26	1.1	25.7
	KJN	eP	08 43 11				SOD	eP	17 49 42		
		ePP	44 46				KJN	eP	17 50 03		
	KEV	iP	08 43 46.0	0.8	367.5		Fox Islands 52.4 N, 169.5 W, 80 km				
		e	57								
		ePP	45 39								
29	NUR	eSKP	08 48 43			30	NUR	ePKP	19 16 49	1.2	28.1
	Fiji Islands							eSKKS	25 40		
	17.7 S, 178.8 W, 512 km						KJN	ePKP	19 17 00		
29	NUR	ePKP	11 17 24	0.7	11.5		Sandwich Islands 59.4 S, 26.9 W, 33 km				
		eSKP	19 57			31	NUR	eP	05 39 28	1.2	25.3
		ePKS	20 55				KJN	eP	05 39 01		
	SOD	eSKP	11 19 38				Kamchatka 55.2 N, 160.0 E, 61 km				
	KJN	ePKP	11 17 16			31	NUR	ePKP	06 22 53	0.9	13.2
		eSKP	19 47					ePKS	26 16		
	Fiji Islands							e	34 32		
	18.0 S, 178.0 W, 550 km							ePPS	36 36		
30	HEL	iP	03 55 18.7					eSS	42 52		
	NUR	eP	03 55 17	0.6	11.6			e	45 06		
	SOD	eP	03 54 34					eSSS	47 28		
	KEV	eP	03 54 19	0.7	12.1			eLR	07 05.5		
	Kurile Islands						KJN	ePKP	06 22 42		
	49.9 N, 157.3 E, 50 km						Tonga Islands 15.1 S, 173.3 W, 33 km				
30	NUR	ePKP	05 53 22	0.9	11.2						
		iSKP	56 09			31	HEL	ePKP	14 27 38		
	SOD	eSKP	05 55 52					e	42		
	KEV	eSKP	05 55 46				NUR	iPKP	14 27 37.0 U	0.8	36.9
	Fiji Islands							i	41		
	26.1 S, 178.3 E, 610 km							i	53		
30	HEL	ePKP	07 15 52				KJN	ePKP	14 27 25		
	NUR	ePKP	07 15 50	1.2	22.7		Kermadec Islands 30.6 S, 178.1 W, 60 km				
		i	16 02.8	1.5	88.3						
		e	18 07			31	KJN	eP	23 17 11		
		eSKKS	26 14								
		ePPS	32 06								
		e	34 30								
		eSS	38 29								
		ePSPS	39 18								
		eSSS	43 22								
		eLQ	07 59								
		eLR	08 06								
	SOD	ePKP	07 15 51								
		i	16 19								
	KEV	ePKP	07 15 54	0.8	13.6						
		e	16 10	1.4	98.9						
	South of Australia										
	54.2 S, 143.7 E, 33 km										

December 13, 1963

M. T. Porkka
Aili Huovila

NUR May 08.1963 iPZ 10-33

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NUR May 08.1963 iPN 10-33-

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NUR May 08.1963 iPE 10-33-19.6

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KEV May 08.1963 iSN 10-41-13

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NUR May 12.1963 iSN 20-27-24

20-27

NUR May 12.1963 iSE 20-27-24

20-27



KEV May 12.1963 iSN 20-

20-25

KEV May 12.1963 iSE 20-

20-25

NUR May 15.1963 eSE 12-

12-21

NUR May 17.1963 iSN 06-31-05

06-31

NUR May 17.1963 iSE 06-31-05

06-31

NUR May 18.1963 ePSZ 12-46-56

12-48



June						June			
				T	A				
						T			A
1	NUR	ePKP	00 18 04						
		ePP	20 26						
		ePKS	21 30						
		i	34						
		e	26 22						
		eSKSP	30 36						
		ePPS	32 21						
		eSS	38 09						
		e	40 18						
		eSSS	43 04						
		eLQ	00 54.0						
		eLR	01 00.7						
	SOD	ePKP	00 17 56						
	KJN	ePKP	00 17 56						
	Samoa Islands								
	15.1 S, 173.4 W, 33 km								
1	HEL	eP	02 18 17						
	NUR	iP	02 18 16.6	0.6	12.3				
	SOD	eP	02 17 37						
	KJN	eP	02 17 53						
	Kurile Islands								
	46.7 N, 152.4 E, 33 km								
1	HEL	eP	10 57 07 U						
	NUR	iP	10 57 08.3 U	0.8	132.1				
		i	32.9						
		ePP	58 36						
		eS	11 02 52						
		ePcS	03 25						
		eSS	05 10						
		eLR	11 07.1						
	SOD	iP	10 57 24.6 U						
		iPP	58 58						
	KJN	iP	10 57 09.1 U						
		iPP	58 38						
	KEV	iP	10 57 33.1 U	0.8	34.3				
		e	57						
		ePP	59 06						
	Hindu Kush								
	36.4 N, 71.5 E, 70 km								
1	SOD	ePKP	12 49 56						
	Tonga Islands								
	15.0 S, 172.4 W, 33 km								
1	NUR	eP	18 32 27						
	SOD	eP	18 32 02						
	KJN	eP	18 32 03						
	KEV	eP	18 31 57	1.1	12.3				
	Chita region U.S.S.R.								
	49.7 N, 109.7 E, 33 km								
1	HEL	e(P)	20 20 39						
	NUR	eP	20 20 44	1.1	11.9				
	SOD	eP	20 20 28						
	KJN	eP	20 20 28						
	KEV	eP	20 20 28	1.3	17.6				
	Luzon								
	14.9 N, 119.7 E, 33 km								
1	HEL	iP	20 40 42.4						
		e	41 00						
	NUR	iP	20 40 46.1 U	1.0	139.3				
		i	41 03.7						
		eS	44 41						
	SOD	iP	20 41 46.3						
		epP	42 29						
	KJN	eP	20 41 19						
		epP	42 02						
	KEV	eP	20 42 06						
	Mediterranean Sea								
	39.0 N, 15.0 E, 285 km								
1	HEL	ePKP	21 33 08						
	NUR	ePKP	21 33 05	0.8	13.2				
		ePP	35 28						
		ePKS	36 33						
		e	36						
		e	43 46						
		eSKSP	45 36						
		ePPS	47 24						
		e	48 32						
		eSS	53 12						
		e	55 22						
		eSSS	58 00						
		eLQ	22 09.3						
		eLR	22 15.6						
	SOD	ePKP	21 32 52						
	KJN	ePKP	21 32 59						
		ePKS	36 23						
	KEV	ePKP	21 32 48	1.0	14.5				
	Samoa Islands								
	15.2 S, 173.5 W, 33 km								
1	HEL	eP	22 28 52						
	NUR	iP	22 28 52.4	0.8	11.8				
	SOD	iP	22 28 27.3						
	KJN	eP	22 28 35						
	KEV	iP	22 28 19.6	0.7	9.2				
	Honshu, Japan								
	28.3 N, 139.1 E, 524 km								

June						Juhe			
				T	A				
2	NUR eP	07 17 37				2	HEL eP	22 08 27	
	SOD iP	07 17 27.1 D					NUR eP	22 08 28	1.0 11.9
	KEV eP	07 17 29		0.9	13.8				
	Assam, India					2	SOD eP	22 34 35	
	27.8 N, 95.6 E, 143 km						Guatemala		
							13.8 N, 90.8 W, 68 km		
2	NUR ePP	10 19 30				2	HEL eP	22 39 07	
	ePS	29 10					NUR eP	22 39 05	0.9 10.0
	ePPS	30 24					SOD eP	22 39 02	
	e	32 18					KEV eP	22 38 55	
	eSS	35 10					Colombia		
	KEV ePS	10 28 10					8.2 N, 74.8 W, 37 km		
	Solomon Islands								
	6.1 S, 154.4 E, 49 km					3	HEL eP	07 31 08	
2	NUR eP	10 36 50		1.3	13.6		e	25	
							NUR iP	07 31 06.5	0.8 10.0
2	NUR eP	18 08 52		0.8	12.9		SOD eP	07 30 33	
	SOD eP	18 08 06					KJN eP	07 30 45	
	KJN eP	18 08 27					KEV eP	07 30 22	1.1 22.5
	KEV eP	18 07 49		1.2	23.9		Honshu, Japan		
	Alaska Peninsula						40.0 N, 143.1 E, 26 km		
	53.8 N, 163.7 W, 36 km					3	HEL eP	07 47 11	
							NUR eP	07 47 11	1.1 35.6
2	HEL ePKP	21 23 17					e	51 06	
	NUR ePKP	21 23 13		0.9	21.7		iS	56 28	
	ePP	24 52					eSS	08 00 34	
	e	31 52					e	01 00	
	e	32 56					eLQ	08 05.7	
	ePS	34 55					eLR	08 10.1	
	e	37 04					SOD eP	07 46 42	
	e	39 36					KJN eP	07 46 52	
	eSS	41 34					ePP	49 22	
	eSSS	46 16					KEV eP	07 46 33	
	eLR	22 02.5					i	36.5	1.2 62.8
	SOD ePKP	21 23 27					Honshu, Japan		
	ePP	25 36					34.2 N, 138.7 E, 43 km		
	KJN ePKP	21 23 22				3	NUR eP	11 44 43	
	KEV ePKP	21 23 43					e	45 18	
	ePP	26 06					ePPP	50 20	
	ePKS	27 02					eSKS	55 08	
	eSS	43 18					eS	34	
	eLQ	21 59.6					ePS	56 35	
	Sandwich Islands						e	59 08	
	58.5 S, 15.6 W, 50 km						eSS	12 01 40	
2	HEL ePKP	21 26 52					eLQ	12 08.9	
	NUR iP	21 26 51.3		0.8	47.2		eLR	12 12.7	
	e	27 37					SOD eP	11 44 43	
	KJN ePKP	21 26 40					KJN eP	11 44 47	
	Kermadec Islands						e	45 21	
	32.8 S, 179.0 W, 56 km						KEV e	11 45 15	1.1 17.5
							Colombia		
							5.3 N, 72.9 W, 21 km		

June				June					
			T	A			T	A	
3	HEL	eP	12 41 34			e		58	
	NUR	eP	12 41 36	0.8	21.5	ePP		37 59	
		ePP	42 46			eS		45 06	
	KJN	eP	12 41 34			esS		38	
	Tadzhik, S.S.R.					eLQ	19 59		
	39.2 N, 70.6 E, 33 km					eLR	20 03		
3	HEL	iPKP	19 08 27.4			SOD	iP	19 34 12.5	
		i	30.0			e		36	
	NUR	iPKP	19 08 27.0	0.7	57.6	e		35 22	
		i	29			KEV	iP	19 34 04.8 D 1.0 157.5	
		e	41			e		35 28	
	Kermadec Islands					Mariana Islands			
	29.5 S, 177.8 W, 49 km					18.9 N, 146.2 E, 110 km			
4	HEL	eP	08 20 39			4	HEL	eP	21 18 08
	NUR	eP	08 20 39	0.8	7.2		NUR	eP	21 18 11 1.0 9.9
4	HEL	eP	09 56 29					ePP	22 09
	NUR	iP	09 56 30.5	0.9	13.4			ePPP	24 20
4	NUR	eP	11 56 50	0.8	7.2			e	25 26
	Mindanao							eSKS	28 48
	8.1 N, 126.8 E, 161 km							eS	29 24
4	HEL	ePKP	12 13 45					ePS	30 56
		i	47					eSS	35 47
	NUR	iPKP	12 13 45.2	0.8	155.9			eSSS	39 48
		eSKP	17 33					eLQ	21 47
		eSKSP	27 14					eLR	21 51
		ePPS	29 52				SOD	eP	21 18 05
		eSS	36 20					ePP	21 58
		e(SSS)	41 30				KEV	eP	21 18 04 0.9 17.5
	SOD	ePKP	12 13 28					ePP	21 42
	KEV	ePKP	12 13 32	0.9	19.3			e	25 42
	Kermadec Islands							eSKS	28 35
	30.5 S, 177.8 W, 33 km							eS	29 06
4	HEL	iPKP	13 25 34.1					ePS	30 22
		i	41					eSS	34 32
	NUR	iPKP	13 25 32.5	1.3	122.0			ePSPS	35 48
		i	40.5	0.8	61.5			e	42 42
	Kermadec Islands							eLQ	21 44
	30.4 S, 177.6 W, 33 km							eLR	21 50
4	NUR	eP	13 57 56					Halmahera region	
4	HEL	iP	19 34 34.4					1.2 S, 127.3 E, 31 km	
		e	59			4	HEL	eP	22 16 17
	NUR	iP	19 34 34.0 D 0.9 53.4				NUR	iP	22 16 20.5 1.1 35.6
		e	54					eS	20 23
	cont.						SOD	eP	22 17 27
							KEV	eP	22 17 47 1.0 18.9
								e	21 43
							Greece		
							39.0 N, 20.6 E, 33 km		

June						June				
			T	A				T	A	
5	HEL	ePKP	05 26 37			6	HEL	eP	06 19 06	
		e	27 38				NUR	iP	06 19 06.1 U	1.3 47.5
	Kermadec Islands							e	17	
	30.7 S, 177.6 W, 70 km						SOD	eP	06 18 51	
5	HEL	eP	09 23 33				Luzon			
	NUR	eP	09 23 33	0.7	7.7		20.1 N, 120.4 E, 33 km			
	SOD	eP	09 23 04			6	HEL	eP	08 32 48	
	KEV	eP	09 22 55	0.7	9.2		NUR	iP	08 32 48.2 U	1.1 52.1
	Honshu, Japan							e	33 17	
	31.2 N, 142.6 E, 33 km						SOD	eP	08 32 54	
5	NUR	ePKP	10 31 09	0.7	8.9			e	33 16	
		ePP	33 04				KEV	iP	08 32 58.7 U	0.6 27.1
	SOD	ePKP	10 30 59				Nicobar Islands			
		e	31 34				6.7 N, 94.7 E, 33 km			
	KEV	ePKP	10 30 55	0.6	10.3	6	NUR	ePKP	11 44 46	0.8 22.9
	New Hebrides						Kermadec Islands			
	14.9 S, 166.8 E, 37 km						30.5 S, 177.7 W, 110 km			
5	NUR	ePKP	14 26 55			6	NUR	eSS	12 37 50	
		eSS	47 58					e	40 00	
	Tonga Islands							eSSS	42 40	
	17.2 S, 176.7 W, 33 km							e	48 34	
5	HEL	ePKP	15 06 33					eLQ	12 51	
	NUR	ePKP	15 06 34	0.8	24.3			eLR	12 56	
	Kermadec Islands						Kerguelen Islands			
	28.7 S, 178.8 W, 194 km						37.8 S, 77.9 E, 33 km			
5	NUR	eSKS	23 18 20			6	HEL	ePKP	18 01 33	
		ePS	20 28				NUR	ePKP	18 01 32	1.0 63.7
	SOD	eP	23 07 48				SOD	ePKP	18 01 15	
	Celebes						New Hebrides			
	3.0 S, 119.5 E, 75 km						14.3 S, 167.3 E, 160 km			
6	HEL	eP	05 30 39			7	HEL	eP	16 01 50	
		e	51				NUR	eP	16 01 48	1.3 44.1
	NUR	iP	05 30 39.3 U	1.7	515.4			i	53.3	1.2 71.0
		e	48					e	02 59	
		e	33 15					e	03 54	
	SOD	eP	05 30 25 D					ePP	04 44	
		ePP	33 07					eS	11 34	
	KEV	iP	05 30 21.4 D	1.0	122.1			ePS	12 15	
		e	32 26					eSS	16 44	
		ePPP	34 49					e	21 40	
		eS	39 46					eLQ	16 23.8	
		ePS	40 25					eLR	16 27.0	
		eSS	44 55				SOD	eP	16 01 35	
		eLQ	05 50					i	39.2	
		eLR	05 53.0				KJN	eP	16 01 37	
	Luzon						cont.			
	19.9 N, 120.2 E, 33 km									

June			June			June		
			T	A		T	A	
	SOD eP	20 49 11						
	i	16.2						
	KJN eP	20 49 10						
	e	25						
	KEV eP	20 49 17	0.7	6.7				
	Mid-Atlantic Ocean							
	16.7 N, 41.9 W, 33 km							
9	HEL eSn	21 27 12						
	SOD eSn	21 25 11						
	KJN ePn	21 24 31						
	eSn	25 40						
	eSg	26 17						
	eRg	25						
	According to the Finnish seismograph station net: West coast of Norway 66.5 N, 13.5 E H: 21 22 58							
9	HEL eSn	21 35 16						
	SOD ePn	21 32 22						
	eSn	33 18						
	e	44						
	KJN ePn	21 32 37						
	eSn	33 46						
	eSg	34 23						
	eRg	31						
	According to the Finnish seismograph station net: West coast of Norway 66.5 N, 13.5 E H: 21 31 05							
10	HEL e	04 36 25						
	NUR ePKP	04 36 17						
	e	23	1.4	165.2				
	ePP	40 10						
	eSKS	43 40						
	eSKKS	46 46						
	eSKSP	50 08						
	ePPS	52 44						
	eSS	59 26						
	e	44						
	ePSPS	05 00 38						
	eSSS	04 14						
	SOD ePKP	04 36 24						
	i	29.6						
	KJN ePKP	04 36 22						
	e	37 55						
	cont.							
	KEV ePKP	04 36 25				1.2	239.2	
	eLR	05 28.2						
	Macquarie Islands							
	55.4 S, 146.4 E, 33 km							
10	HEL ePKP	05 33 57						
	e	34 03						
	NUR ePKP	05 33 58						
	i	34 02.9 U	1.2	63.4				
	SOD ePKP	05 34 01						
	i	03.5						
	KJN ePKP	05 33 58						
	i	34 05						
	KEV ePKP	05 34 03				1.2	95.7	
	Macquarie Islands							
	55.2 S, 146.4 E, 33 km							
10	HEL e	06 58 51						
	NUR ePKP	06 58 46				1.5	89.9	
	i	51.4	1.6	860.3				
	e	07 00 32						
	e	01 34						
	e	02 28						
	eSKKS	09 12						
	e	52						
	eSKSP	12 36						
	ePPS	15 05						
	e	17 42						
	eSS	21 31						
	eLQ	07 40						
	eLR	07 49						
	SOD ePKP	06 58 47						
	i	52.3						
	KJN ePKP	06 58 47						
	i	49						
	e	59 54						
	e	07 01 14						
	e	02 28						
	KEV ePKP	06 58 52				1.4	516.0	
	e	07 00 28						
	e	02 32						
	e	07 26						
	eLQ	07 42.6						
	eLR	07 50.7						
	Macquarie Islands							
	55.3 S, 146.1 E, 18 km							
10	NUR eP	08 05 17				0.9	11.8	
	KJN eP	08 04 52						
	Andreanof Islands							
	51.5 N, 178.5 W, 33 km							

June						June			
				T	A				
12	KJN	eP	03 40 55			15	NUR	eP	16 05 54
	Mindanao					15	NUR	eSS	22 24 50
	8.9 N, 126.5 E, 33 km							eLR	22 46
13	HEL	eP	08 42 39				Sandwich Islands		
		e	43 16				55.7 S, 28.5 W, 33 km		
	NUR	eP	08 42 41	0.8	12.9	16	HEL	eP	03 02 58
		e	56				NUR	eP	03 02 57
		e	43 50				SOD	eP	03 02 24
		eS	46 48				KJN	iP	03 02 35.3 U
	SOD	iP	08 43 42.5				Sea of Japan		
	KJN	eP	08 43 15				44.3 N, 135.5 E, 438 km		
	Sicily					16	SOD	eP	04 53 50
	38.7 N, 14.8 E, 33 km						KJN	iP	04 54 02.5
13	NUR	e	17 40 41	1.2	31.2		Hokkaido, Japan		
		eLQ	18 13.7				42.7 N, 142.0 E, 80 km		
	New Britain					16	NUR	eP	09 30 48
	4.6 S, 153.2 E, 54 km						SOD	eP	09 29 58
14	SOD	eP	12 03 53				KJN	eP	09 30 16
14	SOD	eP	12 19 22				Vancouver Island		
							50.8 N, 129.5 W, 33 km		
14	NUR	eP	15 40 35	1.0	13.9	16	SOD	eP	23 42 31
		e	44 10			17	NUR	eP	10 24 39
		e	45 28				SOD	eP	10 24 34
	SOD	eP	15 39 03				KJN	iP	10 24 27.7
		eS	41 16				Sinkiang, China		
	KEV	eP	15 38 32	0.7	7.9		44.0 N, 85.3 E, 33 km		
		eS	40 22			17	HEL	eP	18 42 14 U
	Svalbard region						e	20	
	75.7 N, 24.0 E, 33 km						NUR	iP	18 42 10.7 U
15	HEL	eP	15 27 35				i	22.0	1.0
	NUR	eP	15 27 34	0.8	39.9		ePP	44 22	
							ePPP	45 53	
15	NUR	ePKP	15 49 42	1.0	8.0		eS	50 13	
		e	50 04				eLR	18 59.5	
		ePP	52 38				SOD	iP	18 41 23.0 U
		ePPS	16 04 49				KJN	iP	18 41 47.6 U
		eSS	10 28				ePcP	42 56	
		eSSS	15 40				KEV	iP	18 41 05.1
		eLQ	16 27				e	34	1.2
		eLR	16 34				ePcP	42 12	181.0
	SOD	ePKP	15 50 10				ePP	43 02	
	KJN	ePKP	15 50 03				eS	48 14	
	Central Chile						eSS	52 06	
	36.3 S, 98.9 W, 33 km						Southwestern Yukon		
							60.4 N, 140.8 W, 33 km		

June				T	A	June				T	A
21	HEL	ePKP	22 01 36					ePP	12 26		
	NUR	iPKP	22 01 35.0	1.1	45.0			e	15 36		
	KJN	ePKP	22 01 27					eSKSP	22 38		
	Kermadec Islands							ePPS	25 06		
	29.7 S, 177.4 W, 43 km							eSS	31 40		
								eSSS	36 26		
21	HEL	eP	22 07 51					eLQ	04 48.5		
	NUR	iP	22 07 49.9	0.7	14.1			SOD ePKP	04 08 47		
22	NUR	eP	00 44 01	0.8	7.2			KJN ePKP	04 08 55		
22	KJN	eP	09 10 38					ePKS	12 37		
22	KJN	eP	16 11 49					KEV ePKP	04 08 43		
								e	52	0.8	14.7
	Kermadec Islands										
	29.6 S, 177.9 W, 55 km										
22	HEL	eP	16 24 31			23	HEL	eP	09 14 54		
	NUR	eP	16 24 32	0.8	11.4		NUR	eP	09 14 55	0.8	8.5
	SOD	eP	16 24 30				SOD	iP	09 14 23.5		
	KJN	eP	16 24 26				KJN	iP	09 14 34.4		
		epP	26 33				Honshu, Japan				
	Java Sea						37.7 N, 141.7 E, 39 km				
	6.0 S, 113.1 E, 595 km					23	NUR	eP	09 37 36	0.9	9.9
22	NUR	eP	21 00 42				SOD	eP	09 38 53		
		eS	07 38				KJN	eP	09 38 20		
		eSS	11 04				Yugoslavia				
		eLR	21 14				45.6 N, 14.9 E, 33 km				
	SOD	eP	21 00 04			23	HEL	eP	18 40 16		
	KEV	eP	20 59 54	0.7	9.2		NUR	iP	18 40 15.2	1.3	30.2
		eS	21 06 17				SOD	eP	18 39 57		
		eSS	09 32				KJN	eP	18 40 02		
		eLR	21 12				Mariana Islands				
	Manchuria						12.3 N, 140.7 E, 42 km				
	52.9 N, 121.3 E, 33 km					24	HEL	iP	04 36 44.1		
22	HEL	ePKP	21 47 36				eP'P'	05 06 05			
	NUR	iPKP	21 47 35.1	0.8	20.0		NUR	eP	04 36 42	0.8	457.2
	Kermadec Islands						i	42.7 D			
	30.1 S, 177.2 W, 33 km						e(PP)	38 42			
22	HEL	eP	22 09 53				eScP	41 22			
	NUR	eP	22 09 53	0.6	5.0		iS	44 56			
	SOD	eP	22 09 48				eScS	46 31			
	KJN	eP	22 09 40				eSS	49 08			
23	HEL	eP	01 27 52				eP'P'	05 06 10			
	NUR	eP	01 27 52	0.8	10.0		eLR	04 53.3			
							SOD	iP	04 35 53.1		
							i	53.8 D			
23	HEL	iPKP	04 09 06.6 U				iS	43 25.9			
	NUR	iPKP	04 09 06.1 U	0.9	414.2		eScS	45 42			
		e	10 22				eP'P'	05 06 23			
	cont.						cont.				

June						June				
				T	A					
						T			A	
	KJN	eP	04 36 17							
		iS	44 12							
		e	45 30							
		iScS	46 03							
		eP'P'	05 06 12							
	KEV	eP	04 35 36	0.8	152.9					
		e	36 42							
		ePP	37 34							
		iS	42 52							
		e	43 08							
		e	47 08							
		eScS	45 25							
		eSS	46 40							
		e	47 08							
		eP'P'	05 06 15							
		eLQ	04 47.6							
		eLR	04 49.2							
	Cook Inlet									
	59.5 N, 151.7 W, 52 km									
24	HEL	eP	05 53 55							
	NUR	iP	05 53 52.8	0.8	15.6					
		i	56	0.8	2.3					
	SOD	iP	05 53 04.3 D							
	KJN	eP	05 53 28							
	KEV	eP	05 52 46	0.8	8.8					
	Cook Inlet									
	59.4 N, 151.5 W, 57 km									
24	HEL	eP	06 40 55							
	NUR	eP	06 40 52	0.7	8.8					
	SOD	iP	06 40 03.4							
	KJN	eP	06 40 27							
24	NUR	eP	06 55 59	0.9	9.9					
24	SOD	eP	12 41 46							
	KJN	eP	12 41 52							
24	NUR	ePKP	13 37 11	0.7	5.0					
		e	39 14							
		ePP	40 16							
		ePKS	52							
	KJN	ePKP	13 37 08							
	Tonga Islands									
	25.5 S, 175.6 W, 238 km									
24	SOD	eP	14 27 53							
	Southeastern Alaska									
	59.0 N, 136.9 W, 33 km									
24	NUR	ePKP	15 20 10	0.8	11.4					
	Fiji Islands									
	15.5 S, 177.5 W, 412 km									
24	HEL	eP	16 28 08							
		e	36							
	NUR	iP	16 28 05.0	0.8	51.1					
		e	23							
		ePP	30 28							
		ePPP	32 10							
		eS	36 46							
		ePS	37 30							
		eSS	41 06							
		eSSS	44 53							
		eLR	16 48.5							
	SOD	iP	16 27 19.7							
		ePcP	28 06							
	KJN	iP	16 27 40.4							
	KEV	iP	16 27 02.9	0.8	32.3					
		iPcP	57							
	Fox Islands									
	52.3 N, 171.2 W, 33 km									
24	SOD	eP	19 09 35							
	Sumatra									
	4.6 S, 101.8 E, 33 km									
24	SOD	eP	23 56 38							
25	SOD	eP	08 37 09							
	Off coast of Oregon									
	44.3 N, 129.1 W, 31 km									
25	NUR	eP	14 44 51							
25	NUR	eP	14 45 31	0.9	6.6					
		e	57							
		ePP	49 12							
		eS	56 30							
		ePS	57 18							
		eSS	15 02 40							
		ePSPS	03 26							
		eL	15 19							
	SOD	eP	14 45 25							
		ePKKP	15 02 17							
	KJN	eP	14 45 20							
		ePP	49 06							
	South coast of Java									
	8.4 S, 106.5 E, 78 km									

June						June				
				T	A					
26	NUR	eP	05 53 11			KJN	iP	14 16 48.7	D	
		e	28				iPP	18 26		
		eS	56 45				ePcP	42		
		e	58 16				eS	22 45		
	SOD	eP	05 54 20			KEV	iP	14 17 08.0	D	0.8 45.6
	KJN	eP	05 53 51				e	25		
	BCIS:						e	44		
	Bulgaria						ePP	18 39		
	42.0 N, 23.7 E						Sinkiang, China			
							36.4 N, 76.9 E, 33 km			
26	NUR	eP	08 08 59			26	NUR	eP	17 31 54	0.9 19.8
	KJN	eP	08 08 35				e	32 22		
	Mariana Islands						SOD	iP	17 31 55.0	U
	11.5 N, 143.0 E, 48 km						KJN	eP	17 31 48	
26	NUR	eP	08 44 18	0.8	12.8		KEV	iP	17 31 57.0	0.6 19.2
	SOD	eP	08 43 46				Northern Burma			
	KJN	iP	08 43 57.3				24.2 N, 95.2 E, 80 km			
	Honshu, Japan					26	NUR	eP	17 55 47	1.1 21.1
	38.9 N, 142.0 E, 33 km						ePP	59 32		
26	HEL	iP	09 54 36.4				e	18 02 16		
	NUR	iP	09 54 36.5	D	1.0 63.0		eSKS	06 18		
	e		56 52				eS	48		
	eS		10 05 24				ePS	08 06		
	SOD	iP	09 54 26.9				e	09 29		
	KJN	iP	09 54 27.3	D			e	12 03		
	eSKS		10 04 59				eSS	13 08		
	eS		05 09				eLQ	18 21.2		
	KEV	eP	09 54 23	0.5	8.0		eLR	18 25.0		
	Mindanao						SOD	eP	17 55 42	
	4.6 N, 126.3 E, 33 km						ePP	59 28		
26	SOD	eP	10 34 04				KJN	eP	17 55 50	
	KJN	eP	10 33 47				i	56 02		
	Mediterranean Sea						iPP	59 31		
	35.3 N, 3.7 W, 33 km						KEV	eP	17 55 38	1.0 28.6
26	HEL	eP	14 16 50				i	50		
	e		17 31				e	56 25		
	NUR	iP	14 16 51.5	D	0.8 86.6		eS	18 06 30		
	e		17 18				eSS	12 22		
	e		30				South coast of Panama			
	ePP		18 17				7.1 N, 82.3 W, 20 km			
	e		52			27	HEL	eP	07 18 01	U
	iS		22 51				NUR	iP	07 17 58.2	U 1.0 151.7
	eSS		25 46				iPcP	18 40		
	SOD	iP	14 17 01.2	D			ePPP	21 30		
	eS		23 10				eS	26 03		
							eLR	07 35.3		

cont.

cont.

June				T	A	June				T	A		
	SOD	iP	07 17 10.5 U				eSKS	52 40					
	KJN	iP	07 17 35.2 U				eS	53 16					
		ePcP	18 42				ePS	54 34					
		e	20 32				eSS	59 34					
	KEV	iP	07 16 52.2 U	1.2	105.1		eSSS	03 03 36					
	Yukon Territory						eLR	03 13.1					
	60.5 N, 140.7 W, 29 km						SOD eP	02 42 30					
27	HEL	ePKP	12 41 00				ePP	46 33					
	NUR	iPKP	12 40 59.9 U	0.9	61.1		KJN eP	02 42 16					
		e	41 35				ePP	46 08					
		e	42 17				KEV ePP	02 46 46					
	KJN	ePKP	12 40 48				eSS	03 01 14					
	Kermadec Islands						Indian Ocean						
	30.1 S, 177.7 W, 44 km						27.5 S, 66.1 E, 33 km						
27	HEL	eP	14 31 06			28	SOD eP	06 09 40					
	NUR	iP	14 31 06.1	0.8	17.0		KJN eP	06 09 39					
	SOD	eP	14 30 40			28	NUR eP	12 46 48					
	KJN	iP	14 30 48.5 D				SOD eP	12 46 33					
							KJN eP	12 46 34					
27	SOD	eP	15 18 27			28	SOD eP	13 32 31					
	KJN	eP	15 18 37				KJN eP	13 32 56					
	Honshu, Japan												
	39.1 N, 140.7 E, 114 km												
27	HEL	eP	15 43 46			28	HEL eP	13 59 54					
		e	44 04				NUR eP	13 59 54	0.9	11.7			
	NUR	iP	15 43 46.2	0.9	26.4		e	14 02 44					
		e	44 04				ePP	03 03					
		e	41				ePPP	04 57					
		eS	52 30				eS	09 57					
		eSSS	16 00 20				eScS	10 16					
	SOD	iP	15 43 51.4 U				ePPS	11 10					
	KJN	iP	15 43 42.6 U				eSS	15 19					
	KEV	iP	15 43 54.9 U	0.7	26.4		eSSS	18 19					
		e	44 10	1.3	42.2		SOD eP	14 00 01					
	Andaman Islands						KJN eP	13 59 54					
	14.4 N, 93.7 E, 33 km						KEV eP	14 00 05					
27	SOD	eP	19 33 51				Sumatra						
		i	24				1.3 N, 97.4 E, 50 km						
27	SOD	eP	23 34 44			28	NUR eP	15 19 38	0.9	8.4			
	Kurile Islands						SOD eP	15 19 07					
	48.0 N, 152.9 E, 109 km						KJN eP	15 19 26					
28	HEL	eP	02 42 05				North of Iceland						
	NUR	iP	02 42 06.5 U	0.8	44.3		67.2 N, 18.7 W, 33 km						
		ePP	45 37			28	SOD eP	15 28 01					
		ePPP	47 52				KJN eP	15 28 24					

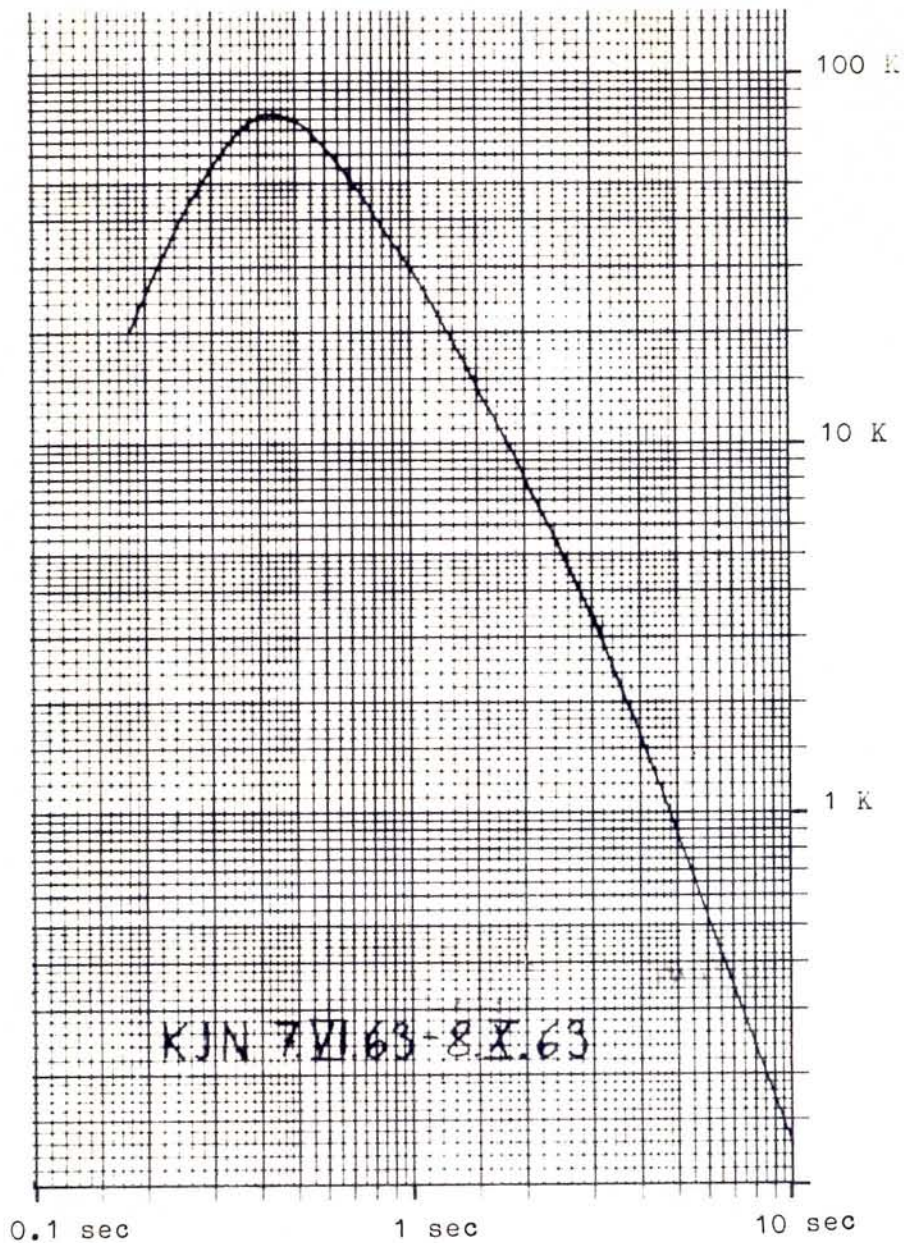
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June				T	A	June				T	A	
28	NUR	eP	16 05 53	0.8	10.0	28	HEL	eP	22 32 44	0.7	7.7	
	SOD	iP	16 05 24.2			NUR	eP	22 32 43				
	KJN	eP	16 05 44			SOD	iP	22 32 04.2				
	North coast of Iceland 67.5 N, 18.7 W, 33 km						KJN	eP	22 32 20			
							Kurile Islands 46.6 N, 153.7 E, 33 km					
28	NUR	eP	17 02 56	0.8	5.7	28	HEL	iP	22 35 46.2	1.4	89.8	
	SOD	eP	17 02 24			NUR	iP	22 35 44.2				
	KJN	eP	17 02 46			SOD	iP	22 35 05.4				
28	NUR	eP	17 29 29	0.8	10.0		KJN	eP	22 35 22			
	SOD	iP	17 28 57.1			Kurile Islands 46.7 N, 153.4 E, 33 km						
	KJN	iP	17 29 18.1									
28	HEL	iP	22 06 21.2	0.8	248.8	28	HEL	eP	22 54 18	0.5	3.9	
	NUR	iP	22 06 19.4 U			NUR	eP	22 54 17				
		e	32									
		ePP	08 45			28	HEL	eP	23 00 15	0.7	7.7	
		ePPP	10 17			NUR	iP	23 00 14.2				
		eS	15 04			SOD	eP	22 59 35				
		ePPS	40			KJN	eP	22 59 51				
		eScS	16 12			Kurile Islands 46.6 N, 153.3 E, 33 km						
		eSS	19 30									
		eLQ	22 23.0			28	HEL	eP	23 07 46	1.3	123.1	
		eLR	22 26.0			NUR	iP	23 07 44.8 D				
	SOD	iP	22 05 40.0				eS	16 32				
	KJN	iP	22 05 56.3 U				SOD	eP	23 07 05			
		e	09 27				KJN	iP	23 07 20.6			
		ePcS	10 43				KEV	eP	23 06 54			
		eS	14 19			Kurile Islands 46.4 N, 153.4 E, 33 km						
		iScS	15 49									
	KEV	iP	22 05 28.0 U									
		ePP	07 46	28	NUR	eSb	23 58 52					
		ePPP	09 04			eSg	59 18					
		eS	13 20		SOD	ePn	23 55 33.5					
		e	46			eSn	58.5					
		eScS	15 20			eSb	56 04					
		eSS	17 44			eSg	05					
	Kurile Islands 46.5 N, 153.2 E, 33 km					KJN	ePn	23 56 09				
							ePb	17				
28	HEL	eP	22 15 32	0.5	6.6		ePg	24				
	NUR	eP	22 15 30						eSn	57 02		
	SOD	eP	22 14 51						eSb	16		
							iSg	25				
28	HEL	eP	22 26 10	0.6	7.4		KEV	ePn	23 55 27			
	NUR	iP	22 26 09.0						eSg	51		
	SOD	eP	22 25 30			According to the Finnish seismograph station net: Kola Peninsula 68.8 N, 31.0 E H: 23 54 57						
	KJN	eP	22 25 46									
	Kurile Islands 46.6 N, 153.3 E, 33 km											

