

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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**The International
Seismological Summary.
1954 July, August, September.**

INTERNATIONAL GEODETIC AND GEOPHYSICAL UNION.
ASSOCIATION OF SEISMOLOGY.

The third quarter for 1954 contains 111 epicentres, 27 of which are repetitions from previously adopted epicentres. 33 have been attributed to abnormal focal depth.

The Director of the I.S.S. wishes to express his thanks to U.N.E.S.C.O. and H.M. Treasury for financial support. also special thanks are due to the Director of the Royal Meteorological Office and to the Director of Kew Observatory for housing the project free of cost and for providing administrative help.

January, 1962.

KEW OBSERVATORY,
Richmond,
SURREY.

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1954

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1954 JULY, AUGUST, SEPTEMBER.

July 1d. 3h. 15m. 13s. Epicentre 51°·6N. 159°·5E.

A = -·5842, B = +·2184, C = +·7817; δ = +4; h = -6;
D = +·350, E = +·937; G = -·732, H = +·274, K = -·624.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|----------------|----------|-----|----------------------|------|---------|------|---------|--------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Matusiro | 21·4 | 234 | 5 31 | +40 | 8 48 | + 3 | — | — |
| College | 29·7 | 43 | i 6 9 | - 1 | — | — | i 9 13 | PcP |
| Zô-Sè | z. 34·8 | 249 | 6 55 ^{a?} | + 1 | — | — | — | — |
| Nanking | z. 35·5 | 253 | 7 1 ^a | + 1 | — | — | — | — |
| Resolute Bay | 44·8 | 21 | e 8 18 | + 1 | — | — | — | — |
| Hungry Horse | 52·5 | 57 | e 9 16 | - 1 | — | — | — | — |
| Shasta | z. 52·7 | 69 | i 9 19 ^a | + 1 | — | — | i 9 36 | ? |
| Mineral | z. 53·4 | 69 | e 9 23 ^a | - 1 | — | — | — | — |
| Reno | z. 55·0 | 69 | 9 42 ^k | + 7 | — | — | — | — |
| Lick | z. 55·4 | 72 | i 9 41 ^k | + 3 | i 9 57 | ? | i 10 47 | PcP |
| Fresno | z. 56·8 | 71 | e 9 54 ^a | + 6 | — | — | — | — |
| Kiruna | 57·0 | 343 | i 9 49 ^a | - 1 | — | — | — | e 31·8 |
| Salt Lake City | 58·7 | 63 | e 10 9 | + 7 | — | — | — | — |
| China Lake | z. 58·8 | 71 | e 10 2 | 0 | i 10 7 | ? | i 10 22 | ? |
| Pasadena | z. 59·6 | 72 | e 10 9 | + 1 | — | — | i 10 21 | ? |
| Riverside | z. 60·2 | 72 | 10 10 | - 2 | — | — | — | — |
| Boulder City | 60·3 | 69 | e 10 13 | 0 | — | — | e 10 26 | ? |
| Nelson | z. 60·5 | 69 | e 10 13 | - 1 | e 10 23 | ? | i 10 56 | PcP |
| Palomar | z. 60·9 | 72 | i 10 16 | - 1 | — | — | — | — |
| Barratt | z. 61·5 | 72 | e 10 26 | + 5 | — | — | — | — |
| Upsala | 64·7 | 340 | i 10 41 ^a | - 1 | e 22 2 | ? | i 10 52 | ? |
| Quetta | 68·5 | 292 | i 11 5 | - 1 | — | — | — | e 32·8 |
| Copenhagen | 69·6 | 341 | i 11 13 | 0 | — | — | — | e 37·2 |
| Warsaw | 70·8 | 334 | e 11 20 | 0 | — | — | — | 38·4 |
| Fayetteville | 71·5 | 55 | i 11 23 | - 1 | — | — | e 11 34 | PcP |
| Hamburg | z. 72·2 | 342 | e 11 29 ^a | 0 | — | — | — | e 40·8 |
| Ottawa | 72·3 | 37 | i 11 27 ^k | - 2 | — | — | — | — |
| Potsdam | 72·6 | 339 | e 11 32 | + 1 | — | — | — | e 39·8 |
| Bombay | N. 73·4 | 280 | e 9 0 | ? | e 13 53 | ? | e 16 2 | PPP |
| Witteveen | z. 73·5 | 343 | i 11 37 ^a | + 1 | — | — | e 12 40 | ? |
| Collmberg | z. 73·6 | 339 | 11 36 | - 1 | — | — | — | — |
| Jena | 74·3 | 340 | e 11 40 | - 1 | — | — | e 11 56 | PcP |
| Prague | 74·4 | 338 | i 11 40 | - 2 | e 14 15 | PP | e 11 59 | PcP |
| Rathfarnham C. | z. 74·8 | 351 | e 11 43 | - 1 | — | — | i 12 9 | PcP |
| Morgantown | 75·4 | 43 | i 11 48 | + 1 | — | — | — | — |
| Bucharest | 76·2 | 328 | e 11 53 | + 1 | — | — | e 14 32 | PP |
| Harvard | 76·3 | 36 | e 11 51 | - 1 | — | — | — | — |
| Weston | 76·5 | 36 | i 11 53 ^k | - 1 | — | — | — | — |
| Stuttgart | 76·8 | 340 | i 11 55 ^a | 0 | — | — | e 12 23 | PcP |
| Strasbourg | 77·3 | 341 | e 11 58 | 0 | — | — | e 12 25 | PcP |
| Belgrade | z. 77·7 | 332 | e 12 1 | + 1 | — | — | e 12 27 | PcP |
| Paris | 78·1 | 345 | e 12 3 | + 1 | — | — | e 12 11 | PcP |
| Besançon | 78·9 | 342 | e 12 7 | 0 | — | — | e 13 7 | ? |
| Florence | z. 81·1 | 337 | e 12 17 | - 1 | — | — | e 37 8 | Q |
| Ksara | 81·6 | 316 | e 12 24 | + 3 | 23 26 | PS | — | — |
| Safed | 82·5 | 315 | i 12 26 | 0 | — | — | — | — |
| Helwan | z. 87·0 | 317 | e 12 47 | - 1 | — | — | — | — |
| Tamanrasset | z. 102·5 | 336 | e 14 3 | + 3 | — | — | e 18 1 | PP |

July 1d. 5h. 24m. Epicentre 23°·5N. 122°·2E. Depth of focus 40km.
Seismo. Bulletin of Taiwan Weather Bureau for July-Sept., 1954, Vol. 1, No. 3, Taiwan, China, p. 10.

July 1d. 23h. 40m. Epicentre 23°·9N. 121°·9E. Depth of focus 40km.
Loc. cit., 5h., p. 11.

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July 2d. 2h. 45m. 9s. Epicentre 13°·0N. 123°·9E.

Seismo. Bull. Cent. Met. Obs., Japan, for July, 1954, Tokyo, 1954, pp. 39-41.
Seismo. Bulletin of Taiwan Weather Bureau for July-Sept., 1954, Vol. 1, No. 3, Taiwan, China, p. 11.

A = -·5436, B = +·8090, C = +·2235; $\delta = -7$; $h = +6$;
D = +·830, E = +·558; G = -·125, H = +·186, K = -·975.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------|----------|-----|---------------------|------|--------|------|---------|--------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Manila | 3·2 | 299 | i 0 53 | + 1 | e 1 37 | - 2* | — | — |
| Baguio | 4·7 | 318 | i 1 14 | 0 | i 1 57 | -13 | — | — |
| Hengchun | 9·5 | 342 | i 2 24 | + 4 | 4 14 | + 4 | — | — |
| Tawu | 9·8 | 343 | 2 23 | - 1 | 4 15 | - 2 | — | — |
| Hsinkong | 10·4 | 347 | 1 50 | ? | 3 50 | ? | — | — |
| Tainan | 10·6 | 341 | 2 38 | + 2 | 4 36 | - 1 | — | — |
| Alishan | 10·9 | 345 | e 2 46 | + 6 | — | — | — | — |
| Hwallien | 11·1 | 349 | 2 53 | +10 | 4 59 | +10 | — | — |
| Taichung | 11·5 | 345 | e 2 51 | + 3 | 5 3 | + 4 | — | — |
| Ilan | 11·9 | 350 | e 2 54 | 0 | 5 6 | - 3 | — | — |
| Hsinchu | 12·1 | 347 | 2 52 | - 5 | — | — | — | — |
| Taipei | 12·2 | 350 | 2 57 ^a | - 1 | 5 18 | + 2 | — | — |
| Hong Kong | E. 13·1 | 317 | 3 9 ^a | - 1 | 5 49 | +11 | — | — |
| Zō-Sō | Z. 18·2 | 352 | 4 13 | - 3 | — | — | — | — |
| Yakusima | 18·4 | 18 | 4 20 | + 2 | 7 49 | + 8 | — | e 9·8 |
| Kagosima | 19·5 | 17 | 4 31 | 0 | 8 14 | + 8 | — | e 10·2 |
| Nanking | 19·6 | 347 | 4 28 ^a | - 4 | i 8 5 | - 3 | — | — |
| Tomie | 20·1 | 12 | 4 36 | - 2 | 8 34 | +15 | — | — |
| Miyazaki | 20·1 | 19 | 4 40 | + 2 | 8 21 | + 2 | e 7 1 | e 10·9 |
| Unzendake | 20·5 | 16 | e 4 44 ^a | + 2 | e 8 36 | + 9 | — | — |
| Kumamoto | 20·7 | 16 | 4 43 | - 1 | e 8 33 | + 2 | — | 10·4 |
| Asosan | 20·9 | 17 | 4 47 | + 1 | — | — | e 5 42 | PP |
| Saga | N. 21·0 | 15 | i 4 49 ^a | + 2 | — | — | i 6 22 | ? |
| Hukuoka | 21·4 | 15 | i 4 50 ^a | - 1 | i 8 52 | + 7 | 5 51 | PP |
| Ooita | 21·4 | 18 | e 4 56 | + 5 | e 8 51 | + 6 | e 5 22 | PP |
| Simidu | 21·4 | 21 | e 4 48 | - 3 | e 8 42 | - 3 | — | e 10·1 |
| Ituhara | 21·7 | 12 | 4 54 ^a | - 1 | 8 53 | + 2 | — | e 15·6 |
| Uwazima | 21·7 | 20 | e 4 54 | - 1 | e 8 55 | + 4 | — | e 13·4 |
| Koti | 22·3 | 22 | e 5 0 | - 1 | e 8 58 | - 4 | e 5 45 | PP |
| Matuyama | 22·3 | 20 | e 5 0 | - 1 | e 9 2 | 0 | e 10 35 | Q |
| Muroto | 22·3 | 23 | e 5 2 | + 1 | e 9 12 | +10 | — | — |
| Hirosima | 22·7 | 19 | e 4 59 | - 5 | e 9 5 | - 4 | — | e 11·6 |
| Hamada | 23·0 | 17 | e 5 10 | + 3 | e 9 18 | + 4 | — | — |
| Siomisaki | 23·1 | 26 | e 5 10 | + 2 | e 9 12 | - 4 | e 5 38 | PP |
| Torisima | 23·1 | 38 | 5 13 | + 5 | 9 27 | +11 | — | 11·5 |
| Tokusima | 23·1 | 23 | e 5 9 | + 1 | e 9 23 | + 7 | — | — |
| Takamatu | 23·2 | 22 | e 5 8 | - 1 | e 9 26 | + 8 | — | — |
| Sumoto | 23·5 | 23 | 5 10 | - 2 | e 9 25 | + 2 | i 5 47 | PP |
| Wakayama | 23·5 | 24 | e 5 16 | + 4 | e 9 27 | + 4 | — | — |
| Owase | 23·8 | 26 | e 5 14 | - 1 | e 9 42 | +14 | — | — |
| Himeji | 23·9 | 22 | e 5 15 | - 1 | — | — | — | — |
| Kobe | 23·9 | 24 | e 5 16 | 0 | e 9 25 | - 5 | e 5 56 | PP |
| Yonago | 23·9 | 19 | e 5 19 | + 3 | e 9 41 | +11 | — | e 12·1 |
| Osaka | 24·0 | 24 | i 5 16 ^k | - 1 | e 9 38 | + 6 | — | e 15·9 |
| Nara | 24·2 | 25 | 5 6 | -13 | e 9 44 | + 9 | — | — |
| Tottori | N. 24·3 | 21 | e 5 24 | + 4 | — | — | — | — |
| Kyoto | 24·4 | 24 | e 5 22 | + 1 | e 9 52 | +13 | — | e 12·4 |
| Toyooka | 24·5 | 22 | e 5 8 | -14 | e 9 28 | -12 | — | — |
| Tu | 24·5 | 26 | e 5 23 | + 1 | — | — | — | — |
| Kameyama | 24·6 | 26 | 5 23 | 0 | 9 44 | + 2 | — | 12·4 |
| Saigo | 24·6 | 19 | e 5 24 | + 1 | e 9 49 | + 7 | — | e 15·5 |
| Hikone | 24·8 | 25 | 5 25 | 0 | 9 53 | + 7 | e 6 9 | PP |
| Hamamatu | 25·0 | 28 | e 5 34 | + 7 | — | — | — | — |
| Ibukisan | E. 25·0 | 25 | e 5 31 | + 4 | — | — | — | — |
| Nagoya | N. 25·1 | 26 | e 5 28 | 0 | e 9 59 | + 8 | e 11 9 | SSS |

Continued on next page.

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1954

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|---------------|----|----------|-----|-----|-----------------|------|------|-----|------|-------|----|-----|--------|
| | | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Tsuruga | N. | 25.1 | 24 | 5 | 28 | 0 | 9 | 51 | 0 | e 6 | 20 | PP | — |
| Gihu | | 25.2 | 25 | e 5 | 28 | - 1 | — | — | — | — | — | — | — |
| Omaesaki | | 25.2 | 29 | e 5 | 29 | 0 | e 10 | 5 | +13 | e 5 | 56 | PP | e 13.4 |
| Djakarta | | 25.5 | 223 | i 5 | 33k | + 1 | e 10 | 15 | +18 | i 5 | 57 | PP | i 12.2 |
| Bandung | | 25.5 | 220 | e 5 | 46? | +14 | i 10 | 28? | +31 | — | — | — | — |
| Lembang | | 25.5 | 220 | i 5 | 33k | + 1 | i 10 | 14 | +17 | — | — | — | — |
| Hukul | | 25.5 | 24 | e 5 | 32 | 0 | — | — | — | — | — | — | — |
| Shizuoka | | 25.5 | 28 | e 5 | 29 | - 3 | e 9 | 59 | + 2 | — | — | — | e 12.2 |
| Linfen | | 25.6 | 336 | e 5 | 36 | + 4 | e 10 | 6 | + 7 | — | — | — | — |
| Osima | | 25.8 | 30 | e 5 | 37 | + 3 | e 10 | 48 | +46 | 5 | 46 | pP | — |
| Misima | | 25.9 | 29 | e 5 | 35 | 0 | e 9 | 41 | -23 | e 7 | 26 | ? | e 10.5 |
| Hunatu | | 26.1 | 28 | e 5 | 41 | + 4 | e 10 | 14 | + 7 | e 16 | 36 | ScS | 12.0 |
| Kanazawa | | 26.1 | 24 | e 5 | 35 | - 2 | — | — | — | — | — | — | — |
| Kohu | | 26.2 | 28 | e 5 | 36 | - 2 | e 10 | 4 | - 5 | — | — | — | e 16.6 |
| Mera | | 26.2 | 31 | e 5 | 59 | +21 | 10 | 59 | +50 | — | — | — | e 12.7 |
| Matumoto | | 26.4 | 26 | 5 | 42 | + 2 | e 10 | 26 | +14 | e 6 | 0 | PP | e 16.8 |
| Toyama | | 26.5 | 24 | e 5 | 42 | + 1 | e 10 | 21 | + 7 | — | — | — | — |
| Yokohama | | 26.5 | 30 | 5 | 41 | 0 | — | — | — | e 6 | 20 | PP | — |
| Oiwake | | 26.7 | 27 | e 5 | 46 | + 3 | e 10 | 26 | + 9 | e 6 | 21 | PP | e 13.0 |
| Titibu | E. | 26.7 | 28 | i 5 | 44 | + 1 | — | — | — | — | — | — | e 16.7 |
| Matusiro | | 26.8 | 26 | 5 | 38k | - 6 | i 10 | 20 | + 1 | e 6 | 27 | PP | 13.4 |
| Nagano | N. | 26.8 | 26 | i 5 | 45 | + 1 | i 10 | 46 | +27 | — | — | — | 11.7 |
| Tokyo | | 26.8 | 30 | 5 | 56 _a | +12 | e 10 | 56 | +37 | e 6 | 34 | PP | e 12.4 |
| Wazima | | 26.9 | 23 | e 5 | 18 | -27 | e 9 | 55 | -25 | — | — | — | — |
| Kashiwa | | 27.0 | 30 | e 5 | 46 | + 1 | e 8 | 46 | ? | — | — | — | — |
| Kumagaya | | 27.0 | 28 | e 5 | 43 | - 2 | e 10 | 36 | +14 | — | — | — | — |
| Maebasi | | 27.0 | 28 | e 5 | 44 | - 1 | e 10 | 23 | + 1 | e 16 | 42 | ScS | e 12.2 |
| Takada | | 27.2 | 26 | e 5 | 50 | + 3 | e 9 | 56 | -29 | — | — | — | — |
| Kakioka | | 27.4 | 30 | 5 | 43 | - 6 | — | — | — | e 8 | 9 | ? | e 12.7 |
| Utunomiya | | 27.5 | 29 | e 5 | 44 | - 6 | e 10 | 20 | -10 | e 16 | 38 | ScS | e 11.1 |
| Mito | | 27.7 | 30 | e 5 | 54 | + 2 | — | — | — | i 16 | 49 | ScS | — |
| Shirakawa | | 28.1 | 29 | e 5 | 56 | + 1 | e 8 | 48 | ? | e 7 | 28 | ? | e 12.9 |
| Niigata | | 28.3 | 26 | e 6 | 14 | +17 | e 12 | 2 | ? | e 7 | 8 | PP | — |
| Onahama | | 28.3 | 30 | e 6 | 0 | + 3 | — | — | — | e 16 | 37 | ScS | — |
| Inawasiro | | 28.5 | 28 | e 6 | 1 | + 2 | — | — | — | — | — | — | — |
| Tatung | | 28.6 | 343 | e 6 | 2 | + 3 | 10 | 54 | + 6 | — | — | — | — |
| Hukushima | | 28.8 | 28 | e 6 | 0 | - 2 | e 10 | 44 | - 7 | e 6 | 52 | PP | — |
| Yamagata | | 29.1 | 27 | e 6 | 5 | + 1 | — | — | — | — | — | — | — |
| Lanchow Univ. | | 29.3 | 325 | e 6 | 6 | 0 | e 11 | 1 | + 2 | — | — | — | — |
| Sakata | | 29.4 | 26 | e 6 | 8 | + 1 | — | — | — | — | — | — | — |
| Sendai | | 29.4 | 28 | e 6 | 2 | - 5 | e 11 | 6 | + 5 | i 16 | 58 | ScS | e 14.5 |
| Isinomaki | E. | 29.7 | 28 | e 6 | 2 | - 8 | — | — | — | e 16 | 47 | ScS | — |
| Yinchuan | E. | 29.8 | 331 | — | — | — | e 10 | 54 | -13 | — | — | — | — |
| Paotow | | 30.1 | 339 | 6 | 14 | + 1 | — | — | — | — | — | — | — |
| Mizusawa | | 30.2 | 27 | e 6 | 17 | + 3 | — | — | — | e 9 | 42 | PcP | — |
| Akita | | 30.2 | 25 | e 6 | 17 | + 3 | e 11 | 14 | + 1 | e 13 | 0 | PcS | e 15.9 |
| Morioka | | 30.7 | 27 | e 6 | 17 | - 2 | — | — | — | — | — | — | — |
| Sinjing | | 30.8 | 324 | 6 | 22 | + 2 | 11 | 30 | + 7 | — | — | — | — |
| Miyako | | 31.0 | 28 | e 6 | 19 | - 2 | e 11 | 24 | - 2 | 17 | 4 | ScS | — |
| Wuwei | E. | 31.2 | 326 | e 6 | 23 | 0 | — | — | — | — | — | — | — |
| Aomori | | 31.4 | 25 | 6 | 25 | 0 | 13 | 10 | PcS | e 17 | 9 | ScS | — |
| Hatinohe | | 31.5 | 26 | e 6 | 31 | + 5 | e 11 | 42 | + 8 | — | — | — | e 13.3 |
| Mori | | 32.4 | 24 | 6 | 40 | + 6 | e 11 | 52 | + 4 | e 17 | 12 | ScS | — |
| Shillong | | 32.6 | 297 | i 6 | 33 | - 2 | i 11 | 50 | - 1 | 7 | 35 | PP | 15.3 |
| Tomakomai | | 33.2 | 24 | e 6 | 35 | - 5 | — | — | — | i 17 | 16 | ScS | — |
| Urakawa | | 33.4 | 26 | e 6 | 34 | - 8 | e 10 | 36 | ? | — | — | — | e 13.7 |
| Sapporo | | 33.5 | 23 | i 6 | 44 _a | + 1 | e 12 | 3 | - 2 | e 9 | 20 | PcP | e 18.2 |
| Obihiro | E. | 34.2 | 26 | e 6 | 53 | + 4 | — | — | — | — | — | — | — |
| Kusiro | | 34.8 | 27 | e 7 | 2 | + 8 | e 12 | 37 | +12 | i 17 | 24 | ScS | e 14.8 |
| Calcutta | | 35.1 | 291 | i 7 | 2 _a | + 5 | 15 | 14 | SS | 8 | 28 | PP | — |
| Nemuro | | 35.6 | 28 | e 7 | 7 | + 6 | e 12 | 44 | + 6 | i 17 | 30 | ScS | e 15.3 |
| Wakkanai | E. | 35.7 | 22 | e 7 | 4 | + 2 | e 12 | 48 | + 9 | — | — | — | — |
| Chatra | | 37.0 | 298 | e 7 | 12 | - 1 | i 13 | 7 | + 8 | 8 | 44 | PP | 15.7 |
| Madras | E. | 42.6 | 275 | i 8 | 3 | + 4 | — | — | — | 9 | 41 | PP | — |
| Colombo | E. | 43.7 | 266 | 8 | 12 | + 4 | 14 | 51 | +12 | — | — | — | 26.2 |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|---------------|----|----------|-----|----------|------|----------|--------|----------|------|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Hyderabad | E. | 44.0 | 282 | i 8 8 | - 3 | i 14 55 | +12 | 9 52 | PP | 22.5 |
| Perth | | 45.3 | 190 | i 8 26 | + 5 | i 15 1 | - 1 | 9 49 | PcP | i 21.1 |
| Kodaikanal | E. | 45.5 | 272 | i 8 23 | 0 | i 15 11 | + 6 | 10 8 | PP | 22.1 |
| Dehra Dun | N. | 45.6 | 300 | e 8 29 | + 5 | i 15 24 | +18 | 9 50 | PcP | 22.1 |
| New Delhi | | 46.0 | 297 | e 8 26 | - 1 | e 15 20 | - 8 | 10 17 | PP | 19.7 |
| Poona | | 48.4 | 283 | e 8 41 | - 5 | e 15 49 | + 3 | 10 18 | PP | — |
| Brisbane | | 49.2 | 145 | i 8 49 | - 3 | i 15 49 | - 9 | — | — | — |
| Bombay | | 49.3 | 284 | i 8 56 | + 3 | i 16 17 | +18 | 10 5 | PcP | — |
| Riverview | | 53.3 | 152 | i 9 21k | - 2 | i 16 35 | - 1 | i 10 28 | PcP | e 25.0 |
| Melbourne | E. | 54.3 | 160 | — | — | e 17 5 | - 2 | e 21 3 | SS | — |
| Quetta | | 55.1 | 298 | e 9 33 | - 3 | i 17 19 | + 1 | e 10 32 | PcP | e 29.7 |
| Adak | | 61.2 | 38 | i 10 17 | - 2 | — | — | — | — | — |
| Auckland | N. | 68.9 | 138 | — | — | e 20 14 | + 1 | e 20 25 | PS | e 33.8 |
| Apia | | 69.1 | 110 | e 11 6 | - 4 | — | — | — | — | — |
| Wellington | | 71.5 | 142 | e 10 31 | -5.3 | — | — | e 11 27 | P | e 32.8 |
| Christchurch | | 71.7 | 145 | e 12 1 | +35 | e 20 42 | - 3 | e 24 51? | SS | e 35.8 |
| Honolulu | | 74.4 | 71 | i 11 41k | - 1 | e 21 17 | + 1 | e 15 1 | PP | e 30.4 |
| College | | 77.6 | 26 | e 11 56k | - 4 | e 21 51 | 0 | i 14 53 | PP | e 31.5 |
| Ksara | | 81.3 | 303 | i 12 18 | - 2 | e 22 37 | + 7 | — | — | — |
| Tananarive | | 81.6 | 248 | e 12 21 | 0 | e 22 38 | + 5 | e 40 51? | P'P' | — |
| Safed | | 81.7 | 302 | i 12 21 | - 1 | i 22 49 | +15 | — | — | — |
| Jerusalem | | 82.2 | 301 | i 12 25 | + 1 | — | — | — | — | e 43.2 |
| Kiruna | | 83.1 | 338 | i 12 25k | - 4 | i 22 42 | - 6 | e 15 42 | PP | e 38.8 |
| Helsinki | | 83.2 | 330 | e 16 4 | PP | i 22 54 | + 5 | — | — | — |
| Iasi | | 84.8 | 317 | e 12 36 | - 1 | e 23 7 | - 2 | — | — | — |
| Sitka | | 85.0 | 33 | i 12 35 | - 3 | i 22 56 | [- 5] | e 24 59 | PPS | e 37.8 |
| Istanbul | | 85.2 | 311 | e 12 37 | - 2 | e 23 9 | 0 | e 12 59 | pP | e 42.8 |
| Helwan | | 85.8 | 300 | 12 40 | - 2 | 23 15 | 0 | 16 12 | PP | — |
| Bucharest | | 86.5 | 315 | e 12 46 | 0 | i 23 21 | - 1 | i 16 5 | PP | — |
| Upsala | | 86.9 | 331 | i 12 44 | - 4 | i 23 15 | [+ 2] | i 16 3 | PP | e 40.8 |
| Warsaw | | 87.6 | 323 | i 12 50 | - 1 | e 23 32 | 0 | e 16 23 | PP | e 38.8 |
| Sofia | | 88.9 | 314 | e 12 47 | -11 | 23 33 | [+ 7] | e 16 31 | PP | 48.8 |
| Resolute Bay | | 89.2 | 10 | e 12 56 | - 3 | e 23 25 | [- 3] | e 16 27 | PP | e 52.0 |
| Timisoara | | 89.4 | 317 | e 12 55? | - 5 | e 23 44 | - 5 | — | — | — |
| Athens | | 90.0 | 309 | e 13 2a | - 1 | i 23 37 | [+ 4] | e 23 58 | S | — |
| Raciborzu | | 90.0 | 322 | e 13 0 | - 3 | e 23 59 | + 5 | e 13 3 | PcP | e 41.6 |
| Szeged | E. | 90.0 | 318 | e 13 7 | + 4 | 24 2 | + 8 | e 16 39 | PP | — |
| Belgrade | | 90.3 | 316 | e 13 9k | + 5 | e 24 3 | + 6 | e 16 42 | PP | e 48.0 |
| Budapest | | 90.3 | 319 | 13 4 | 0 | 23 28 | [- 7] | 16 33 | PP | 48.5 |
| Kalossa | N. | 90.7 | 318 | 13 1 | - 5 | e 23 6 | [- 31] | — | — | — |
| Ogyalla | | 90.7 | 320 | e 13 11 | + 5 | e 24 10 | + 9 | e 17 9 | PP | — |
| Copenhagen | | 91.0 | 328 | e 13 7 | 0 | 24 8 | + 5 | 16 44 | PP | 43.8 |
| Vienna | | 91.7 | 320 | e 13 10 | 0 | i 23 49 | [+ 6] | e 16 35 | PP | e 40.8 |
| Potsdam | | 92.1 | 325 | e 13 9 | - 3 | e 24 14 | + 1 | e 16 57 | PP | e 42.8 |
| Prague | | 92.2 | 323 | i 13 12 | - 1 | e 23 50? | [+ 4] | e 16 59 | PP | e 42.8 |
| Collmberg | | 92.6 | 324 | e 13 12 | - 3 | e 23 55 | [+ 7] | e 17 2 | PP | e 46.4 |
| Hamburg | | 93.3 | 327 | e 13 16 | - 2 | e 23 57 | [+ 5] | i 17 7 | PP | e 45.8 |
| Cheb | | 93.4 | 323 | e 13 16 | - 2 | e 24 29 | + 5 | e 19 18 | PPP | e 43.4 |
| Jena | | 93.5 | 324 | e 13 17 | - 2 | e 23 59 | [+ 6] | e 17 3 | PP | — |
| Scoresby Sund | | 93.5 | 349 | i 13 17a | - 2 | i 23 54 | [+ 1] | i 13 23 | PcP | 44.8 |
| Taranto | | 93.9 | 313 | 12 25 | + 4 | 23 55 | [0] | 15 55 | PP | 34.5 |
| Triest | | 94.4 | 319 | e 17 15 | PP | i 24 3 | [+ 5] | e 24 23 | S | e 44.2 |
| Victoria | | 94.8 | 38 | — | — | e 24 10 | [+10] | — | — | 45.2 |
| Witteveen | Z. | 95.3 | 327 | e 13 29 | + 2 | — | — | — | — | — |
| Seattle | | 95.8 | 38 | 15 51? | ? | — | — | — | — | — |
| Stuttgart | | 95.9 | 323 | e 13 28 | - 2 | e 24 11 | [+ 5] | e 17 28 | PP | e 45.8 |
| Karlsruhe | | 96.2 | 323 | e 13 37 | + 6 | e 24 13 | [+ 5] | e 25 11 | S | e 49.8 |
| Bologna | | 96.4 | 318 | e 13 41 | + 9 | e 24 10 | [+ 1] | e 16 11 | PS | — |
| De Bilt | | 96.5 | 327 | e 13 33 | + 1 | e 24 56 | + 5 | i 17 33 | PP | e 42.8 |
| Salo | | 96.5 | 320 | e 13 32 | 0 | e 24 8 | [- 1] | e 15 18 | ? | — |
| Corvallis | Z. | 96.6 | 42 | e 17 29 | PP | e 24 5 | [- 5] | — | — | — |
| Rome | | 96.7 | 316 | e 13 35 | + 2 | i 26 19 | PS | e 17 35 | PP | — |
| Florence | | 96.8 | 318 | e 13 30a | - 4 | e 24 17 | [+ 6] | i 17 33 | PP | — |
| Strasbourg | | 96.8 | 323 | e 13 31 | - 3 | e 24 13 | [+ 2] | e 17 26 | PP | 45.6 |
| Zürich | | 96.9 | 322 | e 13 44 | +10 | e 24 12 | [+ 1] | e 17 21 | PP | — |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|--------------------|----|----------|-----|----------------------|-------|---------|-------|----------|------|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Aberdeen | | 97.2 | 334 | i 13 35 | - 1 | i 24 3 | [-10] | i 17 23 | PP | 45.6 |
| Basle | | 97.4 | 322 | e 17 29 | PP | — | — | e 20 19 | PPP | e 52.5 |
| Pavia | | 97.5 | 320 | e 13 39 _a | + 2 | e 26 29 | PS | e 17 39 | PP | e 49.1 |
| Uccle | | 97.6 | 326 | e 13 41 | + 3 | e 24 22 | [+ 7] | e 17 39 | PP | e 46.8 |
| Oropa | | 98.0 | 320 | e 13 38 | - 1 | e 26 7 | PS | e 17 37 | PP | — |
| Durham | N. | 98.4 | 332 | — | — | i 24 24 | [+ 5] | — | — | — |
| Edinburgh | F. | 98.4 | 333 | — | — | 24 16 | [- 3] | — | — | — |
| Besançon | | 98.5 | 322 | e 13 46 | + 4 | — | — | e 17 55 | PP | — |
| Shasta | | 98.8 | 45 | e 13 41 _k | - 2 | 24 16 | [- 5] | 17 42 | PP | — |
| Mineral | z. | 99.5 | 45 | e 13 43 _a | - 3 | — | — | e 17 51 | PP | — |
| Kew | | 99.7 | 328 | e 13 45? | - 2 | e 24 34 | [+ 8] | e 17 43? | PP | e 52.8 |
| Paris | | 99.7 | 325 | e 13 47 | 0 | e 24 24 | [- 2] | e 17 49 | PP | e 50.8 |
| Berkeley | | 100.1 | 47 | e 13 46 | - 3 | e 24 20 | [- 7] | e 17 50 | PP | — |
| Hungry Horse | | 100.3 | 35 | e 13 48 _a | - 2 | e 24 30 | [+ 2] | e 17 55 | PP | — |
| Pretoria | z. | 100.6 | 246 | e 13 52 | + 1 | — | — | — | — | — |
| Santa Clara | E. | 100.6 | 48 | — | — | e 24 22 | [- 8] | e 26 57 | PS | e 46.9 |
| Lick | z. | 100.8 | 47 | e 13 52 | 0 | — | — | e 17 56 | PP | — |
| Reno | z. | 101.1 | 45 | e 13 52 | - 1 | — | — | e 18 1 | PP | — |
| Rathfarnham Castle | | 101.5 | 332 | i 18 14 _a | PP | e 25 25 | - 8 | e 20 18 | PPP | e 49.8 |
| Saskatoon | | 101.9 | 29 | — | — | e 25 41 | + 5 | — | — | — |
| Jersey | E. | 102.0 | 327 | e 16 54 | ? | e 24 45 | [+ 8] | e 27 12 | PS | e 46.8 |
| Butte | N. | 102.4 | 36 | e 13 59 | 0 | e 24 33 | [- 6] | i 18 11 | PP | e 41.6 |
| Fresno | z. | 102.4 | 48 | e 14 1 | + 2 | — | — | — | — | — |
| Tinemaha | z. | 103.3 | 47 | e 14 5 | + 2 | — | — | e 18 19 | PP | — |
| Bozeman | | 103.5 | 36 | e 14 3 | - 1 | e 24 33 | [-11] | e 31 59 | SS | e 40.1 |
| Kimberley | z. | 104.0 | 243 | i 18 24 | PP | — | — | — | — | — |
| China Lake | z. | 104.4 | 48 | e 14 11 | + 3 | i 16 27 | PP | e 30 14 | PKKP | — |
| Pasadena | | 104.7 | 49 | e 14 9 | 0 | i 24 46 | [- 3] | e 18 28 | PP | e 47.6 |
| Riverside | z. | 105.4 | 49 | e 14 15 | + 2 | e 18 33 | PP | e 30 11 | PKKP | — |
| Algiers Univ. | z. | 105.6 | 314 | e 18 31 | PP | e 27 44 | PS | e 20 47 | PPP | — |
| Salt Lake City | | 105.8 | 41 | e 14 13 | - 1 | e 24 56 | [+ 2] | e 18 39 | PP | e 42.8 |
| Palomar | z. | 106.1 | 50 | e 17 51 | ? | i 18 33 | PP | e 30 8 | PKKP | — |
| Boulder City | | 106.3 | 46 | e 14 16 | P | e 18 41 | PP | e 28 56 | PKKP | — |
| Nelson | z. | 106.4 | 46 | i 14 16 _a | P | e 26 23 | + 9 | i 18 29 | PP | — |
| Barratt | z. | 106.5 | 50 | e 14 32 | P | e 27 53 | PS | i 18 42 | PP | — |
| Alicante | | 107.2 | 317 | e 18 30 | [+ 2] | 25 4 | [+ 4] | 18 56 | PP | 51.8 |
| Toledo | | 108.6 | 320 | e 18 12 | [-18] | 24 50 | [-16] | e 18 57 | PP | 38.8 |
| Almeria | | 109.3 | 317 | 18 30 | [- 2] | 25 0 | [- 9] | 18 56 | PP | 56.1 |
| Granada | | 109.8 | 318 | 19 10 _k | PP | 25 57 | [- 7] | 27 39 | S | 54.2 |
| Tamanrasset | z. | 110.0 | 300 | e 14 46 | P | e 28 14 | PS | e 19 6 | PP | — |
| Boulder | | 110.2 | 38 | e 17 44 | ? | — | — | — | — | — |
| Malaga | | 110.6 | 318 | e 18 16 | [-18] | 25 20 | [+ 5] | i 19 10 | PP | 52.2 |
| Coimbra | | 111.0 | 323 | 19 19 | [+44] | 28 51 | PS | 34 45 | SS | 54.6 |
| Tucson | | 111.0 | 48 | e 18 4 | [-31] | e 25 11 | [- 5] | e 19 8 | PP | e 45.2 |
| Averroes | | 114.6 | 316 | e 18 47 | [+ 5] | e 29 35 | PS | — | — | — |
| Kirkland Lake | z. | 115.5 | 18 | e 18 39 | [- 5] | — | — | e 19 39 | PP | — |
| Seven Falls | | 118.8 | 11 | e 18 48 | [- 2] | 36 2 | SS | 19 56 | PP | 48.1 |
| Shawinigan Falls | | 118.8 | 13 | e 18 52 | [+ 2] | — | — | — | — | — |
| Ottawa | | 119.3 | 16 | i 18 50 _a | [- 1] | 27 5 | [- 4] | 20 10 | PP | — |
| Fayetteville | | 119.4 | 35 | e 18 50 | [- 2] | — | — | e 20 13 | PP | — |
| St. Louis | | 119.5 | 30 | 18 58 | [+ 6] | — | — | 20 22 | PP | — |
| Dallas | | 120.1 | 39 | e 18 52 | [- 1] | — | — | — | — | — |
| Buffalo (Larkin) | | 120.7 | 19 | e 18 55 | [+ 1] | — | — | — | — | — |
| Cleveland | | 121.0 | 22 | e 18 54 _a | [- 1] | e 27 17 | [- 3] | e 20 13 | PP | — |
| Angra do Heroismo | | 122.0 | 334 | e 20 38 | PP | — | — | — | — | — |
| Halifax | | 122.3 | 6 | i 19 3 _a | [+ 6] | 30 22 | PS | 20 31 | PP | — |
| Pennsylvania | | 122.8 | 20 | i 19 5 | [+ 7] | — | — | i 20 35 | PP | — |
| Harvard | | 123.0 | 14 | i 18 58 _k | [0] | — | — | e 20 35 | PP | — |
| Morgantown | | 123.2 | 22 | i 18 59 | [0] | — | — | i 20 37 | PP | — |
| Weston | | 123.2 | 13 | e 18 58 | [+ 1] | e 37 57 | SS | e 20 35 | PP | e 66.0 |
| Palisades | | 123.8 | 16 | e 18 59 | [- 1] | e 27 39 | [- 1] | i 20 33 | PP | e 58.0 |
| City College, N.Y. | | 124.0 | 16 | e 19 17 | [+16] | — | — | e 20 47 | PP | — |
| Fordham | | 124.0 | 16 | e 19 3 | [+ 2] | — | — | e 20 42 | PP | — |
| Philadelphia | | 124.4 | 18 | e 20 41 | PP | e 27 25 | [-18] | e 30 46 | PS | e 53.2 |
| Washington | z. | 124.8 | 20 | e 18 59 | [- 3] | — | — | i 20 48 | PP | e 72.9 |

Continued on next page.

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|----------------|----------|-----|----------------------|--------|---------|--------|---------|-------------------------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Chapel Hill | 126.8 | 23 | i 19 7 | [+ 1] | — | — | — | — |
| Tacubaya | 126.8 | 54 | e 19 0 | [- 6] | e 26 32 | [+ 21] | e 20 42 | PP e 58.0 |
| Columbia | 127.6 | 26 | e 19 7 | [0] | e 26 2 | [- 11] | e 21 8 | PP e 51.0 |
| M'Bour | 132.6 | 304 | e 19 21 | [+ 4] | e 22 55 | PKS | e 21 48 | PP |
| Merida | 132.9 | 45 | e 21 39 | PP | — | — | — | — |
| Bermuda | 134.2 | 10 | e 19 23 | [+ 3] | e 22 52 | PKS | e 21 56 | PP e 61.4 |
| San Juan | 147.3 | 18 | i 19 43 _a | [0] | — | — | — | — |
| Galerazamba | 149.7 | 40 | e 20 4 | [+ 17] | — | — | — | 80.8 |
| Fort de France | 152.0 | 10 | i 19 59 | [+ 9] | — | — | — | — |
| St. Vincent | 153.5 | 11 | e 20 0 | [+ 7] | — | — | — | — |
| Chinchina | 153.7 | 49 | e 19 54 | [+ 1] | e 30 38 | { 0} | e 23 49 | PP 72.8 |
| Bogota | 155.0 | 47 | e 20 1 | [+ 6] | e 42 9 | SS | i 25 21 | ? 83.8 |
| La Plata | 158.1 | 176 | e 18 15 | ? | 26 51 | [- 12] | 23 21 | PKS 77.8 |
| Huancayo | 161.2 | 89 | e 20 5 | [+ 3] | e 31 18 | { - 1} | e 20 25 | PKP ₂ e 74.4 |
| Montezuma | z. 164.6 | 130 | e 20 8 _a | [+ 3] | — | — | e 24 55 | PP |
| La Paz | 167.9 | 108 | i 20 10 _k | [+ 2] | i 26 31 | [- 39] | i 21 17 | PKP ₂ — |

July 2d. 9h. 6m. 20s. Epicentre 5°.5S. 76°.8W.

A = +.2273, B = -.9691, C = -.0952 ; δ = -12 ; h = +7 ;
D = -.974, E = -.229 ; G = -.022, H = +.093, K = -.996.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----------|-----|---------------------|-------|---------|------|---------|--------------------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Huancayo | 6.7 | 168 | i 1 42 | 0 | i 2 56 | - 4 | — | — |
| Bogota | 10.4 | 15 | e 2 31 | - 3 | i 4 38 | + 6 | i 5 0 | ? 5.7 |
| Chinchina | 10.4 | 6 | e 2 35 | + 1 | i 4 34 | + 2 | i 4 58 | ? 5.7 |
| La Paz | 13.8 | 143 | e 3 21 | + 2 | i 5 50 | - 4 | i 6 8 | SS 7.0 |
| Galerazamba | 16.2 | 5 | — | — | e 7 22 | + 31 | — | — 9.7 |
| Montezuma | z. 18.7 | 156 | i 4 21 | - 1 | e 8 4 | + 16 | — | — |
| Antofagasta | N. 19.1 | 162 | e 4 27 | 0 | e 8 18 | + 21 | e 5 29 | ? — |
| Fort de France | 25.4 | 37 | e 5 27 | - 4 | — | — | — | — |
| San Juan | 25.9 | 24 | e 5 32 | - 3 | — | — | — | — |
| La Plata | 34.1 | 152 | — | — | 12 4 | - 10 | 17 22 | Q 18.8 |
| Columbia | 39.5 | 354 | e 7 37 | + 3 | — | — | — | — |
| Dallas | 42.6 | 335 | e 7 59 | 0 | — | — | — | — |
| Fayetteville | 44.5 | 340 | i 8 14 | - 1 | — | — | — | — |
| Morgantown | 45.0 | 356 | i 8 24 | + 5 | — | — | — | — |
| Palisades | 46.3 | 3 | e 8 31 | + 2 | e 15 14 | - 2 | — | e 20.4 |
| Weston | 47.9 | 6 | e 8 39 | - 3 | — | — | — | — |
| Buffalo (Larkin) | 48.2 | 358 | e 8 43 | - 1 | — | — | — | e 23.8 |
| Tucson | 49.6 | 321 | e 8 56 | + 1 | — | — | — | — |
| Ottawa | 50.7 | 1 | i 9 6 _a | + 3 | e 16 16 | - 2 | — | — |
| Seven Falls | 52.6 | 5 | e 9 20 | + 2 | — | — | — | — |
| Kirkland Lake | z. 53.5 | 357 | e 9 27 _a | + 3 | — | — | — | — |
| Barratt | z. 53.6 | 318 | e 9 25 | 0 | — | — | i 10 31 | PcP — |
| Palomar | z. 54.2 | 318 | e 9 30 | + 1 | — | — | — | — |
| Nelson | z. 54.3 | 322 | i 9 31 | + 1 | — | — | i 10 20 | PcP — |
| Boulder City | 54.5 | 322 | e 9 34 | + 2 | — | — | — | — |
| Riverside | z. 54.9 | 319 | e 9 34 | - 1 | — | — | — | — |
| Pasadena | 55.5 | 318 | e 9 40 | + 1 | — | — | — | — |
| Salt Lake City | 56.1 | 328 | e 9 34 | - 9 | — | — | — | — |
| China Lake | z. 56.2 | 320 | e 9 44 | 0 | — | — | — | — |
| Tinemaha | z. 57.3 | 321 | e 9 56 | + 4 | — | — | — | — |
| Bozeman | 59.4 | 333 | e 10 6 | 0 | — | — | — | — |
| Branner | z. 60.1 | 319 | e 10 11 | 0 | — | — | — | — |
| Butte | N. 60.4 | 332 | e 10 13 | 0 | — | — | — | — |
| Mineral | z. 61.4 | 322 | e 10 14 | - 6 | — | — | — | — |
| Hungry Horse | 62.8 | 333 | e 10 28 | - 2 | — | — | — | — |
| Malaga | 79.3 | 51 | i 12 11 | + 2 | i 22 13 | + 4 | e 14 59 | PP 42.1 |
| Toledo | 80.4 | 48 | e 12 15 | 0 | 22 7 | - 14 | — | — |
| Almeria | 80.8 | 52 | 12 20 | - 3 | 22 38 | + 13 | 15 34 | PP 39.3 |
| Alicante | 82.7 | 50 | 12 24 | - 3 | e 22 43 | - 1 | 15 37 | PP 39.9 |
| Tamanrasset | z. 85.0 | 67 | e 12 36 | - 2 | — | — | — | — |
| College | 87.0 | 336 | i 12 47 | - 1 | — | — | — | — |
| Stuttgart | 91.4 | 41 | e 13 8 _? | - 1 | — | — | — | — |
| Lembang | z. 167.1 | 200 | e 20 0 | [- 7] | — | — | e 21 13 | PKP ₂ — |

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July 2d. 10h. 43m. 12s. Epicentre 38°·2N. 116°·4W. (U.S.C.G.S.).

See B.C.I.S. for July, 1954, p. 353. Magnitude 5·26.

$\Delta = -\cdot3503$, $B = -\cdot7057$, $C = +\cdot6159$; $\delta = +6$; $h = -1$;
 $D = -\cdot896$, $E = +\cdot445$; $G = -\cdot274$, $H = -\cdot552$, $K = -\cdot788$.

| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|----------------|----|----------|-----|------|-----------------|------------------|-----|-----------------|------------------|-------|----|----------------|
| | | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Tinemaha | | 1·8 | 232 | i 0 | 32 | 0 | i 1 | 0 | + 4 | — | — | — |
| Haiwee | z. | 2·4 | 211 | e 0 | 42 | + 1 | — | — | — | — | — | — |
| Boulder City | | 2·6 | 151 | i 0 | 42 | - 2 | — | — | — | — | — | — |
| China Lake | z. | 2·6 | 202 | i 0 | 42 | - 2 | — | — | — | — | — | — |
| Nelson | z. | 2·8 | 153 | i 0 | 46 | - 1 | — | — | — | — | — | — |
| Isabella | z. | 3·0 | 213 | e 0 | 49 | - 1 | — | — | — | — | — | — |
| Reno | | 3·0 | 297 | i 0 | 48 _a | - 2 | i 1 | 41 | + 2 _r | i 0 | 58 | P _r |
| King Ranch | | 3·9 | 224 | e 1 | 4 | + 2 | — | — | — | — | — | — |
| Dalton | z. | 4·2 | 196 | i 1 | 5 | - 2 | — | — | — | — | — | — |
| Lick | | 4·2 | 260 | e 1 | 7 | 0 | e 2 | 12 | + 3* | i 1 | 16 | P* |
| Pasadena | | 4·3 | 200 | e 1 | 7 | - 1 | — | — | — | — | — | — |
| Riverside | | 4·3 | 191 | i 1 | 6 | - 2 | i 2 | 17 | + 4* | — | — | — |
| Salt Lake City | | 4·3 | 53 | e 1 | 14 | + 6 | i 1 | 45 | - 15 | i 1 | 25 | P _r |
| Santa Clara | | 4·5 | 261 | e 1 | 39 | + 9 _r | i 2 | 23 | + 5* | — | — | i 2·4 |
| Berkeley | | 4·6 | 268 | e 1 | 14 _a | + 2 | i 2 | 23 | + 3* | e 1 | 23 | P* |
| Mineral | | 4·6 | 301 | i 1 | 11 _a | - 1 | e 2 | 25 | + 5* | e 1 | 28 | P _r |
| Branner | | 4·7 | 262 | e 1 | 13 | - 1 | e 2 | 28 | + 4* | — | — | — |
| San Francisco | W. | 4·8 | 267 | e 1 | 27 | + 2* | e 2 | 28 | + 2* | — | — | — |
| Shasta | | 5·3 | 300 | e 1 | 21 _a | - 1 | i 2 | 54 | - 1 _r | — | — | — |
| Ferndale | | 6·5 | 294 | e 0 | 50 | ? | — | — | — | i 1 | 36 | P |
| Tucson | | 7·5 | 141 | i 1 | 52 | - 1 | i 2 | 35 | P _r | i 2 | 20 | ? |
| Corvallis | | 8·2 | 323 | e 2 | 5 | + 2 | — | — | — | — | — | i 3·9 |
| Butte | N. | 8·3 | 19 | i 2 | 7 | + 3 | — | — | — | — | — | i 4·5 |
| Bozeman | | 8·5 | 27 | e 2 | 9 | + 2 | — | — | — | — | — | e 4·2 |
| Hungry Horse | | 10·3 | 9 | e 2 | 32 | 0 | e 4 | 33 | + 3 | — | — | e 5·4 |
| Seattle | | 10·4 | 337 | — | — | — | 4 | 48 _r | + 16 | — | — | — |
| Rapid City | E. | 11·5 | 55 | e 2 | 49 | + 1 | — | — | — | e 3 | 23 | ? |
| Dallas | | 16·8 | 103 | e 3 | 59 | + 1 | — | — | — | — | — | e 5·8 |
| Fayetteville | | 17·8 | 88 | e 4 | 12 | + 1 | — | — | — | — | — | e 9·4 |
| St. Louis | | 20·5 | 79 | i 4 | 40 | - 2 | 8 | 36 | + 9 | — | — | — |
| Morgantown | | 28·3 | 76 | i 5 | 57 | 0 | — | — | — | — | — | e 15·0 |
| Columbia | | 28·8 | 86 | e 6 | 1 | - 1 | — | — | — | — | — | e 15·0 |
| Ottawa | | 30·9 | 63 | e 6 | 18 | - 2 | — | — | — | — | — | e 15·8 |
| College | | 32·4 | 336 | e 6 | 33 | - 1 | — | — | — | — | — | — |
| Upsala | z. | 75·2 | 22 | i 11 | 44 _a | - 2 | — | — | — | — | — | — |

July 2d. 22h. 22m. Epicentre 29°·5N. 130°·E.

Intensity II-III at Yakusima.

Seismo. Bull. Cent. Met. Obs., Japan, for July, 1954, Tokyo, 1954, pp. 9-10.

July 3d. 0h. 32m. 57s. Epicentre 3°·1S. 29°·3E.

$A = +\cdot8708$, $B = +\cdot4887$, $C = -\cdot0537$; $\delta = 0$; $h = +7$;
 $D = +\cdot489$, $E = -\cdot872$; $G = -\cdot047$, $H = -\cdot026$, $K = -\cdot999$.

| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|-------------|----|----------|-----|-----|-----------------|------|------|----|------|-------|----|--------|
| | | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Lwiro | | 0·9 | 330 | i 0 | 23 | + 3 | i 1 | 1 | ? | — | — | — |
| Preterea | z. | 22·6 | 182 | i 4 | 57 _k | - 6 | i 9 | 23 | + 16 | — | — | 11·5 |
| Tananarive | | 23·8 | 133 | e 5 | 17 | + 2 | e 9 | 38 | + 10 | — | — | 11·5 |
| Kimberley | z. | 25·9 | 189 | i 6 | 26 _k | PPP | — | — | — | — | — | — |
| Grahamstown | z. | 30·2 | 184 | i 6 | 9 _k | - 5 | — | — | — | — | — | — |
| Helwan | z. | 32·8 | 3 | 6 | 36 | - 1 | 12 | 3 | + 9 | — | — | — |
| Tamanrasset | z. | 34·6 | 319 | e 6 | 51 | - 2 | e 12 | 26 | + 4 | e 17 | 39 | ScS |
| Jerusalem | | 35·1 | 9 | i 7 | 1 | + 4 | — | — | — | — | — | e 18·6 |
| Sa'ed | | 36·3 | 9 | i 7 | 10 | + 3 | — | — | — | — | — | — |
| Ksara | | 37·2 | 9 | e 7 | 20 | + 5 | e 13 | 11 | + 9 | — | — | — |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|--------------------|----|----------|-----|---------------------|------------------|----------|------|---------|------------------|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Istanbul | | 43.9 | 0 | e 8 11 | + 1 | e 14 41 | - 1 | — | e 23.0 | |
| Algiers Univ. | z. | 46.5 | 331 | e 8 30 | - 1 | e 8 47 | ? | 20 43 | Q | 22.6 |
| Bucharest | | 47.4 | 357 | e 8 44 | + 6 | 15 33 | + 1 | — | — | — |
| Quetta | | 48.9 | 45 | e 8 51 | + 1 | e 15 57 | + 4 | e 19 25 | SS | — |
| Alicante | | 49.5 | 329 | e 8 55 | + 1 | e 16 6 | + 4 | 10 53 | PP | 24.1 |
| Almeria | | 49.5 | 326 | i 8 58 | + 4 | 16 10 | + 8 | 19 32 | SS | 23.7 |
| Iasi | N. | 50.1 | 358 | e 8 59 | 0 | — | — | — | — | — |
| Granada | | 50.4 | 326 | i 9 4 _a | + 3 | 16 21 | PS | 12 7 | PPP | i 25.8 |
| Triest | | 50.4 | 346 | e 9 7 | + 6 | e 16 33 | PPS | e 10 3 | ? | e 23.5 |
| Malaga | | 50.5 | 325 | i 8 59 | - 3 | i 16 39 | PPS | i 11 3 | PP | 27.0 |
| Toledo | | 52.5 | 328 | e 9 17 | 0 | 16 57 | PPS | 11 24 | PP | 25.0 |
| Hyderabad | | 52.6 | 65 | e 14 18 | P _c S | e 20 15 | SS | — | — | 25.5 |
| Zürich | | 53.4 | 343 | e 9 22 | - 2 | — | — | e 9 16 | ? | — |
| Basle | | 53.8 | 342 | e 9 26 | 0 | — | — | — | — | — |
| Raciborzu | | 53.8 | 351 | e 9 25 | - 1 | e 9 29 | ? | e 9 35 | ? | — |
| Besançon | | 54.1 | 341 | i 9 28 | - 1 | — | — | e 11 36 | PP | — |
| Prague | | 54.4 | 348 | i 9 33 _a | + 1 | e 17 6 | - 3 | i 11 36 | PP | — |
| Stuttgart | | 54.5 | 344 | e 9 30 | - 2 | e 17 27 | PPS | e 20 57 | SS | — |
| Strasbourg | | 54.7 | 343 | e 9 32 | - 1 | e 17 17 | + 4 | e 11 39 | PP | e 27.0 |
| Karlsruhe | z. | 54.9 | 343 | e 9 35 _a | 0 | — | — | e 10 24 | P _c P | — |
| Coimbra | | 55.2 | 325 | 9 38 | + 1 | — | — | 11 43 | PP | 29.6 |
| Warsaw | | 55.5 | 354 | e 9 41 | + 2 | e 17 25 | + 1 | e 17 39 | PS | e 28.0 |
| Collmborg | z. | 55.9 | 348 | e 9 40 | - 2 | — | — | — | — | — |
| Jena | | 55.9 | 347 | e 9 41 | - 1 | e 17 25? | - 4 | e 10 40 | P _c P | — |
| Paris | | 56.6 | 339 | e 9 46 | - 1 | e 17 51 | PPS | e 11 58 | PP | e 27.0 |
| Potsdam | | 56.9 | 348 | e 9 50 | + 1 | e 21 33 | SS | — | — | e 31.0 |
| De Bilt | | 58.7 | 343 | — | — | e 18 21 | PS | e 22 9 | SS | e 28.0 |
| Hamburg | | 58.7 | 347 | e 10 0 | - 2 | — | — | — | — | e 35.0 |
| Jersey | E. | 58.8 | 336 | — | — | e 18 15 | PS | — | — | — |
| Witteveen | z. | 58.9 | 344 | i 10 3 | 0 | — | — | — | — | — |
| Kew | | 59.9 | 339 | — | — | e 22 3? | SS | — | — | e 30.0 |
| Copenhagen | | 60.2 | 349 | e 10 10 | - 2 | 18 27 | + 2 | 22 27 | SS | 29.0 |
| Durham | N. | 63.0 | 340 | 7 22 | ? | — | — | — | — | — |
| Upsala | | 63.4 | 354 | i 10 35 | + 1 | — | — | i 10 31 | ? | e 30.0 |
| Rathfarnham Castle | | 63.6 | 337 | i 10 35 | 0 | e 20 41 | ScS | e 11 55 | ? | — |
| Aberdeen | | 65.2 | 342 | i 10 30 | -15 | e 24 3? | SS | e 31 3? | PKKP | e 34.0 |
| Shillong | | 66.9 | 61 | i 10 55 | - 1 | e 19 45 | - 4 | e 29 32 | Q | e 33.5 |
| Kiruna | | 71.0 | 356 | i 11 20 | - 2 | i 20 41 | + 4 | e 21 6 | PS | e 33.0 |
| Lembang | z. | 78.1 | 96 | e 11 57 | - 5 | — | — | — | — | — |
| Scoresby Sund | | 80.8 | 345 | e 12 17 | 0 | — | — | — | — | 45.0 |
| La Paz | | 96.2 | 253 | e 13 27 | - 4 | — | — | — | — | 48.0 |
| Palisades | | 101.9 | 311 | — | — | e 31 12 | ? | — | — | e 42.3 |
| College | | 118.3 | 359 | i 20 4 | PP | — | — | — | — | — |
| Hungry Horse | | 125.0 | 331 | e 19 4 | [+ 2] | — | — | e 21 5 | PP | — |
| Bozeman | | 125.2 | 327 | e 19 6 | [+ 3] | — | — | — | — | — |
| Tucson | | 132.6 | 312 | e 19 21 | [+ 4] | — | — | — | — | — |
| Boulder City | | 133.4 | 319 | e 19 11 | [- 7] | — | — | e 19 51 | ? | — |
| Nelson | z. | 133.6 | 319 | e 19 21 | [+ 2] | — | — | e 22 0 | PP | — |
| China Lake | z. | 135.3 | 321 | e 19 26 | [+ 4] | — | — | — | — | — |

July 3d. 13h. 9m. 4s. Epicentre 34°·8N. 137°·0E. Depth of focus 10km.
Intensity IV at Nagoya, Tu, and Kameyama; II-III at Hamamatu, Gihu, Hikone, Iida, and Nara.
Seismo. Bull. Cent. Met. Obs., Japan, for July, 1954, Tokyo, 1954, pp. 10-12, with macro-seismic chart.

July 3d. 20h. 51m. Epicentre 24°·4N. 122°·9E. Depth of focus 60km.
Intensity II-III at Hwalien.
Seismological Bulletin of the Taiwan Weather Bureau for July-Sept., 1954, Vol. 1, No. 3, Taipei, 1954, p. 11.

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July 3d. 21h. 15m. 3s. Epicentre 19°·6N. 121°·5E. (as on 1954, March 29d.).

Intensity IV at Calayan : III at Aparri.

A = -·4926, B = +·8039, C = +·3334 ; $\delta = +7$; $h = +5$;
D = +·853, E = +·522 ; G = -·174, H = +·284, K = -·943.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|----------------|----------|-----|----------------------------------|------------------|---------|------------------|----------------------|------------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Hengchun | 2·5 | 345 | i 0 46 _k | + 1* | 1 17 | - 1* | — | — |
| Tawu | 2·8 | 349 | 0 50 | - 1* | 1 23 | + 1 | — | — |
| Taitung | 3·2 | 355 | 0 56 | - 2* | 1 36 | - 3* | — | — |
| Baguio | 3·3 | 195 | i 0 47 | - 6 | i 2 26 | ? | — | — |
| Hsinkong | 3·4 | 358 | 1 2 | + 1* | 1 48 | + 3* | — | — |
| Tainan | 3·6 | 341 | 1 16 | + 4 _g | 1 53 | + 2* | — | — |
| Hwalien | 4·3 | 2 | 1 17 | + 1* | 2 11 | - 1* | — | — |
| Taichung | 4·6 | 351 | 1 16 | + 4 | 2 5 | - 2 | — | — |
| Manila | 5·0 | 185 | i 1 12 | - 6 | i 2 12 | - 6 | — | — |
| Ilan | 5·1 | 3 | e 1 40 | - 2 _g | 2 40 | + 5* | — | — |
| Hsinchu | 5·2 | 355 | e 1 47 | + 3 _g | — | — | — | — |
| Taipei | 5·4 | 0 | e 1 34 | - 1* | 2 37 | - 7* | — | — |
| Hong Kong | E. 7·3 | 292 | i 1 44 _k | - 6 | i 3 56 | - 5 _g | — | — |
| Zh-Sè | Z. 11·4 | 359 | 2 51 _a | + 4 | e 5 7 | + 11 | — | — |
| Nanking | 12·6 | 350 | e 3 3 | 0 | 5 26 | 0 | — | — |
| Sian | 18·4 | 325 | e 4 20 | + 2 | e 7 45 | + 4 | — | — |
| Linfen | N. 18·6 | 334 | e 4 23 | + 2 | — | — | — | — |
| Taiyuan | N. 19·7 | 339 | e 4 36 | + 2 | — | — | — | — |
| Kwanting | 21·2 | 348 | e 4 53 | + 4 | e 8 48 | + 7 | — | — |
| Tatung | 21·6 | 343 | e 4 59 | + 5 | e 9 1 | + 12 | — | — |
| Matsuro | 22·4 | 38 | 5 1 | - 1 | 9 13 | + 9 | — | — |
| Lanchow Univ. | 22·6 | 320 | 5 4 | + 1 | e 9 12 | + 5 | — | — |
| Sining | 24·2 | 319 | e 5 20 | + 1 | e 9 41 | + 6 | — | — |
| Shillong | N. 27·9 | 288 | i 5 54 | 0 | e 10 30 | - 7 | e 11 37 | ? e 13·8 |
| Lembang | 29·6 | 209 | e 6 7 _a | - 2 | e 10 59 | - 5 | i 6 19 | ? |
| Calcutta | E. 31·0 | 281 | — | — | e 11 33 | + 7 | e 13 44 | SSS |
| Quetta | 50·1 | 293 | e 8 56 | - 3 | e 16 7 | - 3 | e 19 17 | SS |
| Brisbane | 55·9 | 146 | i 9 23 | - 19 | — | — | — | — |
| Riverview | 60·2 | 152 | 10 10 | - 2 | — | — | — | e 26·0 |
| College | 72·7 | 27 | e 11 30 | - 2 | — | — | — | — |
| Ksara | 75·8 | 301 | 11 54 _? | + 4 | e 23 22 | ? | — | — |
| Kiruna | 76·1 | 337 | i 11 48 _a | - 3 | i 21 30 | - 5 | e 16 37 | PPP e 37·0 |
| Jerusalem | 76·9 | 299 | i 11 53 | - 3 | — | — | i 11 59 | ? |
| Upsala | 80·0 | 330 | i 12 15 | + 2 | e 22 7 | - 10 | i 12 8 | ? e 39·0 |
| Helwan | 80·6 | 298 | e 12 18 | + 2 | e 22 15 | - 8 | e 12 12 | ? |
| Tananarive | 82·0 | 247 | e 12 18 | - 5 | — | — | e 12 29 | PcP |
| Resolute Bay | 83·1 | 9 | e 12 26 _a | - 3 | e 22 43 | - 5 | — | — |
| Raciborzu | 83·3 | 321 | e 12 33 | + 3 | — | — | e 12 46 _? | ? |
| Copenhagen | 84·2 | 327 | e 12 38 | + 4 | e 22 59 | 0 | — | 41·0 |
| Potsdam | 85·4 | 324 | e 12 45 | + 5 | e 23 3 | [0] | — | 45·0 |
| Collmberg | Z. 85·8 | 323 | e 12 41 | - 1 | — | — | — | — |
| Scoresby Sund | 86·6 | 348 | e 12 45 | - 1 | e 23 8 | [- 3] | e 28 57 | SS 46·0 |
| Florence | 90·3 | 317 | — | — | e 23 27 | [- 8] | — | — |
| Rome | 90·4 | 315 | — | — | e 23 35 | [0] | — | — |
| Shasta | Z. 95·7 | 43 | e 13 27 | - 2 | — | — | — | — |
| Hungry Horse | 96·2 | 34 | i 13 30 | - 1 | e 24 14 | [+ 6] | e 17 0 | PP |
| Malaga | 104·2 | 318 | e 18 26 | PP | — | — | — | 62·6 |
| Tamanrasset | Z. 104·6 | 301 | e 14 18 | + 9 | e 17 26 | ? | e 18 29 | PP |
| Palisades | 118·0 | 13 | e 20 1 | PP | e 29 41 | PS | e 36 28 | SS e 62·4 |
| Fort de France | 145·8 | 4 | e 19 38 | [- 3] | — | — | — | — |
| Montezuma | Z. 169·9 | 109 | e 20 9 | [0] | — | — | — | — |
| La Paz | Z. 170·5 | 72 | i 20 9 _? _a | [0] | i 21 23 | PKP _a | i 25 17 | PP |

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July 3d. 22h. 31m. 30s. Epicentre 6°·6S. 105°·6E. Depth of focus 0·010.

Intensity VIII at Banten and in the Djakarta region. Magnitude 7.

Epicentre 6°·5S. 105°·5E. (U.S.C.G.S.). Depth of focus 100km.

Earthquakes in Indonesia for the years 1948-1955, Series A, No. 45, Meteorological and Geophysical Institute, Djakarta, p. 44.

A = -·2672, B = +·9568, C = -·1142; $\delta = -10$; $h = +7$;
D = +·963, E = +·269; G = +·031, H = -·110, K = -·993.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|---------------|----|----------|-----|---------|------|---------|------|---------|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Djakarta | Z. | 1·2 | 72 | i 0 23k | 0 | — | — | — | — |
| Bandung | | 2·0 | 99 | i 0 35k | + 2 | — | — | — | — |
| Lembang | Z. | 2·0 | 97 | i 0 35k | + 2 | — | — | — | — |
| Manila | | 26·0 | 36 | i 5 26 | PP | e 10 14 | SS | — | — |
| Perth | | 27·0 | 161 | 5 30 | - 5 | 10 19 | +16 | 6 23 | PP |
| Baguio | | 27·2 | 33 | i 5 36a | 0 | i 10 31 | +25 | — | — |
| Hong Kong | E. | 29·9 | 16 | i 6 0 | - 1 | 11 27 | sS | i 12 31 | ScP |
| Madras | E. | 31·9 | 308 | i 6 17 | - 1 | i 11 20 | - 1 | 7 27 | PP |
| Hengchun | | 32·0 | 27 | 6 23 | + 4 | 11 45 | +23 | — | — |
| Tawu | | 32·4 | 27 | i 6 24a | + 2 | 11 40 | +11 | — | — |
| Kodaikanal | E. | 32·6 | 300 | i 6 25 | + 1 | i 11 40 | + 8 | 7 28 | PP |
| Tainan | | 32·7 | 26 | 6 36 | +11 | 11 56 | +23 | — | — |
| Hsinking | | 33·3 | 27 | 6 34 | + 4 | 12 27 | sS | — | — |
| Calcutta | E. | 33·5 | 330 | i 6 30a | - 2 | i 11 48 | + 2 | 16 47 | ScS |
| Taichung | | 33·9 | 25 | e 6 37 | + 1 | — | — | — | — |
| Shillong | | 34·6 | 338 | i 6 39a | - 3 | i 11 55 | - 8 | 8 3 | PP |
| Ilan | | 34·9 | 26 | e 6 49 | + 5 | 12 14 | + 7 | — | — |
| Taipei | | 35·0 | 26 | 6 44 | - 1 | 12 27 | +18 | — | — |
| Hyderabad | | 35·9 | 312 | i 6 52 | 0 | i 12 28 | + 5 | 8 7 | PP |
| Chatra | | 37·7 | 332 | i 7 5 | - 3 | e 12 39 | -11 | 8 55 | PPP |
| Poona | | 40·1 | 309 | i 7 25 | - 3 | 13 27 | + 1 | 9 25 | PPP |
| Zò-Sè | | 40·3 | 21 | i 7 30a | + 1 | 13 29 | 0 | i 7 50 | pP |
| Nanking | | 40·4 | 17 | 7 30 | 0 | 13 23 | - 8 | — | — |
| Stan | N. | 40·7 | 4 | e 7 34 | + 2 | e 13 38 | + 3 | — | — |
| Bombay | E. | 41·1 | 309 | i 7 10 | -26 | i 13 6 | -35 | 9 12 | PP |
| Lanchow Univ. | | 42·5 | 358 | 7 47 | 0 | 14 3 | + 1 | i 13 34 | PcS |
| Lin'fen | N. | 42·8 | 7 | 7 53 | + 3 | — | — | — | — |
| Sining | | 43·1 | 356 | e 7 53 | + 1 | — | — | — | — |
| Guam | | 43·8 | 63 | i 7 58 | 0 | — | — | — | — |
| Yakusima | | 43·9 | 32 | 7 59 | 0 | e 14 25 | + 3 | e 17 35 | SS |
| New Delhi | | 44·4 | 323 | i 8 0k | - 3 | i 14 30 | + 1 | 9 48 | PP |
| Taiyuan | N. | 44·6 | 8 | e 8 5 | + 1 | — | — | — | — |
| Tomie | | 44·8 | 28 | 8 7 | + 1 | e 18 1 | SS | — | 21·3 |
| Kagosima | | 44·8 | 31 | 8 7a | + 1 | 14 42 | + 7 | 10 7 | PP |
| Yinchuan | | 44·9 | 1 | e 8 8 | + 1 | e 14 37 | 0 | — | — |
| Dehra Dun | | 45·2 | 326 | e 8 8 | - 1 | i 14 42 | + 1 | 13 41 | PcS |
| Miyazaki | | 45·5 | 31 | i 8 12a | + 1 | e 13 44 | PcS | — | 22·0 |
| Kumamoto | | 45·9 | 30 | 8 14a | 0 | 14 52 | + 1 | — | 23·7 |
| Saga | | 46·0 | 29 | 8 15a | 0 | — | — | — | e 24·5 |
| Hukuoka | | 46·3 | 29 | i 8 18a | 0 | i 15 1 | + 5 | 9 53 | PcP |
| Tatung | | 47·0 | 8 | 8 25 | + 2 | e 15 9 | + 3 | — | — |
| Melbourne | E. | 47·3 | 137 | e 8 27 | + 1 | i 15 17 | + 6 | e 10 19 | PP |
| Matuyama | Z. | 47·7 | 31 | e 8 28 | - 1 | — | — | e 8 47 | pP |
| Koti | | 47·9 | 32 | 8 31 | + 1 | i 15 27 | + 8 | e 10 32 | PP |
| Hirosima | | 48·0 | 30 | e 8 28a | - 3 | e 15 41 | +21 | e 9 58 | PcP |
| Hamada | | 48·2 | 29 | i 8 31a | - 1 | e 15 33 | +10 | e 18 7 | ScS |
| Takamatu | | 48·8 | 32 | i 8 37a | 0 | i 15 37 | + 5 | i 18 36 | SS |
| Tokusima | | 48·8 | 32 | e 8 37 | 0 | — | — | — | — |
| Sumoto | | 49·2 | 32 | i 8 39a | - 1 | e 15 39 | + 2 | e 13 58 | PcS |
| Yonago | | 49·3 | 30 | e 8 45 | + 4 | e 15 45 | + 6 | — | — |
| Brisbane | | 49·5 | 121 | i 8 42 | 0 | — | — | — | — |
| Kobe | N. | 49·6 | 32 | i 8 43a | 0 | e 15 40 | - 3 | e 10 22 | f |
| Torisima | E. | 49·6 | 40 | 8 38 | - 5 | — | — | — | e 20·1 |
| Owase | | 49·7 | 34 | e 8 42 | - 2 | — | — | — | — |
| Osaka | | 49·8 | 33 | e 8 45 | 0 | e 15 52 | + 6 | 19 8 | pP |

Continued on next page.