June				T	A	June				T	A
30	NUR	eP	00 18 13	0.7	3.9	30	HEL	eP	07 47 25		
							NUR	eP	07 47 28	0.5	6.6
30	HEL	eP	00 53 05					ePP	48 35		
	NUR	iP	00 53 03.7	0.7	11.6		SOD	iP	07 48 11.8 U		
	SOD	eP	00 52 24					e	49 26		
	KJN	eP	00 52 40				KJN	iP	07 47 45.5 U		
	Kurile Islands						Western Iran				
	46.5 N, 153.4 E, 33 km						33.3 N, 49.1 E, 40 km				
30	HEL	eP	01 52 15			30	HEL	iP	22 15 35.1		
	NUR	eP	01 52 16	0.7	5.2		NUR	iP	22 15 34.7 U	0.8	87.2
	Mariana Islands							ePPP	19 35		
	11.8 N, 142.5 E, 33 km							ePcS	52		
30	HEL	eP	02 27 10					eS	24 12		
	NUR	eP	02 27 10					ePS	40		
	KJN	eP	02 26 57					eScS	25 30		
30	NUR	eP	04 06 12	0.8	8.7			eSS	28 34		
	SOD	eP	04 06 28					eSSS	31 34		
	KJN	eP	04 06 12					eLQ	22 33		
	Hindu Kush							eLR	22 35.8		
	36.5 N, 70.5 E, 200 km						SOD	iP	22 14 54.3 D		
							KJN	iP	22 15 09.9		
								i	43		
30	HEL	eP	04 32 28				Kurile Islands				
	NUR	eP	04 32 27	0.8	7.3		46.5 N, 153.3 E, 33 km				
	SOD	iP	04 32 08.7								
	KJN	eP	04 32 14								
	Mariana Islands					30	HEL	eP	23 29 57		
	11.7 N, 142.6 E, 33 km						NUR	iP	23 29 56.9	0.9	36.7
							KJN	eP	23 29 46		
30	HEL	eP	05 27 44								
	NUR	eP	05 27 41	0.8	5.8						
	SOD	iP	05 26 51.3 D								
	KJN	eP	05 27 16								
	Central Alaska										
	64.4 N, 146.9 W, 27 km										
30	HEL	eP	06 57 59								
		epP	58 45								
	NUR	iP	06 58 01.1	1.0	48.5						
		epP	45								
		eSKS	07 08 09								
		iS	20								
		ePS	09 30								
		eSS	14 04								
	SOD	iP	06 58 04.1								
		ipP	48								
		esP	59 04								
	KJN	iP	06 57 58.0 U								
		ipP	58 43								
		iS	07 08 13								
	Sumatra										
	2.5 S, 102.4 E, 160 km										

January 23, 1964

M. T. Porkka
Aili Huovila



Kajaani (KJN) station:

June 7, 1963 the Willmore seismometers were replaced by the Benioff portable-type seismometers. The constants of the new instrument are as follows:

$$T_s = 1.0 \text{ sec}$$

$$T_{\bar{g}} = 0.75 \text{ sec}$$

Damping: critical

NUR Jun 02.1963 eSSSZ 21-4

21-41

NUR Jun 02.1963 eSSN 21-4

21-41

NUR Jun 10.1963 ePKPZ 04-36-17

04-36

NUR Jun 10.1963 ePSPSE 05-00-3

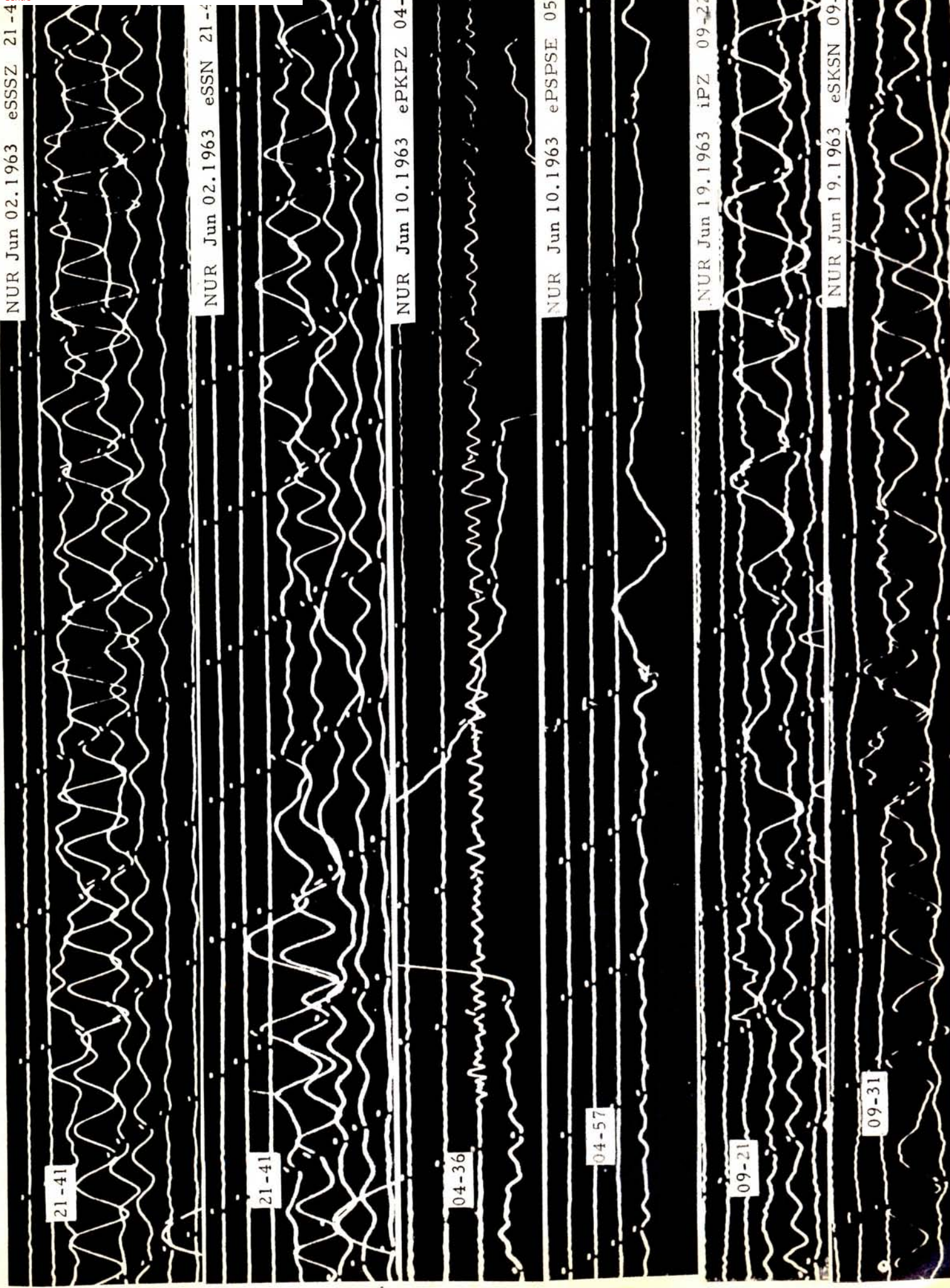
04-57

NUR Jun 19.1963 iPZ 09-22-04.2

09-21

NUR Jun 19.1963 eSKSN 09-32-30

09-31





The recording of the Standardized Station at Nurmijärvi was interrupted between July 18 and 28 on account of the modification works.

The seismograph station at Kevo was not in operation on account of construction works near the seismometer vault.

July				July			
		T	A			T	A
1	SOD eP	09 31 25		1	HEL eP	22 50 36	
	KJN iP	09 31 33.1			NUR iP	22 50 34.6	0.7 10.2
	Honshu, Japan				SOD iP	22 49 55.8	
	29.9 N, 141.3 E, 75 km				KJN eP	22 50 10	
1	HEL eP	10 32 28			Kurile Islands		
	NUR eP	10 32 25			46.5 N, 153.6 E, 69 km		
	SOD eP	10 32 05		2	HEL eP	00 22 46	
	KJN eP	10 32 22			NUR eP	00 22 47	0.6 12.4
1	HEL eP	11 39 42			e	54	
	NUR eP	11 39 43			e	23 18	
	SOD eP	11 39 32			ePP	24 19	
	KJN iP	11 39 31.8			eLQ	00 31	
1	NUR eP	20 32 26			SOD eP	00 22 40	
	SOD eP	20 32 29			KJN eP	00 22 34	
	KJN eP	20 32 23			Sinkiang, China		
	Sumatra				43.9 N, 85.2 E, 39 km		
	4.7 S, 103.7 E, 91 km			2	HEL eP	01 50 02	
1	HEL eP	21 19 19			NUR eP	01 50 02	
	ePcP	20 40			KJN eP	01 49 36	
	NUR iP	21 19 19.3 U	0.9 56.8		Kurile Islands		
	e	26			46.3 N, 153.4 E, 33 km		
	eS	26 28		2	NUR eP	06 12 35	0.7 9.0
	eLQ	21 32.8			SOD iP	06 11 51.4	
	SOD iP	21 19 11.1 U			KJN eP	06 12 10	
	iPcP	20 36			Kamchatka		
	KJN iP	21 19 06.6 U			51.5 N, 159.1 E, 33 km		
	i	14		2	NUR eP	09 59 43	0.9 11.7
	ePP	21 00			SOD eP	09 59 44	
	Tsinghai, China				KJN iP	09 59 39.8 D	
	37.0 N, 96.1 E, 33 km				Java		
					7.8 S, 109.0 E, 117 km		
1	HEL eP	22 28 02		3	NUR eP	01 59 14	1.1 21.3
	NUR eP	22 28 02	0.8 31.5	3	NUR eP	19 27 22	0.8 8.6
	KJN eP	22 27 50			e	38	0.7 6.4

July				T	A	July				T	A		
4	HEL	eP	03 14 30	0.8	7.2	4	SOD	eP	21 58 30				
	NUR	eP	03 14 33			KJN	eP	21 58 29					
	SOD	eP	03 15 41			Celebes							
	KJN	eP	03 15 11			0.5 N, 120.6 E, 59 km							
4	NUR	eP	06 04 18			4	HEL	eP	23 08 45				
4	NUR	eP	07 06 42	0.6	6.2		NUR	iP	23 08 45.9	1.0	29.9		
	SOD	eP	07 06 25				i	53.3					
	KJN	eP	07 06 27				e	10 40					
	Formosa						ePP	12 07					
	24.0 N, 122.4 E, 63 km						eSKS	18 52					
4	HEL	ePKP	11 17 24				eS	19 12					
	NUR	iPKP	11 17 22.4	1.6	459.0		ePS	20 08					
		epPKP	18 10				e	21 28					
		ePP	20 30				eSS	24 46					
		e	39				eLQ	23 30					
		eSKP	49				eLR	23 31					
		iPKS	21 10				SOD	eP	23 09 16				
		e	49				KJN	eP	23 09 05				
		esPKS	22 22				St. Helena Island						
		ePPP	23 42				18.5 S, 12.6 W, 33 km						
		e	24 48				5	NUR	eP	03 36 48			
		eSKKS	27 10					SOD	eP	03 36 28			
		e	28 28					KJN	eP	03 36 27			
		eSKSP	30 40					Outer Mongolia					
		ePPS	33 14					50.4 N, 90.6 E, 33 km					
		eSS	39 40					5	NUR	ePP	06 06 40		
	SOD	ePKP	11 17 06							ePS	15 54		
		i	14					eSS	21 48				
		iPP	19 56					eLQ	06 33				
		eSKP	20 32					eLR	06 37				
		iPKS	48				Peru						
	KJN	ePKP	11 17 12				11.6 S, 77.5 W, 55 km						
		i	20				5	HEL	eP	13 18 44			
		i	39					NUR	iP	13 18 47.3	0.8	21.5	
		ipPKP	18 07					SOD	eP	13 19 01			
		iPP	20 10					KJN	iP	13 18 45.4			
		eSKP	39				Hindu Kush						
		ePKS	55				37.2 N, 73.0 E, 111 km						
	Tonga Islands						5	HEL	eP	14 26 12			
	26.3 S, 177.7 W, 158 km							NUR	eP	14 26 15	1.1	11.9	
4	HEL	eP	11 26 11						eS	30 14			
	NUR	iP	11 26 09.9	0.6	18.6				eLR	14 32			
		e	28 57						KJN	eP			14 26 54
4	NUR	eP	17 40 57				Greece						
	SOD	eP	17 40 45				39.1 N, 22.9 E, 33 km						

July						July			
				T	A				
5	NUR	eP	15 21 40			6	NUR	eP	18 03 05
	KJN	eP	15 22 14				SOD	eP	18 02 47
5	NUR	eSn	16 45 57				KJN	eP	18 02 52
		iSg	46 51				Mariana Islands		
	SOD	ePn	16 43 37				11.6 N, 142.7 E, 26 km		
		ePg	52			6	NUR	eP	22 33 29
		eSn	44 26				SOD	eP	22 32 57
		iSg	52				KJN	iP	22 32 59.1
	KJN	ePn	16 43 59				Honshu, Japan		
		ePg	44 23				37.7 N, 141.7 E, 34 km		
		eSn	45 09			6	HEL	e	22 44 29
		eSb	33				NUR	eP	22 44 23
		iSg	48					e	31
	According to the Finnish seismograph station net: West coast of Norway 67.5 N, 14.5 E H: 16 42 27						SOD	eP	22 45 06
							KJN	eP	22 44 43
5	SOD	eP	18 13 07					i	48
	KJN	eP	18 13 41				Mozambique		
5	SOD	eP	18 27 43				16.3 S, 39.7 E, 33 km		
	KJN	eP	18 28 17			6	NUR	eP	22 56 44
6	HEL	iP	01 11 11.6			7	SOD	eP	10 29 40
	NUR	eP	01 11 12	0.8	5.7		KJN	eP	10 29 45
	SOD	eP	01 11 05				Mariana Islands		
	KJN	eP	01 11 01				17.9 N, 145.6 E, 137 km		
	Sikang, China 30.3 N, 99.8 E, 33 km					7	KJN	eP	11 04 46
6	HEL	eP	01 49 08				Mindanao		
	NUR	eP	01 49 07	0.7	7.7		6.2 N, 124.5 E, 33 km		
	SOD	eP	01 48 27			7	NUR	eP	19 32 17
	KJN	eP	01 48 42				SOD	eP	19 31 46
6	NUR	eP	01 56 40				KJN	eP	19 32 03
	KJN	eP	01 56 15				Central Utah		
6	HEL	ePKP	05 40 45				39.6 N, 111.9 W, 33 km		
	NUR	iPKP	05 40 43.4	1.1	26.1	7	HEL	eP	21 14 10
		e	42 59				NUR	eP	21 14 10
	KJN	ePKP	05 40 19				SOD	iP	21 14 08.1
	Kermadec Islands 31.8 S, 179.0 W, 33 km					8	NUR	iP	09 05 36.2
6	SOD	eP	13 42 02				SOD	eP	09 06 13
	Southeastern Iran 28.0 N, 57.6 E, 80 km							ePP	07 57
							KJN	eP	09 05 50
								ePP	07 29
							Iran		
							26.7 N, 55.7 E, 33 km		

July				T	A	July				T	A	
8	NUR	iP	11 16 17.1	0.8	18.9	SOD	iP	03 14 39.5				
	SOD	iP	11 16 40.1				e	51				
	KJN	eP	11 16 28				e	15 41				
	Mid-Atlantic Osean					KJN	iP	03 14 54.9				
	0.3 N, 17.8 W, 33 km						e	15 06				
8	NUR	eP	14 22 53			Kurile Islands						
	SOD	eP	14 22 04			46.3 N, 153.7 E, 33 km						
	KJN	eP	14 22 30			9	SOD	eP	03 26 31			
	Kodiak Island						KJN	eP	03 26 30			
	57.4 N, 154.0 W, 30 km					9	SOD	eP	04 21 38			
8	NUR	eP	15 10 51				KJN	eP	04 21 46			
8	HEL	eP	16 07 37			Volcano Islands						
	NUR	iP	16 07 44.5	1.0	30.3	22.0 N, 145.7 E, 33 km						
		eS	12 04			9	SOD	eP	04 32 31			
		eLR	16 14				KJN	eP	04 32 35			
	SOD	eP	16 08 55			9	NUR	eP	04 33 50	0.8	10.2	
	KJN	eP	16 08 15				SOD	eP	04 33 36			
		e	10 21				KJN	eP	04 33 46			
	Turkey					Mexico-Guatemala						
	36.6 N, 28.0 E, 30 km					15.2 N, 94.0 W, 33 km						
8	HEL	eP	17 58 57			9	SOD	eP	06 29 44			
	NUR	iP	17 58 54.1	1.0	40.4		KJN	eP	06 29 43			
		eS	18 06 34				e	30 07				
		e	08 44			Celebes						
	SOD	iP	17 58 02.3 U			0.8 N, 121.5 E, 142 km						
	KJN	iP	17 58 27.8 U			9	NUR	eP	09 37 37			
	Central Alaska						ePP	41 14				
	65.8 N, 153.9 W, 33 km						eSKS	48 12				
8	KJN	eP	21 08 40				eS	36				
9	KJN	eP	00 35 32				ePS	49 42				
9	SOD	eP	00 51 55				ePPS	50 18				
	KJN	eP	00 51 57				e	50				
							e	52 14				
9	HEL	iP	03 15 20.9				eLR	10 06.4				
		i	32			SOD	eP	09 37 28				
	NUR	iP	03 15 19.1 D	0.8	30.5	KJN	eP	09 37 35				
		i	31			Costa Rica-Panama						
		e	16 17			8.5 N, 83.0 W, 31 km						
	ePPP		19 20			9	KJN	eP	11 54 42			
	eS		23 56			9	HEL	eP	17 32 58			
	ePS		24 14				NUR	eP	17 32 56			
	eScS		25 14				SOD	eP	17 32 06			
	eSS		28 22				KJN	eP	17 32 31			
	eLR		03 35.8			Southern Alaska						
	cont.					60.0 N, 154.5 W, 60 km						

July				T	A	July				T	A	
9	HEL	eP	17 46 00			SOD	iP	03 24 44.0				
	NUR	iP	17 46 00.8	1.0	18.2	KJN	iP	03 24 59.1 D				
		i	10			Kurile Islands						
		e	39			46.3 N, 153.4 E, 33 km						
		eLQ	18 07			10	HEL	eP	05 33 39			
	SOD	iP	17 45 43.1			NUR	eP	05 33 38	1.2	224.6		
	KJN	eP	17 45 46				eLQ	05 51				
		e	46 06				eLR	05 53				
	Formosa					SOD	eP	05 32 58				
	24.2 N, 122.4 E, 33 km						i	33 00				
9	KJN	eP	18 43 04			KJN	iP	05 33 14.4				
9	KJN	eP	20 36 46				ePP	35 37				
	Central Utah						e	36 51				
	40.1 N, 111.3 W, 33 km					Kurile Islands						
						46.3 N, 152.9 E, 33 km						
10	NUR	eP	02 18 11			10	HEL	ePKP	04 49 02			
10	HEL	eP	02 19 14			NUR	iPKP	04 49 01.2 U	0.9	47.3		
		e	40				i	11				
	NUR	iP	02 19 16.1 D	0.7	16.6		e	51 42				
		e	25			KJN	ePKP	04 48 51				
		e	40			Kermadec Islands						
		ePP	20 53			29.7 S, 177.2 W, 33 km						
		e	21 09			10	NUR	eP	07 24 13	0.9	15.2	
		e(S)	25 39			SOD	eP	07 25 16				
		e	27 22			KJN	eP	07 24 50				
	SOD	iP	02 19 31.3			Aegean Sea						
		e	56			39.8 N, 23.9 E, 127 km						
	KJN	iP	02 19 14.8			10	HEL	eP	10 00 29			
		i	39			NUR	iP	10 00 28.1	1.0	36.4		
		ePP	20 41				eS	09 32				
	Hindu Kush						eLQ	10 18				
	36.5 N, 71.8 E, 33 km						eLR	10 21				
						SOD	iP	10 00 42.3 U				
						KJN	iP	10 00 41.5				
10	SOD	eP	03 03 24			North Atlantic Ocean						
	KJN	eP	03 03 20			13.4 N, 44.9 W, 37 km						
10	HEL	iP	03 25 24.2			10	NUR	eP	14 05 08	1.0	16.2	
	NUR	iP	03 25 23.3 D	0.7	30.9	KJN	eP	14 04 42				
		ePP	27 41			Kurile Islands						
		ePPP	29 22			46.1 N, 153.9 E, 33 km						
		eS	34 04			10	HEL	ePKP	17 08 18			
		ePS	24			NUR	iPKP	17 08 18.8 U	0.7	30.9		
		eScS	35 20				i	22.2	0.9	70.9		
		eSS	38 20			SOD	ePKP	17 08 08				
		eSSS	41 31			KJN	ePKP	17 08 10				
		eLQ	03 42.5			Kermadec Islands						
		eLR	03 45.7			30.2 S, 177.8 W, 25 km						

cont.

July				July			
	T	A			T	A	
17	NUR	eP	21 02 37	19	SOD	iP	07 10 03.1
	SOD	eP	21 02 20		KJN	eP	07 09 39
	KJN	eP	21 02 32				
17	SOD	eP	22 59 04	19	SOD	eP	07 13 18
	KJN	eP	22 58 54				
18	HEL	eP	00 15 14	19	SOD	eP	08 08 02
	NUR	eP	00 15 11		BCIS:		
		eSSS	31 25		Monaco		
		eLQ	00 33		43.3 N, 8.2 E		
	SOD	eP	00 14 26	19	HEL	eP	09 11 55
	KJN	eP	00 14 49		SOD	iP	09 11 23.2
	Vancouver Island				KJN	iP	09 11 33.7 U
	49.1 N, 128.9 W, 33 km				i		44.7
					ePP		13 58
18	NUR	ePKP	05 17 07		Honshu, Japan		
	SOD	ePKP	05 17 15		36.3 N, 141.0 E, 70 km		
	KJN	ePKP	05 17 14	19	SOD	eP	11 48 44
		i	19.2		BCIS:		
		ePKS	20 41		Monaco		
	Sandwich Islands				43.3 N, 8.2 E		
	61.0 S, 22.3 W, 33 km			19	KJN	eP	11 57 04
18	SOD	iP	05 21 25.5		Andreanof Islands		
	KJN	iP	05 21 25.5		52.0 N, 172.5 W, 50 km		
19	SOD	eP	01 44 04	19	SOD	eP	13 17 34
					KJN	eP	13 17 13
19	HEL	eP	05 49 55	19	SOD	eP	19 00 51
	SOD	iP	05 50 58.3 U		KJN	eP	19 00 59
	KJN	iP	05 50 36.5		Mariana Islands		
	Ligurian Sea				18.8 N, 145.7 E, 102 km		
	43.4 N, 8.2 E, 33 km			19	SOD	eP	19 24 04
19	HEL	eP	05 50 31		KJN	eP	19 24 18
	SOD	iP	05 51 35.0		Kurile Islands		
	KJN	iP	05 51 15.0		43.4 N, 146.3 E, 43 km		
	Ligurian Sea			19	SOD	iP	22 38 40.3
	43.3 N, 8.1 E, 33 km				KJN	eP	22 38 21
19	SOD	iP	06 37 17.9	20	HEL	eP	00 20 55
	KJN	eP	06 36 55		SOD	iP	00 20 03.9
19	HEL	eP	07 06 05		i		07.0
	SOD	iP	07 07 08.0		KJN	iP	00 20 29.8
	KJN	eP	07 06 44		i		33.1
	France-Italy border				Yukon		
	44.7 N, 7.0 E, 33 km				65.2 N, 133.7 W, 33 km		

July				July			
	T	A		T	A		
20	HEL	eP	00 56 20	21	NUR	eP	11 12 49
	SOD	iP	00 57 21.0			e	13 04
		i	32.3		SOD	eP	11 13 59
		eS	01 02 06		KJN	eP	11 13 33
	KJN	iP	00 56 50.1 D	21	NUR	eP	14 57 48
		eS	01 00 59		SOD	iP	14 57 30.1 U
	Georgia, S.S.R.				KJN	eP	14 57 30
	43.4 N, 41.2 E, 33 km				Negros, Philippines		
20	HEL	eP	02 24 12		9.7 N, 122.3 E, 54 km		
	SOD	eP	02 23 33	21	KJN	eP	12 55 55
	KJN	eP	02 23 48		Honshu, Japan		
	Kurile Islands				37.2 N, 141.7 E, 33 km		
	47.2 N, 152.2 E, 108 km			21	NUR	eP	18 55 31
20	HEL	ePKP	06 56 01		SOD	eP	18 55 49
	SOD	iPKP	06 56 04.2		KJN	eP	18 55 31
		i	14.4		Hindu Kush		
	KJN	ePKP	06 56 01.2		36.5 N, 69.9 E, 112 km		
		i	07.7	22	SOD	eP	00 48 08
		i	10.7	22	HEL	eP	04 30 03
	Macquarie Island					e	09
	57.6 S, 148.5 E, 33 km				NUR	eP	04 30 03
20	HEL	eP	07 50 12			e	09
	NUR	eP	07 50 12		KJN	eP	04 29 57
	SOD	eP	07 49 44	22	KJN	eP	19 34 52
	KJN	eP	07 49 53		Mindanao		
	Honshu, Japan				7.7 N, 126.8 E, 125 km		
	32.4 N, 140.5 E, 124 km			22	SOD	eP	21 44 44
20	HEL	eP	15 11 28		KJN	eP	21 44 19
	NUR	eP	15 11 26	23	HEL	eP	06 28 33
		e	33			e	49
		eS	13 55		NUR	eP	06 28 31
		e	59			i	48
	SOD	iP	15 10 41.8		SOD	iP	06 27 57.4
		iS	12 48.1			i	28 02.3
		i	49.6		KJN	eP	06 28 09
		i	13 19		Tsugaru Strait		
	KJN	iP	15 11 08.7		41.5 N, 141.9 E, 91 km		
		i	19.4	23	NUR	eP	12 51 45
		eS	13 33		SOD	iP	12 51 08.3
	Jan Mayen Island				KJN	eP	12 51 22
	68.8 N, 4.6 W, 49 km				Kurile Islands		
21	NUR	eP	06 11 03		43.1 N, 147.5 E, 33 km		
	SOD	eP	06 11 33				
	KJN	eP	06 11 14				

July

T A

23 NUR eP 22 02 11
i 14.2
SOD eP 22 01 27
KJN eP 22 01 47
Andreanof Islands
50.0 N, 176.3 W, 77 km.

24 SOD eP 09 00 51
Honshu, Japan
32.4 N, 138.4 E, 297 km

24 HEL eP 11 43 42
e 55
NUR iP 11 43 41.4
i 53.5
e 44 03
SOD iP 11 43 24.7
i 53.9
ePP 45 56
KJN iP 11 43 27.3
e 44 07
Formosa
24.6 N, 122.0 E, 33 km

25 KJN eP 03 45 17

25 NUR eP 07 16 55
SOD iP 07 16 53.3
KJN eP 07 16 55 U
Northern Colombia
6.8 N, 73.0 W, 152 km

25 NUR eP 15 28 59
KJN eP 15 28 50
Mindanao
8.1 N, 123.5 E, 637 km

26 HEL eP 04 21 26
e 32
NUR iP 04 21 31.1
i 40.6
SOD eP 04 22 43
i 46.1
KJN eP 04 22 13
i 15.2
i 35.3
eS 25 51
Southern Yugoslavia
42.1 N, 21.5 E, 33 km

July

T A

26 NUR eP 04 57 29
SOD eP 04 58 45
KJN eP 04 58 18
Southern Yugoslavia
42.1 N, 21.6 E, 33 km

26 NUR ePKP 05 45 35
New Hebrides
15.0 S, 167.3 E, 124 km

26 HEL eP 09 31 10
NUR iP 09 31 12.3
e 28
SOD eP 09 32 13
KJN eP 09 31 47
Mediterranean Sea
39.6 N, 15.2 E, 337 km

26 HEL eP 19 51 41
NUR eP 19 51 44
e 56 09
SOD eP 19 52 45
KJN eP 19 52 15
Dodecanese Islands
36.9 N, 29.1 E, 33 km

27 HEL eP 04 18 11
NUR eP 04 18 11

27 HEL eP 06 02 50
e 59
NUR iP 06 02 50.0
e 03 08
SOD iP 06 03 53.3 U
e 04 01
KJN eP 06 03 32
i 36.2
Ligurian Sea
43.5 N, 8.4 E, 33 km

27 NUR eP 21 38 16
SOD eP 21 37 49
KJN eP 21 37 57
Honshu, Japan
31.0 N, 140.3 E, 100 km

July				July			
	T	A		T	A		
28	HEL	ePKP	07 31 53	29	HEL	eP	06 17 43
		e	32 07		NUR	eP	06 17 46
	NUR	iPKP	07 31 54.5		SOD	iP	06 18 22.4
		i	32 06.8			i	35.1
		e	15		KJN	iP	06 17 59.5
	KJN	ePKP	07 31 47		Southern Iran		
	Kermadec Islands				27.8 N, 55.6 E, 37 km		
	29.8 S, 177.6 W, 33 km						
28	HEL	eP	08 08 59	29	NUR	eP	12 47 47
	NUR	eP	08 09 01		SOD	iP	12 46 22.5 U
		eL	08 37		KJN	eP	12 47 05
	KJN	iP	08 08 56.4 D		Svalbard region		
	Java				79.3 N, 0.6 W, 33 km		
	11.3 S, 112.1 E, 21 km						
28	HEL	eP	13 28 53	29	KJN	eP	17 00 53
	NUR	iP	13 28 49.0		Java Sea		
		eS	31 40		5.7 S, 110.2 E, 530 km		
		eL	13 32.0				
	SOD	eP	13 27 45	29	HEL	ePKP	20 33 44
	KJN	iP	13 28 20.6			e	49
	Jan Mayen				NUR	ePKP	20 33 44
	72.0 N, 0.0, 33 km					e	34 21
						e	34
28	NUR	eP	14 53 34			eSKKS	43 58
	KJN	eP	14 53 10			ePSKS	47 07
	Andreanof Islands					eSS	56 04
	51.9 N, 174.3 W, 33 km				SOD	ePKP	20 33 24
					KJN	ePKP	20 33 35
28	NUR	eP	14 58 59		Kermadec Islands		
	KJN	eP	14 58 34		30.2 S, 177.3 W, 39 km		
	Andreanof Islands						
	51.9 N, 174.2 W, 33 km			29	HEL	ePKP	20 36 14
28	HEL	eP	19 02 18			e	16
	NUR	iP	19 02 17.0		NUR	ePKP	20 36 13
		e	20			e	31
		e	31			e	37 12
		eL	19 21			ePP	39 34
	SOD	eP	19 01 38			eSKKS	46 30
	KJN	iP	19 01 53.0			ePSKS	49 40
	Kurile Islands					eSS	58 36
	46.6 N, 153.1 E, 33 km				SOD	ePKP	20 35 53
					KJN	ePKP	20 36 04
29	HEL	ePKP	05 08 27			e	20
		e	32			e	38 56
	NUR	ePKP	05 08 27		Kermadec Islands		
		e	30		29.7 S, 177.0 W, 33 km		
	KJN	ePKP	05 08 15	29	NUR	eP	23 07 21
	Kermadec Islands				KJN	eP	23 07 27
	30.4 S, 177.7 W, 33 km				Venezuela		
					10.3 N, 62.6 W, 39 km		

July				July			
	T	A			T	A	
29	HEL	ePKP	23 38 19	30	HEL	ePKP	08 15 18
		e	33		NUR	ePKP	08 15 18
	NUR	iPKP	23 38 18.8			e	29
		e	38		KJN	ePKP	08 15 07
	KJN	ePKP	23 38 07		Kermadec Islands		
	Kermadec Islands				29.8 S, 176.9 W, 33 km		
	30.1 S, 177.1 W, 48 km			30	NUR	eP	08 18 24
30	NUR	eP	01 12 05	30	NUR	eP	08 39 04
30	HEL	ePKP	02 38 20		SOD	eP	08 38 35
	NUR	ePKP	02 38 19		KJN	eP	08 38 44
		e	31		Honshu, Japan		
	Kermadec Islands				33.9 N, 135.1 E, 149 km		
	30.0 S, 177.0 W, 41 km			30	NUR	eP	09 32 48
30	HEL	ePKP	03 17 08		KJN	eP	09 33 02
		e	20	30	NUR	eP	09 50 32
	NUR	ePKP	03 17 07	30	HEL	ePKP	14 10 47
		e	20			e	11 04
	Kermadec Islands				NUR	ePKP	14 10 50
	30.0 S, 177.2 W, 40 km					e	11 05
30	HEL	ePKP	04 47 05			eSKP	14 18
		e	16		SOD	ePKP	14 11 02
	NUR	ePKP	04 47 02			i	18.8
		e	15			ePP	13 11
	KJN	ePKP	04 46 53			eSKP	14 16
	Kermadec Islands				KJN	iPKP	14 10 57.8
	30.2 S, 177.3 W, 17 km					i	11 12.5
30	HEL	ePKP	06 05 29			ePP	12 56
	NUR	ePKP	06 05 28			eSKP	14 08
		e	55		Sandwich Islands		
		e	06 09		55.9 S, 27.5 W, 33 km		
		eSS	27 06	30	HEL	ePKP	14 42 50
		eLQ	06 46		NUR	iPKP	14 42 49.3
	SOD	ePKP	06 05 19		SOD	ePKP	14 42 35
	KJN	iPKP	06 05 19.3		KJN	ePKP	14 42 38
		i	37.5		Kermadec Islands		
	Kermadec Islands				29.5 S, 177.1 W, 33 km		
	29.6 S, 177.3 W, 33 km			30	HEL	ePKP	15 24 11
30	HEL	eP	07 02 41		NUR	iPKP	15 24 10.8
	NUR	eP	07 02 41		Kermadec Islands		
	SOD	eP	07 01 58		29.9 S, 177.4 W, 76 km		
	KJN	eP	07 02 16				
	Kamchatka						
	51.7 N, 158.1 E, 33 km						

July

T A

July

T A

30 HEL eP 17 48 19
 NUR eP 17 48 18
 e 23
 SOD eP 17 47 29
 e 34
 KJN eP 17 47 48
 Kenai Peninsula
 59.3 N, 151.7 W, 33 km

31 NUR eP 00 59 33

31 HEL ePKP 02 03 53
 e 04 05
 NUR ePKP 02 03 52
 e 04 04
 ePP 07 06
 KJN ePKP 02 03 36
 e 58
 Kermadec Islands
 29.8 S, 177.2 W, 65 km

31 SOD eP 08 35 15
 KJN eP 08 35 48
 Jan Mayen Island
 71.4 N, 8.5 W, 33 km

31 HEL eP 11 40 06
 e 22
 NUR eP 11 40 02
 e 17
 SOD iP 11 39 30.8 D
 KJN eP 11 39 42
 Hokkaido, Japan
 41.9 N, 142.4 E, 33 km

31 HEL eP 15 20 22
 NUR eP 15 20 21 0.6 12.0
 SOD eP 15 19 46
 KJN eP 15 19 58
 Hokkaido, Japan
 42.2 N, 142.4 E, 33 km

31 NUR eP 16 01 11
 eS 05 22
 eLQ 16 06.3
 eLR 16 07.2
 SOD eP 15 59 50
 KJN eP 16 00 30

31 HEL eP 22 00 44
 NUR eP 22 00 44
 e 53 0.8 14.6
 SOD eP 22 00 38
 KJN eP 22 00 33 U
 e 41
 Sinkiang, China
 43.1 N, 88.3 E, 45 km

January 29, 1964

M. T. Porkka
 Aili Huovila

KJN Jul 04, 1963 ePKPZ 11.