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------------|----------|-----|---------------------|------|---------|------|---------|------------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Nara | 50.0 | 33 | 8 46 | 0 | — | — | — | — |
| Riverview | 50.0 | 129 | i 8 46 _a | 0 | i 15 55 | + 7 | i 8 59 | pP e 25.2 |
| Toyooka | 50.1 | 31 | e 8 46 | - 1 | e 15 52 | + 2 | e 10 46 | PP |
| Kameyama | 50.4 | 33 | 8 49 | 0 | 15 50 | - 4 | i 9 12 | pP 20.3 |
| Tu | 50.4 | 33 | e 8 49 | 0 | — | — | — | — |
| Hikone | 50.6 | 33 | e 8 50 | - 1 | — | — | — | — |
| Gihu | 51.0 | 33 | e 8 53 | - 1 | — | — | — | — |
| Nagoya | N. 51.0 | 33 | e 8 51 | - 3 | — | — | — | — |
| Hukui | 51.2 | 32 | e 8 48 | - 8 | — | — | — | — |
| Omaesaki | 51.2 | 35 | 9 0 | + 4 | — | — | — | — |
| Shizuoka | 51.6 | 35 | 8 57 _a | - 1 | e 16 12 | + 2 | 18 46 | ScS e 20.6 |
| Iida | 51.7 | 34 | e 8 58 | - 1 | — | — | — | — |
| Misima | 52.0 | 35 | i 9 0 _a | - 1 | e 18 46 | ScS | — | — |
| Quetta | 52.1 | 317 | i 9 0 _k | - 2 | i 16 17 | 0 | i 10 58 | PP i 24.9 |
| Hunatu | 52.2 | 34 | e 8 59 | - 4 | — | — | — | — |
| Kohu | 52.2 | 34 | e 9 2 | - 1 | — | — | — | — |
| Toyama | 52.2 | 32 | 9 2 | - 1 | 16 22 | + 4 | e 18 50 | ScS |
| Matumoto | N. 52.3 | 33 | e 9 2 | - 2 | — | — | — | — |
| Mera | 52.4 | 36 | e 9 16 | + 12 | — | — | — | — |
| Wazima | 52.6 | 31 | e 9 6 | 0 | — | — | e 12 23 | PPP |
| Yokohama | 52.6 | 35 | 9 6 | 0 | e 9 59 | ? | e 13 4 | ? |
| Matusiro | 52.7 | 33 | 9 3 | - 4 | e 16 59 | PPS | e 12 55 | ? e 27.0 |
| Oiwake | 52.7 | 34 | e 9 5 | - 2 | e 16 44 | PS | — | — |
| Titibu | E. 52.7 | 34 | i 9 6 | - 1 | — | — | — | — |
| Nagano | 52.8 | 33 | i 9 6 _a | - 2 | e 16 31 | + 4 | i 9 28 | pP 23.3 |
| Tokyo | 52.9 | 35 | 9 4 | - 4 | e 16 18 | - 10 | i 10 15 | PcP 27.5 |
| Kumagaya | 53.0 | 34 | e 9 7 | - 2 | e 15 42 | - 47 | — | — |
| Maebasi | 53.0 | 34 | e 9 7 _a | - 2 | e 16 46 | PS | e 18 49 | ScS |
| Kashiwa | 53.1 | 35 | e 9 9 | - 1 | — | — | e 10 51 | PP |
| Changchun | E. 53.2 | 18 | e 9 12 | + 2 | e 16 38 | + 6 | — | — |
| Kakioka | 53.5 | 35 | e 9 8 | - 5 | — | — | — | — |
| Utunomiya | 53.6 | 34 | e 9 10 | - 3 | e 16 32 | - 6 | e 14 15 | PcS |
| Niigata | 54.1 | 32 | e 9 19 | + 2 | — | — | e 14 24 | PcS |
| Shirakawa | 54.2 | 34 | e 9 16 | - 2 | — | — | e 12 44 | PPP |
| Inawasiro | 54.4 | 34 | i 9 18 | - 1 | — | — | i 13 6 | PPP |
| Onabama | 54.4 | 35 | e 9 17 _a | - 2 | e 16 48 | 0 | — | — |
| Hokusima | 54.8 | 34 | e 9 27 | + 5 | 17 17 | PS | — | — |
| Vladivostok | 54.9 | 23 | i 9 22 | - 1 | e 17 0 | + 5 | — | — |
| Sakata | 55.2 | 32 | e 9 29 | + 4 | — | — | — | — |
| Sendai | Z. 55.4 | 34 | e 9 23 | - 3 | — | — | — | — |
| Akita | 56.0 | 32 | i 9 30 _a | - 1 | e 17 14 | + 4 | i 10 28 | PcP e 23.5 |
| Almata | 56.0 | 335 | i 9 29 | - 2 | i 17 14 | + 4 | — | — |
| Andijan | 56.1 | 330 | i 9 29 | - 3 | i 17 13 | + 2 | — | — |
| Mizusawa | E. 56.1 | 33 | e 9 32 | 0 | e 14 3 | ScP | — | — |
| | N. 56.1 | 33 | e 9 29 | - 3 | e 14 16 | ScP | — | — |
| Morioka | 56.5 | 32 | e 9 32 | - 2 | — | — | — | — |
| Stalinabad | 56.5 | 326 | i 9 30 | - 4 | — | — | — | — |
| Frunse | 56.7 | 333 | i 9 34 | - 2 | — | — | — | — |
| Miyako | 56.9 | 33 | 9 35 _a | - 2 | e 17 14 | - 8 | — | — |
| Aomori | 57.2 | 31 | 9 30 | - 9 | 17 0 | - 25 | e 14 38 | PcS |
| Hatinohe | 57.3 | 32 | i 9 38 _a | - 2 | e 17 24 | - 3 | — | e 29.7 |
| Tananarive | 57.7 | 252 | i 9 40 | - 3 | i 17 38 | + 6 | 10 28 | PcP 26.9 |
| Mori | 58.0 | 30 | i 9 45 | 0 | i 17 40 | + 4 | e 10 2 | pP e 29.0 |
| Tashkent | 58.1 | 328 | i 9 43 | - 3 | i 17 37 | 0 | — | — |
| Irkutsk | 58.6 | 359 | i 9 48 | - 1 | 17 49 | + 5 | — | — |
| Tomakomai | 58.8 | 30 | e 9 46 | - 4 | i 17 38 | - 8 | — | — |
| Sapporo | 59.1 | 30 | i 9 50 _a | - 2 | e 17 52 | + 2 | e 12 19 | PP e 29.8 |
| Urakawa | 59.2 | 32 | e 9 53 | 0 | e 17 55 | + 3 | e 12 22 | PP e 24.2 |
| Kusiro | 60.6 | 32 | e 10 2 | - 1 | e 18 13 | + 3 | e 12 26 | PP |
| Nouméa | 60.6 | 112 | i 10 1 _a | - 2 | e 18 35 | PS | i 10 21 | pP 29.5 |
| Semipalatinsk | 60.9 | 342 | i 10 3 | - 2 | i 18 15 | + 2 | — | — |
| Nemuro | 61.4 | 32 | e 10 6 _a | - 2 | — | — | — | — |
| Ashkabad | 62.4 | 319 | i 10 14 | - 1 | i 18 34 | + 2 | — | — |
| Yuzno-Sakhlinsk | 62.7 | 28 | i 10 15 | - 2 | e 18 39 | + 3 | — | — |
| Kurilsk | 63.9 | 32 | i 10 24 | - 1 | i 18 57 | + 6 | — | — |

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|--|------|----------|-----|------|-----------------|------|------|----|-------|-------|----|--------|
| | | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| | | 63.9 | 26 | i 10 | 23 | - 2 | i 18 | 54 | + 3 | — | — | — |
| | N.E. | 67.8 | 133 | 10 | 51 | + 1 | 19 | 40 | + 2 | 11 | 4 | pP |
| | | 68.9 | 134 | i 10 | 55 | - 1 | 19 | 55 | + 3 | i 39 | 9 | P'P' |
| | E. | 69.2 | 129 | e 10 | 58 | 0 | e 20 | 0 | + 5 | — | — | e 28.5 |
| | N. | 69.4 | 127 | e 11 | 0? | 0 | 20 | 9 | +12 | — | — | e 36.5 |
| | | 70.0 | 132 | i 11 | 1 | - 2 | i 20 | 4 | 0 | e 11 | 20 | pP |
| | N. | 70.1 | 128 | e 11 | 3 | - 1 | e 20 | 12 | + 6 | — | — | e 32.5 |
| | Z. | 70.3 | 129 | i 11 | 2 | - 3 | — | — | — | — | — | e 38.9 |
| | | 71.3 | 315 | i 11 | 10 | - 1 | i 20 | 23 | + 4 | 11 | 37 | pP |
| | | 71.8 | 317 | i 11 | 12 | - 2 | 20 | 26 | + 1 | — | — | e 35.9 |
| | | 73.1 | 336 | i 11 | 21 | - 1 | i 20 | 40 | 0 | — | — | — |
| | | 73.3 | 317 | i 11 | 23 | 0 | i 20 | 45 | + 3 | — | — | — |
| | | 73.4 | 319 | i 11 | 22 | - 1 | i 20 | 46 | + 3 | — | — | — |
| | | 75.0 | 22 | i 11 | 31 | - 1 | 21 | 4 | + 3 | — | — | — |
| | Z. | 75.9 | 245 | i 11 | 36 _a | - 2 | — | — | — | — | — | — |
| | | 76.7 | 269 | e 11 | 42 | 0 | e 21 | 28 | + 8 | — | — | — |
| | | 77.1 | 305 | i 11 | 44 | 0 | i 20 | 14 | -70 | — | — | — |
| | | 77.1 | 307 | i 11 | 45 | + 1 | — | — | — | — | — | — |
| | | 77.2 | 28 | i 11 | 42 | - 3 | i 21 | 26 | + 1 | — | — | — |
| | Z. | 77.3 | 237 | i 11 | 45 _a | - 1 | — | — | — | — | — | — |
| | | 78.9 | 242 | i 11 | 52 _a | - 2 | — | — | — | — | — | — |
| | | 79.8 | 302 | i 12 | 8 _a | + 9 | 22 | 3 | +10 | 15 | 3 | PP |
| | | 81.3 | 103 | e 12 | 8 | + 1 | — | — | — | e 12 | 31 | pP |
| | | 81.6 | 317 | i 12 | 8 | - 1 | i 22 | 12 | + 1 | — | — | — |
| | | 83.3 | 328 | i 12 | 17 | 0 | 22 | 32 | + 4 | 12 | 40 | pP |
| | | 84.3 | 312 | i 12 | 22 | 0 | i 22 | 41 | + 3 | e 23 | 37 | PS |
| | | 86.6 | 316 | e 12 | 37 | + 3 | e 23 | 10 | + 9 | — | — | e 39.5 |
| | | 86.7 | 318 | i 12 | 35 | + 1 | i 23 | 6 | + 4 | e 13 | 0 | pP |
| | | 87.0 | 317 | e 12 | 37 | + 1 | e 22 | 55 | [+ 4] | e 23 | 24 | pS |
| | | 87.1 | 315 | i 12 | 38 | + 2 | i 23 | 11 | + 6 | e 13 | 17 | sP |
| | | 87.6 | 37 | i 12 | 38 | 0 | — | — | — | — | — | — |
| | | 87.7 | 308 | i 12 | 37 _a | - 2 | i 23 | 14 | + 3 | i 12 | 55 | pP |
| | | 88.0 | 316 | e 12 | 41 | + 1 | e 23 | 18 | + 4 | e 13 | 11 | pP |
| | | 88.3 | 331 | i 12 | 42 | 0 | e 23 | 17 | 0 | — | — | — |
| | | 88.8 | 313 | i 12 | 45 | + 1 | i 23 | 24 | + 3 | i 16 | 17 | PP |
| | | 90.8 | 316 | e 12 | 54 | 0 | e 23 | 20 | [+ 5] | e 24 | 33 | sS |
| | | 91.0 | 330 | i 12 | 56 | - 2 | e 23 | 21 | [+ 5] | e 13 | 37 | sP |
| | | 91.2 | 315 | i 12 | 55 | 0 | i 23 | 50 | + 7 | e 13 | 18 | pP |
| | | 91.6 | 316 | e 13 | 0 | + 3 | 23 | 26 | SKKS | 24 | 31 | sS |
| | | 91.9 | 322 | i 12 | 57 | - 2 | e 23 | 16 | [- 4] | 13 | 25 | pP |
| | | 92.4 | 316 | 13 | 2 | + 1 | 23 | 54 | + 1 | 16 | 42 | PP |
| | | 92.5 | 317 | 13 | 2 | + 1 | e 23 | 30 | SKKS | 13 | 23 | pP |
| | | 93.0 | 310 | 13 | 7 | + 3 | 23 | 21 | [- 6] | 16 | 52 | PP |
| | | 93.1 | 318 | i 13 | 7 | + 3 | e 23 | 28 | [0] | e 13 | 37 | pP |
| | | 93.4 | 320 | i 13 | 5 | - 1 | e 23 | 41 | SKKS | i 16 | 49 | PP |
| | | 94.0 | 308 | e 13 | 4 | - 4 | e 24 | 14 | + 7 | e 18 | 53 | PPP |
| | | 94.2 | 338 | i 13 | 9 _a | 0 | i 23 | 34 | [- 0] | e 13 | 46 | sP |
| | | 94.4 | 318 | i 13 | 10 | 0 | e 24 | 7 | - 4 | i 16 | 54 | PP |
| | | 94.6 | 330 | i 13 | 10 _a | - 1 | i 23 | 38 | [+ 2] | i 13 | 28 | pP |
| | | 95.8 | 320 | i 13 | 17 _a | + 1 | i 23 | 47 | [+ 4] | e 13 | 45 | pP |
| | | 96.0 | 315 | i 13 | 16 | - 1 | e 23 | 49 | [+ 5] | i 17 | 8 | PP |
| | | 96.7 | 321 | e 13 | 20 | 0 | e 23 | 51 | [+ 4] | e 31 | 5 | SS |
| | | 96.7 | 322 | i 13 | 21 _a | + 1 | e 23 | 50 | [+ 3] | i 17 | 15 | PP |
| | | 96.7 | 311 | i 13 | 21 | + 1 | i 23 | 46 | [- 1] | i 24 | 28 | S |
| | | 97.1 | 320 | i 13 | 23 _a | + 1 | i 24 | 40 | + 6 | e 17 | 50 | pPP |
| | | 97.2 | 325 | i 13 | 23 | 0 | i 24 | 1 | SKKS | i 17 | 19 | PP |
| | | 97.2 | 314 | e 13 | 23 | 0 | e 24 | 37 | + 3 | i 17 | 21 | PP |
| | | 97.6 | 314 | e 13 | 27 | + 2 | e 23 | 59 | [+ 7] | e 17 | 27 | PP |
| | | 97.6 | 320 | i 13 | 24 | - 1 | e 23 | 55 | [+ 3] | i 13 | 41 | pP |
| | | 97.6 | 313 | e 13 | 20 | - 5 | — | — | — | — | — | e 49.5 |
| | | 97.7 | 313 | i 13 | 23 _a | - 2 | i 24 | 21 | SKKS | i 13 | 41 | pP |
| | | 97.8 | 313 | e 13 | 22 | - 4 | i 23 | 54 | [+ 1] | — | — | — |
| | | 98.2 | 70 | e 15 | 2 | ? | e 24 | 55 | +12 | e 26 | 39 | PS |
| | | 98.2 | 315 | e 13 | 27 | 0 | e 23 | 48 | [- 8] | e 24 | 34 | S |
| | | 98.6 | 323 | e 13 | 29 _a | 0 | e 24 | 4 | [+ 6] | e 17 | 34 | PP |

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| | △ o | Az. o | P. | | O-C. s. | S. | | O-C. s. | Supp. | | L. m. | |
|--------------------|----------|----------|------|-----------------|------------|------|-----|------------|-------|----|----------|--------|
| | | | m. | s. | | m. | s. | | m. | s. | | |
| Chur | 98.9 | 316 | e 13 | 29 _a | - 1 | — | — | — | e 17 | 29 | PP | e 56.5 |
| Pavia | 99.2 | 315 | i 13 | 33 _a | + 1 | e 25 | 21 | pS | i 17 | 38 | PP | e 49.7 |
| Stuttgart | 99.2 | 318 | i 13 | 32 _a | 0 | e 24 | 2 | [+ 2] | i 13 | 49 | pP | e 52.5 |
| Zürich | 99.6 | 317 | e 13 | 33 _a | - 1 | e 24 | 4 | [+ 4] | e 17 | 34 | PP | — |
| Karlsruhe | 99.7 | 318 | e 13 | 32 _a | - 2 | i 24 | 4 | [+ 2] | e 13 | 50 | pP | e 52.5 |
| Oropa | 100.0 | 315 | e 13 | 35 | - 1 | e 24 | 50 | - 8 | e 16 | 29 | ? | — |
| Strasbourg | 100.1 | 318 | i 13 | 35 | - 1 | e 24 | 53 | - 6 | e 14 | 3 | pP | — |
| Basle | 100.3 | 317 | e 16 | 50 | ? | — | — | — | e 17 | 39 | PP | e 45.7 |
| Witteveen | z. 100.6 | 322 | e 16 | 30 | ? | — | — | — | — | — | — | — |
| Neuchatel | 100.7 | 316 | i 13 | 38 | - 1 | — | — | — | e 17 | 43 | PP | — |
| Besançon | 101.4 | 317 | i 13 | 39 | - 3 | e 26 | 51 | PS | e 14 | 4 | pP | — |
| De Bilt | 101.6 | 322 | i 13 | 44 _a | + 1 | e 25 | 26 | +15 | e 17 | 44 | PP | e 43.5 |
| Tamanrasset | z. 101.8 | 292 | i 13 | 44 _a | 0 | e 25 | 2 | -11 | e 17 | 53 | PP | — |
| Uccle | 102.2 | 320 | e 13 | 44 | - 1 | e 24 | 17 | [+ 2] | i 17 | 51 | PP | — |
| College | 102.9 | 25 | e 13 | 48 | 0 | e 24 | 42 | SKKS | i 29 | 45 | PKKP | e 42.6 |
| Paris | 103.6 | 318 | i 13 | 52 | + 1 | e 25 | 38 | +10 | e 28 | 21 | PPS | e 49.5 |
| Algiers Univ. | z. 104.0 | 306 | e 13 | 54 | + 1 | e 24 | 20 | [- 3] | e 14 | 24 | pP | — |
| Barcelona | 104.4 | 311 | e 16 | 54 | ? | 24 | 33 | [+ 8] | e 18 | 15 | PP | e 58.4 |
| Kew | 105.0 | 322 | i 13 | 58 | P | e 24 | 30? | [+ 2] | i 20 | 32 | PPP | e 54.5 |
| Aberdeen | 105.1 | 328 | i 16 | 14 | ? | i 25 | 39 | - 1 | i 27 | 44 | PS | 50.2 |
| Durham | 105.3 | 325 | e 13 | 19 | ? | i 26 | 17 | sS | i 18 | 29 | PP | — |
| Edinburgh | E. 105.9 | 326 | — | — | — | 25 | 6 | SKKS | 27 | 30 | SP | — |
| Jersey | E. 106.5 | 319 | e 18 | 3 | PKP | e 24 | 35 | [+ 1] | e 18 | 33 | PP | 47.5 |
| Alicante | 106.7 | 308 | 13 | 58 | P | i 24 | 28 | [- 7] | i 18 | 34 | PP | 50.4 |
| Scoresby Sund | 108.1 | 344 | i 14 | 12 | P | e 24 | 50 | [+ 9] | e 26 | 11 | S | 52.5 |
| Rathfarnham Castle | 108.3 | 324 | i 14 | 28 | P | e 24 | 58 | [+16] | i 18 | 40 | PP | e 51.5 |
| Almeria | 108.4 | 306 | i 18 | 32 | PP | 25 | 37 | SKKS | 19 | 1 | pPP | 51.0 |
| Granada | 109.3 | 307 | 14 | 21 | P | 24 | 30 | [-16] | 18 | 51 | PP | i 62.9 |
| Toledo | 109.3 | 310 | i 18 | 21 | [+ 3] | 24 | 51 | [+ 5] | 18 | 50 | PP | 46.3 |
| Malaga | 110.0 | 307 | i 18 | 17 | [- 3] | 24 | 39 | [-10] | i 17 | 15 | ? | 50.8 |
| Resolute Bay | 110.9 | 6 | e 14 | 23 | P | i 19 | 2 | PP | e 21 | 23 | PPP | — |
| Coimbra | 112.5 | 311 | 17 | 46 | [-39] | 25 | 2 | [+ 3] | 19 | 18 | PP | 57.5 |
| Averroes | 112.8 | 303 | e 18 | 6 | [-19] | e 28 | 52 | PS | i 19 | 10 | PP | — |
| Liston | 113.4 | 309 | i 18 | 29 _k | [+ 2] | 28 | 58 | PS | i 19 | 24 | PP | 46.6 |
| Victoria | 121.2 | 36 | i 18 | 46 | [+ 4] | i 26 | 0 | pSKS | e 39 | 54 | ? | 57.2 |
| Seattle | 122.3 | 36 | i 18 | 46 _a | [+ 2] | e 31 | 42 | PPS | e 18 | 54 | ? | e 73.5 |
| Corvallis | 123.1 | 40 | e 18 | 48 | [+ 3] | e 30 | 24 | PS | e 20 | 24 | PP | — |
| M'Bour | 123.1 | 283 | e 20 | 32 | PP | — | — | — | — | — | — | 64.5 |
| Shasta | 125.4 | 44 | i 18 | 51 _a | [+ 1] | e 25 | 45 | [+ 1] | 20 | 32 | PP | — |
| Mineral | z. 126.1 | 44 | e 18 | 52 _a | [+ 1] | — | — | — | i 20 | 43 | PP | — |
| Hungry Horse | 126.5 | 32 | i 18 | 53 | [+ 1] | e 27 | 37 | SKKS | e 16 | 8 | pP | — |
| Berkeley | 126.6 | 47 | e 18 | 55 _a | [+ 3] | e 32 | 28 | PPS | e 22 | 32 | PKS | — |
| Angra do Heroismo | 126.9 | 314 | i 20 | 51 | PP | e 22 | 15 | SKP | e 23 | 7 | sPKS | — |
| Branner | z. 126.9 | 48 | e 18 | 56 | [+ 3] | — | — | — | — | — | — | — |
| Santa Clara | 127.1 | 48 | i 18 | 57 _k | [+ 4] | i 22 | 15 | SKP | i 20 | 52 | PP | e 58.8 |
| Lick | z. 127.3 | 47 | i 18 | 56 _a | [+ 3] | — | — | — | 20 | 41 | PP | — |
| Saskatoon | 127.4 | 24 | i 20 | 59 | PP | e 31 | 0 | PS | — | — | — | — |
| Reno | 127.7 | 44 | e 18 | 56 _a | [+ 2] | i 23 | 22 | sPKS | e 19 | 21 | pPKP | — |
| Butte | N. 128.7 | 34 | i 18 | 57 _a | [+ 1] | i 26 | 13 | [+20] | i 19 | 29 | pPKP | e 55.7 |
| Fresno | z. 128.9 | 47 | e 18 | 58 _a | [+ 1] | — | — | — | e 20 | 36 | PP | — |
| Bozeman | 129.8 | 33 | i 19 | 0 _k | [+ 2] | e 22 | 16 | SKP | i 21 | 10 | PP | e 55.7 |
| Tinemaha | z. 129.9 | 46 | i 18 | 59 _a | [+ 1] | i 22 | 17 | SKP | i 19 | 14 | pPKP | — |
| China Lake | z. 130.9 | 47 | e 19 | 2 | [+ 2] | i 22 | 23 | SKP | i 18 | 52 | ? | — |
| Pasadena | 131.2 | 50 | i 19 | 2 _a | [+ 1] | i 22 | 31 | PKS | e 19 | 27 | pPKP | e 54.6 |
| Riverside | 131.8 | 50 | i 19 | 4 | [+ 2] | e 22 | 35 | PKS | e 21 | 23 | PP | — |
| Salt Lake City | 132.3 | 39 | i 19 | 6 _k | [+ 3] | i 22 | 55 | pPKS | e 19 | 27 | pPKP | e 56.5 |
| Palomar | z. 132.5 | 50 | e 18 | 59 | [- 4] | i 22 | 28 | SKP | e 21 | 19 | PP | — |
| Boulder City | 132.8 | 46 | i 19 | 7 | [+ 3] | e 22 | 31 | SKP | e 18 | 50 | ? | — |
| Barratt | 132.9 | 51 | i 19 | 6 | [+ 2] | i 22 | 39 | PKS | e 18 | 55 | ? | — |
| Nelson | z. 133.0 | 46 | i 19 | 6 | [+ 2] | i 22 | 30 | SKP | i 21 | 30 | PP | — |

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| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Rapid City | E. | 134.9 | 29 | e 19 13 | [+ 5] | e 27 56 | SKKS | e 31 51 | PSKS e 58.8 |
| La Plata | | 135.9 | 200 | 20 6 | [+56] | 26 48 | [+39] | 16 42 | P 62.1 |
| Buenos Aires | | 136.4 | 199 | 19 12 | [+ 1] | — | — | — | — |
| Tucson | | 137.5 | 48 | i 19 15 | [+ 2] | e 26 23 | [+11] | i 21 57 | PP e 56.2 |
| Kirkland Lake | Z. | 138.3 | 6 | i 19 15 | [+ 1] | e 22 2 | PP | e 19 4 | ? — |
| Seven Falls | | 139.5 | 356 | e 19 9 ^a | [- 7] | 26 13 | [- 2] | 40 21 | SS — |
| Santa Lucia | N. | 140.0 | 185 | 18 46 | [-31] | 29 0 | SKKS | 15 29 | ? — |
| Shawinigan Falls | | 140.1 | 358 | e 19 12 | [- 5] | — | — | e 21 53 | ? — |
| Halifax | | 141.0 | 348 | e 19 15 | [- 4] | i 32 45 | PS | 23 0 | pPP — |
| Ottawa | | 141.3 | 2 | i 19 22 | [+ 3] | 22 55 | PKS | e 19 10 ^a | ? — |
| Chihuahua | | 142.9 | 50 | i 21 46 | ? | — | — | — | — |
| Harvard | | 144.1 | 356 | i 19 24 | [0] | i 34 12 | sPS | i 19 57 | pPKP e 73.2 |
| Weston | | 144.2 | 356 | i 19 23 ^a | [- 2] | i 23 1 | PKS | i 22 39 | PP e 74.3 |
| Cleveland | | 144.7 | 9 | i 19 25 ^a | [0] | e 42 18 | PSS | i 22 42 | PP — |
| Terre Haute | | 145.2 | 18 | i 19 0 | [-26] | e 33 40 [?] | PPS | — | — |
| Fayetteville | | 145.5 | 29 | i 19 27 ^k | [0] | — | — | — | — |
| Palisades | | 145.7 | 359 | i 19 27 | [0] | i 26 33 | [+ 9] | e 29 42 | SKKS e 67.7 |
| Pennsylvania | | 145.8 | 5 | i 19 28 | [+ 1] | i 22 41 | PP | — | — |
| Fordham | | 145.9 | 359 | i 19 29 | [+ 1] | i 22 49 | SKP | — | — |
| Cincinnati | | 146.4 | 14 | i 19 31 | [- 3] | — | — | — | — |
| Dallas | | 146.6 | 36 | i 19 32 | [+ 3] | — | — | — | — |
| Morgantown | | 146.7 | 8 | i 19 33 | [+ 4] | — | — | i 22 40 | PP — |
| Philadelphia | | 146.8 | 1 | i 19 28 | [- 1] | e 29 46 | SKKS | i 22 51 | PP e 60.9 |
| Washington | Z. | 147.7 | 4 | i 19 29 | [- 2] | i 22 56 | PP | i 19 47 | pPKP e 73.5 |
| Guadalajara | | 148.6 | 61 | e 19 41 | [+ 9] | — | — | i 17 11 ^a | P — |
| Antofagasta | N. | 149.7 | 187 | e 19 38 | [+ 4] | — | — | e 28 28 | PKKP 68.7 |
| Chapel Hill | | 150.5 | 8 | i 19 39 | [+ 4] | — | — | — | — |
| Montezuma | Z. | 150.5 | 190 | e 19 38 ^a | [+ 3] | — | — | — | — |
| Columbia | | 152.0 | 12 | i 19 39 ^a | [+ 2] | e 33 15 | SKSP | i 19 55 | pPKP e 62.2 |
| Tacubaya | | 152.7 | 60 | e 19 44 | [+ 6] | e 22 44 | SKP | e 33 53 | SKSP — |
| Bermuda | | 152.8 | 342 | i 19 41 | [+ 3] | e 23 52 | SKSP | i 23 30 | PP — |
| Puebla | | 153.7 | 60 | e 19 18 | [-21] | e 22 50 | SKP | — | — |
| Vera Cruz | | 155.4 | 57 | 19 36 | [- 6] | e 27 43 | ? | e 22 56 | SKP — |
| Oaxaca | | 155.8 | 63 | i 19 39 | [- 3] | — | — | — | — |
| La Paz | | 156.2 | 195 | i 19 46 | [+ 3] | i 30 36 | SKKS | i 20 15 | pPKP 74.5 |
| Merida | | 159.4 | 44 | e 19 51 | [+ 4] | e 23 58 | PP | i 20 21 | pPKP — |
| Huancayo | | 161.5 | 177 | i 19 54 | [+ 5] | e 31 2 | SKKS | i 20 57 | pPKP ₂ — |
| Fort de France | | 164.7 | 303 | i 19 56 | [+ 4] | i 24 40 | PP | i 20 50 | PKP ₂ — |
| St. Vincent | | 165.5 | 298 | e 19 46 | [- 7] | e 24 37 | PP | i 20 53 | PKP ₂ — |
| San Juan | | 165.8 | 326 | i 19 54 ^a | [+ 1] | e 31 33 | SKKS | e 45 6 | SS e 71.0 |
| Balboa Heights | | 173.9 | 63 | e 19 57 | [- 1] | — | — | — | — |
| Galerazamba | | 175.7 | 12 | i 20 10 | [+12] | i 31 40 | SKKS | i 21 48 | PKP ₂ 84.5 |
| Bogota | | 178.0 | — | i 20 1 | [+ 2] | i 32 18 | SKKS | i 30 18 | PPP — |
| Chinchina | | 178.0 | — | i 19 59 | [0] | i 32 25 | SKKS | i 21 48 | PKP ₂ — |

July 4d. 0h. 54m. Epicentre 36°·6N. 71°·2E. Depth 100km.

Bull. of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, p. 56-57.

July 4d. 13h. 37m. Epicentre 38°·9N. 73°·0E.

Bull. of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, p. 57.

July 4d. 15h. 34m. Epicentre 40°·0N. 78°·0E.

Bull. of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, p. 57-58.

July 4d. 21h. 44m. 32s. Epicentre 35°·6N. 140°·1E. Depth 75km.

Intensity II-III at Tokyo, Yokohama, and Osima.

Seismo. Bull. Cent. Met. Obs., Japan, for July, 1954, Tokyo, 1954, p. 12, with macro-seismic chart.

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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July 5d. 13h. 52m. 16s. Epicentre 50°·6N. 156°·5E. Focus at Base of Superficial Layers.

A = -·5844, B = +·2541, C = +·7706; δ = -9; h = -6;
D = +·399, E = +·917; G = -·707, H = +·307, K = -·637.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------------|----------|-----|----------------------|------|---------|------|---------|--------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Urakawa | 12·6 | 234 | e 3 2 | + 2 | e 5 17 | - 3 | — | — |
| Sapporo | 12·8 | 240 | e 3 6 | + 4 | — | — | — | — |
| Maebasi | 18·9 | 228 | e 4 21 | + 1 | e 7 54 | + 8 | — | — |
| Matusiro | 19·2 | 230 | 4 20 _k | - 4 | 7 53 | 0 | — | — |
| Tokyo | 19·2 | 225 | e 4 27 | + 3 | e 8 16 | SS | — | — |
| College | 31·8 | 42 | i 6 23 | - 1 | — | — | i 6 35 | pP |
| Zō-Sō | z. 32·6 | 247 | i 6 30 _a | - 1 | e 11 45 | + 2 | i 6 47 | pP |
| Nanking | z. 33·3 | 251 | e 6 37 | 0 | 11 56 | + 2 | e 6 55 | pP |
| Baguio | 44·6 | 233 | i 8 10 | - 1 | i 15 4 | PPS | — | — |
| Manila | 46·0 | 231 | e 8 21 | - 1 | — | — | — | — |
| Resolute Bay | 46·5 | 20 | e 8 27 _k | + 1 | e 15 10 | - 1 | e 18 38 | SS |
| Victoria | 49·6 | 59 | 8 51 | + 1 | — | — | 9 5 | pP |
| Seattle | 50·7 | 60 | e 9 1 | + 3 | (16 59) | +49 | e 9 14 | pP |
| Corvallis | z. 52·0 | 63 | e 9 9 | + 1 | — | — | e 9 24 | pP |
| Hungry Horse | 54·7 | 55 | i 9 28 | 0 | e 17 5 | + 1 | i 9 44 | pP |
| Shillong | z. 54·7 | 268 | i 9 27 | - 1 | — | — | — | — |
| Shasta | 54·9 | 67 | e 9 30 _a | 0 | e 18 10 | +63 | i 9 46 | pP |
| Berkeley | 56·8 | 69 | e 9 59 | pP | e 17 34 | + 2 | — | — |
| Butte | N. 57·0 | 56 | e 9 45 | 0 | — | — | — | — |
| Reno | z. 57·2 | 66 | e 9 47 _a | + 1 | e 17 41 | + 3 | i 10 2 | pP |
| Kiruna | 57·4 | 342 | e 9 45 | - 3 | e 17 31 | - 9 | i 10 1 | pP |
| Lick | z. 57·5 | 69 | 9 48 _a | 0 | — | — | i 10 4 | pP |
| Bozeman | 58·0 | 56 | i 9 52 | 0 | — | — | i 10 8 | pP |
| Fresno | z. 59·0 | 69 | e 9 58 _a | - 1 | — | — | e 10 13 | pP |
| Scoresby Sund | 59·2 | 359 | i 10 1 _k | + 1 | e 18 8 | + 4 | — | — |
| Tinemaha | z. 59·7 | 67 | i 10 2 | - 2 | i 10 33 | ? | i 10 17 | pP |
| Salt Lake City | 60·9 | 60 | i 10 12 | 0 | i 10 39 | sP | i 10 27 | pP |
| China Lake | z. 61·0 | 68 | i 10 12 _a | 0 | — | — | i 10 27 | pP |
| Pasadena | z. 61·8 | 70 | i 10 16 _a | - 2 | i 10 46 | sP | i 10 32 | pP |
| Riverside | z. 62·3 | 69 | e 10 20 | - 1 | — | — | i 10 35 | pP |
| Boulder City | 62·5 | 66 | e 10 32 | +10 | — | — | i 10 38 | pP |
| Nelson | z. 62·7 | 66 | i 10 23 | - 1 | i 10 48 | sP | i 10 39 | pP |
| Palomar | z. 63·1 | 70 | i 10 25 _a | - 1 | — | — | i 10 41 | pP |
| Rapid City | E. 63·2 | 53 | e 10 28 | + 1 | e 19 56 | +61 | — | — |
| Barratt | z. 63·7 | 70 | i 10 29 _a | - 1 | — | — | i 10 44 | pP |
| Upsala | z. 65·0 | 338 | e 10 37 | - 2 | — | — | i 10 52 | pP |
| Tucson | 67·4 | 66 | i 10 54 | 0 | — | — | i 11 10 | pP |
| Copenhagen | 70·0 | 339 | — | — | e 20 20 | + 3 | e 21 10 | ScS |
| Lembang | z. 71·0 | 232 | i 11 22 _k | + 6 | — | — | i 11 46 | pP |
| Potsdam | 72·8 | 338 | e 12 2 | ? | e 22 8 | ? | — | e 38·7 |
| Iasi | 73·1 | 326 | e 11 29 | 0 | e 12 18 | ? | e 12 29 | ? |
| Nouméa | 73·1 | 170 | e 11 30 | + 1 | — | — | e 11 45 | pP |
| St. Louis | 73·6 | 49 | i 11 32 | 0 | i 20 57 | - 1 | — | — |
| Fayetteville | 73·7 | 53 | i 11 32 | 0 | e 20 58 | - 1 | e 11 43 | pP |
| Collmberg | z. 73·8 | 337 | e 11 34 | + 1 | — | — | — | — |
| Ottawa | 74·3 | 35 | i 11 35 _k | - 1 | — | — | 14 22 | pP |
| Jena | 74·5 | 338 | e 11 37 | 0 | e 14 31 | pP | e 11 52 | pP |
| Seven Falls | 74·5 | 31 | i 11 37 _k | 0 | — | — | i 11 50 | pP |
| Prague | N. 74·6 | 336 | e 11 45 | + 7 | e 12 16 | ? | e 12 29 | ? |
| Dallas | 74·9 | 57 | i 11 38 | - 1 | — | — | — | — |
| Buffalo (Larkin) | 75·3 | 39 | i 11 41 | - 1 | — | — | — | — |
| Cleveland | z. 75·3 | 41 | i 11 42 _k | 0 | — | — | i 11 54 | pP |
| Rathfarnham Castle | 75·5 | 349 | i 11 42 _a | - 1 | e 21 24 | + 4 | i 12 2 | pP |
| Cincinnati | 75·9 | 44 | i 11 45 | 0 | — | — | — | e 38·7 |
| Stuttgart | 77·1 | 338 | e 11 51 | - 1 | — | — | e 12 27 | ? |
| Belgrade | z. 77·6 | 330 | e 12 26 _a | +32 | — | — | e 12 42 | ? |
| Strasbourg | 77·6 | 339 | e 11 55 | + 1 | e 12 27 | sP | e 12 15 | pP |
| Paris | 78·5 | 343 | e 12 0 | + 1 | e 12 32 | sP | e 12 22 | pP |
| Weston | 78·5 | 34 | i 11 59 _a | 0 | — | — | — | e 40·7 |
| Basle | 78·7 | 339 | e 11 20 | -40 | — | — | — | — |

Continued on next page.

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------|----------|-----|---------|-------|---------|------|---------|-----|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Halifax | 79.0 | 28 | i 12 4 | + 2 | e 12 31 | sP | e 12 20 | pP |
| Besançon | 79.3 | 340 | i 12 4 | 0 | e 14 28 | ? | i 12 12 | PcP |
| Ksara | 81.0 | 314 | e 12 13 | 0 | — | — | — | — |
| Columbia | 81.7 | 45 | i 12 18 | + 1 | — | — | i 12 31 | pP |
| Safed | 81.9 | 313 | i 12 28 | +10 | — | — | i 12 43 | pP |
| Jerusalem | 83.0 | 313 | i 12 24 | + 1 | — | — | — | — |
| Tacubaya | 84.0 | 67 | e 12 30 | + 2 | — | — | — | — |
| Riverview | 84.2 | 184 | — | — | 22 52 | + 1 | — | — |
| Helwan | z. 86.4 | 315 | e 12 40 | 0 | — | — | e 13 2 | sP |
| Bermuda | 89.8 | 34 | e 12 57 | + 1 | e 23 48 | + 4 | — | — |
| La Paz | 130.8 | 63 | 19 14 | [+ 6] | i 22 32 | PKS | — | — |
| Pretoria | z. 133.6 | 282 | e 19 14 | [+ 1] | — | — | — | — |
| Montezuma | z. 135.2 | 69 | e 19 18 | [+ 2] | — | — | — | — |

July 5d. 22h. 29m. Epicentre 43°·3N. 78°·5E.

Bull. of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, p. 58.

July 6d. 4h. 0m. 14s. Epicentre 2°·9S. 148°·1E.

A = -·8479, B = +·5278, C = -·0503; $\delta = +4$; $h = +7$;
D = +·528, E = +·849; G = +·043, H = -·027, K = -·999.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|---------------|-----------|-----|----------|------|---------|-------|---------|------------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Brisbane | 24.9 | 170 | i 5 22 | - 4 | i 9 48 | + 1 | — | — |
| Nouméa | 26.3 | 139 | e 5 41 | + 2 | e 10 20 | + 9 | e 6 14 | PP e 12.4 |
| Riverview | 30.9 | 175 | 6 21 | + 1 | i 11 23 | - 1 | i 7 26 | PP e 14.2 |
| Manila | 32.0 | 304 | i 6 27 | - 3 | e 11 45 | + 3 | — | — |
| Baguio | 33.3 | 306 | e 6 32 | - 9 | e 12 6 | + 4 | — | — |
| Melbourne | E. 34.9 | 184 | — | — | e 12 25 | - 2 | — | — |
| Matusiro | 40.3 | 348 | 7 40k | 0 | 13 50 | + 1 | — | — |
| Bandung | 40.5 | 263 | e 7 42 | 0 | e 13 59 | + 7 | — | — |
| Lembang | 40.5 | 263 | e 7 40k | - 2 | e 13 57 | + 5 | e 9 5 | PP e 17.3 |
| Djakarta | 41.3 | 264 | e 7 49k | 0 | e 14 8 | + 4 | — | e 17.6 |
| Hong Kong | E. 41.5 | 309 | 7 52 | + 2 | 14 3 | - 4 | 9 50 | PP 18.2 |
| Perth | 41.9 | 223 | — | — | i 14 16 | + 3 | i 17 14 | SS 23.5 |
| Zô-Sè | z. 42.4 | 325 | 7 56a | - 2 | e 14 20 | 0 | i 9 27 | PP |
| Nanking | 44.5 | 324 | 8 14a | - 1 | 14 52 | + 1 | — | — |
| Kaimata | N.E. 44.6 | 155 | e 8 18 | + 2 | — | — | e 8 44 | ? |
| Wellington | 45.1 | 152 | e 8 20 | 0 | — | — | — | e 21.8 |
| Christchurch | 46.0 | 155 | e 8 39 | +12 | — | — | — | e 19.8 |
| Kurilsk | 47.9 | 0 | e 8 40 | - 2 | e 15 38 | - 1 | — | — |
| Vladivostok | 48.1 | 344 | e 8 43 | 0 | 15 45 | + 3 | — | — |
| Petropavlovsk | 56.4 | 8 | e 9 47 | + 2 | e 17 40 | + 4 | — | — |
| Honolulu | 57.9 | 63 | — | — | e 18 2 | + 7 | — | e 26.0 |
| Klyuchi | 59.9 | 8 | e 10 9 | - 1 | e 18 23 | + 2 | — | — |
| Shillong | 61.3 | 301 | i 10 22 | + 2 | i 18 40 | + 1 | e 19 17 | ? |
| Magadan | 62.3 | 2 | e 10 29 | + 3 | e 18 56 | + 4 | — | — |
| Irkutsk | 66.2 | 332 | e 10 50 | - 2 | 19 45 | + 5 | — | — |
| Semipalatinsk | 78.3 | 323 | e 11 54 | - 9 | — | — | — | — |
| Frunse | 79.9 | 314 | e 12 14 | + 2 | e 22 24 | + 8 | — | — |
| Andijan | 81.1 | 312 | 12 19 | + 1 | i 22 37 | + 9 | — | — |
| College | 81.9 | 23 | i 12 21 | - 2 | e 22 41 | + 5 | e 23 43 | PPS e 33.3 |
| Tchimkent | 83.4 | 313 | i 12 32 | + 2 | i 22 56 | + 5 | — | — |
| Stalinabad | 83.5 | 309 | e 12 36 | + 5 | e 22 59 | + 7 | — | — |
| Quetta | 83.8 | 301 | e 12 33 | + 1 | e 23 0 | + 5 | e 16 12 | PP |
| Sitka | 85.1 | 32 | e 12 38 | - 1 | i 23 8 | 0 | e 24 5 | PS e 33.6 |
| Bairam-Ali | 88.6 | 308 | e 12 57 | + 1 | — | — | — | — |
| Sverdlovsk | 91.0 | 327 | e 13 10 | + 3 | 24 8 | + 5 | — | — |
| Berkeley | 91.5 | 52 | e 13 6 | - 4 | e 23 45 | [+ 3] | 25 20 | PS |
| Shasta | 91.5 | 50 | e 13 10a | 0 | e 23 34 | [- 8] | — | — |
| Santa Clara | E. 91.7 | 53 | — | — | e 23 49 | [+ 6] | e 25 25 | PS e 42.4 |
| Lick | z. 91.9 | 53 | e 13 12k | + 1 | — | — | — | — |
| Mineral | z. 92.1 | 50 | e 13 12 | 0 | — | — | — | — |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|---------------|----|------------|------------|--------------------|-------|---------|-------|---------|------------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Reno | Z. | 93.4 | 51 | e 13 20 | + 2 | — | — | — | — |
| Pasadena | Z. | 94.7 | 56 | e 13 25 | + 1 | — | — | e 13 42 | ? e 53.3 |
| Tinemaha | Z. | 94.7 | 53 | e 13 30 | + 6 | — | — | — | — |
| China Lake | Z. | 95.2 | 54 | e 13 27 | 0 | — | — | e 17 11 | PP |
| Riverside | Z. | 95.4 | 56 | e 13 28 | 0 | — | — | — | — |
| Palomar | Z. | 95.8 | 57 | i 13 30 | + 1 | — | — | — | — |
| Boulder City | Z. | 97.4 | 54 | e 14 37 | +60 | — | — | — | — |
| Nelson | Z. | 97.4 | 54 | e 13 37 | 0 | — | — | e 17 32 | PP |
| Butte | N. | 98.6 | 44 | — | — | e 24 24 | [+ 4] | e 27 18 | PPS |
| Bozeman | | 99.6 | 44 | e 13 47 | + 1 | — | — | — | e 40.2 |
| Tucson | | 100.9 | 58 | e 17 52 | PP | e 27 50 | PPS | — | — |
| Tiflis | | 101.8 | 312 | e 18 8 | PP | — | — | — | e 46.1 |
| Piatigorsk | | 102.8 | 314 | 18 16 | PP | i 25 38 | - 6 | — | — |
| Moscow | | 103.8 | 327 | i 18 24 | PP | e 26 14 | +22 | — | — |
| Kiruna | | 106.1 | 342 | i 14 22 | + 7 | e 24 46 | [- 9] | e 18 30 | PP e 47.8 |
| Pulkovo | | 106.2 | 332 | e 18 38 | PP | e 27 47 | PS | — | — |
| Ksara | | 110.0 | 305 | e 19 3? | PP | e 29 43 | PPS | — | — |
| Scoresby Sund | | 112.2 | 356 | e 19 22 | PP | e 35 10 | SS | — | — |
| Warsaw | | 114.2 | 328 | e 19 42 | PP | — | — | e 21 40 | PPP e 54.8 |
| Helwan | Z. | 114.6 | 302 | e 19 50 | PP | — | — | e 20 7 | ? e 54.8 |
| Copenhagen | | 116.5 | 334 | — | — | 27 0 | {+ 9} | 35 46 | SS |
| Potsdam | | 118.2 | 331 | e 20 10 | PP | e 28 4 | {+63} | e 29 46 | PS e 57.8 |
| Jena | Z. | 119.8 | 330 | e 20 18? | PP | e 25 4 | [-45] | e 21 37 | ? e 57.8 |
| De Bilt | | 122.1 | 331 | e 19 4 | [+ 7] | e 21 28 | PP | e 24 10 | PPP e 61.8 |
| Stuttgart | | 122.4 | 329 | e 18 58 | [+ 1] | e 30 28 | PS | e 20 36 | PP e 66.8 |
| Ottawa | | 122.9 | 36 | e 18 59 | [+ 1] | — | — | 20 36 | PP |
| Strasbourg | | 123.2 | 330 | e 19 12 | [+13] | e 27 39 | {+ 4} | e 20 46 | PP e 58.8 |
| Rome | | 124.5 | 321 | e 19 4 | [+ 3] | e 25 54 | [-10] | e 27 48 | SKKS |
| Pavia | | 124.6 | 326 | — | — | e 30 32 | PS | — | — |
| Seven Falls | | 124.6 | 31 | e 19 3 | [+ 1] | — | — | — | e 64.6 |
| Palisades | | 126.5 | 39 | e 20 20 | ? | e 28 3 | {+ 6} | e 22 28 | PP e 59.0 |
| Huancayo | | 134.3 | 110 | e 19 27 | [+ 7] | — | — | e 23 34 | ? e 65.2 |
| Alicante | | 134.5 | 325 | e 19 19 | [- 1] | e 26 29 | [- 1] | 21 53 | PP |
| Montezuma | Z. | 135.9 | 127 | e 19 28 | [+ 5] | — | — | — | — |
| Granada | | 137.1 | 326 | 19 48 _a | [+24] | 29 7 | {+ 3} | 40 1 | SS 65.0 |
| Malaga | | 137.9 | 326 | e 21 36 | ? | i 25 44 | [-52] | — | — |
| Tamanrasset | Z. | 138.7 | 302 | e 19 28 | [9] | e 26 54 | [+17] | e 22 23 | PP 74.1 |
| La Paz | | 139.4 | 120 | 19 43 | [+14] | — | — | 23 13 | PKS |
| San Juan | | 143.1 | 63 | e 19 33 | [- 3] | e 26 53 | [+ 9] | e 23 1 | PP e 67.2 |

July 6d. 8h. 4m. 37s. Epicentre 46°·6N. 153°·4E. Focus at Base of Superficial Layers.
(as on 1954, April 1d.).

Unfelt. Depth of focus 100km.

Seismo. Bull. Cent. Met. Obs., Japan, for July, 1954, Tokyo, 1954, pp. 12-15.

A = -·6166, B = +·3087, C = +·7243; $\delta = +10$; $h = -4$;

D = +·448, E = +·894; G = -·648, H = +324, K = -·690.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------|----|------------|------------|---------------------|------|--------|------|--------|---------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Nemuro | | 6.5 | 242 | i 1 29 _a | - 7 | i 2 40 | -10 | — | — |
| Abashiri | | 7.0 | 252 | 1 46 _a | + 3 | 3 5 | + 3 | — | 5.2 |
| Kusiro | | 7.4 | 244 | i 1 42 _a | - 6 | i 3 9 | - 3 | e 1 57 | ? e 5.2 |
| Obihiro | E. | 8.2 | 247 | e 1 59 | - 1 | e 3 43 | +11 | e 2 41 | ? e 5.2 |
| Asahigawa | | 8.3 | 254 | e 1 59 | - 2 | — | — | — | — |
| Wakkanai | | 8.3 | 266 | i 2 3 _a | + 2 | i 4 8 | +33 | e 2 37 | ? e 5.0 |
| Urakawa | | 8.8 | 244 | e 2 4 | - 4 | e 3 41 | - 6 | e 2 17 | PP |
| Sapporo | | 9.3 | 252 | i 2 10 _a | - 5 | i 4 3 | + 4 | e 3 52 | ? e 5.0 |
| Tomakomai | | 9.4 | 248 | i 2 12 | - 4 | e 3 58 | - 4 | — | — |
| Suttsu | | 10.1 | 253 | e 2 22 | - 4 | e 4 45 | +26 | — | — |
| Hakodate | | 10.3 | 247 | i 2 25 | - 3 | i 4 15 | - 9 | — | — |
| Mori | | 10.3 | 249 | i 2 21 | - 7 | e 4 27 | + 3 | 4 16 | ? e 5.0 |
| Hatinohe | | 10.6 | 239 | e 2 22 | -11 | 4 15 | -16 | — | 6.4 |
| Aomori | | 10.8 | 242 | 2 32 | - 3 | 4 32 | - 4 | e 5 7 | SSS |
| Miyako | | 10.9 | 234 | e 2 27 | -10 | e 4 19 | -20 | — | — |

Continued on next page.

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1954

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-------------|----------|-----|---------|------|--------|------|--------------|--------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Morioka | 11.3 | 237 | e 2 34 | - 8 | e 4 33 | -15 | — | e 5.4 |
| Mizusawa | 11.7 | 235 | 2 38 | -10 | 4 35 | -23 | — | — |
| Akita | 11.9 | 240 | i 2 44 | - 6 | e 4 55 | - 8 | (i 8 32) PcP | i 8.5 |
| Isinomaki | 12.1 | 232 | e 2 33 | -20 | e 4 49 | -19 | — | — |
| Sendai | 12.4 | 232 | e 2 50 | - 7 | e 5 6 | - 9 | e 3 23 PPP | e 6.5 |
| Sakata | 12.6 | 237 | e 2 47 | -13 | — | — | — | — |
| Yamagata | 12.7 | 234 | e 2 55 | - 6 | e 5 47 | +25 | — | e 8.0 |
| Hokusima | 13.1 | 232 | e 3 2 | - 4 | 5 22 | -10 | — | 6.1 |
| Inawasiro | 13.4 | 232 | 3 5 | - 5 | i 5 30 | - 9 | i 3 18 PP | 5.9 |
| Onahama | 13.4 | 228 | e 3 7 | - 3 | — | — | — | e 6.3 |
| Niigata | 13.7 | 236 | e 3 8 | - 6 | 6 3 | +17 | — | 7.3 |
| Aikawa | 14.1 | 238 | e 3 12 | - 7 | 5 50 | - 6 | — | 7.3 |
| Mito | 14.1 | 228 | 3 15 | - 4 | i 5 41 | -15 | — | i 6.8 |
| Kakioka | 14.3 | 228 | e 3 16 | - 6 | — | — | — | e 7.0 |
| Utunomiya | 14.3 | 230 | e 3 10 | -12 | e 5 41 | -19 | e 3 37 PP | e 6.2 |
| Kashiwa | 14.7 | 228 | e 3 23 | - 4 | — | — | — | e 8.5 |
| Takada | 14.7 | 235 | e 3 34 | + 7 | e 6 12 | + 2 | — | — |
| Kumagaya | 14.8 | 230 | e 3 24 | - 5 | 6 28 | +16 | (15 15) ScS | 15.2 |
| Maebasi | 14.8 | 232 | e 3 24 | - 5 | e 6 26 | +14 | — | e 7.6 |
| Tokyo | 15.0 | 228 | i 3 27k | - 4 | 6 14 | - 3 | 6 37 SS | 10.4 |
| Nagano | 15.1 | 234 | i 3 30k | - 2 | e 6 25 | + 6 | i 6 41 SS | e 8.3 |
| Oiwake | 15.1 | 233 | e 3 25 | - 7 | e 6 35 | +16 | e 8 44 PcP | — |
| Titibu | 15.1 | 230 | i 3 29 | - 3 | i 6 13 | - 6 | — | — |
| Matusiro | 15.2 | 234 | 3 24 | -10 | 6 30 | + 8 | — | 7.2 |
| Yokohama | 15.2 | 228 | 3 37 | + 3 | 6 43 | +21 | 4 8 PPP | 7.4 |
| Wazima | 15.3 | 239 | e 3 30 | - 5 | e 6 17 | - 7 | — | e 7.7 |
| Matumoto | 15.5 | 234 | e 3 33 | - 5 | e 6 19 | -10 | — | e 7.7 |
| Hunatu | 15.6 | 230 | e 3 35 | - 4 | 6 21 | -10 | — | e 8.3 |
| Kohu | 15.6 | 231 | e 3 34 | - 5 | e 6 29 | - 2 | e 6 43 SS | e 7.7 |
| Mera | 15.6 | 226 | e 3 45 | + 6 | e 6 24 | - 7 | e 6 45 SS | e 9.3 |
| Toyama | 15.6 | 236 | e 3 35 | - 4 | e 6 47 | SS | — | e 8.1 |
| Ajiro | 15.8 | 228 | e 3 40 | - 2 | e 6 49 | +13 | e 4 8 PPP | — |
| Misima | 15.8 | 229 | e 3 37 | - 5 | 6 48 | +12 | — | — |
| Takayama | 16.0 | 235 | e 3 15 | -29 | — | — | — | — |
| Iida | 16.1 | 232 | e 3 43 | - 2 | e 6 24 | -18 | — | e 7.8 |
| Shizuoka | 16.2 | 230 | e 3 42a | - 5 | e 6 54 | + 9 | — | e 8.0 |
| Hukui | 16.6 | 237 | e 3 47 | - 5 | — | — | — | — |
| Omaesaki | 16.6 | 229 | e 4 0 | + 8 | i 7 8 | +14 | — | e 8.7 |
| Gihu | 16.8 | 234 | e 3 51 | - 3 | — | — | — | — |
| Hamamatu | 16.8 | 230 | e 3 56 | + 2 | i 7 9 | +10 | — | e 10.8 |
| Nagoya | 16.9 | 233 | e 3 51 | - 4 | e 7 7 | + 6 | — | e 8.1 |
| Hatidyojima | 17.0 | 223 | e 4 3 | + 6 | — | — | — | — |
| Tsuruga | 17.0 | 234 | 3 54 | - 3 | 7 12 | + 9 | e 4 5 PP | — |
| Hikone | 17.2 | 235 | 3 53 | - 6 | e 7 13 | + 5 | e 4 13 PP | 8.8 |
| Kameyama | 17.4 | 234 | 3 57 | - 5 | e 7 14 | + 2 | — | 8.8 |
| Tu | 17.4 | 233 | 3 58 | - 4 | e 7 55 | SSS | — | — |
| Maizuru | 17.5 | 234 | e 3 59 | - 4 | e 7 18 | + 3 | — | 9.0 |
| Kyoto | 17.7 | 235 | e 3 59 | - 7 | e 7 25 | + 6 | — | e 8.7 |
| Toyooka | 17.8 | 238 | e 4 4 | - 3 | e 7 17 | - 5 | — | 9.0 |
| Osaka | 18.0 | 235 | e 3 57 | -12 | e 7 27 | + 1 | 9 14 Q | 10.1 |
| Owase | 18.1 | 232 | e 4 8 | - 2 | e 7 31 | + 3 | e 3 47 ? | — |
| Kobe | 18.2 | 236 | e 4 7 | - 5 | e 7 32 | + 1 | e 4 46 PPP | 9.8 |
| Tottori | 18.2 | 238 | e 4 7 | - 5 | — | — | — | — |
| Wakayama | 18.5 | 235 | e 4 12 | - 3 | e 7 28 | - 9 | e 15 28 ScS | e 10.1 |
| Sumoto | 18.6 | 235 | i 4 12k | - 5 | 7 39 | - 1 | — | i 9.6 |
| Himeji | 18.8 | 236 | 4 9 | -10 | e 7 42 | - 2 | — | — |
| Yonago | 18.8 | 241 | e 4 13 | - 6 | — | — | — | e 9.5 |
| Tokusima | 19.0 | 235 | 4 18 | - 4 | e 7 51 | + 3 | — | e 9.7 |
| Takamatu | 19.1 | 237 | i 4 18a | - 5 | i 8 8 | +17 | — | 9.9 |
| Torisima | 19.1 | 217 | 4 19 | - 4 | (7 50) | - 1 | e 6 11 ? | 7.8 |
| Muroto | 19.8 | 234 | e 4 26 | - 4 | e 8 6 | 0 | — | 11.9 |
| Changchun | 19.9 | 273 | e 4 34 | + 3 | — | — | — | — |
| Hamada | 19.9 | 242 | i 4 27 | - 4 | — | — | — | e 10.0 |
| Hirosima | 20.0 | 239 | e 4 29a | - 3 | e 8 14 | + 3 | e 4 51 pP | e 9.8 |
| Kotl | 20.0 | 236 | e 4 28 | - 4 | e 8 15 | + 4 | — | 9.7 |

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|----------------|----|----------|-----|----------------------|------|---------|------|----------|------------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Adak | | 20.2 | 64 | i 4 32 | - 3 | i 8 17 | + 3 | — | — |
| Matuyama | N. | 20.2 | 238 | e 4 31 | - 4 | e 8 11 | - 3 | — | e 10.4 |
| Uwazima | | 20.7 | 237 | e 4 33 | - 7 | e 8 38 | +14 | — | 12.9 |
| Simidu | | 20.9 | 236 | i 4 39 _a | - 3 | 8 33 | + 5 | — | e 10.7 |
| Ooita | | 21.3 | 239 | e 4 44 | - 2 | e 8 42 | + 6 | — | e 11.1 |
| Asosan | | 21.8 | 239 | 4 51 | 0 | e 8 59 | +14 | — | — |
| Hukuoka | | 21.8 | 242 | e 4 49 _k | - 2 | e 8 49 | + 4 | i 8 57 | PcP 10.7 |
| Ituhara | | 22.0 | 243 | 4 51 _a | - 2 | 8 57 | + 8 | (e 16 4) | ScS e 16.1 |
| Kumamoto | | 22.2 | 240 | 4 53 _a | - 2 | 8 55 | + 3 | — | 11.5 |
| Miyazaki | | 22.4 | 237 | e 4 55 | - 2 | i 9 1 | + 5 | — | 10.9 |
| Unzendake | | 22.5 | 240 | e 4 57 _a | - 1 | e 9 2 | + 4 | — | — |
| Nagasaki | | 22.7 | 240 | e 4 59 _a | - 1 | 9 9 | + 8 | — | e 12.8 |
| Kagosima | | 23.2 | 238 | 5 6 _k | + 1 | 9 36 | sS | — | e 11.9 |
| Yakusima | | 24.0 | 236 | 5 12 | 0 | 9 37 | +13 | — | e 11.2 |
| Kwanting | | 28.0 | 271 | e 5 49 | - 1 | e 10 29 | - 1 | — | — |
| Zō-Sè | Z. | 29.2 | 250 | i 5 58 | - 3 | i 10 49 | - 1 | i 6 7 | pP — |
| Tatung | F. | 29.6 | 272 | 6 7 | + 3 | e 11 0 | + 4 | — | — |
| Nanking | | 30.2 | 254 | i 6 7 | - 2 | 11 4 | - 1 | i 6 17 | pP — |
| Taiyuan | | 31.2 | 269 | e 6 19 | + 1 | 11 23 | + 2 | — | — |
| Paotow | | 31.7 | 276 | 6 23 | 0 | 11 29 | 0 | — | — |
| Linfen | | 32.8 | 268 | e 6 33 | + 1 | e 11 48 | + 2 | — | — |
| Taipei | | 33.3 | 241 | e 7 31 | PP | — | — | — | — |
| Ilan | | 33.4 | 240 | e 7 52 | PP | — | — | — | — |
| Hwaiien | | 34.0 | 240 | 6 58 | +15 | — | — | — | — |
| Hsinkong | | 34.8 | 239 | 6 48 | - 2 | — | — | — | — |
| Yinchuan | N. | 35.2 | 275 | 6 55 | + 2 | — | — | — | — |
| Sion | | 35.6 | 268 | e 6 57 | + 1 | e 12 31 | + 1 | — | — |
| Tainan | | 35.6 | 241 | e 6 56 | 0 | — | — | — | — |
| Tawu | | 35.7 | 240 | 6 56 | - 1 | 12 40 | + 9 | — | — |
| College | | 36.1 | 38 | i 7 0 _a | - 1 | i 12 41 | + 4 | e 7 38 | pP e 14.9 |
| Wuwei | | 38.0 | 276 | e 7 16 | - 1 | e 13 5 | - 1 | — | — |
| Lanchow | | 38.1 | 275 | e 7 17 | 0 | e 13 8 | 0 | — | — |
| Sining | | 39.2 | 276 | e 7 27 | 0 | e 13 26 | + 2 | — | — |
| Hong Kong | F. | 39.8 | 246 | 7 31 | - 1 | 13 36? | + 3 | 9 6 | PP 18.4 |
| Bagulo | | 40.6 | 233 | i 7 35 | - 3 | i 13 41 | - 4 | — | — |
| Manila | | 41.9 | 231 | i 7 46 | - 3 | e 13 54 | -11 | — | — |
| Sitka | | 43.3 | 48 | e 8 2 | + 2 | i 14 32 | + 7 | e 17 12 | SS e 18.4 |
| Honolulu | | 46.7 | 104 | e 8 26 | - 1 | e 15 10 | - 4 | e 9 59 | PcP e 19.4 |
| Resolute Bay | | 50.9 | 19 | e 8 59 _a | - 1 | i 16 18 | + 5 | e 9 43 | sP e 20.4 |
| Shillong | | 52.6 | 269 | i 9 11 | - 2 | i 16 42 | + 6 | 10 34 | PcP 23.4 |
| Victoria | | 53.5 | 55 | 9 30 | +11 | 16 53 | + 5 | — | 23.8 |
| Seattle | | 54.5 | 55 | e 9 30 | + 3 | e 17 18 | +16 | — | — |
| Chatra | | 55.0 | 273 | i 9 30 | 0 | i 17 15 | + 7 | 10 23 | PcP 25.9 |
| Corvallis | Z. | 55.7 | 59 | e 9 38 | + 3 | i 17 24 | + 6 | — | — |
| Calcutta | F. | 57.0 | 269 | i 9 45 _a | 0 | i 17 41 | + 6 | — | — |
| Shasta | | 58.4 | 62 | e 9 55 _k | 0 | 18 0 | + 6 | 10 17 | pP — |
| Hungry Horse | | 58.7 | 51 | e 9 57 | 0 | — | — | — | — |
| Dehra Dun | | 59.1 | 283 | e 9 57 | - 3 | e 18 1 | - 2 | 10 35 | PcP 27.7 |
| Mineral | Z. | 59.1 | 62 | e 9 59 _k | - 1 | — | — | i 10 10 | pP — |
| Berkeley | | 60.2 | 65 | i 10 10 _a | + 3 | i 18 23 | + 6 | i 10 54 | PcP — |
| Saskatoon | | 60.2 | 44 | — | — | e 18 23 | + 6 | — | 33.4 |
| Branner | Z. | 60.5 | 66 | i 10 11 | + 2 | — | — | — | — |
| Kiruna | | 60.6 | 341 | i 10 7 | - 3 | e 18 20 | - 2 | i 10 37 | pP e 26.4 |
| New Delhi | | 60.7 | 282 | 10 13 | + 3 | e 18 27 | + 4 | 12 31 | PP — |
| Reno | Z. | 60.7 | 62 | i 10 14 _a | + 4 | — | — | i 10 33 | pP — |
| Santa Clara | | 60.7 | 66 | e 10 14 _k | + 4 | i 18 41 | +18 | — | — |
| Butte | N. | 60.9 | 53 | e 10 11 _a | - 1 | i 18 31 | + 5 | e 12 50 | PP e 25.2 |
| Lick | Z. | 60.9 | 65 | i 10 14 _k | + 2 | — | — | i 10 22 | pP — |
| Bozeman | | 62.0 | 53 | e 10 18 _k | - 1 | i 18 43 | + 3 | i 10 43 | pP e 25.8 |
| Fresno | Z. | 62.5 | 65 | i 10 25 _a | + 3 | — | — | — | — |
| Scoresby Sund | | 63.2 | 359 | i 10 27 _a | 0 | i 19 0 | + 5 | i 10 38 | pP — |
| Tinemaha | Z. | 63.2 | 64 | e 10 28 | + 1 | — | — | e 39 26 | P'P' — |
| China Lake | Z. | 64.4 | 64 | e 10 35 | 0 | — | — | e 39 22 | P'P' — |
| Salt Lake City | | 64.7 | 56 | e 10 36 _k | - 1 | e 19 19 | + 6 | i 10 56 | pP e 28.4 |
| Pasadena | | 65.1 | 66 | e 10 40 _k | 0 | i 19 23 | + 5 | e 20 24 | SKS e 26.4 |

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| | | Δ e | Az. e | P. m. s. | O-C. s. | S. m. s. | O-C. s. | Supp. m. s. | L. m. | |
|--------------------|----|---------------|----------|----------------------|------------|-------------|------------|----------------|------------------|--------|
| Helsinki | | 65.6 | 336 | e 10 44 | + 1 | e 19 31 | + 7 | e 14 45 | PPP | — |
| Riverside | Z. | 65.7 | 66 | e 10 42 | - 1 | — | — | — | — | — |
| Boulder City | | 66.0 | 63 | e 10 45 _a | 0 | i 19 37 | + 8 | e 39 23 | P'P' | — |
| Nelson | Z. | 66.2 | 63 | e 10 45 _a | - 1 | i 19 21 | - 11 | i 11 8 | pP | — |
| Palomar | Z. | 66.5 | 66 | e 10 56 | + 8 | — | — | e 39 16 | P'P' | — |
| Quetta | | 66.5 | 290 | i 10 47 | - 1 | i 19 24 | - 11 | i 11 5 | pP | e 34.4 |
| Djakarta | | 66.8 | 232 | e 10 47 _a | - 3 | i 19 40 | + 1 | i 20 4 | sS | — |
| Bandung | | 67.0 | 231 | e 11 2? | + 10 | e 19 53? | + 12 | e 11 53? | ? | — |
| Lembang | | 67.0 | 231 | i 10 47 _a | - 5 | i 19 37 | - 4 | i 11 9 | sP | — |
| Rapid City | E. | 67.2 | 49 | e 10 54 | + 1 | e 19 48 | + 4 | e 20 49 | S _c S | e 28.1 |
| Hyderabad | | 67.3 | 272 | i 10 48 | - 5 | i 19 47 | + 2 | 13 24 | PP | 33.2 |
| Apia | | 67.8 | 142 | e 9 23? | - 94 | — | — | — | — | e 30.4 |
| Upsala | | 67.9 | 338 | i 10 55 _a | - 2 | e 19 49 | - 3 | e 15 23? | PPP | e 31.4 |
| Boulder | | 68.9 | 54 | i 11 3 | 0 | — | — | — | — | — |
| Madras | E. | 69.2 | 267 | i 11 5 | 0 | i 20 15 | + 7 | 11 21 | P _c P | — |
| Reykjavik | | 69.5 | 359 | i 11 9 _a | + 2 | — | — | i 11 36 | pP | e 41.4 |
| Nouméa | | 69.6 | 167 | e 11 10 _a | + 2 | e 20 18 | + 6 | e 11 36 | P _c P | e 32.5 |
| Poona | | 69.7 | 276 | i 11 9 | + 1 | i 20 20 | + 6 | 13 37 | PP | 29.3 |
| Bombay | N. | 70.2 | 277 | i 11 15 | + 4 | i 20 26 | + 7 | 13 47 | PP | — |
| Tucson | | 71.0 | 63 | e 11 15 _a | - 1 | e 20 33 | + 4 | i 11 36 | pP | e 29.3 |
| Copenhagen | | 72.9 | 338 | i 11 27 _a | - 1 | 20 50 | 0 | 24 53 | S _s | — |
| Kodaikanal | E. | 73.0 | 267 | e 11 22 | - 6 | — | — | — | — | — |
| Warsaw | | 73.4 | 332 | i 11 28 | - 2 | e 20 52 | - 4 | 11 43 | P _c P | e 35.4 |
| Brisbane | | 73.7 | 180 | i 11 30 | - 2 | i 21 0 | + 1 | — | — | — |
| Colombo | E. | 73.7 | 263 | e 10 12 | ? | 21 2 | + 3 | — | — | 45.4 |
| Aberdeen | | 74.6 | 346 | i 11 37 | - 1 | i 21 13 | + 3 | i 14 25 | PP | 36.4 |
| Kirkland Lake | Z. | 74.7 | 34 | e 11 37 | - 1 | — | — | e 11 46 | pP | — |
| Iasi | | 75.3 | 325 | e 11 40 | - 2 | e 21 59 | PS | — | — | — |
| Hamburg | | 75.5 | 338 | e 11 41 | - 2 | e 21 26 | + 6 | i 11 55 | P _c P | e 35.9 |
| Potsdam | | 75.7 | 336 | i 11 43 _a | - 1 | i 21 22 | 0 | i 11 53 | P _c P | e 35.4 |
| Bacau | | 76.0 | 325 | e 11 45 | - 1 | — | — | — | — | — |
| Edinburgh | E. | 76.0 | 347 | — | — | 21 23 | - 2 | — | — | — |
| Raciborzu | E. | 76.2 | 332 | e 11 48 | + 1 | e 21 49 | PS | e 12 26 | P _c P | e 36.4 |
| Chihuahua | | 76.4 | 63 | — | — | e 21 27 | - 2 | — | — | — |
| Chicago | | 76.6 | 46 | e 11 45 | - 4 | e 21 32 | 0 | e 15 55 | PP | e 34.2 |
| Focsani | | 76.6 | 324 | e 11 53 | + 4 | e 21 36 | + 4 | — | — | — |
| Collmberg | | 76.7 | 336 | e 11 47 | - 3 | e 21 33 | 0 | e 19 50 | ? | e 36.4 |
| Durham | | 76.8 | 345 | e 11 31 | - 19 | e 21 35 | + 1 | i 11 42 | P | — |
| Witteveen | Z. | 77.0 | 341 | i 11 52 | + 1 | — | — | — | — | — |
| Jena | | 77.4 | 336 | i 11 52 | - 1 | e 21 29 | - 11 | e 12 27 | pP | e 37.4 |
| Prague | | 77.4 | 334 | i 11 53 _a | 0 | e 21 42 | + 2 | i 12 18 | pP | e 36.9 |
| Fayetteville | | 77.7 | 50 | i 11 54 _k | - 1 | e 21 45 | + 1 | e 14 44 | PP | e 47.6 |
| Campulung | | 77.8 | 326 | e 11 58 | + 2 | — | — | — | — | — |
| St. Louis | | 77.8 | 46 | i 11 55 | - 1 | i 21 47 | + 2 | — | — | — |
| Cheb | | 78.0 | 336 | i 11 58 _k | + 1 | e 21 52 | + 5 | e 12 12 | P _c P | e 37.4 |
| De Bilt | | 78.0 | 341 | — | — | e 21 52 | + 5 | e 27 23? | SS | e 38.4 |
| Bucharest | | 78.1 | 324 | e 11 59 | + 2 | e 21 52 | + 4 | e 22 14 | pS | — |
| Ogyalla | | 78.1 | 331 | i 12 0 | + 3 | e 21 41 | - 7 | e 12 30 | pP | e 35.6 |
| Budapest | | 78.2 | 330 | 11 58 | 0 | 21 50 | + 1 | 12 10 | pP | 39.0 |
| Terre Haute | | 78.6 | 44 | i 10 33 | ? | — | — | — | — | — |
| Ottawa | | 78.7 | 33 | e 11 59 _k | - 1 | 14 59 | PP | 16 54 | PPP | — |
| Dallas | | 78.8 | 54 | i 12 0 | - 1 | i 21 56 | + 1 | — | — | — |
| Szeged | N. | 78.8 | 330 | 12 1 | 0 | 21 26 | - 29 | 12 31 | pP | e 45.4 |
| Timisoara | | 78.9 | 328 | e 12 5? | + 3 | e 21 59 | + 3 | e 22 25 | PS | — |
| Kalossa | | 79.0 | 331 | 11 54 | - 8 | e 15 20 | PP | e 12 4 | P | e 43.4 |
| Rathfarnham Castle | | 79.0 | 348 | i 12 2 _a | 0 | e 21 53 | - 4 | i 12 21 | pP | e 45.0 |
| Seven Falls | | 79.0 | 29 | e 11 58 _k | - 4 | 21 57 | 0 | 30 7 | SSS | — |
| Uccle | | 79.4 | 341 | e 12 3 _a | - 1 | e 21 34 | ? | e 12 26 | pP | e 38.4 |
| Buffalo (Larkin) | | 79.5 | 37 | i 12 5 | 0 | — | — | — | — | — |
| Cleveland | | 79.6 | 39 | i 12 5 _a | 0 | i 22 5 | + 1 | — | — | — |

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|--------------------|-------|-----|------|-----------------|-------|------|----|-------|-------|----|------------|
| | | | m. | s. | | m. | s. | | m. | s. | |
| Istanbul | 79.6 | 321 | i 12 | 5 | 0 | e 22 | 6 | + 2 | — | — | — |
| Kew | 79.7 | 344 | i 12 | 6 _a | 0 | i 22 | 11 | + 6 | e 15 | 0 | PP e 43.4 |
| Belgrade | 80.0 | 328 | i 12 | 8 _a | 0 | e 22 | 7 | - 1 | e 22 | 38 | SKS e 41.7 |
| Karlsruhe | 80.0 | 338 | i 12 | 8 _a | 0 | e 22 | 11 | + 3 | e 13 | 3 | ? e 38.4 |
| Stuttgart | 80.0 | 337 | i 12 | 7 _a | - 1 | e 22 | 9 | + 1 | e 14 | 58 | PP e 39.4 |
| Riverview | 80.1 | 182 | i 12 | 8 _k | 0 | i 22 | 10 | + 1 | e 15 | 17 | PP e 37.4 |
| Cincinnati | 80.2 | 42 | i 12 | 8 | - 1 | — | — | — | — | — | — |
| Strasbourg | 80.6 | 338 | e 12 | 9 | - 2 | e 22 | 16 | + 2 | e 15 | 15 | PP e 38.4 |
| Sofia | 80.7 | 325 | i 12 | 11 | 0 | e 22 | 13 | - 2 | e 31 | 0 | SSS e 44.7 |
| Triest | 81.5 | 333 | e 12 | 13 | - 3 | e 22 | 21 | - 2 | e 13 | 1 | sP e 39.5 |
| Zürich | 81.5 | 337 | e 12 | 16 | 0 | e 22 | 21 | - 2 | e 12 | 38 | pP — |
| Basle | 81.6 | 337 | e 12 | 15 | - 1 | e 22 | 30 | + 6 | — | — | e 43.4 |
| Chur | 81.7 | 336 | e 12 | 9 | - 8 | e 22 | 29 | + 4 | — | — | e 40.4 |
| Paris | 81.7 | 341 | i 12 | 17 | 0 | e 22 | 25 | 0 | i 12 | 45 | pP e 42.4 |
| Pennsylvania | 81.7 | 37 | i 12 | 18 | + 1 | e 22 | 30 | + 5 | — | — | — |
| Morgantown | 81.8 | 39 | i 12 | 20 | + 3 | — | — | — | — | — | — |
| Jersey | 82.2 | 344 | e 13 | 5 | +46 | e 22 | 33 | + 2 | — | — | 40.4 |
| Ksara | 82.2 | 312 | e 12 | 20 | + 1 | e 22 | 50 | +19 | — | — | — |
| Besançon | 82.3 | 338 | e 12 | 17 | - 3 | e 20 | 39 | ? | e 12 | 34 | pP — |
| Neuchatel | 82.3 | 338 | e 12 | 20 | 0 | e 22 | 34 | + 2 | — | — | — |
| Salo | 82.5 | 335 | e 12 | 23? | + 2 | e 22 | 33 | - 1 | e 15 | 33 | PP — |
| Harvard | 82.7 | 32 | i 12 | 22 | 0 | e 22 | 33 | - 3 | e 15 | 13 | PP — |
| Weston | 82.9 | 32 | e 12 | 21 | - 2 | 22 | 39 | + 1 | — | — | — |
| Padova | 83.1 | 334 | e 12 | 20 | - 4 | e 22 | 41 | + 1 | — | — | — |
| Palisades | 83.1 | 34 | i 12 | 22 | - 2 | i 22 | 41 | + 1 | i 12 | 59 | pP — |
| Bologna | 83.3 | 334 | e 12 | 26 | + 1 | e 23 | 0 | +18 | e 23 | 24 | SKS — |
| City College, N.Y. | 83.3 | 34 | i 12 | 25 | 0 | — | — | — | — | — | — |
| Fordham | 83.3 | 34 | e 12 | 25 | 0 | e 22 | 42 | 0 | — | — | — |
| Oropa | 83.3 | 336 | i 12 | 27 | + 2 | e 22 | 47 | + 5 | — | — | — |
| Pavia | 83.3 | 335 | i 12 | 26 _a | + 1 | e 22 | 43 | + 1 | e 23 | 46 | PS e 43.2 |
| Halifax | 83.5 | 26 | i 12 | 27 _a | + 1 | 22 | 47 | + 3 | 12 | 47 | pP 34.4 |
| Philadelphia | 83.5 | 36 | e 12 | 16 | -10 | e 22 | 41 | - 3 | e 15 | 46 | PP e 39.9 |
| Washington | 83.6 | 37 | e 12 | 27 | + 1 | — | — | — | e 12 | 49 | pP — |
| Guadalajara | 83.9 | 67 | — | — | — | e 22 | 55 | + 7 | — | — | — |
| Prato | 83.9 | 334 | e 12 | 12 | -16 | e 22 | 47 | - 1 | — | — | — |
| Florence | 84.0 | 334 | i 12 | 13 | -15 | i 22 | 49 | 0 | — | — | — |
| Jerusalem | 84.2 | 311 | i 12 | 28 | - 1 | — | — | — | i 14 | 56 | PP — |
| Melbourne | 84.4 | 186 | — | — | — | e 22 | 56 | + 3 | — | — | — |
| Siena | 84.4 | 334 | e 11 | 23 | -67 | 22 | 3 | -50 | — | — | — |
| Athens | 84.5 | 322 | i 12 | 30 _a | - 1 | e 22 | 52 | - 2 | e 15 | 54 | PP — |
| Taranto | 84.9 | 328 | 12 | 18 | -15 | 23 | 8 | +10 | e 31 | 53 | SSS — |
| Perth | 85.2 | 211 | i 15 | 33 | PP | 23 | 12 | +12 | — | — | — |
| Chapel Hill | 85.3 | 40 | i 12 | 32 | - 3 | — | — | — | — | — | — |
| Rome | 85.3 | 332 | i 12 | 15 | -20 | e 22 | 51 | [- 3] | i 23 | 21 | PS — |
| Columbia | 86.0 | 43 | i 12 | 39 _a | + 1 | e 23 | 1 | [+ 2] | e 15 | 47 | PP e 35.2 |
| Tacubaya | 87.4 | 64 | e 12 | 49 | + 4 | e 23 | 24 | + 2 | e 23 | 10 | SKS — |
| Reggio Calabria | 87.6 | 328 | e 12 | 43 | - 3 | — | — | — | — | — | — |
| Helwan | 87.7 | 313 | — | — | — | e 23 | 14 | [+ 5] | — | — | — |
| Vera Cruz | 89.5 | 62 | — | — | — | e 23 | 27 | [+ 6] | — | — | — |
| Toledo | 91.6 | 343 | i 13 | 4 _a | - 1 | — | — | — | e 16 | 44 | PP — |
| Coimbra | 92.1 | 346 | 13 | 4 _k | - 3 | 23 | 41 | [+ 6] | 16 | 52 | PP 48.4 |
| Alicante | 92.3 | 340 | 13 | 1 | - 7 | e 23 | 51 | -15 | 18 | 49 | PPP 44.2 |
| Algiers Univ. | 92.8 | 337 | e 13 | 10 | 0 | — | — | — | — | — | — |
| Lisbon | 93.6 | 347 | i 13 | 14 _k | 0 | 23 | 50 | [+ 6] | 45 | 58 | Q 52.4 |
| Granada | 94.1 | 342 | i 13 | 18 _a | + 2 | 23 | 49 | [+ 2] | 17 | 2 | PP 48.5 |
| Almeria | 94.2 | 341 | i 13 | 17 | 0 | 23 | 47 | [- 1] | 17 | 2 | PP 49.5 |
| Bermuda | 94.2 | 32 | e 13 | 20 | + 3 | e 24 | 32 | +10 | e 17 | 1 | PP e 45.6 |
| Malaga | 94.7 | 342 | i 13 | 19 | 0 | i 25 | 45 | PS | i 17 | 9 | PP 48.8 |
| Tamanrasset | 105.1 | 330 | i 14 | 7 _k | + 2 | e 24 | 35 | [- 6] | e 14 | 33 | pP — |
| San Juan | 106.1 | 39 | e 18 | 31 | PP | e 26 | 2 | 0 | e 29 | 2 | PPS e 43.4 |
| Bogota | 114.0 | 54 | i 19 | 36 | PP | i 25 | 23 | [+ 4] | i 22 | 5 | PPP — |
| Tananarive | 114.3 | 269 | e 19 | 37 | PP | — | — | — | — | — | 84.4 |
| Huancayo | 126.5 | 66 | e 19 | 3 | [+ 3] | e 27 | 47 | SKKS | e 37 | 47 | SS e 60.2 |
| Pretoria | 132.2 | 276 | i 19 | 11 | [0] | — | — | — | — | — | — |
| La Paz | 134.4 | 63 | i 19 | 19 | [+ 4] | i 26 | 3 | [-18] | i 23 | 48 | ? 66.0 |
| Montezuma | 138.5 | 70 | e 19 | 25 _k | [+ 3] | — | — | — | e 22 | 33 | PP — |

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1954

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July 6d. 8h. 12m.
8h. 21m.
8h. 54m.
10h. 14m.
10h. 46m.
11h. 11m.

Repetitions from Kurile Isles Earthquakes of 8h. 4m.

Monthly Bulletin of B.C.I.S., pp. 362-364.

July 6d. 11h. 13m. 18s. Epicentre 39°·5N. 118°·5W.