KJN Jul 10, 1963 iPZ 05-33

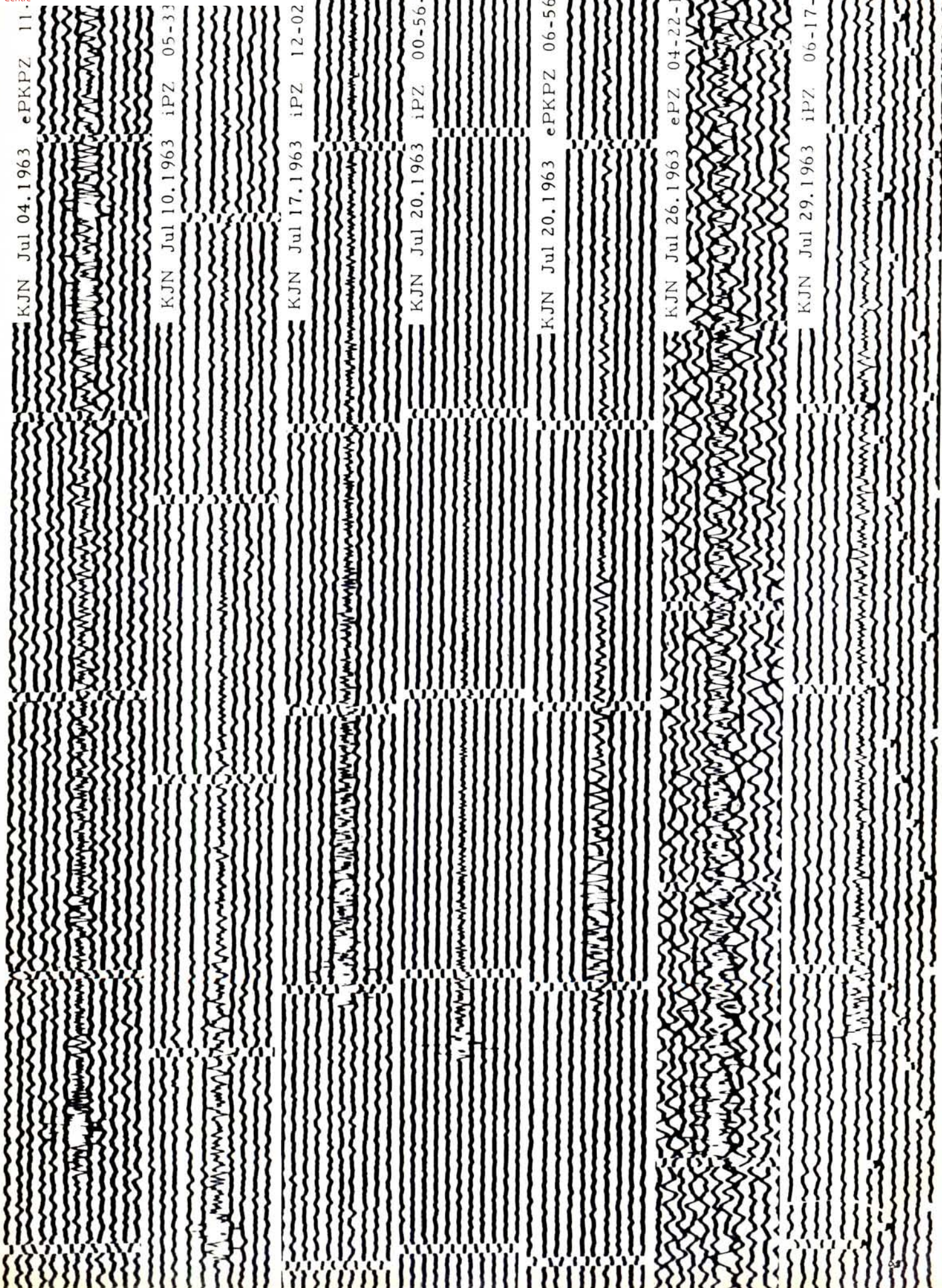
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KJN Jul 20, 1963 iPZ 00-56-50.1

KJN Jul 20, 1963 ePKPZ 06-56-01.2

KJN Jul 26, 1963 ePZ 04-22-13

KJN Jul 29, 1963 iPZ 06-17-59.5



NUR Jul 14. 1963 iPKPZ 00-22-



00-21

NUR Jul 17. 1963 eLRZ 12-06.



12-07

NUR Jul 17. 1963 eLQE 12-06.1



12-07

NUR Jul 28. 1963 ePN 13-28-49.0



13-28

NUR Jul 26. 1963 iPZ 04-21-31.1



04-21

August

August

				T	A					T	A
2	NUR	eP	09 13 27			3	HEL	eP	07 30 23		
		eLR	09 21.3				NUR	eP	07 30 23	0.6	8.9
	SOD	eP	09 13 21				KJN	eP	07 30 20		
	KJN	eP	09 13 34								
	North Atlantic Ocean					3	HEL	iP	10 32 41.0		
	56.2 N, 34.1 W, 41 km						NUR	iP	10 32 40.4 U	1.4	321.3
2	NUR	eP	09 19 59				e	33 16			
		eLQ	09 26.8				iPP	35 24.2			
		eLR	09 28.0				eS	41 44			
	SOD	eP	09 19 49				e	51			
	KJN	eP	09 20 00				eLQ	10 50.6			
	North Atlantic Ocean						eLR	10 53.8			
	56.3 N, 34.5 W, 33 km					SOD	iP	10 33 01.8 U			
2	NUR	eP	09 26 25				ePP	35 37			
2	HEL	eP	10 32 34				eS	42 30			
	NUR	eP	10 32 32				e	44 40			
	SOD	eP	10 32 09			KJN	iP	10 32 56.9 U			
	KJN	eP	10 32 17				ePP	35 35			
	Mariana Islands						eS	42 18			
	26.8 N, 141.3 E, 109 km						Mid-Atlantic Ocean				
2	NUR	eP	10 55 52				7.7 N, 35.8 W, 33 km				
	SOD	eP	10 56 38			3	HEL	eP	10 45 30		
	KJN	eP	10 56 29				NUR	eP	10 45 30	0.8	8.8
	Morocco						SOD	eP	10 45 51		
	34.7 N, 8.9 W, 33 km						KJN	iP	10 45 45.7		
2	NUR	eP	18 14 14				Mid-Atlantic Ocean				
	SOD	eP	18 14 02				7.8 N, 35.9 W, 33 km				
	KJN	eP	18 14 04			3	SOD	eP	12 49 36		
2	HEL	eP	19 39 14				KJN	eP	12 49 38		
	NUR	eP	19 39 12			3	HEL	eP	16 40 30		
	e		53				NUR	eP	16 40 26	1.0	31.9
	SOD	eP	19 39 05				e	41			
	KJN	eP	19 39 05				eLR	17 00.0			
	Mindanao						SOD	iP	16 39 42.2		
	6.0 N, 125.1 E, 118 km						e	55			
2	HEL	eP	22 07 14				iPcP	40 27			
	NUR	eP	22 07 14				KJN	iP	16 40 02.2		
	e		09 03	0.8	4.4		iPcP	41			
	KJN	eP	22 07 03				Andreanof Islands				
3	HEL	ePKP	04 06 03				52.0 N, 174.3 W, 33 km				
	NUR	ePKP	04 06 03	0.8	14.7	3	NUR	eS	20 28 04		
	esSS		25 10				eSS	32 20			
	SOD	ePKP	04 05 53				eLQ	20 37.5			
	KJN	ePKP	04 05 57				eLR	20 40.4			
	Solomon Islands						SOD	eP	20 19 15		
	7.6 S, 156.8 E, 402 km						e	26			
							KJN	eP	20 18 58		
							Mid-Atlantic Ocean				
							1.4 N, 28.2 W, 33 km				

August				T	A	August				T	A	
6	NUR	eP	09 35 51	0.9	8.1	7	SOD	iSKP	11 37	20.0		
6	NUR	eP	13 42 39	1.4	44.5		KJN	ePKP	11 34	55		
		e	42					eSKP	37	25		
		ePP	43 30				Fiji Islands					
		eS	47 36				20.1 S, 178.4 W, 600 km					
		eLQ	13 49.0			7	NUR	ePS	19 00	20		
		eLR	13 50.2					eLR	19	19		
	SOD	eP	13 42 31				Guatemala					
	KJN	eP	13 42 43				13.6 N, 90.9 W, 67 km					
		ePP	43 44			8	HEL	eP	02 25	14		
	KEV	eP	13 42 22					ePcP		53		
		eS	47 16				NUR	iP	02 25	12.6 U	1.2	226.4
		eSS	48 46					i		16.8		
		eLR	13 49.7					ePP		27 22		
	North Atlantic Ocean							ePPP		29 07		
	57.0 N, 33.6 W, 33 km							eS		33 33		
7	SOD	iP	00 09 06.3					ePS		50		
	KJN	iP	00 09 08.9					eScS		35 17		
7	SOD	eP	02 35 53					eSS		37 52		
	KJN	eP	02 35 53					eSSS		40 22		
7	HEL	eP	04 43 18					eLQ	02	41.5		
	NUR	eP	04 43 15	0.7	20.5			eLR	02	44.8		
	SOD	iP	04 42 34.4				SOD	iP	02 24	26.9 U		
		iPcP	43 54					ePcP		25 27		
	KJN	iP	04 42 49.7					e		28 56		
		ePcP	44 01					eS		32 08		
	KEV	eP	04 42 19				KJN	iP	02 24	46.7 U		
	Sakhalin Island							i		25 00		
	54.0 N, 142.1 E, 33 km							iPcP		36		
7	NUR	eS	07 37 30					iPP		26 54		
		eLR	07 48.7					i		27 50		
	SOD	eP	07 28 48					i		29 53		
	KJN	eP	07 28 42					eS		32 45		
	Atlantic Ocean							eScS		34 33		
	7.5 N, 37.2 W, 33 km						KEV	iP	02 24	10.4	1.4	131.4
7	NUR	eSKP	11 35 59					e		20		
	SOD	iSKP	11 35 38.4					ePP		26 15		
	KJN	ePKP	11 33 14					ePPP		27 18		
		eSKP	35 47					eS		31 31		
	KEV	eSKP	11 35 33					eLR	02	40.5		
	Fiji Islands						Fox Islands					
	20.0 S, 178.3 W, 600 km						54.2 N, 168.1 E, 33 km					
8	SOD	ePKP	11 17 46					Easter Island				
							35.9 S, 103.6 W, 33 km					

August

August

T A

T A

8 NUR eP 11 30 46
 ePP 35 20
 ePPP 37 40
 eSKS 41 20
 e 44 40
 ePS 45 08
 ePPS 46 12
 eSS 50 34
 e 51 35
 eSSS 55 10
 KEV ePP 11 34 44
 ePPP 36 56
 ePS 44 08
 ePPS 45 05
 e 50 08
 eLR 12 05
 New Britain
 5.8 S, 151.0 E, 48 km

SOD iP 06 10 47.2
 e 11 06
 e 12 46
 eLR 06 18.7
 KJN iP 06 10 19.0
 e 54
 eS 14 28
 e 17 16
 KEV eP 06 11 08 1.1 22.5
 e 47
 eS 15 48
 eLR 06 18

Northern Italy
 44.5 N, 11.9 E, 33 km

8 HEL eP 11 52 55
 NUR iP 11 52 53.6 0.8 10.3
 e 55 12
 SOD iP 11 52 31.9
 KJN iP 11 52 36.6
 KEV eP 11 52 25 0.7 19.5
 Ryukyu Islands
 27.3 N, 129.2 E, 92 km

9 NUR ePKP 14 55 54
 ePP 58 12
 ePKS 59 24
 eSS 15 16 07
 eSSS 20 56
 e 24 08
 eLQ 15 32
 eLR 15 39
 SOD ePKP 14 55 47
 KEV eSS 15 14 04
 eSSS 18 28
 eLR 15 34
 Fiji Islands
 15.3 S, 175.7 W, 33 km

8 HEL eP 14 05 47
 NUR iP 14 05 45.8 D 1.0 25.8
 ePP 09 06
 SOD iP 14 05 24.7 D
 i 29.2
 e 56
 KJN iP 14 05 30.7 D
 KEV iP 14 05 17.5 D 0.9 75.6
 Mariana Islands
 18.3 N, 145.3 E, 423 km

9 HEL iP 21 59 53.7
 NUR iP 21 59 52.6 U 0.8 37.6
 SOD eP 21 59 36
 KJN eP 21 59 42

9 NUR eP 22 14 12
 SOD eP 22 14 40

10 HEL eP 04 34 45
 NUR eP 04 34 46 1.1 22.5
 ePP 36 10
 eS 40 27
 eScS 44 57
 eLQ 04 43.2
 eLR 04 45
 SOD iP 04 35 26.1
 KJN iP 04 35 01.7
 ePP 36 42
 KEV eP 04 35 40 1.0 24.5
 eS 42 11
 eScS 45 34

Southern Iran
 28.1 N, 53.3 E, 46 km

cont.

August						August			
				T	A				
10	HEL	eP	13 30 01			11	SOD	e	14 24 02
	NUR	eP	13 30 01				KJN	e	14 25 32
		e	17						
	SOD	iP	13 29 37.4			11	SOD	e	16 00 19
		e	54						
	KJN	iP	13 29 44.7 D			11	SOD	e	17 12 55
	KEV	eP	13 29 29	0.7	11.8				
	Volcano Islands					11	HEL	eP	19 47 57
	24.7 N, 142.7 E, 33 km						NUR	eP	19 47 58
11	NUR	ePKP	01 53 44				SOD	eP	19 48 14
		e	02 05 11				KJN	eP	19 47 58
		ePSKS	08 41				Hindu Kush		
		eSPP	12 52				36.2 N, 71.2 E, 148 km		
		eSS	18 42			11	HEL	eP	20 20 50
		eSSS	23 20				NUR	eP	20 20 52
		eLQ	02 41						0.9 15.0
	KEV	eSS	02 18 16			12	HEL	eP	00 08 05
	Balleny Islands						NUR	eP	00 08 06
	60.5 S, 154.9 E, 33 km								0.8 8.8
11	SOD	eP	02 57 18			12	HEL	ePKP	01 24 16
11	HEL	eP	07 48 17				SOD	ePKP	01 24 19
	NUR	eP	07 48 17	0.8	11.7		KJN	ePKP	01 24 19
	SOD	iP	07 47 45.3				Central Chile		
	KJN	iP	07 47 56.6 U				32.5 S, 71.1 W, 92 km		
	Honshu, Japan					12	HEL	eP	03 09 52
	38.8 N, 140.9 E, 45 km						NUR	eP	03 09 54
11	NUR	eP	08 50 04				SOD	iP	03 09 50.8
	SOD	eP	08 50 31				KJN	eP	03 09 44
		ePP	51 55				KEV	eP	03 09 52
	KJN	eP	08 50 11				Sinkiang, China		
	KEV	eP	08 50 50	0.6	5.1		38.1 N, 88.7 E, 33 km		
	Northern Iran					12	HEL	eP	03 40 09
	37.1 N, 55.2 E, 33 km						NUR	eP	03 40 14
11	SOD	eP	10 17 28				SOD	eP	03 41 17
	KJN	eP	10 17 31				KJN	eP	03 40 45
11	HEL	ePKP	10 22 02			12	HEL	eP	07 27 09
	NUR	ePKP	10 22 02				NUR	iP	07 27 11.1 U
	SOD	ePKP	10 22 13					e	21
	KJN	ePKP	10 22 06					ePP	28 40
	Southern Chile						SOD	iP	07 27 52.1
	38.1 S, 73.1 W, 60 km							ePP	29 36
11	SOD	e	13 15 19				KJN	iP	07 27 27.0 U
	KJN	e	13 16 49					ePP	28 58
							KEV	iP	07 28 06.9
							Iran		
							27.7 N, 53.2 E, 33 km		

August						August			
				T	A				
12	NUR	eP	16 59 28			13	SOD	eP	05 06 44
12	HEL	eP	18 37 41				KJN	eP	05 06 42
		e	50				Banda Sea		
	NUR	eP	18 37 43	1.1	30.8		7.2 S, 124.5 E, 542 km		
		e	50			13	HEL	eSKP	06 50 19
		ePP	39 22				NUR	ePKP	06 47 27
		eS	44 10					i	37.1 U
		eSS	47 29					iSKP	50 18.4
		eLQ	18 48.4				SOD	ePKP	06 47 26
	SOD	iP	18 38 13.8					eSKP	49 57
		i	20.7				KJN	iPKP	06 47 30.2
	KJN	eP	18 37 53					eSKP	50 06
		i	38 01.5				KEV	ePKP	06 47 22
		ePP	39 37				Fiji Islands		
	KEV	eP	18 38 27	1.1	29.2		20.6 S, 178.5 W, 562 km		
		e	35			13	HEL	iP	07 10 43.3
		ePP	40 16					epP	11 39
		e(S)	45 52				NUR	iP	07 10 44.1 D
		eLQ	18 51					e	11 01
	West Pakistan							epP	38
	25.3 N, 62.7 E, 33 km							esP	55
13	HEL	eP	03 10 50					e	13 12
	NUR	eP	03 10 51	1.0	12.2			e	29
	SOD	eP	03 10 40					eS	16 09
	KJN	eP	03 10 40					esS	17 32
	Mindoro							eSS	19 32
	12.9 N, 120.7 E, 33 km						SOD	iP	07 11 00.6
13	HEL	eP	03 37 25					e	16
		e	36				KJN	iP	07 10 44.6 D
	NUR	iP	03 37 22.6 U	1.4	53.8			epP	11 37
		i	33.4					ePP	12 04
		eS	46 05					esPP	13 10
		eLQ	03 53.3				KEV	eP	07 11 09
		eLR	03 56.3					e	25
	SOD	iP	03 36 36.6					ePP	12 52
		e	46					eS	17 04
		ePcP	37 26					e	20 08
	KJN	eP	03 36 59				Hindu Kush		
		e	37 09				36.6 N, 70.9 E, 244 km		
		ePcP	40			13	NUR	ePP	07 14 04
	KEV	eP	03 36 20	0.8	11.8			ePKS	50
		e	31				KEV	ePKS	07 14 32
		eS	44 06				Tonga Islands		
	Kodiak Island						19.1 S, 173.9 W, 28 km		
	55.0 N, 156.4 W, 33 km								

August				T	A	August				T	A
13	HEL	eP	13 32 03			14	NUR	eP	13 51 16		
	NUR	iP	13 31 58.3 D	1.1	38.8		SOD	eP	13 50 02		
		eS	35 16				KJN	eP	13 50 42		
		eLQ	13 35.8				KEV	eP	13 49 34	0.9	23.9
	SOD	iP	13 30 33.4				Svalbard region				
	KJN	iP	13 31 16.3 D				83.6 N, 4.6 W, 33 km				
		e	32 15								
	KEV	iP	13 30 06.2	0.7	24.9	14	HEL	eP	16 29 48		
		eS	31 47				NUR	eP	16 29 46		
		eLQ	13 32.1					eSS	44 40		
	Svalbard region						SOD	eP	16 29 29		
	76.2 N, 6.4 E, 33 km						KJN	eP	16 29 32		
13	KJN	eP	14 09 29				KEV	eP	16 29 16		
13	HEL	ePKP	22 11 50				Formosa				
		e	12 00				24.1 N, 122.4 E, 28 km				
	NUR	ePKP	22 11 50			14	NUR	eP	16 43 36	0.8	8.1
		ePP	14 38					e	41		
		ePKS	15 30				SOD	iP	16 42 20.2		
		e	17 50				KJN	iP	16 43 00.5		
		ePSKS	24 40				KEV	eP	16 41 48		
		ePPS	26 30					i	58.6	0.9	30.8
		eSS	32 45			14	HEL	eP	18 57 52		
		eSSS	38 08					e	58 05		
		eLQ	22 47.7				NUR	iP	18 57 52.2 D	1.0	33.7
	KJN	ePKP	22 11 51					i	58 05.3		
	KEV	ePKS	22 15 04					ePP	19 02 09		
		eSS	31 15					eSKS	08 26		
	Tonga Islands							ePPS	12 06		
	19.3 S, 173.7 W, 33 km							eSS	16 44		
13	HEL	eP	23 11 38				SOD	iP	18 57 39.4		
	NUR	iP	23 11 37.1 D	0.9	65.1			e	53		
		e	54					ePKKP	19 13 57		
		ePP	14 15				KJN	iP	18 57 40.8		
	SOD	iP	23 11 12.4 D					i	54.0		
	KJN	iP	23 11 20.1 D					ePP	19 01 52		
	KEV	iP	23 11 04.8 D	0.9	95.8			e	02 05		
	Bonin Islands							ePKKP	13 56		
	27.2 N, 140.1 E, 448 km						KEV	iP	18 57 35.5	0.7	11.8
14	SOD	eP	00 27 36					e	49		
	KJN	eP	00 27 19					ePP	19 01 54		
	Northern Rhodesia						West Irian				
	16.7 S, 28.7 E, 33 km						3.4 S, 135.4 E, 33 km				
14	NUR	ePKS	03 09 40			15	HEL	eP	02 28 18		
		eSS	27 24				NUR	iP	02 28 22.3	0.8	69.8
		eLQ	03 43.2					e	39		
	KJN	ePKP	03 06 01					epP	29 44		
	Fiji Islands							esP	30 23		
	21.4 S, 175.2 W, 33 km							eS	37 28		

cont.

August

August

				T	A					T	A	
	SOD	iP	02 27 57.7 D									
		e	28 10									
		e	29 48									
	KJN	iP	02 28 05.0 D									
	KEV	iP	02 27 49.9	0.7	24.9							
		e	28 06									
		esP	29 49									
	Bonin Islands											
	27.9 N, 139.6 E, 476 km											
15	NUR	eP	05 17 46	0.9	4.7							
15	HEL	eP	06 22 38									
	NUR	iP	06 22 36.9 U	1.2	232.0							
		i	50.0									
		i	23 14.3									
		i	24 14.0									
		ePP	25 10									
		ePPP	26 42									
		ePcS	27 06									
		eS	31 40									
		e	54									
		ePS	32 04									
		eScS	55									
		eSS	35 49									
		e	39 36									
		eP'P'	50 49									
		eLQ	06 41									
		eLR	06 44									
	SOD	iP	06 22 05.4 U									
		iS	30 40									
		ePS	31 03									
		eScS	32 19									
		eP'P'	50 57									
	KJN	iP	06 22 16.3 U									
		iS	30 59									
		ePS	31 20									
		eScS	32 30									
		eP'P'	51 03									
	KEV	iP	06 21 55.1 U	1.8	620.5							
		i	22 08.4									
		e	37									
		ePP	24 12									
		ePPP	25 47									
		eS	30 20									
		ePS	42									
		eScS	31 40									
		eSS	34 20									
		eLQ	06 37.4									
		eLR	06 40.2									
	Honshu, Japan											
	37.9 N, 141.6 E, 59 km											

				T	A					T	A	
15	NUR	eP	08 13 01	0.9	9.5							
	SOD	iP	08 12 50.7									
	KJN	iP	08 12 50.3									
15	HEL	e	17 38 14									
		i	37									
		ePP	42 44									
		ePKKP	54 16									
	NUR	eP	17 37 54									
		i	38 12.2									
		i	25.0									
		epP	40 26									
		esP	41 10									
		ePKP	43									
		ePP	42 48									
		iSKS	48 07									
		eS	49 20									
		ePS	52 14									
		esS	53 06									
		ePKKP	54 13									
		esPS	50									
		eSS	56 53									
		esSS	59 46									
		eP'P'	18 02 20									
		e	32									
		e	04 30									
		e	05 13									
		e	07 40									
		e	20 15									
		e	28									
		eP'P'P'	23 11									
	SOD	eP	17 38 21									
		i	32.4									
		ePP	42 40									
		iSKS	48 12.2									
		ePS	52 18									
		iPKKP	54 11.4									
		eP'P'	18 02 25									
		e	04 14									
		e	20 36									
		e	21 34									
		e P'P'P'	23 26									
	KEV	eP	17 38 18									
		i	32.1									
		epP	40 34									
		e	42 00									
		ePP	49									
		e	47 45									
		eSKS	48 19									
		eS	49 28									
		e	51 02									

cont.

August

August

August				T	A	August				T	A
	esS		53 11			17	NUR	iP	06 28 26.9 D	0.6	28.4
	ePKKP		54 14				SOD	iP	06 27 41.5		
	eSS		57 10				KJN	eP	06 28 02		
	e	18 00	31				Fox Islands				
	eP'P'		02 31				52.4 N, 168.7 W, 33 km				
	e		04 18								
	e		08 04			17	HEL	ePKP	09 54 33		
	e		20 21				NUR	ePKP	09 54 31	1.0	24.5
	e		34					i	46.8 U		
	Peru-Bolivia border							e	57 46		
	13.8 S, 69.3 W, 543 km						KJN	iPKP	09 54 22.9		
15	NUR	eP	18 53 42				Kermadec Islands				
							34.2 S, 179.9 W, 368 km				
15	HEL	ePKP	22 47 59			17	HEL	eP	11 23 59		
		eSKP	50 38				NUR	iP	11 23 59.1	1.0	132.6
	NUR	ePKP	22 47 53					i	24 04.2		
		e	48 04					ePP	26 38		
		eSKP	50 38					ePPP	28 26		
	SOD	ePKP	22 47 49					eS	33 13		
		iSKP	50 18.7					ePS	47		
	Fiji Islands							eSS	38 04		
	21.0 S, 179.2 W, 597 km							e	41 22		
15	HEL	eP	23 59 50					eLQ	11 42.5		
		e	24 01 54					eLR	11 46.5		
	NUR	iP	23 59 45.5 D	0.7	35.3		SOD	iP	11 23 33.3 U		
		eS	24 01 46					ePP	26 02		
	SOD	eP	23 58 42					eS	32 26		
		eS	59 55				KJN	iP	11 23 40.4 U		
	KEV	eP	23 58 32	0.7	15.5			ePP	26 13		
	Arctic Ocean							eS	32 38		
	69.8 N, 8.9 E, 33 km							eScS	33 58		
16	HEL	eP	22 39 13				KEV	iP	11 23 26.2 U	1.1	103.2
		eP	22 39 12	0.6	8.8			i	38.8		
	SOD	eP	22 38 37					ePP	25 50		
	Hokkaido, Japan							eS	32 14		
	43.9 N, 142.1 E, 81 km							eSS	36 40		
								e	39 52		
16	NUR	eP	23 18 29	1.3	31.0			eLQ	11 41.5		
		eS	28 30					eLR	11 43.4		
		eSS	33 44				Ryukyu Islands				
		eLR	23 44.2				30.6 N, 130.9 E, 33 km				
	SOD	eP	23 18 56			17	SOD	eP	11 46 41		
	South Atlantic Ocean						KJN	eP	11 46 52		
	12.8 S, 14.5 W, 33 km							epP	47 34		
							Veracruz, Mexico				
							17.7 N, 94.3 W, 163 km				

August

August

August					T	A	August					T	A
17	HEL	eP	22 05	22			KEV	eP	18 53	12	1.1	115.2	
		ePP		06 27				i		26.8 D			
	NUR	iP	22 05	24.2 U	0.9	17.3		ePP		55 20			
		ePP		06 25				eS	19 01	16			
	SOD	eP	22 05	54				e		52			
		ePP		07 10				eSS		05 14			
	KJN	eP	22 05	32			Andreasnof Islands						
		ePP		06 35			50.3 N, 176.9 W, 33 km						
	KEV	ePP	22 07	20			18	HEL	ePKP	20 47	23		
	Northern Iran								NUR	iPKP	20 47	22.7	
	36.7 N, 59.7 E, 33 km									e		50 00	
									ePP		40		
17	HEL	eP	22 24	21					eSKKS		57 30		
	NUR	eP	22 24	20					e	21 06	10		
	SOD	iP	22 24	31.7					eSS		09 50		
	KJN	eP	22 24	33					eSSS		15 30		
	North Atlantic Ocean							SOD	ePKP	20 47	06		
	32.1 N, 40.9 W, 33 km								KJN	ePKP	20 47	10	
									KEV	ePKP	20 47	07	
18	HEL	eP	07 20	49				Kermadec Islands					
	NUR	iP	07 20	48.9 U	0.8	25.6		32.1 S, 178.1 W, 33 km					
	SOD	iP	07 20	18.6				18	HEL	eP	22 16	40	
		ePcP		52					NUR	eP	22 16	40	
	KJN	eP	07 20	29					KJN	eP	22 16	36	
	KEV	eP	07 20	09 U	0.8	16.0		19	HEL	ePKP	04 43	42	
	Central Honshu, Japan									e		44 05	
	35.9 N, 139.2 E, 153 km								NUR	ePKP	04 43	42	
									i		55.3 U		
18	HEL	iP	18 54	16.1					i		44 06.3 D		
		e		30				SOD	ePKP	04 43	23		
	NUR	iP	18 54	13.8 D	1.2	236.4			e		31		
		i		27.4 U				KJN	ePKP	04 43	31		
		e		58 32				KEV	ePKP	04 43	26		
		eS	19 03	10			Kermadec Islands						
		eScS		04 10			32.0 S, 177.9 W, 33 km						
		eSS		07 43			19	SOD	ePKP	09 10	34		
		eP'P'		22 31			Sandwich Islands						
		eLR	19 15.5				59.8 S, 25.9 W, 33 km						
	SOD	iP	18 53	28.7 D			19	SOD	eP	15 09	02		
		i		43.8					e		24		
		eS	19 01	48				KJN	eP	15 09	14		
		eP'P'		22 42			Honshu, Japan						
	KJN	iP	18 53	49.2 D			41.5 N, 141.8 E, 117 km						
		i		54 03.4									
		ePP		56 15									
		eS	19 02	25									
		eP'P'		22 31									
				cont.									

August						August			
				T	A				
20	NUR	eSKS	07 16 46			21	SOD	eP	08 13 14
		eS	17 20						
	Sumatra					21	SOD	eP	10 29 59
	6.9 S, 103.0 E, 61 km						KJN	eP	10 29 54
20	SOD	eP	07 29 49				South coast of Java		
	KJN	eP	07 29 41				8.3 S, 108.8 E, 225 km		
20	NUR	iPKP	09 39 57.9	0.9	13.0	21	HEL	eP	18 13 22
	Kermadec Islands						NUR	eP	18 13 19
	27.8 S, 176.5 W, 37 km						e		23
20	SOD	eP	13 09 59				eS		21 48
	KJN	eP	13 10 09				eSS		26 10
	Central Honshu, Japan						eLR		18 32
	37.1 N, 139.3 E, 53 km						SOD	eP	18 12 38
20	HEL	eP	15 59 01				KJN	eP	18 12 55
	NUR	iP	15 59 00.1 D	1.2	61.0		Kurile Islands		
		eS	16 07 48				49.0 N, 158.2 E, 33 km		
		ePS	08 10			21	HEL	eP	22 49 49
		eSS	12 06				NUR	eP	22 49 57
		e	15 06				e		54 07
		eLQ	16 16				eLR		22 56
		eLR	16 19			22	HEL	eP	04 08 19
	SOD	iP	15 58 25.8				NUR	eP	04 08 16
	KJN	iP	15 58 37.2				SOD	iP	04 07 24.6
		ePP	16 00 54				ipP		45
	Honshu, Japan						KJN	eP	04 07 51
	41.2 N, 142.7 E, 50 km						epP		08 10
20	HEL	iPKP	20 03 32.8				Central Alaska		
		e	51				63.2 N, 148.5 W, 101 km		
	NUR	iPKP	20 03 32.0 U	0.7	21.5	22	NUR	eP	05 43 38
	KJN	ePKP	20 03 23				SOD	eP	05 43 14
	Kermadec Islands						KJN	eP	05 43 23
	30.2 S, 177.8 W, 43 km					22	NUR	e(P)	09 39 08
21	HEL	eP	03 51 36				eS		48 31
		e	04 01 33				eSS		53 14
	NUR	eP	03 51 37	0.8	6.6		eLR		10 01.7
		eS	04 01 42				SOD	iP	09 38 13.6
		eSS	07 12				KJN	eP	09 38 34
		eLQ	04 14				Oregon		
	SOD	eP	03 51 32				42.0 N, 126.2 W, 33 km		
	KJN	eP	03 51 33						
		e	57						
	Caribbean Sea								
	14.3 N, 72.5 W, 33 km								

August

August

22 HEL ePKP 20 11 13
 NUR ePKP 20 11 11
 ePP 12 34
 e 13 40
 eSKS 18 06
 eSKKS 19 28
 eS 20 14
 ePS 22 10
 ePPS 23 32
 eSS 28 50
 eSSS 33 03
 eLQ 20 39
 eLR 20 47
 SOD ePKP 20 10 58
 ePP 11 57
 KJN ePKP 20 11 04
 ePP 12 05
 eSKS 17 56
 Solomon Islands
 9.4 S, 158.0 E, 33 km

T A
 1.0 8.2

23 HEL eP 03 55 45
 NUR eP 03 55 43
 SOD iP 03 55 05.9
 KJN eP 03 55 19
 Kurile Islands
 44.7 N, 146.1 E, 135 km

T A
 0.7 7.2

23 HEL eP 13 19 42
 i 57
 NUR iP 13 19 42.9 D
 eS 28 02
 eSS 32 13
 eLQ 13 35.6
 eLR 13 38.2
 KJN eP 13 19 16
 i 17.9
 Kamchatka
 52.4 N, 159.6 E, 33 km

23 SOD eP 15 36 37
 KJN eP 15 36 39
 Talaud Islands
 4.9 N, 128.1 E, 268 km

23 HEL eP 16 52 48
 NUR eP 16 52 47
 SOD eP 16 52 03
 KJN iP 16 52 21.3
 Kamchatka
 52.5 N, 159.5 E, 67 km
 23 NUR eP 23 34 07
 SOD iP 23 33 38.3
 KJN eP 23 33 46
 Bonin Islands
 28.6 N, 142.5 E, 45 km
 24 SOD ePKP 02 30 50
 Bouvet Island
 54.3 S, 5.2 E, 28 km
 24 HEL ePKP 03 37 46
 NUR iP 03 37 45.3 D
 i 49.1 D
 SOD ePKP 03 37 27
 KJN ePKP 03 37 37
 Kermadec Islands
 30.7 S, 178.2 W, 42 km
 24 NUR eP 03 44 04
 SOD iP 03 43 53.3
 24 HEL iP 13 10 22.3
 NUR iP 13 10 21.6 U
 SOD eP 13 10 07
 KJN eP 13 10 12
 25 NUR eP 02 30 22
 SOD eP 02 29 43
 KJN eP 02 29 52
 Sea of Okhotsk
 48.7 N, 148.8 E, 134 km
 25 HEL eP 06 16 44
 i 50
 NUR eP 06 16 48
 SOD iP 06 17 43.3
 i 48.8
 e 19 31
 cont.

T A
 1.0 15.3

T A
 0.9 56.0

T A
 0.9 7.8

T A
 0.7 47.0

T A
 1.4 171.8

August

August

T A

T A

KJN iP 06 17 15.3
 e 19 20
 eS 21 58
 KEV eP 06 18 03 1.7 270.5
 eS 22 56
 e 24 06
 eLQ 06 24.5
 Central Turkey
 38.9 N, 38.4 E, 33 km

ePKS 39 28
 ePPP 41 05
 eS 45 18
 eSP 46 32
 e 49 10
 e 50
 esPS 50 54
 e 56 04
 esSS 57 50
 Fiji Islands
 17.5 S, 178.8 W, 565 km

25 HEL ePKP 12 36 10
 i 28
 eSKP 39 04
 NUR ePKP 12 36 13
 i 26.0 1.4 414.0
 epPKP 38 40
 iSKP 39 03.8
 iPKS 56
 ipPKS 42 07
 isPKS 43 03
 eSKKS 44 59
 eSKKP 48 15
 eSPP 50 14
 esPS 52 06
 eSS 56 00
 esSS 59 30
 SOD ePKP 12 36 09
 i 14.2
 ePP 37 57
 ipPKP 38 31.3
 iSKP 42.1
 iPKS 39 33.5
 epPP 56
 e 41 47
 eSKKP 48 45
 KJN ePKP 12 36 01
 e 08
 i 18.2
 e 38 20
 iPP 39.6
 iSKP 50.5
 iPKS 39 38.7
 eSKKP 48 54.4
 KEV iP 12 36 10.1 1.1 192.0
 ePP 38 04
 epPKP 29
 cont.

26 NUR ePKP 05 07 49
 e 56
 KJN ePKP 05 07 49
 Fiji Islands
 17.7 S, 178.8 W, 575 km
 26 NUR eP 05 55 44 0.7 3.9
 i 50.8
 SOD eP 05 55 47
 KJN iP 05 55 41.9
 Java
 6.8 S, 105.6 E, 33 km
 27 NUR eP 03 19 02 1.2 30.5
 e 23 08
 SOD eP 03 17 52
 eS 19 32
 KJN eP 03 18 30
 Arctic Ocean
 72.9 N, 4.3 E, 33 km
 27 NUR ePKS 03 46 24
 e 04 02 38
 eLQ 04 20
 eLR 04 26
 KJN ePKP 03 42 49
 Southern Chile
 45.9 S, 75.3 W, 33 km
 27 SOD eP 06 02 30
 Oregon
 44.1 N, 129.5 W, 33 km
 27 SOD iP 20 53 00.8
 KJN iP 20 53 08.0
 Mariana Islands
 18.3 N, 146.4 E, 78 km

August						August					
				T	A						
27	HEL	eP	22 13 55			29	NUR	iP	04 53 07.2	1.5	38.0
		e	14 06				SOD	eP	04 52 46		
	NUR	iP	22 13 53.6	0.7	7.8		KJN	eP	04 52 57		
		e	14 05								
	SOD	iP	22 13 20.5								
		i	32								
	KJN	iP	22 13 32.8			29	SOD	eP	06 20 38		
	East of Honshu, Japan						KJN	eP	06 20 49		
	40.2 N, 145.2 E, 55 km						Mariana Islands				
							21.9 N, 145.5 E, 130 km				
28	HEL	eP	07 49 54								
	NUR	iP	07 49 49.2 D	0.7	17.0						
		e	58								
		eS	52 42			29	HEL	iP	09 00 53.5		
		e	53 18				NUR	iP	09 00 55.4 U	0.9	267.1
		eLQ	07 52.8					ePP	02 18		
		eLR	07 53.5					eS	06 26		
	SOD	eP	07 48 53					eLQ	09 08.7		
		eS	50 58					eLR	09 10.0		
	KJN	iP	07 49 26.6				SOD	iP	09 01 05.1 U		
		eS	51 58					ePP	02 30		
								eS	06 54		
28	NUR	eSS	13 33 24				KJN	iP	09 00 51.5 U		
		eL	14 01:0					ePP	01 58		
	KJN	ePKP	13 08 59					eS	06 26		
	Balleny Islands						Sinkiang, China				
	61.9 S, 164.5 E, 33 km						39.6 N, 74.2 E, 31 km				
28	HEL	eP	16 02 53			29	HEL	eP	15 44 38		
		e	03 02				NUR	eP	15 44 34	1.0	16.3
	NUR	iP	16 02 52.5 D	0.8	35.9			e	45 18		
		e	03 12					e	48 08		
	SOD	iP	16 02 26.5 D					ePP	44		
		e	52					eSKS	55 12		
	KJN	iP	16 02 35.5 D					eS	56 32		
		e	05 00					ePS	58 00		
	Bonin Islands							ePKKP	16 00 25		
	28.3 N, 141.0 E, 96 km							e	40		
28	NUR	ePPS	17 31 20					eSS	03 26		
		eSS	38 08					eLQ	16 13.6		
		eSSS	42 30					eLR	16 19.4		
		eLR	18 00.7				SOD	eP	15 44 32		
	SOD	ePKP	17 17 09					ePP	48 48		
	West of Chile							ePKKP	16 00 26		
	39.1 S, 91.8 W, 33 km						KJN	eP	15 44 38		
29	SOD	eP	01 35 02					e	48 21		
	KJN	eP	01 35 04					ePP	59		
		e	22					ePKKP	16 00 22		
	Northern Celebes						Peru				
	2.0 N, 123.4 E, 43 km						7.1 S, 81.6 W, 23 km				

August

August

August				T	A	August				T	A
29	NUR	ePKS	21 20 16			31	HEL	eP	08 41 42		
		eSKSP	29 10				NUR	eP	08 41 38	0.5	1.9
		eSPP	31 18					i	46.8 U	0.9	19.7
		eSS	37 00					e	42 34		
		e	38 40					e	51 52		
		eLR	21 58.7				SOD	iP	08 41 48.9		
	KJN	ePKP	21 16 40					i	59.2		
	Tonga Islands							ePP	43 14		
	15.5 S, 172.9 W, 33 km						KJN	eP	08 41 35		
								i	45.4		
30	NUR	eP	00 29 57	0.8	8.8			e	42 35		
		i	30 11.5	1.3	55.0						
	SOD	eP	00 29 57			31	SOD	eP	12 58 12		
		i	30 13.0				KJN	eP	12 58 19		
	KJN	iP	00 29 53				Ryukyu Islands				
		i	30 08.3				28.2 N, 129.3 E, 33 km				
	Java					31	SOD	eP	16 39 41		
	8.7 S, 108.6 E, 33 km						KJN	eP	16 39 57		
30	HEL	eP	04 53 19				Sakhalin region				
	NUR	iP	04 53 23.0	0.8	17.6		47.5 N, 143.6 E, 70 km				
		eS	58 54			31	SOD	eP	20 24 26		
		eLR	05 03.2			31	NUR	eSKP	21 47 13		
	SOD	eP	04 53 22				SOD	iSKP	21 46 53.1		
		e	05 01 32				Fiji Islands				
	KJN	eP	04 53 13				21.5 S, 179.2 W, 543 km				
		ePP	54 16								
	China-Kazakh U.S.S.R.										
	44.8 N, 80.1 E, 33 km										
30	NUR	iP	07 19 48.0 U	0.7	11.1						
		eS	22 37								
	SOD	iP	07 18 51.4								
		eS	21 02								
	KJN	eP	07 19 23								
		eS	21 53								
	Jan Mayen Island										
	71.6 N, 4.7 W, 33 km										
30	SOD	iP	10 40 05.8								
	KJN	eP	10 40 03								
31	SOD	eP	02 07 17								

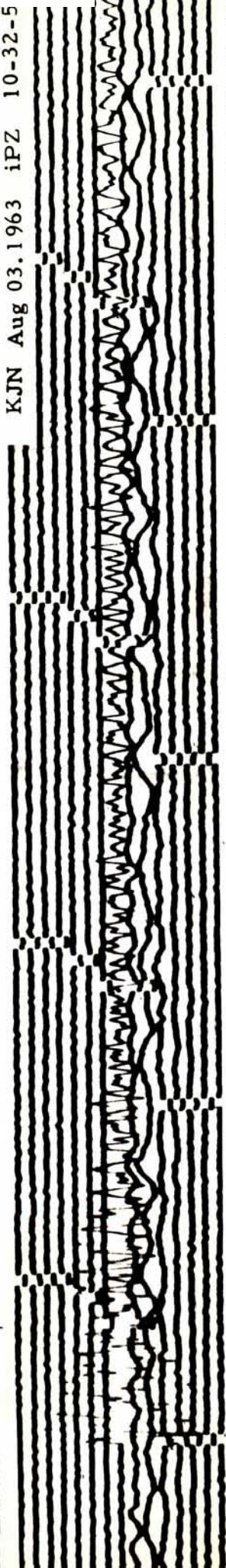
March 5, 1964

M. T. Porkka
Aili Huovila

NUR Aug 01.1963 iPN 16-02-3



KJN Aug 03.1963 iPZ 10-32-5



KJN Aug 07.1963 iPZ 02-24-46.7



KJN Aug 17.1963 ePZ 06-28-02



KJN Aug 20.1963 iPZ 15-58-37.2



KJN Aug 29.1963 ePPZ 15-49-59



NUR Aug 06.1963 eSE 13-47



NUR Aug 08.1963 eSE 02-33



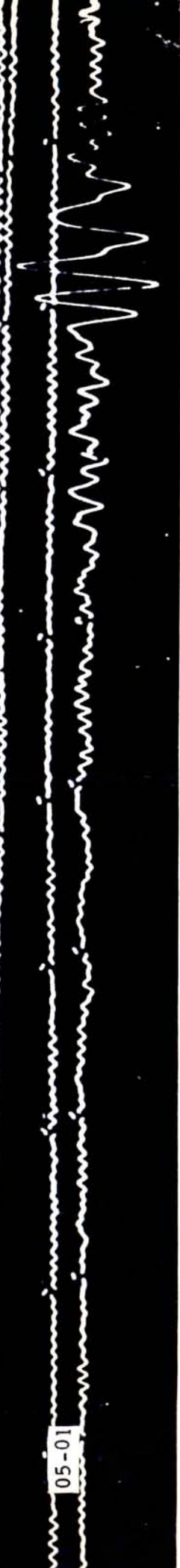
NUR Aug 09.1963 eLQE 06-13.8



NUR Aug 17.1963 iPE 11-23-59.1



NUR Aug 30.1963 eLRZ 05-03.2



September

September

September				T	A	September				T	A
5	HEL	ePKP	01 14 14			6	HEL	eP	06 14 38		
	NUR	ePKP	01 14 12				i		39.5		
	KJN	ePKP	01 14 00				NUR	iP	06 14 37.2	1.4	193.2
		e	06				i		39.1 D		
	Fiji Islands						ePP		17 04		
	17.8 S, 178.5 W, 558 km						ePPP		18 50		
5	KJN	eP	09 53 34				eS		23 26		
5	SOD	eP	11 45 41				eSS		27 44		
	KJN	eP	11 45 10				e		31 06		
5	HEL	eP	11 49 06				eLQ	06	31.5		
	NUR	eP	11 49 08	0.7	6.6		eLR	06	33.8		
	SOD	iP	11 50 09.0				SOD	iP	06 14 09.3		
	BCIS:						e		39		
	Mediterranean Sea						ePP		16 26		
	43.3 N, 8.2 E						KJN	eP	06 14 16		
5	NUR	eS	11 56 06				i		18.8 U		
		e	12 01 30				e		26		
	SOD	eP	11 46 49				e		39		
	KJN	eP	11 47 05				ePP		16 39		
	Vancouver Island						ePPP		18 14		
	50.3 N, 129.1 W, 33 km						KEV	eP	06 14 01	1.3	359.3
5	NUR	eL	17 25.8				e		15 54		
	Near coast of Algeria						ePP		16 13		
	36.0 N, 5.7 E, 33 km						ePPP		17 37		
6	HEL	eP	01 53 21				eS		22 19		
	NUR	eP	01 53 19	1.0	15.5		eSS		26 15		
	SOD	iP	01 52 35.3				e		29 11		
	KJN	eP	01 53 01				eLQ	06	29.6		
	KEV	eP	01 52 20	0.6	18.9		eLR	06	32.3		
		e	51				Sea of Japan				
	Baffin Island						36.4 N, 130.6 E, 33 km				
	71.5 N, 73.0 W, 33 km					6	SOD	eP	08 00 49		
6	SOD	iP	02 22 55.4			6	SOD	iP	08 23 13.2		
		eS	24 46				KJN	eP	08 23 15		
	KJN	eP	02 23 39				Mindanao				
		eS	26 07				6.1 N, 126.2 E, 47 km				
	KEV	eP	02 22 26			6	HEL	ePKP	10 35 04		
		eS	23 56				iSKP		37 57.7		
							NUR	ePKP	10 35 05	0.6	4.5
							i		15.0	0.9	12.7
							iSKP		37 56.9		
							SOD	ePKP	10 34 57		
							iSKP		37 38.6		
							KJN	ePKP	10 34 55		
							i		35 04.3		
							eSKP		37 48		
							KEV	ePKP	10 34 53		
							eSKP		37 32		
							Kermadec Islands				
							24.0 S, 179.9 E, 500 km				

September

September

September				T	A	September				T	A
6	HEL	eP	18 43 01			7	HEL	eP	07 24 24		
	SOD	eP	18 43 37				NUR	iP	07 24 23.6	0.7	21.8
6	KJN	iP	20 16 12.2					ePPS	33 44		
	Mariana Islands							eScS	34 22		
			11.8 N, 138.5 E, 33 km					eSS	37 30		
6	SOD	iP	20 42 00					eLQ	07 41.3		
		e	06				SOD	eP	07 23 43		
	KJN	iP	20 42 22.7				KJN	eP	07 23 58		
		e	29					ePcP	24 40		
	Vancouver Island						KEV	eP	07 23 30	0.8	10.2
			50.1 N, 129.5 W, 31 km				Kurile Islands				
6	NUR	eP	21 07 42	1.1	20.0				45.4 N, 150.8 E, 33 km		
	SOD	iP	21 06 55.8			7	NUR	eS	09 12 48		
	KJN	iP	21 07 18.4					eSS	17 40		
	KEV	eP	21 06 38					eLQ	09 24		
	Fox Islands						SOD	eP	09 03 27		
			53.9 N, 165.6 W, 33 km				KJN	eP	09 03 13		
								e	08 30		
7	HEL	iP	01 27 41.5				KEV	eS	09 14 10		
	NUR	iP	01 27 41.5 D	1.5	148.8			ePS	15 06		
		ePPP	31 46					eSS	19 40		
		iS	36 28					eLR	09 27.5		
		e	37 11				Ascension Island				
		eSS	40 54						11.7 S, 13.6 W, 33 km		
		eLQ	01 43.8			7	HEL	iP	12 54 03.4		
	SOD	eP	01 27 11				NUR	iP	12 54 02.3 U	1.0	95.8
		i	14.2					e	55 08		
		ePcP	51					eS	13 02 08		
		ePP	29 30					eSS	06 24		
		ePPP	31 10					eLQ	13 09.2		
	KJN	eP	01 27 20				SOD	iP	12 53 16.5		
		i	22.6					e	29		
		ePPP	31 17					epP	54 06		
	KEV	eP	01 27 03	1.1	156.0			e	20		
		e	05				KJN	iP	12 53 35.2 U		
		ePP	29 10					e	50		
		ePPP	30 42					epP	54 17		
		eS	35 24				KEV	eP	12 53 01	0.9	33.8
		eSS	39 20					e(PPP)	56 23		
		eSSS	42 12					e	13 05 16		
		eLQ	01 42.6					eLR	13 08		
		eLR	01 45.4				Kamchatka				
	South Korea								54.0 N, 160.3 E, 110 km		
			36.4 N, 130.6 E, 33 km			7	SOD	iSKP	15 37 36.7		
							Fiji Islands				
									22.0 S, 179.6 W, 558 km		

September

September

September				T	A	September				T	A
7	SOD	eP	19 40 03			8	SOD	eP	17 29 30		
	KJN	eP	19 40 05								
	Ceram Sea										
	3.0 S, 130.4 E, 33 km					8	KJN	ePKP	19 49 04		
7	HEL	iP	22 12 55.2				Tonga Islands				
	NUR	iP	22 12 54.4 D	0.8	40.5		21.9 S, 174.6 W, 33 km				
	SOD	iP	22 12 28.5			8	HEL	ePKP	20 08 47.7		
	KJN	iP	22 12 37.0 D					eSKP	11 41		
	KEV	iP	22 12 20.1 D	1.0	80.8		NUR	ePKP	20 08 48	0.8	29.5
	Bonin Islands							i	56.1 U	0.9	104.8
	27.8 N, 141.5 E, 50 km							iSKP	11 41.1		
8	HEL	iPKP	01 06 58.1					iPKS	12 32		
	NUR	iPKP	01 06 57.1 U	1.2	80.9			epPKS	14 32		
		i	07 09.1					e	17 54		
		e	10 51					e	19 38		
		eSS	29 04					eSKKP	20 02		
		eSSS	34 14					eSKSP	21 08		
	SOD	ePKP	01 06 45					eSPP	23 28		
		ePP	09 47					e	26 42		
	KJN	ePKP	01 06 50					e	28 06		
	KEV	ePKP	01 06 45					iSS	29 34		
		ePP	09 22					esSS	33 08		
		eSS	27 26					esSSS	35 00		
	Kermadec Islands							esSSS	38 42		
	28.1 S, 176.8 W, 57 km						SOD	ePKP	20 08 33		
8	KJN	ePKP	04 59 28					i	43.1		
	Fiji Islands							epPKP	10 52		
	18.1 S, 178.4 W, 550 km							iSKP	11 22.2		
8	KJN	ePKP	05 51 23				KJN	ePKP	20 08 35		
	Fiji Islands							i	40.2		
	23.7 S, 179.1 E, 282 km							i	49.0		
8	KJN	ePKP	07 56 23					e	10 28		
	Fiji Islands							ipPKP	11 00.0		
	20.7 S, 178.3 W, 573 km							iSKP	30.8		
8	NUR	ePKP	09 25 36	1.0	9.3			ePKS	12 20		
		eSS	46 52					epPKS	14 26		
		eSSS	51 48					eSKKP	20 10		
		eLR	10 09				KEV	ePKP	20 08 28	0.9	60.8
	SOD	ePKP	09 25 37					e	37		
	Easter Island							i	40.0		
	36.2 S, 100.5 W, 33 km							iSKP	11 17.0		
8	HEL	eP	09 40 31					ePKS	12 06		
	NUR	eP	09 40 30	1.1	16.3			epPKS	14 06		
8	HEL	ePKP	13 26 02					eSPKS	15 04		
	NUR	ePKP	13 26 01	1.1	26.3			e	18 26		
	Kermadec Islands							eSPP	22 14		
	30.3 S, 177.9 W, 33 km							eSPS	26 16		
								eSS	27 50		
								e	30 08		
								Fiji Islands			
								23.6 S, 179.8 E, 550 km			

September

September

September				T	A	September				T	A
KEV	eSKP	04 16 28				eSKS	12 20				
	eSSS	38 15				e(SKKS)	13 33				
	eLR	04 56				ePS	16 08				
Kermadec Islands						ePKKP					
31.4 S, 179.0 W, 33 km						eSS				22 46	
14	NUR	iP 06 55 49.1	0.6	14.7		eSSS				26 47	
	SOD	iP 06 55 14.5				eLQ				01 33.3	
	KJN	iP 06 55 26.8				eLR				01 40.1	
	KEV	eP 06 55 04			Santa Cruz Islands						
Hokkaido, Japan						10.3 S, 165.6 E, 43 km					
42.2 N, 142.3 E, 50 km						15	KJN	eP 09 22 45			
14	HEL	iP 07 29 02.3			Java						
	NUR	iP 07 29 02.3	0.9	34.1	7.2 S, 106.5 E, 33 km						
	e	30 21			15	SOD	iP 22 12 31.3 D				
	ePP	32 34			Central Alaska						
	SOD	iP 07 28 40.5 D			63.2 N, 152.0 W, 122 km						
	epP	30 57			16	SOD	eP 00 18 07				
	KJN	iP 07 28 48.0				KJN	eP 00 18 07				
Mariana Islands						Southern Formosa					
19.0 N, 145.0 E, 610 km						22.4 N, 120.5 E, 33 km					
14	SOD	iP 07 33 53.3			16	KJN	eP 15 22 06				
14	SOD	eP 09 38 32			Andreanof Islands						
	KJN	eP 09 38 43			52.8 N, 171.0 W, 140 km						
Volcano Islands						16	HEL	eP 16 19 08			
25.5 N, 142.6 E, 43 km							eS	22 37			
15	HEL	ePKP 01 05 47			NUR	iP 16 19 06.2 D	0.9	26.4			
	i	54.4				eS	22 34				
	ePKKP	15 50				eLQ	16 22.6				
	NUR	ePKP 01 05 51	0.9	28.6	SOD	iP 16 17 42.0 D					
	i	54.8	0.8	44.2		iS	19 50				
	ePP	07 22			KJN	eP 16 18 25					
	eSKP	09 07				e	20 36				
	ePS	17 08				eS	21 10				
	eSS	24 02			KEV	iP 16 17 13.8	0.7	15.7			
	SOD	ePKP 01 05 43			Svalbard region						
	i	49.2			78.6 N, 6.7 E, 33 km						
	e	06 33			16	NUR	ePKP 20 24 21				
	ePP	50				KJN	ePKP 20 24 12				
	ePKKP	16 07			Santa Cruz Islands						
	KJN	ePKP 01 05 41			13.4 S, 166.5 E, 28 km						
	ePP	06 45			16	NUR	eP 23 16 20	1.0	12.1		
	ePKKP	16 03				SOD	iP 23 16 33.2				
	KEV	eP 01 01 44			17	HEL	ePKP 19 39 01				
	ePKP	05 38	0.9	8.5		i	06.9				
	ePP	06 30				eSKP	42 03				
	ePPP	08 22				ePKKP	49 01				
	e	56			cont.						
cont.						cont.					

September

September

				T	A					T	A		
NUR	eP	19	35 34			17	NUR	ePKP	20	19 53			
	iPKP		39 02.2 U	1.1	71.3			Santa Cruz Islands					
	i		03.9 U					9.9 S, 164.7 E, 33 km					
	ePP	40	38				17	SOD	eP	21	26 34		
	e		47					KJN	eP	21	26 29		
	e	41	34					Java					
	iSKP	42	03.4					6.7 S, 105.3 E, 33 km					
	e		11				17	SOD	eP	21	30 18		
	ePPP	43	08					KJN	eP	21	30 08		
	e	44	29					KEV	eP	21	30 25		
	e	45	23				18	NUR	eP	06	42 51		
	eSKS	46	13					KJN	eP	06	42 47		
	eSKKS	47	04				18	HEL	eP	07	07 26		
	eSKKKS		44					NUR	eP	07	07 24	0.9	10.2
	e	49	37					KJN	eP	07	07 13		
	ePS	50	29				18	HEL	iP	15	48 07.2		
	eSS	57	38					e			37		
	eSSS	20	01 42					NUR	iP	15	48 09.5	0.9	14.0
	eLQ	20	10.8					i			58.3		
	eLR	20	17.5					SOD	iP	15	48 41.5		
SOD	iPKP	19	38 55.8					e			49 27		
	e		39 33					KJN	eP	15	48 18		
	ePP		54					e			50 35		
	e	41	53					KEV	eP	15	48 55	1.1	50.0
	iPKKP	49	24.2					ePP			50 13		
	ePS		48					Turkmen S.S.R.					
	ePKKS	53	11					38.5 N, 57.2 E, 33 km					
KJN	ePKP	19	38 56				18	NUR	eP	15	54 25		
	ePP		40 12					KJN	eP	15	54 34		
	ePKKP	49	15				18	HEL	iP	17	02 37.3		
KEV	eP	19	35 12					e			40.0		
	iPKP		38 47					e			06 08		
	ePP		39 54					NUR	iP	17	02 41.3 U	0.9	17.0
	ePPP		42 02					i			44.5 D		
	e	44	18					i			04 25.9		
	eSKS	45	44					eS			06 12		
	eSKKS	46	42					e			24		
	eS	47	40					eLQ			17 06.4		
	e	48	19					eLR			17 07.3		
	e	49	03					SOD	iP	17	03 50.0 U		
	ePS		24					e			08 44		
	ePPS	50	30					KJN	iP	17	03 19.6		
	e	55	52					eS			07 46		
	eSS	56	00										
	eSSS	59	57										
	eLQ	20	06.0										
	eLR	20	13										
	Santa Cruz Islands												
	10.1 S, 165.3 E, 17 km												
17	NUR	ePKP	20	16 29									
	e		46										
	Santa Cruz Islands												
	10.1 S, 165.0 E, 36 km												

cont.

September

September

				T	A					T	A
	KEV	iP	17 04 11.2	1.1	125.0	21	HEL	eP	00 50 44		
		e	16				NUR	eP	00 50 43	0.7	6.9
		i	39.0				SOD	iP	00 50 36.7		
		ePP	05 15				KJN	eP	00 50 34		
		iS	09 06				Tsinghai, China				
		e	18				37.1 N, 95.4 E, 33 km				
		e	44								
		eLR	17 11.9			21	SOD	eP	04 08 28		
	Turkey						Northern Celebes				
	40.9 N, 29.2 E, 33 km						0.0, 119,7 E, 47 km				
18	HEL	eP	18 27 55			21	HEL	eP	09 27 58		
		e	28 12				NUR	eP	09 27 56	0.5	7.0
	NUR	iP	18 27 55.3	0.8	13.0		SOD	iP	09 27 25.0		
		i	28 15.9				KJN	iP	09 27 38.1 D		
19	SOD	eP	16 56 15				Honshu, Japan				
	North Atlantic Ocean						40.4 N, 140.0 E, 179 km				
	47.1 N, 27.4 W, 33 km										
20	SOD	eP	00 10 56			21	NUR	eSKP	16 49 20		
	KJN	eP	00 10 56				Fiji Islands				
	Northern Celebes						23.0 S, 179.8 E, 483 km				
	0.2 N, 124.0 E, 122 km										
20	HEL	iP	03 07 33.9			21	HEL	eP	17 03 34		
		e	10 29				NUR	iP	17 03 34.4	0.8	12.8
	NUR	iP	03 07 29.3 D	1.1	69.0		KJN	eP	17 03 09		
		i	39.6				Kamchatka				
		eS	10 28				54.9 N, 161.5 E, 33 km				
		eLQ	03 10.9								
		eLR	03 11.2			21	HEL	eP	18 35 13		
	SOD	iP	03 06 03.4				NUR	eP	18 35 10		
		iS	07 57.6				SOD	eP	18 34 51		
	KJN	iP	03 06 49.0 D				KJN	eP	18 34 53		
		eS	09 13				Ryukyu Islands				
	KEV	eP	03 05 37	0.7	65.8		24.2 N, 125.1 E, 33 km				
		eS	07 08.7								
		eLR	03 07.6								
	Svalbard region					22	HEL	eP	02 59 42		
	76.5 N, 7.9 E, 33 km						epP	03 00 10			
20	SOD	eP	03 15 26				NUR	iP	02 59 41.1 U	1.1	36.6
							epP	03 00 08			
20	HEL	eP	11 33 59				SOD	iP	02 58 56.8		
	NUR	eP	11 33 58	1.1	21.4		KJN	iP	02 59 19.7		
							epP	49			
20	KJN	eP	19 15 22				KEV	eP	02 58 45		
	Molucca Sea						Andreanof Islands				
	1.6 N, 127.1 E, 97 km						52.5 N, 174.9 W, 105 km				

September

September

				T	A					T	A
22	HEL	ePKP	03 15 40			22	HEL	eP	22 37 12		
	NUR	iPKP	03 15 40.2	1.2	45.4		NUR	iP	22 37 13.5	1.4	57.4
		ePKS	19 08					e	32		
		ePSKS	28 28				SOD	eP	22 38 12		
		eSS	36 00					ePP	39 05		
		eSSS	40 56				KJN	eP	22 37 56		
		eLQ	03 51.5					e	38 32		
		eLR	03 58.2				Ionian Sea				
	KJN	ePKP	03 15 35				37.5 N, 20.6 E, 33 km				
		ePKS	18 59								
	KEV	ePP	03 17 12			23	HEL	iP	00 04 33.5		
		eSS	34 35				NUR	iP	00 04 32.7	0.8	10.1
		eSSS	39 10				KJN	eP	00 04 15		
		eLQ	03 47.2								
		eLR	03 55.4			23	HEL	iP	02 04 08.9		
	Fiji Islands						NUR	eP	02 04 08	0.8	13.0
	19.3 S, 175.9 E, 28 km						KJN	eP	02 04 02		
22	HEL	iP	03 36 00.2			23	KJN	eP	05 50 25		
	NUR	eP	03 36 02				Flores Sea				
	SOD	eP	03 36 15				7.3 S, 122.1 E, 543 km				
	KJN	eP	03 36 03								
	Hindu Kush					23	HEL	eP	06 52 26		
	36.1 N, 71.5 E, 147 km						NUR	iP	06 52 26.9 D	1.3	51.0
								e	53 19		
								e(SS)	07 07 46		
								eLQ	07 12.2		
22	HEL	eP	10 48 07				SOD	iP	06 53 03.9		
		ePP	49 46				KJN	iP	06 52 50.0		
	NUR	iP	10 48 08.4	1.0	19.2			i	54.2		
		ePP	49 45				KEV	eP	06 53 14	1.2	67.2
	SOD	eP	10 48 42				Northern Rhodesia				
	KJN	eP	10 48 26				16.6 S, 28.6 E, 33 km				
	KEV	eP	10 49 05	0.8	14.3						
	Southern Iran					23	KJN	eP	08 22 49		
	29.3 N, 55.3 E, 33 km						Northern Rhodesia				
							16.7 S, 28.7 E, 33 km				
22	HEL	ePKP	19 41 13.1			23	HEL	iP	09 13 45.9		
	NUR	iPKP	19 41 12.5	1.0	21.2		NUR	iP	09 13 47.1 U	1.3	176.8
		ePKS	44 41					e	14 27		
		eSS	20 02 00					eS	23 34		
		eSSS	06 23					eScS	24 04		
		eLQ	20 18.0					eSS	28 14		
		eLR	20 23.7					eLQ	09 33.2		
	SOD	ePKP	19 41 01				SOD	iP	09 14 23.5		
	KJN	ePKP	19 41 07					e	15 25		
		i	09.5				KJN	eP	09 14 09.9		
	KEV	ePKP	19 40 57	1.2	51.8			e	58		
	Tonga Islands region						cont.				
	19.2 S, 175.9 E, 24 km										

September

September

				T	A					T	A
	KEV	eP	09 14 36	1.2	148.9	23	HEL	eP	22 35 27		
		eS	25 08				NUR	iP	22 35 28.1	1.3	73.1
		ePS	26 08				SOD	iP	22 36 05.4		
		eLQ	09 38.7				KJN	iP	22 35 52.4 U		
	Northern Rhodesia						KEV	eP	22 36 18	1.3	61.6
	16.6 S, 28.8 E, 33 km						Northern Rhodesia				
	16.6 S, 28.7 E, 33 km										
23	HEL	eP	15 14 13			23	HEL	eP	22 48 02		
	NUR	iP	15 14 14.1 D	0.9	17.3		NUR	eP	22 48 04	1.0	13.4
		i	17.8 U				SOD	eP	22 48 39		
	SOD	iP	15 14 51.1				KJN	eP	22 48 28		
		i	55.3								
	KJN	eP	15 14 37			24	HEL	iP	02 15 09.1		
		i	42				NUR	eP	02 15 12	1.0	11.4
	KEV	eP	15 15 03	0.9	22.0			i	30.8		
		e	07					i	16 01.8		
	Northern Rhodesia							eS	18 58		
	16.7 S, 28.4 E, 33 km							eLR	02 20.4		
23	NUR	iP	16 19 27.9 D				SOD	eP	02 16 24		
	SOD	eP	16 20 04					e(PP)	17 17		
	KJN	eP	16 19 51				KJN	eP	02 15 57		
23	NUR	eP	16 56 54					i	16 05.7		
								e	38		
23	HEL	eP	17 13 28					e	20 12		
		e	45				KEV	eP	02 16 47		
		e	14 05				Turkey				
	NUR	iP	17 13 25.9 D	1.0	56.7		41.0 N, 29.0 E, 33 km				
		i	43.9 U								
		e	14 02								
		ePS	22 46			24	HEL	eP	02 18 38		
	SOD	iP	17 12 42.5				NUR	eP	02 18 44	0.7	10.7
	KJN	iP	17 13 06.3								
		eFcP	42			24	SOD	eP	07 06 28		
	Andreanof Islands					24	KJN	eP	08 08 15		
	51.3 N, 179.2 W, 33 km						Ascension Island				
	51.3 N, 179.2 W, 33 km						15.8 S, 13.3 W, 33 km				
23	HEL	eP	18 40 38			24	HEL	eP	09 25 27		
	NUR	eP	18 40 41	1.0	7.1		NUR	eP	09 25 28		
		e	41 37				SOD	iP	09 26 04.6		
		ePcP	43 10				KJN	iP	09 25 52.3 U		
	SOD	eP	18 41 23				KEV	iP	09 26 17.0	1.0	32.3
	KJN	eP	18 41 02				Northern Rhodesia				
		ePP	42 30				16.6 S, 28.7 E, 33 km				
		e	46								
	KEV	eP	18 41 42	1.1	36.0						
	Persian Gulf										
	29.6 N, 50.9 E, 39 km										

September

September

				T	A					T	A
26	HEL	eP	05 39 07			27	NUR	eP	11 16 57	1.1	52.4
	NUR	iP	05 39 06.1 U	0.9	169.6			i	17 08.2		
		i	17					eS	27 32		
		iPcP	33				SOD	eP	11 16 44		
		e	51					i	56.1		
		iS	48 06				KJN	eP	11 16 51.3		
		ePS	22					i	17 05.3		
		iScS	49 10					East coast of Leyte			
		eSS	52 44					11.3 N, 126.0 E, 17 km			
		eSSS	56 10			27	NUR	eP	16 36 12	0.9	18.5
		eLR	05 59.9					e	56		
	SOD	iP	05 38 21.9			27	NUR	iP	16 37 54.2	0.7	15.5
		i	36.5				SOD	iP	16 37 23.2		
		ePcP	39 08				KJN	iP	16 37 40.3		
	KJN	iP	05 38 48.5				Honshu, Japan				
		i	39 01.4				37.0 N, 141.3 E, 81 km				
		i	07.3			27	SOD	iP	17 17 49.8		
	KEV	eP	05 38 07	1.1	43.7		KJN	eP	17 17 38		
		e	21				KEV	eP	17 18 01	1.0	27.9
		ePP	40 22				West Pakistan				
		eS	46 11				27.9 N, 66.1 E, 88 km				
		eSS	50 20			27	SOD	iP	22 31 41.8		
		e	53 22				KJN	eP	22 31 28		
		eLR	05 56.1				KEV	eP	22 31 51		
	Andreanof Islands						Ascension Island				
	50.4 N, 176.9 W, 33 km						0.1 S, 18.4 W, 33 km				
26	SOD	eP	06 09 06			28	HEL	eP	06 10 24		
	KJN	eP	06 09 17				NUR	eP	06 10 22		
	New Britain						SOD	iP	06 10 26.2 D		
	5.6 S, 148.0 E, 156 km						KJN	iP	06 10 26.7 D		
26	NUR	eP	06 51 09	1.0	29.0			epP	56		
	SOD	iP	06 50 23.8 D				KEV	eP	06 10 29		
	KJN	eP	06 50 53					e	55		
	KEV	eP	06 50 05	0.8	16.2		Western Burma				
	Kodiak Island						22.9 N, 94.5 E, 108 km				
	56.6 N, 153.2 W, 33 km					28	HEL	iPKP	07 17 01.3		
26	NUR	eP	07 02 29					eSKP	19 54		
	KJN	eP	07 02 27				NUR	iPKP	07 17 01.5 D	1.1	238.0
27	KJN	eP	10 16 14					e	18 15		
	Venezuela							eSKP	19 54		
	10.8 N, 62.2 W, 104 km						SOD	ePKP	07 16 43		
27	NUR	iP	11 15 28.8				KJN	iPKP	07 16 58.0 D		
								eSKP	19 56		
							KEV	ePKP	07 16 37		
							Kermadec Islands				
							31.5 S, 179.6 E, 457 km				

September

	T	A
28 KJN ePKP 11 24 11 Fiji Islands 18.1 S, 177.9 W, 604 km		
28 SOD iP 13 39 31.6		
28 HEL eP 18 55 08 NUR eP 18 55 09 SOD iP 18 55 12.5 KEV eP 18 55 28 Near coast of Sumatra 3.5 S, 102.0 E, 29 km	0.9	20.6
29 HEL ePKP 10 26 04 NUR ePKP 10 26 04 Kermadec Islands 28.8 S, 177.8 W, 116 km		
29 HEL eP 10 32 55 NUR eP 10 32 57		
29 HEL iP 10 46 51.7 NUR iP 10 46 53.8 D SOD iP 10 47 10.4 D KEV iP 10 47 19.3 D Hindu Kush 36.4 N, 70.4 E, 214 km	0.7	19.4
29 HEL iP 10 47 19.3 D Hindu Kush 36.4 N, 70.4 E, 214 km	0.9	38.9
29 HEL iP 13 40 57.3 NUR iP 13 41 00.1 U i 25 e(S) 45 21 SOD e(P) 13 42 27 North coast of Turkey 36.6 N, 29.2 E, 33 km	1.1	47.6
29 HEL iP 15 38 38.6 NUR eP 15 38 41 SOD iP 15 38 55.8 D KEV iP 15 39 04.2 D Hindu Kush 36.1 N, 72.0 E, 150 km	0.8	17.3
29 HEL iP 15 39 04.2 D Hindu Kush 36.1 N, 72.0 E, 150 km	0.9	35.5
29 NUR eP 19 48 12 eSS 20 05 28 eLQ 20 13.5 eLR 20 17.2 SOD eP 19 47 38 KJN eP 19 47 47 KEV eS 19 58 04 e 20 05 10 eLR 20 17.1 Mindanao 6.0 N, 125.3 E, 117 km		

September

	T	A
29 HEL iP 20 43 07.0 SOD eP 20 42 44 KJN eP 20 42 59 KEV eP 20 42 37 Volcano Islands 21.6 N, 142.9 E, 325 km		
29 HEL iP 22 21 54.7 i 22 04.5 NUR iP 22 21 57.7 i 22 06.2 i 26.3 iPPP 44.6 e 23 26 eS 26 18 e 24 eLR 22 27.8 SOD iP 22 22 59.5 e 23 29 KJN eP 22 22 41 e 53 KEV iP 22 23 19.4 e 37 ePP 24 41 Ionian Sea 36.1 N, 18.0 E, 47 km		
29 HEL eP 22 56 41 SOD eP 22 56 43 Guatemala 14.4 N, 91.9 W, 61 km	1.1	59.5
30 SOD eP 03 59 42 Colombia 7.3 N, 76.9 W, 33 km	1.0	58.6
30 KJN eP 12 46 58 Fox Islands 52.6 N, 169.5 W, 33 km		

April 15, 1964.