A = -·3692, B = -·6799, C = +·6335; $\delta = -11$; $h = -1$;
D = -·879, E = +477; G = -·302, H = -·557, K = -·774.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|----------------|----|----------|-----|---------------------|------|--------|------|--------|----------------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Reno | Z. | 1·0 | 265 | i 0 21 _a | 0 | — | — | — | — |
| Tinemaha | Z. | 2·5 | 175 | i 0 41 | - 2 | — | — | — | — |
| Mineral | Z. | 2·6 | 291 | i 0 43 _a | - 1 | — | — | — | — |
| Fresno | Z. | 2·9 | 202 | i 0 48 _k | 0 | — | — | — | — |
| Shasta | Z. | 3·2 | 294 | i 0 52 _a | 0 | — | — | — | — |
| Haiwee | Z. | 3·3 | 173 | i 0 54 | + 1 | — | — | — | — |
| Lick | Z. | 3·3 | 231 | i 0 52 _k | - 1 | i 1 39 | + 4 | — | — |
| Berkeley | Z. | 3·4 | 243 | i 0 53 _k | - 2 | e 1 39 | + 2 | — | — |
| Santa Clara | Z. | 3·4 | 233 | e 0 54 _a | - 1 | — | — | — | — |
| San Francisco | E. | 3·5 | 243 | i 0 56 | - 1 | — | — | — | — |
| Branner | Z. | 3·6 | 236 | i 0 56 | - 2 | — | — | — | — |
| China Lake | Z. | 3·7 | 169 | i 0 58 | - 2 | — | — | — | — |
| Ukiah | Z. | 3·7 | 266 | e 1 0 | 0 | i 1 56 | + 2* | i 1 18 | P ₂ |
| Isabella | Z. | 3·8 | 180 | i 1 0 | - 1 | — | — | — | — |
| King Rauch | Z. | 4·2 | 194 | i 1 6 | - 1 | — | — | — | — |
| Arcata | Z. | 4·5 | 290 | e 1 10 | - 1 | e 1 59 | - 6 | — | — |
| Boulder City | Z. | 4·5 | 139 | i 1 10 _a | - 1 | — | — | — | — |
| Ferndale | E. | 4·6 | 286 | e 1 18? | + 6 | — | — | — | — |
| Fort Tejon | Z. | 4·6 | 184 | i 1 24 | + 2* | — | — | — | — |
| Nelson | Z. | 4·7 | 141 | i 1 13 _a | - 1 | — | — | — | — |
| Santa Barbara | Z. | 5·1 | 192 | e 1 21 | + 1 | — | — | — | — |
| Salt Lake City | Z. | 5·2 | 74 | i 1 21 | 0 | — | — | — | — |
| Dalton | Z. | 5·3 | 174 | i 1 22 | 0 | — | — | — | — |
| Pasadena | Z. | 5·3 | 177 | e 1 22 | 0 | — | — | — | — |
| Big Bear | Z. | 5·4 | 166 | i 1 23 | - 1 | — | — | — | — |
| Riverside | Z. | 5·5 | 170 | i 1 25 | 0 | — | — | — | — |
| Corvallis | Z. | 6·2 | 326 | e 1 37 | + 2 | — | — | — | e 4·4 |
| Palomar | Z. | 6·2 | 168 | i 1 33 | - 2 | — | — | — | — |
| San Diego | Z. | 6·8 | 171 | 1 52 | + 8 | — | — | 2 29 | ? |
| Butte | N. | 7·9 | 32 | e 1 58 _a | - 1 | i 3 46 | +16 | — | i 4·0 |
| Bozeman | Z. | 8·3 | 39 | e 2 6 _a | + 2 | i 3 27 | -13 | i 2 57 | P ₂ |
| Seattle | Z. | 8·6 | 342 | i 2 13 _a | + 4 | i 3 58 | +10 | 4 46 | SP |
| Hungry Horse | Z. | 9·4 | 18 | e 2 21 | + 3 | — | — | — | — |
| Tucson | Z. | 9·5 | 137 | i 2 20 _a | 0 | i 4 14 | + 4 | i 3 2 | P* |
| Victoria | Z. | 9·7 | 340 | i 2 25 _k | + 3 | 4 36 | +21 | — | e 5·4 |
| Boulder | Z. | 10·2 | 83 | e 2 30 | - 1 | — | — | — | — |
| Horseshoe Bay | Z. | 10·5 | 342 | e 2 39 | - 4 | — | — | — | — |
| Alberni | Z. | 10·8 | 337 | e 2 44 | + 5 | — | — | — | — |
| Rapid City | E. | 12·3 | 63 | e 2 58 | - 1 | i 5 28 | +10 | — | i 6·3 |
| Chihuahua | E. | 14·9 | 133 | i 3 44 _a | +10 | 6 48 | +28 | — | i 7·7 |
| Saskatoon | Z. | 15·1 | 29 | 3 37 | + 1 | 6 41 | +16 | — | 8·1 |
| Dallas | Z. | 18·7 | 104 | i 4 20 | - 2 | i 8 4 | +16 | — | e 9·8 |
| Mazatlan | Z. | 19·2 | 144 | e 4 39 | +11 | i 8 38 | ? | — | — |
| Fayetteville | Z. | 19·5 | 92 | i 4 29 | - 2 | e 8 15 | + 9 | — | e 9·9 |
| Sitka | Z. | 20·8 | 334 | i 4 48 | + 3 | i 8 44 | +11 | — | i 9·6 |
| St. Louis | Z. | 21·9 | 83 | i 4 56 | - 1 | i 9 7 | +13 | — | — |
| Guadalajara | Z. | 22·8 | 141 | e 5 9 | + 4 | 9 26 | +15 | — | — |
| Chicago | Z. | 23·5 | 74 | e 5 8 | - 4 | i 9 25 | + 2 | — | i 10·3 |
| Manzanillo | Z. | 23·7 | 145 | e 5 10 | - 4 | 9 26 | - 1 | — | — |
| Terre Haute | Z. | 23·9 | 80 | i 5 28 | +12 | i 9 57 | +27 | — | — |

Continued on next page.

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| | | △ ° | Az. ° | P. | | O-C. s. | S. | | O-C. s. | Supp. | | L. m. |
|--------------------|----|--------|----------|---------|-----------------|------------|------|-----|------------|-------|----------------|----------|
| | | | | m. | s. | | m. | s. | | m. | s. | |
| Tacubaya | | 26.0 | 135 | e 5 | 43 | + 7 | i 10 | 32 | +26 | — | — | — |
| Cincinnati | | 26.2 | 80 | i 5 | 36 | — 2 | — | — | — | — | — | — |
| Puebla | | 26.9 | 134 | e 5 | 48 | + 3 | 10 | 33 | +13 | e 10 | 54 | SS |
| Vera Cruz | | 27.9 | 130 | e 6 | 2 | + 8 | 10 | 58 | +21 | — | — | — |
| Cleveland | | 28.0 | 74 | i 5 | 52 _a | — 3 | e 10 | 39 | + 1 | — | — | — |
| Kirkland Lake | z. | 28.8 | 60 | e 6 | 0 | — 2 | — | — | — | — | — | — |
| Oaxaca | | 29.3 | 134 | e 6 | 7? | + 1 | 11 | 10 | +11 | e 6 | 54 | PP |
| Pittsburgh | | 29.4 | 76 | i 6 | 8 | + 1 | i 10 | 59 | — 2 | — | — | — |
| Morgantown | | 29.6 | 77 | i 6 | 11 | + 2 | e 11 | 22 | +18 | — | — | — |
| Buffalo (Larkin) | | 30.0 | 70 | i 6 | 10 | — 2 | — | — | — | — | — | — |
| Columbia | | 30.4 | 88 | i 6 | 14 _a | — 2 | i 11 | 18 | + 2 | i 7 | 2 | PP |
| College | | 30.6 | 336 | e 6 | 17 | — 1 | i 11 | 27 | + 7 | i 9 | 14 | PcP |
| Merida | | 30.8 | 118 | i 6 | 20 | 0 | 11 | 31? | + 8 | — | — | — |
| Pennsylvania | | 30.9 | 74 | i 6 | 23 | + 3 | i 11 | 24 | 0 | — | — | — |
| Chapel Hill | | 31.2 | 84 | i 6 | 23 | 0 | — | — | — | — | — | — |
| Ottawa | | 31.8 | 65 | e 6 | 26 _a | — 2 | — | — | — | — | — | — |
| Washington | z. | 31.9 | 78 | i 6 | 38 | + 9 | e 11 | 50 | +10 | i 7 | 48 | PP |
| Philadelphia | | 33.1 | 75 | i 6 | 39 | — 1 | e 11 | 48 | —11 | — | — | e 13.4 |
| Cherry Point | | 33.6 | 86 | i 5 | 57 | —47 | — | — | — | 6 | 45 | PP |
| City College, N.Y. | | 33.8 | 73 | i 6 | 46 | 0 | i 12 | 3 | — 7 | — | — | — |
| Fordham | | 33.8 | 73 | e 6 | 48 | + 2 | e 12 | 11 | + 1 | — | — | — |
| Palisades | | 33.8 | 73 | i 6 | 41 | — 5 | i 12 | 7 | — 3 | e 7 | 57 | PP |
| Shawinigan Falls | | 33.8 | 63 | e 6 | 44 | — 2 | — | — | — | 17 | 26 | ScS |
| Miami | | 34.6 | 101 | i 6 | 57 | + 4 | — | — | — | — | — | e 16.2 |
| Seven Falls | | 35.1 | 62 | i 6 | 54 _a | — 3 | 12 | 31 | + 1 | 8 | 17 | PP |
| Harvard | | 35.2 | 70 | i 6 | 55 | — 3 | e 12 | 30 | — 1 | e 7 | 5 _a | PP |
| Weston | | 35.4 | 70 | i 6 | 58 _k | — 2 | i 12 | 44 | +10 | 14 | 34 | Q |
| Resolute Bay | | 37.0 | 10 | e 7 | 11 _a | — 2 | e 13 | 0 | + 1 | — | — | e 19.4 |
| Swan Is. | | 37.2 | 116 | i 7 | 4 | —11 | — | — | — | — | — | — |
| Honolulu | | 38.3 | 254 | e 7 | 18 | — 6 | e 13 | 25 | + 6 | — | — | e 15.8 |
| Halifax | | 40.4 | 64 | i 7 | 42 _a | + 1 | 13 | 52 | + 2 | 9 | 19 | PP |
| Adak | | 41.4 | 307 | e 7 | 48 | — 2 | i 17 | 30 | ScS | — | — | — |
| Guantanamo Bay | | 42.0 | 105 | i 7 | 59 | + 5 | — | — | — | — | — | — |
| Bermuda Navy | | 43.5 | 82 | i 8 | 9 | + 2 | — | — | — | — | — | — |
| Bermuda | | 43.6 | 82 | i 8 | 5 _a | — 3 | e 14 | 39 | + 1 | e 17 | 42 | SS |
| San Juan | | 49.6 | 99 | i 8 | 52 | — 3 | e 16 | 1 | — 2 | e 10 | 54 | PP |
| Roosevelt Roads | | 50.1 | 99 | e 9 | 1 | + 2 | — | — | — | — | — | — |
| Chinchina | | 51.7 | 120 | i 9 | 10 | — 1 | i 16 | 37 | + 5 | i 11 | 1 | PP |
| Bogota | | 53.0 | 119 | e 9 | 20 | — 1 | e 16 | 51 | + 1 | e 21 | 23 | SSS |
| Scoresby Sund | | 55.5 | 24 | i 9 | 36 | — 3 | e 17 | 26 | + 2 | — | — | 25.7 |
| Reykjavik | | 58.0 | 31 | i 10 | 0 _k | — 3 | e 18 | 12 | +15 | e 13 | 2 | PPP |
| Huancayo | | 65.1 | 132 | i 10 | 44 | — 1 | i 19 | 30 | + 3 | e 24 | 23 | SS |
| Angra do Heroismo | | 67.6 | 58 | e 13 | 59 | PP | e 23 | 46 | SS | — | — | — |
| Kiruna | | 68.6 | 16 | i 11 | 5 | — 2 | i 20 | 9 | 0 | e 27 | 37 | SSS |
| Aberdeen | | 69.9 | 31 | i 11 | 14 | — 1 | i 20 | 29 | + 5 | i 13 | 52 | PP |
| Edinburgh | E. | 70.3 | 33 | — | — | — | 20 | 39 | +10 | — | — | — |
| Rathfarnham Castle | | 70.7 | 36 | i 11 | 17 _a | — 3 | e 20 | 40 | + 6 | e 14 | 2 | PP |
| Durham | E. | 71.8 | 33 | i 11 | 30 | + 4 | i 20 | 46 | 0 | — | — | — |
| La Paz | | 72.8 | 129 | i 11 | 34 _k | + 2 | i 20 | 59 | + 1 | i 14 | 8 | PP |
| Mizusawa | E. | 73.2 | 307 | (12 22) | — | +47 | 12 | 22 | P | — | — | — |
| Kew | | 74.6 | 35 | i 11 | 42 | — 1 | e 21 | 24 | + 6 | e 16 | 21 | PPP |
| Upsala | | 74.6 | 21 | i 11 | 41 | — 2 | i 21 | 21 | + 3 | i 11 | 52 | PcP |
| Jersey | E. | 75.4 | 37 | e 11 | 46 | — 1 | e 21 | 13 | —14 | e 14 | 12 | PP |
| Helsinki | | 76.3 | 18 | e 11 | 57 | + 5 | i 21 | 45 | + 8 | e 12 | 5 | PcP |
| Copenhagen | | 76.4 | 26 | e 11 | 53 | 0 | i 21 | 45 | + 7 | 30 | 6 | SSS |
| De Bilt | | 76.5 | 32 | i 11 | 57 | + 3 | i 21 | 52 | +13 | e 22 | 28 | PS |
| Witteveen | z. | 76.5 | 31 | i 11 | 54 _a | 0 | — | — | — | i 12 | 6 | PcP |
| Uccle | | 77.1 | 33 | e 11 | 59 _a | + 2 | e 21 | 43 | — 3 | — | — | e 38.7 |
| Hamburg | | 77.2 | 29 | i 12 | 2 _k | + 5 | e 22 | 0 | +13 | e 14 | 55 | PP |
| Montezuma | z. | 77.2 | 134 | i 11 | 57 _a | 0 | — | — | — | — | — | — |
| Paris | | 77.8 | 36 | e 12 | 0 | — 1 | e 21 | 53 | 0 | i 12 | 11 | PcP |
| Coimbra | | 78.2 | 47 | 12 | 6 | + 3 | 21 | 42 | —15 | — | — | 35.7 |
| Lisbon | | 78.8 | 49 | e 12 | 6 | 0 | e 22 | 6 | + 2 | 15 | 6 | PP |
| Potsdam | | 79.3 | 28 | i 12 | 12 _k | + 3 | i 22 | 15 | + 6 | i 22 | 23 | SKS |
| Jena | | 79.9 | 30 | e 12 | 8 | — 4 | e 22 | 17 | + 1 | e 15 | 9 | PP |

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| | | Δ ° | Az. ° | P. | | O-C. s. | S. | | O-C. s. | Supp. | | L. in. | |
|---------------|----|---------------|----------|------|-----------------|------------|------|-----|------------|-------|-----|-----------|--------|
| | | | | m. | s. | | m. | s. | | m. | s. | | |
| Collmberg | | 80.2 | 28 | e 12 | 12 | - 2 | — | — | e 15 | 24 | PP | e 40.7 | |
| Karlsruhe | | 80.2 | 32 | i 12 | 13 _a | - 1 | e 22 | 25 | + 6 | i 12 | 24 | PcP | e 42.7 |
| Strasbourg | | 80.2 | 33 | i 12 | 17 | + 3 | e 22 | 27 | + 8 | e 15 | 23 | PP | e 42.7 |
| Besançon | | 80.5 | 35 | e 12 | 8 | - 7 | e 15 | 14 | PP | e 12 | 33 | PcP | — |
| Stuttgart | | 80.7 | 32 | e 12 | 15 | - 1 | e 22 | 30 | + 6 | e 15 | 24 | PP | e 41.7 |
| Cheb | | 80.9 | 30 | i 12 | 22 | + 5 | i 22 | 36 | ScS | e 15 | 26 | PP | e 40.7 |
| Toledo | | 80.9 | 45 | i 12 | 17 _a | 0 | e 22 | 15 | -11 | 23 | 15 | PS | — |
| Basle | | 81.0 | 34 | — | — | — | e 22 | 29 | + 2 | — | — | — | — |
| Zürich | | 81.5 | 33 | e 12 | 20 | - 1 | e 22 | 33 | + 1 | e 23 | 23 | PS | — |
| Prague | | 81.7 | 28 | i 12 | 26 | + 4 | e 22 | 33 | - 1 | e 15 | 22 | PP | e 34.2 |
| Warsaw | | 82.1 | 24 | i 12 | 26 | + 2 | e 22 | 46 | + 8 | e 15 | 42 | PP | — |
| Chur | | 82.4 | 33 | e 12 | 31 | + 6 | — | — | — | — | — | — | e 44.7 |
| Oropa | | 82.6 | 35 | e 12 | 32 | + 6 | e 23 | 4 | +21 | — | — | — | — |
| Malaga | | 82.9 | 48 | i 12 | 28 | 0 | i 23 | 2 | +16 | 15 | 30 | PP | 41.3 |
| Raciborz | | 83.0 | 26 | e 12 | 27 | - 1 | e 12 | 53 | ? | e 12 | 37 | PcP | — |
| Granada | | 83.1 | 47 | i 12 | 29 _a | 0 | 22 | 53 | + 5 | 12 | 34 | PcP | 38.1 |
| Averroes | | 83.5 | 52 | e 12 | 32 | + 1 | — | — | — | — | — | — | — |
| Pavia | | 83.5 | 34 | e 12 | 27 | - 4 | e 23 | 23 | PS | — | — | — | e 41.0 |
| Almeria | | 83.9 | 46 | i 12 | 33 | 0 | e 23 | 10 | +14 | 15 | 56 | PP | 41.7 |
| Alicante | | 84.0 | 44 | 12 | 33 | 0 | 22 | 59 | + 2 | 15 | 49 | PP | 40.3 |
| Ogyalla | | 84.9 | 28 | e 12 | 44 _a | + 6 | 23 | 18 | ScS | e 24 | 16 | PS | e 44.7 |
| Bologna | | 85.0 | 34 | e 12 | 42 | + 4 | e 23 | 14 | + 7 | e 16 | 26 | PP | — |
| Triest | | 85.0 | 31 | e 12 | 36 _k | - 2 | e 23 | 3 | [+ 2] | e 12 | 44 | PcP | e 39.6 |
| Prato | | 85.4 | 34 | i 12 | 48 | + 8 | i 24 | 2 | PS | — | — | — | — |
| Florence | | 85.5 | 34 | — | — | — | e 23 | 17 | + 5 | — | — | — | — |
| Budapest | | 85.6 | 27 | e 12 | 46 | + 5 | 23 | 17 | + 4 | e 12 | 55 | PcP | 44.7 |
| Kalossa | | 86.3 | 28 | e 12 | 57 | +12 | — | — | — | — | — | — | — |
| Kwanting | N. | 86.5 | 322 | e 12 | 46 | 0 | e 23 | 20 | - 2 | — | — | — | — |
| Algiers Univ. | Z. | 87.0 | 43 | e 12 | 46 | - 2 | e 23 | 38 | +11 | e 16 | 17 | PP | — |
| Szeged | | 87.0 | 27 | 13 | 2 | +14 | 23 | 21 | - 6 | 16 | 6 | PP | — |
| Rome | | 87.6 | 34 | e 13 | 9 | +18 | e 23 | 28 | - 4 | i 24 | 50 | PS | e 42.2 |
| Tatung | N. | 87.8 | 323 | e 12 | 53 | + 1 | — | — | — | — | — | — | — |
| Timisoara | | 87.8 | 27 | e 12 | 58 | + 6 | e 23 | 31 | - 3 | e 15 | 58 | PP | — |
| Belgrade | | 88.3 | 28 | e 12 | 59 _a | + 4 | e 23 | 35 | - 4 | e 15 | 36 | PP | e 46.8 |
| Iasi | | 88.6 | 22 | e 12 | 55 | - 1 | — | — | — | e 16 | 34 | PP | — |
| Paotow | E. | 88.8 | 325 | — | — | — | e 23 | 43 | - 1 | — | — | — | — |
| M'Bour | | 89.6 | 72 | e 13 | 11 | +10 | — | — | — | e 16 | 37 | PP | 46.7 |
| Taiyuan | E. | 89.9 | 322 | — | — | — | e 23 | 54 | 0 | — | — | — | — |
| Zò-Sè | Z. | 90.6 | 312 | i 13 | 6 _a | + 1 | — | — | — | — | — | — | — |
| Nanking | | 91.2 | 314 | 13 | 6 | - 2 | 24 | 7 | + 2 | — | — | — | — |
| Sofia | | 91.2 | 27 | e 12 | 21 | ? | e 22 | 49? | ? | — | — | — | 43.2 |
| Linfen | | 91.8 | 322 | e 13 | 14 | - 3 | e 24 | 14 | + 3 | — | — | — | — |
| La Plata | | 92.7 | 134 | — | — | — | 30 | 54 | SS | — | — | — | 42.1 |
| Nouméa | | 93.1 | 243 | e 13 | 18 _a | + 1 | e 17 | 6 | PP | i 13 | 30 | PcP | — |
| Istanbul | | 94.6 | 24 | e 13 | 22 | - 2 | e 24 | 5 | [+ 6] | e 17 | 11 | PP | e 44.7 |
| Sian | N. | 94.6 | 322 | — | — | — | e 24 | 39 | + 4 | — | — | — | — |
| Athens | | 95.5 | 29 | e 17 | 19 | PP | i 24 | 30 | -12 | e 19 | 22 | PPP | — |
| Tamanrasset | Z. | 99.0 | 51 | e 13 | 53 | + 9 | e 17 | 59 | PP | e 30 | 34 | PKKP | — |
| Ksara | | 103.3 | 22 | e 20 | 49? | PPP | — | — | — | — | — | — | — |
| Helwan | Z. | 105.5 | 27 | e 18 | 24 | [0] | 19 | 32 | ? | 18 | 42 | PP | — |
| Brisbane | | 105.8 | 247 | i 18 | 41 | [+16] | e 25 | 1 | [+ 7] | — | — | — | — |
| Shillong | | 109.4 | 331 | e 19 | 4 | PP | e 28 | 26 | PS | e 38 | 42? | SSS | — |
| Quetta | Z. | 110.5 | 355 | e 18 | 19 | [-15] | — | — | — | e 19 | 27 | PP | — |
| Riverview | | 110.8 | 243 | i 18 | 43 | [+ 8] | e 28 | 55 | PS | i 19 | 23 | PP | e 52.8 |
| Lembang | | 127.4 | 296 | e 19 | 7 | [0] | e 22 | 27 | PKS | i 19 | 15 | pPKP | — |
| Djakarta | | 127.5 | 297 | e 21 | 8 _a | PP | e 22 | 52 | PKS | — | — | — | — |
| Lwiro | | 132.5 | 47 | e 19 | 7 | [-10] | — | — | — | — | — | — | — |
| Kimberley | Z. | 148.0 | 82 | i 19 | 46 _a | [+ 2] | — | — | — | — | — | — | — |
| Pretoria | Z. | 149.0 | 74 | i 19 | 49 _a | [+ 3] | — | — | — | — | — | — | — |
| Grahamstown | Z. | 151.3 | 89 | i 19 | 56 _a | [+ 7] | — | — | — | — | — | — | — |
| Tananarive | | 156.2 | 35 | 20 | 3 | [+ 7] | — | — | — | e 23 | 58 | PP | — |

July 6d. 17h. 58m. Epicentre 36°·6N. 70°·6E. Depth of focus 200km.
Bulletin of the Seismo. Stations of U.S.S.R. for July-Sept., 1954, Moscow, 1955, p. 58.

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1954

399

July 6d. 22h. 7m. 41s. Epicentre 39°3N. 118°4W.

A = -0.3691, B = -0.6826, C = +0.6308; $\delta = +9$; $h = -1$;
D = -0.880, E = +0.476; G = -0.300, H = -0.555, K = -0.776.

| | | Δ | | Az. | | P. | | O-C. | | S. | | O-C. | | Supp. | | L. |
|--------------------|----|----------|-----|-----|-----------------|----|----|------|----|----|----|------|----|----------------|--------|----|
| | | o | o | m. | s. | s. | s. | m. | s. | m. | s. | m. | s. | m. | | |
| Reno | Z. | 1.1 | 281 | i 0 | 20 _a | - | 2 | — | — | — | — | — | — | — | — | |
| Tinemaha | Z. | 2.3 | 177 | i 0 | 38 | - | 2 | — | — | — | — | — | — | — | — | |
| Mineral | Z. | 2.6 | 294 | e 0 | 43 _a | - | 1 | — | — | — | — | — | — | — | — | |
| Fresno | Z. | 2.8 | 203 | e 0 | 45 _a | - | 2 | — | — | — | — | — | — | — | — | |
| Haiwee | Z. | 3.2 | 173 | i 0 | 53 | + | 1 | — | — | — | — | — | — | — | — | |
| Lick | | 3.2 | 233 | e 0 | 53 | + | 1 | i 1 | 28 | - | 4 | — | — | — | — | |
| Berkeley | | 3.3 | 245 | e 0 | 52 _k | - | 1 | e 1 | 29 | - | 6 | — | — | — | — | |
| Shasta | Z. | 3.3 | 295 | e 0 | 52 _a | - | 1 | — | — | — | — | — | — | — | — | |
| Branner | Z. | 3.5 | 238 | e 0 | 54 | - | 3 | — | — | — | — | — | — | — | — | |
| San Francisco | E. | 3.5 | 245 | e 0 | 55 | - | 2 | — | — | — | — | — | — | — | — | |
| China Lake | | 3.6 | 169 | i 0 | 57 | - | 1 | — | — | — | — | — | — | — | — | |
| Isabella | Z. | 3.7 | 181 | i 1 | 0 | - | 0 | — | — | — | — | — | — | — | — | |
| Ukiah | | 3.7 | 268 | e 1 | 5 | + | 5 | i 1 | 53 | + | 8 | — | — | — | i 2.2 | |
| King Ranch | Z. | 4.1 | 195 | i 1 | 6 | + | 1 | — | — | — | — | — | — | — | — | |
| Boulder City | | 4.4 | 138 | i 1 | 9 _a | - | 1 | — | — | — | — | i 1 | 20 | P* | — | |
| Fort Tejon | Z. | 4.5 | 185 | e 1 | 15 | + | 4 | — | — | — | — | — | — | — | — | |
| Arcata | N. | 4.6 | 291 | e 1 | 14 | + | 2 | — | — | — | — | e 1 | 38 | P _e | — | |
| Ferndale | E. | 4.6 | 287 | e 1 | 26 | + | 4* | — | — | — | — | — | — | — | — | |
| Nelson | Z. | 4.6 | 141 | e 1 | 11 _a | - | 1 | — | — | — | — | — | — | — | — | |
| Santa Barbara | | 5.0 | 192 | e 1 | 19 | + | 1 | — | — | — | — | — | — | — | — | |
| Big Bear | Z. | 5.2 | 166 | e 1 | 22 | + | 1 | — | — | — | — | — | — | — | — | |
| Pasadena | N. | 5.2 | 178 | i 1 | 21 _k | - | 0 | — | — | — | — | — | — | — | — | |
| Salt Lake City | | 5.2 | 72 | e 1 | 22 | + | 1 | e 2 | 28 | + | 6 | — | — | — | — | |
| Riverside | Z. | 5.4 | 171 | e 1 | 23 | - | 1 | — | — | — | — | — | — | — | — | |
| Corvallis | Z. | 6.4 | 327 | e 1 | 38 | - | 0 | — | — | — | — | — | — | — | — | |
| San Diego | | 6.7 | 171 | 1 | 29 | - | 13 | 3 | 4 | + | 4 | — | — | — | — | |
| Butte | N. | 8.0 | 31 | i 2 | 1 _a | + | 1 | i 3 | 38 | + | 5 | i 2 | 26 | P* | — | |
| Bozeman | | 8.4 | 38 | e 2 | 6 _a | - | 0 | i 3 | 5 | - | 38 | i 2 | 43 | P _e | i 3.3 | |
| Seattle | | 8.8 | 343 | i 2 | 14 | + | 3 | 3 | 59 | + | 6 | — | — | — | 4.7 | |
| Tucson | | 9.4 | 136 | i 2 | 20 _a | + | 2 | i 3 | 20 | ? | — | i 3 | 2 | P _e | i 4.7 | |
| Hungry Horse | | 9.6 | 18 | e 2 | 25 | + | 4 | — | — | — | — | — | — | — | — | |
| Victoria | | 9.8 | 340 | e 2 | 27 | + | 3 | — | — | — | — | — | — | — | e 5.4 | |
| Boulder | | 10.1 | 82 | i 2 | 32 | + | 3 | — | — | — | — | — | — | — | — | |
| Rapid City | E. | 12.3 | 62 | e 3 | 0 | + | 1 | e 5 | 7 | - | 11 | e 5 | 33 | PP | i 6.0 | |
| Chihuahua | | 14.8 | 132 | i 3 | 38 | + | 6 | 6 | 42 | + | 24 | — | — | — | e 7.5 | |
| Saskatoon | | 15.2 | 29 | 3 | 50 | + | 12 | 6 | 38 | + | 10 | — | — | — | 8.1 | |
| Dallas | | 18.6 | 104 | i 4 | 22 | + | 1 | i 7 | 57 | + | 11 | — | — | — | e 9.8 | |
| Fayetteville | | 19.4 | 92 | i 4 | 30 | - | 0 | e 8 | 11 | + | 7 | — | — | — | e 10.5 | |
| Sitka | | 20.9 | 334 | i 4 | 45 | - | 1 | i 8 | 43 | + | 8 | — | — | — | i 9.6 | |
| Guadalajara | | 22.7 | 141 | 5 | 7 | + | 3 | 9 | 25 | + | 16 | — | — | — | — | |
| Chicago | | 23.5 | 74 | i 5 | 12 | - | 0 | e 9 | 28 | + | 5 | — | — | — | e 11.3 | |
| Terre Haute | | 23.9 | 80 | i 5 | 19 | + | 3 | i 9 | 34 | + | 4 | — | — | — | — | |
| Tacubaya | | 25.9 | 135 | e 5 | 39 | + | 4 | e 10 | 32 | + | 28 | — | — | — | — | |
| Cincinnati | | 26.2 | 80 | i 5 | 37 | - | 1 | — | — | — | — | — | — | — | — | |
| Puebla | | 26.8 | 133 | e 5 | 52 | + | 8 | i 10 | 39 | + | 20 | e 6 | 27 | PP | — | |
| Vera Cruz | | 27.8 | 130 | i 5 | 57 | + | 4 | i 11 | 21 | ? | — | — | — | — | i 15.4 | |
| Cleveland | | 28.0 | 74 | e 5 | 52 _a | - | 3 | i 10 | 38 | 0 | — | — | — | — | — | |
| Kirkland Lake | Z. | 28.8 | 60 | e 6 | 3 | + | 1 | e 11 | 59 | + | 68 | — | — | — | — | |
| Oaxaca | | 29.2 | 134 | 5 | 58 | - | 7 | e 10 | 49 | - | 9 | — | — | — | — | |
| Pittsburgh | | 29.4 | 75 | i 6 | 7 | - | 0 | i 11 | 2 | + | 1 | — | — | — | — | |
| Buffalo (Larkin) | | 30.0 | 70 | i 6 | 11 | - | 1 | — | — | — | — | — | — | — | — | |
| Columbia | | 30.3 | 88 | e 6 | 14 _k | - | 1 | i 11 | 14 | - | 1 | e 7 | 33 | PP | i 13.0 | |
| College | | 30.8 | 336 | e 6 | 19 _a | - | 1 | i 11 | 22 | - | 1 | e 7 | 35 | PP | i 13.4 | |
| Pennsylvania | | 30.9 | 74 | i 6 | 18 | - | 2 | e 11 | 24 | 0 | — | — | — | — | — | |
| Chapel Hill | | 31.2 | 84 | i 6 | 23 | - | 0 | — | — | — | — | — | — | — | — | |
| Ottawa | | 31.9 | 65 | e 6 | 27 | - | 2 | 11 | 41 | + | 1 | 7 | 24 | PP | — | |
| Washington | Z. | 31.9 | 77 | i 6 | 28 _a | - | 1 | e 11 | 36 | - | 4 | e 7 | 45 | PP | e 13.3 | |
| Philadelphia | | 33.1 | 75 | e 6 | 36 | - | 4 | e 11 | 44 | - | 15 | e 7 | 52 | PP | e 13.5 | |
| City College, N.Y. | | 33.8 | 73 | e 6 | 43 | - | 3 | e 12 | 16 | + | 6 | — | — | — | — | |
| Palisades | | 33.8 | 73 | i 6 | 43 | - | 3 | i 12 | 9 | - | 1 | e 13 | 46 | Q | e 18.5 | |

Continued on next page.

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1954

400

| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|--------------------|------------|------------|------|-----|------|-------|-----|------|-------|----|-----|--------|
| | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Shawinigan Falls | 33.8 | 62 | e 6 | 44 | - 2 | 12 | 9 | - 1 | 14 | 27 | SSS | — |
| Miami | 34.5 | 101 | i 6 | 56 | + 4 | — | — | — | — | — | — | — |
| Seven Falls | 35.1 | 61 | e 6 | 54k | - 3 | 12 | 28 | - 2 | 8 | 14 | PP | 18.2 |
| Harvard | 35.2 | 69 | i 6 | 57 | - 1 | e 12 | 37 | + 6 | e 15 | 59 | Q | e 17.5 |
| Weston | 35.4 | 70 | i 6 | 59 | - 1 | e 12 | 33 | - 1 | — | — | — | e 18.0 |
| Resolute Bay | 37.1 | 10 | e 7 | 13a | - 1 | i 13 | 2 | + 1 | e 8 | 47 | PP | e 17.8 |
| Swan Island | 37.1 | 116 | i 6 | 43 | -31 | — | — | — | — | — | — | — |
| Honolulu | 38.3 | 254 | e 7 | 23 | - 1 | e 13 | 25 | + 6 | — | — | — | e 16.2 |
| Halifax | 40.5 | 64 | i 7 | 43a | + 1 | i 13 | 49 | - 3 | 9 | 19 | PP | e 19.3 |
| Guantanamo Bay | 41.9 | 105 | e 7 | 53 | - 1 | i 18 | 23 | SS | — | — | — | — |
| Bermuda | 43.6 | 82 | i 8 | 6a | - 2 | e 14 | 37 | - 1 | e 18 | 0 | SS | e 20.7 |
| Ciudad Trujillo | 46.7 | 102 | e 8 | 34 | + 2 | — | — | — | 10 | 14 | PP | — |
| Galerazamba | 47.7 | 115 | e 16 | 24 | ? | — | — | — | — | — | — | 24.3 |
| San Juan | 49.6 | 99 | e 8 | 52 | - 3 | e 15 | 53 | -10 | e 10 | 50 | PP | e 20.3 |
| Chinchina | 51.6 | 120 | i 9 | 10 | 0 | i 16 | 34 | + 3 | i 11 | 1 | PP | 24.3 |
| Klyuchi | 53.6 | 317 | e 9 | 24 | - 1 | — | — | — | — | — | — | — |
| Scoresby Sund | 55.6 | 24 | e 9 | 37 | - 3 | i 17 | 27 | + 2 | — | — | — | 26.3 |
| Petropavlovsk | 55.9 | 314 | e 9 | 41 | - 1 | — | — | — | — | — | — | — |
| Magadan | 57.4 | 323 | e 9 | 51 | - 2 | — | — | — | — | — | — | — |
| Reykjavik | 58.1 | 31 | i 10 | 1k | + 3 | — | — | — | — | — | — | e 33.8 |
| Kurilsk | 65.7 | 309 | e 10 | 37 | -11 | — | — | — | — | — | — | — |
| Uglegorsk | 67.0 | 315 | e 10 | 55 | - 2 | — | — | — | — | — | — | — |
| Yuzno-Sakhlinsk | 67.7 | 313 | e 11 | 0 | - 1 | — | — | — | — | — | — | — |
| Kiruna | 68.8 | 16 | i 11 | 6k | - 2 | i 20 | 13 | + 2 | e 11 | 31 | PcP | e 32.3 |
| Aberdeen | 70.0 | 31 | — | — | — | i 20 | 27 | + 1 | e 25 | 1 | SS | 36.3 |
| Rathfarnham Castle | 70.8 | 36 | i 11 | 21k | + 1 | e 17 | 31 | ? | i 13 | 56 | PP | e 37.3 |
| Durham | 71.8 | 33 | i 11 | 27 | + 1 | i 20 | 48 | + 2 | 11 | 45 | PcP | — |
| La Paz | 72.7 | 129 | i 11 | 33 | + 1 | i 21 | 1 | + 4 | 14 | 3 | PP | 33.6 |
| Kew | 74.7 | 35 | i 11 | 42k | - 1 | e 21 | 24 | + 5 | — | — | — | e 37.3 |
| Upsala | 74.8 | 21 | i 11 | 42 | - 2 | e 21 | 19? | - 1 | i 14 | 29 | PP | e 36.3 |
| Jersey | 75.5 | 37 | e 21 | 35 | S | (e 21 | 35) | + 7 | — | — | — | 34.3 |
| Vladivostok | 76.2 | 315 | e 11 | 52 | 0 | — | — | — | — | — | — | — |
| Copenhagen | 76.5 | 26 | i 11 | 53 | - 1 | i 21 | 42 | + 3 | — | — | — | 37.3 |
| De Bilt | 76.6 | 32 | i 11 | 55k | + 1 | e 21 | 44 | + 4 | — | — | — | e 35.3 |
| Matusiro | 76.7 | 306 | 11 | 54 | - 1 | 21 | 43 | + 2 | — | — | — | — |
| Montezuma | 77.1 | 134 | i 11 | 58k | + 1 | — | — | — | — | — | — | — |
| Uccle | 77.2 | 33 | e 11 | 58 | + 1 | — | — | — | — | — | — | e 34.3 |
| Hamburg | 77.3 | 29 | i 11 | 59a | + 1 | i 21 | 54 | + 6 | e 14 | 50 | PP | e 38.3 |
| Paris | 77.9 | 36 | e 12 | 0 | - 1 | e 21 | 54 | 0 | e 14 | 59 | PP | e 36.3 |
| Pulkovo | 77.9 | 16 | e 12 | 1 | 0 | i 21 | 54 | 0 | — | — | — | — |
| Coimbra | 78.3 | 47 | 12 | 2a | - 1 | — | — | — | — | — | — | 37.3 |
| Lisbon | 78.9 | 49 | e 12 | 5 | - 2 | — | — | — | — | — | — | 37.9 |
| Potsdam | 79.4 | 28 | e 12 | 8 | - 1 | i 22 | 15 | + 5 | e 22 | 43 | ScS | e 37.3 |
| Jena | 80.0 | 30 | e 12 | 11 | - 2 | e 22 | 24 | + 7 | e 15 | 14 | PP | — |
| Collmberg | 80.3 | 28 | e 12 | 12 | - 2 | e 22 | 26 | + 6 | e 15 | 24 | PP | — |
| Karlsruhe | 80.3 | 32 | e 12 | 14a | 0 | e 22 | 29 | + 9 | — | — | — | — |
| Strasbourg | 80.3 | 33 | e 12 | 15 | + 1 | e 22 | 25 | + 5 | e 15 | 16 | PP | e 35.7 |
| Besançon | 80.6 | 35 | e 12 | 17 | + 1 | — | — | — | e 12 | 28 | PcP | — |
| Stuttgart | 80.8 | 32 | e 12 | 16k | - 1 | e 22 | 27 | + 2 | e 15 | 19 | PP | e 41.3 |
| Kabansk | 80.9 | 334 | 12 | 17 | 0 | — | — | — | — | — | — | — |
| Cheb | 81.0 | 30 | i 12 | 20 | + 2 | i 22 | 31 | + 4 | e 16 | 5 | PP | — |
| Toledo | 81.0 | 45 | i 12 | 17 | - 1 | 22 | 28 | + 1 | 15 | 21 | PP | 39.3 |
| Basle | 81.1 | 34 | e 12 | 17 | - 1 | — | — | — | — | — | — | e 43.4 |
| Neuchatel | 81.2 | 34 | e 12 | 19 | 0 | — | — | — | — | — | — | — |
| Zürich | 81.6 | 33 | e 12 | 20 | - 1 | e 22 | 30 | - 3 | e 15 | 30 | PP | — |
| Prague | 81.8 | 28 | i 12 | 24 | + 2 | e 22 | 39 | + 4 | e 13 | 57 | ? | e 38.5 |
| Warsaw | 82.2 | 24 | e 12 | 23 | - 1 | e 22 | 42 | + 3 | e 12 | 37 | PcP | e 42.3 |
| Chur | 82.4 | 33 | e 12 | 25 | 0 | — | — | — | — | — | — | e 49.3 |
| Oropa | 82.7 | 35 | e 12 | 17 | -10 | — | — | — | — | — | — | — |
| Malaga | 83.0 | 48 | i 12 | 7 | -21 | i 22 | 53 | + 6 | 14 | 41 | PP | 41.7 |
| Granada | 83.1 | 47 | i 12 | 28a | - 1 | 22 | 55 | + 7 | 16 | 1 | PP | 38.8 |
| Moscow | 83.1 | 13 | 12 | 28 | - 1 | 22 | 40 | - 8 | 15 | 45 | PP | — |
| Raciborzu | 83.1 | 26 | e 12 | 27 | - 2 | e 22 | 45 | - 3 | e 22 | 55 | SKS | e 44.3 |
| Pavia | 83.6 | 34 | e 12 | 24 | - 7 | e 23 | 42 | PS | — | — | — | — |
| Salo | 83.8 | 33 | e 12 | 37 | + 5 | e 22 | 50 | - 5 | e 14 | 33 | PP | — |

Continued on next page.

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1954

401

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|---------------|------------|------------|----------------------|-------|---------|-------|---------|-----------|
| | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Alicante | 84.0 | 44 | e 12 32 | - 1 | e 22 59 | + 2 | 23 48 | PS 40.3 |
| Almeria | 84.0 | 46 | i 12 35 | + 2 | e 23 2 | + 5 | 15 47 | — 44.3 |
| Vienna | 84.0 | 28 | e 12 33 | 0 | e 23 4 | + 7 | e 24 17 | PPS 43.3 |
| Sverdlovsk | 84.2 | 0 | i 12 33 | - 1 | — | — | — | — |
| Ogyalla | 85.0 | 28 | e 12 41 | + 3 | e 23 3 | - 4 | e 13 30 | ? c 38.7 |
| Triest | 85.2 | 31 | e 12 31 _a | - 8 | e 23 4 | [+ 2] | e 24 3 | PS e 41.2 |
| Padova | 85.3 | 33 | e 12 46 | + 6 | — | — | — | — |
| Florence | 85.6 | 34 | i 12 39 | - 2 | e 23 28 | + 15 | — | — |
| Algiers Univ. | z. 87.1 | 43 | e 12 46 | - 3 | — | — | e 16 16 | PP — |
| Szeged | E. 87.1 | 27 | e 12 31 | - 18 | — | — | — | — |
| Rome | 87.7 | 34 | i 12 57 | + 5 | e 23 27 | - 6 | — | — e 41.8 |
| Tatung | 87.9 | 323 | 12 55 | + 2 | e 23 40 | + 5 | — | — |
| Timisoara | 87.9 | 27 | i 12 52 | - 1 | e 23 49 | + 14 | — | — |
| Belgrade | 88.4 | 28 | e 12 48 _a | - 7 | e 23 45 | + 5 | e 28 34 | SS e 49.1 |
| Iasi | 88.7 | 22 | e 12 57 | 0 | — | — | e 16 26 | PP — |
| Kishinev | 89.2 | 22 | 12 57 | - 2 | e 23 47 | 0 | — | — |
| Semipalatinsk | 89.2 | 348 | 12 58 | - 1 | e 23 26 | [- 2] | e 16 25 | PP — |
| Taiyuan | N. 90.0 | 322 | e 13 3 | 0 | — | — | — | — |
| Zō-Sè | z. 90.7 | 312 | 13 4 _k | - 2 | e 23 58 | - 3 | — | — |
| Nanking | 91.3 | 314 | 13 9 _k | 0 | e 24 6 | 0 | — | — |
| Linten | N. 91.9 | 322 | — | — | e 24 17 | + 6 | — | — |
| Yalta | 93.0 | 19 | e 13 17 | 0 | e 23 52 | [+ 2] | e 17 1 | PP — |
| Nouméa | 93.1 | 243 | e 13 19 | + 2 | — | — | — | — |
| Istanbul | 94.7 | 24 | e 13 23 | - 1 | e 24 0 | [+ 1] | e 17 12 | PP e 46.3 |
| Piatigorsk | 95.4 | 13 | 13 27 | - 1 | 24 6 | [+ 3] | i 17 15 | PP — |
| Almata | 96.6 | 349 | i 13 33 | 0 | e 24 13 | [+ 3] | — | — |
| Frunse | 97.3 | 350 | i 13 37 | - 1 | i 24 16 | [+ 3] | i 17 37 | PP — |
| Tiflis | 97.9 | 13 | i 13 40 | + 1 | e 24 20 | [+ 4] | e 17 36 | PP — |
| Tamanrasset | z. 99.0 | 51 | e 13 43 | - 1 | e 25 22 | + 10 | i 17 52 | PP — |
| Erevan | 99.3 | 13 | i 13 47 | + 2 | — | — | — | — |
| Goris | 100.3 | 12 | e 13 50 | 0 | — | — | e 17 56 | PP — |
| Hong Kong | E. 101.5 | 311 | — | — | 25 42 | + 9 | — | — e 43.8 |
| Baguio | 101.9 | 303 | e 17 9 | PP | e 24 39 | [+ 3] | — | — |
| Stalinabad | 102.2 | 354 | 13 59 | + 1 | i 24 41 | [+ 3] | — | — |
| Ashkabad | 103.0 | 3 | e 14 5 | + 3 | 24 46 | [+ 5] | — | — |
| Ksara | 103.4 | 22 | e 13 6 | - 58 | e 23 16 | ? | — | — |
| Helwan | z. 105.6 | 27 | e 18 19 | PP | — | — | e 21 31 | PPP — |
| Quetta | z. 110.7 | 355 | e 17 30 | ? | — | — | e 19 14 | PP — |
| Lembang | z. 127.5 | 296 | e 19 8 _k | [+ 1] | — | — | — | — |
| Lwiro | 132.6 | 47 | e 19 21 _? | [+ 4] | — | — | e 20 39 | ? — |
| Kimberley | z. 147.9 | 82 | i 19 48 _a | [+ 4] | — | — | — | — |
| Pretoria | z. 149.0 | 74 | i 19 49 | [+ 3] | — | — | — | — |
| Grahamstown | z. 151.3 | 89 | i 19 58 _a | [+ 9] | — | — | — | — |

July 7d. 13h. 13m. Epicentre 41°·3N. 44°·0E.

Bull. of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, p. 59.

July 7d. 18h. 41m. Epicentre 36°·9N. 71°·3E. Depth of focus 170 km.

Bull. of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, p. 59.

July 8d. 0h. 59m. Epicentre 43°·0N. 78°·1E.

Bull. of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, p. 60.

July 8d. 6h. 20m. Epicentre 42°·4N. 75°·5E.

Bull. of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, p. 60.

July 8d. 15h. 33m. Epicentre 23°·9N. 121°·0E. Depth 20km.

Seismo. Bull. of the Taiwan Weather Bureau for July-Sept., 1954, Taiwan, China, p. 12.

July 8d. 18h. 53m. 26s. Epicentre 34°·2N. 141°·6E. Depth about 60km. Unfelt.

Seismo. Bull. Cent. Met. Obs., Japan, for July, 1954, Tokyo, 1954, pp. 15-16.

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1954

402

July 9d. 12h. 20m. 39s. Epicentre 16°·4S. 174°·0W. Depth of focus 0·005.

A = -·9546, B = -·1003, C = -·2806; $\delta = +6$; $h = +5$;
D = -·105, E = +·995; G = +·279, H = +·029, K = -·960.

| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|----------------|----|----------|-----|------|-----------------|--------|-------------|----------------------|-------|-------|-----|------------------|
| | | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Apia | | 3·4 | 40 | e 0 | 52 | 0 | e 1 | 30 | - 2 | — | — | — |
| Nouméa | | 19·3 | 249 | i 4 | 23 _a | + 1 | e 8 | 3 | +12 | i 4 | 57 | sP |
| Wellington | | 26·6 | 199 | e 5 | 21? | -13 | — | — | — | — | — | — |
| Brisbane | | 32·4 | 244 | i 6 | 23 | - 3 | — | — | — | — | — | — |
| Riverview | | 35·7 | 234 | i 6 | 55 _k | + 1 | e 12 | 25 | 0 | i 8 | 20 | pP |
| Matusiro | | 69·3 | 320 | 11 | 1 | - 1 | — | — | — | e 11 | 27 | pP |
| Berkeley | z. | 72·6 | 41 | i 11 | 23 _a | + 1 | — | — | — | e 11 | 47 | pP |
| Lick | z. | 72·7 | 41 | i 11 | 24 _a | + 1 | — | — | — | i 11 | 48 | pP |
| Pasadena | | 73·2 | 46 | i 11 | 26 _a | 0 | e 20 | 46 | - 1 | i 11 | 49 | pP |
| Fresno | z. | 73·6 | 43 | e 11 | 28 _a | 0 | — | — | — | e 11 | 52 | pP |
| Woody | z. | 73·6 | 44 | i 11 | 28 _a | 0 | — | — | — | i 11 | 52 | pP |
| Riverside | z. | 73·6 | 46 | e 11 | 27 _a | - 1 | — | — | — | e 11 | 52 | pP |
| Palomar | z. | 73·6 | 47 | i 11 | 29 _a | + 1 | — | — | — | i 11 | 54 | pP |
| Shasta | z. | 74·3 | 38 | i 11 | 33 _a | + 1 | — | — | — | i 11 | 55 | pP |
| China Lake | z. | 74·5 | 45 | i 11 | 33 _a | 0 | — | — | — | i 11 | 57 | pP |
| Tinemaha | z. | 74·7 | 43 | i 11 | 35 _a | + 1 | — | — | — | i 12 | 0 | pP |
| Reno | z. | 75·2 | 40 | e 11 | 28 _a | - 9 | — | — | — | e 12 | 2 | pP |
| Nelson | z. | 76·3 | 46 | i 11 | 44 | 0 | — | — | — | i 12 | 8 | pP |
| Boulder City | | 76·4 | 46 | i 11 | 45 | + 1 | — | — | — | i 12 | 10 | pP |
| Lembang | z. | 77·0 | 267 | i 11 | 49 _k | + 1 | — | — | — | i 12 | 12 | pP |
| Tucson | | 77·4 | 51 | i 11 | 50 | 0 | — | — | — | i 12 | 14 | pP |
| Zô-Sè | z. | 78·1 | 308 | i 11 | 53 _k | - 1 | 21 | 44 | + 3 | — | — | — |
| Seattle | z. | 78·8 | 33 | 11 | 38 | -19 | — | — | — | — | — | — |
| Hong Kong | e. | 80·1 | 297 | i 12 | 6 | + 2 | i 22 | 6 | + 4 | — | — | — |
| Nanking | | 80·3 | 308 | i 12 | 5 _k | 0 | 22 | 6 | + 2 | — | — | — |
| Salt Lake City | | 80·9 | 43 | e 12 | 8 | - 1 | — | — | — | e 12 | 31 | pP |
| Tacubaya | | 81·7 | 67 | e 12 | 7 | - 6 | — | — | — | — | — | — |
| Butte | n. | 83·2 | 38 | e 12 | 20 | - 1 | e 22 | 25 | - 9 | i 12 | 45 | pP |
| College | | 83·5 | 11 | i 12 | 21 | - 1 | e 22 | 32 | - 5 | i 12 | 46 | pP |
| Hungry Horse | | 83·6 | 36 | i 12 | 21 | - 2 | — | — | — | — | — | e 34·4 e 37·7 |
| Bozeman | | 83·9 | 39 | e 12 | 24 | 0 | — | — | — | e 12 | 49 | pP |
| Boulder | | 85·0 | 46 | e 12 | 30 | 0 | — | — | — | i 12 | 56 | pP |
| Dallas | | 88·5 | 55 | e 13 | 13 | pP | — | — | — | — | — | — |
| Fayetteville | | 91·6 | 53 | i 13 | 1 | 0 | e 23 | 25 | [- 1] | e 23 | 39 | s |
| Montezuma | z. | 97·2 | 116 | e 13 | 28 | + 1 | — | — | — | — | — | — |
| Shillong | | 100·5 | 294 | e 13 | 44 | + 2 | e 24 | 21? [+ 8] | — | — | — | — |
| Resolute Bay | | 102·8 | 16 | — | — | — | e 24 | 23 [- 1] | — | e 25 | 29 | s |
| Bermuda | | 114·8 | 62 | — | — | — | 26 | 33 SKKS | — | — | — | — |
| Scoresby Sund | | 123·3 | 11 | — | — | — | (30 21?) PS | — | — | — | — | 30·4 |
| Kiruna | | 127·8 | 353 | i 18 | 57 | [- 1] | 36 | 11 SKKS ₂ | — | e 38 | 3 | SS e 60·4 |
| Upsala | z. | 135·8 | 352 | e 18 | 59 | [- 14] | — | — | — | e 19 | 5 | PKP |
| Copenhagen | | 140·5 | 354 | e 19 | 23 | [+ 1] | 22 | 53 PKS | — | — | — | — |
| Rathfarnham C. | z. | 142·0 | 12 | e 19 | 25 | [0] | — | — | — | — | — | — |
| Potsdam | | 143·7 | 353 | e 19 | 27? | [- 1] | — | — | — | e 22 | 45? | PP e 69·4 |
| Witteveen | z. | 143·7 | 359 | i 19 | 28 | [0] | — | — | — | — | — | — |
| De Bilt | | 144·4 | 359 | i 19 | 29 _k | [0] | e 41 | 51 | SS | i 19 | 56 | pP' |
| Iasi | n. | 144·5 | 334 | 19 | 29 | [0] | — | — | — | — | — | — |
| Collmberg | z. | 144·7 | 352 | i 19 | 29 | [0] | — | — | — | e 19 | 56 | pP' |
| Kew | | 144·7 | 7 | i 19 | 28 | [- 1] | — | — | — | — | — | e 71·4 |
| Raciborzu | | 145·0 | 346 | i 19 | 31 | [+ 1] | — | — | — | e 19 | 58 | pP' |
| Jena | | 145·3 | 354 | i 19 | 31 | [0] | e 20 | 26 | ? | i 19 | 57 | pP' |
| Prague | | 145·7 | 350 | i 19 | 32 | [+ 1] | i 22 | 53 | SKP | e 20 | 0 | pP' |
| Bucharest | n. | 147·3 | 333 | e 19 | 36 | [+ 2] | — | — | — | e 20 | 54 | ? |
| Karlsruhe | z. | 147·4 | 357 | e 19 | 35 _k | [+ 1] | — | — | — | e 20 | 4 | pP' |
| Paris | | 147·6 | 4 | e 19 | 35 | [+ 1] | e 23 | 29 | SKP | i 20 | 5 | pP' e 78·4 |
| Stuttgart | | 147·6 | 356 | e 19 | 35 | [+ 1] | e 29 | 50 | SKKS | e 20 | 3 | pP' |
| Strasbourg | | 147·9 | 358 | e 19 | 37 | [+ 2] | e 29 | 49 | SKKS | e 20 | 7 | pP' |
| Ksara | | 148·0 | 308 | i 19 | 38 | [+ 3] | e 29 | 42 | SKKS | — | — | — |
| Timisoara | | 148·1 | 340 | e 19 | 36 | [+ 1] | — | — | — | i 21 | 24 | ? |
| Istanbul | z. | 148·4 | 326 | e 19 | 35 | [- 1] | — | — | — | — | — | — |

Continued on next page.

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|---------------|------------|------------|----------|-------------------|---------|------------------|---------|-------|------|
| | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. | |
| Safed | 148.7 | 307 | i 19 36 | { 0 } | — | — | i 20 9 | pP' | — |
| Basle | 148.9 | 358 | e 19 46 | [+10] | — | — | — | — | — |
| Zürich | 149.0 | 356 | e 19 38 | [+ 1] | — | — | — | — | — |
| Belgrade | z. 149.2 | 340 | e 19 43k | [+ 6] | — | — | e 20 9 | pP' | — |
| Jerusalem | 149.4 | 305 | i 19 40 | [+ 3] | — | — | i 20 13 | pP' | — |
| Chur | 149.5 | 355 | e 19 34 | [- 3] | — | — | — | — | — |
| Sofia | 149.9 | 334 | e 19 41? | [+ 3] | — | — | — | — | — |
| Pavia | 151.2 | 355 | e 19 43 | [+ 3] | — | — | — | — | — |
| Florence | z. 152.4 | 352 | e 19 59 | PKP ₂ | — | — | — | — | — |
| Helwan | z. 153.2 | 304 | e 19 43 | [0] | i 23 38 | PP | i 20 4 | pP' | — |
| Rome | 154.0 | 349 | e 31 31? | PKKS | — | — | — | — | — |
| Toledo | 155.0 | 18 | e 19 47 | [+ 2] | 23 53 | PP | e 20 11 | pP' | — |
| Alicante | 157.4 | 13 | 19 38 | [-10] | 26 24 | [-22] | 30 55 | SKKS | — |
| Granada | 157.6 | 20 | 19 51k | [+ 2] | 50 18 | SSS | 20 45 | pP' | 76.4 |
| Malaga | 157.8 | 22 | e 19 46 | [- 3] | 26 46 | [0] | 31 46 | SKKKS | 69.3 |
| M'Bour | 157.8 | 92 | e 21 17 | pPKP ₂ | 26 21 | [-25] | (43 21) | SS | 43.4 |
| Algiers Univ. | z. 159.6 | 7 | e 19 51 | [0] | e 20 32 | PKP ₂ | e 20 45 | sP' | — |
| Tamanrasset | z. 173.6 | 4 | e 20 3 | [+ 1] | e 25 18 | PP | e 20 30 | pP' | — |

July 9d. 15h. 38m. 24s. Epicentre 43°·0N. 147°·2E. Depth of focus 0·005.
(as on 1943, April 29d.).

Intensity IV at Nemuro and Kusiuro; II-III at Urakawa, Abashiri, and Hatinohe.
Seismo. Bull. Cent. Met. Obs. Japan, for July, 1954, Tokio, 1954, pp. 16-18, with macro-seismic chart.

$$A = -\cdot6166, B = +\cdot3974, C = +\cdot6795; \quad \delta = -16; \quad h = -3;$$

$$D = +\cdot542, E = +\cdot841; \quad G = -\cdot571, H = +\cdot368, K = -\cdot734.$$

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------|------------|------------|---------|------|--------|------|-------|-------|
| | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Nemuro | 1.2 | 286 | i 0 17k | - 5 | i 0 30 | - 8 | — | — |
| Kusiuro | 2.1 | 270 | i 0 29k | - 5 | i 0 54 | - 5 | — | — |
| Anashiri | 2.4 | 296 | i 0 33k | - 5 | i 0 56 | -11 | — | — |
| Obihiro | E. 2.9 | 268 | e 0 46 | + 1 | — | — | — | — |
| Urakawa | 3.4 | 255 | e 0 52 | 0 | e 1 26 | - 6 | — | — |
| Asahigawa | 3.6 | 284 | e 0 52 | - 3 | e 1 44 | + 7 | — | — |
| Tomakomai | 4.2 | 266 | e 1 1 | - 2 | i 1 49 | - 3 | — | — |
| Sapporo | 4.3 | 273 | e 1 2 | - 3 | i 1 51 | - 3 | — | — |
| Muroran | 4.6 | 264 | e 1 8 | - 1 | i 2 3 | + 1 | — | — |
| Wakkanai | N. 4.6 | 303 | e 1 19 | +10 | e 2 30 | +28 | — | — |
| Hakodate | 4.9 | 258 | i 1 16 | + 3 | i 2 9 | 0 | — | — |
| Hatinohe | 4.9 | 241 | e 1 13 | 0 | i 2 3 | - 6 | — | — |
| Mori | 5.0 | 262 | i 1 15 | + 1 | i 2 11 | - 1 | — | — |
| Suttsu | 5.1 | 270 | e 1 26 | +10 | e 2 21 | + 7 | — | — |
| Miyako | 5.2 | 231 | e 1 12 | - 5 | 2 10 | - 7 | — | — |
| Aomori | 5.3 | 248 | 1 19 | 0 | i 2 15 | - 4 | — | — |
| Morioka | 5.6 | 236 | e 1 21 | - 2 | e 2 21 | - 6 | — | — |
| Mizusawa | N. 6.0 | 232 | e 1 27 | - 1 | 2 27 | -10 | — | — |
| Akita | 6.3 | 241 | e 1 33 | + 1 | e 2 43 | - 1 | — | — |
| Isinomaki | 6.4 | 227 | e 1 38 | + 4 | e 2 39 | - 7 | — | — |
| Sendai | E. 6.7 | 227 | e 1 39 | + 1 | e 2 50 | - 4 | — | — |
| Sakata | 6.9 | 236 | e 2 13 | ? | 3 28 | ? | — | — |
| Yamagata | 7.0 | 230 | e 1 36 | - 6 | e 2 57 | - 4 | — | — |
| Hukusima | 7.3 | 227 | e 1 46 | 0 | e 3 5 | - 4 | — | — |
| Inawasiro | 7.7 | 227 | e 1 56 | + 4 | 3 12 | - 7 | — | — |
| Onahama | 7.8 | 221 | e 2 7 | +14 | i 3 12 | - 9 | — | — |
| Shirakawa | 7.9 | 225 | e 2 4 | + 9 | e 3 14 | - 9 | — | — |
| Niigata | 8.0 | 234 | e 2 18 | +22 | e 3 45 | +19 | — | e 4.1 |
| Aikawa | 8.4 | 237 | e 2 1 | - 1 | — | — | — | — |
| Mito | E. 8.4 | 220 | e 2 18 | +16 | 3 30 | - 6 | — | — |

Continued on next page.

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|---------------|----|----------|-----|------|-----------------|------|------|----|------|-------|----|-------|--------|
| | | | | m. | s. | | m. | s. | | m. | s. | | |
| Utunomiya | | 8.5 | 224 | e 2 | 2 | - 1 | e 3 | 34 | - 4 | — | — | — | |
| Kakioka | | 8.7 | 221 | e 2 | 7 | + 1 | 3 | 43 | 0 | — | — | — | |
| Kumagaya | | 9.1 | 224 | e 2 | 18 | + 7 | e 3 | 50 | - 3 | — | — | — | |
| Macbasi | | 9.1 | 226 | e 2 | 10 | - 1 | e 3 | 49 | - 4 | — | — | — | |
| Tokyo | N. | 9.3 | 221 | e 2 | 4 | -10 | e 3 | 51 | - 7 | — | — | — | |
| Matusiro | | 9.4 | 230 | 2 | 13 ^a | - 2 | 3 | 59 | - 1 | — | — | — | |
| Nagano | N. | 9.4 | 230 | e 2 | 16 | + 1 | e 3 | 57 | - 3 | — | — | 4.6 | |
| Oiwake | | 9.4 | 228 | e 2 | 26 | +11 | — | — | — | — | — | e 5.0 | |
| Yokohama | | 9.6 | 220 | 4 | 0 | N | (4 | 0) | - 5 | — | — | — | |
| Wazima | | 9.7 | 238 | e 2 | 20 | + 1 | e 4 | 4 | - 4 | — | — | — | |
| Matumoto | N. | 9.8 | 230 | e 2 | 27 | + 6 | — | — | — | — | — | — | |
| Mera | | 9.9 | 212 | e 4 | 0 | N | (e 4 | 0) | -12 | — | — | — | |
| Kohu | | 10.0 | 225 | e 2 | 24 | + 1 | e 4 | 11 | - 4 | — | — | — | |
| Toyama | | 10.0 | 234 | e 2 | 30 | + 7 | — | — | — | — | — | — | |
| Misima | E. | 10.2 | 222 | e 3 | 7 | ? | e 4 | 13 | - 7 | — | — | — | |
| Osima | | 10.2 | 219 | — | — | — | e 4 | 12 | - 8 | — | — | — | |
| Shizuoka | | 10.6 | 223 | — | — | — | e 4 | 23 | - 6 | — | — | — | |
| Nagoya | E. | 11.1 | 229 | e 2 | 38 | 0 | e 4 | 29 | -13 | — | — | e 5.4 | |
| Kameyama | E. | 11.7 | 229 | e 3 | 18 | ? | — | — | — | — | — | — | |
| Kyoto | | 12.0 | 232 | e 2 | 48 | - 2 | — | — | — | — | — | — | |
| Sumoto | | 13.0 | 232 | e 3 | 19 | +15 | — | — | — | — | — | e 6.1 | |
| Takamatu | | 13.4 | 234 | e 3 | 10 | + 1 | e 3 | 40 | ? | — | — | — | |
| Hamada | | 14.3 | 240 | e 3 | 29 | + 8 | — | — | — | — | — | e 7.4 | |
| Ooita | | 15.7 | 237 | e 3 | 42 | + 4 | e 6 | 48 | +17 | — | — | — | |
| Changchun | E. | 15.9 | 281 | e 3 | 39 | - 2 | — | — | — | — | — | — | |
| Miyazaki | | 16.7 | 234 | e 3 | 58 | + 7 | e 7 | 13 | +20 | — | — | — | |
| Kwanting | E. | 23.7 | 275 | e 5 | 4 | - 3 | — | — | — | — | — | — | |
| Zô-Sê | Z. | 23.8 | 249 | 5 | 9 ^a | + 1 | 9 | 31 | +16 | — | — | — | |
| Nanking | | 24.9 | 254 | i 5 | 19 ^a | + 1 | 9 | 46 | +12 | — | — | — | |
| Tatung | | 25.5 | 276 | e 5 | 26 | + 2 | e 9 | 55 | +11 | — | — | — | |
| Taiyuan | | 26.7 | 271 | e 5 | 39 | + 4 | 10 | 16 | +12 | — | — | — | |
| Paotow | | 27.7 | 279 | e 5 | 45 | + 1 | — | — | — | — | — | — | |
| Linfen | E. | 28.2 | 269 | e 5 | 43 | - 6 | — | — | — | — | — | — | |
| Sian | | 30.9 | 268 | e 6 | 12 | - 1 | e 11 | 16 | + 5 | — | — | — | |
| Lanchow Univ. | | 33.9 | 275 | e 6 | 39 | 0 | e 12 | 0 | + 2 | — | — | — | |
| Hong Kong | E. | 34.3 | 244 | — | — | — | i 12 | 36 | +32 | — | — | 17.6 | |
| College | | 41.7 | 35 | i 7 | 43 | - 1 | e 13 | 54 | - 2 | i 7 | 56 | pP | e 22.7 |
| Shillong | Z. | 48.0 | 269 | i 8 | 33 | - 1 | — | — | — | — | — | — | — |
| Resolute Bay | | 55.7 | 17 | e 9 | 29 ^k | - 3 | — | — | — | — | — | — | — |
| Lembang | Z. | 61.2 | 226 | i 10 | 14 ^k | + 4 | e 12 | 18 | PP | i 10 | 27 | pP | — |
| Kiruna | | 62.5 | 340 | i 10 | 15 | - 4 | e 18 | 30 | -10 | e 20 | 3 | ScS | e 29.6 |
| Quetta | | 63.3 | 288 | e 10 | 23 | - 1 | e 24 | 17 | SS | e 10 | 34 | pP | e 33.1 |
| Hungry Horse | | 64.4 | 47 | e 10 | 33 | + 1 | — | — | — | i 10 | 44 | pP | — |
| Scoresby Sund | | 66.6 | 357 | — | — | — | e 19 | 36 | + 6 | — | — | — | 37.6 |
| Bozeman | | 67.7 | 48 | e 10 | 53 | 0 | — | — | — | — | — | — | — |
| Woody | Z. | 69.3 | 60 | i 11 | 3 | + 1 | — | — | — | i 11 | 15 | pP | — |
| Upsala | Z. | 69.5 | 336 | i 11 | 0 | - 4 | — | — | — | i 12 | 31 | PP | — |
| China Lake | Z. | 70.0 | 59 | i 11 | 8 | + 1 | — | — | — | i 11 | 20 | pP | — |
| Riverside | Z. | 71.3 | 61 | i 11 | 15 | 0 | — | — | — | e 11 | 27 | pP | — |
| Boulder City | | 71.6 | 58 | i 11 | 19 | + 3 | — | — | — | i 11 | 27 | pP | — |
| Nelson | Z. | 71.8 | 58 | i 11 | 20 | + 2 | — | — | — | i 11 | 45 | PcP | — |
| Palomar | Z. | 72.0 | 61 | i 11 | 21 | + 2 | — | — | — | i 11 | 42 | PcP | — |
| Warsaw | | 74.4 | 330 | i 11 | 31 | - 2 | i 21 | 1 | 0 | e 11 | 49 | PcP | e 37.6 |
| Copenhagen | | 74.5 | 336 | i 11 | 32 ^k | - 1 | 21 | 0 | - 2 | i 11 | 42 | pP | 39.6 |
| Boulder | | 74.6 | 50 | e 11 | 36 | + 2 | — | — | — | — | — | — | — |
| Iasi | | 75.5 | 323 | e 11 | 39 | 0 | — | — | — | e 11 | 49 | pP | — |
| Hamburg | Z. | 77.0 | 336 | e 11 | 49 ^a | + 1 | — | — | — | e 11 | 58 | pP | — |
| Potsdam | | 77.1 | 334 | e 11 | 47 | - 1 | e 21 | 47 | +17 | — | — | — | e 44.6 |
| Raciborz | | 77.2 | 330 | e 11 | 48 | - 1 | — | — | — | e 11 | 57 | pP | — |
| Collmberg | Z. | 78.0 | 333 | e 11 | 51 | - 2 | e 13 | 21 | PP | e 12 | 2 | PcP | — |

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1954

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|----------------|----|------------|------------|----------------------|-------|---------|--------|---------|-----|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. | |
| Prague | N. | 78.5 | 331 | e 11 55 | - 1 | e 12 46 | ? | e 12 6 | PcP | — |
| Witteveen | Z. | 78.7 | 337 | e 11 56 | - 1 | — | — | — | — | — |
| Jena | | 78.8 | 333 | e 11 56 | - 1 | e 13 26 | PP | e 12 6 | PcP | — |
| De Bilt | | 79.7 | 337 | — | — | e 22 0 | + 2 | — | — | e 37.6 |
| Ksara | | 81.1 | 309 | e 12 9? | - 1 | — | — | e 30 13 | ? | — |
| Rathfarnham C. | Z. | 81.4 | 345 | i 12 10 _a | - 1 | — | — | e 12 40 | PcP | — |
| Stuttgart | | 81.4 | 334 | e 12 11 | 0 | e 21 54 | - 22 | e 12 21 | PcP | — |
| Kew | Z. | 81.8 | 340 | i 12 14 | + 1 | — | — | — | — | — |
| Safed | | 82.0 | 309 | i 12 16 | + 2 | — | — | i 13 44 | PP | — |
| Strasbourg | | 82.1 | 334 | e 12 15 | 0 | e 22 24 | + 1 | e 12 23 | PcP | 38.6 |
| Paris | | 83.4 | 338 | e 12 20 | - 2 | e 22 35 | - 1 | e 12 36 | pP | e 43.6 |
| Fayetteville | | 83.5 | 46 | e 12 18 | - 4 | e 22 42 | + 5 | — | — | — |
| Ottawa | | 84.1 | 28 | e 12 24 | - 1 | — | — | — | — | — |
| Rome | | 86.2 | 328 | — | — | e 22 55 | [+ 2] | — | — | — |
| Helwan | Z. | 86.6 | 308 | e 12 36 | - 1 | — | — | e 12 45 | PcP | — |
| Harvard | | 88.0 | 28 | e 12 46 | + 2 | — | — | — | — | — |
| Weston | | 88.2 | 28 | i 12 46 _k | + 1 | — | — | — | — | — |
| Palisades | | 88.5 | 30 | — | — | e 23 6 | [- 2] | 24 26 | PS | e 43.6 |
| Alicante | | 93.9 | 336 | 13 14 | + 2 | 24 22 | + 9 | — | — | 44.6 |
| Tamanrasset | Z. | 105.6 | 324 | e 14 2 | - 1 | — | — | e 18 0 | PKP | — |
| Antofagasta | N. | 143.5 | 71 | — | — | e 27 8 | [+ 40] | — | — | — |
| Montezuma | Z. | 143.9 | 69 | e 19 31 | [+ 3] | — | — | — | — | — |

July 9d. 18h. 28m. 53s. Epicentre 41°·0N. 138°·4E. Depth of focus 0.036.

Intensity IV at Obihiro and Miyako : II-III Hatinohe, Urakawa, and Kusiro.
Epicentre 40°·7N. 139°·3E. Depth about 390km.

Seismo. Bull. Cent. Met. Obs., Japan, for July, 1954, Tokyo, 1954, pp. 18-20, with macro-seismic chart p. 18.