M. T. Porkka
Aili Huovila

KEV Sep 04.1963 ePZ 13-38-

13-36

KEV Sep 04.1963 ePN 13-38-1

13-36

KEV Sep 04.1963 ePE 13-38-17

13-36

KEV Sep 18.1963 iPZ 17-04-11.2

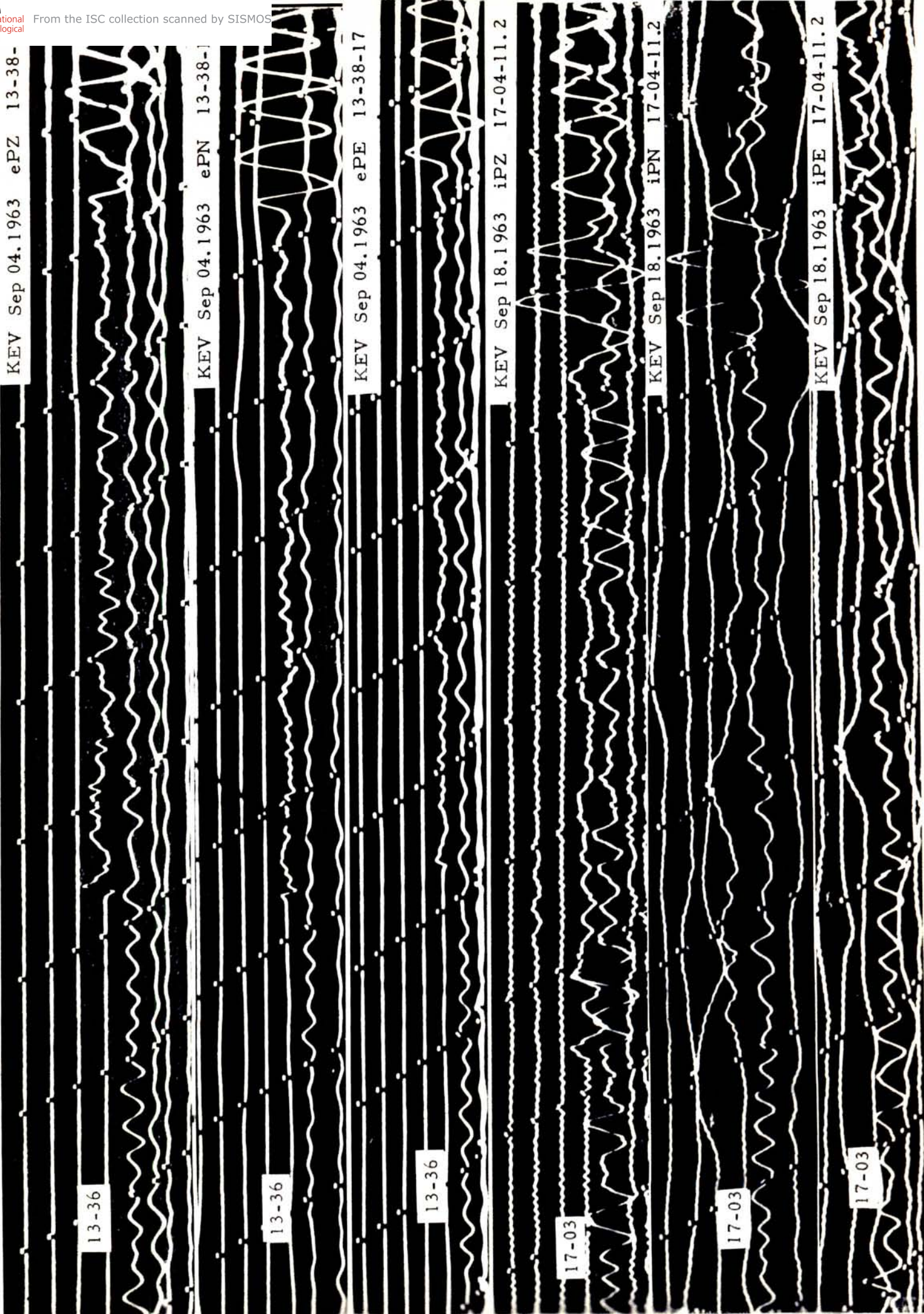
17-03

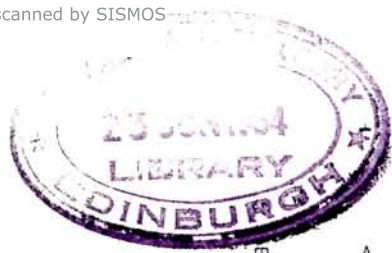
KEV Sep 18.1963 iPN 17-04-11.2

17-03

KEV Sep 18.1963 iPE 17-04-11.2

17-03





October

October

			T	A
1	SOD eP	05 12 26		
	epP	13 28		
	esP	47		
	KJN eP	05 12 40		
	Mariana Islands			
	18.5 N, 145.2 E, 225 km			
1	KJN eP	05 14 36		
	KEV e	05 13 20		
	Arctic Ocean			
	83.8 N, 7.3 W, 33 km			
1	HEL eP	17 27 00		
	NUR eP	17 27 04	0.7	27.7
	SOD iP	17 28 06.7		
	KJN eP	17 27 47		
	KEV eP	17 28 27	0.7	7.7
	South of Greece			
	36.1 N, 22.3 E, 106 km			
2	SOD iP	03 26 33.8		
	KJN iP	03 26 42.9		
2	NUR ePS	04 00 38		
	eSS	06 34		
	eSSS	11 40		
	eLQ	04 20		
	eLR	04 25		
	New Britain			
	5.4 S, 152.0 E, 65 km			
2	KJN eP	04 57 09		
2	SOD eP	05 40 47		
2	NUR ePKP	06 06 33	0.9	13.9
	e	07 24		
	ePP	09 14		
	ePKS	10 08		
	ePPP	11 40		
	eSKSP	19 06		
	ePPS	21 44		
	eSS	27 34		
	eSSS	32 14		
	eLQ	06 42		
	eLR	06 51		
	SOD ePKP	06 06 18		
	KJN ePKP	06 06 30		
	cont.			

			T	A
	KEV ePKP	06 06 13		
	ePP	08 16		
	ePKS	09 37		
	eSKSP	18 20		
	eSS	25 42		
	e	28 10		
	Tonga Islands			
	20.8 S, 174.1 W, 33 km			
2	SOD e(P)	10 03 02		
	KJN eP	10 02 43		
	Honshu, Japan			
	36.3 N, 142.4 E, 48 km			
2	HEL eP	21 10 35		
	NUR eP	21 10 37	0.7	19.8
	e	11 25		
	eS	14 46		
	eLQ	21 17		
	eLR	21 18		
	SOD iP	21 11 39.0		
	e	12 22		
	e	13 09		
	KJN eP	21 11 19		
	e	14 52		
	KEV eP	21 11 59	0.8	7.3
	ePP	13 22		
	West coast of Grete			
	35.1 N, 23.5 E, 72 km			
3	SOD eP	03 48 48		
3	HEL eP	05 43 48		
	NUR eP	05 43 49		
	SOD iP	05 43 33.8 U		
	KJN iP	05 43 44.1 U		
	KEV iP	05 43 29.0	0.7	11.8
	East coast of Taiwan			
	22.3 N, 121.1 E, 55 km			
3	HEL ePKP	08 12 09		
	NUR ePKP	08 12 11		
	Kermadec Islands			
	30.5 S, 177.6 W, 33 km			
3	NUR ePP	16 09 12		
	e	10 22		
	eSKS	14 04		
	eSKKS	15 48		
	ePS	19 14		
	eSS	25 46		
	cont.			

October

T A

8	HEL	ePKP	00 36 16		
		e	35		
	NUR	iPKP	00 36 14.7	0.9	32.7
		i	34.0		
		ePP	38 37		
		eSKP	39 41		
		e	41 34		
		ePSKS	48 42		
		eSPP	50 52		
		eSPPP	51 40		
		eSS	56 14		
		ePSPS	57 10		
		eSSS	01 00 30		
		eLR	01 18.5		
	SOD	iPKP	00 36 01.9		
		i	21.2		
		ePP	37 45		
		ePPP	40 19		
	KEV	iPKP	00 35 57.2	0.8	15.7
		i	36 16		
		ePP	37 34		
		ePPP	40 12		
		eSKS	42 58		
		eSP	47 12		
		eLR	01 14.0		
	Samoa Islands region				
	15.1 S, 173.2 W, 33 km				
8	HEL	iP	03 00 43.6		
		i	01 10.2		
	NUR	iP	03 00 44.7 U	0.8	29.6
		i	01 11.2 D		
	SOD	iP	03 00 42.3		
		i	01 08.9 D		
	KEV	eP	03 00 44	1.0	17.9
		e	01 10		
	Assam, India				
	28.6 N, 95.1 E, 24 km				
8	HEL	eP	05 45 11		
		eS	49 00		
	NUR	eP	05 45 18		
		e	38		
		eS	49 18		
		eLQ	05 52		
	SOD	eP	05 46 24		
		e	50 20		
	Ionian coast of Greece				
	39.0 N, 20.4 E, 33 km				

October

T A

8	HEL	eP	06 39 06		
	NUR	eP	06 39 05	1.0	14.4
		eS	49 29		
	SOD	eP	06 38 40		
		i	55.2		
		eS	48 55		
	Samar, Philippine Islands				
	11.3 N, 125.9 E, 39 km				
8	HEL	eP	10 58 43		
	NUR	eP	10 58 44	0.9	20.6
		eS	11 03 16		
	SOD	iP	10 57 40.1		
		eS	11 01 10		
	KEV	eP	10 57 16	0.7	17.9
		e	19.3		
		eS	11 00 21		
	Kara Sea				
	76.5 N, 86.5 E, 25 km				
8	NUR	eSKS	13 37 09		
		eS	38 20		
		ePS	40 08		
		ePPS	41 12		
		eSS	45 24		
		eSSS	50 38		
		eLQ	13 56.5		
		eLR	14 01.8		
	Prince Edward Island				
	45.5 S, 35.3 E, 33 km				
9	NUR	eP	01 38 20		
9	NUR	e	02 15 09		
		eLR	02 20		
	KJN	eP	02 13 38		
9	HEL	eP	04 41 58		
	NUR	eP	04 41 57	1.2	37.6
	SOD	eP	04 42 40		
	KJN	iP	04 42 11.5 D		
		i	31.1		
	Eastern Turkey				
	39.4 N, 42.8 E, 35 km				
9	SOD	eP	14 47 05		
	Honshu, Japan				
	27.7 N, 138.5 E, 556 km				

October				T	A	October				T	A
9	NUR	eP	16 35 25	1.0	24.6		e(PPP)	40 38			
	SOD	iP	16 36 11.3				e	42 40			
	KJN	iP	16 35 44.1 D				eS	44 49			
	NW of Ascension Island						ePS	45 00			
	0.2 N, 18.4 W, 33 km						eSPP	24			
							eSS	49 04			
9	KJN	eP	16 51 09				eLQ	11 51.8			
							eLR	11 53.9			
9	NUR	eLR	21 48				Kurile Islands				
	KEV	e	21 51 38				44.8 N, 149.0 E, 40 km				
		eLR	21 53								
10	SOD	eP	10 25 19			12	SOD	eP	11 51 43		
	Kurile Islands						KJN	eP	11 51 58		
	46.0 N, 153.7 E, 45 km						Kurile Islands				
							48.3 N, 149.2 E, 40 km				
10	KJN	iPKP	14 34 58.0			12	HEL	iP	12 03 41.9		
	Santa Cruz Islands						NUR	eP	12 03 40	0.7	22.1
	12.6 S, 167.0 E, 223 km						SOD	eP	12 03 02		
							KJN	eP	12 03 17		
11	KJN	ePKP	00 19 40				Kurile Islands				
	Fiji Islands						46.0 N, 148.8 E, 33 km				
	24.1 S, 179.6 W, 437 km										
						12	HEL	eP	12 04 31		
							KJN	eP	12 04 07		
11	NUR	eSS	10 47 25			12	SOD	eP	12 12 24		
		eLQ	10 54.9				KJN	eP	12 12 39		
	KEV	e	10 45 38				Kurile Islands				
		e	46 18				44.4 N, 149.6 E, 40 km				
		eLQ	10 53.2								
	Jalisco, Mexico					12	SOD	eP	12 42 40		
	17.8 N, 105.9 W, 33 km						Kurile Islands				
							44.7 N, 149.6 E, 40 km				
11	KJN	eP	16 53 50								
12	HEL	iP	11 37 41.8			12	HEL	eP	13 17 51		
		e	38 36				NUR	eP	13 17 50	0.6	11.4
		e	40 42				SOD	eP	13 17 11		
	NUR	iP	11 37 40.8 D	1.0	91.4		KJN	eP	13 17 28		
		i	38 33.1				KEV	eP	13 16 57	1.0	6.1
		ePPP	41 48				Kurile Islands				
		e	45 05				44.5 N, 149.4 E, 50 km				
		eS	46 28								
	SOD	iP	11 37 01.6			12	SOD	eP	14 05 09		
		eScS	47 01				KJN	eP	14 05 26		
		eP'P'	12 06 36				Kurile Islands				
							43.5 N, 151.1 E, 40 km				
	KJN	eP	11 37 13 D								
		i	16.1 D			12	SOD	eP	14 05 59		
	KEV	eP	11 36 48	1.0	84.8						
		i	50.4			12	SOD	eP	14 25 13		
		iPcP	37 41.3				Kurile Islands				
			cont.				44.7 N, 149.5 E, 45 km				

October				T	A	October				T	A
12	HEL	eP	16 22 39	0.6	21.6	13	HEL	iP	01 37 20.5	0.6	20.0
	NUR	eP	16 22 37				NUR	eP	01 37 19		
	SOD	iP	16 21 59.1	0.9	8.5		SOD	iP	01 36 41.5	0.9	11.8
	KJN	eP	16 22 14				KJN	iP	01 36 56.5		
	KEV	eP	16 21 47				KEV	eP	01 36 28		
	Kurile Islands					Kurile Islands					
	44.4 N, 149.7 E, 60 km					44.4 N, 149.3 E, 33 km					
12	NUR	eP	16 38 50			13	SOD	eP	01 37 42		
	SOD	eP	16 38 11								
	KJN	eP	16 38 28			13	SOD	eP	01 45 01		
	Kurile Islands						KJN	eP	01 45 17		
	44.8 N, 149.4 E, 50 km					Kurile Islands					
	44.4 N, 149.2 E, 33 km										
12	SOD	eP	18 15 54			13	SOD	iP	02 22 29.4		
	KJN	eP	18 16 07				KJN	e(P)	02 22 55		
	Kurile Islands						KEV	eP	02 22 18		
	44.5 N, 149.7 E, 45 km					Kurile Islands					
	44.0 N, 149.4 E, 45 km										
12	SOD	eP	18 58 38			13	SOD	eP	04 15 58		
	KJN	eP	18 58 59				KJN	eP	04 16 12		
	Kurile Islands					Kurile Islands					
	44.7 N, 149.4 E, 50 km					44.4 N, 149.2 E, 30 km					
12	SOD	eP	20 07 06			13	HEL	eP	05 28 38		
	KJN	eP	20 07 27				NUR	iP	05 28 37.5	1.2	393.3
	Kurile Islands						i	43.2			
	44.6 N, 149.4 E, 50 km						SOD	iP	05 27 59.2		
12	SOD	eP	20 31 07				eP'P'	57 38			
	Kurile Islands						KJN	eP	05 28 13		
	44.4 N, 149.2 E, 45 km						KEV	eP	05 27 47	0.8	130.5
12	SOD	eP	21 28 58	0.6	13.9		i	52.9			
	KJN	eP	21 29 07				eS	35 54			
	KEV	eP	21 28 54			Kurile Islands					
	Mariana Islands					44.8 N, 149.5 E, 60 km					
	17.9 N, 145.2 E, 638 km					13	NUR	eP	05 30 01	0.7	121.3
12	SOD	eP	22 12 05				KEV	eP	05 29 06	0.8	118.9
	KJN	eP	22 12 21								
	Kurile Islands					13	HEL	eP	05 47 22	0.6	22.5
	44.5 N, 149.5 E, 45 km						NUR	eP	05 47 21		
	44.4 N, 149.2 E, 40 km						SOD	eP	05 46 43		
12	SOD	eP	22 17 33				KEV	eP	05 46 22	0.7	18.1
	Kurile Islands										
	44.4 N, 149.2 E, 40 km					13	HEL	eP	05 51 45		
12	SOD	eP	23 50 15				e	56			
	KJN	eP	23 50 39				NUR	eP	05 51 46		
	Kurile Islands						SOD	eP	05 51 10	0.8	34.8
	44.3 N, 149.2 E, 40 km						KEV	eP	05 50 53		

October				T	A	October				T	A	
13	HEL	eP	05 52 50			13	HEL	eP	06 57 29			
		e	53 20				NUR	iP	06 57 28.4	0.9	25.2	
		e	54 37				SOD	eP	06 56 51			
	NUR	eP	05 52 49	0.8	38.9		KJN	eP	06 57 03			
	SOD	eP	05 52 10				Kurile Islands					
	KEV	eP	05 51 47	0.7	18.1		45.3 N, 147.5 E, 55 km					
	Kurile Islands						13	HEL	eP	06 59 08		
	46.5 N, 151.6 E, 55 km							e	22			
13	HEL	eP	06 16 09				NUR	iP	06 59 08.2			
		e	23				SOD	eP	06 58 29			
	NUR	eP	06 16 19	0.6	87.5		KJN	eP	06 58 42			
	SOD	eP	06 15 29				KEV	eP	06 58 16	1.0	56.6	
	KJN	eP	06 15 43				Kurile Islands					
	KEV	eP	06 15 17	0.7	90.3		45.5 N, 151.8 E, 55 km					
	Kurile Islands						13	HEL	eP	07 07 20		
	45.9 N, 151.9 E, 55 km							NUR	iP	07 09 20.2	0.5	9.2
13	HEL	eP	06 19 43					SOD	eP	07 08 41		
	NUR	eP	06 19 42	0.8	83.5		13	HEL	iP	07 14 05.9		
	SOD	eP	06 19 03					NUR	eP	07 14 05	0.6	77.5
	KEV	eP	06 18 51	1.0	80.8			SOD	eP	07 13 23		
	Kurile Islands							KJN	eP	07 13 41		
	45.3 N, 151.3 E, 60 km							KEV	eP	07 13 10	0.7	36.1
13	HEL	eP	06 26 44					i	15.0			
	NUR	eP	06 26 44	0.6	18.8		Kurile Islands					
	SOD	eP	06 26 04				45.5 N, 150.6 E, 50 km					
13	HEL	eP	06 31 47				13	HEL	eP	07 24 03		
								NUR	iP	07 24 03.4	0.6	12.5
								SOD	eP	07 23 26		
13	HEL	eP	06 34 21				13	HEL	eP	07 27 25		
	SOD	eP	06 33 42					NUR	eP	07 27 23	0.6	13.8
	Kurile Islands							SOD	eP	07 26 46		
	45.4 N, 150.8 E, 40 km							KJN	eP	07 26 59		
							Kurile Islands					
13	HEL	eP	06 40 07				45.5 N, 151.5 E, 55 km					
	NUR	iP	06 40 06.3	0.5	10.6		13	HEL	eP	07 27 43		
								NUR	eP	07 27 42		
13	HEL	eP	06 52 33					SOD	eP	07 27 03		
		e	47					KJN	eP	07 27 18		
	NUR	eP	06 52 32	0.7	18.1		13	HEL	eP	07 29 56		
		e	46					NUR	eP	07 29 56	0.6	6.3
	SOD	eP	06 51 53					SOD	eP	07 29 18		
	KEV	eP	06 51 40	1.0	28.3			KJN	eP	07 29 34		
								KEV	eP	07 29 05	1.0	16.2
13	HEL	eP	06 54 30				Kurile Islands					
	NUR	eP	06 54 31				45.0 N, 151.5 E, 40 km					

October

				T	A
13	HEL	eP	07 39 14		
		e	26		
	NUR	eP	07 39 13	0.6	11.3
		e	25		
	SOD	eP	07 38 35		
	KJN	eP	07 38 49		
	KEV	eP	07 38 22		
13	HEL	eP	07 42 36		
	NUR	eP	07 42 36	0.6	8.8
	SOD	eP	07 41 57		
	KJN	eP	07 42 12		
	KEV	eP	07 41 57		
	Kurile Islands				
	45.0 N, 151.4 E, 40 km				
13	HEL	eP	07 46 22		
	NUR	eP	07 46 21		
	SOD	eP	07 45 40		
	KJN	eP	07 45 55		
	KEV	eP	07 45 40		
	Kurile Islands				
	46.5 N, 151.8 E, 45 km				
13	HEL	eP	07 47 28		
	NUR	eP	07 47 27	0.6	11.3
	SOD	eP	07 46 49		
	KJN	eP	07 47 03		
	KEV	eP	07 46 36	0.9	11.8
13	HEL	eP	07 56 36		
	NUR	eP	07 56 35		
	SOD	eP	07 55 57		
	KJN	eP	07 56 12		
13	SOD	eP	07 58 30		
	KJN	eP	07 58 47		
	Kurile Islands				
	45.7 N, 149.6 E, 30 km				
13	HEL	eP	08 13 10		
	NUR	eP	08 13 09		
	SOD	eP	08 12 12		
	KJN	eP	08 12 27		
13	HEL	eP	08 17 21		
	NUR	eP	08 17 20		
	SOD	eP	08 16 42		
	KJN	eP	08 16 59		
	Kurile Islands				
	45.3 N, 151.7 E, 40 km				

October

				T	A
13	HEL	eP	08 18 04		
	NUR	eP	08 18 04	0.6	13.8
	SOD	eP	08 17 25		
	KJN	eP	08 17 39		
13	HEL	eP	08 19 32		
	NUR	eP	08 19 31	0.6	16.3
	SOD	eP	08 18 51		
	KJN	eP	08 19 06		
13	HEL	eP	08 20 27		
	NUR	eP	08 20 26	0.6	2.5
	SOD	eP	08 19 49		
	KJN	eP	08 20 04		
13	HEL	eP	08 22 19		
		e	35		
	NUR	iP	08 22 18.6	1.0	30.0
		i	22.2	1.0	60.0
		i	34.3	0.6	27.5
		e	23 18		
	SOD	eP	08 21 39		
		i	44.0		
		e	56		
	KJN	eP	08 21 54		
	KEV	eP	08 21 22	1.0	16.2
		i	30.9	1.0	30.3
		i	42.6	0.7	12.9
	Kurile Islands				
	44.5 N, 151.6 E, 60 km				
13	SOD	eP	08 29 20		
	KJN	eP	08 29 34		
	Kurile Islands				
	45.3 N, 151.7 E, 40 km				
13	HEL	eP	08 41 28		
	NUR	eP	08 41 28	0.7	7.7
	SOD	eP	08 40 50		
	KJN	eP	08 41 03		
	KEV	eP	08 40 36	0.8	14.5
13	HEL	eP	08 45 38		
	NUR	eP	08 45 38	0.6	5.0
		e	46 16		
	SOD	eP	08 44 52		
	KJN	eP	08 45 07		
		e	24		
	Kurile Islands				
	44.5 N, 150.9 E, 33 km				

October						October			
				T	A				
13	HEL eP	08 47 51				NUR eP	09 27 09		
	SOD eP	08 47 14				e	28 26		
	KJN eP	08 47 28				SOD eP	09 26 30		
	Kurile Islands					e	27 47		
	45.2 N, 149.9 E, 50 km					KJN eP	09 26 44		
13	HEL eP	08 48 34				i	27 02.4		
	KJN eP	08 48 24				e	28 00		
13	NUR eP	08 50 21	0.6	6.3		KEV eP	09 26 13		
	SOD eP	08 49 44				ePcP	27 09		
	KJN eP	08 49 57				Kurile Islands			
	Kurile Islands					44.6 N, 149.6 E, 50 km			
	45.6 N, 148.0 E, 40 km					13	HEL eP	09 33 28	
13	KJN eP	08 54 36				NUR eP	09 33 27	0.6	7.5
13	NUR eP	08 58 23	0.6	6.3		SOD eP	09 32 49		
	SOD eP	08 57 44				KJN eP	09 33 04		
	KJN eP	08 57 59				KEV eP	09 32 34		
13	NUR eP	09 01 04				Kurile Islands			
	SOD eP	09 00 25				44.9 N, 151.0 E, 50 km			
	KJN eP	09 00 39				13	HEL eP	09 38 04	
	Kurile Islands					NUR eP	09 38 03	0.6	8.8
	45.3 N, 151.2 E, 40 km					SOD eP	09 37 25		
13	HEL eP	09 04 54				KJN eP	09 37 41		
	NUR eP	09 04 54				Kurile Islands			
	SOD eP	09 04 15				46.2 N, 151.8 E, 40 km			
	KJN eP	09 04 29				13	SOD eP	09 38 13	
13	NUR eP	09 21 01				KJN eP	09 38 27		
	SOD eP	09 20 23				13	SOD eP	09 41 22	
	KJN eP	09 20 36				13	KJN eP	09 42 52	
	Kurile Islands					13	HEL eP	09 55 52	
	44.2 N, 149.5 E, 40 km						NUR eP	09 55 50	
13	HEL eP	09 22 47					SOD eP	09 55 12	
	e	59					KJN eP	09 55 26	
	NUR iP	09 22 46.8	0.8	20.2		Kurile Islands			
	e	59				44.1 N, 150.0 E, 45 km			
	SOD eP	09 22 07				13	HEL eP	10 01 52	
	KJN eP	09 22 23				NUR eP	10 01 51	0.6	6.3
	e	34				SOD eP	10 01 12		
	KEV eP	09 21 54	0.8	13.1		KJN eP	10 01 27		
	Kurile Islands					KEV eP	10 01 00	0.7	3.9
	43.8 N, 150.8 E, 30 km					13	HEL eP	10 07 28	
13	HEL eP	09 27 09				e	40		
	e	28 26				NUR iP	10 07 26.8	0.6	12.5
	cont.					SOD eP	10 06 48		
						cont.			

October						October				
				T	A					
				T	A					
	KJN	iP	10 07 03.0 U			KJN	eP	10 57 30		
	KEV	eP	10 06 34	0.8	16.0	KEV	eP	10 57 07	1.0	18.2
	Kurile Islands					Kurile Islands				
	45.5 N, 151.8 E, 40 km					45.4 N, 151.8 E, 40 km				
13	HEL	eP	10 11 59			13	HEL	eP	11 19 04	
	NUR	eP	10 11 59				SOD	eP	11 18 24	
	KJN	eP	10 11 33				KJN	eP	11 18 39	
	Kurile Islands						KEV	eP	11 18 08	
	44.3 N, 151.0 E, 55 km									
13	HEL	eP	10 17 10			13	HEL	eP	11 26 25	
	NUR	eP	10 17 10	0.6	3.8		NUR	eP	11 26 23	
	SOD	eP	10 16 31				SOD	eP	11 25 55	
		e	42				KJN	eP	11 25 59	
	KJN	eP	10 16 44				Kurile Islands			
		e	58				44.9 N, 151.1 E, 45 km			
	KEV	eP	10 16 20			13	HEL	eP	11 33 44	
		e	31	0.7	6.5		NUR	eP	11 33 41	0.6
	Kurile Islands						SOD	eP	11 33 01	8.8
	44.2 N, 150.2 E, 45 km						KJN	eP	11 33 17	
13	HEL	eP	10 21 13				Kurile Islands			
	NUR	eP	10 21 12				44.9 N, 150.7 E, 55 km			
	SOD	eP	10 20 35			13	SOD	eP	11 41 28	
	KJN	eP	10 20 49			13	SOD	eP	11 45 24	
	Kurile Islands						KJN	eP	11 45 39	
	44.5 N, 149.6 E, 45 km						KEV	eP	11 45 11	0.8
13	HEL	eP	10 40 13				Kurile Islands			10.2
	NUR	eP	10 40 12	0.6	7.5		45.4 N, 151.6 E, 25 km			
	SOD	eP	10 39 34			13	HEL	eP	11 46 23	
	KJN	eP	10 39 43				NUR	eP	11 46 23	
		e	40 02				KJN	eP	11 45 58	
	KEV	eP	10 39 21	0.8	8.7	13	HEL	eP	11 49 44	
13	HEL	eP	10 44 43				NUR	eP	11 49 44	
	NUR	eP	10 44 42	0.6	7.5		SOD	eP	11 49 05	
	SOD	eP	10 44 05				KJN	eP	11 49 19	
	KJN	eP	10 44 19				Kurile Islands			
	KEV	eP	10 43 51	1.1	28.8		44.3 N, 149.3 E, 25 km			
	Kurile Islands					13	KJN	eP	11 59 56	
	44.4 N, 150.3 E, 45 km					13	HEL	eP	12 16 34	
13	KJN	eP	10 47 02				NUR	eP	12 16 34	0.5
	Kurile Islands						SOD	eP	12 15 55	4.0
	45.3 N, 150.4 E, 45 km						KJN	eP	12 16 10	
13	HEL	eP	10 57 58					e	27	
	NUR	eP	10 57 57	0.6	2.5		Kurile Islands			
	SOD	eP	10 57 21				45.0 N, 150.8 E, 25 km			

cont.

October						October			
				T	A				
13	HEL	eP	14 14 43			13	SOD	eP	16 22 37
	NUR	eP	14 14 41				KJN	eP	16 22 54
	KJN	eP	14 14 22				Kurile Islands		
		e	55				45.1 N, 150.8 E, 30 km		
	Kurile Islands					13	KJN	eP	16 30 11
	45.3 N, 151.0 E, 25 km					13	HEL	eP	16 39 42
13	KJN	eP	14 25 03				NUR	eP	16 39 41
	Kurile Islands						SOD	eP	16 39 03
	45.0 N, 150.2 E, 40 km						KJN	eP	16 39 18
13	HEL	eP	14 36 56				KEV	eP	16 38 52
	NUR	iP	14 36 55.1	0.8	20.2		Kurile Islands		
	SOD	eP	14 36 17				44.9 N, 150.3 E, 40 km		
	KJN	eP	14 36 32			13	HEL	eP	16 43 23
		e	39 34				NUR	eP	16 43 20
	KEV	eP	14 36 06				SOD	eP	16 42 46
	Kurile Islands						KJN	eP	16 43 01
	44.5 N, 149.5 E, 50 km						KEV	eP	16 42 33
13	HEL	eP	14 39 04				Kurile Islands		
	NUR	eP	14 39 03				45.1 N, 151.3 E, 40 km		
	SOD	eP	14 38 25			13	NUR	eP	16 58 18
	KJN	eP	14 38 42				SOD	eP	16 57 58
13	SOD	eP	16 00 44					i	58 04.1
	KJN	eP	16 00 38				KJN	eP	16 58 11
								i	16.5
13	HEL	eP	16 10 33				KEV	eP	16 57 52
		i	35.0				Michoacan, Mexico		
	ePcP		11 06				18.4 N, 103.1 W, 50 km		
		e	22			13	HEL	eP	17 00 27
	NUR	eP	16 10 32	0.9	75.6		NUR	eP	17 00 26
		i	34.1				SOD	eP	16 59 48
		e	44				KJN	eP	17 00 03
	ePcP		11 05				KEV	eP	16 59 26
		e	17				Kurile Islands		
	eScS		20 23				44.5 N, 150.4 E, 40 km		
	SOD	eP	16 09 54			13	KJN	eP	17 27 53
		i	56.6			13	HEL	eP	17 29 09
	iPcP		10 42.0				NUR	eP	17 29 08
	KEV	iP	16 09 43.1	0.9	65.9		SOD	eP	17 28 29
		iPcP	10 34.4	0.9	148.3		KJN	eP	17 28 44
	ePPP		13 12			13	HEL	eP	17 36 42
	eS		17 34				NUR	eP	17 36 41
	eScS		19 28				SOD	eP	17 36 03
	eLQ		16 24.5				cont.		
	Kurile Islands								
	45.6 N, 150.5 E, 35 km								

October

T A

KJN eP 17 36 18
 KEV eP 17 35 50
 eScS 45 40
 eSS 48 23
 Kurile Islands
 44.5 N, 150.8 E, 45 km

13 HEL eP 17 42 04
 NUR eP 17 42 03 0.8 8.6
 SOD eP 17 41 23
 KJN eP 17 41 40
 KEV eP 17 41 11
 Kurile Islands
 44.3 N, 149.2 E, 45 km

13 SOD eP 18 06 33
 KJN eP 18 06 48
 Kurile Islands
 44.5 N, 150.2 E, 45 km

13 NUR eP 18 07 55
 SOD eP 18 07 24
 KJN eP 18 07 31

13 SOD eP 18 17 42
 KJN eP 18 18 00
 KEV eP 18 17 25 0.7 6.5

13 HEL eP 18 21 44
 NUR eP 18 21 43 0.7 9.0
 e 55
 SOD eP 18 21 04
 i 17.1
 KJN eP 18 21 19
 KEV eP 18 21 02 0.8 4.4
 Kurile Islands
 44.0 N, 150.0 E, 45 km

13 HEL eP 18 24 29
 NUR eP 18 24 28 0.4 38.4
 SOD eP 18 23 50
 i 51.5
 KJN eP 18 24 05
 i 50
 KEV eP 18 23 38 0.8 13.1
 Kurile Islands
 44.6 N, 149.4 E, 55 km

13 HEL eP 18 25 39
 NUR eP 18 25 39 0.6 16.3
 SOD eP 18 25 01
 KEV eP 18 24 49 1.0 14.1
 Kurile Islands
 45.2 N, 150.8 E, 45 km

October

T A

13 NUR eP 18 45 13
 SOD eP 18 44 34
 KJN eP 18 44 48
 Kurile Islands
 47.8 N, 148.1 E, 33 km

13 KJN eP 18 47 00
 Kurile Islands
 44.9 N, 150.2 E, 50 km

13 NUR eP 18 56 17 0.6 7.5
 SOD eP 18 55 37
 KJN eP 18 55 54

13 SOD eP 19 21 30
 KJN eP 19 21 42
 Kurile Islands
 44.2 N, 149.7 E, 25 km

13 HEL eP 19 36 47
 NUR eP 19 36 47
 SOD eP 19 36 07
 KJN eP 19 36 23
 KEV eP 19 35 55
 Kurile Islands
 45.7 N, 151.5 E, 30 km

13 HEL iP 19 38 20.0
 i 23.4
 NUR iP 19 38 19.4 U 0.7 54.2
 i 22.5
 SOD eP 19 37 39
 i 44.3
 KJN iP 19 37 55.2 U
 KEV iP 19 37 27.1 U 1.0 53.7
 i 31.9
 Kurile Islands
 45.7 N, 151.7 E, 45 km

13 SOD eP 19 41 41
 KJN eP 19 41 55

13 HEL eP 19 52 04
 NUR iP 19 52 03.1 D 0.7 28.4
 SOD eP 19 51 23
 i 24.8
 KJN iP 19 51 39.2 D
 KEV eP 19 51 11 0.8 17.2
 Kurile Islands
 45.3 N, 151.4 E, 45 km

October						October				
				T	A					
13	KJN	eP	20 02 10			13	HEL	iP	22 05 49.7	
13	HEL	eP	20 05 36				NUR	iP	22 05 47.9 D	0.7 94.2
	NUR	eP	20 05 39				e		06 03	
	SOD	eP	20 05 03				e		14	
	KJN	eP	20 05 19				ePP		08 10	
	Kurile Islands						SOD	iP	22 05 09.8 D	
	44.5 N, 150.9 E, 35 km						i		34.8	
13	HEL	eP	20 24 58	0.6	8.8		e		06 10	
	NUR	eP	20 24 56				KJN	iP	22 05 24.7 D	
	SOD	eP	20 24 18				ePcP		06 02	
	KJN	eP	20 24 33				ePP		07 41	
	Kurile Islands						KEV	iP	22 04 57.1	0.8 31.6
	44.4 N, 151.4 E, 25 km						e		05 15	
13	HEL	eP	20 38 22	0.6	25.0		Kurile Islands			
	NUR	eP	20 38 21				44.7 N, 152.1 E, 50 km			
	SOD	iP	20 37 42.4			13	HEL	eP	22 13 42	
	KJN	eP	20 37 59				NUR	eP	22 13 40	0.8 23.0
	KEV	eP	20 37 20	0.7	9.0		SOD	eP	22 13 02	
	Kurile Islands						KJN	eP	22 13 17	
	45.6 N, 151.7 E, 30 km						KEV	eP	22 12 50	1.0 25.9
13	SOD	eP	20 45 55				Kurile Islands			
	Kurile Islands						45.1 N, 150.9 E, 45 km			
	46.1 N, 151.8 E, 30 km					13	HEL	eP	22 36 22	
13	HEL	eP	21 46 22	0.9	20.2		NUR	eP	22 36 21	
	NUR	eP	21 46 20				SOD	eP	22 35 42	
	SOD	eP	21 45 42				KJN	eP	22 35 58	
	KJN	iP	21 45 56.9				Kurile Islands			
	KEV	eP	21 45 29	0.6	7.4		44.2 N, 149.3 E, 45 km			
	Kurile Islands					13	HEL	eP	22 40 35	
	45.3 N, 151.7 E, 45 km						NUR	eP	22 40 34	0.6 17.5
13	HEL	eP	21 58 45				SOD	eP	22 39 57	
	SOD	eP	21 58 07				Kurile Islands			
	KJN	eP	21 58 21				44.3 N, 149.5 E, 40 km			
	Kurile Islands					13	SOD	eP	23 18 56	
	44.3 N, 149.5 E, 50 km						KJN	eP	23 19 12	
13	HEL	eP	22 00 43	0.7	11.6		KEV	eP	23 18 41	1.0 13.9
	NUR	eP	22 00 41				Kurile Islands			
	SOD	eP	22 00 02				45.2 N, 151.4 E, 45 km			
	KJN	eP	22 00 18			13	KJN	eP	23 20 16	
	KEV	eP	21 59 36			13	SOD	eP	23 25 43	
	Kurile Islands						KJN	eP	23 25 59	
	46.1 N, 151.8 E, 45 km					13	SOD	eP	23 35 08	
							KJN	eP	23 35 26	
							e		35	
							Kurile Islands			
							44.4 N, 153.0 E, 50 km			

October							October					
					T	A					T	A
14	HEL	eP	00 03 10				14	SOD	eP	02 00 57		
		e	37					KJN	eP	02 01 11		
	NUR	eP	00 03 10	0.8	20.2			Kurile Islands				
		eS	12 00					44.5 N, 151.4 E, 50 km				
		eScS	13 00				14	HEL	eP	02 11 20		
		eSS	16 28					NUR	eP	02 11 21		
		eLR	00 24.2					SOD	iP	02 11 21.2 U		
	SOD	eP	00 02 30					KJN	eP	02 11 15		
	KJN	iP	00 02 44.7					India-Burma border				
	KEV	eP	00 02 18	0.7	10.2			25.2 N, 95.3 E, 33 km				
		ePPP	06 00				14	KJN	eP	02 28 58		
		eS	10 22					Kurile Islands				
		eScS	12 16					44.4 N, 150.3 E, 45 km				
		eSS	14 12				14	SOD	eP	03 32 02		
	Kurile Islands							Kurile Islands				
	44.5 N, 150.1 E, 50 km							44.9 N, 151.8 E, 50 km				
14	NUR	eP	00 13 45				14	HEL	eP	03 41 52		
	SOD	eP	00 13 08					NUR	eP	03 41 51	0.7	15.5
	KJN	eP	00 13 22					SOD	eP	03 41 10		
	Kurile Islands							KJN	eP	03 41 26		
	45.0 N, 150.9 E, 60 km							Kurile Islands				
14	SOD	eP	00 14 50					45.9 N, 151.8 E, 25 km				
	KJN	eP	00 15 06				14	HEL	eP	04 16 45		
	Kurile Islands							NUR	eP	04 16 44	0.8	11.5
	46.1 N, 151.4 E, 60 km							SOD	eP	04 16 05		
14	SOD	eP	00 29 24					KJN	eP	04 16 19		
	KJN	eP	00 29 40						ePcP	56		
	Kurile Islands							KEV	eP	04 15 40		
	44.5 N, 150.5 E, 45 km								eS	23 44		
14	NUR	eP	01 02 40					Kurile Islands				
	SOD	eP	01 02 01					44.9 N, 150.2 E, 50 km				
	Kurile Islands						14	HEL	eP	04 22 00		
	46.6 N, 150.6 E, 35 km							NUR	eP	04 21 59	0.6	18.8
14	SOD	eP	01 19 23					SOD	iP	04 21 20.3		
	Kurile Islands							KJN	iP	04 21 35.6		
	44.8 N, 151.7 E, 40 km								i	47		
14	NUR	eP	01 30 05					KEV	eP	04 21 07	0.9	20.0
	SOD	eP	01 29 25					Kurile Islands				
	KJN	eP	01 29 39					44.7 N, 150.6 E, 45 km				
	Kurile Islands						14	HEL	eP	04 23 49		
	44.3 N, 151.2 E, 55 km							NUR	eP	04 23 48	0.9	33.6
14	KJN	eP	01 31 34					SOD	iP	04 23 10		
								KJN	iP	04 23 23.4		
									i	36		
14	KJN	eP	01 46 15					KEV	eP	04 22 56	0.9	25.1
	Kurile Islands							Kurile Islands				
	44.4 N, 149.8 E, 50 km							44.9 N, 150.7 E, 40 km				

October						October					
				T	A						
14	SOD	eP	04 38 05			KEV	eP	08 04 28	0.6	6.2	
	KJN	eP	04 38 22				e	42	0.8	11.4	
14	HEL	eP	05 35 00			Kurile Islands					
		e	13			44.8 N, 151.2 E, 55 km					
	NUR	eP	05 34 58	0.6	15.0	14	HEL	eP	09 39 50		
		e	35 12				NUR	eP	09 39 50	0.7	12.9
	SOD	eP	05 34 19				SOD	eP	09 39 11		
		i	33.2				KJN	eP	09 39 26		
	KJN	eP	05 34 34				KEV	eP	09 38 58		
		i	47.9 U			Kurile Islands					
	KEV	eP	05 34 07	0.7	9.0	45.5 N, 151.7 E, 40 km					
		e	21			14	SOD	eP	11 33 18		
	Kurile Islands						KJN	eP	11 33 31		
	44.5 N, 151.0 E, 55 km					Kurile Islands					
14	SOD	eP	05 53 00			45.5 N, 151.7 E, 50 km					
	Kurile Islands										
	44.8 N, 150.6 E, 50 km					14	HEL	iP	13 32 29.6		
14	SOD	eP	06 28 36				NUR	iP	13 32 28.0 U	0.7	223.2
	KJN	eP	06 28 55					i	44.0 U		
14	HEL	eP	06 37 03					ePP	34 50		
	NUR	eP	06 37 01	0.9	20.2			ePPP	36 48		
	SOD	iP	06 36 15.0 U					e	37 29		
		e	27					eS	41 14		
	KJN	iP	06 36 36.5 U					ePS	43		
		e	49					eScS	42 24		
	KEV	eP	06 35 59	0.8	17.2			eSS	45 41		
	Fox Islands							eSSS	48 53		
	52.8 N, 167.1 W, 80 km							eLQ	13 49.5		
14	KJN	eP	06 39 25				SOD	iP	13 31 49.2 U		
	Kurile Islands							eP'P'	14 00 59		
	44.1 N, 149.4 E, 35 km						KJN	iP	13 32 02.9 U		
14	SOD	eP	07 26 04				KEV	iP	13 31 36.9 U	0.7	112.6
	KJN	eP	07 26 19					i	53.2 U		
	Kurile Islands							e	32 04		
	44.6 N, 150.3 E, 45 km							ePPP	35 15		
14	HEL	eP	08 05 19					eS	39 38		
		e	33					eSS	43 40		
		e	49					e	47 18		
	NUR	eP	08 05 19					eLR	13 49.1		
		i	33.8	1.0	24.0	Kurile Islands					
	SOD	eP	08 04 40			44.8 N, 151.0 E, 60 km					
		i	55.6			14	NUR	eP	14 04 02		
	KJN	eP	08 04 54				SOD	eP	14 03 24		
		e	05 10				KJN	eP	14 03 38		
	cont.					Kurile Islands					
						45.0 N, 151.1 E, 30 km					

October				T	A	October				T	A
14	HEL	iP	18 00 57.8			15	SOD	eP	00 52 56		
		e	01 03				KJN	eP	00 53 10		
	NUR	iP	18 00 57.2 D	0.8	204.5		Kurile Islands				
		e	01 02 D				45.1 N, 150.9 E, 45 km				
	SOD	eP	18 00 18			15	HEL	eP	00 59 46		
	KJN	iP	18 00 32.9 D				NUR	eP	00 59 45	0.7	19.1
		e	01 13				SOD	eP	00 59 20		
	KEV	eP	18 00 05	0.9	18.4		KJN	iP	00 59 27.6 D		
	Kurile Islands						KEV	iP	00 59 11.7	0.8	35.8
	45.2 N, 151.3 E, 60 km										
14	SOD	eP	18 44 59			15	HEL	eP	04 25 17		
	KJN	eP	18 44 53				NUR	eP	04 25 17		
	Sumatra						SOD	eP	04 25 21		
	4.2 S, 103.4 E, 33 km						KJN	eP	04 25 14		
							Sumatra				
							2.6 N, 98.9 E, 137 km				
14	SOD	eP	21 18 07			15	KJN	eP	05 06 44		
	KJN	eP	21 18 22				Kurile Islands				
	Kurile Islands						44.5 N, 149.6 E, 50 km				
	45.0 N, 150.5 E, 45 km										
14	HEL	eP	21 19 39			15	KJN	eP	05 20 55		
	NUR	eP	21 19 41	0.6	44.6		Kurile Islands				
		e	20 19				44.3 N, 151.4 E, 45 km				
	SOD	iP	21 19 55.2 D			15	NUR	iP	06 29 50.3	1.4	68.9
	KJN	iP	21 19 39.7 D								
		e	20 23								
14	HEL	eP	22 46 17			15	HEL	eP	08 10 54		
		e	30				NUR	eP	08 10 55		
	NUR	eP	22 46 17	0.9	29.9			e	11 08		
		e	29				SOD	eP	08 10 18		
	SOD	eP	22 45 38				KJN	eP	08 10 33		
	KJN	eP	22 45 52					e	43		
		e	46 04				Kurile Islands				
	KEV	eP	22 45 25	1.0	25.9		45.0 N, 151.1 E, 40 km				
	Kurile Islands										
	44.5 N, 150.6 E, 45 km										
14	KJN	eP	22 54 07			15	HEL	eP	09 12 53		
	Kurile Islands						NUR	eP	09 12 51	0.8	22.9
	44.5 N, 149.2 E, 60 km						SOD	eP	09 12 13		
							KJN	eP	09 12 25		
14	HEL	eP	23 12 18				Kurile Islands				
	SOD	eP	23 12 17				45.3 N, 150.2 E, 40 km				
	KJN	eP	23 12 16								
	Sinkiang, China					15	NUR	eP	09 41 09	1.0	41.6
	39.5 N, 74.4 E, 69 km						SOD	eP	09 40 40		
15	KJN	eP	00 49 07				KJN	iP	09 40 59.9		
	Kurile Islands						KEV	iP	09 40 36.1	1.3	83.8
	45.0 N, 151.8 E, 45 km										

October				T	A	October				T	A			
15	HEL	eP	09 42 51	0.6	18.6	KJN	iP	12 14 09.5	0.8	29.7				
	NUR	eP	09 42 50			KEV	eP	12 13 42						
	SOD	eP	09 42 12			Kurile Islands								
	KJN	eP	09 42 27			45.1 N, 151.8 E, 45 km								
	KEV	eP	09 41 59											
	Kurile Islands					15	SOD	eP	12 33 44					
	45.2 N, 150.2 E, 40 km						KJN	eP	12 34 00					
15	HEL	iP	10 04 03.3			15	SOD	eP	13 05 49					
	NUR	iP	10 03 59.5 U				KJN	eP	13 06 08					
		i	04 11.8			15	SOD	eP	16 26 13					
		eS	07 40			Kurile Islands								
		eL	10 08.1			45.6 N, 150.2 E, 33 km								
	SOD	iP	10 03 26.8			15	HEL	eP	17 26 41	0.5	2.6			
		e	06 51				NUR	eP	17 26 41					
	KJN	iP	10 03 49.1 U				SOD	eP	17 26 04					
		eS	07 31				KJN	eP	17 26 17					
	KEV	eP	10 03 22	1.5	918.0	Kurile Islands								
		ePPP	47			44.0 N, 149.3 E, 50 km								
		eS	06 29			15	NUR	eP	18 04 49					
		e	07 06			Kurile Islands								
		eL	10 07.0			45.2 N, 151.3 E, 29 km								
	North of Iceland					15	HEL	eP	18 34 42	0.6	25.0			
	67.2 N, 18.4 W, 33 km						NUR	iP	18 34 41.8					
15	HEL	eP	10 57 56	0.8	17.2		eS	43 28						
	NUR	eP	10 57 55						ePS			44 06		
	SOD	eP	10 57 15						eSS			47 30		
	KJN	eP	10 57 31						eSSS	50 50				
	Kurile Islands								eLR	18 53.8				
	44.6 N, 149.0 E, 50 km						SOD	eP	18 34 03					
15	KJN	eP	11 24 38				KJN	eP	18 34 16					
15	HEL	eP	12 04 31				KEV	eP	18 33 52					
		e	43				eLR	18 50.4						
	NUR	iP	12 04 29.8	0.9	30.2	Kurile Islands								
		e	42			45.3 N, 151.0 E, 35 km								
	SOD	iP	12 03 50.2			15	NUR	eP	20 49 15					
	KJN	eP	12 04 06				KJN	eP	20 48 48					
	KEV	eP	12 03 36	0.8	59.6									
		i	37.8 U			15	HEL	eP	20 52 12					
	Kurile Islands						NUR	eP	20 52 12					
	45.1 N, 151.9 E, 55 km						SOD	eP	20 51 34					
15	HEL	eP	12 14 34	0.7	19.4		KJN	eP	20 51 46					
		e	46					Kurile Islands						
	NUR	eP	12 14 34					45.4 N, 151.1 E, 50 km						
		e	46											
	SOD	eP	12 13 54											
	cont.													

October						October					
				T	A						
						T			A		
16	HEL	eP	17 11 58			17	NUR	eP	08 42 13	0.5	6.6
	NUR	eP	17 11 55	1.0	18.0		SOD	eP	08 41 34		
	SOD	eP	17 11 24				KJN	eP	08 41 48		
	KJN	eP	17 11 43				Kurile Islands				
							45.8 N, 151.7 E, 45 km				
16	HEL	eP	19 09 46			17	NUR	eP	09 40 32		
	NUR	eP	10 09 49	0.6	12.5		SOD	eP	09 40 43		
	SOD	eP	19 10 22				KJN	eP	09 40 29		
	KJN	eP	19 09 59				KEV	eP	09 40 58	0.6	7.4
	KEV	eP	19 10 37	0.7	10.1		Tadzhik S.S.R.				
	Southern Iran						38.8 N, 73.4 E, 40 km				
	28.8 N, 58.0 E, 32 km										
16	HEL	eP	20 38 19			17	SOD	eP	10 26 57		
	NUR	eP	20 38 22				KJN	eP	10 27 09		
	SOD	eP	20 38 30				Kurile Islands				
	KJN	eP	20 38 15				43.8 N, 151.0 E, 50 km				
	Tadzhik S.S.R.										
	38.6 N, 73.1 E, 70 km					17	KJN	eP	11 55 05		
16	KJN	eP	20 53 36			17	KJN	eP	12 01 19		
	Palau Islands region						Kurile Islands				
	8.8 N, 137.9 E, 28 km						45.0 N, 151.4 E, 45 km				
16	HEL	iP	21 41 36.5			17	KJN	eP	12 28 19		
	NUR	iP	21 41 35.8 U	0.7	54.2		Kurile Islands				
	SOD	iP	21 40 57.2 U				49.2 N, 149.8 E, 45 km				
	KJN	iP	21 41 12.7 U			17	KJN	eP	13 08 54		
	KEV	iP	21 40 44.7	0.8	28.4		Kurile Islands				
	Kurile Islands						45.1 N, 150.3 E, 50 km				
	44.4 N, 150.9 E, 80 km										
16	KJN	eP	22 32 56			17	HEL	eP	14 17 19		
	Leeward Islands region						NUR	eP	14 17 18		
	17.7 N, 62.0 W, 67 km						SOD	eP	14 16 39		
17	KJN	eP	03 18 39				KJN	eP	14 16 53		
	Mariana Islands region						Kurile Islands				
	11.6 N, 140.6 E, 70 km						44.2 N, 149.2 E, 40 km				
17	HEL	eP	04 30 35			17	HEL	eP	14 26 44		
	NUR	eP	04 30 34				NUR	iP	14 26 43.6	0.6	15.0
	SOD	eP	04 29 55				SOD	eP	14 26 32		
	KJN	eP	04 30 11				KJN	iP	14 26 33.3 U		
	KEV	eP	04 29 41	0.5	13.1		KEV	eP	14 26 29	0.7	10.2
	Kurile Islands						East coast of Mindanao				
	45.2 N, 151.7 E, 50 km						9.8 N, 126.5 E, 33 km				
17	KJN	eP	07 15 25			17	SOD	eP	15 13 18		
17	KJN	eP	08 21 17				KJN	eP	15 13 39		
	Kurile Islands						Kurile Islands				
	44.3 N, 149.1 E, 45 km						44.1 N, 149.2 E, 55 km				

October				October			
		T	A			T	A
17	NUR eP	15	39 38				
	KJN eP	15	39 44				
	i		41 25.4				
17	KJN eP	19	16 20				
	East coast of Mindanao						
	6.6 N, 126.3 E, 33 km						
17	SOD eP	22	45 46				
	KJN iP	22	46 01.4				
	Kurile Islands						
	45.3 N, 151.6 E, 30 km						
17	KJN eP	23	13 02				
17	HEL eP	23	35 16				
	i		18.5				
	NUR eP	23	35 16				
	i		18.2	0.6	22.5		
	i		31.6	0.6	27.5		
	ePP		37 44				
	ePPP		39 23				
	eS		44 00				
	e		10				
	e		44				
	eSS		48 30				
	eLQ	23	51				
	eLR	23	55				
	SOD eP	23	34 39				
	i		41.8				
	KJN iP	23	34 55.3				
	i		35 05.2				
	e(PP)		37 32				
	e		38 34				
	KEV eP	23	34 26	1.0	19.7		
	ePP		36 32				
	ePPP		38 00				
	eS		42 25				
	e		44 32				
	eSS		46 30				
	eLQ	23	50				
	eLR	23	52				
	Kurile Islands						
	44.6 N, 149.0 E, 45 km						
18	HEL eP	00	05 40				
	NUR eP	00	05 40	0.9	18.5		
	SOD eP	00	05 02				
	KJN eP	00	05 16				
	Kurile Islands						
	44.5 N, 149.0 E, 45 km						
18	HEL eP	02	10 23				
	NUR eP	02	10 22	0.9	13.4		
	SOD eP	02	09 44				
	KJN eP	02	09 50				
	e		58				
	KEV eP	02	09 36				
	Kurile Islands						
	44.5 N, 149.1 E, 45 km						
18	HEL eP	04	12 06				
	NUR eP	04	12 05	0.6	6.3		
	SOD iP	04	11 27.2				
	KJN eP	04	11 42				
	i		54.2				
	KEV eP	04	11 14	0.4	13.1		
	Kurile Islands						
	44.5 N, 150.4 E, 60 km						
18	SOD eP	04	46 11				
	KJN eP	04	46 26				
	Kurile Islands						
	44.0 N, 150.9 E, 40 km						
18	SOD eP	05	14 46				
	KJN eP	05	14 58				
18	HEL iP	05	26 47.7				
	i		50.0				
	NUR iP	05	26 47.1 D	1.7	162.2		
	i		49.4 D				
	SOD iP	05	26 12.7 D				
	KJN iP	05	26 25.5				
	KEV iP	05	26 01.8	0.6	12.3		
	Hokkaido, Japan						
	42.8 N, 141.4 E, 40 km						
18	KJN eP	05	36 36				
	Kurile Islands						
	45.3 N, 151.6 E, 40 km						
18	HEL eP	06	31 05				
	NUR iP	06	31 04.2	0.6	16.3		
	SOD eP	06	30 26				
	KJN eP	06	30 41.2				
	KEV eP	06	30 13	0.5	12.9		
	Kurile Islands						
	44.7 N, 149.9 E, 60 km						
18	NUR eP	07	15 54	0.7	6.5		
	SOD eP	07	15 20				
	KJN eP	07	15 33				
	Kurile Islands						
	45.8 N, 150.8 E, 30 km						

October						October					
				T	A						
18	NUR	eP	08 15 05			18	HEL	eP	18 05 41		
	SOD	eP	08 14 11				NUR	eP	18 05 40	0.5	8.0
	KJN	eP	08 14 40					ePcP	06 11		
	KEV	eP	08 13 56					eS	14 30		
	Central Alaska							eSSS	21 50		
	62.6 N, 146.6 W, 51 km							eLQ	18 22.6		
18	SOD	eP	08 25 23				SOD	eP	18 05 02		
	KJN	eP	08 25 38				KJN	iP	18 05 17.0		
	Kurile Islands							iPcP	57.8		
	44.5 N, 151.1 E, 55 km						KEV	eP	18 04 58		
18	KJN	eP	08 48 11				Kurile Islands				
							45.6 N, 150.6 E, 40 km				
18	HEL	iP	09 04 15.7			18	SOD	eP	18 56 06		
	NUR	iP	09 04 15.2	0.6	16.5		KJN	eP	18 56 21		
		ePcS	08 44				Kurile Islands				
		eS	13 08				43.7 N, 149.6 E, 45 km				
		eScS	14 00			18	HEL	eP	20 15 51		
		eSS	17 32				NUR	eP	20 15 49	0.7	5.2
		eSSS	20 44					e	16 05		
		eLQ	09 21.7					ePcP	25		
		eLR	09 25.0					ePPS	25 04		
	SOD	eP	09 03 36					eSS	28 42		
	KJN	iP	09 03 52.1					eSSS	31 40		
		i	04 04.5				SOD	eP	20 15 10		
	KEV	eP	09 03 24	1.0	23.6		KJN	iP	20 15 25.7		
		e	04 04				Kurile Islands				
		eSS	15 50				47.6 N, 154.3 E, 40 km				
	Kurile Islands					18	HEL	eP	21 33 36		
	44.8 N, 150.2 E, 60 km						NUR	iP	21 33 35.8	0.8	36.5
18	NUR	eP	10 15 05					e	47		
	SOD	eP	10 14 26				SOD	iP	21 32 57.2		
	KJN	eP	10 14 43					ePcP	33 43		
	Kurile Islands						KJN	iP	21 33 12.5		
	48.2 N, 151.4 E, 33 km						KEV	eP	21 32 44	0.4	13.0
18	SOD	eP	10 28 15					e	33 28		
	KJN	eP	10 28 30				Kurile Islands				
	Kurile Islands						45.2 N, 151.1 E, 45 km				
	44.9 N, 152.8 E, 55 km					18	KJN	eP	21 39 07		
18	HEL	eP	10 47 01			18	SOD	iP	21 50 04.5		
	NUR	eP	10 47 01				KJN	iP	21 49 59.5 U		
18	SOD	eP	16 05 07				Sumatra				
							5.3 S, 103.5 E, 33 km				
18	NUR	eP	17 07 02	1.0	6.1	18	SOD	eP	22 17 31		
	SOD	eP	17 07 57								
	KJN	iP	17 07 36.7								

October				T	A	October				T	A	
18	HEL	eP	23 03 33			SOD	iP	03 44 21.1				
	NUR	eP	23 03 34	1.0	8.1		e	45 23				
	SOD	eP	23 02 52			KJN	iP	03 44 37.0				
	KJN	eP	23 03 09				ePcP	45 18				
	Kurile Islands					KEV	eP	03 44 07	1.2	38.9		
	46.1 N, 152.5 E, 40 km					Kurile Islands						
	46.6 N, 153.8 E, 33 km											
18	SOD	eP	23 53 38			19	HEL	eP	03 57 50			
	KJN	eP	23 53 54				NUR	iP	03 57 49.2	1.0	123.0	
	Kurile Islands						SOD	eP	03 57 08.9			
	44.7 N, 149.2 E, 45 km						KJN	iP	03 57 25.6 D			
19	HEL	iP	02 29 17.8				KEV	iP	03 56 55.8	1.1	46.2	
	NUR	iP	02 29 16.4 D	0.9	99.8		Kurile Islands					
		ePPP	33 15				46.8 N, 153.8 E, 25 km					
		eS	37 46			19	HEL	eP	04 18 12			
		eSP	38 10				NUR	eP	04 18 14	0.9	15.5	
		e	46				SOD	eP	04 17 34			
		eSS	42 16				KJN	eP	04 17 52			
		e	45 31				Kurile Islands					
		eLQ	02 46				46.8 N, 153.7 E, 40 km					
	SOD	iP	02 28 37.2 D			19	SOD	eP	04 20 41			
	KJN	iP	02 28 53.9				KJN	eP	04 20 58			
		iPcP	29 34.2				Kurile Islands					
	KEV	eP	02 28 22	1.5	54.4		47.3 N, 153.6 E, 40 km					
		eS	36 20			19	SOD	eP	04 36 20			
		eScS	38 15				KJN	eP	04 36 34			
		eSS	40 42				Kurile Islands					
	Kurile Islands						44.4 N, 149.3 E, 50 km					
	46.8 N, 153.7 E, 45 km					19	KJN	eP	05 51 38			
19	SOD	eP	03 12 43				Kurile Islands					
	KJN	eP	03 13 00				44.6 N, 149.1 E, 40 km					
	Kurile Islands					19	KJN	eP	06 52 52			
	46.7 N, 154.0 E, 33 km							e	53 57			
19	HEL	eP	03 25 43				Kirghiz S.S.R.					
	NUR	iP	03 25 42.3	0.9	29.2		41.2 N, 71.3 E, 33 km					
	SOD	eP	03 25 01			19	SOD	eP	07 42 57			
	KJN	eP	03 25 19				KJN	eP	07 43 08			
	KEV	eP	03 24 48	1.2	38.9	19	SOD	eP	08 06 30			
	Kurile Islands						KJN	eP	08 06 48			
	46.5 N, 153.9 E, 40 km						Kurile Islands					
	44.1 N, 151.1 E, 45 km						44.1 N, 151.1 E, 45 km					
19	HEL	eP	03 45 00									
	NUR	iP	03 45 01.7 U	1.0	112.8							
		ePPP	49 00									
		eS	53 45									
		eLQ	04 02									
		eLR	04 05.3									

cont.

October						October			
			T	A				T	A
19	NUR eP	09 14 58	0.7	13.2	20	SOD eP	00 52 49		
	SOD eP	09 14 47				Kurile Islands			
	KJN eP	09 14 48				44.3 N, 149.7 E, 40 km			
	East coast of Leyte				20	HEL eP	01 03 56		
	9.9 N, 126.1 E, 86 km					i	04 01.0		
19	SOD eP	12 53 30				iPPP	07 51		
	KJN eP	12 53 44				NUR eP	01 03 56	0.7	13.2
19	KJN eP	13 56 44				i	04 01.1	1.6	223.2
19	HEL eP	16 26 01				SOD eP	01 03 15		
	e	14				i	20.9		
	NUR eP	16 26 00	1.1	39.0		KJN iP	01 03 32.0		
	SOD eP	16 25 22				i	37.8		
	e	35				KEV eP	01 03 03	0.7	12.5
	KJN iP	16 25 37.0				i	08.4		
	i	49.8				e	41		
	KEV eP	16 25 09	0.9	19.6		e	04 03		
	Kurile Islands					ePP	05 24		
	44.4 N, 150.9 E, 120 km					ePPP	06 51		
19	SOD eP	16 30 58				eS	11 10		
	Kurile Islands					e	22		
	45.0 N, 149.4 E, 45 km					eSS	15 12		
19	SOD eP	18 11 58				Kurile Islands			
	Kurile Islands					44.7 N, 150.7 E, 25 km			
	46.5 N, 152.7 E, 40 km				20	NUR eP	01 15 56		
19	SOD eP	19 20 18				SOD eP	01 15 06		
	Kurile Islands				20	HEL eP	01 18 07		
	45.2 N, 151.2 E, 45 km					NUR eP	01 18 07		
19	HEL eP	23 22 24				SOD eP	01 17 28		
	NUR eP	23 22 25	0.7	15.8		KJN eP	01 17 43		
	SOD eP	23 21 46				Kurile Islands			
	KJN eP	23 22 02				47.4 N, 151.1 E, 45 km			
	Kurile Islands				20	HEL eP	01 18 20		
	45.2 N, 151.1 E, 33 km					NUR eP	01 18 20	0.6	20.6
19	HEL eP	23 55 16				SOD eP	01 17 42		
	SOD eP	23 54 50				KJN eP	01 17 55		
	KJN eP	23 54 52			20	HEL eP	01 23 12		
	Kurile Islands					NUR eP	01 23 12	0.5	4.1
	45.1 N, 151.4 E, 40 km					SOD eP	01 22 34		
20	SOD ePKP	00 42 04				KJN eP	01 23 05		
	KJN ePKP	00 42 04			20	HEL eP	01 23 29		
	Near coast of Chile					NUR eP	01 23 29	0.5	5.4
	37.7 S, 73.2 W, 33 km					KJN eP	01 23 37		

October				T	A	October				T	A		
20	HEL	eP	01 24 49	0.6	7.7	20	HEL	eP	02 20 12	0.6	18.1		
	NUR	eP	01 24 48				NUR	eP	02 20 12				
	SOD	eP	01 24 10				SOD	eP	02 19 34				
	KJN	eP	01 24 25				KJN	iP	02 19 48.4				
	KEV	eP	01 24 07				KEV	eP	02 19 22			1.2 38.9	
	Kurile Islands 44.6 N, 150.1 E, 45 km					Kurile Islands 44.7 N, 150.0 E, 45 km							
20	HEL	iP	01 33 20.1	0.8	34.0	20	HEL	eP	02 23 26	0.6	5.2		
	NUR	iP	01 33 19.3 D				NUR	eP	02 23 26				
	SOD	eP	01 32 39				SOD	eP	02 22 47				
	KJN	eP	01 32 55				KJN	eP	02 23 02				
	Kurile Islands 45.9 N, 153.6 E, 40 km					Kurile Islands 45.0 N, 150.8 E, 50 km							
20	KJN	eP	01 33 25			20	HEL	eP	03 09 38				
20	HEL	eP	01 34 08	0.7	17.2		NUR	eP	03 09 37	0.6	15.5		
	NUR	eP	01 34 07				SOD	eP	03 08 59				
	SOD	eP	01 33 29				KJN	eP	03 09 14				
	KJN	eP	01 33 56				Kurile Islands 44.4 N, 149.6 E, 60 km						
20	HEL	eP	01 34 20	0.8	17.8	20	SOD	eP	03 13 23				
	NUR	eP	01 34 19										
20	NUR	eP	01 42 22			20	HEL	ePKP	03 18 26	0.7	13.2		
							NUR	ePKP	03 18 26				
20	NUR	eP	01 42 36	0.6	6.5			eSKP	21 06	0.9	15.5		
	SOD	eP	01 41 58					SOD	ePKP			03 18 15	
20	HEL	eP	01 43 39	0.7	6.6			eSKP	20 46				
	NUR	eP	01 43 38					KJN	iPKP	03 18 19.3			
	SOD	eP	01 42 59						eSKP	20 56			
	KJN	eP	01 43 14					Fiji Islands region 20.8 S, 178.6 W, 600 km					
20	SOD	eP	01 50 50			20	HEL	eP	03 45 15				
	KJN	eP	01 51 14				e	27					
	Kurile Islands 43.9 N, 149.8 E, 40 km						NUR	eP	03 45 14	0.7	9.2		
							SOD	eP	03 44 34				
20	HEL	eP	01 51 57	0.8	14.8		e	46					
	NUR	eP	01 51 56					KJN	eP	03 44 50			
	SOD	eP	01 51 19					e	45 30				
20	HEL	eP	01 56 34	1.0	8.2	20	HEL	eP	04 08 06	0.6	28.4		
	NUR	eP	01 56 34						NUR			eP	04 08 05
	SOD	eP	01 55 55						SOD			eP	04 07 26
20	NUR	eP	01 58 44	1.4	21.0		KJN	eP	04 07 41				

October

			T	A
20	HEL eP	04 50 51		
	NUR eP	04 50 51	0.7	6.6
	SOD eP	04 50 12		
	KJN eP	04 50 27		
	Kurile Islands			
	44.9 N, 150.3 E, 50 km			
20	SOD eP	04 57 04		
	Kurile Islands			
	44.6 N, 149.8 E, 40 km			
20	HEL eP	05 09 40		
	NUR eP	05 09 38	0.7	6.6
	SOD eP	05 08 59		
	KJN eP	05 09 15		
	Kurile Islands			
	44.5 N, 149.7 E, 50 km			
20	HEL eP	05 31 03		
	NUR eP	05 31 03	0.7	14.5
	SOD eP	05 30 24		
	KJN eP	05 30 39		
	KEV eP	05 30 10	0.8	8.4
	Kurile Islands			
	44.9 N, 151.4 E, 50 km			
20	HEL eP	05 51 27		
	NUR eP	05 51 26	0.8	17.8
	SOD eP	05 50 46		
	KJN eP	05 51 02		
	Kurile Islands			
	47.2 N, 153.7 E, 55 km			
20	SOD eP	06 02 34		
	Kurile Islands			
	44.6 N, 149.7 E, 40 km			
20	HEL eP	06 21 14		
	e	27		
	NUR eP	06 21 13		
	e	26	0.9	31.0
	e	37	0.8	22.2
	SOD iP	06 20 35.2		
	e	48		
	KJN iP	06 20 50.4		
	i	21 03.2		
	KEV iP	06 20 23.8	0.8	40.6
	e	36	0.8	26.6
	Kurile Islands			
	43.9 N, 150.7 E, 50 km			

October

			T	A
20	HEL eP	06 49 38		
	NUR eP	06 49 37	0.8	13.3
	SOD eP	06 48 59		
	KJN iP	06 49 14.3		
	KEV eP	06 48 47	0.9	14.7
	Kurile Islands			
	44.4 N, 150.3 E, 50 km			
20	HEL eP	07 31 05		
	NUR eP	07 31 04	0.7	4.0
	KJN eP	07 30 40		
	Kurile Islands			
	44.7 N, 149.9 E, 40 km			
20	HEL eP	08 36 59		
	NUR eP	08 36 58	0.6	9.0
	SOD eP	08 36 19		
	KJN eP	08 36 34		
	e	52		
	KEV eP	08 36 08	0.9	14.7
	Kurile Islands			
	44.3 N, 149.4 E, 33 km			
20	HEL iP	09 21 30.1		
	e	40		
	NUR eP	09 21 29	0.7	22.4
	i	31.8		
	eS	30 16		
	eScS	31 25		
	eSS	35 00		
	eSSS	37 39		
	eLQ	09 38.7		
	SOD iP	09 20 50.9		
	KJN iP	09 21 05.7		
	KEV iP	09 20 38.2 U	1.0	44.9
	e	42		
	ePPP	24 16		
	eS	28 44		
	eScS	30 30		
	e	31 26		
	eSS	32 40		
	e	33 12		
	e	35 20		
	Kurile Islands			
	44.4 N, 150.0 E, 40 km			
20	HEL eP	11 19 44		
	NUR eP	11 19 43		
	SOD eP	11 19 02		
	KJN eP	11 19 19		
	Kurile Islands			
	44.4 N, 149.7 E, 40 km			