A = -·5660, B = +·5025, C = +·6535 ; δ = - 8 ; h = - 2 ;
D = +·664, E = +·748 ; G = -·489, H = +·434, K = -·757.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------|----|------------|------------|---------------------|------|--------|------|--------|----|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Akita | | 1.8 | 134 | i 0 43 | + 1 | i 1 13 | - 2 | — | — |
| Aomori | | 1.8 | 94 | i 0 42 _k | 0 | i 1 14 | - 1 | — | — |
| Hakodate | | 1.9 | 63 | i 0 41 | - 2 | — | — | — | — |
| Mori | | 2.0 | 54 | i 0 45 _k | + 1 | i 1 18 | 0 | — | — |
| Suttsu | | 2.2 | 36 | i 0 49 _k | + 3 | 1 25 | + 4 | — | — |
| Sakata | | 2.3 | 152 | 0 53 | + 6 | 1 26 | + 4 | — | — |
| Muroran | | 2.3 | 53 | i 0 47 _k | 0 | e 1 21 | - 1 | — | — |
| Hatinohe | | 2.4 | 99 | i 0 46 _k | - 1 | 1 17 | - 7 | — | — |
| Morioka | | 2.4 | 120 | i 0 46 _k | - 1 | i 1 21 | - 3 | — | — |
| Mizusawa | N. | 2.7 | 131 | 0 49 | - 2 | 1 27 | - 3 | — | — |
| Tomakomai | | 2.8 | 55 | i 0 51 _k | 0 | e 1 31 | - 1 | — | — |
| Aikawa | | 2.9 | 183 | i 0 53 _a | + 1 | i 1 32 | - 1 | — | — |
| Miyako | | 3.0 | 115 | i 0 51 _k | - 2 | i 1 29 | - 6 | — | — |
| Sapporo | | 3.0 | 45 | i 0 54 _k | + 1 | i 1 34 | - 1 | — | — |
| Niigata | | 3.1 | 171 | 0 58 | + 4 | 1 39 | + 2 | — | — |
| Sendai | Z. | 3.3 | 144 | i 0 55 | - 2 | 1 38 | - 3 | — | — |
| Isinomaki | | 3.3 | 138 | 0 55 | - 2 | i 1 37 | - 4 | — | — |
| Urakawa | | 3.5 | 68 | i 0 59 _k | 0 | i 1 44 | - 1 | — | — |
| Hukusima | | 3.6 | 153 | 0 58 | - 2 | 1 44 | - 4 | — | — |
| Inawasiro | | 3.6 | 158 | 1 0 | 0 | i 1 45 | - 3 | i 1 7 | PP |
| Wazima | | 3.8 | 199 | e 1 4 | + 1 | 1 53 | + 2 | — | — |
| Takada | | 3.9 | 182 | i 1 4 | 0 | i 1 51 | - 2 | — | — |
| Asahigawa | | 4.0 | 45 | i 1 5 | 0 | i 1 55 | 0 | — | — |
| Nagano | N. | 4.3 | 182 | i 1 9 _a | + 1 | i 1 59 | - 3 | — | — |
| Toyama | | 4.4 | 193 | 1 9 | 0 | 2 4 | 0 | — | — |
| Matusiro | | 4.4 | 182 | i 1 8 _a | - 2 | i 2 1 | - 3 | — | — |
| Onahama | | 4.4 | 154 | e 1 6 | - 4 | e 1 58 | - 6 | — | — |
| Utunomiya | | 4.5 | 165 | e 1 10 | - 1 | e 2 4 | - 2 | e 1 49 | ? |
| Maebasi | | 4.6 | 174 | i 1 11 _a | - 1 | 2 6 | - 2 | e 1 23 | PP |
| Oiwake | | 4.6 | 179 | 1 15 | + 3 | e 1 56 | - 12 | — | — |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------------|----|----------|-----|---------|------|--------|------|--------|----|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Kanazawa | | 4.6 | 198 | e 1 13 | + 1 | e 2 10 | + 2 | — | — |
| Matumoto | N. | 4.7 | 185 | 1 15 | + 2 | i 2 12 | + 2 | — | — |
| Mito | N. | 4.8 | 160 | e 1 16 | + 2 | i 2 7 | - 6 | — | — |
| Kumagaya | | 4.8 | 171 | e 1 17 | + 3 | 2 10 | - 3 | — | — |
| Kusiro | | 4.9 | 64 | i 1 13k | - 2 | i 2 8 | - 6 | — | — |
| Takayama | N. | 4.9 | 192 | e 1 12 | - 3 | — | — | — | — |
| Kakioka | | 4.9 | 163 | e 1 14 | - 1 | 2 7 | - 7 | — | — |
| Wakkanai | N. | 5.0 | 27 | e 1 20 | + 3 | e 2 23 | + 7 | — | — |
| Hukui | | 5.2 | 200 | e 1 21 | + 2 | — | — | — | — |
| Kashiwa | | 5.2 | 166 | e 1 28 | + 9 | e 2 15 | - 6 | — | — |
| Kohu | | 5.3 | 179 | e 1 21 | + 1 | e 2 21 | - 2 | — | — |
| Abashiri | | 5.3 | 53 | 1 18 | - 2 | 2 20 | - 3 | — | — |
| Vladivostok | | 5.3 | 296 | i 1 21 | + 1 | i 2 26 | + 3 | — | — |
| Tokyo | N. | 5.4 | 169 | 1 23 | + 1 | 2 21 | - 4 | — | — |
| Iida | | 5.4 | 185 | e 1 22 | 0 | i 2 27 | + 2 | — | — |
| Hunatu | | 5.4 | 177 | e 1 27 | + 5 | e 2 19 | - 6 | — | — |
| Yokohama | | 5.6 | 170 | 1 34 | +10 | 2 27 | - 3 | — | — |
| Tsuruga | N. | 5.6 | 200 | e 1 25 | + 1 | 2 31 | + 1 | — | — |
| Nemuro | | 5.8 | 64 | i 1 23 | - 4 | i 2 27 | - 7 | — | — |
| Mieima | E. | 5.8 | 176 | e 1 24 | - 3 | 2 29 | - 5 | — | — |
| Nagoya | E. | 5.9 | 192 | e 1 28 | 0 | 2 35 | - 2 | — | — |
| Hikone | | 5.9 | 198 | e 1 31 | + 3 | 2 39 | + 2 | — | — |
| Shizuoka | | 6.0 | 180 | e 1 33 | + 4 | e 2 34 | - 5 | — | — |
| Mera | | 6.1 | 169 | e 1 43 | +12 | 2 34 | - 7 | — | — |
| Toyooka | | 6.1 | 209 | e 1 30 | - 1 | e 2 40 | - 1 | — | — |
| Saigo | | 6.2 | 222 | i 1 32 | 0 | i 2 45 | + 2 | — | — |
| Osima | | 6.2 | 173 | e 1 32 | 0 | i 2 40 | - 3 | e 1 46 | PP |
| Hamamatu | | 6.3 | 186 | — | — | e 2 41 | - 4 | — | — |
| Kameyama | | 6.3 | 195 | e 1 27 | - 6 | i 2 43 | - 2 | — | — |
| Kyoto | | 6.3 | 201 | e 1 33 | 0 | i 2 51 | + 6 | — | — |
| Omaesaki | | 6.3 | 182 | e 2 5 | +32 | i 2 44 | - 1 | i 3 21 | SS |
| Nara | | 6.6 | 199 | e 1 38 | + 1 | e 2 49 | - 3 | e 2 31 | ? |
| Osaka | | 6.7 | 201 | e 1 34 | - 4 | i 2 55 | + 1 | — | — |
| Kobe | | 6.8 | 204 | e 1 36 | - 3 | e 2 55 | - 2 | — | — |
| Yuzno-Sakhlinsk | | 6.8 | 26 | i 1 38 | - 1 | — | — | — | — |
| Yonago | | 6.8 | 218 | e 1 55 | PP | e 2 58 | + 1 | — | — |
| Owase | | 7.1 | 195 | — | — | e 2 58 | - 5 | — | — |
| Sumoto | | 7.2 | 204 | e 1 38 | - 6 | 2 57 | - 9 | — | — |
| Wakayama | | 7.2 | 202 | e 1 43 | - 1 | e 3 3 | - 3 | — | — |
| Takamatu | | 7.5 | 209 | i 1 47k | - 1 | e 3 10 | - 3 | — | — |
| Tokusima | | 7.5 | 205 | e 1 47 | - 1 | e 3 12 | - 1 | — | — |
| Kurilsk | | 8.1 | 55 | i 1 55 | 0 | i 3 24 | - 2 | — | — |
| Hirosima | | 8.1 | 218 | e 1 55k | 0 | e 3 22 | - 4 | — | — |
| Koti | | 8.4 | 210 | e 1 58 | - 1 | e 3 25 | - 8 | — | — |
| Matuyama | N. | 8.4 | 214 | e 1 59 | 0 | e 3 32 | - 1 | — | — |
| Uglegorsk | | 8.5 | 16 | i 2 0 | 0 | i 3 35 | 0 | — | — |
| Simidu | | 9.3 | 210 | e 2 4 | - 6 | e 3 49 | - 4 | — | — |
| Ooita | | 9.4 | 217 | e 2 14 | + 2 | 3 57 | + 2 | — | — |
| Hukuoka | | 9.8 | 224 | i 2 16k | 0 | i 4 7 | + 3 | e 2 47 | ? |
| Saga | | 10.1 | 223 | 2 23k | + 3 | i 4 51 | SSS | — | — |
| Changchun | N. | 10.1 | 291 | e 2 23 | + 3 | — | — | — | — |
| Kumamoto | | 10.2 | 220 | e 2 22 | 0 | — | — | — | — |
| Miyazaki | | 10.6 | 214 | 2 28 | + 2 | 4 27 | + 5 | — | — |
| Kagosima | | 11.3 | 217 | 2 35 | 0 | e 5 35 | +57 | — | — |
| Yakusima | | 12.3 | 214 | e 2 48 | 0 | — | — | e 2 59 | PP |
| Z6-Sè | Z. | 17.1 | 240 | i 3 41k | - 4 | 6 37 | - 8 | i 4 24 | ? |
| Kwanting | E. | 17.3 | 275 | 3 46 | - 1 | — | — | — | — |
| Nanking | | 18.1 | 247 | i 3 52k | - 3 | 7 2 | - 2 | i 4 35 | ? |
| Petropavlovsk | | 18.2 | 42 | e 3 54 | - 2 | — | — | — | — |
| Magadan | | 20.2 | 18 | i 4 14 | - 2 | — | — | — | — |

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|----------------|----|--------------|--------------|----------|------|---------|------|----------|------|
| | | ^e | ^e | m. s. | s. | m. s. | s. | m. s. | m. |
| Taiyuan | | 20.2 | 269 | e 4 16 | 0 | — | — | — | — |
| Paotow | | 21.5 | 278 | e 4 27 | - 2 | — | — | — | — |
| Linfen | E. | 21.6 | 266 | e 4 30 | 0 | — | — | — | — |
| Tatung | | 23.3 | 224 | 4 8 | - 38 | — | — | — | — |
| Yinchuan | | 24.8 | 275 | e 4 59 | - 1 | e 8 59 | - 3 | — | — |
| Irkutsk | | 25.8 | 308 | e 5 7 | - 2 | e 9 17 | - 1 | 5 56 | pP |
| Lanchow Univ. | | 27.4 | 271 | e 5 22 | - 2 | — | — | — | — |
| Hong Kong | E. | 27.6 | 235 | i 5 25 | - 1 | — | — | — | — |
| Wuwei | | 27.7 | 275 | e 5 27 | 0 | e 9 48 | - 1 | — | — |
| Baguio | | 28.9 | 218 | i 5 34k | - 3 | e 10 10 | + 2 | — | — |
| Manila | | 30.4 | 215 | e 5 48 | - 2 | — | — | — | — |
| Semipalatinsk | | 40.8 | 304 | e 7 16 | - 2 | e 13 4 | - 5 | — | — |
| Shillong | Z. | 41.4 | 263 | i 7 21 | - 2 | i 12 40 | - 38 | — | — |
| Chatra | Z. | 44.2 | 268 | i 7 46 | + 1 | — | — | — | — |
| Almata | | 44.8 | 294 | i 7 50 | 0 | — | — | — | — |
| Frunse | | 46.5 | 295 | i 8 3 | - 1 | e 14 30 | - 1 | — | — |
| College | | 47.1 | 34 | i 8 7 | - 1 | — | — | — | — |
| Andijan | | 48.9 | 293 | i 8 21 | - 1 | i 15 5 | 0 | — | — |
| Sverdlovsk | | 50.7 | 316 | i 8 35 | 0 | i 15 29 | 0 | — | — |
| Tashkent | | 50.8 | 295 | i 8 41 | + 5 | — | — | — | — |
| Stalinabad | | 52.3 | 292 | i 8 46 | - 1 | — | — | — | — |
| Lembang | Z. | 55.3 | 218 | i 9 9k | 0 | — | — | — | — |
| Quetta | | 57.7 | 284 | i 9 24 | - 2 | i 17 2 | - 1 | — | — |
| Poona | Z. | 59.0 | 268 | e 9 35 | 0 | — | — | — | — |
| Resolute Bay | | 59.4 | 14 | i 9 35 | - 2 | e 11 56 | PP | e 10 21 | pP |
| Ashkabad | | 59.8 | 296 | 9 40 | 0 | e 17 32 | - 2 | — | — |
| Kiruna | | 62.0 | 338 | i 9 54a | - 1 | i 17 57 | - 1 | i 10 55 | pP |
| Moscow | | 62.8 | 321 | e 9 59 | - 1 | 18 5 | - 3 | 11 0 | pP |
| Victoria | | 65.4 | 46 | i 10 16k | - 1 | — | — | — | — |
| Seattle | Z. | 66.5 | 47 | i 10 25a | + 1 | — | — | — | — |
| Tiflis | | 66.6 | 306 | i 10 24 | 0 | e 18 53 | - 1 | — | — |
| Corvallis | Z. | 67.7 | 50 | i 10 32 | + 1 | — | — | — | — |
| Nouméa | | 68.2 | 152 | i 10 35 | + 1 | — | — | — | — |
| Upsala | Z. | 68.4 | 332 | i 10 34a | - 1 | i 11 29 | ? | i 11 37 | pP |
| Brisbane | | 69.4 | 166 | e 10 41 | - 1 | — | — | — | — |
| Hungry Horse | | 70.5 | 42 | i 10 49 | + 1 | — | — | — | — |
| Shasta | Z. | 70.6 | 53 | i 10 49a | 0 | — | — | — | — |
| Yalta | | 71.2 | 313 | e 10 51 | - 2 | e 19 45 | - 3 | e 11 54 | pP |
| Mineral | Z. | 71.3 | 53 | i 10 53a | 0 | — | — | — | — |
| Berkeley | Z. | 72.4 | 55 | i 11 0a | 0 | — | — | — | — |
| Warsaw | | 72.5 | 325 | e 10 56 | - 4 | i 20 2 | 0 | i 12 2 | pP |
| Branner | Z. | 72.7 | 55 | i 11 1 | 0 | — | — | — | — |
| Butte | N. | 72.7 | 44 | i 11 1 | 0 | — | — | i 11 18 | PcP |
| Reno | Z. | 72.8 | 52 | i 11 4a | + 2 | — | — | — | — |
| Iasi | | 72.9 | 318 | e 11 10 | + 7 | — | — | e 12 6 | pP |
| Lwow | | 72.9 | 322 | e 11 2 | - 1 | i 20 5 | - 2 | i 12 5 | pP |
| Lick | Z. | 73.1 | 55 | i 11 4a | 0 | — | — | — | — |
| Copenhagen | | 73.4 | 331 | i 11 5a | 0 | i 20 12 | - 1 | i 12 8 | pP |
| Bozeman | | 73.8 | 43 | i 11 6 | - 2 | — | — | — | 32.1 |
| Reykjavik | Z. | 74.1 | 351 | i 11 11a | + 2 | — | — | — | — |
| Fresno | Z. | 74.6 | 55 | i 11 12a | 0 | — | — | — | — |
| Raciborzu | | 75.3 | 325 | e 11 15 | - 1 | e 20 36 | + 2 | i 12 19 | pP |
| Potsdam | | 75.7 | 329 | e 11 18 | - 1 | i 20 37 | - 1 | e 12 21 | pP |
| Woody | Z. | 75.9 | 55 | i 11 19a | - 1 | i 11 26 | PcP | i 14 10 | PP |
| Hamburg | | 76.0 | 331 | e 11 21a | + 1 | e 20 43 | + 2 | i 12 25 | pP |
| China Lake | Z. | 76.6 | 54 | i 11 23 | - 1 | i 11 53 | ? | i 14 15 | PP |
| Collmberg | Z. | 76.6 | 328 | e 11 22 | - 2 | e 20 50 | + 2 | i 12 26? | pP |
| Salt Lake City | | 76.7 | 47 | i 11 24 | 0 | — | — | — | — |
| Prague | | 76.9 | 327 | i 11 25 | 0 | i 20 50 | - 1 | i 12 28 | pP |
| Pasadena | Z. | 77.3 | 56 | i 11 27a | 0 | — | — | — | — |
| Jena | | 77.4 | 329 | e 11 27 | - 1 | e 20 55 | - 1 | i 12 31 | pP |
| Witteveen | Z. | 77.7 | 332 | i 11 29a | - 1 | — | — | — | — |
| Safed | | 77.8 | 303 | i 11 29 | - 1 | — | — | i 12 27 | pP |
| Riverside | Z. | 77.9 | 56 | i 11 29a | - 2 | — | — | i 12 1 | ? |
| Boulder City | | 78.2 | 52 | i 11 33 | + 1 | i 11 39 | PcP | i 11 47 | ? |

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|----------------|----|------------|------------|----------------------|-------|---------|------|---------|------------------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Nelson | z. | 78.4 | 53 | i 11 33 | 0 | i 11 40 | PcP | i 13 31 | ? |
| Palomar | z. | 78.7 | 56 | i 11 35 _a | 0 | — | — | i 14 35 | PP |
| Jerusalem | | 78.8 | 302 | i 11 39 | + 3 | — | — | i 12 42 | pP |
| Stuttgart | | 80.1 | 329 | i 11 42 _a | 0 | e 21 24 | - 1 | e 12 47 | pP |
| Boulder | | 80.7 | 44 | i 11 47 | + 1 | — | — | — | — |
| Strasbourg | | 80.8 | 329 | e 11 45 | - 1 | — | — | i 12 51 | pP |
| Kew | | 81.2 | 335 | e 11 48 | 0 | i 21 36 | 0 | — | — |
| Rathfarnham C. | z. | 81.3 | 340 | i 11 49 _a | 0 | — | — | i 12 53 | pP |
| Zürich | | 81.4 | 328 | e 11 47 | - 2 | e 21 34 | - 4 | — | — |
| Basle | | 81.7 | 329 | e 11 51 | 0 | e 21 41 | 0 | — | — |
| Besançon | | 82.5 | 330 | i 11 53 | - 2 | — | — | i 12 59 | pP |
| Helwan | z. | 82.5 | 303 | i 11 55 | 0 | i 12 3 | PcP | i 12 59 | pP |
| Paris | | 82.6 | 332 | e 11 55 | 0 | — | — | e 13 1 | pP |
| Tucson | | 83.1 | 53 | i 11 58 | 0 | — | — | — | — |
| Rome | | 84.1 | 323 | — | — | e 22 5 | 0 | — | — |
| Kirkland Lake | z. | 85.0 | 25 | i 12 7 _a | 0 | — | — | — | — |
| Seven Falls | | 88.6 | 20 | i 12 23 _a | - 2 | — | — | — | — |
| Ottawa | | 88.8 | 23 | i 12 24 _a | - 2 | — | — | 15 49 | PP |
| Fayetteville | | 89.4 | 40 | i 12 28 _k | 0 | — | — | — | — |
| Dallas | | 90.6 | 44 | i 12 34 | 0 | — | — | — | — |
| Halifax | | 92.6 | 16 | i 12 44 _a | + 1 | — | — | — | — |
| Harvard | | 92.6 | 22 | i 12 43 | 0 | — | — | — | — |
| Weston | | 92.8 | 22 | i 12 43 _a | - 1 | — | — | — | — |
| Tamanrasset | z. | 103.0 | 316 | e 13 32 | + 2 | e 17 47 | PP | e 29 27 | PKKP |
| Kimberley | z. | 125.4 | 261 | i 18 31 _k | [+ 1] | — | — | — | — |
| La Paz | z. | 146.5 | 51 | i 19 13 | [+ 3] | — | — | 22 35 | PP |
| Montezuma | z. | 150.7 | 60 | e 19 18 | [+ 2] | — | — | i 19 24 | PKP ₂ |

July 9d. 20h. 14m. Epicentre 42°·9N. 77°·1E.

Bulletin of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, p. 61.

July 10d. 10h. 16m. Epicentre 40°·6N. 48°·4E.

Loc. cit., 9d. 20h., p. 61.

July 10d. 22h. 56m. 54s. Epicentre 36°·6N. 71°·1E. Depth of Focus 0.030.

A = +.2607, B = +.7613, C = +.5936; δ = -10; h = 0;
D = +.946, E = -.324; G = +.192, H = +.562, K = -.805.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-------------|--|------------|------------|--------|------|--------|------|-------|----|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Khorog | | 1.0 | 23 | i 0 32 | 0 | i 0 54 | - 3 | — | — |
| Obi-garm | | 2.4 | 334 | i 0 44 | - 1 | i 1 16 | - 3 | — | — |
| Garm | | 2.5 | 346 | i 0 44 | - 2 | i 1 16 | - 5 | — | — |
| Dzhergetal | | 2.7 | 2 | i 0 48 | 0 | i 1 21 | - 4 | — | — |
| Stalinabad | | 2.7 | 318 | i 0 47 | - 1 | e 1 19 | - 6 | — | — |
| Murgab | | 2.9 | 51 | i 0 51 | + 1 | e 1 26 | - 3 | — | — |
| Fergana | | 3.9 | 8 | i 1 0 | - 2 | e 1 43 | - 7 | — | — |
| Andijan | | 4.3 | 13 | i 1 7 | 0 | — | — | — | — |
| Namangan | | 4.4 | 6 | i 1 10 | + 2 | i 1 59 | - 2 | — | — |
| Samarkand | | 4.5 | 315 | i 1 9 | 0 | 1 57 | - 6 | — | — |
| Tashkent | | 5.0 | 344 | e 1 15 | - 1 | i 2 8 | - 6 | — | — |
| Tchimkent | | 5.9 | 349 | i 1 26 | - 1 | — | — | — | — |
| Naryn | | 6.2 | 37 | i 1 29 | - 2 | — | — | — | — |
| Frunse | | 6.9 | 22 | i 1 39 | - 1 | i 2 52 | - 6 | — | — |
| Bairam-Ali | | 7.2 | 281 | i 1 41 | - 3 | i 2 59 | - 6 | — | — |
| Quetta | | 7.2 | 210 | i 1 44 | 0 | i 3 4 | - 1 | — | — |
| Fabrichnaya | | 7.8 | 30 | i 1 49 | - 2 | i 3 13 | - 5 | — | — |
| Almata | | 8.1 | 82 | i 1 55 | 0 | i 2 47 | ? | — | — |
| Przhevalsk | | 8.2 | 42 | i 1 55 | - 2 | — | — | — | — |
| Dehra Dun | | 8.5 | 135 | e 1 59 | - 1 | i 3 32 | - 3 | 2 8 | PP |

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|------------------|----------|-----|-----|-----------------|------|------|----|------|-------|----|--------|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Kurmenty | 8.5 | 38 | i 1 | 58 | - 2 | — | — | — | — | — | — |
| Ili | 8.7 | 30 | i 2 | 0 | - 3 | — | — | — | — | — | — |
| New Delhi | 9.5 | 145 | e 2 | 12 | - 1 | i 3 | 58 | 0 | 2 | 19 | PP |
| Ashkabad | 10.2 | 282 | i 2 | 22 | 0 | e 4 | 10 | - 4 | — | — | — |
| Kizyl-Arvat | 12.0 | 287 | i 2 | 42 | - 3 | — | — | — | — | — | — |
| Semipalatinsk | 15.3 | 23 | i 3 | 25 | - 1 | — | — | — | e 4 | 21 | ? |
| Chatra | 16.8 | 121 | i 3 | 44 | 0 | i 6 | 42 | 0 | 3 | 55 | PP |
| Lenkoran | 17.6 | 284 | i 3 | 55 | + 3 | i 7 | 10 | +11 | — | — | — |
| Bombay | 17.7 | 174 | i 4 | 16 | +23 | i 7 | 13 | +12 | e 4 | 49 | ? |
| Shemakla | 18.0 | 290 | i 3 | 58 | + 1 | i 7 | 19 | +12 | i 4 | 57 | ? |
| Poona | 18.1 | 172 | e 4 | 4 | + 6 | e 7 | 26 | +17 | 4 | 29 | PP |
| Makhach-Kala | 19.2 | 297 | i 4 | 10 | + 1 | — | — | — | i 5 | 9 | ? |
| Goris | 19.7 | 286 | 4 | 16 | + 2 | — | — | — | i 5 | 18 | ? |
| Hyderabad | 20.1 | 159 | e 5 | 24 | PP | i 7 | 51 | + 5 | — | — | — |
| Calcutta | 20.5 | 128 | i 4 | 25 | + 3 | i 8 | 0 | + 7 | — | — | 9.1 |
| Grozny | 20.5 | 297 | i 4 | 25 | + 3 | i 8 | 24 | +31 | — | — | — |
| Shillong | 20.9 | 116 | i 4 | 27 | + 1 | i 8 | 6 | + 6 | — | — | — |
| Tiflis | 21.0 | 292 | i 4 | 30 | + 3 | i 8 | 14 | +12 | i 5 | 5 | pP |
| Duzheti | 21.1 | 293 | i 4 | 32 | + 4 | i 8 | 25 | +21 | 4 | 57 | pP |
| Erevan | 21.1 | 288 | i 4 | 31 | + 3 | i 8 | 19 | +15 | i 5 | 36 | ? |
| Gori | 21.5 | 293 | e 4 | 38 | + 6 | — | — | — | — | — | — |
| Sverdlovsk | 21.5 | 344 | i 4 | 33 | + 1 | i 8 | 18 | + 7 | i 5 | 35 | ? |
| Akhalkalaki | 22.0 | 291 | i 4 | 41 | + 4 | — | — | — | i 5 | 44 | ? |
| Borzhomi | 22.0 | 292 | 4 | 40 | + 3 | i 8 | 45 | +25 | i 5 | 42 | ? |
| Tsikhlis-Dzhvari | 22.0 | 292 | i 4 | 41 | + 4 | e 8 | 40 | +20 | i 5 | 48 | ? |
| Piatigorsk | 22.6 | 298 | i 4 | 33 | - 9 | i 8 | 52 | +22 | — | — | — |
| Sining | 24.6 | 81 | 5 | 4 | + 3 | e 9 | 8 | + 4 | — | — | — |
| Madras | 24.8 | 158 | e 5 | 0 | - 3 | i 9 | 11 | + 4 | 5 | 35 | pP |
| Sochi | 24.9 | 296 | e 5 | 5 | + 1 | — | — | — | — | — | — |
| Wuwei | 25.1 | 77 | e 5 | 8 | + 2 | — | — | — | — | — | — |
| Lanchow Univ. | 26.3 | 81 | e 5 | 20 | + 3 | e 9 | 37 | + 6 | — | — | — |
| Theodosia | 28.1 | 299 | e 5 | 33 | 0 | — | — | — | e 6 | 18 | pP |
| Ksara | 28.8 | 275 | i 5 | 43 | + 4 | i 11 | 57 | SS | i 6 | 23 | pP |
| Simferopol | 29.0 | 298 | i 5 | 42 | + 1 | — | — | — | — | — | e 16.4 |
| Moscow | 29.6 | 321 | i 5 | 47 | + 1 | 10 | 27 | + 3 | 6 | 30 | pP |
| Jerusalem | 29.9 | 271 | i 5 | 52 | + 3 | i 10 | 52 | +24 | — | — | — |
| Paotow | 30.6 | 70 | e 5 | 57 | + 2 | — | — | — | — | — | — |
| Istanbul | 32.8 | 291 | e 6 | 16 | + 2 | — | — | — | e 7 | 24 | PP |
| Taiyuan | 32.9 | 75 | e 6 | 18 | + 3 | e 11 | 20 | + 5 | — | — | — |
| Tatung | 33.0 | 71 | 6 | 20 | + 4 | e 11 | 21 | + 4 | — | — | — |
| Helwan | 33.7 | 270 | i 6 | 24 _a | + 2 | i 8 | 57 | PP | e 7 | 8 | pP |
| Iasi | 33.7 | 302 | e 6 | 24 | + 2 | — | — | — | e 6 | 49 | pP |
| Focsani | 33.9 | 300 | e 6 | 33 | + 9 | — | — | — | — | — | — |
| Bacau | 34.1 | 301 | e 6 | 29 | + 4 | — | — | — | — | — | — |
| Bucharest | 34.7 | 297 | e 6 | 34 | + 4 | — | — | — | e 8 | 17 | PP |
| Cernauti | 34.8 | 304 | i 6 | 34 | + 3 | — | — | — | i 8 | 1 | PP |
| Pulkovo | 34.9 | 325 | i 6 | 34 | + 2 | i 11 | 47 | + 1 | e 7 | 40 | ? |
| Campulung | 35.5 | 299 | e 6 | 42 | + 5 | — | — | — | — | — | — |
| Lwow | 36.2 | 307 | i 6 | 45 | + 2 | i 13 | 42 | sS | i 7 | 31 | pP |
| Sofia | 36.9 | 295 | e 6 | 54 | + 5 | — | — | — | — | — | — |
| Athens | 37.4 | 287 | e 6 | 54 _a | + 1 | i 8 | 24 | PP | i 7 | 36 | pP |
| Warsaw | 38.2 | 310 | i 7 | 2 _a | + 2 | e 12 | 40 | + 4 | e 7 | 41 | pP |
| Belgrade | 38.7 | 298 | e 8 | 8 _a | pP | — | — | — | e 8 | 24 | PP |
| Szeged | 38.8 | 301 | e 7 | 9 | + 4 | e 12 | 37 | - 8 | 8 | 31 | PP |
| Nanking | 39.4 | 82 | i 7 | 11 _k | + 1 | i 12 | 57 | + 3 | i 7 | 57 | pP |
| Budapest | 39.5 | 303 | 7 | 10 | 0 | e 8 | 50 | PP | e 9 | 51 | PcP |
| Kalossa | 39.6 | 301 | 7 | 15 | + 4 | 8 | 24 | PP | e 9 | 32 | PcP |
| Ogyalla | 40.0 | 303 | i 7 | 20 | + 5 | e 12 | 50 | -13 | i 8 | 45 | PP |
| Raciborz | 40.0 | 307 | e 7 | 16 | + 1 | — | — | — | 9 | 1 | PP |
| Upsala | 41.1 | 322 | i 7 | 25 _a | + 1 | e 8 | 30 | sP | e 14 | 37 | sS |
| Zô-Sè | 41.6 | 82 | i 7 | 29 _k | + 1 | e 13 | 27 | + 1 | 8 | 16 | pP |
| Kiruna | 42.1 | 334 | i 7 | 33 _a | + 1 | i 13 | 36 | + 2 | i 8 | 18 | pP |
| Prague | 42.4 | 307 | i 7 | 36 _a | + 2 | i 13 | 32 | - 6 | i 8 | 12 | pP |
| Potsdam | 43.1 | 310 | i 7 | 42 _a | + 2 | e 17 | 18 | SS | i 8 | 51 | sP |
| Collmberg | 43.2 | 309 | i 7 | 43 | + 3 | e 17 | 36 | SS | e 9 | 26 | PcP |

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|-----------------|----------|-----|------|-----------------|-------|------|----|------|-------|----|-----|--------|
| | | | m. | s. | | m. | s. | | m. | s. | | |
| Copenhagen | 43.4 | 315 | i 7 | 44 _a | + 2 | i 15 | 19 | sS | i 10 | 35 | sPP | — |
| Reggio Calabria | 43.5 | 289 | e 7 | 48 | + 5 | e 14 | 8 | +14 | — | — | — | — |
| Jena | 44.1 | 308 | i 7 | 49 | + 1 | 9 | 36 | PP | i 8 | 36 | pP | — |
| Padova | 44.8 | 299 | e 7 | 58 | + 5 | — | — | — | — | — | — | — |
| Hamburg | 44.9 | 312 | i 7 | 57 _a | + 3 | e 18 | 2 | SS | i 8 | 40 | pP | e 22.6 |
| Rome | 44.9 | 296 | i 7 | 55 | + 1 | e 14 | 19 | + 5 | i 8 | 29 | pP | — |
| Bologna | 45.2 | 299 | e 8 | 0 | + 4 | e 9 | 31 | PcP | e 8 | 24 | pP | — |
| Florence | z. 45.4 | 298 | i 7 | 55 _a | - 3 | e 18 | 43 | sSS | i 8 | 44 | pP | — |
| Prato | 45.5 | 299 | e 8 | 2 | + 3 | — | — | — | — | — | — | — |
| Salo | 45.6 | 301 | e 8 | 2 | + 2 | e 11 | 18 | pPP | e 8 | 48 | pP | — |
| Stuttgart | 45.9 | 306 | i 8 | 4 _a | + 2 | e 15 | 56 | sS | e 8 | 49 | pP | — |
| Chur | 46.0 | 303 | e 8 | 4 _a | + 1 | — | — | — | — | — | — | — |
| Karlsruhe | 46.4 | 306 | i 8 | 7 _a | + 1 | — | — | — | i 10 | 0 | PP | — |
| Pavia | 46.6 | 301 | e 8 | 10 | + 3 | e 19 | 20 | sSS | e 8 | 58 | pP | — |
| Zürich | 46.6 | 304 | e 8 | 7 _a | 0 | — | — | — | — | — | — | — |
| Strasbourg | z. 46.9 | 306 | e 8 | 11 | + 1 | e 16 | 9 | sS | e 8 | 57 | pP | — |
| Witteveen | 47.0 | 312 | i 8 | 12 _a | + 2 | — | — | — | e 10 | 6 | PP | — |
| Basle | 47.2 | 304 | e 8 | 12 _a | 0 | — | — | — | e 9 | 52 | PP | — |
| Oropa | 47.3 | 302 | e 8 | 6? | - 7 | — | — | — | — | — | — | — |
| Neuchatel | 47.7 | 304 | e 8 | 17 | + 1 | — | — | — | — | — | — | — |
| De Bilt | 47.9 | 311 | i 8 | 20 | + 3 | — | — | — | — | — | — | — |
| Uccle | 48.7 | 309 | e 8 | 24 | 0 | e 16 | 21 | sS | e 9 | 34 | sP | e 18.6 |
| Manila | 49.4 | 103 | e 8 | 31 | + 2 | i 15 | 24 | + 7 | — | — | — | — |
| Paris | 50.3 | 307 | i 8 | 36 | 0 | i 9 | 50 | PcP | i 9 | 24 | pP | — |
| Kew | z. 51.4 | 311 | i 8 | 45 | + 1 | — | — | — | i 9 | 33 | pP | — |
| Uglegorsk | 51.7 | 52 | i 8 | 46 | 0 | e 15 | 52 | + 3 | — | — | — | — |
| Yuzno-Sakhlinsk | 52.7 | 55 | e 8 | 54 | 0 | e 16 | 5 | + 3 | — | — | — | — |
| Matusiro | 52.9 | 68 | e 9 | 33 | pP | e 16 | 6 | + 1 | — | — | — | — |
| Algiers Univ. | z. 53.5 | 292 | e 8 | 58 | - 1 | e 11 | 8 | PP | e 9 | 46 | pP | — |
| Magadan | 54.3 | 38 | — | — | — | e 16 | 16 | - 8 | — | — | — | — |
| Rathfarnham C. | z. 54.5 | 314 | i 9 | 7 _a | 0 | e 16 | 12 | -15 | i 9 | 56 | pP | — |
| Alicante | 55.5 | 295 | 9 | 0 | -14 | 16 | 21 | -19 | 10 | 5 | PcP | — |
| Kurilsk | 56.7 | 55 | — | — | — | e 16 | 57 | + 1 | — | — | — | — |
| Scoresby Sund | 57.0 | 336 | i 9 | 27 _a | + 3 | e 17 | 11 | +11 | e 18 | 33 | ScS | — |
| Almeria | 57.5 | 294 | i 9 | 26 | - 2 | e 17 | 20 | +14 | 11 | 36 | PP | — |
| Toledo | 57.5 | 298 | i 9 | 28 | 0 | e 17 | 6? | 0 | 10 | 17 | pP | — |
| Tamanrasset | z. 57.6 | 276 | i 9 | 30 _a | + 1 | e 16 | 55 | -12 | e 10 | 18 | pP | — |
| Granada | 58.2 | 295 | i 9 | 33 _k | 0 | e 18 | 42 | ? | 10 | 43 | sP | 29.7 |
| Malaga | 59.0 | 295 | i 9 | 39 | + 1 | i 21 | 6 | SS | 14 | 41 | PcS | — |
| Reykjavik | 59.0 | 329 | i 9 | 42 _a | + 4 | — | — | — | — | — | — | — |
| Tananarive | 59.5 | 206 | e 9 | 43 | + 1 | e 10 | 58 | sP | 10 | 35 | pP | — |
| Resolute Bay | 68.6 | 356 | i 10 | 42 | + 1 | e 19 | 31 | + 7 | i 10 | 55 | PcP | — |
| Pretoria | z. 74.0 | 220 | i 11 | 12 _a | - 1 | — | — | — | — | — | — | — |
| College | 74.4 | 16 | i 11 | 16 | + 1 | — | — | — | — | — | — | — |
| Kimberley | z. 78.2 | 220 | i 11 | 37 | + 1 | — | — | — | — | — | — | — |
| Grahamstown | z. 81.0 | 216 | i 12 | 23 | PcP | — | — | — | — | — | — | — |
| Halifax | 89.4 | 330 | i 12 | 35 _a | + 3 | — | — | — | i 16 | 7 | PP | — |
| Kirkland Lake | z. 91.8 | 341 | e 12 | 45 | + 1 | — | — | — | — | — | — | — |
| Ottawa | 93.1 | 337 | e 12 | 52 _k | + 2 | — | — | — | 16 | 34 | PP | — |
| Harvard | 94.2 | 333 | i 12 | 57 | + 3 | — | — | — | i 16 | 40 | PP | — |
| Weston | 94.3 | 333 | i 12 | 57 _k | + 2 | — | — | — | — | — | — | — |
| Hungry Horse | 95.4 | 3 | i 13 | 1 | + 1 | e 16 | 39 | PP | e 13 | 50 | pP | — |
| Butte | z. 97.7 | 3 | i 13 | 13 | + 3 | — | — | — | e 17 | 11 | PP | — |
| Bozeman | 98.1 | 2 | e 13 | 13 | + 1 | — | — | — | — | — | — | — |
| Riverview | 102.3 | 123 | i 13 | 52 _a | +21 | e 32 | 18 | SS | — | — | — | — |
| Mineral | z. 102.6 | 10 | e 17 | 35 | PP | — | — | — | — | — | — | — |
| Lick | z. 105.5 | 10 | e 13 | 57 | +12 | — | — | — | — | — | — | — |
| Fayetteville | 106.4 | 348 | e 13 | 51 | P | i 18 | 12 | PP | i 19 | 27 | sPP | — |
| Nelson | z. 107.9 | 5 | e 14 | 1 | P | — | — | — | i 17 | 17 | PP | — |
| Dallas | 110.0 | 349 | e 18 | 33 | PP | — | — | — | — | — | — | — |
| Tucson | 111.5 | 2 | e 18 | 11 | [+ 4] | — | — | — | — | — | — | — |
| La Paz | 138.8 | 288 | 19 | 6 | [+ 6] | — | — | — | — | — | — | — |
| Montezuma | z. 142.8 | 281 | i 19 | 5 | [- 2] | — | — | — | — | — | — | — |

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July 11d. 12h. 26m. Epicentre 23°·5N. 121°·8E. Depth of focus 60km.
Intensity II-III at Hwalien, Alishan, and Hsinkong.
Seismological Bulletin of the Taiwan Weather Bureau for July-Sept., 1954, Vol. 1, No. 3, Taipei, 1954, p. 13.

July 11d. 19h. 21m. Epicentre 42°·9N. 78°·0E.
Bulletin of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, p. 63.

July 12d. 2h. 40m. Epicentre 43°·6N. 77°·3E.
Loc. cit., 11d. 19h., p. 63.

July 12d. 9h. 20m. Epicentre 43°·5N. 77°·4E.
Loc. cit., 11d. 19h., p. 63.

July 12d. 17h. 32m. 15s. Epicentre 46°·2N. 153°·2E. Focus at Base of Superficial Layers.

A = -·6200, B = +·3132, C = +·7194; $\delta = +3$; $h = -4$;
D = +·451, E = +·893; G = -·642, H = +·324, K = -·695.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------------|----------|-----|----------------------|------|---------|------|----------|-----------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Kurilsk | 3·9 | 258 | e 0 59 | 0 | e 1 41 | - 3 | — | — |
| Nemuro | 6·1 | 245 | e 1 29 | - 1 | e 2 37 | - 3 | — | — |
| Yuzno-Sakhlinsk | 7·3 | 281 | i 1 48 | + 1 | — | — | — | — |
| Petropavlovsk | 7·7 | 25 | e 2 0 | + 7 | i 3 33 | +13 | — | — |
| Ulegorsk | 8·1 | 295 | e 2 0 | + 2 | e 3 33 | + 3 | — | — |
| Sapporo | 9·0 | 254 | e 2 12 | + 1 | e 4 0 | + 8 | — | — |
| Klyuchi | 11·2 | 22 | e 2 46 | + 5 | — | — | — | — |
| Mizusawa | 11·3 | 236 | e 2 47 | + 5 | 4 39 | - 9 | — | — |
| Magadan | 13·5 | 355 | e 3 11 | - 1 | — | — | — | — |
| Matusiro | 14·8 | 235 | 3 29k | 0 | e 6 10 | - 2 | — | — |
| Vladivostok | 15·5 | 266 | e 3 35 | - 3 | — | — | — | — |
| Kabansk | 30·6 | 298 | e 6 10 | - 3 | — | — | — | — |
| College | 36·6 | 38 | i 7 5 | 0 | i 12 46 | + 1 | (e 15 5) | SS e 15·1 |
| Baguio | 40·2 | 233 | e 7 35 | 0 | — | — | — | — |
| Semipalatinsk | 47·0 | 303 | e 8 28 | - 2 | — | — | — | — |
| Resolute Bay | 51·4 | 18 | e 9 3k | - 1 | e 16 25 | + 5 | — | — |
| Naryn | 53·9 | 295 | i 9 22 | 0 | — | — | — | — |
| Frunse | 54·0 | 297 | e 9 22 | - 1 | — | — | — | — |
| Sverlovsk | 54·3 | 318 | e 9 24 | - 1 | — | — | — | — |
| Andijan | 56·5 | 296 | i 9 41 | 0 | — | — | — | — |
| Tashkent | 58·1 | 298 | e 9 52 | 0 | — | — | — | — |
| Dehra Dun | 59·0 | 283 | e 10 0 | + 1 | — | — | — | — |
| Hungry Horse | 59·1 | 51 | i 10 0 | 0 | — | — | — | — |
| Stalinabad | 60·1 | 296 | 9 56 | -10 | — | — | — | — |
| Kiruna | 60·9 | 341 | i 10 10 | - 2 | e 18 29 | + 3 | i 10 23 | pP e 30·8 |
| Bozeman | 62·4 | 52 | e 10 21 | - 1 | — | — | — | — |
| Scoresby Sund | 63·6 | 358 | e 10 30 | 0 | e 19 6 | + 6 | e 20 25 | ScS 30·8 |
| Woody | 64·0 | 65 | i 10 31 | - 1 | — | — | — | — |
| Pulkovo | 64·6 | 332 | 10 32 | - 4 | — | — | — | — |
| Moscow | 65·0 | 326 | e 10 34 | - 5 | — | — | — | — |
| Salt Lake City | 65·0 | 57 | e 10 55 | pP | — | — | — | — |
| Pasadena | 65·4 | 66 | e 10 43 | + 1 | — | — | — | — |
| Riverside | 66·0 | 65 | e 10 45 | 0 | — | — | — | — |
| Boulder City | 66·3 | 62 | e 10 48 | + 1 | — | — | i 10 59 | pP |
| Nelson | 66·5 | 62 | i 10 49 | + 1 | — | — | — | — |
| Quetta | 66·5 | 290 | e 10 49 | + 1 | e 19 28 | - 7 | — | e 34·0 |
| Ashkabad | 66·8 | 301 | i 10 51 | + 1 | — | — | — | — |
| Palomar | 66·8 | 66 | i 10 50 | 0 | — | — | — | — |
| Upsala | 68·3 | 338 | i 10 59 _a | - 1 | — | — | i 11 11 | pP e 33·8 |
| Reykjavik | 70·0 | 358 | i 11 27 | pP | — | — | — | — |
| Tucson | 71·3 | 63 | e 11 17 | - 1 | — | — | — | — |
| Tiflis | 71·8 | 312 | i 11 22 | + 1 | — | — | — | — |
| Erevan | 73·1 | 311 | i 11 29 | 0 | — | — | — | — |
| Copenhagen | 73·3 | 338 | e 11 30 | 0 | e 20 58 | + 3 | e 11 44 | pP 35·8 |
| Warsaw | 73·8 | 332 | i 11 33 _a | 0 | e 21 2 | + 1 | e 11 47 | pP e 36·8 |

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| | | Δ ° | Az. ° | P. m. s. | O-C. s. | S. m. s. | O-C. s. | Supp. m. s. | L. m. |
|----------------|----|---------------|----------|-------------|------------|-------------|------------|----------------|----------|
| Lwow | | 74.8 | 329 | i 11 38 | - 1 | — | — | — | — |
| Yalta | | 74.9 | 320 | e 11 39 | 0 | — | — | — | — |
| Iasi | N. | 75.6 | 325 | e 11 43 | 0 | — | — | — | — |
| Potsdam | | 76.1 | 336 | e 11 47 | + 1 | — | — | — | e 38.8 |
| Collmberg | Z. | 77.0 | 336 | e 11 51 | 0 | — | — | — | — |
| Prague | N. | 77.7 | 334 | e 12 10 | pP | — | — | e 12 40 | ? |
| Jena | | 77.8 | 336 | e 11 55 | - 1 | e 12 39 | ? | e 12 10 | pP |
| Fayetteville | | 78.2 | 50 | i 11 58 | 0 | — | — | — | — |
| Rathfarnham C. | Z. | 79.4 | 348 | e 12 16 | pP | — | — | — | — |
| Stuttgart | | 80.4 | 337 | e 12 10 | 0 | e 22 22 | +10 | e 12 23 | pP |
| Strasbourg | | 81.0 | 338 | e 12 12 | - 1 | — | — | e 12 25 | pP |
| Basle | | 82.0 | 337 | e 12 19 | + 1 | — | — | e 13 10 | ? |
| Paris | | 82.1 | 341 | e 12 19 | 0 | — | — | — | e 39.8 |
| Ksara | | 82.4 | 312 | e 12 22 | + 2 | — | — | — | — |
| Safed | | 83.3 | 312 | i 12 25k | 0 | — | — | — | — |
| Weston | | 83.4 | 32 | e 12 25 | 0 | — | — | — | — |
| Pavia | Z. | 83.7 | 335 | e 12 30 | + 3 | — | — | — | — |
| Helwan | Z. | 87.9 | 312 | e 12 48 | + 1 | — | — | e 17 33 | ? |
| Granada | | 94.5 | 342 | 17 25k | pPP | 25 4 | ? | 34 22 | SSS |

July 12d. 17h. 44m., 17h. 47m., 18h. 51m., and 21h.55m. Epicentre 46°·2N. 153°·2E.
Four after-shocks of above 'Quake.
Monthly Bulletin of the B.C.I.S. for July, 1954, Strasbourg, 1954, pp. 378-379.

July 12d. 22h. 48m. Epicentre 43°·9N. 19°·5E. Intensity IV at Sarajevo.
Loc. cit., 17h. 44m., p. 379.

July 13d. 5h. 5m. Epicentre 38°·6N. 70°·6E.
Bulletin of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, p. 64.

July 13d. 8h. 4m. 47s. Epicentre 3°·1S. 150°·7E. Magnitude 6.25 (Kiruna).

$$A = -.8708, B = +.4887, C = -.0537; \quad \delta = 0; \quad h = +7;$$

$$D = +.489, E = +.872; \quad G = +.047, H = -.026, K = -.999.$$

| | | Δ ° | Az. ° | P. m. s. | O-C. s. | S. m. s. | O-C. s. | Supp. m. s. | L. m. |
|-----------------|------|---------------|----------|---------------------|------------|-------------|------------|----------------|----------|
| Brisbane | | 24.3 | 175 | i 5 17 | - 3 | i 9 32 | - 5 | — | — |
| Nouméa | | 24.5 | 143 | i 5 23 | + 1 | e 9 54? | +14 | e 8 49 | PcP |
| Riverview | | 30.6 | 179 | i 6 12 ^a | - 6 | i 11 17 | - 3 | i 5 51 | ? |
| Manila | | 34.3 | 302 | e 6 52 | + 2 | e 12 26 | + 9 | — | — |
| Baguio | | 35.5 | 304 | i 6 57 | - 3 | e 12 31 | - 5 | — | — |
| Hengchun | | 38.4 | 312 | e 9 7 | PP | 13 23 | + 3 | — | — |
| Auckland | N. | 40.3 | 150 | e 7 48 | + 8 | e 13 59 | +10 | — | e 18.2 |
| Matusiro | | 41.1 | 345 | 7 43 | - 4 | 13 52 | - 9 | — | — |
| Karapiro | N. | 41.4 | 150 | e 7 51 | + 1 | — | — | — | — |
| Tongariro | Z. | 42.4 | 151 | e 7 57 | - 1 | — | — | — | — |
| Bandung | | 43.0 | 263 | e 8 9 | + 6 | e 14 35 | + 6 | e 8 42 | ? |
| Kaimata | N.E. | 43.4 | 158 | e 8 6 | 0 | — | — | — | e 20.1 |
| Perth | | 43.5 | 225 | 7 58 | - 9 | i 14 23 | -13 | i 17 48 | SS |
| Hong Kong | E. | 43.7 | 307 | 8 9? | + 1 | i 14 41 | + 2 | i 10 0 | PP |
| Wellington | | 43.7 | 154 | i 8 9 | + 1 | e 14 51 | +12 | — | e 20.2 |
| Zô-Sè | Z. | 44.1 | 323 | e 8 13 | + 1 | 14 51 | + 6 | — | — |
| Christchurch | | 44.7 | 157 | e 8 17 | + 1 | e 14 47 | - 7 | — | e 19.2 |
| Nanking | E. | 46.2 | 322 | — | — | 15 16 | + 1 | — | — |
| Kurilsk | | 48.2 | 357 | e 8 43 | - 1 | — | — | — | — |
| Vladivostok | | 49.0 | 342 | e 8 49 | - 1 | — | — | — | — |
| Yuzno-Sakhlinsk | | 50.4 | 353 | e 8 58 | - 3 | — | — | — | — |
| Uglegorsk | | 52.5 | 353 | e 9 15 | - 2 | — | — | — | — |
| Honolulu | | 55.7 | 62 | — | — | e 17 47 | PPS | — | e 22.8 |
| Klyuchi | | 59.8 | 7 | e 10 9 | 0 | — | — | — | — |
| Magadan | | 62.5 | 0 | e 10 25 | - 3 | — | — | — | — |

(Continued on next page.)

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|----------------|----|----------|-----|----------------------|-------|---------|-------|---------|------|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Shillong | | 63.6 | 300 | i 10 32 | - 3 | — | — | e 10 39 | P | — |
| Calcutta | E. | 65.9 | 296 | e 12 4 | ? | i 19 44 | + 7 | — | — | — |
| Kabansk | | 66.4 | 332 | i 10 49 | - 4 | — | — | — | — | — |
| Irkutsk | | 67.6 | 331 | e 10 58 | - 3 | — | — | — | — | — |
| Chatra | Z. | 68.0 | 300 | e 11 1 | - 2 | — | — | — | — | — |
| Colombo | E. | 71.4 | 278 | 11 33 | + 9 | 20 52 | +10 | — | — | 35.7 |
| Madras | E. | 71.8 | 285 | e 11 37 | +11 | — | — | — | — | — |
| Poona | | 78.5 | 290 | e 12 4 | 0 | — | — | — | — | — |
| Bombay | | 79.5 | 290 | e 12 22 | +12 | e 23 7 | PPS | e 12 50 | ? | — |
| Semipalatinsk | | 80.0 | 322 | e 12 11 | - 2 | — | — | — | — | — |
| Almata | | 80.3 | 315 | e 12 18 | + 4 | — | — | — | — | — |
| Naryn | | 80.6 | 313 | e 12 23 | + 7 | — | — | — | — | — |
| College | | 81.1 | 22 | e 12 15 | - 3 | e 22 23 | - 5 | e 23 32 | PPS | e 32.4 |
| Frunse | | 81.9 | 314 | e 12 21 | - 2 | e 22 47 | ScS | — | — | — |
| Andijan | | 83.2 | 312 | e 12 28 | - 1 | i 23 3 | ScS | i 12 39 | PcP | — |
| Sitka | | 84.0 | 32 | e 12 34 | + 1 | e 22 59 | + 2 | e 13 24 | ? | e 33.9 |
| Stalinabad | | 85.6 | 309 | i 12 39 | - 2 | i 23 23 | ScS | — | — | — |
| Tashkent | | 85.6 | 312 | e 12 40 | - 1 | — | — | — | — | — |
| Quetta | | 86.1 | 300 | e 12 42 | - 2 | i 23 10 | [+ 2] | e 23 20 | S | e 38.4 |
| Berkeley | | 89.6 | 52 | e 13 18 | +17 | e 23 36 | [+ 6] | — | — | — |
| Victoria | | 89.6 | 42 | — | — | e 23 31 | [+ 1] | — | — | 40.9 |
| Shasta | Z. | 89.7 | 49 | e 13 1 | 0 | — | — | — | — | — |
| Santa Clara | E. | 89.8 | 53 | — | — | e 26 12 | ? | — | — | e 41.2 |
| Mineral | Z. | 90.3 | 50 | e 13 3 | - 1 | — | — | e 16 47 | PP | — |
| Seattle | | 90.3 | 42 | e 13 25 | +21 | e 23 37 | [+ 2] | e 23 55 | S | — |
| Fresno | Z. | 91.5 | 53 | e 13 10 | 0 | — | — | — | — | — |
| Reno | Z. | 91.6 | 51 | e 13 11 | + 1 | — | — | — | — | — |
| Sverdlovsk | | 92.6 | 327 | e 13 18 | + 3 | 23 43 | [- 5] | 25 30 | PS | — |
| Pasadena | | 92.7 | 56 | e 13 19 | + 4 | — | — | — | — | e 42.2 |
| Riverside | Z. | 93.4 | 56 | e 13 18 | 0 | — | — | — | — | — |
| Palomar | Z. | 93.8 | 57 | e 13 20 | 0 | — | — | — | — | — |
| Boulder City | | 95.5 | 54 | e 13 30 | + 2 | e 13 44 | ? | e 13 20 | ? | — |
| Nelson | Z. | 95.5 | 55 | e 13 27 | - 1 | — | — | i 13 36 | ? | — |
| Hungry Horse | | 95.8 | 42 | e 13 28 | - 1 | — | — | e 17 22 | PP | — |
| Butte | N. | 96.9 | 44 | e 13 32 | - 2 | i 24 21 | [+10] | e 26 22 | PS | e 37.6 |
| Salt Lake City | | 97.7 | 50 | e 13 56 | +18 | e 24 41 | [+ 3] | e 27 34 | PPS | e 46.7 |
| Bozeman | | 98.0 | 44 | e 13 42 | + 3 | — | — | — | — | — |
| Tucson | | 98.9 | 58 | e 13 57 | +14 | — | — | — | — | e 39.6 |
| Resolute Bay | | 99.3 | 14 | e 13 47 | + 2 | — | — | — | — | 52.9 |
| Tiflis | | 103.9 | 312 | 14 6 | 0 | — | — | — | — | — |
| Piatigorsk | | 104.8 | 315 | e 14 5 | - 5 | — | — | i 18 29 | PP | — |
| Moscow | | 105.4 | 327 | 14 14 | P | e 24 39 | [-13] | 27 42 | PS | — |
| Kiruna | | 107.2 | 342 | e 14 27 | P | e 24 44 | [-16] | i 18 51 | PP | e 46.2 |
| Pulkovo | | 107.6 | 333 | e 14 30 | P | — | — | e 18 58 | PP | — |
| Ksara | | 112.2 | 305 | e 19 26? | PP | e 30 48 | ? | — | — | — |
| Scoresby Sund | | 112.6 | 357 | e 19 19 | PP | — | — | — | — | 49.2 |
| Upsala | | 113.0 | 336 | e 19 29 | PP | e 29 2 | PS | e 29 36 | PKKP | e 51.2 |
| Chicago | | 115.4 | 45 | e 19 22 | PP | e 29 27 | PS | e 35 44 | SS | e 46.5 |
| Warsaw | | 115.8 | 328 | e 15 36 | P | e 26 32 | [-14] | e 19 54 | PP | e 47.2 |
| Bucharest | E. | 116.3 | 319 | e 20 19 | PP | e 25 43 | [+ 6] | e 26 47 | SKKS | — |
| Helwan | Z. | 116.8 | 302 | e 19 58 | PP | e 23 40 | ? | e 22 48 | PPP | — |
| Copenhagen | | 117.8 | 335 | i 20 7 | PP | 36 19 | SS | — | — | 55.2 |
| Potsdam | | 119.6 | 332 | e 20 20 | PP | e 30 9 | PS | e 37 9 | SSP | e 57.2 |
| Cleveland | Z. | 119.7 | 43 | e 20 20 _a | PP | — | — | — | — | — |
| Hamburg | | 120.3 | 334 | e 20 28 | PP | — | — | — | — | e 62.0 |
| Collmberg | Z. | 120.4 | 331 | e 18 53 | [0] | — | — | e 23 25 | PPP | — |
| Prague | | 120.4 | 329 | e 20 31 | PP | — | — | — | — | e 61.2 |
| Jena | Z. | 121.3 | 331 | e 18 58 | [+ 3] | e 26 46 | [-36] | e 20 26 | PP | — |
| Ottawa | | 121.6 | 37 | i 18 59 _a | [+ 3] | 27 17 | [- 7] | 20 26 | PP | — |
| Columbia | | 123.0 | 51 | e 18 58 | [0] | — | — | — | — | e 50.9 |

Continued on next page.

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|----------------|----------|-----|----------------------|--------|----------|--------|----------|--------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| De Bilt | 123.4 | 335 | e 20 51 | PP | — | — | — | e 55.2 |
| Seven Falls | 123.4 | 33 | e 19 3 _a | [+ 4] | — | — | — | — |
| Triest | 123.4 | 325 | e 21 47 | ? | e 26 6 | [+ 5] | e 30 48 | PS |
| Stuttgart | 123.9 | 330 | e 19 0 | [0] | e 37 26 | SS | e 20 59 | PP |
| Palisades | 125.0 | 40 | e 19 6 | [+ 4] | i 37 49 | SS | e 20 47 | PP |
| Harvard | 125.7 | 38 | e 19 31 | [+27] | — | — | i 21 48 | ? |
| Florence | 125.9 | 324 | e 21 45 | ? | i 30 43 | PS | — | — |
| Weston | 125.9 | 38 | e 19 5 | [+ 1] | — | — | — | — |
| Kew | 126.0 | 338 | e 21 4 | PP | e 26 13? | [+ 4] | — | — |
| Pavia | 126.2 | 327 | e 19 53 | [+48] | — | — | e 24 21 | PPP |
| Rathfarnham C. | z. 126.5 | 343 | i 19 15 | [+10] | — | — | — | — |
| Paris | 127.0 | 334 | e 19 8 | [+ 2] | e 31 6 | PS | e 21 19 | PP |
| Halifax | 128.9 | 31 | e 19 13 | [+ 3] | — | — | e 52 13? | Q |
| Huancayo | 131.9 | 109 | e 19 19 | [+ 3] | e 22 52 | PKS | — | — |
| Chinchina | 133.8 | 86 | i 19 20 | [+ 1] | i 22 58 | PKS | — | — |
| Galerazamba | N. 133.8 | 78 | i 23 24 | PKS | e 27 12 | [+43] | — | — |
| Bogota | 135.4 | 87 | e 19 24 | [+ 2] | — | — | — | — |
| Bermuda | 135.9 | 45 | e 19 29 | [+ 6] | — | — | e 22 7 | PP |
| Alicante | 136.1 | 327 | 19 20 | [- 3] | 28 53 | { - 5} | 39 57 | SS |
| Almeria | 138.3 | 327 | 19 33 | [+ 6] | 34 31 | PPS | 22 29 | PP |
| Granada | 138.7 | 328 | e 20 51 _k | [+83] | 27 45 | [+68] | 25 33 | PPP |
| Malaga | 139.4 | 329 | i 19 34 | [+ 5] | 26 54 | [+16] | 22 32 | PP |
| San Juan | 140.9 | 64 | e 19 34 | [+ 2] | — | — | — | — |
| Tamanrasset | z. 141.0 | 303 | e 19 36 | [+ 4] | e 23 15 | PKS | e 22 58 | PP |
| Fort de France | 146.6 | 68 | e 19 49 | [+ 7] | — | — | — | — |

July 13d. 22h. 7m. Epicentre 51°·0N. 155°·25E.
Monthly Bulletin of the B.C.I.S. for July, 1954, Strasbourg, 1954, p. 381.

July 13d. 23h. 37m. Epicentre 38°·7N. 70°·5E.
Loc. cit., 5h., pp. 64-65.

July 14d. 6h. 23m. Epicentre 23°·3N. 121°·6E.
Seismo. Bulletin of the Taiwan Weather Bureau for July-Sept., 1954, Vol. 1, No. 3, Taipei, 1954, pp. 13-14.

July 15d. 0h. 3m. 41s. Epicentre 15°·4S. 175°·2W.

A = -·9612, B = -·0807, C = -·2639; $\delta = +6$; $h = +5$;
D = -·084, E = +·996; G = +·263, H = +·022, K = -·965.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-------------|----------|-----|---------------------|------|----------|------|-----------|-----|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Apia | 3.7 | 65 | i 0 57 | - 3 | (i 1 49) | + 4 | e 0 53 | ? |
| Nouméa | 18.7 | 246 | i 4 19 _k | - 3 | e 7 48 | 0 | e 8 42 | PcP |
| Brisbane | 31.8 | 243 | i 6 26 | - 2 | — | — | — | — |
| Riverview | 35.4 | 232 | i 7 1 _k | + 1 | e 12 36 | + 2 | i 8 18 | PP |
| Honolulu | 40.3 | 25 | — | — | e 13 51 | + 2 | (e 16 13) | SS |
| Manila | 69.8 | 292 | e 11 17 | + 3 | — | — | — | — |
| Santa Clara | E. 72.5 | 42 | — | — | e 21 3 | + 9 | e 25 47 | SS |
| Berkeley | 72.6 | 42 | i 11 34 | + 3 | e 21 4 | + 8 | — | — |
| Lick | z. 72.7 | 42 | i 11 31 | - 1 | — | — | — | — |
| Pasadena | 73.3 | 46 | i 11 37 | + 2 | e 21 10 | + 6 | — | — |
| Barratt | z. 73.6 | 48 | i 11 39 | + 2 | — | — | — | — |
| Fresno | z. 73.6 | 43 | e 11 41 | + 4 | — | — | — | — |
| Woody | z. 73.6 | 44 | e 11 35 | - 2 | — | — | — | — |
| Riverside | z. 73.7 | 46 | e 11 38 | 0 | — | — | — | — |
| Mineral | z. 74.5 | 39 | i 11 42 | 0 | — | — | — | — |

Continued on next page.

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|----------------|----|----------|-----|------|-----------------|------------------|------|----|------------------|-------|----|--------|
| | | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| China Lake | z. | 74.6 | 45 | e 11 | 41 | - 2 | — | — | — | — | — | — |
| Reno | z. | 75.2 | 41 | e 11 | 49 | + 3 | — | — | — | — | — | — |
| Nelson | z. | 76.4 | 46 | e 11 | 52 | - 1 | — | — | — | i 11 | 57 | ? |
| Boulder City | | 76.5 | 46 | e 11 | 55 | + 1 | — | — | — | i 12 | 4 | PcP |
| Tucson | | 77.7 | 51 | e 12 | 2 | + 2 | e 21 | 55 | + 3 | e 15 | 8 | PP |
| Seattle | | 78.5 | 34 | e 12 | 7 | + 3 | e 22 | 7 | + 6 | e 23 | 1 | PPS |
| Sitka | | 79.4 | 21 | e 11 | 37 | - 32 | e 22 | 13 | + 3 | e 23 | 8 | PPS |
| Salt Lake City | | 81.0 | 43 | e 12 | 34 | + 16 | e 23 | 4 | PS | — | — | — |
| College | | 82.7 | 11 | i 12 | 23 | - 4 | e 22 | 41 | - 3 | e 23 | 24 | PS |
| Butte | N. | 83.1 | 38 | e 12 | 33 | + 4 | e 22 | 49 | + 1 | e 23 | 31 | PS |
| Hungry Horse | | 83.5 | 36 | e 12 | 28 | - 3 | — | — | — | — | — | — |
| Bozeman | | 83.9 | 39 | e 12 | 32 | - 1 | — | — | — | — | — | — |
| Fayetteville | | 91.9 | 53 | i 13 | 14 | + 3 | — | — | — | — | — | — |
| Huancayo | | 96.1 | 105 | — | — | — | e 25 | 13 | + 25 | e 26 | 43 | PPS |
| La Paz | | 101.4 | 111 | e 13 | 59 | + 4 | 24 | 37 | [+ 3] | i 18 | 21 | PP |
| Bogota | | 101.9 | 88 | — | — | — | e 26 | 33 | PS | — | — | — |
| Resolute Bay | | 102.2 | 15 | e 29 | 58 | PKKP | e 25 | 49 | + 10 | e 32 | 38 | SS |
| Palisades | | 108.4 | 51 | e 28 | 21 | PS | e 34 | 27 | SS | e 45 | 7 | Q |
| Kiruna | | 126.6 | 352 | i 19 | 6 | [+ 1] | e 38 | 14 | SS | e 21 | 7 | PP |
| Warsaw | | 141.1 | 344 | e 19 | 41 | [+ 9] | e 23 | 2 | PKS | e 19 | 54 | ? |
| Potsdam | | 142.5 | 352 | e 19 | 37 | [+ 2] | — | — | — | — | — | e 69.3 |
| De Bilt | | 143.4 | 0 | e 19 | 59 | [+ 23] | — | — | — | — | — | — |
| Kew | | 143.8 | 5 | e 20 | 19? | [+ 42] | — | — | — | — | — | e 80.3 |
| Jena | | 144.1 | 350 | e 19 | 46 | [+ 8] | e 22 | 58 | PP | e 24 | 29 | ? |
| Bucharest | | 145.9 | 333 | e 19 | 41 | [0] | e 19 | 47 | PKP ₂ | e 20 | 49 | ? |
| Karlsruhe | z. | 146.4 | 356 | e 19 | 42 ^k | [0] | — | — | — | e 19 | 56 | ? |
| Ksara | | 146.5 | 308 | e 19 | 51 | [+ 9] | — | — | — | i 21 | 37 | ? |
| Stuttgart | | 146.5 | 354 | e 19 | 41 | [- 1] | e 29 | 49 | {- 10} | e 19 | 55 | ? |
| Strasbourg | | 146.8 | 356 | e 19 | 44 | [+ 2] | e 28 | 10 | ? | e 23 | 25 | PP |
| Istanbul | z. | 146.9 | 326 | e 19 | 46 | [+ 4] | — | — | — | — | — | — |
| Safed | | 147.2 | 307 | i 19 | 44 | [+ 1] | — | — | — | — | — | — |
| Basle | | 147.9 | 356 | e 19 | 52 | [+ 8] | — | — | — | — | — | — |
| Jerusalem | | 147.9 | 305 | i 19 | 50 | [+ 6] | — | — | — | i 21 | 51 | ? |
| Zürich | | 148.0 | 356 | e 19 | 34 | [- 10] | — | — | — | — | — | — |
| Triest | | 148.9 | 347 | e 19 | 46 | [0] | e 26 | 59 | [+ 7] | e 35 | 54 | ? |
| Pavia | | 150.1 | 353 | e 20 | 0 | PKP ₂ | — | — | — | — | — | e 79.3 |
| Florence | | 151.2 | 349 | e 19 | 41 | [- 8] | — | — | — | i 25 | 29 | ? |
| Helwan | z. | 151.7 | 305 | e 19 | 56 | [+ 6] | i 20 | 3 | PKP ₂ | i 20 | 13 | ? |
| Rome | | 152.8 | 348 | e 20 | 19 | PKP ₂ | e 43 | 15 | SS | e 49 | 19 | SSS |
| Taranto | | 152.8 | 339 | 21 | 27 | ? | — | — | — | — | — | e 51.3 |
| Granada | | 157.1 | 18 | 20 | 3 ^a | [+ 6] | 31 | 27 | {+ 29} | 34 | 21 | SKSP |
| Malaga | | 157.2 | 19 | 20 | 29 | PKP ₂ | 27 | 23 | [+ 21] | — | — | 75.8 |
| Tamanrasset | z. | 172.6 | 355 | e 20 | 13 | [+ 2] | e 21 | 41 | PKP ₂ | e 25 | 37 | PP |

July 15d. 0h. 34m. Epicentre 16°·5S. 174°25W.
Monthly Bulletin of the B.C.I.S. for July, 1954, Strasbourg, 1954, p. 383.

July 15d. 8h. 58m. Epicentre 46°·3N. 7°·4E.
Intensity V at Gsteig and Montana; IV at Leukerbad. Macroseismic radius 15km.
Dr. E. Wanner.
Jahresbericht des Erdbebendienstes der Schweiz im Jahre 1954, Zürich, 1955, p. 3, with
macroseismic map No. 5 outside the text.

July 16d. 1h. 19m. Epicentre 37°·75N. 27°·5E.
Recorded up to 10°.
Seismo. Institute Bulletin, 1954, National Observatory Athens, 1955, p. 86.

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July 16d. 12h. 41m. 35s. Epicentre 39°·3N. 145°·0E.

Intensity II-III at Kusiro and Hatinohe.

Epicentre 39°·5N. 144°·5E. Depth of focus 60km.

Seismo. Bull. Cent. Met. Obs., Japan, for July, 1954, Tokyo, 1954, pp. 20-22, with macro-seismic chart.

A = -·6356, B = +·4451, C = +·6308; $\delta = +1$; $h = -1$;
D = +·574, E = +·819; G = -·517, H = +·362, K = -·776.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------|----|----------|-----|---------------------|------------------|--------|------------------|--------|----------------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Miyako | | 2·4 | 279 | i 0 39 _a | - 2 | e 0 58 | -14 | — | — |
| Hatinohe | | 2·9 | 296 | i 0 46 | - 2 | 1 9 | -15 | — | — |
| Isinomaki | | 3·0 | 254 | 0 49 | - 1 | 1 17 | -10 | — | — |
| Mizusawa | | 3·0 | 268 | 0 49 | - 1 | 1 21 | - 6 | e 0 52 | P* |
| Morioka | | 3·0 | 279 | e 0 49 | - 1 | e 1 19 | - 8 | — | — |
| Urakawa | | 3·3 | 330 | e 0 54 | + 1 | e 1 29 | - 6 | — | — |
| Sendai | | 3·4 | 253 | 0 55 _a | 0 | 1 28 | - 9 | e 1 10 | P _g |
| Aomori | | 3·6 | 296 | i 1 1 | + 3 | i 1 37 | - 5 | e 1 20 | P _r |
| Kusiro | | 3·7 | 353 | e 1 0 | 0 | i 1 41 | - 4 | — | — |
| Akita | | 3·8 | 278 | 1 0 _a | - 1 | e 1 42 | - 5 | — | — |
| Obihiro | E. | 3·8 | 340 | e 1 7 | - 1* | i 1 41 | - 6 | — | — |
| Yamagata | | 3·8 | 255 | e 1 0 | - 1 | e 1 40 | - 7 | — | — |
| Hokusima | | 3·9 | 248 | 1 1 | - 1 | 1 39 | -11 | — | — |
| Nemuro | | 4·0 | 6 | e 1 5 | + 1 | e 1 46 | - 6 | — | — |
| Onahama | | 4·0 | 235 | e 1 1 | - 3 | e 1 43 | - 9 | — | — |
| Sakata | | 4·0 | 266 | 1 9 | - 2* | 1 55 | + 3 | — | — |
| Hakodate | | 4·1 | 309 | i 1 5 | 0 | i 1 46 | - 9 | — | — |
| Tomakomai | | 4·1 | 322 | e 1 8 | + 3 | i 1 53 | - 2 | — | — |
| Inawasiro | | 4·2 | 247 | e 1 8 | + 1 | e 1 52 | - 5 | e 2 6 | S* |
| Muroran | | 4·2 | 316 | e 1 8 | + 1 | e 1 53 | - 4 | — | — |
| Shirakawa | | 4·3 | 241 | 1 8 | 0 | 1 51 | - 9 | — | — |
| Mori | | 4·4 | 311 | 1 11 | + 1 | 1 54 | - 8 | e 3 5 | ? |
| Mito | Z. | 4·6 | 232 | 1 10 | - 2 | 2 2 | - 5 | — | — |
| Sapporo | | 4·6 | 325 | e 1 11 | - 1 | i 2 0 | - 7 | e 1 47 | ? |
| Abashiri | | 4·7 | 354 | e 1 14 | 0 | e 2 7 | - 3 | — | — |
| Niigata | | 4·8 | 255 | e 1 31 | - 5 _g | 2 29 | + 3* | — | — |
| Asahigawa | | 4·9 | 337 | e 1 17 | 0 | e 2 10 | - 5 | — | — |
| Kakioka | | 4·9 | 232 | i 1 13 _a | - 4 | 2 3 | -12 | — | — |
| Utunomiya | | 4·9 | 237 | e 1 15 | - 2 | e 2 6 | - 9 | — | — |
| Kashiwa | | 5·3 | 231 | e 1 20 | - 2 | e 2 14 | -11 | — | — |
| Aikawa | | 5·4 | 258 | e 1 23 | - 1 | — | — | — | — |
| Kumagaya | | 5·4 | 236 | e 1 22 | - 2 | 2 19 | - 9 | — | — |
| Maebasi | | 5·5 | 240 | e 1 24 _k | - 1 | 2 22 | - 8 | e 1 47 | P _g |
| Tokyo | | 5·5 | 230 | e 1 23 | - 2 | i 2 19 | -11 | — | — |
| Takada | | 5·7 | 250 | e 1 32 | + 4 | e 2 59 | + 6* | — | — |
| Titibu | E. | 5·7 | 236 | i 1 26 | - 2 | e 2 25 | -10 | — | — |
| Yokohama | | 5·7 | 229 | 1 45 | + 5* | 2 39 | + 4 | — | — |
| Oiwake | | 5·9 | 242 | e 1 33 | + 2 | e 2 52 | + 7* | e 3 42 | ? |
| Matusiro | | 6·0 | 245 | e 1 31 | - 1 | e 2 49 | + 6 | e 2 10 | ? |
| Mera | | 6·0 | 225 | e 1 33 | + 1 | 2 36 | - 7 | — | — |
| Nagano | N. | 6·0 | 246 | e 1 31 | - 1 | e 2 33 | -10 | i 1 42 | P* |
| Hunatu | | 6·2 | 234 | e 1 31 | - 4 | e 2 42 | - 6 | — | — |
| Kohu | | 6·3 | 236 | e 1 35 | - 1 | e 2 43 | - 7 | — | — |
| Matumoto | | 6·3 | 243 | e 1 40 | + 4 | e 2 35 | -15 | — | — |
| Misima | | 6·4 | 231 | e 1 38 | 0 | i 2 41 | -12 | — | — |
| Osima | N. | 6·4 | 226 | e 1 37 | - 1 | i 2 41 | -12 | — | — |
| Wazima | | 6·6 | 256 | e 1 43 | + 2 | — | — | — | — |
| Toyama | | 6·7 | 249 | e 1 41 | - 1 | e 3 2 | + 2 | — | — |
| Iida | | 6·8 | 239 | — | — | e 2 33 | -30 | — | — |
| Shizuoka | | 6·8 | 232 | e 1 42 | - 2 | e 2 52 | -11 | — | — |
| Omaesaki | | 7·2 | 231 | e 2 7 | + 1* | e 3 57 | - 1 _g | — | — |
| Gihu | | 7·6 | 242 | e 1 57 | + 2 | — | — | — | — |
| Nagoya | E. | 7·6 | 240 | e 2 1 | + 6 | e 3 50 | 0* | — | — |
| Hikone | | 8·0 | 243 | e 2 4 | + 4 | — | — | — | — |
| Kameyama | | 8·1 | 239 | e 2 17 | P* | e 3 49 | +14 | — | — |

Continued on next page.

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1954

417

| | | Δ ° | Az. ° | P. | | O-C. s. | S. | | O-C. s. | Supp. | | L. m. |
|----------------|----|---------------|----------|------|-----------------|------------|------|----|------------|----------|-----|----------|
| | | | | m. | s. | | m. | s. | | m. | s. | |
| Tu | | 8.2 | 238 | e 2 | 15 | P* | — | — | — | — | — | — |
| Kyoto | | 8.5 | 243 | e 2 | 13 | + 6 | e 3 | 11 | -34 | — | — | — |
| Osaka | | 8.9 | 241 | e 2 | 32 | P* | e 4 | 34 | + 6* | — | — | — |
| Toyooka | | 8.9 | 248 | e 2 | 4 | - 8 | — | — | — | — | — | — |
| Kobe | | 9.1 | 242 | e 2 | 16 | + 2 | e 4 | 7 | + 7 | — | — | — |
| Sumoto | | 9.5 | 242 | e 2 | 33 | P* | e 4 | 50 | + 4* | (e 8 20) | PcP | e 8.3 |
| Zô-Sè | z. | 21.1 | 254 | 4 | 45 | - 3 | e 8 | 38 | - 1 | — | — | — |
| Nanking | | 22.4 | 259 | e 5 | 2 | 0 | 9 | 10 | + 6 | — | — | — |
| Tatung | | 24.4 | 282 | e 5 | 25 | + 4 | — | — | — | — | — | — |
| College | | 45.7 | 33 | i 8 | 24 | 0 | — | — | — | — | — | — |
| Shillong | z. | 46.2 | 269 | i 8 | 26 | - 2 | — | — | — | — | — | — |
| Chatra | z. | 49.3 | 274 | e 8 | 52 | - 1 | — | — | — | — | — | — |
| Lembang | | 57.5 | 226 | i 9 | 54 _a | + 1 | e 17 | 48 | - 2 | i 14 | 10 | ? |
| Resolute Bay | | 59.7 | 15 | e 10 | 7 _k | - 2 | — | — | — | — | — | — |
| Quetta | z. | 62.9 | 288 | e 10 | 29 | - 1 | — | — | — | — | — | — |
| Seattle | z. | 63.9 | 49 | i 10 | 40 | + 3 | — | — | — | — | — | — |
| Poona | z. | 64.1 | 273 | e 10 | 38 | 0 | — | — | — | — | — | — |
| Kiruna | | 65.4 | 340 | i 10 | 45 _k | - 2 | e 19 | 31 | + 1 | e 13 | 11 | PP |
| Shasta | z. | 67.5 | 55 | i 11 | 1 | + 1 | — | — | — | — | — | e 33.4 |
| Hungry Horse | | 68.2 | 45 | i 11 | 6 | + 2 | — | — | — | — | — | — |
| Mineral | z. | 68.2 | 55 | e 10 | 58 | - 6 | — | — | — | — | — | — |
| Lick | z. | 69.8 | 58 | e 11 | 16 | + 2 | — | — | — | — | — | — |
| Reno | z. | 69.8 | 55 | e 11 | 16 | + 2 | — | — | — | — | — | — |
| Butte | z. | 70.4 | 46 | i 11 | 18 | 0 | — | — | — | e 11 | 39 | PcP |
| Bozeman | z. | 71.4 | 46 | e 11 | 25 | + 1 | — | — | — | — | — | — |
| Upsala | z. | 72.1 | 335 | i 11 | 27 _k | - 1 | — | — | — | i 11 | 37 | pP |
| Tinemaha | z. | 72.2 | 56 | e 11 | 31 | + 2 | — | — | — | e 11 | 41 | PcP |
| Woody | z. | 72.6 | 58 | i 11 | 31 _k | 0 | — | — | — | i 11 | 41 | PcP |
| China Lake | z. | 73.4 | 57 | i 11 | 36 | 0 | — | — | — | e 11 | 46 | PcP |
| Pasadena | z. | 74.0 | 59 | i 11 | 40 | + 1 | — | — | — | e 11 | 51 | PcP |
| Salt Lake City | | 74.0 | 50 | i 11 | 59 | +20 | — | — | — | — | — | — |
| Riverside | z. | 74.6 | 59 | e 11 | 43 | 0 | — | — | — | — | — | — |
| Boulder City | | 75.1 | 56 | i 11 | 47 | + 1 | — | — | — | i 12 | 1 | PcP |
| Palomar | z. | 75.3 | 59 | i 11 | 48 | + 1 | — | — | — | — | — | — |
| Barratt | z. | 75.9 | 59 | i 11 | 50 | 0 | — | — | — | — | — | — |
| Boulder | | 78.3 | 48 | i 12 | 6 | + 3 | — | — | — | — | — | — |
| Tucson | | 80.0 | 56 | e 12 | 14 | + 1 | — | — | — | — | — | — |
| Collmberg | z. | 80.5 | 332 | e 12 | 16 | + 1 | — | — | — | e 12 | 26 | PcP |
| Jena | | 81.3 | 332 | e 12 | 19 | - 1 | e 12 | 29 | PcP | e 13 | 17 | ? |
| Jerusalem | | 83.8 | 306 | i 12 | 34 | + 2 | — | — | — | i 12 | 52 | ? |
| Stuttgart | z. | 84.0 | 332 | e 12 | 33 | 0 | — | — | — | — | — | — |
| Kirkland Lake | z. | 84.2 | 28 | e 12 | 36 | + 2 | — | — | — | — | — | — |
| Strasbourg | | 84.6 | 333 | 12 | 37 | + 1 | — | — | — | — | — | — |
| Zürich | | 85.4 | 332 | i 12 | 34 | - 6 | — | — | — | — | — | — |
| Basle | | 85.6 | 333 | e 12 | 41 | 0 | — | — | — | — | — | — |
| Paris | | 86.2 | 336 | e 12 | 43 | - 1 | — | — | — | e 12 | 47 | PcP |
| Fayetteville | | 87.2 | 44 | i 12 | 50 _a | + 1 | — | — | — | i 13 | 1 | ? |
| Ottawa | | 88.1 | 27 | i 12 | 54 _a | 0 | — | — | — | — | — | — |
| Dallas | | 88.2 | 48 | e 12 | 56 | + 2 | — | — | — | — | — | — |
| Weston | | 92.3 | 26 | i 13 | 15 _k | + 2 | — | — | — | — | — | — |

July 16d. 15h. 46m. Epicentre 38°·0N, 72°·2E. Depth of focus 110km.
Bulletin of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, p. 65.

July 17d. 9h. 43m. Epicentre 38°·7N, 20°·5E.
Intensity III on Leucas. Recorded up to 21°.
Seismological Institute Bulletin of National Observatory, Athens, for 1954, Athens, 1955, p. 86.

July 17d. 11h. 55m. Epicentre 43°·6N, 77°·9E.
Bulletin of the Seismo. Stations of the U.S.S.R., July-Sept., 1954, Moscow, 1955, p. 65.

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1954

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July 18d. 6h. 34m. 37s. Epicentre 55°·5N, 161°·8E.

Seismo. Bull. Cent. Met. Obs., Japan, for 1954, July, Tokyo, 1954, pp. 43, 44.

A = -·5405, B = +·1777, C = +·8223 ; $\delta = -11$; $h = -7$;
D = +·312, E = +·950 ; G = -·781, H = +·257, K = -·569.

| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|---------------|----------|-----|-----|-----------------|------|------|----|------|-------|----|------|--------|
| | | | m. | s. | s. | m. | s. | m. | s. | m. | | |
| Nemuro | 16·1 | 227 | e 3 | 45 | - 4 | e 7 | 35 | Q | — | — | — | |
| Obihiro | 17·4 | 231 | e 4 | 11 | + 5 | — | — | — | — | — | — | |
| Sapporo | 18·2 | 235 | e 4 | 17 | + 1 | i 7 | 40 | + 3 | i 4 | 38 | PP | e 8·6 |
| Unalaska | 18·3 | 82 | i 4 | 14 | - 3 | — | — | — | — | — | — | — |
| Mori | 19·3 | 235 | 4 | 31 | + 2 | e 7 | 55 | - 7 | e 5 | 14 | ? | e 8·5 |
| Aomori | 20·2 | 232 | — | — | — | e 8 | 23 | + 2 | — | — | — | — |
| Akita | 21·4 | 231 | e 4 | 54 | + 3 | e 9 | 7 | +22 | e 5 | 51 | ? | — |
| Mizusawa | E. 21·4 | 229 | 4 | 55 | + 4 | 8 | 47 | + 2 | — | — | — | — |
| Sendai | 22·3 | 228 | e 5 | 1 | 0 | e 9 | 0 | - 2 | — | — | — | — |
| Hokusima | 23·2 | 228 | e 5 | 15 | + 6 | — | — | — | — | — | — | — |
| Inawasiro | 23·2 | 228 | 5 | 10 | + 1 | 9 | 27 | + 8 | e 5 | 17 | PP | — |
| Niigata | 23·4 | 230 | e 5 | 15 | + 4 | — | — | — | — | — | — | — |
| Onahama | 23·4 | 226 | e 5 | 13 | + 2 | e 8 | 55 | -26 | e 10 | 1 | SS | — |
| Shirakawa | 23·5 | 228 | e 5 | 2 | -10 | — | — | — | — | — | — | — |
| Utunomiya | 24·2 | 227 | e 5 | 19 | 0 | e 9 | 38 | + 3 | — | — | — | — |
| Kakioka | 24·3 | 226 | e 5 | 18 | - 2 | — | — | — | — | — | — | — |
| Maebasi | 24·6 | 228 | e 5 | 24 | + 1 | e 10 | 0 | +18 | — | — | — | — |
| Kumagaya | 24·7 | 228 | e 5 | 27 | + 3 | — | — | — | — | — | — | — |
| Nagano | N. 24·8 | 230 | i 5 | 26 | + 1 | i 9 | 50 | + 4 | — | — | — | — |
| Matusiro | 24·9 | 230 | 5 | 26 | 0 | e 9 | 43 | - 4 | — | — | — | 12·1 |
| Oiwake | 24·9 | 229 | e 5 | 27 | + 1 | e 9 | 46 | - 1 | — | — | — | — |
| Tokyo | 25·0 | 226 | e 5 | 29 | + 2 | — | — | — | — | — | — | — |
| Matumoto | N. 25·2 | 230 | 5 | 30 | + 1 | — | — | — | — | — | — | — |
| Yokohama | 25·2 | 226 | 5 | 37 | + 8 | — | — | — | — | — | — | — |
| Kohu | 25·4 | 228 | e 5 | 34 | + 3 | — | — | — | — | — | — | — |
| Hunatu | 25·5 | 228 | e 5 | 34 | + 2 | e 9 | 49 | - 8 | — | — | — | — |
| Mera | 25·6 | 225 | e 5 | 36 | + 4 | — | — | — | — | — | — | — |
| Misima | 25·8 | 227 | e 5 | 25 | - 9 | e 10 | 13 | +11 | — | — | — | — |
| College | 26·0 | 49 | i 5 | 38 | + 2 | e 10 | 6 | 0 | — | — | — | e 11·4 |
| Shizuoka | 26·1 | 228 | 5 | 39 | + 2 | e 10 | 20 | +13 | — | — | — | — |
| Hukui | 26·2 | 232 | e 5 | 38 | 0 | — | — | — | — | — | — | — |
| Gihu | 26·5 | 231 | e 5 | 40 | - 1 | — | — | — | — | — | — | — |
| Omaesaki | 26·5 | 228 | e 5 | 49 | + 8 | — | — | — | — | — | — | — |
| Nagoya | N. 26·6 | 230 | e 5 | 42 | 0 | — | — | — | — | — | — | — |
| Hikone | 26·8 | 232 | e 5 | 43 | - 1 | — | — | — | — | — | — | — |
| Kameyama | 27·1 | 231 | e 5 | 46 | 0 | — | — | — | e 6 | 26 | PP | — |
| Osaka | 27·6 | 232 | e 5 | 46 | - 5 | — | — | — | — | — | — | — |
| Takamatu | 28·6 | 234 | e 6 | 0 | 0 | — | — | — | — | — | — | — |
| Resolute Bay | 40·7 | 23 | e 7 | 45 _a | + 1 | e 13 | 56 | + 1 | e 9 | 20 | PP | e 20·2 |
| Victoria | 44·5 | 66 | 8 | 14 | - 1 | — | — | — | — | — | — | — |
| Seattle | 45·6 | 67 | 8 | 26 | + 2 | e 15 | 11 | + 5 | — | — | — | — |
| Hungry Horse | 49·4 | 61 | i 8 | 53 | 0 | i 10 | 15 | PcP | e 39 | 16 | P'P' | — |
| Baguio | 50·1 | 236 | i 8 | 59 _a | 0 | i 16 | 11 | + 1 | — | — | — | — |
| Shasta | z. 50·2 | 74 | e 8 | 59 | - 1 | — | — | — | — | — | — | — |
| Mineral | z. 50·8 | 74 | e 9 | 4 | 0 | — | — | — | — | — | — | — |
| Manila | 51·5 | 234 | e 9 | 8 | - 1 | e 16 | 28 | - 1 | — | — | — | — |
| Butte | N. 51·7 | 62 | i 9 | 11 | 0 | e 16 | 29 | - 3 | — | — | — | e 22·3 |
| Berkeley | z. 52·2 | 76 | e 9 | 23 | + 8 | — | — | — | — | — | — | — |
| Reno | z. 52·4 | 73 | e 9 | 17 | + 1 | — | — | — | — | — | — | — |
| Bozeman | 52·7 | 62 | e 9 | 18 | 0 | — | — | — | — | — | — | — |
| Lick | z. 53·0 | 76 | i 9 | 20 | - 1 | — | — | — | — | — | — | — |
| Kiruna | 53·7 | 343 | i 9 | 26 _a | 0 | e 16 | 59 | 0 | e 11 | 44 | PP | e 25·0 |
| Scoresby Sund | 54·3 | 2 | i 9 | 30 _a | 0 | e 17 | 11 | + 4 | e 10 | 34 | PcP | 24·4 |
| Fresno | z. 54·4 | 75 | e 9 | 30 | - 1 | — | — | — | — | — | — | — |
| Tinemaha | z. 55·1 | 74 | i 9 | 36 _a | 0 | — | — | — | e 39 | 46 | P'T' | — |

Continued on next page.

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1954

419

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|----------------|----|------------|------------|----------------------|--------|---------|-------|---------|------|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. | |
| Woody | z. | 55.7 | 76 | i 9 39 _a | - 1 | — | — | e 39 26 | P'P' | — |
| Salt Lake City | | 55.8 | 66 | i 9 41 | 0 | — | — | — | — | — |
| China Lake | z. | 56.3 | 74 | i 9 44 _a | - 1 | — | — | e 39 44 | P'P' | — |
| Pasadena | | 57.2 | 76 | i 9 51 | 0 | — | — | e 39 48 | P'P' | e 29.7 |
| Boulder City | | 57.7 | 72 | e 9 52 | - 3 | e 17 54 | + 1 | e 39 39 | P'P' | — |
| Riverside | z. | 57.8 | 76 | e 9 53 | - 2 | — | — | e 39 39 | P'P' | — |
| Nelson | z. | 57.9 | 73 | i 9 55 | - 1 | i 10 37 | PcP | i 39 47 | P'P' | — |
| Shillong | z. | 58.0 | 269 | e 9 56 | - 1 | — | — | — | — | — |
| Palomar | z. | 58.5 | 76 | i 9 59 _a | - 1 | — | — | — | — | — |
| Barratt | z. | 59.2 | 76 | i 10 3 _a | - 2 | — | — | — | — | — |
| Boulder | | 59.7 | 63 | i 10 10 | + 1 | — | — | — | — | — |
| Chatra | z. | 59.7 | 274 | e 10 7 | - 2 | — | — | — | — | — |
| Reykjavik | z. | 60.6 | 2 | i 10 2 | -13 | — | — | i 10 25 | P | — |
| Upsala | | 61.5 | 340 | i 10 21 _a | 0 | — | — | i 11 1 | PcP | e 29.4 |
| Tucson | | 62.7 | 72 | i 10 28 | - 1 | — | — | e 39 27 | P'P' | — |
| Kirkland Lake | z. | 64.4 | 41 | i 10 40 _a | 0 | — | — | — | — | — |
| Copenhagen | | 66.4 | 342 | e 10 54 | + 1 | 20 28 | PS. | 24 59 | SS | 35.4 |
| Warsaw | | 67.8 | 335 | e 11 1 | - 1 | e 20 4 | + 4 | e 20 20 | PS | e 36.4 |
| Fayetteville | | 68.2 | 58 | i 11 3 _k | - 1 | — | — | — | — | — |
| Quetta | | 68.3 | 292 | e 11 4 | - 1 | e 20 7 | + 1 | — | — | — |
| Ottawa | | 68.4 | 40 | i 11 4 _a | - 2 | — | — | 13 27 | PP | — |
| Seven Falls | | 68.6 | 36 | e 11 6 | - 1 | — | — | — | — | — |
| Hamburg | | 68.8 | 342 | i 11 11 _a | + 3 | — | — | i 11 50 | PcP | e 39.4 |
| Cleveland | | 69.4 | 46 | i 11 12 _a | 0 | e 20 14 | - 4 | — | — | — |
| Potsdam | | 69.4 | 340 | i 11 13 _a | + 1 | e 21 11 | ScS | e 13 53 | PP | e 37.4 |
| Dallas | | 69.6 | 62 | i 11 12 | - 1 | — | — | — | — | — |
| Witteveen | z. | 70.1 | 344 | e 11 18 _a | + 2 | — | — | — | — | — |
| Collmberg | z. | 70.4 | 340 | i 11 18 | 0 | — | — | 13 42 | PP | — |
| Iasi | | 70.6 | 329 | e 11 21 | + 2 | — | — | — | — | — |
| Jena | | 71.0 | 341 | i 11 23 | + 1 | — | — | e 14 12 | PP | — |
| Rathfarnham C. | z. | 71.1 | 352 | i 11 22 _k | 0 | — | — | e 13 32 | PP | — |
| Prague | | 71.3 | 338 | i 11 25 | + 2 | e 20 50 | PS | e 11 36 | PcP | — |
| Harvard | | 72.4 | 38 | i 11 29 | - 1 | — | — | — | — | e 32.6 |
| Weston | | 72.6 | 38 | i 11 31 _a | 0 | — | — | — | — | e 40.9 |
| Palisades | | 72.8 | 41 | i 11 30 | - 2 | e 20 50 | - 8 | e 25 28 | SS | e 32.3 |
| Fordham | | 73.0 | 41 | i 11 32 | - 1 | — | — | — | — | — |
| Halifax | | 73.1 | 32 | i 11 34 _a | 0 | — | — | — | — | e 35.4 |
| Karlsruhe | z. | 73.5 | 342 | i 11 37 _a | + 1 | — | — | — | — | — |
| Bucharest | | 73.6 | 329 | e 10 35 | -62 | e 21 5 | - 2 | — | — | — |
| Stuttgart | z. | 73.6 | 342 | i 11 37 _a | 0 | — | — | — | — | — |
| Poona | | 73.8 | 279 | e 11 39 | + 1 | — | — | — | — | — |
| Strasbourg | | 74.0 | 342 | i 11 41 | + 2 | — | — | e 12 10 | PcP | 34.4 |
| Paris | | 74.6 | 346 | i 11 44 | + 1 | e 14 32 | PP | i 11 56 | PcP | e 36.4 |
| Basle | | 75.0 | 342 | e 11 46 | + 1 | — | — | — | — | — |
| Zürich | | 75.0 | 342 | e 11 46 | + 1 | — | — | — | — | — |
| Chur | | 75.4 | 341 | i 11 48 _a | + 1 | — | — | — | — | — |
| Columbia | | 76.0 | 50 | i 11 50 | - 1 | — | — | — | — | e 38.8 |
| Djakarta | | 76.3 | 237 | e 11 50 _a | - 2 | e 21 37 | 0 | e 12 1 | pP | — |
| Florence | | 78.0 | 339 | e 12 10 | + 8 | e 22 17 | +22 | — | — | — |
| Tacubaya | | 79.2 | 71 | e 12 11 | + 3 | — | — | — | — | — |
| Rome | | 79.5 | 337 | e 12 10 | 0 | e 22 13 | + 2 | — | — | e 41.4 |
| Ksara | | 79.8 | 317 | i 12 13 | + 1 | 23 9 | PS | — | — | — |
| Safed | | 80.6 | 317 | i 12 18 | + 2 | — | — | — | — | — |
| Jerusalem | | 81.8 | 316 | i 12 16 | - 6 | — | — | — | — | — |
| Toledo | | 84.2 | 349 | i 12 33 _a | - 1 | — | — | e 15 36 | PP | — |
| Alicante | | 85.3 | 346 | 12 37 | - 3 | 23 30 | +20 | 16 20 | PP | — |
| Granada | | 86.8 | 348 | i 12 58 _k | +11 | 23 25 | 0 | — | — | 44.8 |
| Almeria | | 87.0 | 347 | e 12 55 | + 7 | 23 29 | + 2 | — | — | — |
| Malaga | | 87.4 | 349 | i 12 52 | + 2 | e 23 13 | [- 4] | — | — | — |
| Riverview | z. | 89.5 | 189 | i 12 59 _a | - 1 | — | — | — | — | — |
| San Juan | | 96.0 | 45 | e 13 30 | 0 | — | — | — | — | — |
| Montezuma | z. | 130.4 | 70 | e 19 14 | [+ 1] | e 22 33 | PKS | — | — | — |
| Pretoria | z. | 135.2 | 292 | e 19 13 | [- 9] | — | — | — | — | — |
| Kimberley | z. | 139.4 | 293 | e 19 23 | [- 6] | — | — | — | — | — |
| Grahamstown | z. | 142.0 | 287 | e 18 56 | [- 38] | — | — | — | — | — |

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1954

120

July 18d. 9h. 7m. 35s. Epicentre 35°·5N. 140°·9E.

Intensity VI at Tyosi and Tateno; V at Tokyo, Kakioka, Kashiwa, Yokohama, Mera, Osima, Ajiro, Hunatu, and Katsuura; IV at Tukubasan, Mito, Utunomiya, Kumagaya, Onahama, Titibu, Shirakawa, Misima, Oiwake, Kohu, Inawasiro, and Miyakezima; II-III at Shizuoka, Isinomaki, Hokusima, Matusiro, Omaesaki, Sendai, Hatidyozima, Morioka, and Suwa.

Epicentre 35°·5N. 141°·1E. Depth of focus about 40km.

Seismo. Bull. Cent. Met. Obs., Japan, for July, 1954, Tokyo, 1954, pp. 22-26, with macroseismic chart.

$$A = -0.6333, B = +0.5146, C = +0.5781; \quad \delta = +8; \quad h = 0; \\ D = +0.631, E = +0.776; \quad G = -0.449, H = +0.365, K = -0.816.$$

| | | Δ | Az. | P. | | O-C. | S. | | O-C. | | Supp. | | L. m. |
|-------------|----|----------|-----|-----|-----------------|------------------|-----|----|------------------|-----|-------|----------------|----------|
| | | | | m. | s. | | m. | s. | m. | s. | m. | s. | |
| Tyosi | N. | 0.2 | 344 | i 0 | 16 _a | + 6 | i 0 | 24 | + 8 | — | — | — | — |
| Kashiwa | | 0.8 | 294 | i 0 | 19 _k | + 1 | — | — | — | — | — | — | — |
| Kakioka | | 0.9 | 321 | i 0 | 19 _k | - 1 | 0 | 29 | - 5 | — | — | — | — |
| Mito | Z. | 0.9 | 337 | 0 | 21 | + 1 | 0 | 28 | - 6 | — | — | — | — |
| Yokohama | | 1.0 | 266 | 0 | 24 | + 3 | 0 | 39 | + 3 | — | — | — | — |
| Mera | | 1.1 | 236 | i 0 | 25 _k | + 3 | i 0 | 40 | + 1 | — | — | — | 0.9 |
| Utunomiya | | 1.3 | 321 | i 0 | 26 _k | + 1 | i 0 | 43 | - 1 | 0 | 36 | S* | — |
| Kumagaya | | 1.4 | 297 | i 0 | 28 _k | + 1 | e 0 | 47 | + 1 | — | — | — | — |
| Onahama | | 1.4 | 359 | i 0 | 28 _k | + 1 | e 0 | 40 | - 6 | — | — | — | — |
| Osima | E. | 1.5 | 240 | i 0 | 29 _k | + 1 | — | — | — | — | — | — | — |
| Ajiro | | 1.6 | 253 | i 0 | 32 _k | + 2 | 0 | 52 | + 1 | — | — | — | — |
| Titibu | E. | 1.6 | 288 | i 0 | 30 | 0 | i 0 | 54 | + 3 | — | — | — | — |
| Misima | | 1.7 | 257 | i 0 | 32 | + 1 | 0 | 55 | + 1 | — | — | — | — |
| Maebasi | | 1.7 | 301 | i 0 | 33 _k | + 2 | 0 | 56 | + 2 | — | — | — | — |
| Shirakawa | | 1.7 | 341 | i 0 | 32 _k | + 1 | i 0 | 53 | - 1 | — | — | — | — |
| Hunatu | | 1.8 | 270 | i 0 | 34 _k | + 2 | 0 | 54 | - 2 | e 0 | 39 | P _r | — |
| Kohu | | 1.9 | 265 | i 0 | 38 _k | + 4 | i 1 | 2 | + 3 | — | — | — | — |
| Nagaturo | | 1.9 | 242 | 0 | 35 _k | + 1 | 1 | 4 | + 5 | — | — | — | — |
| Oiwake | | 2.1 | 294 | i 0 | 37 _k | 0 | e 0 | 59 | - 5 | — | — | — | — |
| Shizuoka | | 2.1 | 256 | i 0 | 39 _k | + 2 | i 1 | 6 | + 2 | — | — | — | — |
| Inawasiro | | 2.2 | 343 | i 0 | 40 _k | + 2 | i 1 | 7 | + 1 | — | — | — | 11.3 |
| Hokusima | Z. | 2.3 | 351 | 0 | 42 _k | + 2 | 1 | 9 | 0 | — | — | — | — |
| Matusiro | | 2.4 | 296 | i 0 | 42 _k | + 1 | 1 | 2 | -10 | — | — | — | — |
| Omaesaki | | 2.4 | 248 | 0 | 43 _k | + 2 | e 1 | 15 | + 3 | — | — | — | — |
| Iida | | 2.5 | 269 | i 0 | 45 | + 2 | i 1 | 17 | + 3 | — | — | — | — |
| Matumoto | E. | 2.5 | 288 | i 0 | 45 _k | + 2 | i 1 | 16 | + 2 | — | — | — | — |
| Nagano | N. | 2.5 | 298 | i 0 | 45 _k | + 2 | e 1 | 20 | + 6 | — | — | — | — |
| Takada | | 2.6 | 307 | i 0 | 46 | + 2 | e 1 | 20 | + 3 | — | — | — | — |
| Hatidyozima | | 2.6 | 202 | e 0 | 47 _k | + 3 | 1 | 19 | + 2 | — | — | — | — |
| Hamamatu | | 2.8 | 254 | i 0 | 49 | + 2 | i 1 | 24 | + 2 | — | — | — | — |
| Niigata | | 2.8 | 328 | i 0 | 52 | + 5 | 1 | 25 | + 3 | — | — | — | — |
| Sendai | | 2.8 | 0 | 0 | 47 _k | 0 | 1 | 16 | - 6 | — | — | — | — |
| Yamagata | | 2.8 | 351 | 0 | 49 | + 2 | 1 | 17 | - 5 | — | — | — | — |
| Isinomaki | | 2.9 | 6 | e 0 | 50 | + 2 | 1 | 20 | - 4 | — | — | — | — |
| Takayama | N. | 3.0 | 283 | e 0 | 54 | + 4 | e 1 | 37 | +10 | — | — | — | — |
| Nagoya | | 3.2 | 265 | 0 | 55 _k | + 3 | e 1 | 47 | +15 | 1 | 5 | P _r | — |
| Toyama | | 3.2 | 292 | 0 | 55 _k | + 3 | 1 | 26 | - 6 | — | — | — | — |
| Aikawa | | 3.3 | 320 | i 0 | 54 _k | + 1 | 1 | 47 | - 2 _g | i 1 | 0 | P* | — |
| Gihu | | 3.4 | 269 | 1 | 5 _a | - 3 _g | e 1 | 49 | - 3 _g | — | — | — | — |
| Kanazawa | | 3.6 | 288 | e 1 | 2 | + 4 | e 1 | 49 | - 2* | — | — | — | — |
| Mizusawa | | 3.6 | 3 | 1 | 2 | + 4 | 1 | 38 | - 4 | — | — | — | — |
| Ibukisan | | 3.7 | 269 | e 1 | 0 | 0 | e 1 | 51 | + 6 | — | — | — | — |
| Kameyama | | 3.7 | 261 | i 1 | 1 _k | + 1 | 1 | 50 | + 5 | — | — | — | — |
| Tu | | 3.7 | 258 | i 1 | 1 _k | + 1 | 1 | 44 | - 1 | — | — | — | — |
| Wazima | | 3.7 | 301 | i 1 | 1 _k | + 1 | e 1 | 43 | - 2 | — | — | — | — |
| Hikone | | 3.8 | 268 | i 1 | 4 | + 3 | 1 | 56 | - 1* | — | — | — | — |
| Hukui | | 3.8 | 279 | e 1 | 5 | + 4 | e 2 | 8 | + 2 _g | e 1 | 12 | P _r | — |
| Tsuruga | | 4.0 | 273 | i 1 | 5 _k | + 1 | 2 | 6 | + 3* | i 1 | 15 | P* | — |
| Owase | | 4.1 | 251 | 1 | 6 | + 1 | e 2 | 14 | - 2 _g | — | — | — | — |
| Akita | | 4.2 | 351 | 1 | 9 | + 2 | e 1 | 59 | + 2 | — | — | — | — |

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------|----------|-----|---------|------|--------|------------------|--------|----------------|
| | m. | s. | m. s. | s. | m. s. | s. | m. s. | m. |
| Miyako | 4.2 | 11 | e 1 7 | 0 | 1 50 | - 7 | — | — |
| Morioka | 4.2 | 3 | e 1 8k | + 1 | e 1 53 | - 4 | — | — |
| Kyoto | 4.3 | 265 | i 1 10k | - 2 | e 2 9 | - 3* | e 1 19 | P* |
| Nara | 4.3 | 260 | 1 9 | + 1 | 2 7 | - 5* | e 1 27 | P _r |
| Maizuru | 4.5 | 269 | e 1 14k | + 3 | i 2 7 | + 2 | — | — |
| Osaka | 4.5 | 260 | i 1 5k | - 6 | i 2 14 | - 4* | — | — |
| Siomisaki | 4.7 | 246 | e 1 14 | 0 | e 2 23 | - 1* | i 1 31 | P _r |
| Kobe | 4.8 | 262 | e 1 16k | + 1 | e 2 22 | - 4* | i 1 26 | P* |
| Wakayama | 4.9 | 256 | i 1 16a | - 1 | e 2 38 | - 4 _r | — | — |
| Hatinohe | 5.0 | 5 | e 1 21 | + 3 | i 2 15 | - 3 | — | — |
| Torisima | 5.0 | 186 | e 1 23 | + 5 | i 2 20 | + 2 | — | — |
| Toyooka | 5.0 | 268 | e 1 19 | + 1 | e 2 19 | + 1 | — | i 2.5 |
| Himeji | 5.1 | 264 | e 1 20 | 0 | e 2 37 | + 2* | — | — |
| Sumoto | 5.1 | 258 | i 1 19k | - 1 | e 2 27 | + 7 | i 1 43 | P _r |
| Aomori | 5.3 | 359 | 1 22a | 0 | i 2 33 | + 8 | 1 44 | PP |
| Tokusima | 5.4 | 256 | e 1 25a | + 1 | 2 51 | + 7* | — | — |
| Tottori | 5.5 | 272 | e 1 27 | - 2 | 2 47 | 0* | — | — |
| Okayama | 5.8 | 264 | e 1 31k | + 2 | e 2 50 | - 6* | — | — |
| Takamatu | 5.8 | 260 | e 1 29 | 0 | e 2 38 | 0 | — | — |
| Saigo | 6.2 | 278 | 1 36 | + 1 | i 3 9 | + 1* | i 2 59 | ? |
| Yonago | 6.2 | 269 | e 1 34 | - 1 | e 2 56 | + 8 | — | — |
| Hakodate | 6.3 | 359 | e 1 39 | + 3 | e 2 56 | + 6 | — | — |
| Koti | 6.4 | 254 | e 1 39 | + 1 | e 2 59 | + 6 | e 2 41 | ? |
| Matsue | 6.4 | 272 | 1 39 | + 1 | 3 19 | + 5* | — | — |
| Mori | 6.6 | 358 | 1 45 | + 4 | i 2 56 | - 2 | i 2 11 | P _r |
| Muroran | 6.8 | 0 | e 1 40 | - 4 | e 3 0 | - 3 | — | — |
| Urakawa | 6.8 | 12 | e 1 45 | + 1 | e 3 3 | 0 | e 2 55 | ? |
| Matuyama | 6.9 | 258 | e 1 45 | 0 | e 3 10 | + 5 | e 3 16 | ? |
| Tomakomai | 7.0 | 4 | e 1 48 | + 2 | e 3 22 | +14 | — | — |
| Hiroshima | 7.1 | 263 | e 1 48a | 0 | e 3 11 | + 1 | e 2 19 | P _r |
| Simidu | 7.1 | 250 | i 1 49 | + 1 | e 3 25 | -10* | — | — |
| Hamada | 7.3 | 268 | i 1 53k | + 3 | 3 18 | + 3 | — | — |
| Suttsu | 7.3 | 356 | e 2 2 | - 6* | — | — | e 2 50 | ? |
| Uwazima | 7.3 | 254 | 1 52 | + 2 | i 3 36 | - 5* | — | — |
| Sapporo | 7.5 | 2 | e 1 52 | - 1 | e 3 16 | - 4 | — | i 3.7 |
| Obihiro | 7.6 | 13 | e 1 58 | + 3 | i 3 36 | +13 | — | — |
| Kusiro | 7.9 | 19 | e 1 59 | 0 | e 3 21 | - 9 | e 2 29 | P _r |
| Ooita | 8.0 | 256 | e 2 3 | + 3 | e 3 55 | - 7* | — | e 3.9 |
| Asahigawa | 8.3 | 7 | e 2 6 | + 2 | — | — | — | — |
| Simonoseki | 8.4 | 262 | i 2 6a | 0 | e 3 46 | + 3 | — | — |
| Asosan | 8.6 | 255 | i 2 10 | + 1 | e 4 22 | + 3* | — | — |
| Nemuro | 8.6 | 23 | e 2 7 | - 2 | e 3 35 | -13 | — | — |
| Miyazaki | 8.7 | 248 | i 2 13a | + 3 | i 3 54 | + 4 | — | e 5.2 |
| Abashiri | 8.9 | 16 | e 2 4 | - 8 | e 3 44 | -11 | e 4 10 | ? |
| Hukuoka | 8.9 | 260 | i 2 14a | + 2 | e 3 58 | + 3 | e 2 50 | PP |
| Kumamoto | 8.9 | 255 | 2 15a | + 3 | 4 3 | + 8 | — | — |
| Saga | 9.1 | 259 | i 2 18k | + 4 | i 4 3 | + 3 | — | e 4.7 |
| Unzendake | 9.3 | 256 | 2 19k | + 2 | e 4 24 | +19 | — | — |
| Kagosima | 9.5 | 248 | 2 25a | + 5 | — | — | — | e 5.7 |
| Ituhara | 9.6 | 266 | 2 24a | + 3 | 4 20 | + 8 | — | — |
| Wakkanai | 9.9 | 3 | e 1 49 | -36 | e 4 29 | + 9 | — | — |
| Yakusima | 10.1 | 243 | 2 31a | + 2 | e 4 19 | - 6 | — | 5.7 |
| Tomie | 10.5 | 258 | 2 35 | 0 | 4 52 | +17 | — | — |
| Changchun | 14.6 | 309 | 3 31 | + 1 | e 6 14 | + 1 | — | — |
| Zô-Sê | 17.1 | 261 | i 4 0a | - 2 | e 7 7 | - 5 | i 4 12 | PP |
| Nanking | 18.7 | 266 | i 4 17a | - 5 | i 7 40 | - 8 | — | — |
| Taipei | 19.7 | 243 | e 4 30 | - 4 | 8 30 | +20 | — | — |
| Hsinchu | 20.2 | 244 | e 4 58 | +19 | — | — | — | — |
| Hwalien | 20.3 | 241 | 4 41 | + 1 | 8 47 | +24 | — | — |
| Kwanting | 20.5 | 291 | e 4 38 | - 4 | 8 20 | - 7 | — | — |

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| 1954 | | 422 | | | | | | | | | | |
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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
| | | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Taichung | | 20.8 | 243 | 4 | 53 | + 8 | — | — | — | — | — | — |
| Hsinkong | | 21.0 | 239 | e 4 | 42 | - 5 | 8 | 38 | + 1 | — | — | — |
| Alishan | | 21.2 | 241 | e 4 | 45 | - 4 | — | — | — | — | — | — |
| Tawu | | 21.8 | 238 | 4 | 53 | - 3 | 8 | 49 | - 3 | — | — | — |
| Tainan | | 21.9 | 241 | 4 | 51 | - 6 | 8 | 47 | - 7 | — | — | — |
| Guam | | 22.2 | 170 | e 5 | 5 | + 5 | — | — | — | — | — | — |
| Hengchun | | 22.2 | 238 | 4 | 58 | - 2 | 8 | 52 | - 8 | — | — | — |
| Tatung | | 22.3 | 290 | 5 | 0 | - 1 | 9 | 0 | - 2 | — | — | — |
| Taiyuan | | 22.8 | 284 | e 5 | 2 | - 3 | 9 | 3 | - 8 | — | — | — |
| Linfen | E. | 23.8 | 280 | e 5 | 17 | + 2 | e 9 | 27 | - 1 | — | — | — |
| Sian | | 26.2 | 277 | e 5 | 37 | - 1 | 10 | 5 | - 4 | — | — | — |
| Baguio | | 26.3 | 229 | i 5 | 35 _a | - 4 | i 6 | 24 | PP | — | — | — |
| Hong Kong | E. | 26.7 | 248 | i 5 | 39 | - 4 | i 10 | 0 | -17 | — | — | — |
| Manila | | 27.5 | 226 | i 5 | 45 | - 5 | e 10 | 28 | - 2 | — | — | — |
| Yinchuan | N. | 27.7 | 286 | e 5 | 52 | 0 | — | — | — | — | — | — |
| Lanchow Univ. | | 30.0 | 282 | e 6 | 10 | - 2 | e 11 | 6 | - 4 | — | — | — |
| Wuwei | E. | 30.6 | 286 | e 6 | 16 | - 2 | — | — | — | — | — | — |
| Sining | E. | 31.5 | 284 | e 6 | 22 | - 4 | — | — | — | — | — | — |
| Unalaska | | 40.6 | 46 | e 7 | 51 | + 8 | — | — | — | — | — | — |
| Shillong | | 43.0 | 271 | i 8 | 0 | - 3 | i 14 | 23 | - 6 | 9 | 26 | PP 20.1 |
| Chatra | | 46.3 | 275 | i 8 | 27 | - 2 | e 15 | 10 | - 6 | 10 | 18 | PP 21.6 |
| Calcutta | E. | 47.2 | 269 | i 8 | 37 | + 1 | i 15 | 41 | +12 | 14 | 1 | PcS |
| College | | 50.6 | 32 | i 9 | 2 | 0 | i 16 | 15 | - 2 | e 18 | 42 | ScS e 19.8 |
| Djakarta | | 52.4 | 225 | e 9 | 12 _a | - 4 | i 16 | 34 | - 8 | e 14 | 15 | ? |
| Bandung | | 52.5 | 223 | e 9 | 15 _? | - 2 | e 16 | 45 _? | + 2 | e 10 | 45 _? | PP |
| New Delhi | | 53.6 | 282 | e 9 | 22 | - 3 | e 16 | 50 | - 8 | 11 | 23 | PP |
| Honolulu | | 54.7 | 88 | — | — | — | e 17 | 13 | 0 | — | — | e 24.7 |
| Hyderabad | | 57.8 | 269 | i 9 | 52 | - 3 | i 17 | 48 | - 6 | 11 | 56 | PP 28.9 |
| Madras | E. | 58.8 | 264 | i 10 | 1 | - 1 | i 18 | 3 | - 4 | i 10 | 40 | PcP |
| Poona | N. | 61.0 | 273 | e 10 | 15 | - 3 | e 18 | 33 | - 2 | 12 | 29 | PP 28.5 |
| Quetta | | 61.0 | 288 | i 10 | 14 | - 4 | i 18 | 31 | - 4 | i 12 | 22 | PP |
| Bombay | | 61.7 | 274 | i 10 | 20 | - 2 | e 18 | 39 | - 5 | 10 | 59 | PcP |
| Nouméa | | 62.4 | 153 | e 10 | 30 _k | + 3 | e 15 | 9 | PcS | — | — | — |
| Colombo | E. | 62.5 | 258 | e 13 | 25 _? | ? | 18 | 48 | - 6 | — | — | 33.4 |
| Resolute Bay | | 64.2 | 14 | e 10 | 37 | - 2 | e 19 | 13 | - 3 | e 13 | 9 | PP |
| Kiruna | | 67.8 | 339 | i 10 | 58 | - 4 | i 19 | 52 | - 8 | e 13 | 27 _? | PP e 31.9 |
| Victoria | | 67.8 | 46 | 11 | 3 | + 1 | e 19 | 56 | - 4 | — | — | 32.3 |
| Seattle | Z. | 68.8 | 46 | i 11 | 15 _k | + 7 | e 20 | 13 | + 2 | — | — | — |
| Riverview | | 69.6 | 171 | i 11 | 14 _a | + 1 | i 20 | 22 | + 1 | i 11 | 34 | PcP e 32.5 |
| Corvallis | Z. | 69.8 | 49 | e 11 | 20 | + 6 | — | — | — | — | — | — |
| Shasta | | 72.3 | 52 | e 11 | 32 | + 3 | e 20 | 56 | + 4 | e 21 | 34 | PS |
| Mineral | Z. | 73.0 | 52 | i 11 | 35 | + 2 | — | — | — | — | — | — |
| Hungry Horse | | 73.2 | 42 | e 11 | 34 _a | - 1 | e 20 | 57 | - 5 | i 12 | 1 | PcP e 39.1 |
| Scoresby Sund | | 73.6 | 354 | i 11 | 34 | - 3 | i 21 | 1 | - 6 | i 14 | 20 | PP 35.4 |
| Berkeley | | 73.9 | 55 | i 11 | 41 | + 2 | e 21 | 10 | 0 | — | — | — |
| Upsala | | 74.1 | 334 | i 11 | 37 | - 3 | i 21 | 2 | -10 | i 11 | 51 | PcP e 34.4 |
| Branner | Z. | 74.2 | 55 | i 11 | 42 | + 2 | — | — | — | — | — | — |
| Santa Clara | | 74.4 | 55 | e 11 | 47 | + 5 | e 21 | 14 | - 2 | — | — | e 35.6 |
| Lick | Z. | 74.6 | 55 | e 11 | 44 | + 1 | — | — | — | — | — | — |
| Butte | N. | 75.3 | 44 | e 11 | 47 | 0 | i 21 | 20 | - 6 | 21 | 51 | ScS e 30.6 |
| Fresno | Z. | 76.2 | 55 | e 11 | 57 | + 5 | — | — | — | — | — | — |
| Bozeman | | 76.4 | 43 | e 11 | 53 | 0 | — | — | — | i 11 | 59 | PcP |
| Tinemaha | Z. | 77.1 | 54 | e 11 | 58 | + 1 | — | — | — | i 12 | 2 | PcP |
| Woody | Z. | 77.4 | 55 | i 11 | 58 | 0 | — | — | — | — | — | — |
| Warsaw | | 78.1 | 327 | i 11 | 59 _a | - 3 | i 21 | 50 | - 6 | e 12 | 15 | PcP e 40.4 |
| China Lake | Z. | 78.2 | 54 | e 12 | 4 | + 1 | — | — | — | i 12 | 9 | PcP |
| Iasi | | 78.3 | 320 | e 12 | 1 | - 2 | e 21 | 51 | - 8 | e 12 | 12 | PcP |
| Auckland | N. | 78.6 | 153 | e 15 | 25 _? | PP | e 23 | 25 _? | PPS | — | — | e 40.4 |
| Pasadena | | 78.8 | 56 | e 12 | 8 | + 2 | e 22 | 0 | - 4 | i 12 | 39 | PcP e 35.9 |
| Salt Lake City | | 78.9 | 48 | e 12 | 8 | + 1 | e 21 | 55 | -10 | e 26 | 28 | SS e 32.6 |

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|-----------------|------|----------|-----|----------------------|------|----------|-------|---------|-----|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Copenhagen | | 79.1 | 333 | i 12 6 | - 2 | i 21 58 | - 9 | 26 45 | SS | 37.4 |
| Riverside | z. | 79.4 | 56 | e 12 9 | 0 | — | — | i 12 15 | PcP | — |
| Karapiro | N. | 79.8 | 153 | e 12 22 | +10 | e 22 16 | + 2 | — | — | — |
| Reykjavik | z. | 79.8 | 352 | i 12 9 | - 3 | — | — | i 12 25 | PcP | — |
| Boulder City | | 79.9 | 53 | i 12 14 | + 2 | e 22 13 | - 3 | i 12 19 | PcP | — |
| Nelson | z. | 80.1 | 53 | i 12 14 | + 1 | — | — | i 15 35 | PP | — |
| Palomar | z. | 80.1 | 56 | e 12 13 | 0 | — | — | i 12 19 | PcP | — |
| Barratt | z. | 80.6 | 57 | i 12 16 | 0 | — | — | i 12 21 | PcP | — |
| Bucharest | | 80.9 | 319 | e 12 17 | 0 | e 22 21 | - 5 | e 15 11 | PP | — |
| Raciborzu | | 80.9 | 327 | e 12 17 | 0 | e 22 41 | +15 | i 12 31 | PcP | e 49.4 |
| Istanbul | z. | 81.4 | 315 | i 12 18 | - 2 | e 22 27 | - 4 | e 15 26 | PP | — |
| Potsdam | | 81.4 | 331 | i 12 18 _a | - 2 | e 22 26 | - 5 | i 15 23 | PP | e 39.4 |
| Hamburg | | 81.7 | 333 | i 12 20 _a | - 2 | e 22 26 | - 8 | e 15 26 | PP | e 41.4 |
| Ksara | | 81.7 | 306 | i 12 22 | 0 | 22 44 | +10 | — | — | — |
| Collmberg | | 82.2 | 330 | e 12 20 | - 4 | e 22 28 | -11 | e 15 31 | PP | e 37.9 |
| Budapest | | 82.4 | 324 | e 12 25 | 0 | 22 33 | - 8 | 12 36 | PcP | 43.4 |
| Aberdeen | | 82.5 | 341 | — | — | i 22 38 | - 4 | i 35 37 | ? | 40.4 |
| Kaimata | N.E. | 82.5 | 158 | e 12 50 | +24 | — | — | — | — | — |
| Ogyalla | | 82.5 | 325 | e 12 26 | 0 | e 22 39 | - 3 | e 15 35 | PP | e 43.4 |
| Wellington | | 82.5 | 155 | e 12 29 | + 3 | e 22 35 | - 7 | — | — | e 39.4 |
| Prague | | 82.6 | 328 | i 12 24 | - 2 | e 22 37 | - 6 | e 12 34 | PcP | — |
| Szeged | N. | 82.7 | 323 | 12 27 | 0 | 22 41 | - 3 | 15 52 | PP | — |
| Vienna | | 83.0 | 326 | i 12 27 | - 1 | e 22 41 | - 6 | e 15 31 | PP | — |
| Jena | | 83.1 | 330 | i 12 26 | - 3 | e 22 41? | - 7 | e 12 41 | PcP | e 43.4 |
| Kalossa | | 83.1 | 324 | 12 29 | 0 | — | — | — | — | — |
| Boulder | | 83.2 | 45 | i 12 31 | + 2 | — | — | — | — | — |
| Jerusalem | | 83.4 | 304 | i 12 23 | - 7 | — | — | i 15 33 | PP | — |
| Witteveen | z. | 83.5 | 334 | e 12 29 | - 2 | — | — | — | — | — |
| Belgrade | | 83.6 | 322 | e 12 28 _k | - 3 | e 22 49 | - 4 | e 15 45 | PP | e 46.1 |
| Sofia | | 83.6 | 319 | e 12 31? | 0 | e 22 50 | - 3 | e 15 40 | PP | — |
| Durham | | 84.5 | 339 | — | — | e 22 53 | - 9 | i 22 43 | ? | — |
| De Bilt | | 84.6 | 334 | e 12 35 | - 1 | e 22 55 | - 8 | e 28 1 | SS | e 39.4 |
| Tucson | | 84.8 | 54 | i 12 39 | + 2 | e 22 58 | - 7 | i 12 51 | pP | — |
| Stuttgart | | 85.7 | 330 | i 12 39 _a | - 3 | e 23 5 | [0] | e 12 55 | PcP | e 45.4 |
| Karlsruhe | | 85.9 | 331 | i 12 40 _a | - 3 | e 23 7 | [0] | i 12 56 | PcP | — |
| Uccle | | 85.9 | 334 | e 12 41 | - 2 | e 23 8 | [+ 1] | e 24 5 | PS | e 41.4 |
| Triest | | 86.2 | 326 | e 11 13 | ? | e 23 10 | [+ 1] | e 22 0 | ? | e 43.2 |
| Strasbourg | | 86.4 | 331 | i 12 43 | - 2 | e 23 10 | [0] | i 12 59 | PcP | e 41.4 |
| Kew | | 86.9 | 337 | e 12 46 | - 2 | e 23 20 | - 6 | e 16 11 | PP | e 40.4 |
| Rathfarnham C. | z. | 87.1 | 341 | i 12 40 | - 9 | e 15 1 | PP | e 12 57 | PcP | — |
| Zürich | | 87.1 | 330 | e 12 45 | - 4 | e 23 19 | [+ 4] | — | — | — |
| Helwan | | 87.2 | 305 | i 12 46 _a | - 3 | 23 22 | - 6 | 16 10 | PP | — |
| Basle | | 87.4 | 330 | e 12 48 _a | - 2 | e 23 25 | - 5 | — | — | — |
| Salo | | 87.7 | 328 | e 12 57 | + 5 | e 23 33 | 0 | e 22 55 | SKS | — |
| Padova | | 87.9 | 326 | e 12 57 | + 4 | — | — | — | — | — |
| Neuchatel | | 88.0 | 330 | e 12 51 | - 2 | — | — | — | — | — |
| Bologna | | 88.2 | 326 | e 13 8 | +14 | e 23 34 | - 4 | e 24 17 | PS | — |
| Paris | | 88.3 | 334 | i 12 54 | - 1 | e 23 18 | [- 4] | i 13 10 | pP | e 42.4 |
| Pavia | | 88.6 | 328 | e 12 54 | - 2 | e 23 40 | - 2 | e 16 23 | PP | e 45.0 |
| Florence | | 88.8 | 326 | i 12 52 | - 5 | e 23 18 | [- 7] | i 16 43 | PP | 44.8 |
| Oropa | | 88.8 | 329 | e 12 55 | - 2 | e 23 46 | + 2 | e 16 19 | PP | e 45.8 |
| Prato | | 88.8 | 326 | e 12 56 | - 1 | e 21 49 | ? | — | — | — |
| Kirkland Lake | z. | 89.0 | 26 | e 12 58 | 0 | — | — | — | — | — |
| Siena | | 89.1 | 326 | e 13 9 | +11 | 24 3 | +17 | — | — | 43.4 |
| Jersey | E. | 89.5 | 337 | e 13 46 | ? | e 23 44 | {+ 6} | e 16 58 | PP | 43.4 |
| Rome | | 89.6 | 324 | i 12 59 _a | - 2 | e 23 45 | - 6 | i 16 30 | PP | e 42.4 |
| Reggio Calabria | | 90.9 | 320 | e 13 4 | - 3 | — | — | e 16 34 | PP | — |
| Chicago | | 91.2 | 34 | — | — | e 23 32 | [- 8] | i 23 57 | S | e 36.6 |
| Fayetteville | | 92.2 | 42 | i 13 12 | - 1 | e 24 10 | - 4 | i 13 18 | PcP | — |
| Ottawa | | 92.9 | 25 | i 13 16 _a | 0 | 24 13 | - 7 | 16 49 | PP | — |

Continued on next page.

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|------------|------------|----------|-------|---------|------------------|---------|------|
| | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Seven Falls | 93.0 | 21 | e 13 20 | + 3 | — | — | — | — |
| Dallas | 93.1 | 45 | e 13 18 | + 1 | — | — | — | — |
| Terre Haute | 93.1 | 35 | e 15 35 | ? | — | — | e 20 25 | ! |
| Buffalo (Larkin) | 94.0 | 28 | e 13 25 | + 4 | — | — | — | — |
| Cleveland | 94.0 | 31 | e 13 25 | + 4 | i 23 50 | [- 6] | i 24 29 | SKKS |
| Harvard | 96.9 | 24 | e 13 36 | + 2 | i 26 10 | PS | e 17 25 | PP |
| Halifax | 97.2 | 17 | — | — | e 24 54 | - 3 | — | — |
| Palisades | 97.4 | 26 | e 13 35 | - 2 | e 24 51 | - 8 | e 17 33 | PP |
| Fordham | 97.6 | 26 | e 17 16 | ? | — | — | e 17 52 | PP |
| Philadelphia | 97.8 | 27 | — | — | e 24 18 | [+ 2] | e 25 8 | S |
| Algiers Univ. | z. 98.1 | 327 | e 13 46 | + 6 | — | — | e 17 49 | PP |
| Alicante | 98.3 | 330 | 14 36 | +55 | e 25 16 | +10 | — | — |
| Toledo | 98.3 | 334 | e 13 45 | + 4 | e 24 59 | - 7 | 17 40 | PP |
| Almeria | 100.4 | 331 | 13 58 | + 8 | e 24 30 | [+ 1] | — | — |
| Columbia | 100.5 | 34 | e 18 6 | PP | e 24 24 | [- 5] | e 26 50 | PS |
| Granada | 100.5 | 332 | i 13 41k | -10 | 25 39 | +14 | i 17 57 | PP |
| Tacubaya | 101.1 | 56 | e 13 55 | + 2 | e 25 10 | -20 | e 19 0 | ? |
| Malaga | 101.2 | 332 | 18 4 | PP | 24 35 | [+ 2] | 28 21 | PPS |
| Tananarive | 103.4 | 256 | e 14 2 | - 2 | — | — | e 18 17 | PP |
| Averroes | 105.4 | 333 | e 18 34 | PP | — | — | — | — |
| Tamanrasset | z. 108.3 | 317 | e 18 52 | [+22] | e 19 6 | PP | e 20 58 | PPP |
| Pretoria | z. 122.3 | 260 | e 18 58 | [+ 1] | — | — | — | — |
| M'Bour | 126.1 | 333 | e 20 57 | PP | — | — | — | — |
| Kimberley | z. 126.3 | 258 | i 18 38 | [-27] | — | — | — | — |
| Bogota | 128.3 | 47 | i 19 21 | [+12] | i 26 17 | [+ 2] | i 21 19 | PP |
| Huancayo | 139.8 | 64 | e 19 26 | [- 4] | e 41 31 | SSP | — | — |
| La Paz | 147.9 | 61 | i 19 51 | [+ 7] | i 20 5 | PKP ₂ | i 23 33 | PP |
| Monetzuma | z. 151.1 | 72 | i 19 59k | [+10] | — | — | — | — |
| La Plata | 164.6 | 93 | 28 49 | PPP | 45 25 | SS | — | — |

July 18d. 10h. 38m. 17s. Epicentre 36°·4N. 140°·9E. Depth of focus 40km.
Intensity V at Tsubasan, Mito, and Tateno; IV at Onahama, Kakioka, Tokyo, Kashiwa, and Titibu; II-III at Utunomiya, Shirakawa, Kumagaya, Hukusima, Yokohama, and Maebasi.
Seismo. Bull. Cent. Met. Obs., Japan, for July, 1954, Tokyo, 1954, pp. 26-28, with macroseismic chart.

July 18d. 12h. 46m. 35s. Epicentre 35°·5N. 141°·0E. Depth of focus 50km.
Intensity IV at Kakioka, Tokyo, Yokohama, and Osima; II-III at Tyosi, Kashiwa, Ajiro, and Misima.
Loc. cit., 10., pp. 28-30, with macroseismic chart.

July 18d. 13h. 19m. Epicentre 37°·5N. 23°E.
Intensity V at Pyrgos and Amelias; IV at Gastoumi, Andravida, Laecaena, Kyllini, Vortholomio, and Olympia. Magnitude 5.4. Recorded up to 87°.
Loc. cit., 14h. 42m. below, p. 87.

July 18d. 14h. 20m. 13s. Epicentre 35°·6N. 141°·0E. Depth 40km.
Intensity IV at Tyosi, Kakioka, and Tokyo; II-III at Kashiwa, Mera, Osima, and Miyakezima.
Loc. cit., 10h., pp. 30-32, with macroseismic chart.

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July 18d. 14h. 42m. 30s. Epicentre 37°·6N. 21°·2E.

Intensity V at Pyrgos, Vartholomio, Amalias, Lechaena, Gastouni, Kalydona in Elis, and Kalavryta in Achaia; III at Patras, Andritsaena, and Kyparissa.

Unfelt at Tripolis. Magnitude 5·5.

Seismo. Institute Bulletin for 1954, National Observatory of Athens, 1955, p. 87.

A = +·7405, B = +·2872, C = +·6076; $\delta = 0$; $h = -1$;
D = +·362, E = -·932; G = +·566, H = +·220, K = -·794.

| | Δ ° | Az. ° | P. | | O-C. | | S. | | O-C. | | Supp. | | L. m. |
|-----------------|---------------|----------|-----|-----|------------------|-----|----|------------------|------|-----|----------------|--------|----------|
| | | | m. | s. | s. | m. | s. | m. | s. | m. | s. | | |
| Athens | 2·0 | 78 | i 0 | 41k | + 1 _e | i 1 | 2 | 0 | i 1 | 9 | S _g | — | |
| Taranto | 4·2 | 314 | 1 | 9 | + 2 | 2 | 2 | + 5 | — | — | — | — | |
| Reggio Calabria | 4·5 | 278 | e 1 | 13 | + 2 | i 1 | 59 | - 6 | i 2 | 14 | S* | — | |
| Sofia | 5·3 | 17 | e 1 | 22 | 0 | e 2 | 26 | + 1 | — | — | — | — | |
| Istanbul | 7·0 | 58 | e 1 | 48 | + 2 | e 3 | 6 | - 2 | e 2 | 29 | P _g | — | |
| Belgrade | 7·3 | 356 | e 1 | 46a | - 4 | e 3 | 16 | + 1 | e 2 | 20 | P _g | — | |
| Bucharest | 7·8 | 27 | e 1 | 59 | + 1 | e 3 | 34 | + 6 | e 3 | 6 | ? | 3·7 | |
| Rome | 8·0 | 305 | e 2 | 6 | + 6 | e 3 | 28 | - 5 | e 3 | 49 | ? | — | |
| Timisoara | 8·2 | 0 | e 2 | 18 | P* | e 4 | 39 | + 8 _g | — | — | — | — | |
| Szeged | 8·7 | 355 | 2 | 27 | P* | e 3 | 58 | + 8 | e 2 | 48 | P _g | — | |
| Kalossa | 9·1 | 350 | 2 | 53 | P _g | 3 | 48 | -12 | 4 | 22 | S* | e 5·2 | |
| Focsani | 9·2 | 27 | e 2 | 35 | P* | — | — | — | — | — | — | — | |
| Florence | 9·8 | 312 | e 2 | 54 | P* | e 4 | 34 | +17 | — | — | — | 6·0 | |
| Triest | 9·8 | 328 | e 2 | 10 | -14 | e 4 | 7 | -10 | e 2 | 26 | P | — | |
| Padova | 9·9 | 317 | e 2 | 32 | + 7 | e 4 | 26 | + 6 | — | — | — | — | |
| Prato | 9·9 | 312 | e 2 | 52 | +27 | e 4 | 53 | +33 | — | — | — | — | |
| Budapest | 10·0 | 352 | 2 | 41 | +14 | e 4 | 8 | -14 | 2 | 56 | P* | 6·2 | |
| Bologna | 10·2 | 316 | e 2 | 49 | +18 | e 4 | 41 | +14 | e 4 | 57 | S* | e 6·2 | |
| Ogyalla | 10·5 | 349 | e 3 | 18 | ? | e 4 | 41 | + 6 | e 4 | 11 | ? | e 5·4 | |
| Iasi | 10·7 | 24 | e 2 | 59 | +21 | — | — | — | — | — | — | — | |
| Salo | N. 11·3 | 318 | e 2 | 53 | + 7 | i 4 | 42 | -12 | — | — | — | e 5·8 | |
| Helwan | 11·4 | 130 | 2 | 45 | - 2 | 5 | 0 | + 4 | 2 | 55 | PP | — | |
| Pavia | 11·8 | 314 | e 3 | 41 | ? | e 5 | 41 | L | — | — | — | e 7·4 | |
| Ksara | 12·5 | 103 | 3 | 9 | + 7 | — | — | — | — | — | — | i 6·0 | |
| Safed | 12·5 | 107 | i 3 | 1 | - 1 | i 5 | 11 | -12 | — | — | — | — | |
| Raciborzu | 12·7 | 351 | i 2 | 57 | - 8 | — | — | — | — | — | — | e 6·5 | |
| Oropa | 12·8 | 313 | e 3 | 35 | ? | e 5 | 57 | +27 | — | — | — | e 7·9 | |
| Jerusalem | 12·9 | 113 | i 2 | 58 | - 9 | i 5 | 15 | -18 | — | — | — | — | |
| Prague | 13·4 | 341 | i 3 | 12 | - 2 | e 5 | 33 | -12 | e 3 | 24 | PP | e 6·9 | |
| Zürich | 13·5 | 320 | e 3 | 16 | + 1 | e 5 | 40 | - 7 | e 3 | 24 | PP | — | |
| Basle | 14·1 | 319 | e 3 | 24 | + 1 | e 6 | 12 | +10 | — | — | — | — | |
| Neuchatel | 14·2 | 316 | e 3 | 20 | - 4 | — | — | — | — | — | — | e 7·6 | |
| Stuttgart | 14·2 | 326 | e 3 | 20 | - 4 | e 6 | 7 | + 3 | e 3 | 39 | PPP | — | |
| Algiers Univ. | z. 14·5 | 272 | e 3 | 26 | - 2 | e 5 | 45 | -26 | 3 | 46 | PPP | e 7·0 | |
| Warsaw | 14·6 | 359 | e 3 | 30 | 0 | e 6 | 14 | + 1 | 3 | 36 | PP | e 7·2 | |
| Karlsruhe | 14·7 | 325 | e 3 | 38k | + 7 | e 5 | 58 | -18 | e 3 | 50 | PP | e 6·5 | |
| Strasbourg | 14·7 | 322 | e 3 | 35 | + 4 | e 6 | 32 | +16 | e 3 | 49 | PP | — | |
| Collnberg | 14·9 | 340 | e 3 | 31 | - 3 | e 8 | 12 | ? | e 3 | 39 | PP | e 10·0 | |
| Jena | 15·0 | 336 | e 3 | 32? | - 3 | e 6 | 25 | + 2 | e 3 | 41 | PP | — | |
| Potsdam | 15·9 | 341 | e 3 | 49 | + 2 | e 6 | 57 | SS | e 4 | 4 | PP | e 8·5 | |
| Alicante | 17·2 | 279 | e 3 | 58 | - 5 | e 7 | 0 | -14 | 4 | 13 | PP | 8·1 | |
| Paris | 17·6 | 315 | i 4 | 10 | + 2 | i 4 | 22 | PP | i 4 | 30 | PPP | 10·5 | |
| Hamburg | 17·8 | 338 | e 4 | 12a | + 1 | e 7 | 31 | + 3 | e 4 | 33 | PP | e 10·4 | |
| Uccle | 17·9 | 323 | e 4 | 9 | - 3 | e 7 | 35 | + 5 | e 4 | 25 | PP | e 9·5 | |
| De Bilt | 18·3 | 327 | e 4 | 17 | 0 | e 7 | 51 | +12 | — | — | — | e 9·5 | |
| Copenhagen | 19·1 | 345 | i 4 | 25 | - 2 | i 8 | 3 | + 4 | — | — | — | 10·5 | |
| Granada | 19·8 | 276 | i 4 | 32k | - 3 | 8 | 20 | + 7 | 4 | 51 | PP | 11·1 | |
| Toledo | 19·9 | 284 | i 4 | 36 | 0 | e 8 | 19 | + 4 | — | — | — | — | |
| Tamanrasset | z. 20·0 | 227 | e 4 | 35 | - 2 | e 8 | 7 | -10 | e 5 | 47 | ? | 9·7 | |
| Jersey | E. 20·5 | 312 | e 3 | 51 | ? | e 6 | 0 | ? | — | — | — | — | |
| Kew | 20·6 | 319 | e 4 | 46 | + 3 | i 8 | 32 | + 3 | i 5 | 21? | PP | e 13·0 | |
| Upsala | 22·4 | 355 | i 4 | 58a | - 4 | i 9 | 9 | + 5 | i 5 | 27 | PP | e 12·5 | |
| Durham | 23·2 | 325 | — | — | — | i 9 | 6 | -12 | i 9 | 13 | S | 13·3 | |
| Averroes | 23·7 | 268 | i 5 | 15 | + 1 | e 6 | 35 | ? | e 5 | 35 | PP | — | |
| Rathfarnham C. | z. 24·7 | 318 | i 5 | 40? | +16 | — | — | — | — | — | — | e 12·7 | |

Continued on next page,

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------|----|----------|-----|----------|------|--------|------|--------|------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Aberdeen | | 25.0 | 329 | i 5 32 | + 5 | i 9 48 | - 1 | i 7 30 | 14.4 |
| Kiruna | | 30.3 | 359 | i 6 12 | - 3 | e 11 8 | - 7 | e 7 23 | PPP |
| Quetta | z. | 38.4 | 87 | e 7 25 | 0 | — | — | — | — |
| Chatra | z. | 55.8 | 81 | e 9 41 | 0 | — | — | — | — |
| Shillong | z. | 60.1 | 79 | e 10 9 | - 2 | — | — | — | — |
| Halifax | | 61.6 | 306 | e 10 20k | - 2 | — | — | — | — |
| Pretoria | z. | 63.3 | 173 | e 10 38 | + 5 | — | — | — | — |
| Seven Falls | | 64.9 | 311 | e 10 41a | - 2 | — | — | — | — |
| Weston | | 67.6 | 307 | e 11 0 | - 1 | — | — | — | — |
| Ottawa | | 68.7 | 311 | e 11 7k | 0 | — | — | — | — |
| San Juan | | 77.0 | 283 | e 11 56 | 0 | — | — | — | — |
| College | | 77.5 | 355 | e 11 58 | - 1 | — | — | — | — |
| Fayetteville | | 85.4 | 313 | i 12 40 | 0 | — | — | — | — |
| Hungry Horse | | 85.6 | 332 | i 12 42 | + 1 | — | — | — | — |
| Bozeman | | 86.7 | 329 | e 12 47 | 0 | — | — | — | — |
| Nelson | z. | 96.5 | 325 | e 13 32 | 0 | — | — | — | — |

July 18d. 15h. 53m. 9s. Epicentre 35°·6N. 140°·9E. Depth of focus 40km.
Intensity IV at Tyosi and Kakioka ; II:III at Mito, Osima, and Tokyo.
Loc. cit., 10h., pp. 32-33, with macroseismic chart.

July 18d. 19h. 53m. 26s. Epicentre 30°·6S. 179°·9W. Depth of focus 0·060.

A = -·8623, B = -·0015, C = -·5065 ; δ = +11 ; h = +2 ;
D = -·002, E = +1·000 ; G = +·506, H = +·001, K = -·862.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------------|------|----------|-----|---------|------|---------|------|---------|----|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Auckland | N. | 7.6 | 214 | 1 34? | -18 | 3 5? | -15 | — | — |
| Karapiro | N. | 8.2 | 206 | 1 59 | + 1 | e 3 35 | + 3 | — | — |
| Tuai | N. | 8.5 | 196 | i 2 2 | 0 | i 3 34 | - 4 | — | — |
| Tongariro | z. | 9.3 | 202 | i 2 9 | - 2 | 3 58 | + 4 | — | — |
| New Plymouth | E. | 9.8 | 209 | e 2 18 | + 1 | i 4 12 | + 7 | — | — |
| Wellington | N. | 11.5 | 201 | e 2 33 | - 3 | e 4 35 | - 5 | — | — |
| Kaimata | N.E. | 13.8 | 208 | e 2 56 | - 6 | e 5 22 | - 5 | — | — |
| Christchurch | N.W. | 14.2 | 203 | — | — | e 5 32 | - 3 | — | — |
| Nouméa | | 14.7 | 301 | e 3 12k | + 1 | — | — | — | — |
| Apia | | 18.3 | 26 | 3 46 | - 1 | 6 50 | - 1 | — | — |
| Brisbane | | 23.9 | 271 | e 4 43 | + 3 | e 8 33 | + 7 | — | — |
| Riverview | | 24.6 | 255 | i 4 48a | + 2 | e 8 42 | + 5 | i 5 56 | pP |
| Manila | | 72.4 | 299 | i 10 44 | 0 | i 19 43 | +10 | — | — |
| Matusiro | | 77.5 | 327 | e 11 13 | 0 | 20 53 | +25 | — | — |
| Yuzno-Sakhlinsk | | 84.3 | 335 | i 11 49 | + 1 | e 21 32 | - 5 | — | — |
| Petropavlovsk | | 85.4 | 347 | e 11 44 | - 9 | — | — | — | — |
| Uglegorsk | | 86.3 | 336 | 11 58 | + 1 | e 21 48 | - 8 | — | — |
| Barratt | z. | 86.8 | 49 | i 12 1 | + 1 | — | — | — | — |
| Berkeley | | 86.8 | 42 | — | — | e 22 12 | +11 | — | — |
| Lick | z. | 86.8 | 43 | i 12 1 | + 1 | — | — | — | — |
| Pasadena | z. | 86.8 | 47 | i 12 1 | + 1 | — | — | — | — |
| Palomar | z. | 87.1 | 48 | i 12 3 | + 2 | — | — | — | — |
| Riverside | z. | 87.2 | 48 | i 12 2 | 0 | — | — | — | — |
| Woody | z. | 87.4 | 46 | i 12 3 | 0 | — | — | e 13 25 | pP |
| Fresno | z. | 87.5 | 44 | e 12 5 | + 2 | — | — | — | — |
| Klyuchi | | 88.1 | 349 | i 12 6 | 0 | — | — | — | — |
| China Lake | z. | 88.3 | 46 | i 12 8 | + 1 | — | — | e 13 34 | pP |
| Tinemaha | z. | 88.6 | 45 | e 12 9 | + 1 | — | — | — | — |
| Shasta | z. | 88.7 | 40 | e 12 9 | 0 | — | — | — | — |
| Mineral | z. | 88.9 | 41 | i 12 10 | 0 | — | — | — | — |
| Nelson | z. | 89.9 | 48 | i 12 16 | + 2 | — | — | e 13 43 | pP |
| Boulder City | | 90.1 | 47 | i 12 17 | + 2 | i 22 46 | +15 | i 13 45 | pP |
| Tucson | | 90.5 | 52 | e 12 19 | + 2 | — | — | — | — |
| Butte | N. | 97.6 | 40 | — | — | e 23 11 | SKKS | — | — |
| College | | 98.4 | 13 | i 12 51 | - 2 | — | — | — | — |

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-------------|----|------------|------------|----------|------------------|---------|------------------|---------|-------------------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Ottawa | | 120.6 | 52 | e 18 4k | [+ 1] | — | — | — | — |
| Andijan | | 121.9 | 302 | i 18 8 | [+ 2] | — | — | e 19 44 | PP |
| Quetta | z. | 123.2 | 288 | e 18 10 | [+ 2] | — | — | — | — |
| Seven Falls | | 124.2 | 51 | e 18 11k | [+ 1] | — | — | — | — |
| Sverdlovsk | | 131.0 | 321 | 18 26 | [+ 3] | e 21 52 | PKS | — | — |
| Kiruna | z. | 140.9 | 348 | i 18 36 | [- 6] | — | — | — | — |
| Tiflis | | 142.6 | 300 | e 18 43 | [- 2] | — | — | — | — |
| Moscow | | 143.6 | 324 | i 18 46 | [- 1] | — | — | e 21 59 | PP |
| Pulkovo | | 144.5 | 334 | i 18 49 | [+ 1] | — | — | e 22 10 | PP |
| Upsala | | 148.5 | 343 | i 18 59 | [+ 5] | — | — | i 19 23 | PKP ₂ |
| Ksara | | 149.7 | 286 | i 19 1 | [+ 5] | — | — | e 16 11 | ? |
| Safed | | 149.9 | 284 | i 19 5 | [+ 9] | — | — | i 20 37 | pPKP |
| Jerusalem | | 150.0 | 281 | i 19 1 | [+ 4] | — | — | — | — |
| Helwan | z. | 153.1 | 276 | i 19 3 | [+ 2] | — | — | e 19 25 | PKP ₂ |
| Copenhagen | | 153.5 | 344 | i 19 11 | [+ 9] | — | — | i 19 25 | PKP ₂ |
| Warsaw | z. | 153.5 | 330 | e 19 12 | [+ 10] | i 19 26 | PKP ₂ | e 21 38 | pPKP ₂ |
| Lwow | | 153.7 | 324 | e 19 2 | [0] | — | — | i 19 27 | PKP ₂ |
| Hamburg | z. | 156.0 | 345 | i 19 38 | PKP ₂ | — | — | — | — |
| Collnberg | z. | 157.2 | 339 | e 19 8 | [+ 1] | e 23 17 | PP | e 19 20 | PKP ₂ |
| Jena | | 158.0 | 340 | e 19 8 | [0] | e 23 21 | PP | e 20 54 | pPKP |
| Stuttgart | | 160.6 | 342 | e 19 12 | [+ 1] | — | — | e 19 56 | PKP ₂ |
| Strasbourg | | 161.1 | 344 | i 20 0 | PKP ₂ | — | — | — | — |
| Paris | | 161.8 | 355 | i 20 2 | PKP ₂ | — | — | — | — |
| Tamanrasset | z. | 170.8 | 213 | e 19 22 | [+ 3] | e 28 18 | PPP | e 21 0 | pPKP |

July 19d. 7h. 4m. Epicentre 21°·8N. 121°·2E. Depth of focus 40km.
Seismo. Bulletin of the Taiwan Weather Bureau for July-Sept., 1954, Vol. 1, No. 3, Taipei, 1954, pp. 14-15.

July 19d. 7h. 11m. Epicentre 22°·3N. 121°·5E. Depth of focus 40km.
Intensity II-III at Hengchun.
Loc. cit., 7h. 4m., p. 15.

July 19d. 14h. 49m. Epicentre 41°·3N. 44°·0E.
Bulletin of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, p. 66.

July 20d. 2h. 15m. Epicentre 42°·5N. 44°·9E.
Bulletin of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, p. 66.

July 20d. 5h. 30m. Epicentre 43°·5N. 77°·4E.
Loc. cit., 2h., p. 66.

July 21d. 4h. 38m. 52s. Epicentre 27°·7N. 101°·0E.

$$A = -.1692, B = +.8704, C = +.4624; \quad \delta = +4; \quad h = +2;$$

$$D = +.982, E = +.191; \quad G = -.088, H = +.454, K = -.887.$$

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|---------------|----|------------|------------|-------------------|------|--------|------|-------|----|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Shillong | | 8.4 | 258 | i 2 5 | - 1 | e 3 39 | - 4 | — | — |
| Lanchow Univ. | N. | 8.7 | 15 | e 2 12 | + 2 | — | — | — | — |
| Sining | | 8.9 | 4 | e 2 16 | + 4 | 4 0 | + 5 | — | — |
| Sian | E. | 9.5 | 44 | e 2 23 | + 3 | e 4 13 | + 3 | — | — |
| Wuwei | | 10.3 | 7 | e 2 35 | + 3 | 4 38 | + 8 | — | — |
| Yinchuan | | 11.6 | 21 | e 2 58 | + 8 | e 5 9 | + 8 | — | — |
| Linfen | | 12.2 | 44 | e 2 59 | + 1 | 5 13 | - 3 | — | — |
| Chatra | z. | 12.3 | 269 | i 2 59 | 0 | — | — | — | — |
| Calcutta | N. | 12.5 | 249 | — | — | i 5 9 | - 14 | — | — |
| Hong Kong | E. | 13.1 | 111 | 3 6 | - 4 | 5 39 | + 1 | — | — |
| Taiyuan | | 14.0 | 41 | e 3 20 | - 2 | e 5 57 | - 2 | — | — |
| Paotow | | 14.9 | 28 | e 3 32 | - 2 | e 6 19 | - 1 | — | — |
| Tatung | | 16.0 | 36 | e 3 52 | + 4 | e 6 53 | + 7 | — | — |
| Nanking | | 16.1 | 70 | 3 47 _a | - 2 | i 6 47 | - 2 | — | — |
| Kwanting | | 17.4 | 40 | e 4 9 | + 3 | e 7 27 | + 8 | — | — |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------------|----|------------|------------|----------|------|---------|------|---------|------------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Z6-S6 | E. | 17.9 | 74 | 4 14 | + 2 | e 7 33 | + 3 | — | — |
| Tainan | | 18.0 | 101 | 4 13 | 0 | 7 42 | +10 | — | — |
| Taichung | | 18.1 | 97 | 4 23 | + 9 | 7 29 | - 6 | — | — |
| Hsinchu | | 18.2 | 94 | e 4 8 | - 8 | — | — | — | — |
| Taipei | | 18.6 | 94 | e 4 42 | +21 | 7 56 | +10 | — | — |
| Hengchun | | 18.8 | 103 | e 4 26 | + 3 | 8 16 | +26 | — | — |
| Tawu | | 18.8 | 102 | 4 22 | - 1 | 7 28 | -22 | — | — |
| Ilan | | 18.9 | 94 | e 4 38 | +14 | 7 49 | - 4 | — | — |
| Hwalien | | 19.0 | 97 | 4 28 | + 2 | 7 37 | -18 | — | — |
| Dehra Dun | | 20.2 | 283 | e 4 41 | + 2 | i 8 27 | + 6 | 16 14 | ScS 9.7 |
| New Delhi | | 21.0 | 278 | e 4 49 | + 2 | 8 40 | + 3 | 8 54 | PcP 9.4 |
| Baguio | | 21.3 | 118 | i 4 50 | 0 | i 8 53 | +10 | — | — |
| Manila | | 22.7 | 121 | i 5 4 | 0 | i 9 14 | + 5 | — | — |
| Hyderabad | N. | 23.1 | 249 | e 5 4 | - 4 | i 9 21 | + 5 | — | 11.7 |
| Naryn | | 24.6 | 310 | i 5 25 | + 2 | — | — | — | — |
| Irkutsk | | 24.7 | 5 | 5 24 | 0 | — | — | — | — |
| Almata | | 24.9 | 315 | i 5 28 | + 2 | i 10 1 | +14 | — | — |
| Changchun | E. | 25.4 | 44 | e 5 33 | + 2 | e 9 43 | -13 | — | — |
| Frunse | | 26.2 | 312 | i 5 39 | + 1 | — | — | — | — |
| Andijan | | 26.9 | 306 | i 5 46 | + 1 | — | — | — | — |
| Bombay | | 27.2 | 257 | e 5 49 | + 2 | e 10 34 | + 9 | 6 56 | PPP 13.0 |
| Fergana | | 27.2 | 305 | i 5 47 | 0 | — | — | — | — |
| Semipalatinsk | | 27.6 | 331 | i 5 51 | 0 | — | — | — | — |
| Tashkent | | 29.3 | 306 | e 6 7 | + 1 | — | — | — | — |
| Vladivostok | | 29.3 | 50 | e 6 4 | - 2 | e 10 58 | - 1 | — | — |
| Quetta | | 29.8 | 283 | i 6 11k | 0 | i 11 10 | + 3 | e 12 39 | SS |
| Matusiro | | 32.6 | 65 | e 6 34 | - 1 | e 11 47 | - 4 | — | — |
| Djakarta | | 34.1 | 170 | e 6 48 | 0 | e 12 32 | +18 | — | e 18.0 |
| Lembang | | 34.9 | 168 | i 6 57k | + 2 | — | — | i 7 5 | ? |
| Yuzno-Sakhlinsk | | 37.8 | 48 | e 7 17 | - 3 | — | — | — | — |
| Ulegorsk | | 38.0 | 44 | e 7 18 | - 3 | — | — | — | — |
| Sverdlovsk | | 40.8 | 327 | i 7 46 | - 1 | — | — | — | — |
| Kurilsk | | 41.0 | 52 | e 7 44 | - 2 | — | — | — | — |
| Magadan | | 46.4 | 32 | i 8 27 | - 3 | — | — | — | — |
| Tiflis | | 47.5 | 302 | i 8 39 | + 1 | — | — | — | — |
| Erevan | | 47.8 | 300 | 8 41 | 0 | — | — | — | — |
| Moscow | | 52.7 | 320 | 9 18 | 0 | — | — | — | — |
| Ksara | | 55.5 | 294 | i 9 41 | + 2 | e 17 52 | PPS | — | — |
| Jerusalem | | 56.5 | 291 | i 9 47 | + 1 | — | — | i 10 40 | PcP |
| Pulkovo | | 56.8 | 325 | i 9 48 | 0 | — | — | — | — |
| Helwan | Z. | 60.2 | 290 | e 10 10 | - 2 | — | — | — | — |
| Kiruna | | 61.1 | 335 | i 10 16k | - 2 | e 18 43 | + 6 | i 12 29 | PP e 32.1 |
| Lwow | | 61.2 | 314 | i 10 18 | - 1 | — | — | — | — |
| Warsaw | | 62.6 | 317 | i 10 28k | 0 | e 18 48 | - 8 | e 14 20 | PPP e 34.1 |
| Upsala | | 63.2 | 326 | i 10 31k | - 1 | e 19 1 | - 2 | — | e 34.1 |
| Raciborzu | | 64.8 | 315 | e 10 44 | + 1 | — | — | e 11 50 | ? |
| Prague | | 67.2 | 316 | i 10 58 | 0 | e 11 42 | ? | e 13 35 | PP |
| Potsdam | | 67.4 | 318 | i 10 59k | 0 | e 20 2 | + 7 | e 13 26 | PP e 31.1 |
| Collmberg | Z. | 67.7 | 317 | e 11 0? | - 1 | — | — | e 17 49 | ? |
| Jena | | 68.7 | 317 | e 11 6 | - 1 | e 11 11 | ? | e 11 19 | ? |
| Hamburg | | 68.8 | 320 | i 11 8k | 0 | — | — | — | e 33.8 |
| Tananarive | | 69.4 | 234 | e 11 11 | - 1 | — | — | — | — |
| Witteveen | Z. | 70.9 | 320 | i 11 16k | - 5 | — | — | — | — |
| Florence | Z. | 71.2 | 310 | i 11 22k | - 1 | — | — | — | — |
| Karlsruhe | Z. | 71.2 | 316 | e 11 22k | - 1 | — | — | — | — |
| Zürich | | 71.7 | 314 | e 11 25 | - 1 | e 20 24 | -21 | e 13 27 | ? |
| Strasbourg | | 71.8 | 316 | i 11 26 | 0 | e 11 40 | PcP | e 12 46 | ? |
| De Bilt | | 72.0 | 320 | e 11 26 | - 2 | — | — | — | e 38.1 |
| Basle | | 72.3 | 315 | e 11 28 | - 1 | — | — | — | — |
| Uccle | | 73.0 | 319 | i 11 32 | - 1 | — | — | e 12 13 | ? |
| College | | 73.7 | 24 | i 11 35 | - 3 | — | — | i 11 41 | ? |
| Brisbane | | 74.2 | 133 | i 11 39 | - 1 | — | — | — | — |
| Paris | | 74.9 | 317 | i 11 44 | 0 | e 21 42 | PS | e 14 33 | PP e 41.1 |
| Kew | | 75.4 | 321 | i 11 47k | 0 | e 21 8? | -19 | — | e 41.1 |
| Reykjavik | Z. | 78.2 | 338 | i 12 3 | 0 | — | — | — | — |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|----------------|----|------------|------------|---------|---------|--------|------|---------|-----|------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. | |
| Algiers Univ. | z. | 79.8 | 306 | e 12 10 | - 2 | — | — | e 12 26 | PcP | — |
| Tamanrasset | z. | 84.3 | 293 | i 12 35 | 0 | e 13 7 | ? | e 15 48 | PP | — |
| Malaga | | 85.1 | 309 | i 12 40 | + 1 | — | — | — | — | 53.6 |
| Hungry Horse | | 98.1 | 23 | i 13 39 | - 1 | — | — | e 17 35 | PP | — |
| Salt Lake City | | 105.4 | 25 | e 18 32 | PP | — | — | — | — | — |
| Woody | z. | 106.6 | 33 | e 18 40 | PP | — | — | — | — | — |
| China Lake | z. | 107.1 | 32 | e 18 32 | PKP | — | — | — | — | — |
| Mount Wilson | z. | 108.2 | 33 | e 18 48 | PP | — | — | — | — | — |
| Nelson | z. | 108.5 | 30 | e 18 30 | PKP | — | — | i 18 55 | PP | — |
| Riverside | z. | 108.7 | 33 | e 18 56 | PP | — | — | — | — | — |
| Palomar | z. | 109.5 | 33 | e 19 3 | PP | — | — | — | — | — |
| Barratt | z. | 110.1 | 33 | e 19 13 | PP | — | — | — | — | — |
| Tucson | | 113.2 | 29 | e 18 40 | [0] | — | — | — | — | — |
| Fayetteville | | 115.0 | 14 | e 19 36 | PP | — | — | — | — | — |
| Bogota | | 147.5 | 351 | e 20 7 | [+24] | — | — | — | — | — |

July 21d. 7h. 3m. Epicentre 23°·5N, 121°·3E.

Seismo. Bulletin of the Taiwan Weather Bureau for July-Sept., 1954, Vol. 1, No. 3, Taipei, 1954, p. 16.

July 21d. 8h. 7m. 18s. Epicentre 33°·7N, 132°·3E.

Intensity V at Kure; IV at Matuyama; II-III at Uwazima, Hiroshima, Koti, and Matunaga
Seismo. Bull. Cent. Met. Obs., Japan, for July, 1954, Tokyo, 1954, pp. 33-34, with macroseismic chart.

July 21d. 13h. 8m. Epicentre 38°·5N, 143°E. Depth of focus 40km.

Intensity II-III at Isinomaki.
Loc. cit., 8h., p. 35.

July 21d. 13h. 39m. Epicentre 23°·7N, 121°·8E. Depth of focus 40km.

Intensity II-III at Hwalien, Hsinkong, Alishan, and Taichung.
Loc. cit., 7h., p. 16.

July 21d. 13h. 50m. 20s. Epicentre 33°·3N, 141°·6E.

Intensity II-III at Utunomiya, Hatidyojima, Osima, and Tokyo.

Epicentre 33°·7N, 141°·2E. Depth of focus 40km.