October				T	A	October				T	A
20	HEL	eP	12 03 04			20	HEL	eP	13 31 56		
	NUR	iP	12 03 03.8 U	1.0	69.7		NUR	eP	13 31 55	0.5	6.8
		e	17				SOD	eP	13 31 17		
		ePcS	07 30				KJN	eP	13 30 53		
		eS	11 57				KEV	eP	13 31 05	0.9	17.9
		e	12 36				Kurile Islands				
		eScS	13 00				45.1 N, 150.5 E, 45 km				
		eSS	16 29			20	KJN	eP	13 41 48		
		eSSS	19 15				Baja California				
		eLQ	12 20.3				31.1 N, 115.6 W, 14 km				
	SOD	iP	12 02 25.2			20	NUR	iP	15 22 11.6	0.7	19.8
		e	40				SOD	eP	15 21 33		
	KJN	iP	12 02 40.2				Kurile Islands				
		i	54.5				44.1 N, 151.1 E, 50 km				
	KEV	iP	12 02 12.7	1.0	37.1	20	HEL	eP	15 39 57		
		e	26				NUR	eP	15 39 55	0.7	5.3
		e	04 07				SOD	eP	15 39 17		
		ePPP	05 50				KJN	eP	15 39 32		
		eS	10 12				Kurile Islands				
		e	11 32				43.7 N, 150.3 E, 50 km				
		eScS	12 06			20	HEL	eP	15 51 19		
		eSS	14 32				NUR	eP	15 51 18	0.7	9.2
		e	16 52			20	KJN	eP	15 54 48		
		eLQ	12 17.5				Kurile Islands				
		eLR	12 20.0				45.7 N, 149.7 E, 45 km				
	Kurile Islands					20	HEL	eP	16 11 01		
	44.7 N, 150.2 E, 45 km						NUR	eP	16 11 00	0.6	11.6
20	NUR	eP	12 14 25	0.7	6.6		SOD	eP	16 10 22		
	KJN	eP	12 14 01				KJN	eP	16 10 36		
	Kamchatka						Kurile Islands				
	54.3 N, 157.6 E, 45 km						44.3 N, 149.7 E, 45 km				
20	HEL	eP	12 20 12			20	HEL	eP	17 52 13		
	NUR	eP	12 20 12				NUR	eP	17 52 12	0.8	20.7
	Kurile Islands						SOD	eP	17 51 34		
	45.0 N, 149.6 E, 45 km						KJN	iP	17 51 49.7 D		
20	HEL	eP	13 07 25				Kurile Islands				
	NUR	eP	13 07 25	1.0	30.8		44.2 N, 149.6 E, 45 km				
		e	08 42			20	HEL	eP	17 52 21		
	SOD	iP	13 08 18.9				NUR	eP	17 52 20	0.6	47.7
	KJN	iP	13 07 57.6				eSS	18 05 38			
		i	08 03.7				SOD	iP	17 51 42.5		
	KEV	iP	13 08 36.1	0.7	62.5		KJN	iP	17 51 57.8 U		
	Southern Algeria						KEV	eP	17 51 30	0.8	9.8
	24.1 N, 5.1 E, 0 km						eSS	18 03 31			
20	NUR	eP	13 09 36				e	06 48			
	SOD	eP	13 10 24								
	KJN	iP	13 09 49.5								
	KEV	eP	13 10 05	0.6	15.7						

October						October				
				T	A					
20	KJN	eP	17 56 03			21	HEL	eP	13 19 50	
								e	20 02	
20	HEL	eP	18 09 44				NUR	iP	13 19 49.0 D	0.9 29.2
	NUR	eP	18 09 44	0.6	12.9			i	20 01.2	
		e	55				SOD	eP	13 19 09	
	SOD	eP	18 09 06					i	22.7	
	KJN	iP	18 09 20.9				KJN	eP	13 19 24	
		e	32					i	37.8	
	Kurile Islands							e	20 18	
	44.2 N, 149.6 E, 45 km						KEV	eP	13 18 57	0.9 19.6
								e	19 09	
20	KJN	eP	19 57 36				Kurile Islands			
	Kurile Islands						45.2 N, 151.6 E, 45 km			
	44.2 N, 149.6 E, 45 km					21	KJN	eP	14 02 20	
20	KJN	eP	21 18 41			21	SOD	eP	14 56 32	
	Kurile Islands						KJN	eP	14 56 21	
	45.0 N, 149.8 E, 40 km						Tadzhik S.S.R.			
20	SOD	eP	21 59 43				38.4 N, 73.3 E, 84 km			
	KJN	eP	21 59 35			21	HEL	eP	15 49 03	
	Burma						NUR	iP	15 49 02.9	0.7 27.7
	21.9 N, 94.7 E, 115 km							e	15	
20	KJN	eP	22 58 16				SOD	eP	15 48 23	
	Kurile Islands						KJN	iP	15 48 38.4	
	44.2 N, 149.7 E, 40 km							ePcP	49 18	
21	NUR	eP	02 25 52				KEV	eP	15 48 10	0.6 7.4
	SOD	eP	02 25 22					e	49 03	
	KJN	eP	02 25 32				Kurile Islands			
							45.5 N, 149.7 E, 55 km			
21	KJN	eP	03 25 16			21	HEL	iP	17 31 32.8	
	Kurile Islands							i	47.7	
	44.0 N, 149.9 E, 33 km						NUR	iP	17 31 32.0 U	0.9 63.6
21	KJN	eP	05 29 14					i	46.9 D	
21	SOD	eP	09 50 19				SOD	eP	17 30 53	
	KJN	eP	09 50 33					e	31 08	
	Kurile Islands						KJN	eP	17 31 09	
	44.7 N, 150.3 E, 55 km						KEV	iP	17 30 43.1	0.9 34.7
21	NUR	eP	10 18 34	0.7	10.6			e	56	
	SOD	eP	10 17 56				Kurile Islands			
	KJN	eP	10 18 09				44.1 N, 150.3 E, 65 km			
	Kurile Islands					21	HEL	e	20 50 41	
	45.0 N, 150.3 E, 55 km						NUR	e	20 50 41	0.7 15.8
21	KJN	eP	11 05 50				SOD	eP	20 49 48	
								e	50 02	
							KJN	eP	20 50 04	
								e	29	
							Kurile Islands			
							44.2 N, 151.0 E, 50 km			

October				T	A	October				T	A
21	KJN	eP	21 26 19			22	HEL	eP	03 27 59		
	Kurile Islands						NUR	iP	03 27 58.2	0.8	25.2
	43.3 N, 152.5 E, 20 km							eS	36 44		
21	HEL	eP	23 29 29					eSS	41 16		
		e	45					eSSS	44 27		
	NUR	eP	23 29 28	0.8	14.8			eLQ	03 45.5		
		i	44.9				SOD	eP	03 27 19		
	SOD	eP	23 28 51				KJN	iP	03 27 34.3		
	KJN	iP	23 29 05.9				KEV	iP	03 27 07.7	0.8	21.3
		i	20.5					eSS	39 25		
	KEV	eP	23 28 39	0.7	5.0			eLQ	03 42.5		
	Kurile Islands						Kurile Islands				
	44.0 N, 150.3 E, 50 km						45.0 N, 150.2 E, 45 km				
21	HEL	eP	23 40 10			22	HEL	iP	03 36 28.6		
		e	25					i	42.8		
		e	37				NUR	iP	03 36 26.8 U	0.9	46.4
	NUR	eP	23 40 08	0.8	23.7			e	42		
		e	23				SOD	iP	03 35 48.8		
		e	35				KJN	iP	03 36 04.3		
	SOD	eP	23 39 31					i	18.9		
		e	45				KEV	eP	03 35 38	0.9	23.1
	KJN	iP	23 39 45.7					e	50		
		e	40 06				Kurile Islands				
		ePcP	22				43.9 N, 150.3 E, 50 km				
	KEV	iP	23 39 19	1.2	28.1	22	NUR	eP	04 40 00	0.8	7.4
		e	33					e	12		
	Kurile Islands						SOD	eP	04 39 14		
	44.0 N, 150.1 E, 55 km						KJN	eP	04 39 35		
21	HEL	eP	23 44 01					e	48		
	NUR	eP	23 44 03	0.8	11.8		Rat Islands				
	SOD	eP	23 43 21				51.0 N, 179.4 E, 55 km				
	KJN	eP	23 43 35			22	SOD	eP	04 59 17		
	Kurile Islands						KJN	eP	04 59 39		
	44.2 N, 149.0 E, 55 km						Kurile Islands				
22	SOD	eP	01 13 21				44.5 N, 149.1 E, 33 km				
	KJN	eP	01 13 22			22	HEL	iP	10 29 03.2		
	KEV	eP	01 13 19	0.7	11.3			e	16		
	Luzon, Philippine Islands						NUR	iP	10 29 02.1 D	0.7	30.4
	13.7 N, 121.6 E, 15 km							e	16		
22	HEL	eP	02 39 57				SOD	eP	10 28 23		
	NUR	iP	02 39 56.1 U	0.7	25.1			e	38		
	SOD	iP	02 39 17.7				KJN	iP	10 28 37.8		
	KJN	eP	02 39 33					e	52		
	Kurile Islands						KEV	eP	10 28 11	0.6	8.7
	44.3 N, 151.2 E, 45 km						Kurile Islands				
							44.2 N, 150.3 E, 50 km				

October				October			
		T	A			T	A
22	SOD eP 12 15 37 KJN eP 12 15 52 Kurile Islands 45.3 N, 151.7 E, 33 km			23	KJN eP 02 48 41 Kurile Islands 45.6 N, 150.1 E, 25 km		
22	SOD eP 12 29 26 KJN eP 12 29 41 Kurile Islands 45.1 N, 151.8 E, 20 km			23	SOD eP 05 42 39 KJN eP 05 42 53 Kurile Islands 45.0 N, 151.2 E, 45 km		
22	SOD eP 12 59 35 KJN eP 12 59 45 Kurile Islands 45.6 N, 151.7 E, 50 km			23	HEL ePKP 08 14 59 NUR iPKP 08 14 58.2 KJN ePKP 08 14 51 Santa Cruz Islands 12.0 S, 166.5 E, 107 km	0.6	12.5
22	NUR eSS 16 13 40 e 18 08 eLR 16 32 Santa Cruz Islands 11.6 S, 166.3 E, 80 km			23	SOD eP 08 25 19 KJN eP 08 25 35 Kurile Islands 44.3 N, 149.4 E, 50 km		
22	SOD eP 17 09 22 KJN eP 17 08 52 South of Crete 33.4 N, 25.8 E, 33 km			23	HEL eP 09 58 00 i 13 NUR iP 09 57 59.3 D i 58 11.3 e(S) 10 06 44 eScS 07 44 eSS 11 32 eLR 10 18.5 SOD iP 09 57 24.2 D i 37.0 KJN iP 09 57 36.9 D i 50.0 KEV iP 09 57 13.4 i 25.3 East of Honshu, Japan 41.2 N, 144.2 E, 50 km	0.7	58.1
22	HEL eP 18 07 16 NUR eP 18 07 15 KJN eP 18 07 04	1.0	32.5				
22	SOD eP 19 36 28 KJN iP 19 36 42.6 D Kurile Islands 44.3 N, 152.3 E, 33 km						
22	NUR eP 21 30 51 KJN eP 21 30 48						
23	HEL eP 00 16 55 NUR eP 00 16 53 eLQ 00 34 SOD eP 00 16 15 KJN eP 00 16 31 KEV eP 00 16 06 Kurile Islands 45.7 N, 151.6 E, 20 km	0.6	5.1				
		0.9	16.7				
23	SOD eP 01 11 46 KJN eP 01 12 05 Kurile Islands 44.2 N, 152.0 E, 33 km			23	SOD eP 11 00 24 Kurile Islands 45.8 N, 152.7 E, 50 km		
				23	KJN eP 11 28 39 Kurile Islands 44.4 N, 149.5 E, 45 km		
				23	HEL eP 12 09 46 NUR eP 12 09 45	1.1	19.0
				23	SOD eP 14 57 49 KJN iP 14 57 49.9 e 58 01 Off E coast of Samar 12.2 N, 125.7 E, 99 km		

October				T	A	October				T	A
25	NUR	eP	06 12 42	1.0	24.6	26	HEL	eP	04 06 23		
		e	14 28					e	07 19		
	KJN	eP	06 12 16				NUR	eP	04 06 22	0.5	9.5
		e	30					eS	15 07		
	Near Islands							eScS	16 06		
	52.0 N, 174.8 E, 70 km							eSS	19 50		
25	NUR	eP	06 57 15	1.1	19.5			eSSS	22 32		
								eLR	04 27.1		
25	KJN	eP	08 18 39				SOD	eP	04 05 45		
	Kurile Islands						KJN	eP	04 05 59		
	43.7 N, 150.8 E, 45 km							i	06 04.6		
25	NUR	eP	10 28 38				KEV	eLR	04 23.8		
	KJN	eP	10 28 16				Kurile Islands				
		ePcP	56				44.5 N, 150.1 E, 55 km				
	Kurile Islands					26	HEL	eP	04 08 49		
	45.3 N, 150.2 E, 40 km						NUR	eP	04 08 48	0.7	9.2
25	KJN	eP	11 23 24				KJN	eP	04 08 25.2		
	Kurile Islands					26	HEL	eP	05 12 24		
	44.0 N, 151.1 E, 45 km						NUR	eP	05 12 23	0.8	7.4
25	NUR	eP	12 43 50				SOD	eP	05 11 52		
	KJN	eP	12 43 27				KJN	eP	05 12 00		
	Kurile Islands						Kurile Islands				
	44.5 N, 150.2 E, 45 km						43.7 N, 150.5 E, 40 km				
25	NUR	eP	14 48 26	0.8	8.9	26	HEL	eP	06 10 27		
							NUR	eP	06 10 26	0.8	14.8
25	HEL	eP	16 52 35				SOD	eP	06 09 48		
	KJN	eP	16 52 10				KJN	eP	06 10 03		
	Kurile Islands						Kurile Islands				
	44.3 N, 149.7 E, 20 km						44.5 N, 149.8 E, 60 km				
25	HEL	eP	20 12 12			26	KJN	eP	06 35 22		
	NUR	eP	20 12 10				Kurile Islands				
	SOD	eP	20 11 50				44.6 N, 154.2 E, 60 km				
	KJN	eP	20 11 59			26	HEL	eP	06 38 36		
		i	12 23.3				NUR	eP	06 38 34		
	KEV	eP	20 11 45	0.7	18.1		KJN	eP	06 38 11		
	Mariana Islands						Kurile Islands				
	12.3 N, 144.5 E, 29 km						44.8 N, 149.6 E, 55 km				
25	HEL	eP	22 58 34			26	NUR	eP	09 23 38		
	NUR	eP	22 58 34	1.3	42.0		KEV	eP	09 22 32		
	KJN	eP	22 58 18			26	HEL	eP	11 32 31		
		i	22.5				NUR	eP	11 32 30	0.9	24.1
	Tsinghai, China							eS	41 07		
	36.9 N, 95.2 E, 33 km							eScS	42 13		
								eSS	45 50		

cont.



October				October			
		T	A			T	A
	SOD eP	11 31 51		28	SOD eP	00 50 02	
	KJN iP	11 32 06.3 D			Northern Celebes		
	KEV eP	11 31 39			1.9 N, 124.8 E, 232 km		
	Kurile Islands			28	NUR ePKP	08 14 39	1.6 62.2
	44.7 N, 149.7 E, 55 km				e	17 40	
26	HEL eP	11 42 37			ePP	18 18	
	NUR eP	11 42 35	0.7 10.6		eSKKKS	24 38	
	e	44 02			eSKSP	27 52	
	SOD eP	11 41 58			ePPS	30 02	
	KJN iP	11 42 12.8			eSS	35 42	
	KEV eP	11 41 45			eSSS	41 17	
	Kurile Islands				eLQ	08 53.5	
	44.6 N, 149.8 E, 55 km				KEV ePP	08 17 48	
26	NUR eP	12 14 49			eSS	34 26	
	KJN eP	12 15 07			e	37 00	
	Tonga Islands				Tonga Islands		
	15.8 S, 174.0 W, 115 km				24.3 S, 176.0 W, 33 km		
26	HEL ePKP	12 52 54		28	HEL iP	12 13 36.3	
	NUR ePKP	12 52 54	0.8 10.4		NUR iP	12 13 35.1 U	1.1 79.0
	Tonga Islands				e	16 34	
	15.8 S, 174.0 W, 115 km				e(PPP)	17 38	
27	HEL eP	00 09 50			eS	21 51	
	e	10 02			ePS	22 04	
	NUR eP	00 09 49	1.0 24.6		eSS	26 24	
	SOD eP	00 09 12			eLQ	12 29.0	
	e	23			eLR	12 33.2	
	KJN iP	00 09 26.1			SOD iP	12 12 50.1 U	
	KEV eP	00 08 59	0.5 19.8		KEV iP	12 12 35.6	0.5 19.4
	Kurile Islands				e(S)	20 06	
	43.8 N, 151.2 E, 33 km				e(SS)	24 22	
27	NUR eP	01 29 48	1.2 26.4		e	26 07	
	Tonga Islands				eLR	12 29.9	
	24.3 S, 179.1 W, 33 km				Kamchatka		
27	HEL eP	13 10 32			52.8 N, 159.8 E, 33 km		
	NUR eP	13 10 32	0.7 9.2	28	NUR eP	16 16 01	1.0 12.5
	SOD eP	13 10 24			SOD eP	16 17 10	
	KJN eP	13 10 12			KJN eP	16 16 39	
	i	19.4		28	KJN eP	16 21 42	
	Sinkiang, China				Kurile Islands		
	43.5 N, 89.0 E, 56 km				45.0 N, 151.7 E, 60 km		
27	NUR ePKP	18 44 07		28	SOD eP	18 15 14	
	Tonga Islands				KJN eP	18 15 29	
	24.3 S, 179.1 W, 33 km				Kurile Islands		
27	HEL eP	20 16 22			45.0 N, 151.7 E, 60 km		
	NUR eP	20 16 20	0.6 10.4	28	SOD eP	18 19 54	
	SOD eP	20 15 42			Kurile Islands		
	KEV eP	20 15 30	0.4 9.8		43.9 N, 150.9 E, 33 km		
	Kurile Islands						
	44.5 N, 150.1 E, 50 km						



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					T	A
28	HEL	eSKP	20 20 32			
	NUR	ePKP	20 17 40			
		iSKP	20 32.2 U	0.8	28.1	
	SOD	eSKP	20 20 14			
	KJN	ePKP	20 17 30			
		iSKP	20 24.0			
	Fiji Islands					
	24.5 S, 179.9 E, 532 km					
28	NUR	eP	20 47 41			
		eLR	21 06.0			
	SOD	eP	20 47 00			
	KJN	eP	20 47 14			
	KEV	eLQ	21 03.4			
	Kurile Islands					
	44.8 N, 149.6 E, 45 km					
28	SOD	eP	21 57 56			
	Kurile Islands					
	49.9 N, 154.7 E, 105 km					
28	KJN	eP	21 59 02			
29	HEL	eP	02 34 41			
	NUR	eP	02 34 41	0.6	7.7	
	SOD	eP	02 34 02			
	KJN	eP	02 34 17			
	Kurile Islands					
	44.6 N, 151.2 E, 45 km					
29	SOD	eP	03 08 13			
	KJN	eP	03 08 28			
29	SOD	eP	07 19 06			
	KJN	eP	07 19 21			
	Kurile Islands					
	45.3 N, 150.7 E, 55 km					
29	HEL	eSg	18 31 36.5			
	NUR	eSg	18 31 22			
	SOD	iPn	18 29 13			
		iPb	15.5			
		iPg	18.0			
		iSn	39.5			
		iSb	45.5			
		iSg	47.5			
	KJN	ePg	18 29 26			
		eSb	59.5			
		iSg	30 07.5			
	cont.					

October

					T	A
	KEV	iPn	18 29 40.5			
		ePg	55			
		iSn	30 30.7			
		iSg	51.0			
	According to the Finnish seismograph station net: Sweden					
	65.8 N, 22.2 E					
	H: 18 28 34					
29	KJN	ePKP	20 41 41			
	Kermadec Islands					
	26.2 S, 177.8 W, 49 km					
29	HEL	eP	22 31 28			
		i	47.6			
		ePP	33 01			
	NUR	iP	22 31 30.9 U	1.0	24.4	
		i	47.5			
		ePP	33 00			
		e	35 15			
		eS	37 34			
		e	40 20			
		eLR	22 42.7			
	SOD	eP	22 31 17			
		ePP	32 45			
	KJN	eP	22 31 12			
		i	21.0			
		ePP	32 43			
	KEV	eP	22 31 14	1.0	11.8	
		eLQ	22 42.8			
30	SOD	eP	00 45 44			
	KJN	eP	00 45 58			
	Kurile Islands					
	44.7 N, 150.0 E, 55 km					
30	HEL	eP	15 31 51			
	NUR	eP	15 31 50	0.6	6.3	
	SOD	eP	15 31 12			
	KJN	eP	15 31 27			
	KEV	eP	15 31 01			
	Kurile Islands					
	44.8 N, 150.2 E, 45 km					
30	HEL	eP	18 33 20			
	NUR	eP	18 33 12			
	SOD	eP	18 32 08			
	KJN	eP	18 32 43			
	KEV	eP	18 31 51			
	Arctic Ocean					
	72.2 N, 1.4 W, 33 km					

October

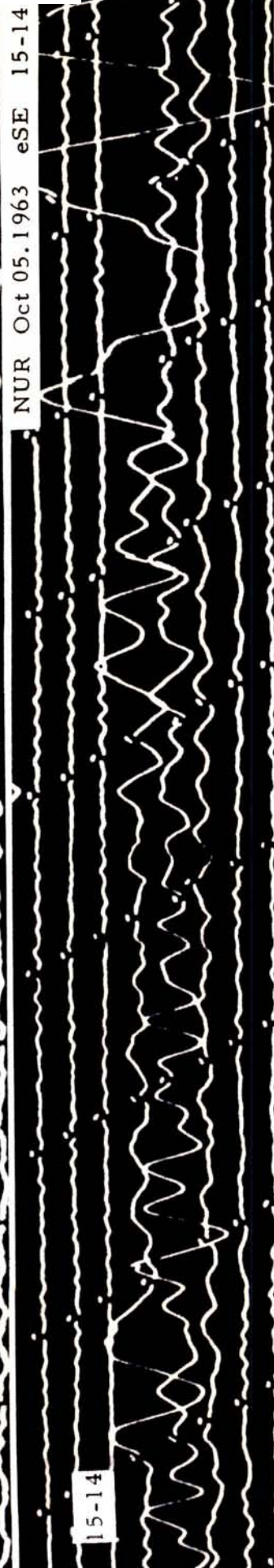
October

			T	A
30	HEL	eP	22 53 21	
	NUR	eP	22 53 20	0.6 8.9
	KJN	eP	22 52 57	
	Kurile Islands			
	43.5 N, 150.5 E, 33 km			
30	HEL	ePKP	03 37 02	
	NUR	ePKP	03 36 58	
		e	37 04	0.6 5.1
		e	33	
		ePP	39 54	
		eSKP	40 31	
		ePKS	42	
		epPKS	41 10	
		e	43 00	
		eSKS	44 10	
		e	45 26	
		e	45 04	
		eSKKS	46 54	
		eSKSP	50 08	
		eSPP	52 16	
		eSS	58 28	
		eLQ	04 15.5	
		eLR	04 22.8	
	SOD	ePKP	03 36 55	
	KJN	ePKP	03 36 59	
		i	37 07.8	
		ePP	39 46	
	KEV	ePKP	03 36 46	
		ePP	39 02	
		e	23	
		ePKS	40 16	
		e	47	
		eSKS	43 58	
		e	44 06	
		e	47 26	
		eSKSP	49 04	
		eSS	56 32	
		e	59 06	
		eSSS	04 00 54	
	Tonga Islands			
	21.8 S, 175.0 W, 33 km			

			T	A
31	KJN	ePKP	04 44 03	
		i	05.3	
	Fiji Islands			
	23.9 S, 179.8 W, 464 km			
31	KJN	ePKP	09 09 42	
		eSKP	12 15	
	Fiji Islands			
	17.9 S, 178.8 W, 637 km			
31	KJN	eP	09 50 10	
	Andreanof Islands			
	51.8 N, 173.8 W, 70 km			
31	HEL	eP	10 04 26	
	NUR	eP	10 04 27	
	SOD	eP	10 05 06	
	KJN	eP	10 04 41	
		i	55.4	
	KEV	eP	10 05 19	0.3 12.6
	Southern Iran			
	27.4 N, 55.6 E, 35 km			
31	SOD	eP	20 18 15	
	KJN	eP	20 17 51	
		e	19 53	
	Hindu Kush			
	37.2 N, 70.0 E, 105 km			

May 26, 1964

M. T. Porkka
Aili Huovila





November

November

				T	A					T	A	
1	KJN	eP	00 04 40			SOD	ePKP	21 18 33				
			Kurile Islands				eSKP	21 54				
			43.7 N, 151.2 E, 33 km			KJN	ePKP	21 18 38				
1	KJN	eP	00 33 41				i	41.0				
		e	48				eSKP	21 59				
							ePKS	22 09				
1	HEL	eP	01 36 44			Tonga Islands						
		eS	38 37			22.5 S, 176.8 W, 71 km						
	NUR	eP	01 36 43	0.8	8.9	1	HEL	eP	22 52 04			
		eS	38 32				ePcP	33				
	SOD	eP	01 36 44			NUR	iP	22 52 03.1 U	0.7	44.1		
		eS	38 36				ePcP	33				
		eLg	39 31				eS	23 01 02				
		e	40 41				eLQ	23 09.2				
	KJN	eP	01 36 51				eLR	23 12.0				
		eS	38 45			SOD	iP	22 51 25.1				
		eLg	39 45			KJN	eP	22 51 39				
	KEV	eP	01 36 59	0.5	6.6		i	52.3				
		eS	39 03				ePcP	52 19				
			Near coast of Norway			KEV	eP	22 51 13	0.5	25.8		
			62.9 N, 3.3 E, 33 km			Kurile Islands						
						44.9 N, 148.9 E, 60 km						
1	HEL	eP	04 02 49	D								
	NUR	iP	04 02 47.4	D	0.7	39.6	2	HEL	eP	09 28 08		
		i	57.8				NUR	eP	09 28 06	0.7	14.9	
	SOD	iP	04 02 03.6	U			Kurile Islands					
		i	14.9			44.6 N, 151.2 E, 50 km						
	KJN	iP	04 02 21.8	U								
		i	35.9									
		i	44			2	HEL	eP	18 04 15			
	KEV	iP	04 01 48.0	D	0.7	24.3		e	29			
			Kamchatka				NUR	iP	18 04 15.0	D	0.6	25.4
			51.7 N, 159.8 E, 33 km					e	28			
1	NUR	eP	07 11 44		0.9	17.2	SOD	eP	18 03 37			
		eS	18 56					e	51			
		eSS	22 44			KJN	iP	18 03 52.1				
		eLQ	07 24.1				i	04 05.7				
		eLR	07 26.0			Kurile Islands						
	SOD	eP	07 12 17			44.0 N, 150.5 E, 50 km						
	KJN	eP	07 11 59									
	KEV	eP	07 12 26		0.8	14.3	3	HEL	eP	01 26 11		
			Gulf of Aden				KJN	eP	01 25 47			
			14.6 N, 53.6 E, 33 km			Kurile Islands						
1	HEL	ePKP	21 18 38			45.2 N, 151.4 E, 45 km						
		e	47									
	NUR	ePKP	21 18 40									
		e	44	0.9	36.1	3	HEL	eP	01 47 47			
		eSKP	22 10			KJN	eP	01 47 21				
		ePKS	21			Kurile Islands						
			cont.			45.4 N, 151.0 E, 33 km						

November

November

November				T	A	November				T	A	
7	HEL	eP	17 29 59	1.0	24.0	KJN	eP	02 52 52	0.9	8.4		
	NUR	eP	17 30 03			KEV	ePP	02 53 34				
7	NUR	eP	18 27 32				eS	57 34				
							eLQ	02 59.0				
							eLR	02 59.9				
							South of Iceland 56.8 N, 34.6 W, 33 km					
7	KJN	eP	19 01 36	1.0	20.0	9	NUR	eP	04 48 28			
	North of Crete 36.0 N, 25.4 E, 33 km					9	KJN	eP	05 50 12			
							Sumatra 5.6 S, 105.5 E, 33 km					
7	NUR	ePKP	20 34 42			9	HEL	eP	05 52 00	1.0	36.0	
		e	35 29				NUR	eP	05 52 01			
	Kermadec Islands 29.4 S, 178.1 W, 110 km						KJN	eP	05 51 49			
7	HEL	eP	20 48 41			9	NUR	eP	06 11 49			
	SOD	eP	20 48 02				KJN	eP	06 11 53			
	KJN	eP	20 48 18									
	Kurile Islands 44.9 N, 151.9 E, 29 km					9	HEL	eP	09 02 04	1.1	21.4	
7	NUR	eP	23 26 47				NUR	eP	09 02 00			
							KJN	eP	09 01 38			
8	HEL	eP	08 18 52	0.8	15.8		Kurile Islands 45.3 N, 150.8 E, 33 km					
	NUR	eP	08 18 52					9	NUR	eP	13 00 33	1.4
	Kurile Islands 45.0 N, 150.9 E, 40 km						SOD	eP	13 01 25			
8	HEL	eP	10 11 12	1.0	48.0	9	KJN	iP	13 06 06.3			
	NUR	iP	10 11 14.8 U						i	14.3		
	KJN	iP	10 11 33.0 U						Atlantic Ocean 0.1 S, 25.1 W, 33 km			
	KEV	eP	10 12 03					9	NUR	eP	16 15 13	1.1
	Northern Rhodesia 16.5 S, 28.5 E, 33 km						KJN	eP	19 04 23			
8	NUR	iP	12 18 31.0 U	0.8	23.0		Banda Sea 7.1 S, 129.4 E, 80 km					
8	KJN	eP	14 45 49			9	HEL	eP	21 28 20			
	Kurile Islands 44.4 N, 149.4 E, 33 km						e	26				
8	SOD	eP	16 26 21				e	32				
	KJN	eP	16 26 21				epP	30 31				
	Molucca Passage 2.7 N, 128.4 E, 216 km						ePP	32 38				
9	NUR	eP	01 48 38				eSKS	38 00				
	KJN	eP	01 48 34				ePKKP	44 21				
9	NUR	ePP	02 53 44				e	33				
		eS	57 44				eP'P'	52 48				
		eLQ	02 59.2									
		eLR	03 00.5									

cont.

cont.

November

				T	A				
NUR	eP	21	28 17	0.8	5.8				
	i		19.6 U	1.1	35.7				
	i		29.1 D	1.0	106.0				
	ipP		30 31.1						
	esP		31 36						
	ePP		32 37						
	epPP		34 34						
	epPPP		36 36						
	eSKS		38 00						
	eS		39 00						
	ePS		42 08						
	ePKKP		44 22						
	i		33.1						
	epPKKP		46 42						
	eP'P'		52 41						
i		48.1							
e		55 00							
SOD	eP	21	28 20						
	ipP		30 35.8						
	ePP		32 48						
	eSKS		38 09						
	eS		50						
	ePS		42 12						
	ePKKP		44 30						
	eP'P'		52 45						
	KJN	iP	21	28 24.4					
		i		27.1					
epP			30 31						
ePP			32 44						
epPP			34 31						
eSKS			38 06						
eS			39 02						
e			22						
ePS			42 06						
esPS			44 14						
ePKKP			21						
epPKKP			46 41						
eP'P'			52 43						
e			55 01						
KEV		eP	21	28 20	0.6	2.4			
	i		21.6	0.9	22.5				
	epP		30 28						
	esP		31 28						
	ePP		32 42						
	esPP		35 26						
	iSKS		38 06						
	iS		39 08						
	eSP		40 30						
	ePPS		42 10						
	esS		43 12						

cont.

November

				T	A				
	ePKKP		44 09						
	esPS		26						
	e		30						
	eSS		46 20						
	esSS		50 00						
	eP'P'		52 43						
	e		54 10						
	eG		57 00						
	Western Brazil								
	9.0 S, 71.5 W, 600 km								
9	NUR	eP	22 10 23	1.0	10.0				
	KJN	eP	22 10 28						
9	NUR	eP	22 52 43						
	KJN	eP	23 27 08						
Western Brazil									
8.5 S, 72.1 W, 563 km									
10	KJN	eP	00 44 12						
	Western New Guinea.								
2.0 S, 139.1 E, 129 km									
10	HEL	eP	01 13 31						
		e(PP)	17 32						
	NUR	eP	01 13 26	1.1	33.3				
		epP	15 31						
		esP	16 24						
		ePP	17 38						
		eSKS	23 09						
	SOD	eP	01 13 28						
		ePP	17 41						
	KJN	eP	01 13 32						
		i	43.4						
		epP	15 41						
		ePP	17 50						
		eSKS	23 10						
		ePKKP	29 29						
KEV	eP	01	13 29	0.8	12.4				
	epP		15 34						
	ePP		17 44						
	e		20 04						
	eSKS		23 10						
	eS		24 12						
	eSP		25 44						
	esPS		29 30						
	eSS		31 38						
	esSS		35 30						
	Western Brazil								
	9.2 S, 71.5 W, 600 km								

November

			T	A
10	HEL eP	05 08 30		
	NUR eP	05 08 30		
	SOD eP	05 08 31		
	KJN eP	05 08 25		
	Northeastern India			
	26.5 N, 93.2 E, 66 km			
10	NUR eP	08 50 30	1.6	59.7
10	NUR eP	09 00 48		
	SOD eP	09 00 10		
	Kurile Islands			
	44.5 N, 149.4 E, 45 km			
10	NUR eP	11 23 45		
	Aegean Islands			
	36.5 N, 25.9 E, 34 km			
10	HEL eP	17 28 28		
	i	30.3		
	NUR eP	17 28 25	0.8	10.1
	i	29.2		
	e	30 16		
	ePPP	32 30		
	ePcS	48		
	e	33 54		
	eS	37 08		
	ePS	30		
	eScS	38 34		
	eSS	41 42		
	eSSS	44 32		
	eLQ	17 46.2		
	eLR	17 48.6		
	SOD eP	17 27 50		
	i	55.8		
	ePP	30 09		
	KJN eP	17 28 05		
	KEV eP	17 27 39		
	i	43.0	1.0	37.1
	i	55.2	0.9	32.6
	ePcP	28 26		
	ePPP	31 08		
	eS	35 30		
	e	36 06		
	e	55		
	eSS	39 46		
	eLQ	17 43.2		
	eLR	17 45.2		
	Kurile Islands			
	44.4 N, 149.0 E, 40 km			

November

			T	A
10	NUR eP	18 42 25	1.5	42.0
	i	38.1		
	SOD eP	18 43 23		
	KJN eP	18 42 56		
	e	43 05		
	KEV eP	18 43 43		
	Ionian Sea			
	37.3 N, 20.9 E, 33 km			
10	HEL ePKP	19 38 56		
	SOD ePKP	19 38 50		
	KJN ePKP	19 38 45		
	i	55.6		
	eSKP	41 30		
	South of Fiji Islands			
	26.2 S, 178.3 E, 607 km			
11	SOD eP	00 20 35		
	KJN eP	00 20 47		
	Kurile Islands			
	43.8 N, 149.5 E, 55 km			
11	KJN eP	00 28 41		
	Banda Sea			
	7.0 S, 129.5 E, 132 km			
11	KJN eP	00 47 30		
	Kurile Islands			
	44.3 N, 149.2 E, 45 km			
11	NUR eP	01 29 36	1.2	34.2
11	HEL eP	10 00 25		
	NUR eP	10 00 24	0.6	10.0
	SOD eP	09 59 46		
	KJN eP	10 00 03		
	Kurile Islands			
	44.6 N, 148.9 E, 55 km			
11	HEL e	10 15 59		
	NUR eP	10 15 52	0.8	14.4
	e	59		
	KJN eP	10 15 37		
11	HEL e	11 48 03		
	NUR ePKP	11 47 49		
	e	56		
	i	48 03.8	1.1	47.6
	ePKS	51 33		
	SOD ePKP	11 47 50		
	KEV ePKP	11 47 47	1.0	29.3
	Tonga Islands			
	16.9 S, 174.4 W, 185 km			

November				November			
	T	A		T	A		
14	HEL	ePKP	00 39 39			ePPP	21 14
	KJN	ePKP	00 39 33			eS	25 56
	Kermadec Islands					ePS	26 28
	30.1 S, 177.4 W, 42 km					eSS	30 24
						eSSS	33 24
14	SOD	eP	04 10 34			eLR	21 37.5
	KJN	eP	04 10 40			SOD	iP 21 16 40.1
	KEV	eP	04 10 26	0.7	9.8	eP'P'	46 02
	Mariana Islands					KJN	iP 21 16 52.6 U
	22.6 N, 142.9 E, 177 km					e	26 11
14	SOD	eP	04 31 12			eP'P'	45 58
						KEV	eP 21 16 28
14	SOD	ePKP	04 54 45			e	17 32
	KJN	ePKP	04 54 49			ePP	18 17
	KEV	ePKP	04 54 42	0.9	19.3	ePPP	19 46
	New Hebrides Islands					eS	24 34
	17.5 S, 167.7 E, 33 km					ePS	56
14	SOD	eP	05 16 15			eScS	26 20
	KJN	eP	05 16 31			eSS	28 24
	Kurile Islands					e	31 13
	45.7 N, 151.2 E, 15 km					eLR	21 34.0
14	NUR	eP	10 28 22			Kurile Islands	
	KJN	eP	10 28 05			44.3 N, 149.0 E, 50 km	
	South of Honshu, Japan					16	SOD eP 01 27 12
	30.5 N, 138.8 E, 439 km					Kurile Islands	
						44.7 N, 149.0 E, 33 km	
14	KJN	ePKP	14 20 19			16	HEL eP 02 40 52
	New Hebrides Islands						e 41 36
	17.4 S, 167.6 E, 33 km					NUR	eP 02 40 50
14	KJN	iPKP	14 24 36.5 U				e 41 36
	New Hebrides Islands						ePcS 45 17
	17.5 S, 167.7 E, 33 km						eS 49 32
14	KJN	eP	21 37 44				ePPS 50 20
	Kurile Islands						eSS 54 18
	45.4 N, 151.4 E, 50 km						eSSS 57 26
15	SOD	eP	15 27 09				eLR 03 01.0
	Unimak Islands					SOD	eP 02 40 14
	52.9 N, 164.3 W, 33 km					KJN	iP 02 40 27.5
15	HEL	eP	21 17 17				e 45
		i	18.9			Kurile Islands	
	NUR	iP	21 17 17.2 U	1.0	52.0	44.3 N, 149.0 E, 50 km	
		e	18 37			16	KJN iP 06 39 47.9
		ePP	19 52				
		e	20 17			16	NUR eP 07 22 56
			cont.				1.2 42.8

November

November

				T	A					T	A		
16	NUR	eSS	07 27 00					KEV	ePKP	23 02 41			
		eSSS	31 02						e	04 46			
		eLQ	07 43.0						ePKS	06 13			
		eLR	07 50.1					Tonga Islands					
	Off coast of Chile							22.3 S, 175.0 W, 33 km					
	41.3 S, 87.5 W, 11 km												
16	HEL	eP	11 17 50					16	SOD	ePKP	23 59 12		
	NUR	eP	11 17 50	0.7	5.2				KJN	ePKP	23 59 16		
	SOD	iP	11 17 46.8					Tonga Islands					
	KJN	iP	11 17 42.8					22.1 S, 175.3 W, 33 km					
		i	45.4										
		ePcP	18 39					17	HEL	eP	00 59 11		
	KEV	eP	11 17 52						i		15.2		
	Northern Burma								NUR	eP	00 59 13	1.3	61.4
	26.7 N, 97.2 E, 33 km								i		14.5 D		
									e	01 00 55			
16	NUR	eP	11 39 31	1.0	36.0				ePP	01 46			
									eS	08 18			
16	NUR	eP	11 49 18						eSS	12 48			
	SOD	iP	11 49 16.1						eLQ	01 15.8			
	KJN	eP	11 49 09						eLR	01 20.5			
	KEV	eP	11 49 17					SOD	eP	00 59 31			
	Assam, India								e	01 01 45			
	28.1 N, 95.1 E, 37 km							KJN	iP	00 59 27.1			
									i	28.9			
16	HEL	eP	18 05 40						e	01 01 17			
	NUR	eP	18 05 41	0.9	16.8				e	04 16			
									eS	08 52			
16	HEL	ePKP	23 02 54						ePS	09 16			
		e	03 05					KEV	eP	00 59 38			
	NUR	ePKP	23 02 54						i	40.7 D			
		e	03 06						e	01 00 06			
		ePP	05 41						e	56			
		e	06 34						eS	09 10			
		ePKS	50						eSP	46			
		eSKS	10 10						eSS	13 51			
		eSKKS	12 37						eLQ	01 19.0			
		eSKSP	15 40						eLR	01 22.2			
		ePPS	18 15					North Atlantic Ocean					
		ePPPS	19 20					7.6 N, 37.4 W, 33 km					
		e	21 27										
		eSS	24 07					17	SOD	eP	07 30 20		
		e	25 34										
		eSSS	28 49					17	NUR	eP	07 59 50		
	SOD	ePKP	23 02 41						KJN	eP	07 59 48		
		e	04 49										
	KJN	ePKP	23 02 45					17	HEL	eP	08 03 33		
		i	47.1						NUR	eP	08 03 35		
		e	04 16						SOD	eP	08 03 22		
		ePKS	06 16						KJN	eP	08 03 20		
		e	29					Mindanao					
								6.3 N, 126.2 E, 33 km					

cont.