Seismo. Bull. Cent. Met. Obs., Japan, for July, 1954, Tokyo, 1954, pp. 35-37, with macroseismic chart.

$$A = -0.6564, B = +0.5202, C = +0.5464; \quad \delta = +2; \quad h = 0;$$

$$D = +0.621, E = +0.784; \quad G = -0.428, H = +0.339, K = -0.838.$$

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-------------|----|------------|------------|---------|------------------|--------|------|--------|----------------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Hatidyojima | | 1.5 | 262 | i 0 31k | + 1 _g | 0 46 | - 2* | — | — |
| Mera | | 2.1 | 319 | 0 35 | - 2 | 0 53 | - 11 | i 0 41 | P _c |
| Osima | | 2.3 | 309 | i 0 37k | - 3 | i 0 59 | - 10 | e 0 43 | P* |
| Tyosi | N. | 2.5 | 347 | e 0 48 | - 2 _r | e 1 5 | - 9 | — | — |
| Yokohama | | 2.6 | 324 | 0 44 | 0 | 1 6 | - 11 | — | — |
| Ajiro | | 2.7 | 311 | 0 42 | - 3 | 1 0 | - 19 | — | — |
| Kashiwa | | 2.8 | 333 | e 0 47 | 0 | e 1 14 | - 8 | — | — |
| Misima | | 2.8 | 310 | i 0 43k | - 4 | 1 5 | - 17 | i 0 51 | P* |
| Tokyo | | 2.8 | 328 | e 0 44 | - 3 | i 1 11 | - 11 | e 1 6 | ? |
| Omaesaki | | 3.0 | 296 | i 0 49k | - 1 | 1 24 | - 3 | e 1 0 | P _r |
| Torisima | | 3.0 | 201 | e 1 0 | 0 _g | — | — | — | — |
| Kakioka | | 3.1 | 339 | e 0 49 | - 2 | e 1 21 | - 8 | e 1 6 | P _r |
| Shizuoka | | 3.1 | 303 | 0 49k | - 2 | e 1 18 | - 11 | — | — |
| Hunatu | | 3.2 | 314 | e 0 49 | - 3 | 1 19 | - 13 | — | — |
| Mito | N. | 3.2 | 344 | e 0 51 | - 1 | e 1 22 | - 10 | — | — |
| Kumagaya | | 3.3 | 328 | e 0 52 | - 1 | i 1 24 | - 11 | — | — |
| Titibu | E. | 3.3 | 323 | i 0 53 | 0 | i 1 24 | - 11 | — | — |
| Kohu | | 3.4 | 314 | e 0 53 | - 2 | e 1 24 | - 13 | — | — |
| Hamamatu | | 3.5 | 294 | e 1 3 | 0* | 1 40 | 0 | — | — |
| Utunomiya | | 3.5 | 337 | e 0 56 | - 1 | e 1 27 | - 13 | e 1 15 | P _r |

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|----------------|----|----------|-----|------|----------------|------------------|------|-----|------------------|-------|----|----------------|--------|
| | | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Maebasi | | 3.7 | 327 | e 0 | 57 | - 3 | e 1 | 29 | -16 | e 1 | 16 | P _r | — |
| Onahama | | 3.7 | 352 | e 1 | 1 | + 1 | i 1 | 30 | -15 | — | — | — | — |
| Iida | | 3.8 | 306 | e 1 | 1 | 0 | i 1 | 39 | - 8 | — | — | — | — |
| Oiwake | | 3.9 | 321 | e 1 | 2 | 0 | e 1 | 58 | - 2* | — | — | — | — |
| Shirakawa | | 4.0 | 344 | e 1 | 6 | + 2 | e 1 | 36 | -16 | — | — | — | — |
| Matumoto | | 4.2 | 316 | e 1 | 4 | - 3 | 1 | 46 | -11 | — | — | — | — |
| Matusiro | | 4.2 | 321 | i 1 | 5 ^k | - 2 | i 1 | 45 | -12 | i 1 | 15 | P* | — |
| Nagoya | E. | 4.2 | 297 | e 1 | 6 | - 1 | e 2 | 2 | + 5 | — | — | — | — |
| Inawasiro | | 4.4 | 345 | e 1 | 12 | + 2 | e 1 | 50 | -12 | e 1 | 17 | P* | — |
| Nagano | N. | 4.4 | 321 | i 1 | 8 | - 2 | e 1 | 49 | -13 | — | — | — | — |
| Tu | | 4.4 | 290 | 1 | 9 | - 1 | 2 | 7 | + 5 | — | — | — | — |
| Gihu | | 4.5 | 299 | e 1 | 8 | - 3 | e 1 | 54 | -11 | — | — | — | — |
| Hukusima | | 4.5 | 349 | e 1 | 10 | - 1 | 1 | 52 | -13 | — | — | — | — |
| Kameyama | | 4.5 | 291 | 1 | 9 | - 2 | 2 | 0 | - 5 | — | — | — | — |
| Takayama | N. | 4.5 | 310 | e 1 | 8 | - 3 | — | — | — | — | — | — | — |
| Ibukisan | E. | 4.7 | 297 | e 1 | 20 | - 3* | — | — | — | — | — | — | — |
| Takada | | 4.7 | 325 | e 1 | 25 | + 2* | e 2 | 2 | - 8 | — | — | — | — |
| Hikone | | 4.8 | 295 | 1 | 13 | - 2 | — | — | — | — | — | — | — |
| Siomisaki | | 4.8 | 273 | e 1 | 17 | + 2 | e 2 | 0 | -12 | — | — | — | — |
| Nara | | 4.9 | 288 | e 1 | 21 | + 4 | e 2 | 15 | 0 | — | — | — | — |
| Toyama | | 4.9 | 315 | e 0 | 58 | -19 | e 2 | 15 | 0 | — | — | — | — |
| Niigata | | 5.0 | 337 | e 1 | 29 | + 1* | e 2 | 46 | + 1 _r | e 2 | 9 | S | — |
| Sendai | | 5.0 | 354 | e 1 | 15 | - 3 | e 2 | 2 | -16 | — | — | — | — |
| Yamagata | | 5.0 | 349 | e 2 | 15 | S | (e 2 | 15) | - 3 | — | — | — | e 3.2 |
| Kyoto | | 5.1 | 291 | e 1 | 19 | - 1 | e 2 | 14 | - 6 | — | — | — | — |
| Tsuruga | N. | 5.1 | 299 | e 1 | 20 | 0 | e 2 | 4 | -16 | — | — | — | — |
| Kanazawa | | 5.2 | 310 | e 1 | 22 | + 1 | — | — | — | — | — | — | — |
| Osaka | | 5.2 | 286 | e 1 | 20 | - 1 | e 2 | 38 | 0* | — | — | — | — |
| Aikawa | | 5.4 | 331 | e 1 | 7 | -17 | e 2 | 8 | -20 | — | — | — | — |
| Sumoto | | 5.6 | 282 | e 1 | 26 | - 1 | e 2 | 24 | - 9 | — | — | — | — |
| Wazima | | 5.6 | 318 | e 1 | 23 | - 4 | — | — | — | — | — | — | — |
| Sakata | | 5.7 | 346 | e 2 | 36 | S | (e 2 | 36) | + 1 | — | — | — | — |
| Mizusawa | | 5.8 | 357 | 1 | 30 | + 1 | 2 | 24 | -14 | — | — | — | — |
| Toyooka | | 6.0 | 294 | e 1 | 42 | - 3* | e 2 | 55 | - 7* | — | — | — | — |
| Miyako | | 6.3 | 3 | e 1 | 36 | 0 | 2 | 34 | -16 | — | — | — | — |
| Morioka | | 6.4 | 357 | e 1 | 34 | - 4 | e 2 | 38 | -15 | — | — | — | — |
| Akita | | 6.5 | 350 | e 1 | 45 | + 6 | e 2 | 54 | - 1 | e 3 | 6 | S* | — |
| Matuyama | N. | 7.3 | 276 | e 1 | 51 | + 1 | e 3 | 54 | - 7 _r | e 2 | 11 | P* | e 4.4 |
| Aomori | | 7.5 | 356 | — | — | — | e 3 | 11 | - 9 | — | — | — | — |
| Mori | | 8.8 | 355 | e 3 | 32 | S | (e 3 | 32) | -21 | — | — | — | — |
| Urakawa | | 8.9 | 6 | e 2 | 12 | 0 | e 3 | 36 | -19 | — | — | — | — |
| Obihiro | E. | 9.7 | 7 | e 2 | 24 | + 2 | — | — | — | — | — | — | — |
| Sapporo | Z. | 9.7 | 359 | — | — | — | e 4 | 21 | + 6 | — | — | — | — |
| Kusiro | | 9.9 | 12 | — | — | — | e 4 | 9 | -11 | — | — | — | — |
| Nemuro | | 10.5 | 16 | — | — | — | e 4 | 15 | -20 | — | — | — | — |
| Zô-Sô | Z. | 17.4 | 268 | 4 | 4 | - 2 | — | — | — | — | — | — | — |
| Nanking | | 19.2 | 272 | — | — | — | e 8 | 32 | SS | — | — | — | — |
| Baguio | | 25.3 | 233 | e 5 | 30 | 0 | — | — | — | — | — | — | — |
| College | | 52.2 | 31 | e 9 | 17 | + 2 | — | — | — | — | — | — | — |
| Brisbane | | 61.4 | 168 | i 10 | 8 | -12 | — | — | — | — | — | — | — |
| Quetta | E. | 62.2 | 289 | e 10 | 23 | - 3 | — | — | — | — | — | — | — |
| Kiruna | | 70.1 | 340 | e 11 | 9 | - 7 | — | — | — | — | — | — | e 38.7 |
| Hungry Horse | | 74.4 | 42 | e 11 | 44 | + 2 | — | — | — | — | — | — | — |
| Upsala | Z. | 76.3 | 334 | i 11 | 50 | - 2 | — | — | — | — | — | — | — |
| Butte | N. | 76.6 | 44 | e 11 | 55 | + 1 | — | — | — | — | — | — | — |
| Bozeman | | 77.6 | 43 | e 12 | 2 | + 2 | — | — | — | — | — | — | — |
| Tinemaha | Z. | 77.9 | 54 | i 12 | 5 | + 4 | — | — | — | — | — | — | — |
| Salt Lake City | | 80.0 | 48 | e 12 | 17 | + 4 | — | — | — | — | — | — | — |
| Riverside | Z. | 80.2 | 56 | i 12 | 16 | + 2 | — | — | — | i 12 | 22 | PcP | — |
| Boulder City | | 80.8 | 53 | i 12 | 20 | + 3 | — | — | — | — | — | — | — |
| Nelson | Z. | 81.0 | 53 | i 12 | 21 | + 3 | — | — | — | i 12 | 43 | ? | — |
| Barratt | Z. | 81.4 | 57 | i 12 | 22 | + 2 | — | — | — | — | — | — | — |
| Boulder | | 84.4 | 45 | i 12 | 39 | + 3 | — | — | — | — | — | — | — |
| Fayetteville | | 93.5 | 42 | e 13 | 21 | + 2 | — | — | — | — | — | — | — |
| Montezuma | Z. | 151.2 | 76 | e 20 | 2 | PKP ₂ | — | — | — | — | — | — | — |

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July 21d. 22h. 31m. Epicentre 42°·0N. 78°·9E.
Bulletin of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955,
p. 67.

July 22d. 5h. 30m. Epicentre 23°·6N. 121°·3E.
Intensity II-III at Alishan.
Loc. cit., 21d. 7h., pp. 16-17.

July 23d. 4h. 33m. 35s. Epicentre 30°·4S. 71°·2W. Depth of focus 0·005.
Magnitude 6·75 (Pasadena).

A = +·2784, B = -·8179, C = -·5035; $\delta = -2$; $h = +1$;
D = -·947, E = -·322; G = -·162, H = +·476, K = -·864.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------------|----|--------------|--------------|----------------------|------|---------|------|---------|-----------|
| | | ^c | ^o | m. s. | s. | m. s. | s. | m. s. | m. |
| Santa Lucia | N. | 3·1 | 171 | e 0 48 | 0 | i 1 24 | 0 | 0 56 | ? |
| Antofagasta | N. | 6·8 | 6 | e 1 46 | + 7 | i 2 54 | - 2 | — | — |
| Buenos Aires | | 11·5 | 115 | 2 44 | 0 | 4 52 | + 1 | — | — |
| La Plata | | 12·1 | 115 | i 2 54 | + 2 | i 5 8 | + 2 | — | 5·6 |
| La Paz | | 14·1 | 12 | i 3 18 | 0 | i 6 0 | + 7 | i 8 33 | PcP 7·0 |
| Huancayo | | 18·6 | 347 | i 4 17 | + 3 | i 7 44 | + 8 | i 7 50 | ? |
| Punta Arenas | N. | 22·7 | 180 | — | — | 12 30 | PcS | — | e 11·4 |
| Bogota | | 34·9 | 355 | e 6 48 | + 1 | e 12 9 | - 4 | e 6 58 | pP |
| Galerazamba | | 41·1 | 354 | e 7 35 | - 4 | i 13 50 | + 3 | i 9 25 | PP 19·4 |
| St. Vincent | | 44·4 | 14 | e 8 3 | - 3 | — | — | — | — |
| Fort de France | | 45·9 | 14 | i 8 16 | - 2 | e 15 15 | sS | — | — |
| San Juan | | 48·7 | 6 | i 8 37 _a | - 3 | e 15 33 | - 3 | i 8 52 | pP e 20·6 |
| Vera Cruz | | 54·8 | 331 | e 9 25 | - 1 | — | — | — | — |
| Puebla | | 55·6 | 329 | e 9 27 | - 4 | — | — | e 10 34 | PcP |
| Tacubaya | | 56·4 | 328 | e 9 38 | + 1 | e 17 23 | + 2 | i 10 11 | sP |
| Bermuda | | 62·7 | 6 | i 10 20 _a | 0 | e 18 49 | + 7 | e 22 49 | SS e 29·5 |
| Columbia | | 64·7 | 351 | i 10 32 | - 1 | i 19 7 | 0 | i 10 42 | pP |
| Chapel Hill | | 66·4 | 353 | i 10 44 | 0 | i 19 33 | + 5 | — | — |
| Dallas | | 67·4 | 337 | i 10 50 | - 1 | i 19 42 | + 2 | — | — |
| M'Bour | | 68·6 | 58 | i 10 58 | 0 | e 19 58 | + 4 | i 11 18 | pP |
| Washington | z. | 69·2 | 355 | i 11 4 | + 2 | e 21 30 | sScS | i 11 16 | pP |
| Fayetteville | | 69·6 | 340 | i 11 3 _k | - 1 | e 20 7 | + 1 | e 11 19 | pP |
| Philadelphia | | 70·1 | 357 | i 11 5 | - 2 | i 20 16 | + 4 | e 24 44 | SS e 29·9 |
| City College, N.Y. | | 70·9 | 358 | e 11 11 | - 1 | e 22 25 | ? | — | — |
| Pittsburgh | z. | 70·9 | 353 | i 11 11 | - 1 | — | — | — | — |
| St. Louis | | 70·9 | 344 | i 11 11 | - 1 | i 20 22 | + 1 | — | — |
| Palisades | | 71·1 | 358 | i 11 10 _a | - 3 | e 20 27 | + 4 | e 20 46 | sS e 35·7 |
| Pennsylvania | | 71·1 | 355 | i 11 15 | + 2 | i 20 28 | + 5 | — | — |
| Cleveland | | 72·2 | 352 | e 11 18 _a | - 2 | e 20 36 | 0 | i 11 29 | pP |
| Weston | | 72·4 | 0 | i 11 20 _a | - 1 | i 20 42 | + 4 | i 11 32 | pP e 37·5 |
| Harvard | | 72·5 | 0 | i 11 21 _a | - 1 | i 20 45 | + 5 | — | — |
| Tucson | | 72·7 | 326 | i 11 22 _a | - 1 | e 20 51 | + 9 | i 11 33 | pP e 29·2 |
| Buffalo (Larkin) | | 73·2 | 354 | i 11 25 | - 1 | — | — | — | — |
| Chicago | | 73·4 | 347 | e 11 25 | - 2 | e 20 49 | - 1 | e 29 17 | SSS |
| Halifax | | 75·0 | 6 | — | — | e 21 11 | + 3 | — | e 30·9 |
| Ottawa | | 75·5 | 357 | i 11 38 _a | - 1 | 21 17 | + 4 | 14 39 | PP |
| Barratt | | 76·1 | 322 | i 11 42 _a | 0 | — | — | i 11 53 | pP |
| Shawinigan Falls | | 76·6 | 359 | i 11 44 | - 1 | — | — | — | — |
| Palomar | z. | 76·7 | 322 | i 11 45 _a | - 1 | i 12 13 | sP | i 11 55 | pP |
| Boulder | | 76·9 | 334 | i 11 46 | - 1 | — | — | — | — |
| Seven Falls | | 77·1 | 0 | i 11 47 _a | - 1 | 21 34 | + 4 | 11 58 | pP |
| Nelson | z. | 77·5 | 325 | i 11 50 _a | 0 | i 12 21 | sP | i 12 1 | pP |
| Riverside | | 77·5 | 322 | i 11 49 | - 1 | — | — | i 12 0 | pP |
| Boulder City | | 77·7 | 325 | i 11 51 _a | 0 | e 21 43 | + 6 | i 12 1 | pP |
| Pasadena | | 78·0 | 322 | i 11 53 | 0 | i 21 46 | + 6 | i 12 4 | pP e 37·4 |
| Kirkland Lake | z. | 78·6 | 354 | e 11 55 | - 1 | — | — | — | — |
| China Lake | z. | 79·0 | 323 | i 11 57 _a | - 2 | — | — | i 12 7 | pP |
| Woody | z. | 79·6 | 322 | i 12 1 _a | - 1 | — | — | i 12 12 | pP |
| Grahamstown | z. | 79·8 | 122 | i 12 4 | + 1 | — | — | — | — |
| Salt Lake City | | 80·2 | 330 | e 11 55 | -10 | — | — | i 13 15 | ? |

Continued on next page.

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | I. | |
|--------------------|----|----------|-----|------|-----------------|-------|------|----|-------|-------|-----|------|--------|
| | | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Tinemaha | z. | 80.3 | 324 | i 12 | 5 _a | 0 | — | — | — | i 12 | 17 | pP | — |
| Fresno | z. | 80.9 | 322 | e 12 | 7 | -2 | — | — | — | — | — | — | — |
| Lick | z. | 82.3 | 322 | i 12 | 16 _a | 0 | — | — | — | i 12 | 25 | pP | — |
| Berkeley | | 83.0 | 322 | i 12 | 19 _a | -1 | i 22 | 38 | + 6 | — | — | — | — |
| Reno | z. | 83.0 | 324 | e 12 | 20 | 0 | — | — | — | — | — | — | — |
| Bozeman | | 83.9 | 333 | e 12 | 23 | -1 | — | — | — | — | — | — | — |
| Mineral | z. | 84.5 | 324 | e 12 | 25 _a | -2 | — | — | — | i 12 | 37 | pP | — |
| Pietermaritzburg | z. | 84.5 | 121 | i 12 | 18 _k | -9 | — | — | — | — | — | — | — |
| Butte | N. | 84.8 | 332 | e 12 | 29 _a | 0 | i 22 | 52 | + 2 | i 12 | 42 | pP | e 34.7 |
| Pretoria | z. | 84.8 | 117 | i 12 | 29 _k | 0 | — | — | — | — | — | — | — |
| Shasta | z. | 85.1 | 324 | i 12 | 28 _a | -2 | — | — | — | — | — | — | — |
| Hungry Horse | | 87.3 | 333 | i 12 | 39 _a | -2 | e 23 | 0 | [0] | i 12 | 51 | pP | — |
| Averroes | | 87.4 | 49 | i 12 | 42 | + 1 | — | — | — | e 13 | 5 | pP | 47.4 |
| Lisbon | | 89.8 | 44 | i 12 | 54 _a | + 1 | — | — | — | — | — | — | 46.5 |
| Seattle | | 90.2 | 328 | e 12 | 56 | + 1 | e 23 | 45 | + 4 | e 13 | 7 | pP | — |
| Tamanrasset | z. | 90.6 | 64 | i 12 | 59 _a | + 3 | e 23 | 28 | [+ 8] | e 13 | 16 | pP | — |
| Coimbra | | 91.2 | 43 | 13 | 2 | + 3 | 23 | 51 | + 1 | — | — | — | 43.4 |
| Malaga | | 91.5 | 48 | i 12 | 59 | -2 | i 23 | 41 | -11 | 25 | 44 | PPS | 43.6 |
| Granada | | 92.3 | 48 | i 13 | 7 _a | + 3 | 23 | 56 | -3 | 13 | 25 | pP | i 47.3 |
| Almeria | | 92.8 | 48 | i 13 | 5 | -2 | 24 | 7 | + 3 | 16 | 51 | PP | 49.6 |
| Toledo | | 93.6 | 45 | i 13 | 12 _a | + 2 | 23 | 33 | [- 4] | i 13 | 24 | pP | 48.4 |
| Alicante | | 95.0 | 48 | e 13 | 7 | -10 | e 24 | 15 | -8 | 19 | 7 | PPP | 45.4 |
| Algiers Univ. | z. | 96.4 | 51 | i 13 | 23 | 0 | e 13 | 49 | sP | e 13 | 43 | pP | — |
| Jersey | E. | 100.2 | 38 | e 14 | 32 | +52 | e 23 | 40 | [-32] | e 27 | 10 | PS | — |
| Rathfarnham Castle | | 100.5 | 34 | i 13 | 46 | + 4 | e 25 | 10 | + 1 | e 25 | 35 | sS | e 60.4 |
| Reykjavik | z. | 101.8 | 20 | e 17 | 49 | PP | — | — | — | — | — | — | — |
| Kew | | 102.5 | 37 | i 12 | 51 | -60 | e 24 | 47 | SKKS | e 18 | 3 | PP | e 51.4 |
| Paris | | 102.6 | 41 | i 13 | 51 | 0 | e 24 | 49 | SKKS | e 14 | 3 | pP | e 49.4 |
| Riverview | | 104.6 | 215 | i 17 | 52 | PP | i 24 | 39 | [+ 6] | e 44 | 1 | Q | e 48.7 |
| Uccle | | 104.6 | 39 | e 14 | 2 | + 2 | e 24 | 58 | SKKS | e 26 | 8 | sS | e 48.4 |
| Aberdeen | | 104.7 | 32 | i 27 | 35 | PS | e 24 | 57 | SKKS | e 33 | 30 | SS | e 52.4 |
| Pavia | | 104.7 | 46 | e 13 | 59 | -1 | e 26 | 37 | ? | — | — | — | e 54.9 |
| Rome | | 105.3 | 50 | e 14 | 7 | P | e 25 | 1 | SKKS | e 18 | 25 | PP | — |
| Florence | | 105.4 | 48 | e 14 | 2 | P | e 25 | 3 | SKKS | e 18 | 25? | PP | — |
| Zürich | | 105.4 | 44 | e 14 | 4 _a | P | e 24 | 37 | [+ 1] | — | — | — | — |
| Strasbourg | | 105.5 | 43 | e 14 | 3 | P | e 24 | 39 | [+ 2] | e 25 | 49 | S | e 49.4 |
| De Bilt | | 105.7 | 39 | e 14 | 5 | P | e 27 | 52 | PS | e 18 | 25 | PP | e 49.4 |
| Resolute Bay | | 106.0 | 354 | e 18 | 27 | PP | e 26 | 4 | + 9 | e 27 | 53 | PS | e 32.6 |
| Stuttgart | | 106.4 | 43 | e 14 | 8 | P | e 25 | 48 | -10 | e 14 | 20 | pP | e 52.4 |
| Scoresby Sund | N. | 106.5 | 15 | e 18 | 25 | PP | e 25 | 9 | SKKS | — | — | — | 50.4 |
| Witteveen | z. | 106.9 | 38 | e 14 | 10 | P | — | — | — | — | — | — | — |
| Triest | | 107.8 | 47 | e 18 | 41 | PP | e 25 | 10 | SKKS | e 26 | 1 | S | e 56.0 |
| Taranto | | 107.9 | 53 | — | — | — | 24 | 50 | [+ 3] | — | — | — | 36.9 |
| Jena | z. | 108.7 | 42 | e 14 | 15? | P | e 28 | 8 | PS | e 14 | 30 | pP | — |
| Hamburg | | 109.0 | 39 | e 18 | 44 _a | PP | e 28 | 19 | PS | — | — | — | e 56.4 |
| Collnberg | z. | 109.7 | 42 | e 14 | 25 | P | — | — | — | 18 | 54 | PP | — |
| Prague | | 110.0 | 43 | e 18 | 53 | PP | i 28 | 31 | PS | e 29 | 27 | PPS | — |
| Potsdam | | 110.2 | 40 | e 14 | 25 | P | e 25 | 27 | sSKS | i 18 | 58 | PP | e 45.4 |
| Copenhagen | | 111.1 | 37 | i 19 | 6 | PP | 28 | 41 | PS | 29 | 57 | PPS | 50.4 |
| College | | 111.7 | 333 | e 18 | 28 | [+ 1] | — | — | — | e 18 | 41 | pPKP | — |
| Helwan | z. | 114.4 | 68 | e 18 | 35 | [+ 3] | e 19 | 33 | PP | e 18 | 45 | pPKP | — |
| Warsaw | | 114.5 | 43 | i 14 | 47 | P | e 25 | 29 | [+15] | e 29 | 17 | PS | e 56.4 |
| Upsala | | 115.2 | 34 | i 19 | 35 | PP | e 28 | 55 | SP | e 30 | 38 | PPS | e 52.4 |
| Istanbul | | 116.5 | 56 | e 19 | 42 | PP | e 26 | 59 | SKKS | e 29 | 25 | PS | e 57.4 |
| Kiruna | | 118.4 | 26 | i 19 | 57 | PP | e 25 | 40 | [+12] | e 29 | 49 | PS | e 54.4 |
| Moscow | | 125.0 | 41 | i 18 | 53 | [0] | — | — | — | — | — | — | — |
| Klyuchi | | 135.6 | 321 | i 19 | 13 | [0] | e 22 | 46 | PKS | — | — | — | — |
| Petropavlovsk | | 137.5 | 317 | e 19 | 16 | [- 1] | e 22 | 52 | PKS | — | — | — | — |
| Ashkabad | | 138.0 | 66 | e 19 | 20 | [+ 2] | — | — | — | — | — | — | — |
| Lembang | | 143.0 | 178 | e 19 | 32 | [+ 6] | i 23 | 10 | PKS | i 19 | 40 | pPKP | — |
| Quetta | | 144.0 | 80 | i 19 | 29 _k | [+ 1] | e 27 | 2 | sSKS | i 19 | 42 | pPKP | e 74.4 |
| Bombay | E. | 145.5 | 101 | i 19 | 34 | [+ 3] | — | — | — | i 19 | 53 | pPKP | — |
| Poona | z. | 146.2 | 102 | i 19 | 34 | [+ 2] | — | — | — | — | — | — | — |
| Yuzno-Sakhlinsk | | 149.0 | 312 | e 19 | 37 | [0] | — | — | — | — | — | — | — |
| Frunse | | 150.1 | 56 | i 19 | 41 | [+ 3] | 30 | 31 | SKKS | — | — | — | — |

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| | Δ ° | Az. ° | P. | | O-C. s. | S. | | O-C. s. | Supp. | | L. m. |
|-----------|---------------|----------|------|-----------------|------------|------|----|------------------|-------|----|----------|
| | | | m. | s. | | m. | s. | | m. | s. | |
| Matusiro | 154.8 | 292 | 19 | 46 _a | [+ 11 | 26 | 47 | [+ 4] | — | — | — |
| Manila | 160.7 | 218 | c 19 | 55 | [+ 3] | — | — | — | — | — | — |
| Baguio | 162.4 | 220 | c 19 | 56 | [+ 2] | — | — | — | — | — | — |
| Shillong | Z. 164.3 | 104 | 19 | 57 _a | [+ 11 | — | — | — | — | — | — |
| Zô-Sè | Z. 169.3 | 277 | c 20 | 0 | [+ 11 | — | — | — | 25 | 3 | PP |
| Hong Kong | E. 170.6 | 212 | c 22 | 25? | ? | — | — | — | — | — | — |
| Nauking | Z. 171.2 | 284 | i 20 | 4 | [+ 3] | i 21 | 24 | PKP ₂ | i 25 | 14 | PP |

July 23d. 14h. 45m. 14s. Epicentre 34°·0N. 69°·6E.

A = +·2896, B = +·7787, C = +·5566; $\delta = +5$; $h = 0$;
D = +·937, E = -·349; G = +·194, H = +·522, K = -·831.

| | Δ ° | Az. ° | P. | | O-C. s. | S. | | O-C. s. | Supp. | | L. m. | |
|---------------|---------------|----------|-----|----------------|------------|------|-----|------------------|-------|----|----------------|--------|
| | | | m. | s. | | m. | s. | | m. | s. | | |
| Khorog | 3.8 | 25 | e 1 | 5 | - 3* | e 1 | 59 | + 2* | e 1 | 12 | P _c | — |
| Quetta | 4.4 | 211 | c 1 | 14 | + 4 | i 2 | 11 | - 4* | i 1 | 30 | P _c | — |
| Stalinabad | 4.6 | 352 | 1 | 14 | + 2 | 2 | 14 | - 6* | c 1 | 54 | ? | — |
| Obi-garm | 4.7 | 2 | i 1 | 15 | + 1 | 2 | 17 | + 7 | — | — | — | — |
| Garm | 5.0 | 7 | i 1 | 19 | + 1 | — | — | — | — | — | — | — |
| Dzhergetal | 5.4 | 14 | e 1 | 24 | 0 | 2 | 25 | - 3 | — | — | — | — |
| Murgab | 5.6 | 38 | 1 | 28 | + 1 | e 2 | 57 | + 7* | — | — | — | — |
| Samarkand | 6.0 | 341 | i 1 | 32 | 0 | e 3 | 1 | - 1* | — | — | — | — |
| Bairam-Ali | 7.0 | 303 | e 1 | 45 | - 1 | e 3 | 55 | + 4 _c | — | — | — | — |
| Andijan | 7.1 | 18 | i 1 | 50 | + 2 | i 3 | 12 | + 2 | i 3 | 56 | S _c | — |
| Namangan | 7.1 | 13 | i 1 | 50 | + 2 | i 3 | 10 | 0 | — | — | — | — |
| Tashkent | 7.3 | 358 | e 1 | 51 | + 1 | e 3 | 15 | 0 | — | — | — | — |
| New Delhi | 8.5 | 128 | i 2 | 7 _a | 0 | i 3 | 46 | + 1 | 4 | 39 | S _c | — |
| Naryn | 9.0 | 33 | e 2 | 14 | + 1 | — | — | — | — | — | — | — |
| Frunse | 9.7 | 23 | e 2 | 25 | + 3 | — | — | — | — | — | — | — |
| Ashkabad | 9.9 | 296 | i 2 | 27 | + 2 | i 4 | 18 | - 2 | e 5 | 22 | S _c | — |
| Fabrichnaya | 10.6 | 28 | i 2 | 35 | - 1 | — | — | — | — | — | — | — |
| Almata | 10.9 | 30 | i 2 | 41 | + 1 | e 4 | 53 | + 9 | — | — | — | — |
| Przhevalsk | 10.9 | 37 | 2 | 41 | + 1 | — | — | — | — | — | — | — |
| Kurmenty | 11.3 | 35 | 2 | 44 | - 2 | — | — | — | — | — | — | — |
| Kizyl-Arvat | 11.8 | 300 | i 2 | 50 | - 3 | — | — | — | — | — | — | i 6.6 |
| Bombay | E. 15.4 | 168 | i 3 | 42 | + 2 | e 6 | 25 | - 7 | — | — | — | 8.1 |
| Poona | 15.9 | 165 | i 3 | 47 | 0 | e 6 | 45 | + 1 | 4 | 0 | PP | — |
| Chatra | Z. 16.8 | 111 | i 3 | 55 | - 3 | i 7 | 0 | - 5 | — | — | — | — |
| Semipalatinsk | 18.1 | 22 | e 4 | 13 | - 1 | — | — | — | — | — | — | — |
| Hyderabad | 18.4 | 152 | e 4 | 14 | - 4 | e 8 | 9 | SS | — | — | — | 9.8 |
| Calcutta | E. 20.1 | 120 | i 4 | 46 | + 8 | i 8 | 32 | +13 | — | — | — | — |
| Grozny | 20.7 | 304 | i 4 | 46 | + 2 | i 8 | 42 | +11 | — | — | — | — |
| Erevan | 20.9 | 294 | i 4 | 47 | + 1 | e 8 | 47 | +12 | — | — | — | — |
| Tifis | 20.9 | 299 | e 4 | 49 | + 3 | e 8 | 49 | +14 | — | — | — | — |
| Shillong | 21.1 | 108 | i 4 | 48 | 0 | i 8 | 33 | - 6 | 5 | 6 | PP | 9.8 |
| Madras | E. 23.1 | 153 | e 5 | 28 | PP | — | — | — | — | — | — | i 11.9 |
| Sverdlovsk | 23.6 | 348 | i 5 | 14 | + 1 | e 9 | 29 | + 4 | — | — | — | — |
| Kodaikanal | E. 24.8 | 161 | — | — | — | i 10 | 37 | SS | — | — | — | — |
| Colombo | E. 28.6 | 158 | — | — | — | e 11 | 46? | SS | — | — | — | 14.8 |
| Moscow | 30.9 | 324 | e 6 | 19 | - 1 | — | — | — | — | — | — | — |
| Istanbul | 32.6 | 294 | e 6 | 50 | +15 | e 10 | 1 | ? | — | — | — | — |
| Pulkovo | 36.3 | 327 | e 7 | 5 | - 2 | e 12 | 38 | -10 | — | — | — | — |
| Warsaw | 39.0 | 313 | e 7 | 30 | 0 | e 13 | 33 | + 4 | e 17 | 38 | ScS | e 20.8 |
| Hong Kong | E. 40.8 | 95 | — | — | — | e 16 | 56 | SS | — | — | — | — |
| Nanking | 41.0 | 79 | e 7 | 49 | + 3 | e 13 | 56 | - 3 | — | — | — | — |
| Upsala | 42.3 | 324 | i 7 | 57 | 0 | e 16 | 36 | SS | i 9 | 41 | PP | e 23.4 |
| Prague | 42.9 | 309 | i 8 | 5 | + 3 | i 9 | 51 | PcP | i 10 | 4 | PPP | — |
| Zô-Sè | 43.2 | 79 | 8 | 5 | + 1 | — | — | — | — | — | — | — |
| Kiruna | 43.8 | 336 | — | — | — | e 17 | 53 | SS | e 18 | 9 | ScS | e 22.4 |
| Potsdam | 43.8 | 312 | e 8 | 8 | - 1 | e 18 | 4 | ScS | — | — | — | e 24.8 |
| Copenhagen | 44.4 | 317 | — | — | — | e 14 | 57 | PcP | 18 | 4 | SS | 23.8 |
| Jena | 44.8 | 310 | e 8 | 17 | 0 | e 8 | 41 | ? | e 9 | 51 | PcP | — |
| Florence | 45.6 | 300 | e 8 | 6 | -18 | — | — | — | — | — | — | e 26.2 |
| Stuttgart | 46.4 | 308 | e 8 | 31 | + 1 | e 15 | 25 | + 7 | e 8 | 53 | ? | — |

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----|------------|------------|----------------------|-------|---------|------|---------|-----|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Baguio | | 48.9 | 98 | e 8 51 | + 1 | — | — | — | — |
| Matusiro | | 55.0 | 66 | — | — | e 17 16 | - 1 | e 18 56 | ScS |
| Tamanrasset | z. | 56.6 | 276 | e 9 48 | + 1 | e 11 52 | PP | e 12 11 | ? |
| Tananarive | | 56.7 | 205 | e 9 50 | + 2 | — | — | e 10 46 | PcP |
| Granada | | 58.2 | 296 | — | — | 18 9 | +10 | — | — |
| Pretoria | z. | 71.3 | 219 | i 11 26 _a | + 3 | — | — | — | — |
| Pietermaritzburg | z. | 73.3 | 215 | i 11 28 _a | - 7 | — | — | — | — |
| College | | 77.2 | 15 | i 11 55 | - 2 | — | — | — | — |
| Nelson | z. | 110.5 | 4 | e 18 39 | [+ 5] | — | — | e 19 6 | PP |

July 23d. 20h. 52m. Epicentre 19°·75S. 169°·5E. Intensity II at Ouvéa.
Loc. cit., 15h., pp. 397-398.

July 23d. 21h. 11m. Epicentre 36°·7N. 70°·6E. Depth of focus 200km.
Bulletin of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, p. 68.

July 24d. 0h. 52m. Epicentre 31°·5N. 30°·0E.
Seismo. Institute Bulletin, National Observatory of Athens, Athens, 1955, p. 12.

July 24d. 17h. 34m. Epicentre 23°·2N. 121°·3E. Intensity II-III at Hwalien.
Seismo. Bulletin of Taiwan Weather Bureau for 1954, July-Sept., Vol. 1, No. 3, Taiwan, China, p. 17.

July 25d. 16h. 7m. Epicentre 36°·2N. 24°·5E. Depth of focus 100km.
Magnitude 4.75-5. Poorly recorded up to 87°.
Intensity IV at Rethymnon; III at Chania (Crete).
Loc. cit., 24d. 0h., p. 89.

July 26d. 20h. 15m. 46s. Epicentre 41°·0S. 73°·2W.

$$A = +.2188, B = -.7246, C = -.6535; \quad \delta = -2; \quad h = -2;$$

$$D = -.957, E = -.289; \quad G = -.189, H = +.626, K = -.757.$$

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----|------------|------------|----------------------|------|---------|------|---------|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Concepción | E. | 4.2 | 13 | 0 12 | -55 | 0 58 | -59 | — | — |
| Santa Lucia | N. | 7.9 | 16 | i 1 58 | - 1 | 3 26 | - 4 | — | — |
| Punta Arenas | N. | 12.2 | 173 | e 3 10 | +12 | 5 3 | -13 | — | i 6.5 |
| Buenos Aires | | 13.3 | 66 | e 3 15 | + 2 | 5 39 | - 3 | — | — |
| La Plata | | 13.5 | 68 | i 3 18 _a | + 3 | — | — | — | — |
| Antofagasta | N. | 17.5 | 9 | i 4 8 | + 1 | e 7 29 | + 8 | i 7 44 | SS |
| Montezuma | z. | 18.7 | 13 | i 4 23 | + 1 | i 7 52 | + 4 | — | i 8.6 |
| La Paz | | 24.8 | 12 | i 5 28 | + 3 | i 9 44 | - 2 | i 5 42 | pP |
| Huancayo | | 28.9 | 356 | e 6 5 | + 2 | i 10 54 | + 1 | e 6 56 | PP |
| Bogota | | 45.4 | 359 | i 8 24 | + 2 | i 15 3 | - 1 | i 18 12 | SS |
| Chinchina | | 45.8 | 357 | i 8 26 | + 1 | i 15 9 | 0 | i 10 15 | PP |
| Galerazamba | | 51.6 | 358 | i 8 24 | -46 | i 15 32 | -59 | i 19 27 | SS |
| Trinidad | | 52.6 | 14 | e 9 17 | - 1 | — | — | — | — |
| St. Vincent | | 55.0 | 14 | e 9 36 | + 1 | — | — | — | — |
| Fort de France | | 56.6 | 14 | i 9 47 | 0 | e 17 33 | - 5 | — | — |
| San Juan | | 59.5 | 8 | i 10 2 | - 5 | i 18 4 | -12 | e 12 47 | PP |
| Vera Cruz | | 63.5 | 336 | e 10 41 | + 7 | — | — | — | e 24.7 |
| Puebla | | 64.1 | 334 | e 10 38 | 0 | — | — | — | — |
| Tacubaya | | 64.8 | 333 | i 10 44 | + 1 | e 19 17 | - 6 | — | — |
| Bermuda | | 73.5 | 8 | e 11 35 | - 1 | e 21 2 | - 4 | e 25 38 | SS |
| Columbia | | 75.0 | 353 | i 11 43 | - 2 | i 21 14 | - 9 | e 14 34 | PP |
| Grahamstown | z. | 75.6 | 122 | i 11 44 _a | - 4 | — | — | — | — |
| M'Bour | | 75.7 | 56 | i 11 47? | - 2 | i 21 27 | - 3 | e 14 44 | PP |
| Dallas | | 76.6 | 340 | i 11 53 | - 1 | e 21 37 | - 3 | — | 41.2 |
| Chapel Hill | | 76.7 | 355 | i 11 56 | + 1 | i 21 38 | - 3 | — | — |
| Fayetteville | | 79.1 | 343 | i 12 6 | - 2 | e 22 0 | - 7 | e 12 28 | PcP |
| Washington | z. | 79.6 | 357 | i 12 8 | - 2 | — | — | e 12 33 | PcP |
| Pietermaritzburg | z. | 80.4 | 121 | i 12 2 _k | -13 | — | — | — | — |
| Tucson | | 80.7 | 328 | i 12 17 | + 1 | e 22 20 | - 4 | e 15 37 | PP |
| St. Louis | | 80.8 | 347 | i 12 15 | - 2 | i 22 19 | - 6 | — | e 34.5 |

Continued on next page.

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------------|------------|------------|----------------------|-------|---------|--------|---------|------------|
| | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Terre Haute | 81.1 | 349 | e 14 24 | ? | i 22 29 | + 1 | — | — |
| City College, N.Y. | 81.4 | 0 | i 12 14 | - 6 | i 22 22 | - 9 | — | — |
| Fordham | 81.5 | 0 | e 12 19 | - 2 | i 22 28 | - 4 | — | — |
| Pennsylvania | 81.5 | 356 | i 12 17 | - 4 | i 22 26 | - 6 | — | — |
| Pretoria z. | 81.5 | 117 | i 12 17 | - 4 | — | — | — | — |
| Palisades | 81.6 | 0 | i 12 19 _a | - 2 | i 22 27 | - 6 | e 15 27 | PP e 37.8 |
| Cleveland | 82.4 | 354 | i 12 25 _a | 0 | i 22 34 | - 7 | — | — |
| Weston | 83.0 | 1 | i 12 26 _a | - 2 | i 22 46 | - 1 | i 16 1 | PP |
| Harvard | 83.2 | 1 | i 12 28 _a | - 1 | i 22 46 | - 3 | i 15 42 | PP |
| Chicago | 83.4 | 349 | e 12 27 | - 3 | i 22 39 | -12 | e 27 27 | SS e 35.0 |
| Barratt z. | 83.6 | 324 | i 12 32 _a | + 1 | e 30 47 | PKKP | i 12 50 | PcP |
| Buffalo (Larkin) | 83.6 | 356 | i 12 30 | - 1 | — | — | — | — |
| Palomar z. | 84.2 | 324 | i 12 35 _a | + 1 | i 30 46 | PKKP | i 12 55 | PcP |
| Riverside | 85.0 | 324 | i 12 39 _a | + 1 | i 30 42 | PKKP | i 12 57 | PcP |
| Nelson z. | 85.4 | 327 | i 12 40 | 0 | i 30 44 | PKKP | i 12 57 | PcP |
| Pasadena | 85.5 | 324 | i 12 41 _a | 0 | e 23 0 | [- 4] | i 16 15 | PP e 40.9 |
| Boulder City | 85.6 | 327 | i 12 43 | + 2 | e 23 3 | [- 2] | — | — |
| Halifax | 85.7 | 7 | i 12 41 _a | - 1 | i 23 11 | - 3 | i 13 6 | PcP e 38.2 |
| Boulder | 85.8 | 336 | i 12 42 | 0 | — | — | — | — |
| Ottawa | 86.1 | 358 | i 12 41 _a | - 3 | 23 2 | [- 6] | 17 54 | PPP |
| China Lake z. | 86.6 | 325 | i 12 46 _a | 0 | i 30 39 | PKKP | i 13 4 | PcP |
| Shawinigan Falls | 87.2 | 0 | i 12 47 _a | - 2 | 23 5 | [-10] | — | — |
| Seven Falls | 87.8 | 2 | e 12 51 | - 1 | 23 27 | - 7 | i 23 33 | S |
| Tinemaha N. | 87.9 | 326 | e 12 55 | + 2 | — | — | — | — |
| Fresno z. | 88.4 | 324 | e 12 54 _a | - 1 | — | — | — | — |
| Salt Lake City | 88.6 | 332 | e 12 55 | - 1 | e 23 17 | [- 7] | e 33 14 | SS |
| Rapid City K. | 88.9 | 339 | e 12 58 | 0 | e 23 20 | [- 6] | e 24 9 | ScS e 36.7 |
| Kirkland Lake z. | 89.0 | 356 | i 12 56 _a | - 2 | — | — | e 13 19 | PcP |
| Lick z. | 89.7 | 323 | i 13 2 _a | + 1 | — | — | i 13 21 | PcP |
| Santa Clara | 89.8 | 323 | e 12 30 _a | -32 | e 23 30 | [- 2] | e 13 30 | PcP |
| Branner z. | 90.0 | 323 | i 13 4 | + 1 | — | — | — | — |
| Berkeley | 90.4 | 323 | i 13 6 _a | + 2 | e 23 32 | [- 3] | i 24 4 | S |
| Reno z. | 90.7 | 326 | e 13 7 _a | + 1 | — | — | — | — |
| Mineral z. | 92.1 | 325 | e 13 12 | 0 | — | — | — | — |
| Bozeman | 92.7 | 334 | e 13 13 | - 2 | — | — | e 13 29 | PcP |
| Butte N. | 93.5 | 334 | e 13 18 | - 1 | i 24 21 | - 4 | e 16 54 | PP |
| Melbourne E. | 94.1 | 209 | — | — | e 23 48 | [- 8] | — | — |
| Riverview | 95.0 | 216 | 13 25 | - 1 | 23 54 | [- 7] | i 17 15 | PP e 43.7 |
| Averroes | 95.6 | 50 | i 13 26 | - 2 | e 24 52 | + 9 | e 17 18 | PP 49.2 |
| Hungry Horse | 96.0 | 334 | i 13 28 _a | - 2 | e 23 58 | [- 9] | e 16 59 | PP |
| Nouméa | 96.2 | 233 | — | — | e 26 6 | PS | e 33 12 | SSS |
| Tamanrasset z. | 96.6 | 66 | i 13 32 _a | - 1 | e 26 8 | PS | e 17 31 | PP |
| Seattle | 98.4 | 329 | e 19 59 | PPP | e 24 19 | { 0} | e 25 8 | S |
| Lisbon | 98.6 | 45 | e 17 38 | PP | — | — | — | — |
| Tananarive | 99.0 | 125 | e 13 46 | + 2 | — | — | 17 42 | PP 47.1 |
| Malaga | 99.8 | 50 | i 13 57 | +10 | i 24 52 | { - 1} | 17 31 | PP 45.9 |
| Coimbra | 100.0 | 45 | 13 45 | - 3 | 24 19 | [- 8] | 17 54 | PP |
| Granada | 100.6 | 50 | i 13 52 _k | + 1 | 24 52 | { - 6} | 14 18 | pP i 52.4 |
| Almeria | 101.0 | 50 | i 13 54 | + 1 | 24 30 | [- 2] | i 18 1 | PP 51.0 |
| Toledo | 102.2 | 47 | i 13 55 _a | - 3 | 25 6 | { - 4} | 14 19 | pP 43.1 |
| Alicante | 103.2 | 50 | e 13 55 | - 8 | i 25 44 | - 3 | 18 15 | PP 49.0 |
| Algiers Univ. z. | 104.2 | 54 | e 14 6 | - 1 | i 18 25 | PP | e 20 41 | PPP |
| Jersey E. | 109.4 | 41 | — | — | e 28 52 | PS | e 34 20 | SS |
| Rathfarnham C. z. | 110.2 | 36 | e 19 3 | PP | e 25 37 | { +24} | i 19 47 | ? |
| Paris | 111.5 | 44 | e 14 38 | P | e 26 16 | { 0} | e 18 36 | PKP e 51.2 |
| Kew | 111.8 | 40 | i 19 13 | PP | e 26 46 | { +28} | e 28 26 | PS e 56.2 |
| Oropa | 112.6 | 49 | e 19 27 | PP | — | — | — | — |
| Neuchatel | 112.9 | 47 | e 18 14 | [-25] | — | — | — | — |
| Pavia | 113.0 | 50 | e 18 50 | [+11] | e 19 27 | PP | e 21 50 | PPP |
| Rome | 113.1 | 54 | e 14 47 | P | e 27 14 | { +47} | e 19 25 | PP |
| Prato | 113.4 | 52 | e 19 32 | PP | e 27 30 | S | — | — |
| Florence | 113.5 | 52 | e 14 48 | P | i 29 57 | PPS | i 19 31 | PP |
| Uccle | 113.7 | 43 | e 22 3 | PPP | e 25 11 | [-16] | e 28 37 | PS e 48.2 |
| Zürich | 114.0 | 47 | e 19 32 | PP | — | — | — | — |
| Strasbourg | 114.2 | 46 | e 14 38 | P | e 25 14 | [-15] | e 19 35 | PP e 49.2 |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------|----|------------|-----|----------------------|-------|---------|------------------|---------|------------------|
| | | $^{\circ}$ | | m. s. | s. | m. s. | s. | m. s. | m. |
| Aberdeen | | 114.5 | 34 | i 29 19 | PS | i 25 21 | [- 9] | i 27 9 | e 49.6 |
| De Bilt | | 114.9 | 42 | e 19 14 | PP | e 29 8 | PS | e 35 34 | e 48.2 |
| Stuttgart | | 115.1 | 46 | e 18 41 | [- 2] | e 25 24 | [- 8] | e 19 39 | 57.2 |
| Taranto | | 115.3 | 58 | 19 6 | [+22] | 25 4 | [-29] | e 29 26 | PS 63.1 |
| Triest | | 116.0 | 51 | e 19 49 | PP | e 29 49 | PS | e 21 38 | ? e 48.2 |
| Witteveen | z. | 116.0 | 42 | e 18 46 | [+ 1] | — | — | — | — |
| Resolute Bay | | 116.3 | 354 | — | — | e 25 28 | [- 9] | e 27 30 | S e 44.2 |
| Cheb | | 117.6 | 46 | — | — | e 25 24 | [-18] | e 29 49 | PS |
| Jena | | 117.6 | 45 | e 18 46 | [- 2] | e 29 34 | PS | e 19 54 | PP |
| Hamburg | | 118.1 | 42 | i 18 47 _a | [- 2] | — | — | — | e 61.2 |
| Prague | | 118.7 | 47 | e 20 1 | PP | e 25 40 | [- 5] | e 29 51 | PS |
| Helwan | z. | 119.3 | 75 | 18 50 | [- 1] | e 25 38 | [-10] | e 20 8 | PP |
| Belgrade | | 119.6 | 55 | e 20 16 _a | PP | e 25 41 | [- 8] | e 30 12 | PS e 69.0 |
| Ogyalla | | 119.8 | 51 | — | — | e 25 41 | [- 8] | e 36 57 | SS |
| Budapest | E. | 120.1 | 52 | — | — | e 27 59 | {+44} | — | e 66.2 |
| College | | 120.3 | 332 | i 18 49 | [- 4] | — | — | i 28 58 | PKKP |
| Copenhagen | | 120.4 | 41 | e 18 51 | [- 2] | 29 50 | SKSP | 30 26 | PS 50.2 |
| Raciborzu | | 120.8 | 49 | e 18 53 | [- 1] | — | — | e 20 42 | PP |
| Bucharest | | 123.0 | 57 | e 19 44 | ? | e 25 53 | [- 7] | e 20 30 | PP |
| Jerusalem | | 123.2 | 75 | i 20 59 | PP | i 32 22 | PPS | — | — |
| Istanbul | z. | 123.4 | 62 | i 18 56 | [- 3] | — | — | e 20 35 | PP |
| Warsaw | | 123.4 | 47 | e 19 0 | [+ 1] | e 26 0 | [- 1] | e 20 39 | PP e 50.2 |
| Lwow | | 124.1 | 51 | i 18 58 | [- 3] | i 25 55 | [- 8] | i 20 45 | PP |
| Ksara | | 124.7 | 73 | e 20 54 | PP | — | — | — | — |
| Upsala | | 124.8 | 38 | i 18 58 | [- 4] | e 22 11 | PKS | e 20 45 | PP e 54.2 |
| Iasi | | 125.1 | 55 | e 19 3 | [0] | — | — | — | — |
| Yalta | | 128.2 | 60 | e 19 6 | [- 3] | i 22 25 | PKS | e 21 11 | PP |
| Kiruna | | 128.6 | 29 | i 19 6 _a | [- 3] | e 26 4 | [-12] | i 21 15 | PP e 51.2 |
| Pulkovo | | 130.8 | 40 | e 19 11 | [- 3] | e 28 9 | [-16] | e 21 25 | PP |
| Bandung | | 132.3 | 181 | e 19 43 | [+27] | e 22 35 | PKS | e 21 59 | PP |
| Lembang | z. | 132.4 | 181 | i 19 14 _a | [- 3] | i 22 35 | SKP | e 21 33 | PP |
| Djakarta | | 133.0 | 180 | e 19 18 | [0] | e 22 48 | SKP | e 21 42 | PP |
| Erevan | | 133.6 | 70 | i 19 16 | [- 3] | — | — | — | — |
| Moscow | | 133.8 | 47 | i 19 17 | [- 2] | i 22 39 | PKS | e 24 51 | PPP |
| Tiflis | | 134.4 | 68 | e 19 19 | [- 1] | e 28 39 | [- 8] | e 31 49 | SKSP |
| Goris | | 134.7 | 71 | e 19 19 | [- 2] | e 29 3 | {+14} | e 21 52 | PP |
| Kodaikanal | E. | 139.9 | 132 | e 22 10 | PP | — | — | — | — |
| Klyuchi | | 142.2 | 313 | e 19 30 | [- 4] | — | — | — | — |
| Ashkabad | | 142.9 | 78 | i 19 29 | [- 7] | 41 14 | SS | i 22 42 | PP |
| Madras | E. | 143.7 | 133 | e 19 32 | [- 5] | — | — | — | — |
| Poona | | 144.0 | 119 | e 19 35 | [- 2] | — | — | i 22 53 | PP |
| Quetta | | 146.1 | 96 | i 19 41 _k | [0] | e 29 48 | [- 8] | i 23 0 | PP e 65.6 |
| Hyderabad | E. | 146.2 | 126 | i 19 37 | [- 4] | — | — | — | — |
| Sverdlovsk | | 146.6 | 46 | i 19 39 | [- 3] | 33 20 | SKSP | 23 40 | PP |
| Magadan | | 147.1 | 319 | e 19 42 | [- 1] | — | — | — | — |
| Kurilsk | | 149.9 | 292 | e 19 49 | [+ 2] | e 30 9 | [- 8] | — | — |
| Stalinabad | | 150.9 | 82 | i 19 47 | [- 2] | 29 57 | [-26] | 23 20 | PKS |
| Manila | | 150.9 | 209 | e 19 53 | [+ 4] | — | — | — | — |
| Tashkent | | 152.0 | 77 | e 19 47 | [- 3] | e 33 52 | SKSP | e 23 30 | PP |
| Khorog | | 152.6 | 86 | e 19 51 | [0] | e 23 38 | PKS | — | — |
| Baguio | | 152.7 | 210 | e 19 59 | [+ 8] | — | — | — | — |
| Fergana | | 153.6 | 80 | i 19 40 | [-13] | e 20 3 | PKP ₂ | — | — |
| Uglegorsk | | 154.0 | 300 | e 19 50 | [- 3] | — | — | — | — |
| Andijan | | 154.1 | 79 | i 19 52 | [- 1] | 34 11 | SKSP | i 23 46 | PP |
| Dehra Dun | | 154.4 | 106 | e 19 54 | [0] | — | — | — | — |
| Matusiro | | 155.1 | 270 | 19 52 | [- 3] | — | — | 23 56 | PP |
| Calcutta | E. | 155.9 | 134 | e 20 1 | [+ 5] | — | — | — | — |
| Shillong | | 160.2 | 137 | i 20 5 | [+ 4] | 34 40 | SKSP | 24 17 | PP 66.3 |
| Hong Kong | E. | 160.3 | 201 | e 23 14? | PKS | — | — | — | — |
| Vladivostok | | 161.2 | 285 | e 24 48 | PP | i 32 13 | {+54} | — | — |
| Z6-S6 | z. | 164.7 | 234 | 20 5 _a | [0] | i 31 33 | [- 3] | i 24 51 | PP |
| Nanking | z. | 166.8 | 231 | 20 6 _a | [- 1] | i 23 11 | PKS | 25 3 | PP |
| Irkutsk | | 168.6 | 8 | 20 6 | [- 2] | e 31 45 | [-11] | 21 18 | PKP ₂ |

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July 26d. 22h. 9m. 56s. Epicentre 11°·9N. 43°·8W.

A = +·7064, B = -·6774, C = +·2049; $\delta = -14$; $h = +6$;
D = -·692, E = -·722; G = +·148, H = -·142, K = -·979.

| | Δ ° | Az. ° | P. m. s. | O - C. s. | S. m. s. | O - C. s. | Supp. m. s. | L. m. |
|--------------------|---------------|----------|---------------------|--------------|-------------|--------------|----------------|------------|
| Fort de France | 17·2 | 281 | i 4 1 | - 2 | — | — | — | — |
| St. Vincent | 17·2 | 276 | e 4 4 | - 1 | — | — | — | — |
| San Juan | 22·5 | 289 | e 5 3 | - 1 | e 9 14 | - 9 | i 5 41 | PP e 10·6 |
| M'Bour | 26·2 | 82 | i 5 43 | - 5 | — | — | e 6 46 | PP 12·1 |
| Bermuda | 28·0 | 320 | e 6 11 | +16 | — | — | — | e 11·7 |
| Angra do Heroismo | 30·4 | 26 | — | — | e 12 55 | SS | — | e 13·8 |
| Bogota | 30·8 | 259 | i 6 22 | - 2 | i 11 29 | + 6 | i 7 21 | PP 15·1 |
| Halifax | 36·8 | 336 | e 7 12 | - 1 | e 13 4 | + 8 | — | e 17·1 |
| La Paz | 37·1 | 221 | i 7 17 | - 3 | i 13 3 | + 2 | i 8 24 | PP 14·9 |
| Weston | 38·7 | 327 | e 7 29 | + 2 | e 13 27 | + 2 | e 9 1 | PP e 18·3 |
| Harvard | 38·9 | 327 | i 7 31 _a | - 2 | e 13 42 | +14 | — | — |
| City College, N.Y. | 39·2 | 323 | e 7 33 | - 2 | e 13 36 | - 4 | — | — |
| Fordham | 39·2 | 323 | e 7 33 | - 2 | e 13 27 | - 5 | — | — |
| Huancayo | 39·3 | 234 | e 7 29 | - 3 | e 13 30 | - 4 | — | e 16·9 |
| Palisades | 39·3 | 323 | e 7 30 | - 2 | e 13 18 | -16 | e 9 1 | PP e 18·0 |
| Averroes | 39·5 | 51 | e 7 32 | - 2 | — | — | — | — |
| Chapel Hill | 39·8 | 313 | i 7 37 | + 1 | — | — | — | — |
| Washington z. | 40·0 | 318 | e 7 40 | + 2 | — | — | — | — |
| Columbia z. | 40·4 | 309 | e 7 42 | + 1 | e 13 54 | + 4 | e 9 17 | PP e 16·8 |
| Lisbon z. | 40·7 | 43 | e 7 43 | - 1 | — | — | — | — |
| Pennsylvania | 41·6 | 320 | i 7 47 | - 4 | i 14 15 | + 7 | — | — |
| Seven Falls | 41·8 | 332 | e 7 53 _a | - 0 | 14 30 | +19 | 9 36 | PP 20·0 |
| Coimbra | 42·0 | 41 | 7 50 | - 4 | 14 21 | + 7 | 17 16 | SS — |
| Montezuma z. | 42·2 | 216 | e 7 50 | - 6 | — | — | — | — |
| Shawinigan Falls | 42·4 | 330 | e 7 54 | - 4 | — | — | — | — |
| Malaga | 43·1 | 48 | i 8 3 | - 1 | i 14 18 | -12 | 9 39 | PcP 21·6 |
| Ottawa | 43·1 | 327 | e 8 4 | - 0 | 14 39 | + 9 | 9 47 | PP 20·7 |
| Buffalo (Larkin) | 43·2 | 322 | i 8 6 | - 2 | — | — | — | — |
| Granada | 43·9 | 48 | i 8 15 _k | + 5 | i 14 54 | +12 | 8 36 | pP i 21·7 |
| Cleveland | 44·2 | 319 | i 8 15 _a | + 3 | e 14 53 | + 7 | — | — |
| Almeria | 44·6 | 49 | i 8 15 | - 1 | 14 57 | + 5 | 10 0 | PP 22·6 |
| Toledo | 44·8 | 44 | i 8 19 _a | - 2 | e 14 57 | + 2 | 10 7 | PP e 18·8 |
| Alicante | 46·6 | 48 | 8 29 | - 3 | 15 15 | - 6 | 10 17 | PP 22·3 |
| Kirkland Lake z. | 47·1 | 327 | e 8 35 | - 0 | — | — | — | — |
| Tamanrasset z. | 48·1 | 70 | e 8 44 | + 1 | e 15 40 | - 2 | e 10 6 | PcP — |
| Chicago | 48·4 | 316 | e 8 43 | - 3 | e 15 51 | - 5 | e 10 25 | PP e 19·5 |
| Algiers Univ. z. | 48·7 | 51 | e 8 48 | - 0 | e 11 15 | PPP | e 10 23 | PcP — |
| St. Louis | 49·1 | 311 | e 8 50 | - 1 | e 16 3 | PS | — | — |
| Rathfarnham C. z. | 51·0 | 28 | i 9 7 | + 1 | i 10 6 | ? | e 11 39 | ? — |
| Fayetteville | 51·3 | 307 | i 9 7 | - 1 | e 17 34 | +68 | — | — |
| Dallas | 52·7 | 302 | i 9 19 | + 1 | — | — | — | — |
| Kew | 52·8 | 33 | e 9 16 | - 3 | e 16 56 | + 9 | — | e 23·1 |
| Paris | 53·0 | 37 | i 9 21 | - 0 | e 16 53 | + 3 | e 10 18 | PcP e 24·1 |
| Tacubaya | 53·7 | 285 | e 9 23 | - 3 | — | — | — | — |
| Uccle | 55·0 | 35 | e 9 35 | - 0 | e 17 22 | + 5 | e 9 47 | pP e 23·1 |
| Aberdeen | 55·2 | 26 | — | — | e 17 4? | -16 | — | e 23·6 |
| Oropa | 55·2 | 42 | e 9 50 | +13 | — | — | — | — |
| Pavia | 55·8 | 43 | e 9 40 | - 1 | e 17 47 | +19 | — | e 26·2 |
| De Bilt | 56·1 | 34 | e 9 40 | - 3 | e 17 28 | - 4 | — | e 25·1 |
| Strasbourg | 56·1 | 39 | e 9 42 | - 1 | e 17 31 | - 1 | e 10 56 | PcP e 24·9 |
| Karlsruhe z. | 56·7 | 38 | e 9 47 _a | - 1 | — | — | — | — |
| Florence | 56·8 | 45 | i 9 47 _a | - 1 | i 17 49 | + 8 | i 11 46 | PP — |
| Bologna | 57·0 | 44 | e 9 52 | + 2 | e 18 35 | PPS | — | — |
| Stuttgart | 57·1 | 39 | e 9 49 | - 1 | — | — | — | e 27·1 |
| Rome | 57·2 | 48 | e 9 51 | - 0 | e 17 53 | + 7 | e 12 9 | PP — |
| Padova | 57·5 | 45 | e 9 6 | - 47 | — | — | — | — |
| Witteveen z. | 57·5 | 34 | e 9 51 | - 2 | — | — | — | — |
| Triest | 59·0 | 44 | e 9 58 | - 6 | e 18 23 | +13 | e 10 44 | PcP e 26·0 |
| Jena | 59·3 | 37 | e 10 4 | - 2 | — | — | e 12 15 | PP — |
| Hamburg z. | 59·4 | 34 | 10 5 _a | - 1 | — | — | e 12 31 | PP — |

Continued on next page.

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1954

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|----------------|----|------------|------------|----------------------|-------|---------|------|---------|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Rapid City | E. | 60.0 | 314 | e 10 12 | + 1 | e 18 30 | + 7 | — | e 27.8 |
| Taranto | | 60.4 | 50 | 9 57 | -16 | 19 29 | +61 | — | — |
| Boulder | | 60.7 | 309 | i 10 14 | - 1 | — | — | — | — |
| Potsdam | E. | 60.7 | 36 | e 10 16 | + 1 | — | — | — | — |
| Prague | | 60.7 | 39 | i 10 15 | 0 | 20 19 | ScS | e 10 45 | PcP |
| Copenhagen | | 61.5 | 32 | e 10 20 | - 1 | e 18 48 | + 6 | — | 29.1 |
| Raciborzu | | 63.0 | 40 | e 10 30 | - 1 | — | — | e 10 56 | PcP |
| Tucson | | 64.4 | 300 | e 10 39 | - 1 | e 19 44 | +26 | — | e 29.6 |
| Warsaw | | 65.3 | 38 | e 10 47 | + 1 | e 19 34 | + 5 | e 11 20 | PcP |
| Upsala | | 65.6 | 29 | i 10 46 | - 2 | e 13 26 | PP | i 11 18 | PcP |
| Bozeman | | 65.8 | 315 | e 10 47 | - 2 | — | — | — | — |
| Salt Lake City | | 65.8 | 309 | e 10 49 | 0 | e 19 39 | + 4 | e 38 7 | P'P' |
| Butte | N. | 66.8 | 315 | e 10 55 | - 1 | e 19 56 | + 8 | e 24 8 | SS |
| Bucharest | E. | 67.4 | 47 | e 10 52 | - 7 | — | — | — | — |
| Nelson | Z. | 67.8 | 304 | i 11 1 | - 1 | e 30 57 | PKKP | e 39 23 | P'P' |
| Hungry Horse | | 68.1 | 317 | e 11 1 | - 3 | — | — | — | — |
| Iasi | E. | 68.7 | 44 | e 11 9 | + 2 | — | — | — | — |
| Resolute Bay | | 68.9 | 347 | e 11 4 | - 5 | e 20 16 | + 3 | — | e 34.6 |
| Barratt | Z. | 69.4 | 300 | i 11 12 | 0 | — | — | — | — |
| Istanbul | Z. | 69.4 | 50 | e 11 8 | - 4 | — | — | e 13 48 | PP |
| Kiruna | | 69.4 | 21 | i 11 11 | - 1 | e 20 4? | -14 | e 20 36 | PS |
| Palomar | Z. | 69.5 | 301 | i 11 12 | 0 | — | — | — | — |
| China Lake | Z. | 70.1 | 304 | i 11 16 | 0 | — | — | — | — |
| Pasadena | Z. | 70.6 | 302 | e 11 19 | 0 | — | — | — | e 38.6 |
| Helwan | Z. | 71.4 | 62 | e 11 23 | - 1 | — | — | e 15 46 | PPP |
| Fresno | Z. | 71.8 | 305 | e 11 26 | 0 | — | — | — | — |
| Reno | Z. | 71.8 | 308 | e 11 27 | + 1 | — | — | — | — |
| Mineral | Z. | 73.2 | 309 | e 11 35 | 0 | — | — | — | — |
| Lick | Z. | 73.3 | 306 | i 11 33 | - 2 | — | — | — | — |
| Seattle | Z. | 73.6 | 316 | e 13 12 | ? | — | — | — | — |
| Jerusalem | | 74.5 | 60 | i 11 45 | + 3 | — | — | i 12 16 | ? |
| College | | 85.2 | 335 | e 12 37 | - 2 | — | — | — | — |
| Quetta | Z. | 101.4 | 56 | — | — | e 35 38 | SSS | — | — |
| Baguio | | 147.9 | 29 | e 19 49 | [+ 5] | — | — | — | — |
| Manila | | 149.7 | 30 | e 19 47 | [0] | — | — | — | — |
| Djakarta | Z. | 150.4 | 82 | e 19 53 _a | [+ 5] | — | — | — | — |
| Lembang | Z. | 151.3 | 82 | e 19 51 _k | [+ 2] | — | — | — | — |

July 27d. 6h. 46m. 42s. Epicentre 11°-9N. 43°-8W. (as on 26d.).

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------------|----|------------|------------|---------------------|------|-----------|------|---------|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Fort de France | | 17.2 | 281 | i 4 0 | - 3 | — | — | — | — |
| San Juan | | 22.5 | 289 | i 5 3 | + 1 | e 9 15 | +10 | — | e 10.9 |
| Bermuda | | 28.0 | 320 | — | — | (e 11 44) | SS | — | e 11.7 |
| Bogota | | 30.8 | 259 | i 6 24 | + 4 | i 11 31 | + 8 | i 12 28 | ? |
| La Paz | | 37.1 | 221 | 7 20 | + 6 | — | — | i 10 4 | ? |
| Weston | | 38.7 | 327 | e 7 28 | + 1 | e 13 36 | +11 | e 9 1 | PP |
| Harvard | | 38.9 | 327 | i 7 30 _a | + 1 | — | — | — | — |
| City College, N.Y. | | 39.2 | 323 | e 7 34 | + 3 | e 13 41 | + 9 | — | — |
| Fordham | | 39.2 | 323 | e 7 33 | + 2 | e 13 42 | +10 | — | — |
| Huancayo | | 39.3 | 234 | e 7 30 | - 2 | — | — | — | — |
| Palisades | | 39.3 | 323 | e 7 33 | + 1 | e 13 33 | - 1 | e 9 1 | PP |
| Columbia | | 40.4 | 309 | i 7 44 | + 3 | e 14 1 | +11 | e 9 16 | PP |
| Seven Falls | | 41.8 | 332 | e 7 54 _k | + 1 | 9 32 | PP | 10 1 | PPP |
| Ottawa | | 43.1 | 327 | i 8 5 _k | + 1 | 14 36 | + 6 | 9 53 | PP |
| Buffalo (Larkin) | | 43.2 | 322 | i 8 5 | + 1 | — | — | — | — |
| Granada | | 43.9 | 48 | i 8 38 _a | +28 | i 14 52 | +10 | 10 2 | PP |
| Cleveland | | 44.2 | 319 | i 8 16 _a | + 4 | e 14 58 | +12 | — | — |
| Almeria | | 44.6 | 49 | 8 24 | + 8 | 15 4 | +12 | 10 14 | PP |
| Alicante | | 46.6 | 48 | 8 30 | - 2 | 10 18 | PP | 11 2 | PPP |
| Kirkland Lake | Z. | 47.1 | 327 | e 8 37 | + 2 | — | — | — | — |

Continued on next page.

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1954

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|----------------|----|------------|------------|---------|-------|----------|------|---------|-----|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. | |
| Tamanrasset | z. | 48.1 | 70 | e 8 45 | + 2 | e 10 11 | PcP | e 10 35 | PP | — |
| Algiers Univ. | z. | 48.7 | 51 | e 8 49 | + 1 | — | — | — | — | — |
| St. Louis | | 49.1 | 311 | e 8 51 | 0 | e 16 6 | +10 | — | — | — |
| Fayetteville | | 51.3 | 307 | i 9 8 | 0 | — | — | i 9 22 | ? | — |
| Dallas | | 52.7 | 302 | i 9 18 | 0 | — | — | — | — | — |
| Tacubaya | | 53.7 | 285 | — | — | e 14 37 | PcS | — | — | — |
| Strasbourg | | 56.1 | 39 | e 10 9 | +26 | — | — | — | — | — |
| Florence | z. | 56.8 | 45 | e 10 2 | +14 | — | — | — | — | — |
| Stuttgart | | 57.1 | 39 | e 9 49 | - 1 | — | — | — | — | — |
| Jena | | 59.3 | 37 | e 10 6? | 0 | — | — | e 10 11 | ? | — |
| Collmberg | z. | 60.3 | 37 | e 10 12 | - 1 | — | — | — | — | — |
| Boulder | | 60.7 | 309 | e 10 10 | - 5 | — | — | i 10 16 | ? | — |
| Tucson | | 64.4 | 300 | e 10 40 | 0 | — | — | — | — | e 33.6 |
| Upsala | z. | 65.6 | 29 | i 10 44 | - 4 | — | — | — | — | — |
| Bozeman | | 65.8 | 315 | e 10 49 | 0 | — | — | — | — | — |
| Salt Lake City | | 65.8 | 309 | i 10 49 | 0 | — | — | — | — | — |
| Butte | n. | 66.8 | 315 | e 10 53 | - 3 | — | — | — | — | e 37.0 |
| Boulder City | | 67.8 | 304 | i 11 3 | + 1 | — | — | i 12 12 | ? | — |
| Nelson | z. | 67.8 | 304 | i 11 3 | + 1 | — | — | — | — | — |
| Hungry Horse | | 68.1 | 317 | i 11 3 | - 1 | — | — | i 11 26 | PcP | — |
| Barratt | z. | 69.4 | 300 | e 11 11 | - 1 | — | — | — | — | — |
| Istanbul | z. | 69.4 | 50 | e 11 10 | - 2 | — | — | — | — | — |
| Kiruna | | 69.4 | 21 | i 11 11 | - 1 | e 21 18? | ScS | i 11 24 | PcP | e 33.3 |
| Palomar | z. | 69.5 | 301 | e 11 13 | + 1 | — | — | — | — | — |
| Riverside | z. | 69.9 | 302 | e 11 15 | 0 | — | — | — | — | — |
| China Lake | z. | 70.1 | 304 | e 11 16 | 0 | — | — | — | — | — |
| Mount Wilson | z. | 70.4 | 302 | e 11 18 | 0 | — | — | — | — | — |
| Tinemaha | z. | 70.6 | 305 | e 11 20 | + 1 | — | — | — | — | — |
| Woody | z. | 71.1 | 304 | i 11 22 | 0 | — | — | — | — | — |
| Fresno | z. | 71.8 | 305 | e 11 26 | 0 | — | — | — | — | — |
| Reno | z. | 71.8 | 308 | e 11 26 | 0 | — | — | — | — | — |
| Mineral | z. | 73.2 | 309 | e 11 34 | - 1 | — | — | — | — | — |
| Lick | z. | 73.3 | 306 | i 11 36 | + 1 | — | — | — | — | — |
| College | | 85.2 | 335 | i 12 39 | 0 | — | — | — | — | — |
| Baguio | | 147.9 | 29 | i 19 49 | [+ 5] | — | — | — | — | — |

July 27d. 9h. 31m. Epicentre 42°·9N. 77°·7E.

Bulletin of the Seismological Stations of the U.S.S.R. for July-Sept, 1954, Moscow, 1955, p. 69.

July 27d. 13h. 35m. 38s. Epicentre 35°·6N. 141°·0E. Depth of focus 40km.

Intensity II-III at Kakioka.

Seismo. Bull. Cent. Met. Obs., Japan, for July, 1954, Tokyo, 1954, pp. 37-38.

July 27d. 20h. 57m. 53s. Epicentre 11°·9N. 43°·8W. (as at 6h.).

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|--------------------|--|------------|------------|--------|------|-----------|------|---------|----|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. | |
| Fort de France | | 17.2 | 281 | i 4 6 | + 3 | — | — | — | — | — |
| San Juan | | 22.5 | 289 | e 5 4 | + 2 | — | — | — | — | — |
| Bermuda | | 28.0 | 320 | e 5 52 | - 3 | (e 11 42) | SS | — | — | e 11.7 |
| Angra do Heroismo | | 30.4 | 26 | — | — | e 13 1 | SSS | — | — | — |
| Bogota | | 30.8 | 259 | i 6 25 | + 5 | i 11 29 | + 6 | — | — | — |
| La Paz | | 37.1 | 221 | e 7 17 | + 3 | 12 52 | - 9 | — | — | 19.1 |
| Weston | | 38.7 | 327 | e 7 28 | + 1 | e 13 27 | + 2 | — | — | e 18.2 |
| Harvard | | 38.9 | 327 | e 7 12 | -17 | — | — | e 8 27 | ? | e 18.4 |
| City College, N.Y. | | 39.2 | 323 | e 7 26 | - 5 | e 13 34 | + 2 | — | — | — |
| Huancayo | | 39.3 | 234 | e 7 28 | - 4 | — | — | e 9 15 | PP | — |
| Palisades | | 39.3 | 323 | e 7 30 | - 2 | e 13 36 | + 2 | e 16 28 | SS | e 18.0 |
| Columbia | | 40.4 | 309 | e 7 43 | + 2 | e 13 52 | + 2 | e 9 18 | PP | e 16.9 |
| Seven Falls | | 41.8 | 332 | e 7 54 | + 1 | — | — | — | — | — |
| Malaga | | 43.1 | 48 | i 8 2 | - 2 | i 14 11 | -19 | 9 45 | PP | 20.6 |
| Ottawa | | 43.1 | 327 | e 8 3a | - 1 | e 14 42 | +12 | — | — | — |

Continued on next page.

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1954

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----|----------|-----|---------|-------|---------|------|---------|------------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Buffalo (Larkin) | | 43.2 | 322 | e 8 3 | - 1 | — | — | — | — |
| Granada | | 43.9 | 48 | i 8 10k | 0 | i 14 51 | + 9 | 8 36 | i 21.7 |
| Cleveland | | 44.2 | 319 | e 8 15k | + 3 | e 14 58 | +12 | — | — |
| Toledo | | 44.8 | 44 | e 8 32 | +15 | — | — | — | — |
| Alicante | | 46.6 | 48 | e 8 20 | -12 | 15 6 | -15 | — | 22.1 |
| Kirkland Lake | z. | 47.1 | 327 | e 8 34 | - 1 | — | — | — | — |
| Tamanrasset | z. | 48.1 | 70 | e 8 43 | 0 | e 10 5 | PcP | e 10 36 | PP |
| Algiers Univ. | z. | 48.7 | 51 | e 8 45 | - 3 | — | — | — | — |
| Fayetteville | | 51.3 | 307 | e 9 12 | + 4 | — | — | — | — |
| Collmberg | z. | 60.3 | 37 | e 10 10 | - 3 | — | — | — | — |
| Boulder | | 60.7 | 309 | e 10 14 | - 1 | — | — | — | — |
| Potsdam | | 60.7 | 36 | e 10 13 | - 2 | — | — | — | e 29.1 |
| Copenhagen | | 61.5 | 32 | e 10 28 | + 7 | e 18 47 | + 5 | — | 29.1 |
| Tucson | | 64.4 | 300 | e 10 42 | + 2 | — | — | — | — |
| Warsaw | | 65.3 | 38 | e 10 58 | +12 | e 19 21 | - 8 | e 11 17 | PcP e 31.1 |
| Bozeman | | 65.8 | 315 | e 10 44 | - 5 | — | — | — | — |
| Salt Lake City | | 65.8 | 309 | e 10 37 | -12 | — | — | — | — |
| Butte | N. | 66.8 | 315 | e 10 54 | - 2 | — | — | — | — |
| Boulder City | | 67.8 | 304 | e 11 1 | - 1 | — | — | — | — |
| Nelson | z. | 67.8 | 304 | i 11 1 | - 1 | — | — | — | — |
| Hungry Horse | | 68.1 | 317 | e 11 1 | - 3 | — | — | — | — |
| Barratt | z. | 69.4 | 300 | e 11 9 | - 3 | — | — | — | — |
| Kiruna | | 69.4 | 21 | e 11 9 | - 3 | e 20 53 | PPS | e 11 24 | ? e 33.1 |
| Riverside | z. | 69.9 | 302 | e 11 15 | 0 | — | — | — | — |
| China Lake | z. | 70.1 | 304 | e 11 14 | - 2 | — | — | — | — |
| Pasadena | | 70.6 | 302 | e 11 12 | - 7 | — | — | — | e 34.1 |
| Woody | z. | 71.1 | 304 | e 11 21 | - 1 | — | — | — | — |
| Helwan | z. | 71.4 | 62 | e 11 28 | + 4 | — | — | e 13 40 | PP |
| College | | 85.2 | 335 | i 12 37 | - 2 | — | — | — | — |
| Baguio | | 147.9 | 29 | i 19 46 | [+ 2] | — | — | — | — |

July 29d. 2h. 11m. Epicentre 43°·1N. 78°·3E.

Bull. of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, p. 69.

July 29d. 3h. 23m. 41s. Epicentre 18°·6S. 69°·4W. Depth of focus 0·020.

A = +·3337, B = -·8878, C = -·3170; δ = +3; h = +5;
D = -·936, E = -·352; G = -·112, H = +·297, K = -·948.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | |
|----------------|----|----------|-----|----------------------|------|---------|------|---------|-----|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | |
| La Paz | | 2.4 | 30 | i 0 39 _a | - 2 | i 1 13 | + 1 | i 1 7 | S |
| Antofagasta | N. | 5.2 | 191 | e 1 9 | - 8 | e 2 7 | -10 | 1 12 | P |
| Huancayo | | 8.6 | 318 | e 1 59 | - 3 | e 4 13 | +35 | — | — |
| Copiapo | E. | 8.8 | 186 | e 2 7 | + 2 | e 3 51 | + 8 | e 2 15 | PP |
| Santa Lucia | N. | 14.8 | 184 | — | — | e 6 25 | SS | e 6 55 | SSS |
| Bogota | | 23.5 | 348 | e 4 59 | + 3 | e 9 5 | +10 | e 10 6 | SS |
| Chinchina | | 24.2 | 345 | e 5 4 | + 1 | e 9 16 | + 9 | e 10 41 | SSS |
| Fort de France | | 34.1 | 14 | e 6 33 | + 2 | — | — | — | — |
| San Juan | | 36.8 | 5 | i 6 51 | - 3 | — | — | i 7 39 | sP |
| Tacubaya | | 47.7 | 321 | e 8 19 | - 3 | — | — | — | — |
| Columbia | | 53.4 | 348 | e 9 5 | 0 | e 16 27 | + 4 | e 9 33 | pP |
| Dallas | | 57.4 | 333 | i 9 34 | 0 | — | — | — | — |
| Cincinnati | | 59.1 | 346 | i 9 46 | 0 | — | — | — | — |
| Fayetteville | | 59.2 | 337 | i 9 45 _a | - 2 | e 10 33 | PcP | i 10 11 | pP |
| Weston | | 60.7 | 358 | i 9 58 _a | + 1 | — | — | — | — |
| Cleveland | | 60.8 | 350 | i 9 59 _k | + 2 | i 18 8 | + 8 | i 10 26 | pP |
| Harvard | | 60.8 | 358 | e 9 56 | - 1 | — | — | — | — |
| Halifax | | 63.1 | 5 | e 10 2 | -11 | e 11 0 | sP | e 10 38 | pP |
| Ottawa | | 63.9 | 355 | i 10 17 _a | - 1 | e 18 47 | + 8 | — | — |
| Tucson | | 64.2 | 322 | i 10 20 | 0 | — | — | — | — |

Continued on next page.

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1954

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | |
|----------------|----|------------|------------|----------------------|------|---------|-------|---------|----|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | |
| Seven Falls | | 65.4 | 359 | e 10 26 _a | - 2 | i 11 15 | sP | i 10 53 | pP |
| Kirkland Lake | z. | 67.1 | 352 | e 10 37 | - 1 | — | — | e 11 4 | pP |
| Boulder | | 67.2 | 331 | i 10 39 | 0 | — | — | — | — |
| Barratt | z. | 68.1 | 318 | i 10 45 _k | + 1 | — | — | i 11 10 | pP |
| Nelson | z. | 69.0 | 322 | i 10 51 | + 1 | i 11 29 | sP | i 11 17 | pP |
| Boulder City | | 69.2 | 322 | i 10 52 | + 1 | — | — | i 12 19 | ? |
| Riverside | z. | 69.4 | 319 | i 10 53 _k | + 1 | — | — | i 11 20 | pP |
| Pasadena | | 70.0 | 318 | i 10 57 _k | + 1 | — | — | i 11 24 | pP |
| China Lake | z. | 70.8 | 320 | i 11 1 _k | 0 | i 11 39 | sP | i 11 27 | pP |
| Salt Lake City | | 71.0 | 327 | i 11 3 | + 1 | — | — | — | — |
| Woody | z. | 71.5 | 319 | i 11 6 _k | + 1 | i 11 12 | PcP | i 11 32 | pP |
| Tinemaha | z. | 72.0 | 321 | i 11 9 _k | + 1 | — | — | — | — |
| Lick | z. | 74.2 | 319 | i 11 23 _k | + 2 | — | — | — | — |
| Bozeman | | 74.3 | 331 | e 11 22 | + 1 | e 14 8 | PP | e 12 0 | pP |
| Reno | z. | 74.5 | 322 | e 11 25 | + 3 | — | — | — | — |
| Butte | N. | 75.2 | 330 | i 11 28 | + 2 | — | — | — | — |
| Mineral | z. | 76.1 | 322 | e 11 31 | - 1 | — | — | — | — |
| Shasta | z. | 76.8 | 321 | i 11 35 | - 1 | — | — | — | — |
| Hungry Horse | | 77.6 | 331 | i 11 41 | + 1 | — | — | i 12 9 | pP |
| Victoria | | 82.3 | 327 | 12 5 | 0 | e 19 30 | ? | — | — |
| Tamanrasset | z. | 83.9 | 64 | i 12 14 _a | + 1 | e 12 54 | sP | i 12 43 | pP |
| Algiers Univ. | z. | 87.6 | 50 | e 12 31 | 0 | e 12 36 | PcP | e 13 2 | pP |
| Stuttgart | | 96.5 | 41 | e 13 40 | +28 | — | — | — | — |
| College | | 101.8 | 335 | e 13 35 | - 1 | — | — | — | — |
| Warsaw | | 104.7 | 40 | e 18 27 | PP | e 24 23 | [+11] | e 25 35 | S |

July 29d. 3h. 34m. 20s. Epicentre 49°·55N. 158°·1E.

A = -·6043, B = +·2429, C = +·7588; δ = -4; h = -5;
D = +·373, E = +·928; G = -·704, H = +·283, K = -·651.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------------|------------|------------|--------|------|---------|------|--------|-----------|
| | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Petropavlovsk | 3.5 | 5 | i 0 59 | + 2 | e 1 42 | + 2 | — | — |
| Klyuchi | 7.0 | 13 | i 1 47 | + 1 | — | — | — | — |
| Kurilsk | 8.2 | 242 | e 2 2 | - 1 | 3 56 | -11* | — | — |
| Uglegorsk | 10.5 | 274 | e 2 35 | 0 | e 4 37 | + 2 | — | — |
| Yuzno-Sakhlinsk | 10.6 | 262 | i 2 36 | 0 | e 4 39 | + 2 | — | — |
| Nemuro | 10.7 | 239 | e 2 32 | - 6 | e 4 43 | + 4 | — | e 5.9 |
| Magadan | 10.9 | 340 | e 2 40 | 0 | i 4 47 | + 3 | — | — |
| Kusiro | 11.5 | 240 | 2 47 | - 1 | e 3 40 | ? | e 5 34 | SS e 6.5 |
| Urakawa | 13.0 | 241 | e 3 9 | 0 | — | — | — | e 7.3 |
| Sapporo | 13.3 | 247 | e 3 26 | PP | e 6 42 | +60 | e 7 55 | ? e 8.9 |
| Miyako | 15.2 | 235 | — | — | 7 8? | SSS | — | — |
| Mizusawa | 16.0 | 236 | 3 46 | - 2 | — | — | — | 8.3 |
| Akita | 16.1 | 239 | — | — | e 7 40? | SSS | — | e 9.3 |
| Sendai | 16.7 | 234 | e 4 0 | + 3 | — | — | — | — |
| Hokusima | 17.3 | 234 | e 4 4 | 0 | e 7 27 | +11 | — | 9.4 |
| Inawasiro | 17.7 | 234 | e 4 18 | + 8 | 17 35 | + 9 | 14 46 | ? — |
| Onahama | 17.7 | 231 | e 4 10 | 0 | — | — | — | e 8.2 |
| Niigata | 18.0 | 237 | e 4 40 | PPP | — | — | — | e 10.5 |
| Shirakawa | 18.0 | 233 | e 3 52 | -21 | — | — | — | — |
| Utunomiya | 18.6 | 232 | e 4 18 | - 3 | e 7 44 | - 2 | e 4 27 | PP — |
| Kashiwa | 19.0 | 231 | e 4 20 | - 6 | — | — | — | — |
| Maebasi | 19.1 | 234 | e 4 26 | - 1 | e 8 3 | + 6 | e 5 4 | PPP — |
| Kumagaya | 19.1 | 233 | 4 26 | - 1 | — | — | — | e 10.3 |
| Vladivostok | 19.2 | 260 | i 4 25 | - 3 | e 8 19 | SS | — | — |
| Nagano | N. 19.3 | 236 | i 4 37 | + 8 | i 8 9 | + 7 | — | — |
| Tokyo | 19.3 | 231 | i 4 32 | + 3 | e 8 9 | + 7 | 8 18 | SS e 10.6 |
| Titibu | N. 19.4 | 233 | e 4 31 | + 1 | — | — | — | — |
| Oiwake | 19.4 | 234 | e 4 32 | + 2 | e 8 1 | - 3 | — | — |
| Matusiro | 19.4 | 236 | i 4 32 | + 2 | i 8 9 | + 5 | 5 13 | PPP 10.2 |
| Yokohama | 19.5 | 231 | 4 25 | - 6 | — | — | — | 1.7 |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|----------------|----|----------|-----|----------|------|---------|------|---------|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Matumoto | | 19.8 | 235 | e 4 37 | + 2 | e 8 20 | + 7 | — | e 11.6 |
| Mera | | 19.8 | 229 | e 4 48 | PP | e 9 4 | SSS | — | 11.1 |
| Toyama | | 19.9 | 238 | e 4 38 | + 2 | — | — | e 5 5 | PPP |
| Kohu | | 19.9 | 233 | e 4 38 | + 2 | — | — | — | — |
| Misima | E. | 20.2 | 232 | 4 21 | -18 | — | — | — | — |
| Shizuoka | | 20.5 | 232 | e 4 47 | + 5 | e 8 40 | +13 | — | — |
| Hukui | | 20.9 | 238 | e 4 48 | + 2 | — | — | — | — |
| Omiasaki | | 20.9 | 232 | e 4 50 | + 4 | — | — | — | e 11.3 |
| Nagoya | | 21.1 | 235 | e 4 49 | + 1 | — | — | e 5 26 | PPP |
| Hikone | | 21.4 | 236 | e 4 54 | + 3 | — | — | — | — |
| Kameyama | | 21.6 | 235 | 5 0 | + 6 | e 8 34 | -15 | i 5 52 | ? |
| Kobe | | 22.5 | 237 | e 5 28 | PP | e 9 10 | + 5 | — | — |
| Tokusima | | 23.3 | 237 | e 5 11 | + 1 | — | — | — | — |
| Torisima | | 23.3 | 222 | e 5 15 | + 5 | — | — | — | — |
| Takamatu | | 23.4 | 238 | e 5 13 | + 2 | — | — | e 5 44 | PP |
| Koti | | 24.2 | 238 | e 5 20 | + 1 | e 9 45 | +10 | — | — |
| Matuyama | N. | 24.4 | 240 | e 5 10 | -11 | e 9 29 | -10 | e 7 32 | ? |
| Kwanting | | 31.2 | 269 | 6 26 | + 3 | 11 32 | + 3 | — | — |
| College | | 31.8 | 41 | i 6 29 | + 1 | e 11 41 | + 3 | e 12 38 | ? |
| Tatung | | 32.7 | 271 | e 6 40 | + 4 | 11 57 | + 5 | — | e 23.4 |
| Zh-Sè | Z. | 33.2 | 250 | i 6 40k | 0 | 11 59 | - 1 | — | — |
| Irkutsk | | 33.4 | 296 | 6 44 | + 2 | — | — | — | — |
| Nanking | | 34.0 | 254 | i 6 49 | + 1 | i 12 11 | - 2 | — | — |
| Taiyuan | N. | 34.5 | 268 | e 6 55 | + 3 | e 12 23 | + 3 | — | — |
| Sian | | 39.0 | 266 | e 7 34 | + 4 | e 13 30 | + 1 | — | — |
| Sitka | | 39.0 | 53 | i 7 28 | - 2 | e 13 34 | + 5 | e 8 58 | PP |
| Lanchow Univ. | E. | 41.2 | 272 | — | — | e 13 58 | - 4 | — | — |
| Sining | | 42.2 | 274 | e 8 0 | + 4 | e 14 20 | + 3 | — | — |
| Hong Kong | E. | 43.9 | 248 | i 8 12 | + 2 | i 14 41 | - 1 | — | e 20.7 |
| Baguio | | 44.9 | 236 | i 8 17 | - 1 | e 14 53 | - 3 | — | — |
| Resolute Bay | | 47.1 | 20 | i 8 35 | 0 | i 15 29 | + 1 | e 10 26 | PP |
| Semipalatinsk | | 47.9 | 302 | e 8 39 | - 3 | — | — | — | e 23.6 |
| Seattle | | 50.3 | 60 | i 9 3 | + 3 | e 9 12 | ? | e 17 34 | ? |
| Almata | | 53.8 | 296 | e 9 24 | - 2 | — | — | — | — |
| Sverdlovsk | | 54.0 | 318 | i 9 30 | + 2 | — | — | — | — |
| Shasta | Z. | 54.3 | 67 | i 9 31 | + 1 | — | — | — | — |
| Hungry Horse | | 54.4 | 55 | i 9 32k | + 1 | e 17 12 | + 3 | i 10 36 | PcP |
| Mineral | Z. | 55.0 | 67 | i 9 35 | 0 | — | — | — | — |
| Shillong | | 55.8 | 270 | i 9 40 | - 1 | i 17 25 | - 3 | 10 38 | PcP |
| Berkeley | | 56.2 | 70 | e 9 45 | + 1 | e 17 38 | + 5 | — | 25.8 |
| Branner | Z. | 56.5 | 70 | e 9 47 | + 1 | — | — | — | — |
| Butte | N. | 56.6 | 56 | i 9 48 | + 1 | e 17 43 | + 5 | e 13 8 | PPP |
| Reno | Z. | 56.6 | 67 | e 9 48 | + 1 | — | — | — | e 24.3 |
| Santa Clara | | 56.7 | 70 | e 9 48a | 0 | e 17 48 | + 8 | — | — |
| Lick | Z. | 56.9 | 70 | e 9 49 | 0 | — | — | — | — |
| Bozeman | | 57.7 | 56 | i 9 55 | 0 | e 13 21 | PPP | e 39 45 | P'P' |
| Andijan | | 58.0 | 297 | i 9 58 | + 1 | i 18 0 | + 3 | — | — |
| Fresno | Z. | 58.4 | 69 | e 10 0 | 0 | — | — | — | — |
| Kiruna | | 58.7 | 343 | i 10 0k | - 2 | i 18 4 | - 2 | i 10 14 | pP |
| Tinemaha | | 59.2 | 68 | i 10 6 | + 1 | i 10 20 | ? | i 10 42 | PcP |
| Woody | Z. | 59.6 | 69 | i 11 8 | +60 | i 11 23 | PcP | e 39 33 | P'P' |
| Calcutta | E. | 60.2 | 270 | e 10 10 | - 2 | i 18 29 | + 4 | — | — |
| China Lake | Z. | 60.3 | 68 | i 10 23k | +10 | i 10 50 | PcP | e 39 38 | P'P' |
| Salt Lake City | | 60.4 | 61 | i 10 14 | + 1 | e 18 34 | + 6 | — | — |
| Pasadena | | 61.1 | 70 | i 10 18k | 0 | e 18 41 | + 4 | e 39 44 | P'P' |
| Dehra Dun | N. | 61.4 | 284 | e 9 5 | ? | i 18 42 | + 2 | i 10 49 | PcP |
| Stalinabad | | 61.5 | 297 | i 10 21 | 0 | i 18 40 | - 2 | — | — |
| Riverside | Z. | 61.7 | 70 | i 10 21 | - 1 | i 10 37 | ? | e 39 38 | P'P' |
| Boulder City | | 61.9 | 67 | i 10 24 | 0 | i 10 39 | ? | i 11 0 | PcP |
| Nelson | Z. | 62.1 | 67 | i 10 25 | 0 | i 10 40 | ? | e 39 35 | P'P' |
| Rapid City | E. | 62.9 | 53 | e 10 33 | + 3 | e 19 4 | + 4 | e 13 16 | PP |
| Barratt | Z. | 63.0 | 71 | i 10 31 | 0 | — | — | i 10 46 | ? |
| Pulkovo | | 63.1 | 333 | e 10 32 | 0 | e 18 58 | - 4 | — | — |
| New Delhi | | 63.2 | 283 | e 10 31 | - 1 | e 19 2 | - 1 | — | — |
| Moscow | | 64.0 | 327 | e 10 36 | - 2 | — | — | — | — |

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------------|----|----------|-----|----------------------|------|----------|------|--------------|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Boulder | | 64.6 | 58 | i 10 42 | + 1 | — | — | — | — |
| Upsala | | 66.3 | 340 | i 10 51 | - 1 | e 19 43? | + 1 | i 11 5 pP | e 29.7 |
| Tucson | | 66.9 | 67 | i 10 56 | 0 | e 20 7 | +18 | i 11 11 pP | e 30.5 |
| Ashkabad | | 67.8 | 303 | i 11 4 | + 2 | — | — | — | — |
| Quetta | | 68.4 | 291 | i 11 5 | - 1 | e 20 8 | + 1 | e 15 14 PPP | — |
| Hyderabad | E. | 70.3 | 274 | i 11 16 | - 1 | i 20 25 | - 4 | — | — |
| Kirkland Lake | Z. | 70.5 | 37 | e 11 17 _k | - 1 | — | — | — | — |
| Lembang | Z. | 71.2 | 234 | i 11 23 _a | 0 | — | — | e 13 57 PP | — |
| Copenhagen | | 71.3 | 340 | i 11 32 _a | + 9 | i 20 41 | 0 | i 11 37 PcP | 34.7 |
| Tiflis | | 71.9 | 314 | i 11 27 | 0 | — | — | — | — |
| Chicago | | 72.3 | 46 | e 11 27 | - 2 | e 20 53 | + 1 | e 15 53 PPP | e 30.3 |
| Warsaw | | 72.3 | 334 | e 11 32 | + 3 | i 20 52 | 0 | e 21 33 ScS | e 35.7 |
| Aberdeen | | 72.4 | 349 | e 17 30 | ? | i 20 47 | - 6 | i 22 46 ? | — |
| Poona | | 72.5 | 278 | e 11 31 | + 1 | e 20 54 | 0 | 14 11 PP | — |
| Bombay | | 72.9 | 279 | i 11 34 | + 1 | i 20 59 | 0 | — | — |
| Fayetteville | | 73.4 | 54 | i 11 35 _a | - 1 | e 21 5 | 0 | e 11 49 PcP | e 34.9 |
| Lwow | | 73.5 | 331 | i 11 36 | 0 | — | — | — | — |
| Hamburg | | 73.8 | 341 | i 11 39 _k | + 1 | e 21 13 | + 4 | i 11 55 PcP | e 42.1 |
| Potsdam | | 74.2 | 339 | i 11 42 _a | + 2 | i 21 14 | 0 | — | e 36.7 |
| Terre Haute | | 74.2 | 47 | i 12 10 | +30 | — | — | — | — |
| Kishinev | | 74.3 | 327 | i 11 39 | - 2 | — | — | — | — |
| Dallas | | 74.5 | 58 | i 11 42 | 0 | — | — | — | — |
| Ottawa | | 74.5 | 36 | i 11 40 _k | - 2 | 21 23 | + 6 | 14 26 PP | — |
| Shawinigan Falls | | 74.5 | 34 | i 11 42 | 0 | — | — | — | — |
| Seven Falls | | 74.8 | 32 | e 11 42 _k | - 2 | 21 18 | - 2 | e 12 6 PcP | — |
| Raciborzu | | 75.0 | 335 | e 11 44? | - 1 | e 21 26 | + 3 | e 12 1 PcP | — |
| Collmberg | Z. | 75.2 | 338 | e 11 46 | 0 | — | — | i 12 1 PcP | — |
| Witteveen | Z. | 75.2 | 342 | i 11 49 _a | + 3 | — | — | i 12 3 PcP | — |
| Cleveland | | 75.3 | 42 | i 11 49 _k | + 2 | i 21 29 | + 3 | — | — |
| Buffalo (Larkin) | | 75.4 | 40 | i 11 47 | 0 | — | — | — | — |
| Jena | | 75.9 | 339 | e 11 50 | 0 | e 21 31 | - 1 | e 12 4 PcP | — |
| Prague | | 76.0 | 337 | i 11 50 | - 1 | i 21 33 | - 1 | e 12 6 PcP | e 38.0 |
| De Bilt | | 76.1 | 343 | i 11 54 _a | + 3 | e 21 40 | + 5 | — | e 40.7 |
| Kodaikanal | E. | 76.2 | 270 | e 11 33 | -19 | — | — | — | — |
| Cheb | | 76.5 | 338 | i 11 55 _k | + 1 | e 21 40? | + 1 | e 14 50 PP | e 44.2 |
| Rathfarnham C. | Z. | 76.7 | 350 | i 11 54 _a | - 1 | e 21 21 | -20 | e 14 56 PP | — |
| Ogyalla | | 77.0 | 334 | e 12 1 | + 5 | e 21 59 | +14 | e 14 53 PP | e 37.5 |
| Budapest | | 77.1 | 333 | 12 1 | + 4 | 21 50 | + 4 | 15 0 PP | e 44.2 |
| Vienna | | 77.2 | 335 | e 12 0 | + 3 | e 21 48 | + 1 | e 15 5? PP | — |
| Pennsylvania | | 77.4 | 40 | i 12 0 | + 2 | e 21 47 | - 2 | i 13 1 ? | — |
| Bucharest | | 77.5 | 327 | e 12 0 | + 1 | e 21 50 | 0 | e 13 56 ? | — |
| Uccle | | 77.6 | 343 | e 12 0 | 0 | e 21 48 | - 3 | e 22 9 SKS | e 40.7 |
| Kew | | 77.7 | 346 | i 12 1 | + 1 | e 21 50 | - 2 | e 15 52? PcS | e 42.7 |
| Szeged | | 77.8 | 332 | e 11 54 | - 7 | — | — | e 12 0 P | — |
| Kalossa | | 78.0 | 332 | e 11 40 | -22 | — | — | e 12 10 PcP | — |
| Timisoara | | 78.0 | 331 | e 12 5 | + 3 | e 21 59 | + 4 | — | — |
| Karlsruhe | Z. | 78.4 | 340 | e 12 5 _a | + 1 | — | — | — | — |
| Harvard | | 78.5 | 35 | i 12 5 | + 1 | e 22 6 | + 5 | i 15 4 PP | — |
| Stuttgart | | 78.5 | 340 | e 12 4 | 0 | e 22 2 | + 1 | e 15 30 ? | e 40.7 |
| Weston | | 78.7 | 35 | i 12 6 | 0 | e 22 3 | 0 | i 15 6 PP | — |
| Palisades | | 78.9 | 38 | i 12 5 _k | - 2 | e 22 6 | + 1 | e 12 20 pP | e 37.7 |
| Belgrade | | 79.0 | 331 | e 12 8 _a | + 1 | e 22 5 | - 1 | — | e 49.2 |
| City College, N.Y. | | 79.0 | 38 | e 12 7 | 0 | e 21 52 | -14 | — | — |
| Strasbourg | | 79.0 | 340 | e 12 8 | + 1 | e 22 8 | + 2 | e 15 7 PP | 38.7 |
| Istanbul | | 79.3 | 323 | e 12 8 | - 1 | e 22 8 | - 1 | e 14 55 PP | e 44.7 |
| Philadelphia | | 79.3 | 39 | e 12 5 | - 4 | e 22 4 | - 5 | e 14 58 PP | e 33.2 |
| Halifax | | 79.4 | 29 | e 12 9 | 0 | e 22 12 | + 2 | e 12 34 ? | e 39.7 |
| Washington | Z. | 79.4 | 41 | i 12 6 | - 3 | — | — | — | — |
| Paris | | 79.8 | 344 | i 12 12 | 0 | e 22 17 | + 3 | e 15 16 PP | e 38.7 |
| Zürich | | 79.9 | 340 | e 12 14 _a | + 2 | e 22 17 | + 1 | e 12 29 PcP | — |
| Basle | | 80.0 | 340 | e 12 17 | + 4 | — | — | — | — |
| Sofia | | 80.0 | 328 | e 12 14 | + 1 | e 22 18 | + 1 | e 14 38 ? | 49.1 |
| Chur | | 80.2 | 339 | e 12 14 | 0 | — | — | — | — |
| Triest | | 80.2 | 336 | e 12 25 | +11 | e 22 21 | + 2 | e 23 30 PPS | e 47.6 |
| Chapel Hill | | 81.0 | 44 | i 12 19 | + 1 | — | — | — | — |

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| | N. | Δ ° | Az. ° | P. | | O-C. s. | S. | | O-C. s. | Supp. | | L. m. | |
|---------------|----|---------------|----------|------|-----|------------|------|----|------------|-------|----|----------|--------|
| | | | | m. | s. | | m. | s. | | m. | s. | | |
| Salo | | 81.1 | 338 | e 12 | 19 | + 1 | e 22 | 24 | - 3 | e 15 | 3 | PP | — |
| Columbia | | 81.7 | 46 | i 12 | 22 | 0 | e 22 | 43 | + 9 | e 31 | 44 | SSS | e 34.2 |
| Oropa | | 81.7 | 339 | e 12 | 47 | - 25 | e 23 | 20 | PS | — | — | — | — |
| Pavia | | 81.8 | 338 | e 12 | 33k | + 11 | e 22 | 36 | + 1 | e 23 | 13 | PS | e 34.4 |
| Bologna | | 82.0 | 337 | e 12 | 31 | + 8 | e 22 | 40 | + 3 | e 23 | 10 | PS | — |
| Ksara | | 82.5 | 315 | e 12 | 23? | - 3 | — | — | — | — | — | — | — |
| Florence | | 82.6 | 336 | i 12 | 27a | + 1 | i 22 | 45 | + 2 | i 12 | 58 | pP | 40.7 |
| Prato | | 82.6 | 337 | i 12 | 40 | + 14 | — | — | — | — | — | — | — |
| Riverview | | 83.2 | 186 | i 12 | 31a | + 2 | i 22 | 56 | + 7 | e 23 | 47 | PS | e 38.4 |
| Tacubaya | | 83.4 | 68 | 12 | 31 | + 1 | — | — | — | — | — | — | — |
| Athens | | 84.0 | 325 | e 12 | 42a | + 9 | i 22 | 55 | - 2 | e 24 | 15 | PPS | — |
| Rome | | 84.0 | 335 | i 12 | 34 | + 1 | i 22 | 58 | + 1 | e 13 | 32 | ? | — |
| Taranto | | 84.0 | 331 | 12 | 33 | 0 | 22 | 43 | [- 11] | 17 | 13 | PP | 43.6 |
| Jerusalem | | 84.5 | 314 | i 12 | 35 | - 1 | e 22 | 59 | - 3 | — | — | — | — |
| Helwan | | 87.9 | 316 | i 12 | 52a | - 1 | 23 | 16 | [- 4] | 24 | 55 | PPS | — |
| Toledo | | 89.6 | 346 | e 13 | 3 | + 2 | i 14 | 15 | ? | 16 | 39 | PP | — |
| Bermuda | | 90.0 | 35 | i 13 | 4 | + 1 | e 24 | 0 | + 6 | — | — | — | 49.3 |
| Alicante | | 90.5 | 343 | e 13 | 4 | - 1 | 23 | 58 | - 1 | — | — | — | 43.3 |
| Algiers Univ. | Z. | 91.3 | 340 | e 13 | 3 | - 6 | e 13 | 8 | P | e 16 | 48 | PP | — |
| Granada | | 92.1 | 346 | 12 | 50 | - 22 | 24 | 26 | + 13 | 30 | 46 | SS | 46.5 |
| Almeria | | 92.3 | 344 | 13 | 15 | + 2 | 24 | 7 | - 8 | 16 | 51 | PP | 48.2 |
| Tamanrasset | Z. | 104.0 | 334 | e 14 | 6 | 0 | e 18 | 11 | PP | e 29 | 56 | PKKP | — |
| La Paz | | 130.2 | 65 | e 19 | 16 | [+ 4] | i 22 | 44 | PKS | — | — | — | 79.7 |
| Montezuma | Z. | 134.5 | 71 | e 19 | 22 | [+ 2] | e 23 | 24 | ? | — | — | — | — |

July 29d. 4h. 42m. 26s. Epicentre 46°4N. 7°3E.

Intensity VI-VII at Montana; VI at Sion and Leukerbad; IV-V in the Wadtdland Alps and the Bernese Alps; III-IV between Geneva and Lake Constance; III-IV in the Jura Felt throughout Switzerland, in the E. of France, the N. of Italy, and the S.W. of Germany. Little damage. Macroscopic radius 150km.

Dr. E. Wanner.

Jahresbericht des Erdbebendienstes der Schweiz im Jahre, 1954, Zürich, 1955, p. 3, fig. 2.

A = +.6865, B = +.0879, C = +.7218; $\delta = 0$; $h = -4$;
D = +.127, E = -.992; G = +.716, H = +.092, K = -.692.

| | N. | Δ ° | Az. ° | P. | | O-C. s. | S. | | O-C. s. | Supp. | | L. m. | |
|------------|----|---------------|----------|-----|-----|------------------|-----|----|------------------|-------|----|----------------|-------|
| | | | | m. | s. | | m. | s. | | m. | s. | | |
| Neuchatel | | 0.6 | 340 | i 0 | 16 | + 1 | e 0 | 28 | + 2 | — | — | — | |
| Oropa | | 1.0 | 148 | i 0 | 18 | - 2 _x | i 0 | 26 | - 7 _x | i 0 | 44 | ? | — |
| Zürich | | 1.3 | 44 | i 0 | 26a | + 1 | i 0 | 46 | + 2 | i 0 | 28 | P _x | — |
| Chur | | 1.6 | 74 | i 0 | 30a | 0 | i 0 | 51 | 0 | i 0 | 32 | P _x | — |
| Pavia | | 1.8 | 132 | e 0 | 12k | - 20 | e 0 | 57 | 0* | e 0 | 51 | S | — |
| Ebingen | | 2.1 | 33 | e 0 | 36 | - 1 | e 1 | 9 | 0 _x | e 0 | 43 | P _x | — |
| Ravensburg | | 2.1 | 49 | e 0 | 36 | 1 | e 1 | 8 | - 1 _x | e 1 | 2 | S _x | — |
| Strasbourg | | 2.2 | 9 | i 0 | 39 | + 1 | i 1 | 8 | - 1* | 1 | 4 | S | — |
| Salo | | 2.4 | 109 | i 0 | 40k | - 1 | i 1 | 12 | 0 | 1 | 15 | S* | — |
| Karlsruhe | | 2.7 | 16 | i 0 | 45a | 0 | e 1 | 19 | 0 | i 0 | 54 | P _x | — |
| Stuttgart | | 2.7 | 28 | i 0 | 44a | - 1 | i 1 | 18 | - 1 | i 0 | 48 | P* | — |
| Bologna | | 3.5 | 123 | e 0 | 58a | + 1 | e 1 | 37 | - 3 | e 2 | 9 | ? | — |
| Prato | | 3.7 | 132 | i 1 | 0 | 0 | i 1 | 44 | - 1 | — | — | — | — |
| Padova | | 3.8 | 119 | e 0 | 58 | - 3 | e 1 | 42 | - 5 | e 1 | 36 | ? | — |
| Florence | | 3.9 | 132 | i 0 | 58 | - 4 | i 1 | 41 | - 9 | — | — | — | — |
| Paris | | 4.0 | 308 | i 1 | 8 | - 3* | i 2 | 8 | - 4 _x | i 1 | 21 | P _x | — |
| Siena | | 4.3 | 136 | i 1 | 9 | + 1 | i 2 | 10 | - 2* | i 2 | 32 | S _x | — |
| Triest | | 4.6 | 98 | e 1 | 28 | - 4 _x | e 2 | 19 | - 1* | e 2 | 3 | S _x | — |
| Uccle | | 4.8 | 337 | e 1 | 17 | + 2 | e 2 | 13 | + 1 | i 2 | 38 | S _x | i 2.8 |
| Cheb | | 5.0 | 41 | i 1 | 11 | - 7 | i 2 | 22 | + 4 | i 1 | 37 | P _x | i 2.8 |
| Jena | | 5.3 | 31 | e 1 | 18 | - 4 | i 2 | 26 | + 1 | i 2 | 52 | S _x | — |
| De Bilt | | 5.9 | 347 | — | — | — | i 3 | 23 | + 8 _x | i 3 | 32 | ? | e 4.2 |
| Rome | | 5.9 | 138 | e 1 | 31 | 0 | e 2 | 51 | - 8* | e 3 | 24 | S _x | — |
| Prague | | 6.0 | 50 | e 1 | 30 | 2 | i 2 | 42 | - 1 | i 2 | 0 | P _x | i 3.4 |
| Collnberg | Z. | 6.2 | 36 | e 1 | 32 | - 3 | e 2 | 50 | - 2 | i 2 | 4 | P _x | i 3.6 |

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|----------------|----|----------|-----|------|-----|------------------|--------|----|------------------|-------|----|------------------|-------|
| | | | | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Vienna | | 6.4 | 70 | i 1 | 36 | - 2 | i 2 | 57 | + 4 | i 2 | 13 | P _K | — |
| Witteveen | Z. | 6.4 | 357 | 1 | 39k | + 1 | — | — | — | i 1 | 49 | P _K * | — |
| Jersey | V. | 6.9 | 297 | e 2 | 6 | + 5* | e 3 | 52 | + 4 _g | e 3 | 55 | ? | e 4.7 |
| Potsdam | | 7.0 | 30 | e 2 | 16 | - 4 _g | i 3 | 49 | - 2 _g | e 3 | 34 | S* | i 3.9 |
| Kew | | 7.1 | 318 | i 1 | 49 | + 1 | i 3 | 43 | + 8* | i 1 | 58 | PP | i 4.8 |
| Hamburg | | 7.3 | 13 | e 2 | 10 | + 2* | e 4 | 1 | 0 _g | i 3 | 13 | S | e 4.0 |
| Ogyalla | | 7.6 | 75 | e 2 | 26 | - 6 _g | e 3 | 27 | + 4 | e 4 | 6 | S _g | e 4.2 |
| Kalossa | | 8.1 | 85 | — | — | — | 3 | 30 | - 5 | 4 | 21 | S _g | e 4.8 |
| Budapest | | 8.2 | 78 | 2 | 9 | + 6 | e 3 | 40 | + 2 | 4 | 27 | S _g | e 4.6 |
| Raciborz | | 8.2 | 60 | e 1 | 59 | - 4 | e 3 | 34 | - 4 | e 3 | 48 | S _g | e 4.4 |
| Kecskemet | | 8.6 | 82 | — | — | — | e 3 | 56 | SS | 4 | 46 | S _g | — |
| Szeged | | 8.9 | 86 | — | — | — | e 3 | 52 | - 3 | 4 | 57 | S _g | — |
| Taranto | | 9.4 | 126 | 3 | 47 | ? | 4 | 37 | + 30 | — | — | — | — |
| Belgrade | | 9.4 | 95 | — | — | — | e 5 | 7 | - 4 _g | e 5 | 12 | S _g | — |
| Copenhagen | | 9.8 | 17 | — | — | — | (5 28) | — | + 4 _g | — | — | — | 5.5 |
| Alicante | | 9.9 | 218 | 2 | 25 | 0 | 4 | 15 | - 5 | — | — | — | — |
| Durham | | 10.0 | 329 | — | — | — | i 4 | 16 | - 6 | i 5 | 40 | S _g | i 5.8 |
| Algiers Univ. | Z. | 10.2 | 200 | e 2 | 29 | - 2 | e 4 | 22 | - 5 | i 2 | 48 | PP | — |
| Toledo | | 10.5 | 236 | e 2 | 36 | + 1 | e 4 | 35 | 0 | e 5 | 33 | SS | 5.6 |
| Warsaw | | 10.7 | 52 | — | — | — | e 5 | 28 | S _g | e 6 | 26 | ? | — |
| Rathfarnham C. | Z. | 11.1 | 313 | i 2 | 42 | - 1 | i 4 | 50 | + 1 | i 2 | 57 | PP | i 6.1 |
| Granada | | 12.3 | 225 | 2 | 49 | - 10 | — | — | — | — | — | — | — |
| Upsala | Z. | 14.8 | 21 | i 3 | 32 | 0 | i 6 | 18 | 0 | — | — | — | i 8.3 |
| Istanbul | Z. | 16.6 | 101 | e 3 | 55 | - 1 | — | — | — | — | — | — | — |
| Kiruna | Z. | 22.5 | 13 | i 5 | 2 | 0 | — | — | — | i 5 | 7 | ? | — |
| Tamanrasset | Z. | 23.6 | 184 | e 5 | 14 | + 1 | — | — | — | — | — | — | — |
| Jerusalem | | 26.0 | 114 | i 5 | 35 | - 1 | — | — | — | i 6 | 6 | PP | — |
| Seven Falls | | 51.3 | 301 | e 9 | 8 | 0 | — | — | — | — | — | — | — |
| Hungry Horse | | 72.6 | 323 | e 11 | 32 | + 1 | — | — | — | — | — | — | — |

July 29d. 6h. 28m. 1s. Epicentre 27°-7S. 179°-2W.

A = -0.8866, B = -0.0124, C = -0.4624; $\delta = +3$; $h = +3$;
D = -0.014, E = +1.000, G = +0.462, H = +0.006, K = -0.887.

| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|--------------|------|----------|-----|------|-----|------|------|----|------|-------|----|-----|--------|
| | | | | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Auckland | N. | 10.5 | 207 | e 2 | 38 | + 3 | i 4 | 31 | - 4 | — | — | — | |
| Karapiro | N. | 11.1 | 202 | e 2 | 44 | + 1 | 4 | 39 | - 10 | — | — | — | |
| Tuai | N. | 11.5 | 194 | e 2 | 44 | - 4 | 4 | 36 | - 23 | — | — | — | |
| Tongariro | Z. | 12.3 | 200 | e 3 | 5 | + 6 | i 5 | 3 | - 15 | e 4 | 53 | ? | |
| New Plymouth | E. | 12.7 | 204 | i 3 | 7 | + 2 | e 5 | 7 | - 21 | — | — | — | |
| Wellington | N. | 14.4 | 198 | e 3 | 16 | - 11 | e 5 | 43 | - 26 | e 3 | 20 | P | |
| Apia | | 15.4 | 28 | e 3 | 56 | PP | e 6 | 41 | + 9 | e 4 | 1 | ? | |
| Kaimata | N.E. | 16.7 | 205 | e 3 | 53 | - 4 | i 6 | 32 | - 31 | e 4 | 27 | PPP | |
| Christchurch | N.W. | 17.1 | 200 | e 4 | 54 | ? | e 6 | 43 | - 29 | — | — | — | |
| Brisbane | | 24.6 | 264 | e 5 | 19 | - 4 | — | — | — | — | — | — | |
| Riverview | | 26.1 | 249 | i 6 | 35a | PPP | e 11 | 8 | SS | i 11 | 47 | ? | e 12.1 |
| Manila | | 71.6 | 298 | e 11 | 30 | + 5 | — | — | — | — | — | — | — |
| Lembang | Z. | 72.0 | 272 | i 11 | 28k | 0 | — | — | — | — | — | — | — |
| Baguio | | 72.9 | 299 | i 11 | 36 | + 3 | — | — | — | — | — | — | — |
| Matusiro | | 75.4 | 326 | e 11 | 54 | + 7 | e 18 | 29 | ? | — | — | — | — |
| Berkeley | Z. | 84.2 | 42 | i 12 | 31 | - 3 | — | — | — | — | — | — | — |
| Lick | Z. | 84.3 | 42 | i 12 | 36 | + 1 | — | — | — | — | — | — | — |
| Pasadena | | 84.4 | 47 | i 12 | 36k | 0 | — | — | — | — | — | — | — |
| Barratt | Z. | 84.5 | 49 | i 12 | 36k | 0 | — | — | — | — | — | — | — |
| Mount Wilson | Z. | 84.5 | 47 | i 12 | 37k | + 1 | — | — | — | e 12 | 57 | ? | — |
| Riverside | | 84.8 | 47 | i 12 | 38k | + 1 | — | — | — | — | — | — | — |
| Woody | Z. | 84.9 | 45 | i 12 | 40k | + 2 | — | — | — | i 14 | 1 | ? | — |
| Fresno | Z. | 85.0 | 44 | i 12 | 39 | + 1 | — | — | — | — | — | — | — |
| China Lake | Z. | 85.8 | 46 | i 12 | 43k | + 1 | i 12 | 47 | ? | i 12 | 56 | ? | — |
| Shasta | Z. | 86.0 | 40 | i 12 | 45 | + 2 | — | — | — | — | — | — | — |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|----------------|----|------------|------------|----------|------------------|---------|-------|---------|------------------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Tinemaha | z. | 86.2 | 45 | i 12 44k | 0 | — | — | — | — |
| Mineral | z. | 86.3 | 40 | i 12 45 | 0 | — | — | — | — |
| Reno | z. | 86.8 | 42 | e 12 48 | + 1 | — | — | — | — |
| Nelson | z. | 87.5 | 47 | i 12 51 | 0 | i 16 26 | ? | i 16 19 | PP |
| Boulder City | | 87.7 | 47 | i 12 52 | 0 | i 23 5 | [-14] | — | — |
| Tucson | | 88.2 | 52 | i 12 54 | 0 | — | — | i 13 12 | ? |
| Seattle | | 90.8 | 34 | — | — | 23 59 | - 3 | 23 24 | SKS |
| Salt Lake City | | 92.4 | 45 | i 13 14 | 0 | — | — | — | — |
| Butte | N. | 95.0 | 40 | e 13 21 | - 5 | e 24 32 | - 6 | e 30 46 | SS |
| College | | 95.4 | 13 | i 13 28 | 0 | — | — | — | — |
| Hungry Horse | | 95.5 | 38 | e 13 27 | - 1 | i 23 45 | [-19] | e 17 18 | PP |
| Bozeman | | 95.6 | 41 | e 17 22 | PP | — | — | — | — |
| Boulder | | 96.2 | 48 | e 13 31 | 0 | — | — | — | — |
| Shillong | z. | 100.5 | 293 | i 19 59 | PPP | — | — | i 20 13 | PPP |
| Fayetteville | | 102.0 | 56 | i 21 54 | PKS | — | — | e 22 8 | ? |
| Cleveland | z. | 113.2 | 54 | i 22 8a | PPP | — | — | — | — |
| Ottawa | | 118.3 | 51 | e 18 45k | [- 4] | — | — | — | — |
| Palisades | | 118.6 | 56 | — | — | e 36 15 | SS | e 39 33 | ? |
| Quetta | z. | 122.8 | 290 | i 18 58 | [0] | — | — | — | e 51.6 |
| Halifax | | 126.7 | 53 | e 19 3k | [- 3] | — | — | — | — |
| Kiruna | z. | 138.1 | 349 | e 19 18 | [- 9] | — | — | i 20 31 | ? |
| Upsala | z. | 145.8 | 345 | i 19 41k | [0] | — | — | i 20 33 | ? |
| Jerusalem | | 149.9 | 286 | i 19 53a | [+ 6] | — | — | i 20 2 | PKP ₂ |
| Copenhagen | | 150.8 | 346 | i 19 55k | [+ 6] | — | — | — | — |
| Raciborzu | z. | 154.0 | 334 | i 20 21 | PKP ₂ | — | — | — | — |
| Collnberg | z. | 154.7 | 342 | e 19 53 | [- 1] | e 20 4 | ? | i 20 22 | PKP ₂ |
| Jena | | 155.4 | 344 | e 19 53 | [- 2] | e 23 0 | ? | i 20 24 | PKP ₂ |
| Stuttgart | | 158.0 | 345 | e 19 57 | [- 1] | — | — | i 20 36 | PKP ₂ |
| Strasbourg | | 158.4 | 347 | i 20 39 | PKP ₂ | — | — | — | — |
| Granada | | 169.8 | 20 | 21 27k | PKP ₂ | — | — | 25 15 | PP |
| Algiers Univ. | z. | 170.7 | 349 | e 20 7 | [- 3] | — | — | e 21 31 | FKP ₂ |
| Tamanrasset | z. | 173.5 | 222 | e 20 9 | [- 2] | e 32 1 | [-19] | e 25 29 | PP |

July 29d. 15h. 36m. Epicentre 41°·2N. 44°·0E.

Bull. of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, p. 70.

July 29d. 20h. 29m. Epicentre 41°·3N. 44°·0E.

Bull. of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, p. 70.

July 29d. 22h. 23m. 55s. Epicentre 17°·4N. 92°·4W.

A = -·0400, B = -·9540, C = +·2972; $\delta = +4$; $h = +5$;
D = -·999, E = +·042; G = -·012, H = -·297, K = -·955.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------|----|------------|------------|---------|------|--------|------|--------|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Vera Cruz | | 4.0 | 297 | e 1 2 | - 2 | 2 1 | - 2* | — | — |
| Oaxaca | | 4.2 | 265 | i 1 5 | - 2 | 2 5 | - 4* | — | — |
| Puebla | | 5.8 | 287 | 1 29 | 0 | i 2 41 | + 3 | — | — |
| Tacubaya | | 6.8 | 288 | i 1 45 | + 1 | i 3 6 | + 3 | — | i 3.4 |
| Guadalajara | | 10.8 | 289 | e 3 53 | ? | — | — | e 6 7 | ? |
| Dallas | | 15.9 | 346 | i 3 47 | 0 | i 6 32 | -12 | — | — |
| Galerazamba | | 17.9 | 109 | — | — | i 8 1 | SS | — | 10.1 |
| Fayetteville | | 18.7 | 355 | i 4 20a | - 2 | e 7 47 | - 1 | e 8 19 | SS |
| Columbia | | 19.4 | 30 | i 4 29 | - 1 | e 8 22 | SS | — | e 9.6 |
| Chinchina | z. | 20.5 | 125 | e 4 43 | + 1 | — | — | — | — |
| Bogota | | 22.0 | 123 | e 5 0 | + 2 | i 9 8 | +12 | — | 10.1 |
| Tucson | | 22.3 | 315 | e 5 0 | - 1 | — | — | — | e 13.2 |
| Cincinnati | | 22.7 | 16 | e 5 0 | - 4 | — | — | — | — |
| Chicago | | 24.6 | 9 | e 5 23 | 0 | e 9 45 | + 3 | — | e 12.6 |
| San Juan | | 25.0 | 84 | e 5 25 | - 2 | — | — | — | — |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----|------------|------------|---------|------|---------|------|---------|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Boulder | | 25.2 | 336 | i 5 29 | 0 | — | — | — | — |
| Washington | z. | 25.2 | 29 | e 5 28 | - 1 | — | — | — | e 12.2 |
| Cleveland | | 25.7 | 19 | i 5 39k | + 6 | e 10 8 | + 7 | — | — |
| Barratt | z. | 26.6 | 309 | i 5 45 | + 3 | — | — | — | — |
| Nelson | z. | 27.0 | 317 | i 5 46 | + 1 | — | — | i 6 1 | ? |
| Philadelphia | | 27.0 | 30 | e 5 46 | + 1 | e 10 16 | - 6 | — | e 12.6 |
| Palomar | z. | 27.1 | 310 | i 5 47 | + 1 | — | — | i 6 15 | ? |
| Boulder City | | 27.2 | 317 | i 5 47 | 0 | — | — | — | — |
| Riverside | z. | 27.8 | 311 | e 5 54 | + 1 | — | — | e 9 7 | PcP |
| Buffalo (Larkin) | | 27.9 | 22 | e 5 51 | - 3 | — | — | — | — |
| Palisades | | 28.4 | 30 | e 7 19 | PPP | — | — | — | — |
| Pasadena | | 28.5 | 311 | e 5 58 | - 1 | — | — | — | — |
| Salt Lake City | | 28.7 | 328 | i 6 1 | 0 | — | — | i 6 21 | ? |
| China Lake | z. | 28.9 | 314 | i 6 4 | + 1 | — | — | i 9 10 | PcP |
| Bermuda | | 29.1 | 54 | — | — | e 11 25 | + 29 | — | e 13.6 |
| Woody | z. | 29.7 | 313 | i 6 6 | - 4 | — | — | i 9 11 | PcP |
| Fresno | z. | 30.9 | 314 | e 6 20 | 0 | — | — | — | — |
| Ottawa | | 31.2 | 23 | e 6 23 | 0 | — | — | e 14 15 | ? |
| Bozeman | | 32.2 | 335 | e 6 31 | - 1 | — | — | — | — |
| Kirkland Lake | z. | 32.3 | 16 | e 6 32 | - 1 | — | — | — | — |
| Reno | z. | 32.4 | 318 | e 6 35 | + 1 | — | — | — | — |
| Lick | z. | 32.5 | 314 | e 6 35 | + 1 | — | — | — | — |
| Butte | n. | 33.1 | 334 | e 6 37 | - 3 | — | — | — | e 19.1 |
| Huancayo | | 33.8 | 149 | e 6 44 | - 2 | — | — | — | — |
| Mineral | z. | 34.0 | 318 | e 6 47 | - 1 | — | — | — | — |
| Seven Falls | | 34.5 | 26 | e 6 55 | + 3 | — | — | — | — |
| Shasta | z. | 34.7 | 318 | e 6 52 | - 2 | — | — | — | — |
| Hungry Horse | | 35.6 | 335 | e 6 59 | - 2 | — | — | — | — |
| College | | 60.0 | 336 | i 10 8 | - 3 | — | — | — | — |
| Kiruna | z. | 82.2 | 21 | i 12 24 | 0 | — | — | — | — |
| Upsala | z. | 84.7 | 28 | e 12 29 | - 8 | — | — | — | — |
| Tamanrasset | z. | 90.4 | 66 | e 13 4 | 0 | — | — | — | — |

July 30d. 8h. 46m. 2s. Epicentre 36°·5S. 97°·2W.

A = -·1010, B = -·7994, C = -·5922; δ = -6; h = 0;
D = -·992, E = +·125; G = +·074, H = +·588, K = -·806.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------------|----|------------|------------|----------|------|---------|------|----------|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Concepción | n. | 20.2 | 99 | e 4 20 | -19 | 8 31 | +10 | — | — |
| Santa Lucia | n. | 22.0 | 90 | e 5 2 | + 4 | 9 4 | + 8 | 5 24 | PP |
| Copiapo | | 24.5 | 76 | e 5 21 | - 1 | e 9 48 | + 8 | e 9 2 | PcP |
| Punta Arenas | n. | 24.8 | 140 | — | — | e 10 2 | +16 | e 11 24 | Q |
| Antofagasta | n. | 26.4 | 68 | e 5 41 | + 1 | e 10 17 | + 5 | i 11 14 | Q |
| Montezuma | z. | 28.1 | 68 | i 5 57 | + 2 | e 10 47 | + 7 | — | e 13.4 |
| Huancayo | | 31.3 | 44 | e 6 26 | + 2 | e 11 43 | +12 | e 7 35 | PP |
| Buenos Aires | | 31.4 | 98 | 6 26 | + 1 | 11 37 | + 5 | — | — |
| La Plata | | 31.8 | 99 | i 7 29 | PP | i 11 43 | + 5 | — | 13.4 |
| La Paz | | 32.5 | 60 | i 6 36 | + 2 | i 11 58 | + 9 | i 7 28 | PP |
| Chinchina | | 45.9 | 31 | i 8 28 | + 2 | i 15 11 | 0 | i 10 20 | PP |
| Bogota | | 46.2 | 33 | i 8 30 | + 2 | i 15 22 | + 7 | i 10 9 | PcP |
| Galerazamba | | 51.4 | 28 | i 9 18 | + 9 | i 16 36 | + 8 | e 17 20 | PS |
| Oaxaca | | 53.2 | 0 | e 10 40 | PcP | — | — | — | e 25.0 |
| Swan Is. | | 55.0 | 16 | e 10 21 | PcP | — | — | — | — |
| Puebla | | 55.2 | 359 | e 16 57 | ? | e 17 2 | -18 | e 19 58 | ? |
| Vera Cruz | | 55.3 | 1 | e 9 42 | + 4 | e 17 28 | + 7 | — | — |
| Tacubaya | | 55.6 | 358 | e 9 47 | + 7 | e 23 29 | SSS | — | — |
| Guadalajara | | 57.1 | 353 | e 10 14? | +24 | — | — | — | e 28.0 |
| Guantanamo Bay | | 59.8 | 24 | e 10 4 | - 5 | — | — | — | — |
| San Juan | | 61.9 | 34 | i 10 20 | - 4 | i 18 44 | - 3 | e 13 20 | PP |
| Roosevelt Roads | | 62.0 | 34 | e 10 22 | - 2 | — | — | — | — |
| Chihuahua | | 65.3 | 351 | — | — | e 17 10 | ? | — | e 29.3 |
| Wellington | | 65.8 | 236 | 10 50 | + 1 | e 19 38 | + 3 | — | e 30.0 |
| Christchurch | | 66.2 | 233 | e 10 50 | - 2 | e 19 46 | + 6 | e 27 58? | Q |

Continued on next page.

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|--------------------|----|------------|------------|------|-----------------|--------|------|----|--------|-------|----|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Tongariro | z. | 66.3 | 238 | e 10 | 55 | + 3 | — | — | — | — | — | — |
| Karapiro | N. | 66.9 | 239 | e 10 | 55 | - 1 | — | — | — | — | — | — |
| Dallas | | 69.0 | 0 | i 11 | 9 | 0 | i 20 | 16 | + 2 | e 13 | 46 | PP |
| Tucson | | 69.5 | 348 | e 11 | 11 | - 1 | e 20 | 22 | + 2 | e 21 | 24 | ScS |
| Barratt | z. | 71.2 | 343 | i 11 | 23 | 0 | — | — | — | — | — | e 29.6 |
| Columbia | | 71.7 | 14 | e 11 | 23 ^a | - 3 | i 20 | 44 | - 1 | e 13 | 58 | PP |
| Palomar | z. | 71.8 | 343 | i 11 | 27 | + 1 | — | — | — | — | — | e 28.7 |
| Fayetteville | | 72.2 | 2 | i 11 | 27 | - 2 | e 20 | 41 | - 10 | e 13 | 59 | PP |
| Cherry Point | | 72.5 | 18 | i 11 | 38 | + 8 | — | — | — | — | — | — |
| Riverside | z. | 72.6 | 342 | e 11 | 31 | 0 | — | — | — | — | — | — |
| Pasadena | | 72.9 | 342 | e 11 | 33 | 0 | i 20 | 59 | 0 | i 30 | 52 | Q |
| Nelson | z. | 73.6 | 345 | i 11 | 35 | - 2 | — | — | — | — | — | 35.0 |
| Boulder City | | 73.9 | 345 | i 11 | 40 | + 1 | — | — | — | i 12 | 48 | PcP |
| Chapel Hill | | 74.0 | 15 | i 11 | 37 | - 2 | — | — | — | — | — | — |
| China Lake | z. | 74.4 | 343 | e 11 | 40 | - 2 | — | — | — | — | — | — |
| Woody | z. | 74.6 | 342 | i 11 | 40 | - 3 | — | — | — | — | — | — |
| Bermuda | | 74.8 | 28 | i 11 | 45 | + 1 | i 21 | 25 | + 5 | — | — | e 35.6 |
| Bermuda Navy | | 74.9 | 28 | i 11 | 45 | + 1 | — | — | — | — | — | — |
| Tinemaha | z. | 75.7 | 343 | e 11 | 48 | - 1 | — | — | — | — | — | — |
| Fresno | z. | 75.8 | 341 | e 11 | 50 | 0 | — | — | — | — | — | — |
| Cincinnati | | 76.1 | 10 | i 11 | 49 | - 2 | — | — | — | — | — | — |
| Boulder | | 76.5 | 354 | e 11 | 52 | - 2 | — | — | — | — | — | — |
| Lick | z. | 76.8 | 340 | i 11 | 58 | + 3 | — | — | — | — | — | — |
| Santa Clara | | 76.9 | 340 | e 12 | 10 ^a | + 14 | e 21 | 47 | + 4 | e 32 | 54 | Q |
| Washington | z. | 77.3 | 16 | e 11 | 51 | - 7 | e 14 | 38 | PP | e 16 | 38 | PPP |
| Berkeley | | 77.5 | 340 | i 12 | 1 | + 2 | i 21 | 55 | + 5 | e 27 | 0 | SS |
| Salt Lake City | | 78.0 | 349 | e 12 | 3 | + 1 | e 21 | 56 | + 1 | e 26 | 49 | SS |
| Chicago | | 78.4 | 7 | e 12 | 4 | 0 | e 21 | 56 | - 4 | e 15 | 0 | PP |
| Reno | z. | 78.4 | 342 | e 12 | 6 | + 2 | — | — | — | — | — | e 33.5 |
| Philadelphia | | 78.7 | 17 | e 12 | 2 | - 4 | i 21 | 56 | - 7 | e 15 | 6 | PP |
| Cleveland | | 78.9 | 12 | i 12 | 7 ^k | 0 | i 22 | 4 | - 1 | e 22 | 52 | PS |
| Pennsylvania | | 78.9 | 15 | i 12 | 6 | - 1 | e 22 | 2 | - 3 | — | — | — |
| Mineral | z. | 79.7 | 341 | e 12 | 8 | - 3 | — | — | — | — | — | — |
| City College, N.Y. | | 79.8 | 18 | e 12 | 10 | - 2 | e 22 | 10 | - 4 | — | — | — |
| Palisades | | 80.0 | 18 | i 12 | 8 | - 5 | i 22 | 11 | - 6 | e 12 | 40 | pP |
| Shasta | z. | 80.2 | 341 | e 12 | 13 | - 1 | — | — | — | — | — | — |
| Rapid City | E. | 80.3 | 356 | e 12 | 18 | + 4 | e 22 | 20 | 0 | e 25 | 22 | ? |
| Buffalo (Larkin) | | 80.7 | 14 | i 12 | 15 | - 1 | — | — | — | — | — | e 33.3 |
| Weston | | 81.9 | 19 | i 12 | 20 ^k | - 3 | e 22 | 34 | - 2 | e 15 | 30 | PP |
| Harvard | | 82.0 | 19 | e 12 | 21 | - 2 | i 22 | 33 | - 4 | — | — | — |
| Bozeman | | 82.7 | 350 | e 12 | 26 | - 1 | e 22 | 44 | 0 | e 16 | 3 | PP |
| Butte | N. | 83.3 | 349 | i 12 | 32 | + 2 | i 22 | 51 | - 1 | e 15 | 36 | PP |
| Ottawa | | 83.8 | 15 | e 12 | 28 ^a | - 4 | 22 | 52 | - 3 | 23 | 48 | PS |
| Corvallis | z. | 84.1 | 342 | e 12 | 40 | - 6 | e 23 | 4 | + 6 | — | — | — |
| Riverview | | 85.4 | 231 | i 12 | 41 ^a | + 1 | i 23 | 15 | + 4 | i 16 | 0 | PP |
| Shawinigan Falls | | 85.5 | 17 | e 12 | 39 | - 2 | 23 | 8 | - 4 | — | — | — |
| Kirkland Lake | z. | 85.6 | 11 | e 12 | 40 | - 1 | — | — | — | — | — | — |
| Hungry Horse | | 85.8 | 349 | e 12 | 43 | + 1 | e 23 | 14 | - 1 | e 38 | 59 | P'P' |
| Halifax | | 86.2 | 23 | e 12 | 45 | + 1 | i 23 | 9 | [0] | 24 | 14 | PS |
| Melbourne | E. | 86.4 | 225 | — | — | — | e 23 | 28 | + 7 | — | — | 40.5 |
| Seven Falls | | 86.5 | 18 | e 12 | 43 ^k | - 3 | 23 | 14 | [+ 3] | 24 | 18 | PS |
| Seattle | | 86.7 | 343 | e 12 | 53 | + 6 | e 23 | 13 | [+ 1] | e 23 | 31 | S |
| Victoria | | 87.8 | 343 | — | — | — | e 23 | 31 | - 3 | — | — | 44.8 |
| Brisbane | | 88.3 | 237 | i 12 | 55 | 0 | e 23 | 30 | - 9 | — | — | 40.0 |
| Saskatoon | | 88.6 | 354 | — | — | — | e 23 | 45 | + 3 | — | — | 41.6 |
| Kimberley | z. | 95.3 | 132 | i 13 | 27 ^k | 0 | — | — | — | — | — | — |
| Pretoria | z. | 99.5 | 132 | i 13 | 48 | + 2 | — | — | — | — | — | — |
| College | | 108.5 | 34 | e 18 | 35 | [+ 5] | e 24 | 59 | [- 7] | e 18 | 47 | PP |
| Averroes | | 108.7 | 62 | i 19 | 1 | PP | — | — | — | — | — | e 43.8 |
| Lisbon | | 110.3 | 56 | e 19 | 11 | PP | 35 | 0 | SS | — | — | — |

Continued on next page.

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| | △ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|--------------------|----------|-----|------|-----|---------|------|-----|---------|-------|-----|------------------|--------|
| | | | m. | s. | | m. | s. | | m. | s. | | |
| Coimbra | 111.5 | 55 | 19 | 22 | PP | 34 | 58 | SS | — | — | 55.9 | |
| Malaga | 112.6 | 60 | i 19 | 30 | PP | 30 | 12 | PPS | e 22 | 23 | PPP | 47.2 |
| Tamanrasset | z. 113.0 | 78 | e 18 | 41 | [- 2] | — | — | — | e 19 | 34 | PP | — |
| Granada | 113.3 | 60 | 14 | 38k | P | 24 | 57 | [- 28] | i 19 | 28 | PP | i 53.3 |
| Almeria | 114.0 | 61 | 14 | 41 | P | 25 | 5 | [- 23] | 18 | 30 | PKP | 54.3 |
| Toledo | 114.3 | 58 | i 19 | 39 | PP | 26 | 14 | [- 21] | 29 | 21 | PS | 54.0 |
| Alicante | 116.1 | 60 | 18 | 44 | [- 1] | 29 | 34 | PS | 19 | 56 | PP | 55.6 |
| Algiers Univ. | z. 117.9 | 63 | e 20 | 6 | PP | — | — | — | e 22 | 34 | PPP | — |
| Rathfarnham Castle | 118.7 | 43 | e 18 | 41? | [- 9] | e 28 | 10 | S | e 23 | 7 | PPP | e 59.6 |
| Jersey | r. 119.6 | 49 | — | — | — | e 25 | 54 | [+ 5] | e 36 | 58? | SS | 57.0 |
| Kew | 121.5 | 47 | — | — | — | e 30 | 14 | PS | e 36 | 58? | SS | e 63.0 |
| Uccle | 124.0 | 49 | e 19 | 7 | [+ 6] | e 26 | 6 | [+ 3] | e 20 | 42 | PP | e 59.0 |
| De Bilt | 124.9 | 47 | e 20 | 56 | PP | e 37 | 4 | SS | i 23 | 33 | PPP | e 51.0 |
| Basle | 125.0 | 53 | e 19 | 55 | [+ 53] | — | — | — | e 20 | 12 | PP | — |
| Pavia | 125.4 | 56 | e 20 | 52k | PP | e 31 | 34 | PS | — | — | — | — |
| Strasbourg | 125.5 | 52 | e 19 | 10 | [+ 7] | e 26 | 20 | [+ 13] | e 20 | 55 | PP | 58.0 |
| Zürich | 125.6 | 54 | e 19 | 7 | [+ 3] | — | — | — | e 20 | 59 | PP | — |
| Karlsruhe | z. 126.0 | 52 | e 19 | 15 | [+ 11] | — | — | — | e 20 | 59 | PP | — |
| Florence | 126.3 | 58 | e 19 | 19 | [+ 14] | e 30 | 58? | PS | e 21 | 6 | PP | — |
| Stuttgart | 126.4 | 52 | e 19 | 8 | [+ 3] | e 30 | 58 | PS | e 21 | 1 | PP | e 61.0 |
| Rome | 126.6 | 61 | e 21 | 9 | PP | e 31 | 6 | PS | e 38 | 25 | P'P' | — |
| Hamburg | z. 128.1 | 46 | e 18 | 49? | [- 19] | — | — | — | e 19 | 39 | ? | e 63.0 |
| Jena | 128.5 | 50 | e 19 | 12 | [+ 3] | e 30 | 42 | PS | e 21 | 13 | PP | — |
| Triest | 128.6 | 57 | e 21 | 8 | PP | e 31 | 8 | PS | e 22 | 48 | PKS | — |
| Collmberg | z. 129.4 | 50 | e 19 | 15 | [+ 4] | — | — | — | e 21 | 28 | PP | — |
| Taranto | 129.6 | 64 | 20 | 53 | PP | 30 | 48 | PS | e 37 | 50 | SS | 68.0 |
| Potsdam | 129.7 | 48 | e 19 | 16 | [+ 5] | e 22 | 39 | PKS | e 21 | 23 | PP | e 60.0 |
| Copenhagen | 129.8 | 44 | e 19 | 14 | [+ 2] | 38 | 28 | SS | 43 | 40 | SSS | 56.0 |
| Prague | 130.1 | 52 | e 21 | 26 | PP | e 22 | 40 | PKS | e 31 | 39 | PS | e 60.0 |
| Bandung | 131.0 | 214 | e 21 | 41 | PP | e 22 | 46 | PKS | — | — | — | — |
| Lembang | z. 131.1 | 214 | e 19 | 16a | [+ 2] | — | — | — | e 22 | 31 | PP | — |
| Djakarta | 132.0 | 213 | — | — | — | e 22 | 48 | PKS | e 28 | 16 | SKKS | — |
| Ogyalla | 132.1 | 55 | — | — | — | e 24 | 20 | ? | e 27 | 30 | ? | — |
| Belgrade | z. 133.0 | 60 | e 21 | 47a | PP | e 23 | 29 | PKS | — | — | — | — |
| Szeged | n. 133.0 | 58 | e 20 | 23 | ? | — | — | — | e 22 | 9 | PP | — |
| Upsala | 133.0 | 39 | e 19 | 20 | [+ 2] | e 33 | 52 | PPS | e 39 | 20 | SS | e 63.0 |
| Athens | 133.6 | 70 | i 21 | 34 | PP | i 22 | 49 | PKS | i 25 | 4 | PPP | — |
| Kiruna | 133.6 | 28 | i 19 | 22 | [+ 3] | e 22 | 46 | PKS | e 21 | 47 | PP | e 54.0 |
| Sofia | 134.5 | 63 | e 21 | 54 | PP | — | — | — | e 24 | 19 | PPP | — |
| Warsaw | 134.5 | 50 | e 21 | 48 | PP | e 26 | 26 | [- 4] | e 22 | 19 | pPP | e 64.0 |
| Matusiro | 136.0 | 287 | 19 | 37 | [+ 14] | 23 | 54 | SKP | — | — | — | — |
| Lwow | 136.2 | 53 | e 19 | 26 | [+ 2] | i 22 | 6 | PP | i 22 | 56 | PKS | — |
| Helwan | z. 136.8 | 83 | e 19 | 30 | [+ 5] | 32 | 7 | PS | 23 | 4 | PKS | — |
| Bucharest | E. 136.9 | 61 | e 22 | 12 | PP | — | — | — | — | — | — | — |
| Istanbul | 138.4 | 67 | e 19 | 23 | [- 5] | — | — | — | e 22 | 21 | PP | e 69.0 |
| Pulkovo | 139.3 | 38 | e 19 | 31 | [+ 2] | i 22 | 27 | PP | 19 | 59 | pPKP | — |
| Manila | 139.6 | 247 | e 19 | 36 | [+ 6] | — | — | — | — | — | — | — |
| Jerusalem | 140.6 | 82 | i 19 | 36 | [+ 4] | — | — | — | i 22 | 30 | PP | — |
| Baguio | 141.0 | 249 | e 19 | 47 | [+ 15] | — | — | — | — | — | — | — |
| Ksara | 141.8 | 80 | 19 | 36? | [+ 2] | — | — | — | — | — | — | — |
| Moscow | 144.0 | 43 | i 19 | 37 | [0] | — | — | — | — | — | — | — |
| Zō-Sō | z. 147.8 | 272 | i 19 | 47 | [+ 3] | — | — | — | — | — | — | — |
| Hong Kong | E. 149.4 | 251 | e 20 | 12? | ? | — | — | — | — | — | — | e 62.0 |
| Nanking | z. 150.0 | 272 | e 19 | 54 | [+ 7] | — | — | — | i 23 | 49 | PKS | — |
| Tiflis | 150.2 | 68 | e 19 | 51 | [+ 3] | e 23 | 25 | PKS | e 33 | 51 | SKSP | — |
| Colombo | E. 150.5 | 174 | e 18 | 23 | [- 85] | — | — | — | — | — | — | e 69.0 |
| Kodaikanal | E. 153.4 | 168 | e 24 | 55 | PP | — | — | — | — | — | — | — |
| Sverdlovsk | 154.8 | 29 | e 19 | 49 | [- 5] | 30 | 47 | [+ 2] | 20 | 20 | pPKP | — |
| Bombay | 160.4 | 151 | 20 | 4 | [+ 3] | i 27 | 16 | [+ 11] | 24 | 42 | PP | — |
| Poona | 160.5 | 154 | 20 | 7 | [+ 6] | i 46 | 17 | SSP | — | — | — | i 85.4 |
| Quetta | 165.3 | 111 | e 20 | 10 | [+ 4] | e 31 | 21 | [- 18] | i 21 | 8 | PKP ₂ | — |
| Semipalatinsk | 165.9 | 7 | e 20 | 14? | [+ 7] | — | — | — | — | — | — | — |
| Shillong | N. 166.7 | 218 | 21 | 6 | [+ 59] | e 32 | 46 | [+ 60] | 26 | 13 | ? | 79.4 |
| Fergana | 170.5 | 62 | e 20 | 9 | [0] | e 27 | 2 | [- 10] | i 25 | 17 | PP | — |
| Frunse | 171.0 | 42 | 20 | 14 | [+ 4] | e 23 | 48 | PKS | i 21 | 33 | PKP ₂ | — |

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July 30d. 11h. 49m. Epicentre 41°·2N. 44°·0E.

Bulletin of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1954, p. 71.

July 30d. 16h. 49m. Epicentre 42°·4N. 76°·2E.

Loc. cit., 11h., pp. 71-72.

July 30d. 22h. 59m. 49s. Epicentre 41°·6N. 140°·6E. Depth of focus 20km.

Intensity II-III at Hakodate, Mori, Hatinohe, and Muroran.

Seismo. Bull. Cent. Met. Obs., Japan, for July, 1954, Tokyo, 1954, pp. 38-39, with macro-seismic chart.

July 31d. 0h. 59m. 57s. Epicentre 38°·7N. 104°·2E.

Seismological Bulletin of China gives 38°·6N. 104°·2E.

A = -·1919, B = +·7585, C = +·6227; $\delta = -10$; $h = -1$;
D = +·969, E = +·245; G = -·153, H = +·604, K = -·782.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|---------------|----------|-----|---------------------|------------------|--------|------|---------|------------------|--------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Wuwei | 1·5 | 238 | i 0 28 | 0 | — | — | i 0 29 | P _g | — |
| Yinchuan | 1·6 | 98 | e 0 35 | + 3 _g | — | — | — | — | — |
| Lanchow Univ. | 2·6 | 186 | e 0 45? | + 1 | 0 49 | P* | i 0 53 | P _g | — |
| Sining | 2·8 | 223 | 0 46 | - 1 | 0 50 | P* | 0 55 | P _g | — |
| Paotow | 4·9 | 65 | e 1 15 | - 2 | 1 25 | P* | 1 37 | P _g | — |
| Linfen | 6·4 | 112 | e 1 38 | 0 | e 1 46 | ! | i 2 8 | P _g | — |
| Taiyuan | 6·7 | 96 | e 1 43 | + 1 | i 2 59 | - 1 | i 3 23 | S* | — |
| Tatung | 7·2 | 76 | e 1 50 | + 1 | 2 7 | P* | 2 27 | P _g | — |
| Irkutsk | 13·6 | 0 | i 3 17 | 0 | — | — | — | — | — |
| Nanking | 13·6 | 114 | e 3 11 | - 6 | e 5 44 | - 6 | 3 24 | PP | 6·6 |
| Zó-Sè | 15·9 | 113 | 3 40 | - 7 | e 6 46 | + 2 | i 8 46 | P _c P | 7·3 |
| Shillong | 16·7 | 222 | i 3 50 | - 7 | i 6 52 | - 11 | 4 1 | PP | 7·5 |
| Hong Kong | E. 18·4 | 149 | i 4 18? | 0 | — | — | — | — | — |
| Chatra | Z. 18·5 | 235 | i 4 18 | - 1 | — | — | — | — | — |
| Hsinchu | 19·8 | 129 | e 5 3 | + 28 | 8 55 | + 42 | — | — | — |
| Taipei | 20·0 | 128 | 4 35 | - 2 | 8 28 | + 11 | — | — | — |
| Taichung | 20·2 | 131 | 4 45 | + 6 | 8 34 | + 13 | — | — | — |
| Ilan | 20·4 | 128 | e 4 39 | - 2 | 8 39 | + 14 | — | — | — |
| Semipalatinsk | 20·6 | 312 | i 4 40 | - 3 | — | — | — | — | — |
| Ituhara | 20·7 | 95 | 4 44 _a | 0 | e 8 30 | - 1 | — | — | e 11·1 |
| Alishan | 20·7 | 132 | e 4 38 | - 6 | 8 38 | + 7 | — | — | — |
| Tainan | 20·8 | 134 | 4 43 | - 2 | 8 38 | + 5 | — | — | — |
| Hwalien | 20·9 | 130 | e 4 46 | 0 | 8 48 | + 13 | — | — | — |
| Tomie | 20·9 | 99 | 4 50 | + 4 | — | — | e 11 37 | ? | 13·3 |
| Almata | 21·0 | 291 | i 4 47 | 0 | — | — | — | — | — |
| Calcutta | E. 21·0 | 225 | i 4 51 _a | + 4 | i 8 49 | + 12 | 5 32 | PPP | 10·4 |
| Hsinkong | 21·4 | 132 | e 4 52 | + 1 | 8 54 | + 9 | — | — | — |
| Vladivostok | 21·4 | 69 | i 4 49 | - 2 | 8 40 | - 5 | — | — | — |
| Taitung | 21·5 | 133 | 4 41 | - 11 | 8 41 | - 6 | — | — | — |
| Hukuoka | 21·7 | 96 | e 4 58 | + 3 | i 8 55 | + 4 | e 5 38 | PPP | i 11·8 |
| Tawu | 21·7 | 134 | 4 53 | - 2 | 8 57 | + 6 | — | — | — |
| Saga | E. 21·8 | 96 | e 5 17 | PP | — | — | — | — | — |
| Hengchun | 21·9 | 135 | 4 55 | - 2 | 8 59 | + 5 | — | — | — |
| Simonoseki | E. 22·0 | 94 | e 5 2 | + 4 | i 9 8 | + 12 | — | — | i 11·9 |
| Unzendake | 22·0 | 98 | 5 2 _a | + 4 | e 9 6 | + 10 | — | — | e 11·4 |
| Kumamoto | 22·3 | 97 | e 4 56 | - 5 | 9 24 | + 22 | e 5 7 | ? | 12·2 |
| Asosan | 22·6 | 97 | 5 9 | + 6 | 9 13 | + 6 | 12 41 | P _c S | — |
| Hamada | 22·6 | 91 | e 5 2 | - 1 | e 9 12 | + 5 | — | — | e 11·3 |
| Kagosima | 22·7 | 100 | e 5 5 | + 1 | e 9 26 | + 17 | i 12 5 | ? | 15·1 |
| Ooita | 22·8 | 95 | e 5 9 | + 4 | e 9 19 | + 8 | — | — | e 12·4 |
| Debra Dun | 23·0 | 257 | e 5 10 | + 3 | i 9 24 | + 10 | 5 32 | PP | 11·2 |
| Hirosima | 23·1 | 92 | e 5 8 | 0 | e 9 23 | + 7 | e 11 57 | Q | e 13·7 |
| Yakusima | 23·1 | 103 | e 5 7 | - 1 | e 9 15 | - 1 | — | — | e 12·4 |
| Miyazaki | 23·2 | 99 | e 5 13 | + 4 | 9 17 | - 1 | — | — | e 11·7 |
| Matuyama | N. 23·5 | 93 | e 5 1 | - 11 | e 9 28 | + 5 | e 16 38 | ScS | e 11·6 |

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------|----------|-----|---------------------|------|----------------------|------|-----------|------------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Yonago | 23.5 | 89 | e 5 19 | + 7 | e 9 23 | 0 | — | e 12.1 |
| Uwazima | 23.6 | 95 | — | — | e 9 47 | +22 | — | e 12.8 |
| Simidu | 24.1 | 95 | e 5 18 | 0 | e 9 27 | - 7 | — | e 13.0 |
| Koti | 24.2 | 93 | e 5 18 | - 1 | e 9 38 | + 3 | e 6 3 | e 12.0 |
| Takamatu | 24.4 | 91 | e 5 18 | - 3 | e 9 43 | + 4 | e 6 19 | PPP 14.4 |
| Andijan | 24.5 | 285 | i 5 22 | 0 | — | — | — | — |
| New Delhi | 24.5 | 254 | i 5 20 ^k | - 2 | i 9 41 | + 1 | 5 50 | PP 11.6 |
| Toyooka | 24.6 | 88 | e 5 27 | + 4 | e 10 14 | +32 | — | e 12.9 |
| Muroto | 24.8 | 93 | e 5 21 | - 4 | e 9 17 | -29 | — | — |
| Tokusima | 24.9 | 91 | e 5 25 | - 1 | e 9 53 | + 6 | — | — |
| Sumoto | 25.0 | 90 | 5 22 | - 5 | e 9 54 | + 5 | — | e 14.7 |
| Kobe | 25.1 | 90 | 5 34 | + 6 | e 9 59 | + 8 | e 6 30 | PPP e 12.1 |
| Wakayama | 25.3 | 90 | e 6 0 [?] | +30 | e 10 25 [?] | +31 | — | e 14.8 |
| Kyoto | 25.4 | 88 | e 5 37 | + 6 | e 10 3 | + 7 | — | e 12.6 |
| Osaka | 25.4 | 89 | i 5 35 | + 4 | e 10 8 | +12 | — | e 15.1 |
| Hukui | 25.6 | 86 | e 5 31 | - 1 | e 10 4 | + 5 | — | e 13.6 |
| Khorog | 25.6 | 277 | e 5 32 | 0 | — | — | — | — |
| Nara | 25.6 | 89 | 5 32 | 0 | e 16 45 | ScS | — | e 14.4 |
| Hikone | 25.8 | 88 | 5 31 | - 3 | 10 4 | + 2 | — | e 12.9 |
| Kanazawa | 25.8 | 84 | e 5 37 | + 3 | — | — | — | — |
| Wazima | 25.8 | 83 | e 5 31 | - 3 | e 10 9 | + 7 | e 9 9 | PcP e 13.4 |
| Siomisaki | 26.0 | 92 | e 5 37 | + 1 | — | — | e 13 39 | Q 15.0 |
| Kameyama | 26.1 | 88 | 5 35 | - 2 | 10 11 | + 4 | e 5 51 | ? 14.0 |
| Owase | 26.1 | 90 | e 5 33 | - 4 | e 10 39 | +32 | (e 16 43) | ScS e 16.7 |
| Toyama | 26.1 | 84 | e 5 41 | + 4 | e 10 26 | +19 | e 12 26 | Q e 15.5 |
| Gihu | 26.2 | 87 | e 5 34 | - 4 | — | — | — | — |
| Tu | 26.2 | 89 | e 5 32 | - 6 | — | — | — | — |
| Takayama | 26.3 | 85 | e 5 53 | +14 | — | — | — | — |
| Baguio | 26.4 | 142 | i 5 37 ^a | - 3 | i 10 51 | +39 | i 6 6 | PP — |
| Nagoya | 26.4 | 87 | e 5 43 | + 3 | e 10 54 | +42 | — | e 14.6 |
| Aikawa | 26.6 | 81 | e 5 28 | -14 | — | — | — | 15.1 |
| Tashkent | 26.7 | 287 | e 5 40 | - 3 | — | — | — | — |
| Takada | 26.8 | 83 | e 5 51 | + 7 | e 10 50 | +31 | — | — |
| Matumoto | 26.9 | 85 | 5 54 | + 9 | e 11 59 | SSS | — | e 16.4 |
| Nagano | 26.9 | 84 | e 5 49 | + 4 | e 10 18 | - 2 | i 6 35 | PP 14.8 |
| Iida | 27.0 | 86 | e 5 57 [?] | +12 | e 10 51 [?] | +29 | — | e 14.5 |
| Matusiro | 27.0 | 84 | 5 43 | - 2 | i 10 58 | +36 | i 6 6 | ? 16.1 |
| Hamamatu | 27.1 | 88 | e 5 55 | + 9 | i 11 9 | +45 | — | e 18.2 |
| Niigata | 27.3 | 81 | e 6 10 | +22 | e 11 44 | SS | — | 13.7 |
| Oiwake | 27.3 | 84 | e 5 58 | +10 | e 11 11 | +44 | e 16 50 | ScS e 14.6 |
| Kohu | 27.5 | 86 | e 5 49 | - 1 | e 10 56 | +26 | — | e 14.0 |
| Oraesaki | 27.5 | 88 | e 5 47 | - 3 | e 11 4 | +34 | i 6 38 | PP e 15.0 |
| Suttsu | 27.5 | 70 | e 6 7 | +17 | — | — | — | e 15.6 |
| Shizuoka | 27.6 | 87 | e 5 49 | - 2 | e 10 49 | +17 | e 12 30 | Q e 14.3 |
| Hunatu | 27.7 | 86 | e 6 0 | + 8 | — | — | — | e 13.6 |
| Maebasi | 27.7 | 84 | e 6 4 | +12 | e 10 58 | +25 | e 6 42 | PP e 13.6 |
| Sakata | 27.7 | 78 | e 6 20 | +28 | — | — | — | e 15.6 |
| Akita | 27.8 | 76 | e 5 52 | - 1 | e 10 41 | + 6 | e 6 37 | PP e 13.4 |
| Mori | 27.8 | 71 | e 5 54 | + 1 | e 10 37 | + 2 | e 6 44 | PP 14.5 |
| Titibu | 27.8 | 85 | e 5 59 | + 6 | — | — | — | — |
| Misima | 27.9 | 86 | e 5 51 | - 3 | e 13 6 | PcS | e 6 42 | PP e 14.8 |
| Kumagaya | 28.0 | 84 | e 5 59 | + 4 | e 11 16 | +38 | — | — |
| Aomori | 28.1 | 74 | e 6 11 | +16 | e 12 15 | SSS | — | e 14.7 |
| Inawasiro | 28.2 | 81 | e 5 34 | -22 | e 6 3 | ? | e 6 34 | PP i 13.3 |
| Manila | 28.2 | 144 | e 6 3 | + 7 | e 10 34 | - 7 | — | — |
| Yamagata | 28.2 | 79 | e 6 6 | +10 | — | — | — | e 16.0 |
| Sapporo | 28.3 | 69 | e 6 0 | + 3 | e 10 44 | + 1 | e 11 58 | SS e 13.5 |
| Utunomiya | 28.3 | 83 | e 5 54 | - 3 | e 16 53 | ScS | e 6 20 | ? e 13.0 |
| Hukusima | 28.4 | 80 | e 6 6 | + 8 | e 11 18 | +33 | — | e 15.1 |
| Shirakawa | 28.4 | 82 | e 5 50 | - 8 | e 12 32 | SSS | e 7 8 | PPP — |

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|-----------------|----|----------|-----|---------|------|---------|------|---------|-----|--------|
| | | | | m. s. | s. | m. s. | s. | m. s. | m. | |
| Tokyo | | 28.4 | 85 | e 6 14 | +16 | e 10 46 | + 1 | e 7 7 | PPP | e 17.7 |
| Yokohama | | 28.4 | 85 | e 6 32 | PP | — | — | — | — | 18.6 |
| Kashiwa | | 28.5 | 84 | e 6 17 | +18 | e 10 7 | -39 | — | — | — |
| Tomakomai | | 28.5 | 70 | e 6 7 | + 8 | — | — | — | — | — |
| Wakkanai | N. | 28.5 | 64 | e 6 11 | +12 | — | — | e 13 21 | Q | e 15.5 |
| Kakioka | | 28.6 | 84 | e 5 46 | -14 | e 9 46 | - 62 | — | — | — |
| Mizusawa | | 28.6 | 77 | e 6 9 | - 9 | 11 13 | +25 | — | — | — |
| Morioka | | 28.6 | 76 | e 6 1 | + 1 | e 11 21 | +33 | — | — | — |
| Sendai | | 28.6 | 79 | e 6 11 | -11 | e 12 55 | PcS | e 7 10 | PPP | e 16.1 |
| Hatinohe | | 28.7 | 74 | e 6 1 | 0 | e 11 0 | -10 | e 13 8 | Q | e 14.6 |
| Mera | | 28.7 | 86 | e 6 32 | +31 | e 10 54 | + 4 | — | — | 14.8 |
| Mito | K. | 28.8 | 83 | e 6 7 | + 5 | — | — | — | — | — |
| Isinomaki | | 28.9 | 79 | e 6 26 | +23 | — | — | — | — | e 13.2 |
| Onahama | | 29.0 | 82 | e 6 5 | + 1 | e 12 52 | PcS | e 6 51 | PP | e 14.8 |
| Ulegorsk | | 29.0 | 57 | e 6 0 | - 4 | e 10 47 | - 7 | — | — | — |
| Miyako | | 29.2 | 76 | e 6 13 | + 8 | e 11 33 | +35 | — | — | — |
| Yuzno-Sakhlinsk | | 29.2 | 61 | e 6 1 | - 4 | e 10 47 | -11 | — | — | — |
| Urakawa | | 29.4 | 71 | e 5 55 | -12 | e 12 34 | SS | e 6 26 | ? | e 16.1 |
| Obihiro | E. | 29.7 | 69 | e 6 8 | - 2 | — | — | — | — | — |
| Abashiri | | 30.4 | 67 | e 6 27 | +11 | — | — | e 15 8 | ? | e 17.5 |
| Kusiro | | 30.5 | 69 | e 6 25 | + 8 | e 11 42 | +24 | — | — | e 15.3 |
| Torisima | E. | 30.7 | 94 | e 6 36 | +17 | — | — | — | — | — |
| Hyderabad | | 30.8 | 234 | i 6 17 | - 3 | i 11 29 | + 6 | i 12 34 | ? | 15.6 |
| Nemuro | | 31.4 | 68 | e 6 28 | + 3 | — | — | — | — | e 16.2 |
| Quetta | | 31.7 | 266 | i 6 24 | - 3 | i 11 40 | + 3 | e 13 45 | SS | — |
| Poona | | 33.1 | 241 | e 6 39 | - 1 | i 12 1 | + 2 | 7 43 | PP | 15.6 |
| Madras | E. | 33.3 | 226 | i 6 44 | + 3 | i 12 11 | + 9 | 14 32 | SSS | 16.4 |
| Bombay | | 33.6 | 243 | i 6 46 | + 2 | i 12 10 | + 4 | 8 5 | PPP | 16.0 |
| Sverdlovsk | | 33.7 | 317 | e 6 44 | - 1 | i 12 5 | - 3 | — | — | — |
| Ashkabad | | 35.7 | 284 | i 7 17 | +15 | — | — | — | — | — |
| Magadan | | 36.0 | 39 | i 7 2 | - 3 | i 12 39 | - 5 | — | — | — |
| Kodaikanal | E. | 37.0 | 227 | i 7 25 | +12 | i 13 4 | + 5 | 8 43 | PP | 17.3 |
| Colombo | E. | 38.5 | 221 | e 7 36 | +10 | 13 21 | - 1 | — | — | 19.6 |
| Petropavlovsk | | 39.6 | 50 | e 7 31 | - 4 | — | — | — | — | — |
| Guam | | 43.8 | 114 | e 8 43 | +34 | — | — | — | — | — |
| Djakarta | | 44.7 | 176 | e 8 18 | + 2 | e 15 2 | + 8 | e 10 0 | PP | e 22.6 |
| Tiflis | | 44.7 | 294 | e 8 8 | - 8 | — | — | — | — | — |
| Piatigorsk | | 45.2 | 297 | 8 20 | 0 | — | — | — | — | — |
| Lembang | | 45.4 | 175 | e 8 23k | + 1 | e 15 17 | PS | e 15 22 | PPS | e 23.6 |
| Bandung | | 45.5 | 175 | e 8 25 | + 2 | e 15 13 | PS | i 15 23 | PPS | e 22.4 |
| Moscow | | 46.4 | 314 | e 8 28 | - 2 | 15 11 | - 7 | — | — | — |
| Pulkovo | | 49.7 | 320 | e 8 53 | - 3 | — | — | — | — | — |
| Yalta | | 51.2 | 300 | e 9 10 | + 3 | e 16 28 | + 3 | — | — | — |
| Helsinki | | 52.2 | 322 | e 9 22 | + 7 | i 16 42 | + 3 | e 10 29 | PcP | i 26.4 |
| Kiruna | Z. | 52.5 | 332 | i 9 15k | - 2 | i 15 36 | -67 | i 11 23 | PP | — |
| Ksara | | 54.2 | 287 | 10 37 | +34 | — | — | — | — | — |
| Iasi | | 54.6 | 306 | e 9 36 | + 4 | e 17 14 | + 3 | e 19 18 | ScS | — |
| Bacau | | 55.3 | 305 | e 9 45 | + 7 | e 17 19 | - 2 | e 17 38 | PPS | — |
| Focsani | | 55.4 | 304 | e 9 38 | 0 | e 17 28 | + 6 | e 10 2 | ? | — |
| Jerusalem | | 55.6 | 286 | i 9 40 | 0 | i 17 38 | PS | — | — | — |
| Vrancioaia | | 55.6 | 304 | e 8 45 | -55 | — | — | — | — | — |
| Lwow | | 55.9 | 310 | e 9 40 | - 2 | — | — | — | — | — |
| Upsala | | 55.9 | 322 | i 9 39k | - 3 | i 17 24 | - 5 | i 11 51 | PP | i 28.5 |
| Istanbul | | 56.0 | 298 | e 9 41 | - 2 | e 17 32 | + 2 | e 17 41 | PS | 32.8 |
| Bucharest | | 56.6 | 303 | e 9 52 | + 5 | e 17 40 | + 2 | e 11 49 | PP | 27.0 |
| Warsaw | | 56.8 | 313 | i 9 52a | + 4 | i 17 42 | + 1 | i 13 19 | PPP | — |
| Skalnate Pleso | | 58.4 | 310 | e 10 8 | + 8 | e 18 47 | + 2 | e 12 14 | PP | — |
| Raciborzu | | 59.2 | 312 | e 10 4 | - 1 | e 18 22 | PS | e 12 18 | PP | e 27.8 |
| Sofia | | 59.2 | 302 | e 10 8 | + 3 | 18 38 | PPS | e 10 57 | PcP | 30.3 |
| Timisoara | | 59.2 | 306 | i 10 12 | + 7 | e 18 18 | - 6 | — | — | — |

Continued on next page.