November				T	A	November				T	A
17	SOD	eP	10 22 02			eSS	06 52				
						eSSS	10 00				
17	NUR	ePKP	13 32 07			eLQ	15 14.6				
	KJN	iPKP	13 31 59.3			SOD	eP 14 50 32				
	Fiji Islands					i	35.9				
	17.4 S, 178.5 W, 509 km					KJN	iP 14 50 49.0				
						i	51 17				
17	NUR	eP	16 37 36	0.8	8.6	KEV	iP 14 50 24.8	1.1	45.2		
	KJN	eP	16 36 35			eS	15 00 14				
						e	01 58				
17	SOD	eP	17 21 46			eSS	05 00				
	KJN	eP	17 21 46			eSSS	08 48				
						eLR	15 14.1				
18	HEL	eP	01 50 10			Gulf of California					
	NUR	eP	01 50 13	0.9	21.6	29.9 N, 113.6 W, 14 km					
	Southern Iran					18	KJN	eP	19 45 57		
	29.3 N, 57.0 E, 33 km					Gulf of California					
						30.0 N, 113.7 W, 14 km					
18	HEL	eP	01 55 26			18	NUR	eP	19 48 31	0.8	8.6
	NUR	eP	01 55 24								
	SOD	eP	01 54 46			18	KJN	ePKP	21 29 59		
	KJN	eP	01 55 02				i	30 01.8			
	Sea of Okhotsk					Santa Cruz Islands					
	47.2 N, 148.5 E, 319 km					13.4 S, 166.6 E, 51 km					
18	KJN	eP	05 29 57			19	SOD	eP	02 11 24		
	South of Java					Kurile Islands					
	8.4 S, 113.5 E, 104 km					44.1 N, 150.2 E, 50 km					
18	NUR	eP	12 52 27	1.0	11.9	19	HEL	iP	04 47 32.3		
							NUR	iP	04 47 31.8 D	0.9	70.6
18	NUR	eP	13 32 10	0.6	3.7		SOD	iP	04 47 04.0 D		
	KJN	eP	13 31 54				KJN	iP	04 47 12.4 D		
							KEV	iP	04 46 55.8 D	0.8	49.3
18	HEL	ePKP	13 33 25			Off east coast of Korea					
	NUR	iPKP	13 33 26.8 D	1.1	49.4	39.7 N, 129.5 E, 537 km					
	i		31.7	1.1	49.4						
	SOD	iPKP	13 33 10.8			19	HEL	ePKP	11 05 07		
	KJN	ePKP	13 33 16				NUR	ePKP	11 05 06	0.9	15.1
	Kermadec Islands						KJN	iPKP	11 04 59.5		
	35.5 S, 179.9 W, 50 km					Loyalty Islands					
						22.5 S, 171.3 E, 36 km					
18	HEL	eP	14 51 02			19	HEL	iP	11 11 40.3 U		
	i		06.2				e		12 11		
	NUR	eP	14 51 00	1.8	176.8		NUR	iP	11 11 39.4 U	1.1	92.8
	i		04.8	1.5	336.5		i		12 08.0	0.8	17.3
	i		18.4				eS		20 24		
	ePP		54 15				eSS		25 00		
	eS		15 01 28				eLQ		11 29		
	ePS		02 18				eLR		11 32		
	e		05 46								

cont.

cont.

November

				T	A
	SOD	eP	11 11 00		
	KJN	iP	11 11 16.1		
		e	54		
	Kurile Islands				
	44.4 N, 149.2 E, 33 km				
19	HEL	iP	17 48 53.5		
		i	49 07.7		
	NUR	iP	17 48 52.0 U	0.9	31.5
		e	49 10		
		eL	18 06		
	SOD	iP	17 48 06.8		
		ePcP	49 08		
	KJN	eP	17 48 25		
		e	45		
		e	49 08		
	Kamchatka				
	53.1 N, 159.6 E, 40 km				
19	HEL	eP	18 29 54		
		e	30 15		
	NUR	eP	18 29 52	0.5	13.0
		e	30 09		
		i	16.1	1.0	29.7
		eS	40 37		
		eSS	46 36		
		e	51 10		
		eL	19 01		
	SOD	eP	18 29 56		
	KJN	eP	18 29 49		
		i	30 13.2		
	Sumatra				
	5.0 S, 102.2 E, 37 km				
19	HEL	eP	22 22 42		
	NUR	eP	22 22 41	1.0	19.8
20	NUR	eP	00 24 42	1.0	17.8
20	HEL	ePKP	12 19 27		
	NUR	ePKP	12 19 24		
		e	23 12		
		eSS	41 26		
		eLQ	12 58		
		eLR	13 05		
	KJN	ePKP	12 19 16		
	Tonga Islands				
	22.2 S, 175.2 W, 33 km				
20	NUR	eP	17 31 34		

November

				T	A
20	NUR	eP	20 53 30	0.9	8.3
	KJN	iP	20 53 14.1		
20	SOD	eP	22 43 38		
	KJN	eP	22 43 53		
	Kurile Islands				
	44.1 N, 149.1 E, 45 km				
21	KJN	eP	10 04 00		
	Honshu, Japan				
	41.2 N, 141.1 E, 57 km				
21	KJN	iP	13 17 02.9		
	Kurile Islands				
	44.9 N, 151.9 E, 40 km				
21	KJN	eP	18 55 14		
	Ascension Islands				
	13.8 S, 14.5 W, 33 km				
21	HEL	eP	20 09 11		
	NUR	eP	20 09 09	0.6	13.6
	KJN	eP	20 08 46		
	Kurile Islands				
	44.2 N, 149.6 E, 40 km				
21	NUR	eP	21 12 06		
	SOD	eP	21 11 19		
	KJN	eP	21 11 48		
	Southern Kamchatka				
	50.3 N, 156.4 E, 80 km				
22	HEL	eP	00 31 10		
	KJN	eP	00 31 05		
	Java				
	5.9 S, 107.9 E, 323 km				
22	KJN	eP	11 26 50		
	Guerrero, Mexico				
	18.5 N, 100.3 W, 120. km				
22	HEL	iP	14 56 38.4		
		e	45		
	NUR	eP	14 56 36	0.6	16.9
		i	43.2		
		e	51		
		ePS	15 05 48		
		e	06 04		
		eSS	09 57		
		eSSS	12 26		
		eLR	15 16.5		

cont.

November				T	A	November				T	A
	SOD	eP	14 55 58			23	KJN	iPKP	19 48 35.9		
	KJN	iP	14 56 13.2				Fiji Islands				
		e	26				20.2 S, 178.1 W, 515 km				
	KEV	eP	14 55 46			23	HEL	eP	22 38 38		
		i	48.2 U	0.7	28.1		NUR	eP	22 38 34	0.6	10.9
		e	15 03 32					eS	42 20		
		ePS	04 16					eLQ	22 43.4		
		eSS	08 08					eLR	22 44.1		
		eLQ	15 12				SOD	iP	22 37 13.8		
		eLR	15 13.5					eS	39 40		
	Kurile Islands						KJN	iP	22 37 56.1		
	44.4 N, 149.0 E, 33 km							eS	41 01		
22	KJN	eP	15 32 37				KEV	eP	22 36 45	0.9	17.7
	Kurile Islands							eS	38 47		
	44.5 N, 149.2 E, 40 km						Svalbard region				
							79.9 N, 0.9 E, 33 km				
22	HEL	eP	20 31 06			24	KJN	ePKP	05 28 02		
	NUR	eP	20 31 09				Tonga Islands				
		eS	35 26				22.1 S, 175.6 W, 33 km				
		eLQ	20 36.8			24	KJN	ePKP	05 32 41		
		eLR	20 37.5				Tonga Islands				
	KEV	eLQ	20 41.5				21.9 S, 175.8 W, 33 km				
		eLR	20 43.8			24	HEL	iP	11 17 23.7 D		
	Southwestern Turkey							ePP	20 22		
	37.3 N, 30.1 E, 28 km						NUR	iP	11 17 22.9 D	0.7	123.0
22	HEL	eP	21 46 35					i	28.8 D	0.6	34.8
	NUR	eP	21 46 39	1.1	36.6			ePP	20 20		
	Southwestern Turkey						SOD	eP	11 16 56		
	37.5 N, 30.0 E, 20 km						KJN	iP	11 17 04.5 D		
22	HEL	iP	22 06 29.6				KEV	iP	11 16 49.4 D	0.7	146.3
	NUR	iP	22 06 28.4 U	0.8	25.0			i	17 17.3 U	0.6	31.5
	KJN	eP	22 06 17				South of Honshu, Japan				
							28.2 N, 140.1 E, 260 km				
23	HEL	eP	08 03 19			24	SOD	eP	17 57 40		
	NUR	iP	08 03 16.5				KJN	eP	17 58 00		
		eS	13 40				Central Alaska				
		eSS	19 05				61.8 N, 149.5 W, 36 km				
		eSSS	22 26			24	HEL	eP	18 06 47		
		eLQ	08 25.2				NUR	eP	18 06 45		
	KJN	iP	08 03 07.0				KJN	eP	18 06 20		
	KEV	eS	08 12 22				Kurile Islands				
		eLQ	08 23				44.3 N, 149.3 E, 50 km				
	Gulf of California					24	HEL	eP	18 19 48		
	30.1 N, 114.0 W, 14 km						NUR	eP	18 19 47		
23	HEL	iP	19 11 20.6 D				KJN	eP	18 19 25		
		e	34				Kurile Islands				
	NUR	iP	19 11 19.2 D	0.6	24.2	24	HEL	eP	18 19 48		
		e	32				NUR	eP	18 19 47		
	KJN	iP	19 10 56.1				KJN	eP	18 19 25		
	Kurile Islands						Kurile Islands				
	45.1 N, 151.5 E, 45 km						46.4 N, 150.0 E, 40 km				

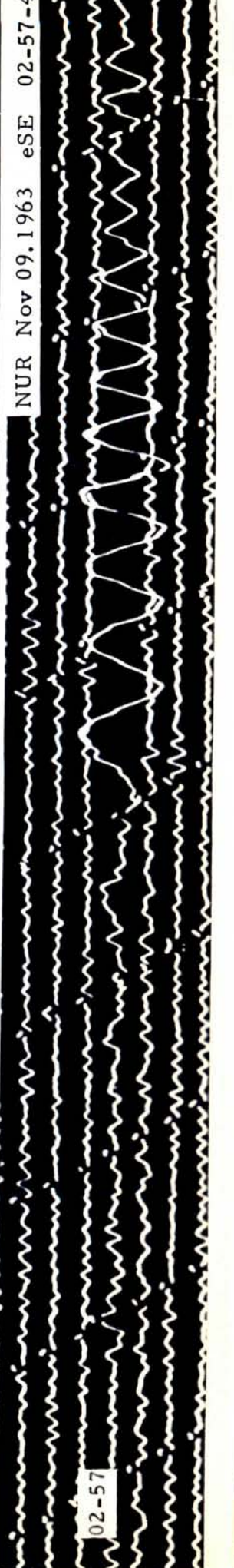
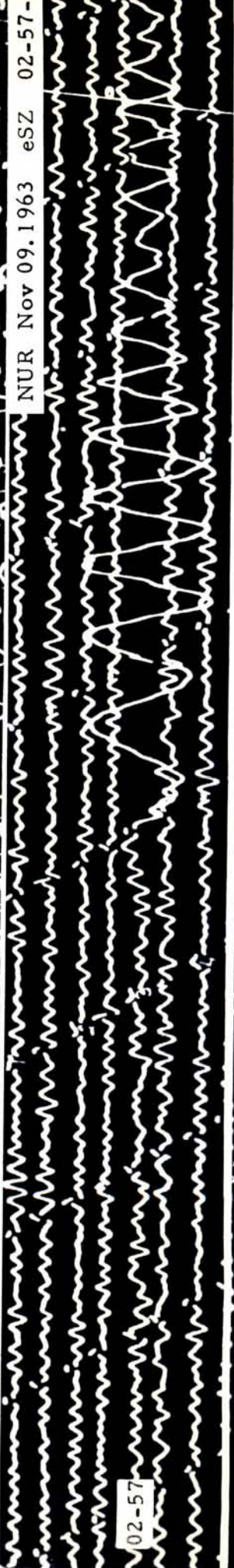
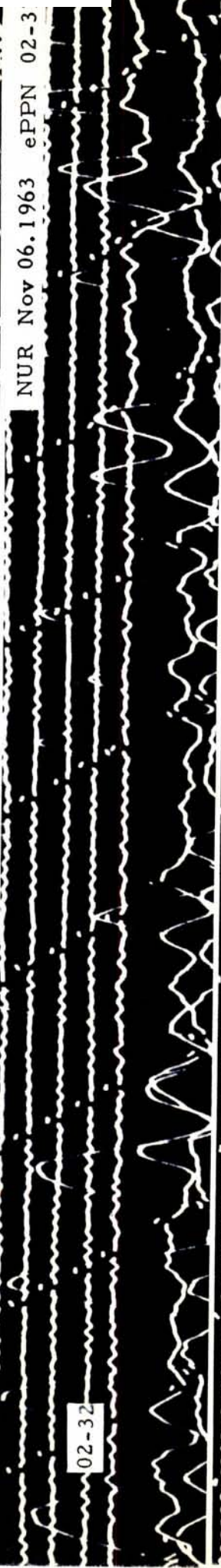
November

				T	A
25	HEL	iP	06 54 06.4		
	NUR	iP	06 54 05.0 D		
	SOD	eP	06 53 22		
	KJN	eP	06 53 53		
	Kurile Islands				
	45.4 N, 151.4 E, 50 km				
25	HEL	eP	09 04 49		
	NUR	eP	09 04 48		
	KJN	eP	09 04 17		
	Kurile Islands				
	45.0 N, 149.2 E, 33 km				
25	HEL	iP	10 13 09.4		
		e	22		
	NUR	iP	10 13 08.1 D		
		i	20.2		
	SOD	iP	10 12 30.i		
	KJN	eP	10 12 41		
		i	44.2		
	KEV	eP	10 12 18	0.9	24.5
	Kurile Islands				
	44.3 N, 149.5 E, 55 km				
25	HEL	eP	10 21 53		
		e	22 05		
	NUR	iP	10 21 51.1 D		
		e	22 04		
	SOD	iP	10 21 13.9		
		i	26.3		
	KJN	iP	10 21 27.2		
		i	40.0		
	KEV	iP	10 21 01.0 D	0.8	18.8
	Kurile Islands				
	44.3 N, 149.8 E, 50 km				
25	HEL	eP	11 41 17		
	NUR	eP	11 41 15		
	SOD	eP	11 40 32		
	KJN	eP	11 40 51		
	KEV	eP	11 40 24	0.7	10.0
	Kurile Islands				
	45.4 N, 151.7 E, 50 km				
25	HEL	eP	12 35 12		
	SOD	eP	12 35 12		
	KJN	eP	12 35 15		
25	HEL	eP	16 58 11		
	NUR	eP	16 58 11		
		eLQ	17 17		
	SOD	iP	16 57 54.4		
	KJN	iP	16 57 54.4		
		e	58		
	cont.				

November

				T	A
	KEV	eP	16 57 51		
	East coast of Taiwan				
	22.6 N, 121.3 E, 33 km				
26	KJN	ePKP	03 18 07		
	Kermadec Islands				
	26.9 S, 176.5 W, 46 km				
26	KJN	eP	07 05 48		
	Banda Sea				
	6.8 S, 129.6 E, 111 km				
26	KJN	eP	11 55 03		
26	NUR	eP	16 25 20	0.6	9.7
	KJN	eP	16 25 51		
	Crete region				
	34.9 N, 27.4 E, 33 km				
26	HEL	ePKP	23 09 20		
	NUR	ePKP	23 09 20		
		ePKS	12 46		
		eSS	29 12		
		eSSS	33 32		
		eLQ	23 43		
		eLR	23 48		
	KJN	ePKP	23 09 12		
	Fiji Islands				
	16.6 S, 175.2 E, 33 km				
27	NUR	eLQ	08 11		
	KJN	eP	08 02 14		
	Kazakh, SSR				
	42.0 N, 76.5 E, 33 km				
27	HEL	eP	09 32 35		
	SOD	eP	09 31 55		
	KJN	iP	09 32 11.5		
	Kurile Islands				
	46.6 N, 152.6 E, 45 km				
27	NUR	eP	14 12 11	0.9	8.4
		e	38		
	SOD	eP	14 12 02		
	KJN	iP	14 12 00.6 U		
	KEV	eP	14 12 15		
	Molucca Passage				
	3.1 N, 126.6 E, 33 km				
27	NUR	eP	15 02 23	0.9	15.1
27	KJN	eP	20 02 39		
		e	03 00		

November						November					
				T	A					T	A
27	HEL	eP	20 28 43			29	NUR	iP	15 01 48.0 D	1.2	48.5
	NUR	eP	20 28 42	0.7	15.5			i	58.4 D	1.0	34.0
	SOD	eP	20 28 03				SOD	eP	15 01 23		
	KJN	eP	20 28 19					i	34.0		
	Kurile Islands						KJN	eP	15 01 31		
	45.8 N, 151.8 E, 40 km						KEV	eP	15 01 15		
27	KJN	eP	20 33 18				Bonin Islands				
							23.7 N, 143.2 E, 33 km				
27	NUR	eP	21 15 45	1.1	24.1	29	NUR	eP	19 57 03	0.5	9.2
							SOD	iP	19 56 24.9		
27	HEL	eP	21 19 03				KJN	eP	19 56 38		
	NUR	eP	21 19 05	0.8	14.6		Kurile Islands				
	SOD	eP	21 19 15				44.1 N, 149.5 E, 50 km				
	KJN	eP	21 19 03								
	KEV	iP	21 19 22.1 U	0.7	22.5	30	NUR	eP	10 01 18	1.0	14.0
	Northern India							e	32		
	30.8 N, 79.1 E, 33 km							ePP	04 44		
28	KJN	eP	05 22 05					eSKS	11 53		
		e	23 20					ePS	13 30		
	Kurile Islands							eLQ	10 30		
	44.9 N, 148.9 E, 45 km							eLR	10 34		
28	KJN	eP	11 28 58				SOD	eP	10 01 07		
	Philippine Islands							e	22		
	8.3 N, 124.5 E, 57 km						KJN	eP	10 01 07		
								e	22		
								e	28		
28	HEL	iP	15 23 50.0 D				Halmahera region				
		i	24 02.5				1.6 N, 128.4 E, 61 km				
		i	22.5			30	NUR	eP	11 40 27		
	NUR	iP	15 23 48.2 D	0.9	93.5		SOD	eP	11 39 41		
	SOD	iP	15 23 03.2				KJN	eP	11 40 01		
		i	15.1				Near Islands				
		i	25.0				51.9 N, 174.2 E, 33 km				
	KJN	iP	15 23 22.7			30	KJN	eP	20 54 46		
		iPcP	24 06.5				Kurile Islands				
	KEV	eP	15 22 47	0.6	16.9		46.1 N, 150.9 E, 33 km				
		e	56								
		i	23 08.0	0.8	28.0	30	NUR	eP	21 51 55	0.9	17.0
	Near Islands							e	52 08	1.1	21.7
	52.2 N, 174.2 E, 33 km						SOD	eP	21 52 02		
28	KJN	eP	23 28 56				KJN	iP	21 51 53.4 D		
	Kurile Islands							e	52 04		
	43.6 N, 150.6 E, 33 km						Nicobar Islands				
							6.6 N, 94.2 E, 33 km				
29	HEL	eP	03 23 33				June 4, 1964				
	NUR	iP	03 23 32.8	0.6	12.5		M. T. Porkka				
							Aili Huovila				
29	KJN	eP	14 19 30								
	Kurile Islands										
	44.6 N, 149.8 E, 50 km										



December

December

				T	A					T	A
1	NUR	eP	02 53 19	0.7	9.1	2	NUR	eP	06 52 18	0.8	20.2
	SOD	eP	02 51 56				e		54 35		
		e	54 14				eS		56		
	KJN	iP	02 52 40.4				eLQ	06 56.3			
		e	55 45				eLR	06 56.5			
1	NUR	eP	04 34 09	1.1	14.6	SOD	eP	06 53 41			
		ePP	35 56			KJN	iP	06 53 07.4			
	SOD	iP	04 33 33.2 D				i	17.8			
		ePP	35 07				eS	56 21			
	KJN	iP	04 33 44.2 D			KEV	eP	06 54 07	0.9	16.3	
		i	34 20.8				i	10.9	1.1	55.4	
		iPP	35 22.0				e	58 35			
	Lake Baikal region						eLQ	07 01.0			
	56.1 N, 111.8 E, 33 km						eLR	07 02.4			
1	SOD	eP	04 41 59			Austria					
	KJN	eP	04 42 19			47.9 N, 16.5 E, 43 km					
1	SOD	iP	09 46 33.9 D			2	NUR	eP	09 56 13	0.5	10.6
	KJN	eP	09 46 25				SOD	iP	09 55 35.0		
	Nicobar Islands						KJN	eP	09 55 50		
	7.4 N, 93.5 E, 27 km						Sea of Okhotsk				
1	SOD	eP	16 07 22				48.0 N, 145.2 E, 448 km				
	KJN	eP	16 07 31			2	NUR	eP	11 56 12	0.5	5.3
	Kurile Islands						SOD	eP	11 55 27		
	44.5 N, 150.7 E, 40 km						KJN	eP	11 55 46		
1	NUR	iP	16 26 20.4	0.8	19.0		Kurile Islands				
	SOD	eP	16 26 02				48.1 N, 154.7 E, 50 km				
	KJN	eP	16 26 07			2	NUR	iP	21 00 41.1 U	0.7	336.7
	KEV	eP	16 25 55	0.6	9.6		e	01 41			
	Ryukyu Islands						e	02 26			
	28.9 N, 130.0 E, 31 km						eS	04 33			
1	KJN	eP	17 15 18				eLQ	22 05.0			
1	KJN	eP	23 33 32				eLR	22 06.0			
1	NUR	eP	23 43 15	0.8	7.3	SOD	eP	20 59 22			
1	SOD	eP	23 49 33				eS	21 01 54			
	KJN	eP	23 49 34			KJN	iP	21 00 04.5 U			
2	KJN	eP	00 35 39				eS	03 12			
2	KJN	eP	01 27 11			KEV	iP	20 58 52.7	1.0	152.1	
2	KJN	eP	05 26 08				i	59 01.6			
	Kamchatka						e	11			
	54.9 N, 159.1 E, 110 km						i	31.1			
							e	21 00 20			
							iS	01 02.3			
							e	11			
							eLQ	21 01			
							eLR	21 01.8			
						Svalbard region					
						80.1 N, 0.6 W, 33 km					

December				T	A	December				T	A	
16	HEL	iP	13 53 02.8 D			17	HEL	eP	23 33 04			
		i	24.0					i	18.0			
		eS	57 15				NUR	iP	23 33 01.2 U	0.9	34.9	
	NUR	iP	13 53 05.9 D	1.0	225.5			e	14			
		i	13.1				SOD	iP	23 32 15.4			
		iPP	35.2					e	28			
		i	54 09.2				KJN	iP	23 32 36.8			
		i	56 23.0					i	49.5			
		eS	57 18				KEV	iP	23 31 58.8	0.6	15.1	
		i	24					i	32 10.9	1.0	44.4	
		eSS	58 26				Fox Islands					
		eLQ	13 58.2				52.9 N, 165.4 W, 33 km					
		eLR	14 00									
	SOD	iP	13 54 09.5 U				18	HEL	ePKP	00 49 23		
		e	56					e	01 25 44			
	KJN	iP	13 53 40.9 U				NUR	eP	00 47 02			
		eS	58 26					ePKP	49 21			
	KEV	iP	13 54 30.5 D	0.7	47.9			i	23.5			
		i	55 04.5					i	40.0	0.9	547.8	
		ePP	30					e	52			
		eLR	14 00					iPKS	53 06			
	Ionian Sea							e	01 25 42	0.8	3.8	
	37.1 N, 20.9 E, 15 km						SOD	ePKP	00 49 02			
16	SOD	eP	16 19 38					i	17.8			
	KJN	iP	16 19 33.0 D					ePP	51 38			
	Sunda Strait							ePKS	52 46			
	6.5 S, 105.3 E, 46 km							e	01 25 12			
17	HEL	eP	04 25 00				KJN	ePKP	00 49 11			
	NUR	eP	04 25 00	0.9	10.2			e	15			
	SOD	eP	04 24 37					e	01 25 23			
	KJN	eP	04 24 44				KEV	ePKP	00 49 07			
	Volcano Islands							i	13.5	0.9	85.2	
	22.2 N, 144.4 E, 101 km							e	50 33			
17	HEL	ePKP	08 52 37					ePP	51 50			
	NUR	iPKP	08 52 37.0	1.0	28.4			iSKP	52 34.8			
	KJN	iPKP	08 52 25.4 D					e	53 14			
	Kermadec Islands						Tonga Islands					
	33.4 S, 178.6 W, 383 km						24.8 S, 176.6 W, 46 km					
17	SOD	eP	11 05 25				18	HEL	iP	03 01 16.4		
	KJN	eP	11 05 10					i	29.4			
	Hindu Kush							NUR	iP	03 01 14.9 U	0.7	39.4
	36.7 N, 71.2 E, 203 km							SOD	eP	03 00 35		
17	NUR	eP	19 53 32					KEV	iP	03 00 23.0	0.7	26.3
	KJN	eP	19 53 21					ePcP	01 13			
							Kurile Islands					
							45.5 N, 151.3 E, 33 km					

December				T	A	December				T	A
18	HEL	eP	03 19 47			20	NUR	eP	13 06 31	1.0	22.0
	NUR	eP	03 19 45				SOD	eP	13 06 07		
	KJN	eP	03 19 23				KJN	eP	13 06 07		
	Kurile Islands						e		15		
	45.8 N, 151.7 E, 45 km						KEV	eP	13 05 58		
18	HEL	iP	06 47 32.9			20	SOD	eP	16 02 16		
	NUR	iP	06 47 33.8 D	0.9	45.9		KJN	eP	16 01 52		
		i	38.0				Indian Ocean				
		iPP	49 09.0				12.8 S, 66.0 E, 33 km				
		iPPP	25.8			20	KJN	iP	16 36 28.5 D		
	SOD	iP	06 47 32.4 U				Indian Ocean				
		ePP	49 00				12.7 S, 66.3 E, 33 km				
	KJN	iP	06 47 23.9 U			20	KJN	iP	16 58 41.3 U		
	KEV	iP	06 47 36.1 U	0.6	14.4		Indian Ocean				
		ePP	49 20				12.6 S, 66.4 E, 33 km				
	Sinkiang, China										
	41.7 N, 82.5 E, 33 km										
18	NUR	eP	06 55 09	1.3	33.3	21	NUR	eP	04 57 07	1.1	14.5
18	HEL	ePKP	12 41 17				SOD	iP	04 57 47.4		
		i	27.3					ePP	59 06		
	NUR	iPKP	12 41 15.8 D	0.8	15.5		KJN	eP	04 57 21		
	Kermadec Islands						e		58 36		
	29.9 S, 177.2 W, 130 km						Iran				
							33.8 N, 51.5 E, 51 km				
18	SOD	eP	18 23 51			21	NUR	ePKP	12 53 28		
	KJN	eP	18 24 01				e		54 03	1.1	21.7
	Honshu, Japan						SOD	ePKP	12 53 25		
	37.2 N, 140.7 E, 59 km						KJN	ePKP	12 53 31		
18	KJN	eP	19 40 23				i		56.8		
	Kurile Islands						Tonga Islands				
	46.2 N, 151.5 E, 33 km						21.2 S, 175.8 W, 90 km				
19	NUR	eP	22 45 52	0.7	27.1	21	HEL	iP	13 21 06.8		
		e	46 05				i		21.6		
	KJN	iP	22 45 27.6 U				NUR	iP	13 21 06.8 D	0.8	29.2
	KEV	eP	22 45 03				e		21		
	Fox Islands						e		22 28		
	52.0 N, 170.8 W, 33 km						eS		31 00		
							e		13		
							ePS		46		
19	KJN	eP	23 47 35				eSS		35 44		
							e		36 26		
							eSSS		39 30		
20	SOD	eP	09 10 58				eLQ	13 43			
	KJN	eP	09 10 57				eLR	13 47			
	KEV	eP	09 10 56				SOD	iP	13 20 55.3 D		
	Banda Sea						e		21 10		
	7.0 S, 129.3 E, 103 km						cont.				

December				T	A	December				T	A
26	HEL	eP	08 02 05			26	NUR	iP	21 22 09.1	0.8	20.7
		eS	04 52					e	19		
		i	05 16.1				SOD	iP	21 21 24.3		
	NUR	iP	08 02 00.0	0.8	42.9			e	34		
		i	13.2				KJN	iP	21 21 45.3 U		
		i	47					i	55.7		
		iS	04 46.8				Fox Islands				
	SOD	iP	08 00 29.3				51.2 N, 169.8 W, 33 km				
		eS	02 04			26	SOD	eP	23 26 12		
	KJN	iP	08 01 13.6				KJN	eP	23 26 44		
		i	17.7				Arctic Ocean				
	Svalbard region						86.1 N, 73.2 E, 33 km				
	76.5 N, 22.4 E, 33 km					27	SOD	eP	03 03 04		
26	HEL	eP	08 53 18				KJN	eP	03 02 54		
	NUR	eP	08 53 15			27	HEL	eP	07 08 42		
		eS	56 52				NUR	eP	07 08 41	0.7	16.9
	SOD	eP	08 52 34				KJN	eP	07 08 35		
		i	37.5			27	KJN	eP	12 42 45		
	KJN	iP	08 53 00.9					i	55.9		
	North of Iceland					28	HEL	iP	01 50 57.7		
	69.3 N, 16.5 W, 33 km						NUR	iP	01 50 58.8 U	0.6	35.0
26	NUR	iP	10 57 15.4	0.5	20.3		SOD	iP	01 51 15.9 U		
	SOD	eP	10 56 38				KJN	iP	01 50 59.7 U		
	KJN	iP	10 56 52.7 U					epP	51 45		
	Kurile Islands						KEV	iP	01 51 25.1 U		
	43.6 N, 148.3 E, 33 km						Hindu Kush				
26	SOD	eP	16 36 55				36.6 N, 70.2 E, 205 km				
	KJN	eP	16 37 02			28	KJN	eP	06 00 05		
	Molucca Sea						New Ireland region				
	1.4 N, 126.7 E, 65 km						5.1 S, 153.5 E, 70 km				
26	HEL	iP	20 57 24.7			28	NUR	eP	07 24 40	0.7	5.2
	NUR	iP	20 57 26.9 D	0.5	27.0		KJN	eP	07 24 37		
		e	58			28	HEL	ePKP	09 23 30		
		e	58 16					i	35.5		
		e	54					i	54.5		
	SOD	iP	20 57 42.9					eSKP	27 05		
		i	46.1				NUR	iPKP	09 23 30.1 U	1.0	32.0
	KJN	iP	20 57 27.1 D					i	34.6	0.8	590.4
		i	30.6					i	58.3		
		ipP	58 00.0					e	26 57		
		e	43					iSKP	27 04.1		
	Hindu Kush						cont.				
	36.4 N, 71.3 E, 140 km										

December

December

				T	A					T	A	
	e		32			KJN	eP	07 51 42				
	e		34 40				i	43.5				
	eSKSP		37 36				eS	54 06				
	ePPS		40 14				e	55 38				
	eSS		45 38			KEV	eP	07 50 27				
	eSSS		50 46				i	51 03.0				
SOD	iPKP	09 23	15.8				iS	55				
	i		20.5				Barents Sea					
	eSKP		26 49				77.9 N, 21.5 E, 33 km					
	e		27 05			29	KJN	eP	08 57 06			
KJN	iPKP	09 23	23.2 U			29	KJN	ePKP	15 18 38			
	e		25 46				Fiji Islands					
	i		26 04.7				20.7 S, 178.4 W, 534 km					
	eSKP		55									
KEV	ePKP	09 23	12			30	SOD	eP	01 11 42			
	i		16.5				KJN	eP	01 11 45			
	iSKP		26 45.5				Banda Sea					
	Kermadec Islands						3.4 S, 128.8 E, 82 km					
	32.7 S, 178.9 W, 33 km					30	HEL	e	01 27 46			
28	NUR	ePKP	18 17 44				NUR	eP	01 27 41			
		eSS	38 20				e	45	0.6		7.3	
		eSSS	42 10				SOD	iP	01 27 22.7			
SOD	ePKP	18 17	50				KJN	eP	01 27 30			
KJN	ePKP	18 17	49				e	39				
	South Shetland Islands						epP	28 03				
	60.4 S, 51.8 W, 49 km						Mariana Islands					
29	HEL	ePKP	03 19 49				21.6 N, 144.5 E, 120 km					
		i	53.3			30	HEL	ePKP	06 43 09			
		i	20 03.8				NUR	ePKP	06 43 09	0.9		19.7
NUR	iPKP	03 19	47.5	0.7	15.2		KJN	ePKP	06 43 08			
		i	52.0	0.8	44.3		Kermadec Islands					
		i	20 03.1				29.3 S, 176.8 W, 34 km					
SOD	ePKP	03 19	45			30	NUR	eP	10 26 36	1.1		34.8
KJN	ePKP	03 19	41			30	HEL	eP	13 40 07			
	Kermadec Islands						i	20.1				
	30.9 S, 177.8 W, 33 km						NUR	eP	13 40 06	1.0		39.6
29	KJN	eP	07 35 28				e	16				
		i	30.2				e	49				
29	SOD	eP	07 42 32				ePP	42 42				
29	NUR	eP	07 52 30				e	48 44				
		eS	55 46				ePS	49 08				
		e	57 28				eSS	53 18				
SOD	eP	07 50	56				eSSS	56 24				
	eS		52 40				eLR	14 00				
	e		54 08				cont.					

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