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| | Δ | Az. | P. | | O-C. s. | S. | | O-C. s. | Supp. | | L. m. |
|--------------------|----------|-----|------|-----------------|------------|----------|------|------------|-------|--------|----------|
| | | | m. | s. | | m. | s. | | m. | s. | |
| Helwan | 59.4 | 285 | i 10 | 9 _a | + 3 | 18 21 | + 6 | 12 21 | PP | — | |
| Kecskemet | 59.7 | 308 | e 11 | 14 | PcP | — | — | e 14 48 | PcS | — | |
| Szeged | 59.7 | 307 | 10 | 29 | + 20 | 20 8 | ScS | 12 38 | PP | e 32.5 | |
| Budapest | 59.8 | 309 | 10 | 14 | + 5 | 18 19 | - 1 | 13 51 | PPP | 27.0 | |
| Copenhagen | 60.0 | 320 | i 10 | 9 | - 2 | e 18 24 | + 1 | 22 34 | SS | 29.0 | |
| Belgrade | 60.1 | 305 | e 10 | 12 _a | + 1 | e 18 22 | - 2 | e 13 52 | PPP | e 32.8 | |
| Ogyalla | 60.2 | 309 | e 10 | 25 | + 13 | e 18 27 | + 2 | i 12 33 | PP | e 28.8 | |
| Athens | 61.0 | 297 | e 10 | 19 _a | + 1 | e 18 31 | - 4 | e 18 58 | PPS | — | |
| Vienna | 61.1 | 310 | e 10 | 16 | - 2 | i 18 46 | PS | e 14 52 | PcS | 28.0 | |
| Potsdam | 61.2 | 316 | i 10 | 22 _a | + 3 | e 18 41 | + 3 | e 18 48 | PS | 29.0 | |
| Prague | 61.4 | 313 | i 10 | 20 _a | 0 | e 18 43 | + 3 | e 20 4 | ScS | e 29.4 | |
| Collnberg | 61.7 | 314 | e 10 | 20 | - 2 | e 18 50 | + 6 | e 12 45 | PP | e 28.0 | |
| Hamburg | 62.3 | 318 | i 10 | 25 _k | - 1 | e 19 3 | PS | i 11 3 | PcP | e 25.0 | |
| Cheb | 62.6 | 314 | e 10 | 33 | + 5 | e 19 0 | + 4 | e 14 17 | PPP | e 30.0 | |
| College | 62.6 | 27 | i 10 | 25 | - 3 | i 18 52 | - 4 | e 19 34 | PPS | e 26.6 | |
| Jena | 62.6 | 315 | i 10 | 25 | - 3 | e 18 53 | - 3 | e 19 21 | PS | e 26.0 | |
| Triest | 63.9 | 309 | e 10 | 38 | + 1 | e 19 13 | + 1 | e 20 15 | ScS | e 30.8 | |
| Taranto | 64.2 | 302 | 10 | 17 | - 22 | 19 18 | + 2 | 11 17 | PcP | 35.8 | |
| Stuttgart | 65.1 | 313 | e 10 | 41 | - 4 | e 19 31 | + 4 | e 13 11 | PP | 26.0 | |
| Karlsruhe | 65.4 | 314 | e 10 | 52 _k | + 5 | e 19 36 | + 6 | e 13 18 | PP | e 29.0 | |
| De Bilt | 65.5 | 318 | e 10 | 52 | - 5 | e 19 33 | + 1 | e 24 15 | SS | e 29.0 | |
| Padova | 65.6 | 308 | e 11 | 1 | + 13 | e 19 47 | + 14 | — | — | — | |
| Chur | 65.8 | 311 | e 10 | 46 | - 3 | — | — | e 13 14 | PP | e 29.0 | |
| Salo | 65.9 | 310 | e 10 | 46? | - 4 | e 19 20? | - 17 | 21 4? | ? | 32.0 | |
| Bologna | 66.0 | 308 | e 10 | 7 | - 43 | e 19 5 | - 33 | e 18 14 | ? | — | |
| Strasbourg | 66.0 | 314 | e 10 | 53 | + 3 | e 19 37 | - 1 | i 11 20 | PcP | i 32.3 | |
| Zürich | 66.1 | 312 | e 10 | 48 _k | - 3 | e 19 23 | - 16 | e 13 22 | PP | — | |
| Resolute Bay | 66.2 | 6 | e 10 | 49 | - 3 | e 20 57 | ScS | e 14 43 | PPP | — | |
| Aberdeen | 66.3 | 325 | i 11 | 3 | + 11 | i 19 51 | + 9 | i 14 47 | PPP | 32.0 | |
| Florence | 66.4 | 308 | i 10 | 55 _a | + 2 | i 19 50 | + 7 | — | — | — | |
| Prato | 66.4 | 308 | e 10 | 59 | + 6 | e 19 47 | + 4 | — | — | — | |
| Reggio Calabria | 66.5 | 301 | e 10 | 58? | + 4 | — | — | e 13 12 | PP | — | |
| Basle | 66.6 | 313 | e 10 | 41 | - 13 | e 19 29 | - 16 | e 15 1 | PPP | — | |
| Rome | 66.6 | 306 | e 10 | 50 | - 4 | i 19 49 | + 4 | e 13 34 | PP | e 31.0 | |
| Uccle | 66.6 | 317 | e 10 | 56 | + 2 | e 19 41 | - 4 | e 11 8 | pP | e 30.0 | |
| Pavia | 66.9 | 310 | e 11 | 0 | + 4 | e 19 57 | + 8 | e 24 45 | SS | e 35.5 | |
| Neuchatel | 67.3 | 313 | e 11 | 2 | + 3 | — | — | — | — | — | |
| Durham | 67.4 | 323 | i 10 | 36 | - 23 | i 19 50 | - 5 | i 20 2 | PS | — | |
| Oropa | 67.4 | 311 | e 10 | 36 | - 23 | e 19 47 | - 8 | — | — | — | |
| Edinburgh | 67.5 | 324 | 11 | 43 | PcP | 19 50 | - 6 | 13 47 | PP | — | |
| Kew | 68.7 | 320 | i 11 | 10 | + 3 | i 20 20 | PS | e 25 2 | SS | e 33.0 | |
| Paris | 68.8 | 316 | i 11 | 5 | - 3 | e 20 3? | - 8 | i 13 32 | PP | 35.0 | |
| Reykjavik | 69.1 | 338 | e 11 | 15 | + 5 | — | — | i 11 25 | PcP | e 37.0 | |
| Rathfarnham Castle | 70.5 | 323 | i 11 | 17 | - 1 | e 20 32 | 0 | e 14 1 | PP | e 32.4 | |
| Tunis | 70.9 | 302 | — | — | — | e 20 35 | - 1 | e 21 43 | ? | e 29.0 | |
| Jersey | 71.0 | 318 | e 11 | 51 | - 29 | e 20 44 | + 7 | e 15 37 | PPP | 35.0 | |
| Sitka | 72.3 | 30 | e 11 | 26 | - 3 | e 20 49 | - 3 | e 14 17 | PP | e 29.2 | |
| Barcelona | 73.3 | 310 | e 15 | 33 | ? | e 21 12 | + 8 | e 29 6 | SSS | e 37.2 | |
| Algiers Univ. | 75.5 | 306 | e 11 | 50 | + 2 | e 21 28 | 0 | e 14 33 | PP | — | |
| Alicante | 76.8 | 309 | e 11 | 51 | - 4 | e 21 34 | - 8 | 26 28 | SS | 36.7 | |
| Toledo | 77.9 | 312 | i 12 | 0 | - 1 | e 22 1 | - 7 | 15 13 | PP | 34.6 | |
| Tananarive | 78.0 | 234 | e 12 | 1 | - 1 | e 22 1 | + 6 | e 22 48 | PPS | 37.8 | |
| Almeria | 78.9 | 308 | i 12 | 10 | + 3 | i 21 50 | - 15 | 16 48 | PPP | 42.1 | |
| Granada | 79.4 | 310 | i 12 | 15 _a | + 6 | i 22 13 | + 3 | i 15 9 | PP | i 42.2 | |
| Lwiro | 80.0 | 259 | e 12 | 12 | - 1 | — | — | — | — | — | |
| Coimbra | 80.2 | 314 | 12 | 17 | + 3 | 22 17 | - 2 | 15 24 | PP | 43.6 | |
| Malaga | 80.2 | 309 | 12 | 16 | + 2 | i 22 17 | - 2 | 15 24 | PP | 39.4 | |
| Lisbon | 81.6 | 313 | — | — | — | 22 32 | - 1 | — | — | 39.7 | |
| Tamanrasset | 82.5 | 293 | e 12 | 25 | - 1 | e 22 48 | + 6 | e 22 58 | ScS | — | |
| Victoria | 83.5 | 30 | e 12 | 28 | - 3 | e 22 49 | - 3 | e 28 33 | SS | 36.0 | |

Continued on next page.

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|------------------|----|----------|-----|------|-----------------|------------------|-------|----|--------|-------|----|--------|
| | | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Averroes | | 84.3 | 308 | e 12 | 43 | + 8 | — | — | — | — | — | 47.0 |
| Riverview | | 84.3 | 142 | i 12 | 51 _a | +16 | i 23 | 13 | +13 | i 23 | 25 | e 36.0 |
| Seattle | | 84.6 | 30 | i 12 | 36 | 0 | 23 | 3 | 0 | e 15 | 44 | 48.0 |
| Saskatoon | | 85.6 | 18 | — | — | — | e 23 | 3 | [- 2] | — | — | 39.6 |
| Corvallis | z. | 86.7 | 32 | e 13 | 44 | +57 | — | — | — | — | — | — |
| Hungry Horse | | 86.9 | 24 | i 12 | 47 | - 1 | e 23 | 10 | [- 3] | i 23 | 34 | — |
| Butte | N. | 89.5 | 25 | i 12 | 58 | - 2 | e 23 | 23 | [- 7] | e 25 | 25 | e 37.4 |
| Bozeman | | 90.3 | 24 | i 13 | 1 | - 3 | e 23 | 30 | [- 5] | e 30 | 16 | e 39.9 |
| Shasta | z. | 90.3 | 34 | i 13 | 2 | - 2 | — | — | — | — | — | — |
| Mineral | z. | 90.9 | 33 | i 13 | 4 | - 3 | — | — | — | — | — | — |
| Reno | z. | 92.4 | 32 | e 13 | 13 | - 1 | — | — | — | — | — | — |
| Berkeley | z. | 92.7 | 35 | e 13 | 14 | - 1 | e 23 | 44 | [- 4] | — | — | — |
| Branner | z. | 93.1 | 35 | e 13 | 23 | + 6 | — | — | — | — | — | — |
| Santa Clara | E. | 93.2 | 35 | e 24 | 8 | SKKS | (e 24 | 8) | (+ 3) | — | — | e 48.6 |
| Kirkland Lake | z. | 93.5 | 3 | e 13 | 16 | - 3 | — | — | — | — | — | — |
| Salt Lake City | | 94.4 | 27 | e 13 | 22 | - 1 | e 23 | 54 | [- 4] | e 25 | 50 | e 37.9 |
| Seven Falls | | 94.5 | 357 | e 13 | 21 _a | - 2 | 24 | 38 | + 4 | 17 | 16 | 38.5 |
| Fresno | z. | 94.7 | 34 | e 13 | 23 | - 1 | — | — | — | — | — | — |
| Shawinigan Falls | | 95.1 | 358 | e 13 | 29 | + 3 | — | — | — | — | — | — |
| Pretoria | z. | 95.6 | 242 | e 13 | 28 _k | 0 | — | — | — | — | — | — |
| Woody | z. | 96.0 | 34 | e 13 | 28 | - 2 | — | — | — | i 17 | 19 | PP |
| Ottawa | | 96.3 | 0 | i 13 | 29 _k | - 3 | 24 | 5 | [- 3] | 17 | 20 | PP |
| China Lake | z. | 96.4 | 33 | e 13 | 31 | - 1 | — | — | — | e 17 | 20 | PP |
| Halifax | | 96.4 | 351 | e 13 | 29 | - 3 | 24 | 7 | [- 2] | 31 | 23 | SS |
| Pietermaritzburg | z. | 96.6 | 237 | i 13 | 18 _k | -15 | — | — | — | — | — | — |
| Boulder | | 97.1 | 22 | e 13 | 34 | - 1 | — | — | — | — | — | — |
| Boulder City | | 97.4 | 31 | e 13 | 36 | - 1 | — | — | — | i 14 | 13 | ? |
| Pasadena | | 97.6 | 34 | e 13 | 51 | +13 | i 24 | 30 | (- 7) | e 17 | 40 | PP |
| Nelson | z. | 97.7 | 31 | i 13 | 36 | - 2 | — | — | — | i 14 | 13 | ? |
| Riverside | z. | 98.1 | 34 | e 14 | 0 | +20 | — | — | — | e 17 | 43 | PP |
| Buffalo (Larkin) | | 98.8 | 2 | i 13 | 41 | - 2 | — | — | — | — | — | — |
| Palomar | z. | 98.8 | 34 | i 13 | 41 | - 2 | — | — | — | i 17 | 43 | PP |
| Harvard | | 99.1 | 357 | i 13 | 42 | - 2 | e 24 | 31 | [+ 8] | e 26 | 56 | PS |
| Chicago | | 99.2 | 9 | e 18 | 23 | ? | e 24 | 18 | [- 5] | e 31 | 52 | SS |
| Weston | | 99.2 | 357 | i 14 | 15 _k | +30 | e 24 | 32 | [+ 9] | e 26 | 59 | PS |
| Barratt | z. | 99.5 | 34 | i 13 | 45 | - 1 | — | — | — | — | — | — |
| Kimberley | z. | 99.9 | 241 | e 13 | 46 | - 2 | — | — | — | — | — | — |
| Cleveland | | 100.0 | 4 | e 13 | 46 _k | - 2 | e 24 | 23 | [- 4] | — | — | — |
| Palisades | | 100.7 | 358 | e 13 | 58 | + 6 | e 24 | 24 | [- 6] | e 18 | 6 | PP |
| Fordham | | 100.8 | 358 | e 14 | 8 | +16 | — | — | — | — | — | — |
| Pennsylvania | | 100.9 | 2 | e 18 | 11 | PP | — | — | — | — | — | — |
| Philadelphia | | 101.7 | 0 | e 18 | 8 | PP | e 24 | 28 | [- 7] | e 26 | 58 | PS |
| Tucson | | 102.3 | 30 | e 13 | 59 | 0 | e 24 | 27 | [- 11] | e 32 | 53 | SS |
| Washington | z. | 102.8 | 1 | e 21 | 7 | ? | — | — | — | — | — | e 51.4 |
| Fayetteville | | 103.7 | 15 | e 14 | 11 | + 6 | e 24 | 41 | [- 4] | e 18 | 20 | PP |
| Columbia | | 107.5 | 4 | e 18 | 31 | PKP | e 24 | 59 | [- 3] | e 26 | 13 | S |
| Bermuda | | 108.6 | 350 | e 18 | 52 | PP | e 25 | 17 | [+ 11] | — | — | e 49.4 |
| Tacubaya | | 118.2 | 25 | e 20 | 11 | PP | e 28 | 34 | ? | e 20 | 17 | ? |
| San Juan | | 122.5 | 349 | e 19 | 21 | [+ 23] | — | — | — | — | — | — |
| Galerazamba | | 130.8 | 359 | i 23 | 1 | PKS | i 26 | 50 | [+ 28] | e 39 | 15 | SS |
| Chinchina | | 136.6 | 0 | e 19 | 25 | [+ 1] | — | — | — | e 22 | 5 | PP |
| Bogota | | 136.9 | 357 | e 19 | 44 | [+ 19] | e 29 | 4 | (+ 2) | i 23 | 2 | PKS |
| Huancayo | | 153.5 | 359 | e 20 | 7 | PKP ₂ | e 26 | 25 | [- 33] | e 43 | 38 | SS |
| La Paz | | 156.9 | 341 | 20 | 15 | PKP ₂ | 31 | 9 | [+ 13] | i 34 | 51 | SKSP |
| Montezuma | z. | 162.9 | 338 | e 20 | 6 | [+ 2] | e 26 | 1 | [- 66] | e 24 | 40 | PP |
| La Plata | | 165.2 | 279 | 22 | 57 | PKS | 27 | 33 | [+ 24] | 45 | 33 | SS |

July 31d. 22h. 15m. Epicentre 39°·6N. 71°·2E.

Bulletin of Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, p. 72.

July 31d. 23h. 22m. Epicentre 22°·25S. 68°·25W. Depth of focus 100km.

Intensity IV between 22°S. and 23°S. in Chile.

Monthly Bulletin of the B.C.I.S. for July, 1954, Strasbourg, 1954, p. 415.

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Aug. 1d. 13h. 59m. Epicentre 22°·3N. 121°·1E. Unfelt.
Seismo. Bulletin of Taiwan Weather Bureau for July-Sept., 1954, Vol. I, No. 3, Taiwan, China, p. 18.

Aug. 1d. 18h. 40m. Epicentre 22°·1N. 121°·4E. Unfelt.
Loc. cit., 13h., p. 18.

Aug. 2d. 0h. 48m. 18s. Epicentre 37°·6N. 141°·7E. Depth of focus 50-60km.
Intensity IV at Sendai; II-III at Hukusima, Onahama, Inawasio, Shirakawa, Utunomiya, Kakioka, Miyako.
Seismo. Bull. Cent. Met. Obs. Japan for Aug., 1954, Tokyo 1955, p. 9 with macroseismic chart.

Aug. 2d. 9h. 57m. Epicentre 46°·3N. 3°·5E.
Intensity V at Montana and Leukerbad; IV at Chippis.
E. Wanner.
Jahresbericht des Erdbebendienstes der Schweiz im Jahre, 1954, Zürich, 1955, p. 4, fig. 6 separate from the text.

Aug. 2d. 10h. 18m. After-shock as on July 6d. 11h.
Much damage (U.S.C.G.S.). Magnitude 5·3.
Pasadena. Seismo. Bulletin, Strasbourg.

Aug. 2d. 20h. 52m. Epicentre 39°·0N. 70°·8E.
Bulletin of Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, p. 73.

Aug. 2d. 23h. 28m. 31s. Epicentre 37°·0S. 101°·4W. (as on 1948, October 9d.).

$$A = -.1583, B = -.7848, C = -.5992; \quad \delta = +1; \quad k = -1;$$

$$D = -.980, E = +.198; \quad G = +.118, H = +.587, K = -.801.$$

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|----------------|----|----------|-----|----------|------|----------|------|---------|-----------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Concepción | N. | 23·4 | 95 | e 7 56 | ? | (e 9 17) | - 4 | — | e 9·3 |
| Santa Lucia | N. | 25·3 | 91 | — | — | e 10 9 | +15 | — | e 11·5 |
| Punta Arenas | | 26·7 | 135 | 7 28 | ? | 12 12 | ? | — | — |
| Montezuma | Z. | 31·5 | 71 | i 6 25 | - 1 | — | — | — | — |
| Huancayo | | 34·1 | 50 | i 6 49 | + 1 | e 12 16 | + 2 | i 8 7 | PP e 14·3 |
| La Plata | | 35·0 | 99 | 6 59 | + 3 | 12 41 | +13 | 9 41 | PcP 16·4 |
| La Paz | | 35·8 | 64 | 7 1 | - 2 | i 12 41 | 0 | 8 22 | PP 15·7 |
| Chinchina | | 48·2 | 35 | e 8 40 | - 4 | e 15 36 | - 7 | e 19 12 | SS 26·5 |
| Bogota | | 48·6 | 36 | e 8 52 | + 5 | i 15 50 | + 1 | e 18 55 | SS 21·5 |
| San Juan | | 64·4 | 37 | i 10 37 | - 3 | — | — | — | — |
| Tucson | | 69·4 | 351 | e 11 11 | - 1 | — | — | — | — |
| Barratt | Z. | 70·8 | 345 | i 11 21 | + 1 | — | — | — | — |
| Palomar | Z. | 71·5 | 347 | i 11 25 | + 1 | — | — | — | — |
| Riverside | Z. | 72·2 | 346 | e 11 32 | + 3 | — | — | — | — |
| Pasadena | | 72·5 | 346 | e 11 32 | + 2 | — | — | — | e 31·0 |
| Columbia | | 73·1 | 17 | e 11 33 | - 1 | e 20 56 | - 5 | — | e 36·3 |
| Nelson | Z. | 73·4 | 349 | e 11 34 | - 2 | — | — | — | — |
| Boulder City | | 73·7 | 349 | i 11 36 | - 2 | — | — | — | — |
| China Lake | Z. | 74·0 | 347 | e 11 38 | - 1 | — | — | — | — |
| Fresno | Z. | 75·3 | 345 | e 11 48 | + 1 | — | — | — | — |
| Tinemaha | Z. | 75·3 | 346 | e 11 47 | 0 | — | — | — | — |
| Lick | Z. | 76·3 | 344 | e 11 53 | + 1 | — | — | — | — |
| Berkeley | | 77·0 | 344 | e 11 58 | + 2 | e 21 53 | + 8 | — | — |
| Bermuda | | 77·1 | 31 | e 12 1 | + 4 | e 21 47 | + 1 | — | e 30·9 |
| Salt Lake City | | 78·0 | 352 | e 12 1 | - 1 | — | — | e 12 42 | ? — |
| Cleveland | | 80·2 | 15 | i 12 12k | - 2 | e 22 19 | 0 | — | — |
| Philadelphia | | 80·3 | 20 | — | — | e 22 9 | -11 | e 25 8 | ? e 33·5 |
| Palisades | | 81·6 | 21 | — | — | e 22 27 | - 6 | e 33 51 | Q e 39·1 |
| Bozeman | | 82·8 | 353 | e 12 28 | + 1 | — | — | e 12 45 | ? — |
| Butte | N. | 83·3 | 352 | e 12 32 | + 3 | e 22 49 | 0 | e 23 38 | PS e 35·1 |
| Weston | | 83·6 | 22 | e 12 29 | - 2 | e 22 52 | - 1 | — | — |
| Harvard | | 83·7 | 22 | e 12 30 | - 2 | e 22 53 | - 1 | — | e 41·3 |
| Brisbane | | 85·2 | 238 | i 12 47 | + 8 | — | — | — | — |
| Ottawa | | 85·2 | 17 | e 12 37k | - 2 | e 23 9 | 0 | — | — |
| Hungry Horse | | 85·7 | 351 | e 12 43 | + 1 | — | — | e 16 44 | PP — |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----|----------|-----|---------|------------------|---------|-------|---------|------------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Kirkland Lake | z. | 86.9 | 14 | e 12 47 | - 1 | — | — | — | — |
| Shawinigan Falls | | 87.1 | 19 | e 12 47 | - 2 | — | — | — | — |
| Resolute Bay | | 111.5 | 2 | — | — | e 38 7 | SSS | — | e 52.5 |
| Tamanrasset | z. | 116.5 | 80 | e 19 35 | PKJKP | — | — | — | — |
| Rathfarnham C. | z. | 121.5 | 44 | e 19 26 | [+30] | — | — | — | — |
| Uccle | | 126.9 | 49 | e 32 31 | PPS | e 38 14 | SS | e 38 30 | SSP e 59.5 |
| Florence | | 129.5 | 60 | — | — | e 43 44 | SSS | — | 64.5 |
| Stuttgart | | 129.5 | 53 | e 19 25 | [+14] | — | — | — | e 62.5 |
| Rome | | 129.8 | 63 | — | — | e 39 16 | SSP | e 43 36 | SSS e 65.0 |
| Messina | | 130.9 | 68 | e 33 31 | PPS | e 39 27 | SSP | e 34 33 | ? 61.4 |
| Jena | z. | 131.4 | 51 | e 19 29 | [+14] | — | — | e 19 55 | ? — |
| Collmberg | z. | 132.4 | 51 | e 19 31 | [+14] | — | — | — | — |
| Taranto | | 132.9 | 66 | — | — | e 39 47 | SSP | — | — |
| Kiruna | | 135.6 | 27 | e 19 26 | [+ 4] | e 28 51 | {- 4} | e 22 55 | PKS — |
| Pulkovo | | 141.9 | 37 | e 19 12 | [-22] | — | — | e 22 29 | PP — |
| Jerusalem | | 144.1 | 85 | i 19 39 | [+ 1] | — | — | — | — |
| Ksara | | 145.3 | 83 | i 19 47 | [+ 7] | — | — | 23 29 | PP — |
| Moscow | | 146.7 | 42 | 19 48 | [+ 6] | — | — | — | — |
| Piatigorsk | | 152.2 | 64 | 20 3 | [+12] | — | — | — | — |
| Erevan | | 153.3 | 73 | 20 7 | [+15] | — | — | e 23 50 | PP — |
| Tiflis | | 153.6 | 69 | 20 7 | [+14] | — | — | — | — |
| Sverdlovsk | | 156.8 | 25 | e 20 31 | PKP ₂ | e 27 17 | [+15] | e 43 47 | SS — |
| Quetta | z. | 168.2 | 122 | e 20 28 | [+20] | — | — | — | — |

Aug. 3d. 11h. 12m. Epicentre 36°·9N. 70°·6E. Depth of focus 210km.
Bulletin of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, pp. 73,74.

Aug. 3d. 11h. 28m. 52s. Epicentre 39°·1N. 143°·7E. Depth of focus 40-50km. Unfelt.
Seismo. Bull. Cent. Met. Obs., Japan, for August, 1954, Tokyo, 1954, pp. 11-12.

Aug. 3d. 11h. 46m. Epicentre 39°·0N. 70°·8E.
Loc. cit., 11h. 12m., p. 74.

Aug. 3d. 18h. 18m. 13s. Epicentre 40°·1N. 24°·5E.

Intensity IV at Lemnos, Vasilika, Thessaloniki, Serrae, Drama, and Alexandroupolis;
III at Xanthi and Larissa; noticed also at Dikili and Canakkale. Magnitude 5.75-6.
Seismo. Institute Bulletin for 1954, Athens, 1955, p. 91.

$$A = +.6980, B = +.3181, C = +.6416; \quad \delta = +4; \quad h = -2;$$

$$D = +.415, E = -.910; \quad G = +.584, H = +.266, K = -.767.$$

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------------|----|----------|-----|---------------------|------|--------|------------------|--------|----------------------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Athens | | 2.2 | 197 | e 0 35 | - 3 | i 1 14 | + 1 _g | e 0 37 | P* — |
| Sofia | | 2.7 | 341 | i 0 49 | + 4 | e 1 20 | + 1 | i 0 53 | P _g — |
| Istanbul | | 3.6 | 73 | e 0 56 | - 2 | i 1 40 | - 2 | e 1 5 | P* — |
| Bucharest | E. | 4.5 | 15 | e 1 11 | 0 | i 2 2 | - 3 | i 1 39 | P _g — |
| Campulung | | 5.2 | 4 | e 1 21 | 0 | e 2 43 | + 5* | e 1 52 | P _g i 2.9 |
| Belgrade | | 5.6 | 329 | e 1 39 _a | 0* | i 2 36 | + 3 | i 3 4 | S _g — |
| Taranto | | 5.6 | 276 | 1 21 | - 6 | 2 21 | -12 | e 1 44 | P* 3.0 |
| Timisoara | | 6.1 | 338 | e 1 37? | + 3 | e 3 17 | - 5 _g | e 2 6 | P _g — |
| Bacau | | 6.7 | 14 | e 1 42 | 0 | e 3 2 | + 2 | e 3 22 | S* — |
| Szeged | | 6.9 | 334 | 1 52 | + 7 | 3 48 | 0 _g | 2 30 | P _g — |
| Messina | | 7.2 | 258 | i 1 47 _a | - 2 | i 3 1 | -12 | i 2 31 | P _g — |
| Reggio-Calabria | | 7.2 | 257 | e 1 49 | 0 | i 3 3 | -10 | i 3 57 | S _g — |
| Iasi | | 7.4 | 16 | e 1 50 | - 2 | e 3 31 | +13 | — | — |
| Kalossa | | 7.6 | 330 | 2 3 | + 8 | 3 35 | +12 | e 2 33 | P _g — |
| Kecskemet | | 7.6 | 334 | 2 7 | - 6* | 4 7 | - 4 _g | 2 49 | P _g — |
| Kishinev | | 7.6 | 23 | i 1 51 | - 4 | — | — | — | — |
| Budapest | | 8.4 | 334 | 2 4 | - 2 | e 3 54 | +11 | 2 49 | P _g — |
| Yalta | | 8.4 | 55 | e 2 4 | - 2 | — | — | — | — |
| Ogyalla | | 9.0 | 332 | e 2 29 | +16 | e 3 49 | - 9 | i 3 5 | P _g — |
| Rome | | 9.2 | 285 | e 2 14 | - 2 | e 4 6 | + 3 | i 3 28 | ? 5.4 |

Continued on next page.

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| | △ ° | Az. ° | P. | | O-C. s. | S. | | O-C. s. | Supp. | | L. m. |
|--------------------|---------|----------|-----|-----------------|------------|------|-----------------|------------|-------|----|-----------|
| | | | m. | s. | | m. | s. | | m. | s. | |
| Skalnate Pleso | 9.6 | 343 | e 2 | 23 | + 2 | i 4 | 17 | + 5 | i 5 | 15 | — |
| Triest | 9.6 | 308 | e 2 | 19 | - 2 | e 4 | 2 | -10 | i 2 | 57 | 1 5.5 |
| Lwow | 9.7 | 358 | e 2 | 23 | + 1 | — | — | — | — | — | — |
| Vienna | 10.0 | 327 | e 2 | 27 | 0 | i 4 | 25 | + 3 | i 5 | 19 | — |
| Padova | 10.3 | 299 | e 2 | 39 | + 7 | 4 | 47 | +17 | — | — | 6.4 |
| Florence | 10.5 | 295 | e 2 | 37 | + 2 | e 4 | 41 | + 6 | — | — | 6.2 |
| Bologna | 10.7 | 298 | e 2 | 45 ^a | + 7 | e 4 | 46 | + 7 | — | — | — |
| Prato | 10.7 | 295 | e 2 | 38 | 0 | i 3 | 58 | -41 | — | — | — |
| Raciborz | 10.9 | 338 | e 2 | 39 | - 1 | e 4 | 45 | + 1 | e 2 | 45 | PP e 5.9 |
| Ksara | 11.0 | 121 | e 1 | 47 [?] | ? | — | — | — | — | — | — |
| Safed | 11.3 | 126 | i 2 | 44 | - 2 | — | — | — | — | — | e 7.0 |
| Helwan | 11.6 | 149 | 2 | 50 | 0 | 4 | 59 | - 2 | 5 | 14 | SS |
| Jerusalem | 12.0 | 130 | i 2 | 57 | + 2 | — | — | — | — | — | — |
| Prague | 12.2 | 328 | i 2 | 56 | - 2 | i 5 | 15 | - 1 | i 3 | 5 | PP e 6.3 |
| Pavia | 12.4 | 299 | e 3 | 4 | + 3 | e 5 | 49 | +28 | e 6 | 36 | Q e 7.6 |
| Warsaw | 12.4 | 350 | e 2 | 50 | -11 | e 5 | 22 | + 1 | e 3 | 10 | PP e 7.3 |
| Chur | 12.8 | 307 | e 3 | 4 | - 2 | — | — | — | — | — | e 6.8 |
| Cheb | 13.1 | 323 | e 3 | 9 | - 1 | e 5 | 14 | -24 | e 3 | 18 | PP |
| Oropa | 13.3 | 300 | i 3 | 15 | + 2 | e 5 | 10 | -32 | e 3 | 24 | PP e 7.8 |
| Zürich | 13.6 | 308 | e 3 | 15 | - 2 | e 6 | 11 | +21 | e 3 | 21 | PP |
| Collmberg | 13.8 | 328 | e 3 | 16 | - 3 | e 6 | 13 | +19 | e 3 | 26 | PP e 7.3 |
| Stuttgart | 13.9 | 313 | i 3 | 18 ^a | - 3 | e 6 | 12 | +15 | e 3 | 29 | PP e 6.8 |
| Jena | 14.1 | 324 | e 3 | 21 | - 2 | e 6 | 19 | +17 | e 3 | 31 | PP e 6.8 |
| Basle | 14.3 | 307 | e 3 | 23 ^k | - 3 | e 6 | 17 | +11 | — | — | e 7.6 |
| Piatigorsk | 14.3 | 68 | 3 | 36 | +10 | — | — | — | — | — | — |
| Karlsruhe | 14.5 | 313 | e 3 | 28 | 0 | e 6 | 22 | +11 | i 3 | 35 | PP e 7.7 |
| Neuchatel | 14.5 | 304 | i 3 | 26 | - 2 | — | — | — | — | — | e 7.2 |
| Potsdam | 14.6 | 331 | e 3 | 29 | - 1 | i 6 | 19 | + 6 | e 6 | 29 | SS e 7.0 |
| Strasbourg | 14.6 | 311 | e 3 | 28 | - 2 | e 6 | 16 | + 3 | i 3 | 38 | PP 1 7.8 |
| Erevan | 15.3 | 83 | i 3 | 44 | + 5 | — | — | — | — | — | — |
| Tiflis | 15.4 | 77 | e 3 | 42 | + 2 | e 6 | 44 | +12 | — | — | — |
| Kirovobad | 16.6 | 81 | 3 | 56 | 0 | 7 | 6 | + 6 | 7 | 15 | sS |
| Hamburg | 16.7 | 328 | i 3 | 54 | - 3 | e 7 | 4 | + 1 | e 8 | 11 | Q i 10.1 |
| Goris | 16.8 | 85 | i 4 | 0 | + 2 | — | — | — | 4 | 20 | PP |
| Barcelona | 17.0 | 282 | e 3 | 54 | - 7 | e 7 | 19 | + 9 | — | — | e 9.4 |
| Algiers Univ. | z. 17.2 | 266 | i 4 | 0 ^k | - 3 | e 7 | 11 | - 3 | e 5 | 18 | ? |
| Copenhagen | 17.5 | 337 | e 4 | 9 | + 2 | 7 | 23 | + 2 | — | — | 9.1 |
| Witteveen | z. 17.6 | 322 | e 4 | 6 | - 2 | — | — | — | — | — | — |
| Uccle | 17.7 | 314 | e 4 | 8 | - 2 | e 7 | 34 | + 8 | e 4 | 19 | PP e 8.9 |
| De Bilt | 17.9 | 318 | e 4 | 10 | - 2 | i 7 | 40 | +10 | — | — | e 8.6 |
| Moscow | 17.9 | 25 | 4 | 7 | - 5 | 7 | 22 | - 8 | 7 | 34 | sS |
| Paris | 17.9 | 306 | i 4 | 11 | - 1 | i 7 | 36 | + 6 | i 4 | 24 | PP 10.3 |
| Alicante | 19.4 | 273 | e 4 | 27 | - 3 | i 8 | 7 | + 3 | 4 | 46 | PP 9.6 |
| Pulkovo | 20.0 | 9 | e 4 | 32 | - 5 | i 8 | 12 | - 5 | — | — | — |
| Helsinki | 20.1 | 1 | e 4 | 33 | - 5 | e 8 | 20 | + 1 | — | — | i 12.7 |
| Upsala | 20.2 | 350 | i 4 | 37 | - 2 | i 8 | 32 | +11 | i 5 | 4 | PP i 11.0 |
| Kew | 20.6 | 312 | i 4 | 41 | - 2 | i 8 | 34 | + 5 | e 5 | 8 | PP |
| Jersey | E. 20.9 | 304 | e 4 | 20 | -26 | e 4 | 49 | PP | e 8 | 45 | PcP |
| Almería | 21.4 | 270 | i 4 | 55 | + 4 | i 8 | 49 | + 4 | 5 | 21 | PP 12.2 |
| Toledo | 21.9 | 279 | e 4 | 53 | - 4 | i 9 | 24 | +30 | i 5 | 57 | PP 13.0 |
| Granada | 22.1 | 271 | i 4 | 56 ^k | - 3 | i 8 | 56 | - 2 | 5 | 16 | pP i 11.8 |
| Durham | 22.8 | 319 | e 5 | 4 | - 1 | i 9 | 12 | + 1 | i 5 | 8 | pP |
| Malaga | 22.9 | 271 | i 5 | 5 | - 1 | i 9 | 12 | - 1 | — | — | 12.0 |
| Tamanrasset | z. 23.6 | 229 | i 5 | 13 ^a | 0 | e 9 | 39 | +14 | e 5 | 51 | PPP |
| Edinburgh | E. 24.1 | 320 | — | — | — | e 9 | 30 | - 4 | 10 | 20 | SS |
| Aberdeen | 24.3 | 324 | i 5 | 31 | +11 | i 9 | 40 | + 3 | i 10 | 39 | SS 12.9 |
| Rathfarnham Castle | 24.7 | 313 | i 5 | 23 ^a | - 1 | i 9 | 52 | + 8 | e 5 | 55 | PP e 14.8 |
| Coimbra | 25.1 | 281 | 5 | 27 | - 1 | 9 | 50 [?] | - 1 | 6 | 3 | PP |
| Lisbon | 26.0 | 278 | e 5 | 35 | - 1 | 10 | 7 | + 1 | — | — | 13.0 |
| Averroes | 26.4 | 265 | e 6 | 39 | PPP | — | — | — | — | — | — |
| Kiruna | 27.9 | 357 | i 5 | 52 | - 2 | e 10 | 31 | - 6 | i 6 | 35 | PP e 14.2 |
| Sverdlovsk | 28.8 | 42 | 6 | 0 | - 2 | 10 | 49 | - 2 | — | — | — |
| Tashkent | 33.7 | 73 | e 6 | 42 | - 3 | — | — | — | — | — | — |
| Stalinabad | 34.0 | 78 | i 6 | 48 | 0 | — | — | — | — | — | — |
| Quetta | 35.8 | 93 | e 7 | 1 [?] | - 2 | e 12 | 49 | + 8 | e 8 | 33 | PP e 16.6 |

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| | | ° | ° | m. | s. | s. | m. | s. | m. | s. | m. | | |
| Reykjavik | z. | 36.0 | 327 | i 7 | 5 | 0 | — | — | — | — | — | | |
| Andijan | | 36.1 | 73 | 7 | 5 | 0 | — | — | — | — | — | | |
| Khorog | | 36.4 | 79 | e 7 | 10 | + 2 | — | — | — | — | — | | |
| Frunse | | 37.2 | 69 | i 7 | 15 | 0 | — | — | — | — | — | | |
| Naryn | | 38.5 | 71 | e 7 | 25 | - 1 | — | — | — | — | — | | |
| Scoresby Sund | | 38.6 | 337 | e 7 | 30 | + 4 | e 13 | 26 | + 3 | e 9 | 0 | PP | 19.8 |
| Almata | | 38.8 | 68 | e 7 | 28 | 0 | — | — | — | — | — | — | — |
| Lwiro | | 42.3 | 174 | e 7 | 56 | - 1 | — | — | — | — | — | — | — |
| Poona | z. | 47.4 | 102 | e 8 | 39 | + 1 | — | — | — | — | — | — | — |
| Irkutsk | | 53.9 | 48 | e 9 | 26 | - 1 | — | — | — | — | — | — | — |
| Shillong | z. | 57.2 | 83 | e 9 | 49 | - 2 | — | — | — | — | — | — | — |
| Resolute Bay | | 58.8 | 344 | e 10 | 4k | + 2 | e 17 | 58 | - 9 | — | — | — | e 26.8 |
| Halifax | | 62.2 | 306 | e 10 | 23 | - 3 | — | — | — | — | — | — | e 29.8 |
| Seven Falls | | 65.2 | 311 | i 10 | 43a | - 2 | — | — | — | 11 | 29 | PcP | — |
| Pretoria | z. | 65.6 | 176 | e 10 | 20 | - 28 | — | — | — | — | — | — | — |
| Shawinigan Falls | | 66.6 | 312 | i 10 | 53a | - 1 | — | — | — | — | — | — | — |
| Weston | | 68.1 | 307 | i 11 | 4a | 0 | — | — | — | — | — | — | — |
| Harvard | | 68.2 | 308 | i 11 | 4a | 0 | — | — | — | — | — | — | e 37.1 |
| Kimberley | z. | 68.5 | 180 | i 11 | 5a | - 1 | — | — | — | — | — | — | — |
| Ottawa | | 68.9 | 312 | i 11 | 8a | - 1 | 20 | 11 | - 2 | — | — | — | — |
| Palisades | | 70.5 | 307 | — | — | — | e 22 | 15 | ? | — | — | — | e 34.0 |
| Cleveland | | 74.7 | 312 | i 11 | 42a | - 1 | e 21 | 22 | + 3 | — | — | — | — |
| College | | 75.2 | 357 | i 11 | 45 | - 1 | e 21 | 35 | + 10 | — | — | — | e 33.5 |
| San Juan | | 78.9 | 285 | e 12 | 6 | - 1 | — | — | — | — | — | — | — |
| Columbia | | 79.3 | 305 | e 12 | 4 | - 5 | — | — | — | — | — | — | — |
| Hungry Horse | | 84.6 | 334 | e 12 | 34 | - 2 | — | — | — | — | — | — | — |
| Fayetteville | | 85.5 | 315 | e 12 | 41 | 0 | — | — | — | — | — | — | — |
| Bozeman | | 85.8 | 330 | e 12 | 41 | - 1 | — | — | — | e 13 | 11 | ? | — |
| Butte | N. | 86.0 | 332 | e 12 | 44 | + 1 | e 21 | 30 | ? | — | — | — | e 38.2 |
| Lembang | z. | 89.1 | 100 | e 13 | 1k | + 3 | — | — | — | e 17 | 51 | PP | — |
| Nelson | z. | 95.8 | 328 | e 13 | 49 | + 20 | — | — | — | — | — | — | — |
| China Lake | z. | 96.8 | 330 | e 13 | 52 | + 18 | — | — | — | e 17 | 33 | PP | — |
| Tucson | | 97.0 | 323 | e 13 | 49 | + 14 | — | — | — | — | — | — | e 53.8 |
| Woody | z. | 97.4 | 331 | e 14 | 8 | + 31 | — | — | — | e 18 | 12 | PP | — |
| Barratt | z. | 99.2 | 328 | e 17 | 51 | PP | — | — | — | — | — | — | — |

Aug. 3d. 23h. 18m. After-shock of earthquake at 18h.
Intensity IV at Kastron in Lemnos. Recorded up to 28°.
Loc. cit., 18h., p. 91.

Aug. 4d. 1h. 34m. Epicentre 38°·4N. 74°·2E. Depth of focus 140km.
Bulletin of the Seismo. Stations of the U.S.S.R. for 1954, July-Sept., Moscow, 1955,
pp. 74-75.

Aug. 4d. 3h. 8m. Epicentre 43°·1N. 77°·3E.
Loc. cit., 1h., p. 75.

Aug. 4d. 22h. 2m. Epicentre 23°·4N. 120°·6E.
Seismo. Bulletin of Taiwan Weather Bureau for July-Sept., 1954, Vol. 1, No. 3, Taiwan,
China, pp. 18-19.

Aug. 5d. 3h. 13m. Epicentre 37°·6N. 71°·8E. Depth of focus 140km.
Bulletin of the Seismo. Stations of the U.S.S.R. for 1954, July-Sept., Moscow, 1955, p. 75.

Aug. 5d. 3h. 48m.
4h. 13m. After-shock from epicentre of 3d. 18h.
4h. 37m.
Magnitudes of each 5.25.
Recorded up to 86°.
Seismo. Institute Bulletin. National Observatory of Athens, for 1954. Athens, 1955, p. 92.

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Aug. 5d. 8h. 49m. 53s. Epicentre 51°·7N. 175°·8E. Depth of focus 0·005.

A = -·6207, B = +·0456, C = +·7828; δ = +12; h = -6;
D = +·073, E = +·997; G = -·781, H = +·057, K = -·622.

| | | Δ ° | Az. ° | P. | | O-C. s. | S. | | O-C. s. | Supp. | | L. m. | |
|------------------|----|---------------|----------|------|-----------------|------------|------|-----|------------|-------|----|----------|--------|
| | | | | m. | s. | | m. | s. | | m. | s. | | |
| Adak | | 4·7 | 85 | i 1 | 9 | - 1 | i 2 | 6 | + 2 | — | — | — | |
| Unalaska | | 10·9 | 72 | i 3 | 6 | +30 | — | — | — | — | — | — | |
| College | | 22·8 | 41 | i 4 | 57 | - 1 | e 9 | 4 | + 6 | — | — | e 9·6 | |
| Kusiro | | 22·8 | 260 | e 5 | 0 | + 2 | e 9 | 10 | +12 | — | — | — | |
| Sapporo | | 24·7 | 263 | i 5 | 18 | + 2 | i 9 | 40 | + 9 | — | — | — | |
| Tokyo | | 30·2 | 252 | e 6 | 11 | + 5 | e 11 | 8 | + 8 | — | — | — | |
| Matusiro | | 30·5 | 255 | e 6 | 5 | - 4 | 11 | 5 | 0 | — | — | — | |
| Hamada | | 35·4 | 259 | e 6 | 51 | - 1 | e 12 | 28 | + 7 | — | — | — | |
| Honolulu | | 36·5 | 136 | e 7 | 20 | +19 | e 12 | 44 | + 6 | e 8 | 27 | PP | e 15·2 |
| Victoria | | 38·2 | 70 | e 7 | 11 | - 4 | e 13 | 11 | + 7 | — | — | — | — |
| Seattle | | 39·2 | 71 | e 7 | 56 | +33 | e 13 | 55 | +36 | e 9 | 20 | PP | 25·1 |
| Corvallis | | 40·2 | 75 | e 7 | 35 | + 3 | — | — | — | — | — | — | — |
| Resolute Bay | | 40·8 | 24 | e 7 | 37 _a | 0 | e 13 | 47 | + 4 | i 8 | 1 | pP | e 16·1 |
| Shasta | z. | 43·0 | 80 | e 7 | 54 | - 1 | — | — | — | — | — | — | — |
| Hungry Horse | | 43·6 | 65 | e 7 | 59 | 0 | e 14 | 21 | - 3 | i 8 | 16 | pP | — |
| Zô-Sè | | 44·6 | 264 | 8 | 9 _a | + 1 | e 14 | 45 | + 7 | — | — | — | — |
| Berkeley | | 44·8 | 83 | e 8 | 11 | + 2 | e 14 | 46 | + 5 | — | — | — | — |
| Reno | z. | 45·2 | 79 | e 8 | 14 | + 1 | — | — | — | — | — | — | — |
| Santa Clara | E. | 45·3 | 83 | e 7 | 50 | -23 | e 14 | 45 | - 3 | — | — | — | e 21·6 |
| Nanking | | 45·4 | 267 | 8 | 14 _a | 0 | 14 | 56 | + 6 | i 8 | 25 | pP | — |
| Lick | z. | 45·5 | 83 | i 8 | 15 | 0 | — | — | — | — | — | — | — |
| Butte | N. | 45·7 | 67 | e 8 | 17 | + 1 | e 14 | 52 | - 2 | e 8 | 46 | pP | i 18·1 |
| Bozeman | | 46·8 | 67 | e 8 | 50 | +25 | — | — | — | — | — | — | — |
| Fresno | z. | 47·0 | 82 | e 8 | 26 | - 1 | — | — | — | — | — | — | — |
| Tinemaha | | 47·8 | 81 | e 8 | 32 | - 1 | — | — | — | i 8 | 46 | pP | — |
| Woody | z. | 48·2 | 83 | i 8 | 36 | 0 | — | — | — | i 8 | 49 | pP | — |
| China Lake | z. | 48·9 | 82 | i 8 | 42 | + 1 | — | — | — | i 9 | 0 | pP | — |
| Salt Lake City | | 49·3 | 73 | e 8 | 51 | + 7 | e 18 | 35 | ScS | — | — | — | e 22·4 |
| Pasadena | | 49·7 | 84 | e 8 | 48 | + 1 | e 15 | 52 | + 2 | i 9 | 3 | pP | e 23·1 |
| Riverside | z. | 50·3 | 83 | e 8 | 50 | - 2 | — | — | — | i 9 | 12 | pP | — |
| Boulder City | | 50·5 | 80 | i 8 | 55 | + 1 | — | — | — | i 9 | 16 | pP | — |
| Nelson | z. | 50·7 | 80 | i 8 | 55 | 0 | i 14 | 6 | ScP | i 9 | 16 | pP | — |
| Palomar | z. | 51·0 | 84 | i 8 | 58 | + 1 | — | — | — | i 9 | 13 | pP | — |
| Barratt | z. | 51·6 | 84 | i 9 | 2 | 0 | — | — | — | i 9 | 23 | pP | — |
| Hong Kong | E. | 55·3 | 262 | — | — | — | e 17 | 14? | + 8 | — | — | — | — |
| Tucson | | 55·5 | 80 | e 9 | 29 | - 2 | e 17 | 19 | +10 | — | — | — | e 23·5 |
| Baguio | | 55·9 | 252 | e 9 | 27 | - 7 | i 17 | 21 | + 7 | — | — | — | — |
| Scoresby Sund | | 57·5 | 7 | e 9 | 43 _a | - 2 | i 17 | 43 | + 7 | e 11 | 50 | PP | 27·1 |
| Kiruna | | 59·4 | 349 | i 9 | 56 _a | - 2 | e 18 | 1 | + 1 | i 10 | 23 | pP | e 28·7 |
| Kirkland Lake | z. | 61·4 | 48 | e 10 | 11 | - 1 | — | — | — | — | — | — | — |
| Chicago | | 62·2 | 57 | — | — | — | e 18 | 38 | + 2 | e 20 | 6 | ScS | e 25·8 |
| Fayetteville | | 62·7 | 66 | i 10 | 19 | - 1 | — | — | — | — | — | — | — |
| St. Louis | | 63·1 | 61 | e 10 | 19 | - 4 | i 18 | 48 | + 1 | — | — | — | — |
| Dallas | | 63·5 | 70 | i 10 | 23 | - 3 | e 19 | 2 | +10 | — | — | — | — |
| Reykjavik | z. | 63·7 | 9 | i 10 | 27 _a | 0 | — | — | — | — | — | — | — |
| Ottawa | | 65·4 | 47 | i 10 | 35 _a | - 3 | 19 | 16 | 0 | 20 | 27 | ScS | 26·3 |
| Cleveland | | 65·6 | 54 | i 10 | 40 _k | + 1 | e 19 | 19 | + 1 | — | — | — | — |
| Cincinnati | | 65·8 | 57 | i 10 | 40 | - 1 | 19 | 22 | + 1 | — | — | — | — |
| Shawinigan Falls | | 65·8 | 45 | e 10 | 29 | -12 | — | — | — | e 12 | 17 | ? | — |
| Buffalo (Larkin) | | 65·9 | 51 | e 10 | 33 | - 8 | — | — | — | — | — | — | — |
| Seven Falls | | 66·3 | 43 | e 10 | 41 _a | - 3 | — | — | — | 11 | 36 | PcP | — |
| Shillong | | 66·7 | 282 | i 10 | 46 | 0 | i 20 | 40 | ScS | — | — | — | — |
| Pittsburgh | | 67·1 | 53 | — | — | — | e 19 | 32? | - 4 | — | — | — | — |
| Upsala | | 67·4 | 348 | i 10 | 50 | - 1 | e 19 | 41 | + 1 | e 21 | 41 | ScS | e 29·1 |
| Pennsylvania | | 67·9 | 52 | i 10 | 56 | + 2 | i 19 | 52 | + 6 | — | — | — | — |
| Harvard | | 69·5 | 47 | i 11 | 3 _a | - 1 | e 20 | 2 | - 3 | — | — | — | — |
| Palisades | | 69·6 | 49 | e 11 | 2 | - 2 | i 20 | 8 | + 2 | e 11 | 8 | pP | e 33·8 |
| City College | | 69·8 | 49 | e 11 | 4 | - 1 | e 20 | 10 | + 2 | — | — | — | — |
| Fordham | | 69·8 | 49 | e 11 | 4 | - 1 | e 20 | 9 | + 1 | — | — | — | — |
| Philadelphia | | 69·8 | 51 | e 11 | 2 | - 3 | e 20 | 11 | + 3 | e 24 | 15 | SS | e 28·2 |

Continued on next page.

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1954

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|----------------|----|----------|-----|------|-----------------|--------|------|-----|-------|-------|----|----------------|
| | | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Weston | | 69.8 | 47 | i 10 | 59 _a | - 6 | e 20 | 8 | 0 | e 25 | 13 | SS |
| Chapel Hill | | 71.0 | 56 | i 11 | 13 | 0 | | | | e 12 | 15 | ? |
| Halifax | | 71.3 | 40 | e 11 | 9 | - 6 | e 20 | 27 | + 1 | e 24 | 47 | SS |
| Aberdeen | | 71.5 | 359 | i 11 | 14 | - 2 | i 20 | 30 | + 2 | i 14 | 26 | PP |
| Columbia | | 71.5 | 59 | e 11 | 15 | - 1 | e 20 | 25 | - 3 | e 11 | 30 | pP |
| Tacubaya | | 72.0 | 82 | e 11 | 41 | pP | | | | | | |
| Copenhagen | | 72.1 | 350 | i 11 | 19 | 0 | e 20 | 43 | + 8 | 11 | 34 | pP |
| Warsaw | | 74.3 | 344 | e 11 | 34 _a | + 2 | e 21 | 5 | + 5 | e 11 | 49 | PcP |
| Hamburg | | 74.5 | 351 | i 11 | 35 | + 2 | e 11 | 57 | PcP | i 11 | 49 | pP |
| Potsdam | | 75.3 | 349 | e 11 | 38 | 0 | e 21 | 7 | - 4 | e 21 | 57 | PS |
| Rathfarnham C. | z. | 75.4 | 1 | i 11 | 39 | + 1 | e 20 | 31 | - 41 | i 11 | 48 | pP |
| Witteveen | z. | 75.5 | 353 | e 11 | 40 | + 1 | | | | | | |
| De Bilt | | 76.3 | 354 | e 11 | 45 _a | + 1 | e 21 | 29 | + 7 | e 14 | 38 | PP |
| Collmborg | z. | 76.4 | 349 | e 11 | 43 | - 1 | | | | e 12 | 8 | PcP |
| Jena | | 76.9 | 350 | e 11 | 47 | 0 | e 13 | 44 | PP | e 12 | 3 | pP |
| Kew | | 77.2 | 358 | i 11 | 49 | 0 | | | | | | e 48.1 |
| Prague | | 77.4 | 348 | i 11 | 51 | - 1 | e 22 | 1 | ScS | e 11 | 55 | PcP |
| Quetta | z. | 77.5 | 303 | i 11 | 50 _k | 0 | | | | | | e 41.1 |
| Cheb | | 77.6 | 349 | | | | e 22 | 25 | PS | | | e 42.6 |
| Uccle | | 77.6 | 354 | e 11 | 51 | 0 | e 21 | 36 | 0 | e 15 | 26 | PP |
| Iasi | N. | 77.8 | 338 | e 11 | 53 | + 1 | e 22 | 58 | PPS | e 12 | 16 | pP |
| Karlsruhe | z. | 79.1 | 352 | 12 | 1 | + 2 | | | | 12 | 15 | pP |
| Stuttgart | | 79.3 | 351 | e 12 | 0 | 0 | e 21 | 57 | + 3 | e 12 | 4 | PcP |
| Strasbourg | | 79.6 | 352 | e 12 | 2 | 0 | e 22 | 5? | + 8 | e 12 | 20 | pP |
| Paris | | 79.7 | 356 | i 12 | 3 | + 1 | e 22 | 14 | + 16 | i 12 | 18 | pP |
| Basle | | 80.7 | 352 | e 12 | 10 _a | + 2 | | | | | | |
| Bermuda | | 80.9 | 48 | e 12 | 9 | 0 | e 22 | 18 | + 7 | e 27 | 43 | SS |
| Hyderabad | N. | 81.0 | 286 | | | | 22 | 19 | + 7 | | | |
| Neuchatel | | 81.2 | 352 | i 12 | 11 | + 1 | | | | | | |
| Belgrade | | 81.6 | 342 | e 12 | 23 _k | + 11 | e 22 | 39 | + 21 | e 12 | 31 | pP |
| Triest | | 81.8 | 347 | e 12 | 14 | + 1 | e 22 | 29 | + 9 | e 14 | 42 | PP |
| Lembang | z. | 82.1 | 248 | e 12 | 28 | + 13 | | | | | | |
| Salo | | 82.3 | 350 | e 12 | 42? | + 26 | e 22 | 36 | + 11 | e 12 | 56 | sP |
| Pavia | | 82.8 | 350 | e 12 | 19 _a | + 1 | e 23 | 0 | PS | e 23 | 53 | PPS |
| Poona | | 82.8 | 291 | e 12 | 20 | + 2 | | | | | | e 40.6 35.2 |
| Sofia | | 83.0 | 340 | e 12 | 23 | + 3 | e 32 | 39? | ? | e 12 | 37 | pP |
| Istanbul | | 83.2 | 335 | e 12 | 21 | 0 | e 22 | 41 | + 7 | e 15 | 33 | PP |
| Bologna | | 83.3 | 349 | e 12 | 34 | + 13 | | | | | | |
| Florence | | 84.0 | 349 | i 12 | 25 _a | 0 | i 22 | 54 | + 12 | | | |
| Rome | | 85.7 | 348 | i 12 | 35 | + 2 | e 23 | 5 | - 6 | 15 | 53 | PP |
| Ksara | | 87.9 | 328 | e 12 | 45? | + 1 | | | | | | |
| Riverview | | 87.9 | 200 | i 12 | 50 _k | + 6 | i 23 | 16 | - 4 | i 23 | 35 | ScS |
| Colombo | E. | 88.3 | 279 | e 12 | 46 | 0 | | | | | | e 42.7 52.4 |
| Alicante | | 90.3 | 357 | e 12 | 49 | - 6 | 23 | 35 | - 7 | 18 | 27 | PPP |
| Granada | | 91.5 | 0 | e 13 | 0 _a | - 1 | 24 | 8 | + 16 | | | 42.8 46.6 |
| Algiers Univ. | z. | 91.7 | 354 | e 13 | 1 | - 1 | | | | | | |
| Almeria | | 91.8 | 359 | 13 | 5 | + 3 | 24 | 1 | + 6 | 16 | 41 | PP |
| San Juan | | 91.9 | 57 | i 13 | 3 | + 1 | | | | i 13 | 28 | pP |
| Malaga | | 92.0 | 0 | i 13 | 6 | + 3 | 25 | 26 | PS | 18 | 58 | PPP |
| Helwan | | 93.0 | 330 | e 13 | 7 | - 1 | 23 | 39 | [+ 5] | 16 | 54 | PP |
| Chinchina | | 97.5 | 72 | | | | e 24 | 53 | + 9 | | | |
| Bogota | | 98.7 | 71 | e 17 | 1 | PP | e 24 | 10 | [+ 6] | e 24 | 54 | S |
| Tamanrasset | z. | 105.4 | 351 | e 14 | 10 | + 7 | e 18 | 11 | PP | e 17 | 56 | ? |
| La Paz | | 118.9 | 80 | e 18 | 24 | [- 17] | 26 | 58 | SKKS | i 20 | 14 | PP |
| Kimberley | z. | 148.5 | 306 | i 19 | 42 _a | [+ 6] | | | | | | 57.7 |
| Grahamstown | z. | 151.1 | 297 | i 19 | 48 _k | [+ 8] | | | | | | |

Aug. 5d. 12h. 0m. 45s. Epicentre 33°·5N. 138°·4E. Depth of focus 40km.
Intensity II-III at Hatidyojima, Osima, Misima, and Miyakejima.
Seismo. Bull. Cent. Met. Obs., Japan, for Aug., 1954, Tokyo, 1954, pp. 12-14, with macro-seismic chart.

Aug. 5d. 17h. 24m. Epicentre 39°·8N. 24°·7E. Magnitude 4.5. Recorded up to 15°.
Loc. cit., 5d. 3h. 48m., p. 93.

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Aug. 5d. 20h. 39m. 8s. Epicentre 35°·8N. 27°·5E.

Intensity V on Karpathos. Magnitude 5·5.
Seismo. Institute Bulletin for 1954, Athens, 1955, p. 93.

A = +·7211, B = +·3754, C = +·5823; $\delta = -2$; $h = 0$;
D = +·462, E = -·887; G = +·517, H = +·269, K = -·813.

| | | Δ ° | Az. ° | P. | | O-C. s. | S. | | O-C. s. | Supp. | | L. m. | |
|------------------|----|---------------|----------|------|-----------------|----------------|------|-----|------------|-------|-----|----------------|--------|
| | | | | m. | s. | | m. | s. | | m. | s. | | |
| Athens | | 3·7 | 307 | e 1 | 0 | 0 | i 1 | 46 | + 1 | — | — | — | |
| Istanbul | | 5·4 | 12 | e 1 | 26 | + 2 | e 2 | 34 | + 6 | — | — | e 3·0 | |
| Helwan | | 6·7 | 150 | i 1 | 42 _a | 0 | 2 | 56 | - 4 | — | — | — | |
| Ksara | | 7·2 | 104 | e 1 | 50? | + 1 | — | — | — | — | — | — | |
| Safed | | 7·2 | 111 | i 1 | 46 | - 3 | i 3 | 10 | - 3 | — | — | — | |
| Jerusalem | | 7·6 | 120 | i 1 | 57 | + 2 | i 3 | 21 | - 2 | — | — | — | |
| Sofia | | 7·6 | 336 | e 2 | 2 | + 7 | e 4 | 58 | ? | — | — | — | |
| Bucharest | | 8·7 | 353 | e 2 | 57 | P _r | 4 | 13 | - 9* | — | — | — | |
| Taranto | | 9·3 | 303 | e 2 | 17 | 0 | e 3 | 58 | - 7 | — | — | — | |
| Reggio Calabria | E. | 9·8 | 287 | — | — | — | e 4 | 4 | - 13 | — | — | — | |
| Messina | Z. | 9·9 | 288 | e 2 | 24 | - 1 | i 4 | 2 | - 18 | — | — | — | |
| Belgrade | | 10·5 | 331 | e 2 | 40 _a | + 5 | — | — | — | e 3 | 23 | P _r | e 5·6 |
| Szeged | N. | 11·8 | 334 | e 3 | 13 | ? | — | — | — | — | — | — | e 6·1 |
| Rome | | 13·2 | 302 | — | — | — | e 4 | 47 | ? | — | — | — | e 7·0 |
| Triest | | 14·3 | 318 | e 3 | 16 | - 10 | e 6 | 19 | + 13 | e 4 | 4 | PPP | — |
| Florence | | 14·8 | 308 | — | — | — | e 5 | 19 | ? | — | — | — | e 8·2 |
| Pavia | | 16·8 | 310 | — | — | — | e 7 | 44 | SS | — | — | — | e 11·3 |
| Warsaw | | 17·1 | 346 | e 4 | 19 | PP | e 7 | 17 | + 5 | e 7 | 28 | SS | e 9·9 |
| Prague | | 17·2 | 330 | i 4 | 3 | 0 | e 7 | 12 | - 2 | i 4 | 11 | PP | e 8·6 |
| Chur | | 17·4 | 315 | e 4 | 4 | - 2 | — | — | — | — | — | — | — |
| Zürich | | 18·2 | 315 | e 4 | 15 | - 1 | — | — | — | — | — | — | — |
| Stuttgart | | 18·7 | 320 | e 4 | 22 | 0 | e 7 | 52 | + 4 | — | — | — | — |
| Basle | | 18·9 | 314 | e 4 | 29 _k | + 5 | — | — | — | — | — | — | e 9·1 |
| Jena | | 19·0 | 328 | e 4 | 23 | - 3 | — | — | — | e 4 | 39 | PP | — |
| Neuchatel | | 19·0 | 312 | i 4 | 23 | - 3 | — | — | — | — | — | — | — |
| Karlsruhe | | 19·3 | 319 | e 4 | 29 | 0 | — | — | — | — | — | — | 13·9 |
| Strasbourg | | 19·4 | 317 | e 4 | 28 | - 2 | e 8 | 3 | - 1 | e 4 | 42 | PP | 9·9 |
| Potsdam | | 19·5 | 333 | e 4 | 34 | + 3 | e 8 | 12 | + 6 | — | — | — | e 10·9 |
| Algiers Univ. | Z. | 19·7 | 280 | e 4 | 20 | - 14 | e 8 | 19 | + 9 | e 5 | 53 | PPP | — |
| Hamburg | | 21·6 | 331 | e 5 | 6 | + 12 | — | — | — | — | — | — | e 11·7 |
| Alicante | | 22·4 | 285 | e 6 | 47 | ? | 12 | 7 | ? | 8 | 16 | ? | 16·3 |
| Copenhagen | | 22·4 | 337 | e 5 | 7 | + 5 | 9 | 4 | 0 | — | — | — | 12·5 |
| Uccle | | 22·4 | 319 | e 5 | 0 | - 2 | e 9 | 1 | - 3 | e 9 | 20 | SS | e 10·9 |
| Paris | | 22·5 | 313 | e 5 | 2 | 0 | e 8 | 58 | - 7 | i 5 | 26 | PP | — |
| Witteveen | Z. | 22·5 | 326 | e 5 | 14 | + 12 | — | — | — | — | — | — | — |
| Tamanrasset | Z. | 23·1 | 242 | e 5 | 10 | + 2 | e 9 | 20 | + 4 | e 5 | 32 | PP | — |
| Almeria | | 24·1 | 281 | 15 | 26 | + 8 | 9 | 52 | + 18 | 6 | 0 | PP | 13·3 |
| Upsala | | 24·9 | 348 | i 5 | 24 | - 2 | e 11 | 40 | ? | i 5 | 58 | PP | e 12·9 |
| Granada | | 25·0 | 282 | 5 | 30 _k | + 3 | 9 | 55 | + 6 | 6 | 16 | PP | 15·2 |
| Toledo | | 25·2 | 289 | i 5 | 27 _k | - 2 | 9 | 52? | 0 | e 6 | 28 | PP | — |
| Kew | | 25·3 | 317 | e 5 | 29 | - 1 | e 10 | 6 | + 12 | e 13 | 52? | Q | e 16·9 |
| Malaga | | 25·7 | 282 | i 5 | 32 | - 1 | e 10 | 5 | + 4 | — | — | — | — |
| Rathfarnham C. | Z. | 29·4 | 317 | i 6 | 18 _a | + 11 | e 12 | 4 | + 63 | — | — | — | — |
| Kiruna | | 32·3 | 355 | i 6 | 30 | - 3 | — | — | — | — | — | — | e 16·9 |
| Quetta | Z. | 33·4 | 88 | e 6 | 43 | + 1 | — | — | — | — | — | — | — |
| Tananarive | | 57·6 | 157 | e 9 | 57 | + 3 | — | — | — | — | — | — | — |
| Kimberley | Z. | 64·2 | 183 | i 10 | 39 _a | 0 | — | — | — | — | — | — | — |
| Halifax | | 66·7 | 309 | e 10 | 53 | - 2 | — | — | — | — | — | — | — |
| Seven Falls | | 69·8 | 314 | i 11 | 14 _k | 0 | — | — | — | — | — | — | — |
| Shawinigan Falls | | 71·3 | 314 | e 11 | 22 | - 1 | — | — | — | — | — | — | — |
| Weston | | 72·6 | 310 | i 11 | 32 _k | + 1 | — | — | — | — | — | — | — |
| Ottawa | | 73·6 | 314 | e 11 | 35 _a | - 2 | — | — | — | — | — | — | — |
| Kirkland Lake | Z. | 74·4 | 318 | e 11 | 41 | - 1 | — | — | — | — | — | — | — |
| College | | 79·6 | 358 | i 12 | 8 | - 2 | — | — | — | — | — | — | — |
| Hungry Horse | | 89·5 | 336 | i 12 | 59 | - 1 | — | — | — | — | — | — | — |
| Fayetteville | | 90·3 | 316 | i 13 | 5 | + 1 | — | — | — | — | — | — | — |
| Bozeman | | 90·7 | 332 | e 13 | 5 | - 1 | — | — | — | — | — | — | — |
| Butte | N. | 91·0 | 333 | e 13 | 7 | 0 | — | — | — | — | — | — | — |

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Aug. 5d. 23h. 44m. 29s. Epicentre 5°·9S. 146°·7E. (as on 1945, March 28d.).

A = -·8314, B = +·5462, C = -·1021; $\delta = -2$; $h = +7$;
D = +·549, E = +·836; G = +·085, H = -·056, K = -·995.

| | | Δ ° | Az. ° | P. | | O-C. s. | S. | | O-C. s. | Supp. | | L. m. |
|--------------|------|---------------|----------|------|-----------------|------------|------|-----|------------|-------|----|-------------|
| | | | | m. | s. | | m. | s. | | m. | s. | |
| Guam | | 19·4 | 355 | e 4 | 35 | + 5 | — | — | — | — | — | — |
| Brisbane | | 22·3 | 165 | i 4 | 58 | - 3 | e 9 | 26 | +24 | — | — | — |
| Nouméa | | 25·1 | 132 | i 5 | 39 _a | +11 | e 9 | 41 | -10 | i 6 | 8 | PP e 11·8 |
| Riverview | | 28·1 | 172 | i 5 | 56 _a | + 1 | i 10 | 37 | - 3 | i 6 | 8 | PP e 13·4 |
| Melbourne | | 31·9 | 183 | e 9 | 59 | ? | e 11 | 33 | - 7 | — | — | — |
| Manila | | 32·6 | 309 | e 6 | 37 | + 2 | — | — | — | — | — | — |
| Baguio | | 34·0 | 311 | i 6 | 49 | + 1 | i 12 | 19 | + 6 | — | — | — |
| Bandung | | 38·8 | 266 | e 7 | 31 | + 3 | e 13 | 29 | + 3 | e 13 | 57 | ? e 18·0 |
| Lembang | | 38·8 | 266 | i 7 | 30 _a | + 2 | i 13 | 28 | + 2 | — | — | e 16·8 |
| Perth | | 38·8 | 224 | — | — | — | i 13 | 29 | + 3 | i 16 | 33 | SS i 20·5 |
| Djakarta | | 39·6 | 267 | e 7 | 37 _a | + 2 | e 13 | 35 | - 3 | e 9 | 1 | PP — |
| Apia | | 41·6 | 104 | e 7 | 49 | - 2 | — | — | — | — | — | — |
| Hong Kong | E. | 42·4 | 312 | — | — | — | e 14 | 39? | +19 | — | — | — |
| Kaimata | N.E. | 42·6 | 153 | e 8 | 3 | + 4 | — | — | — | — | — | — |
| Matusiro | | 42·9 | 350 | i 8 | 3 _a | + 1 | 14 | 22 | - 5 | — | — | — |
| Zé-Sè | z. | 44·2 | 328 | 8 | 14 _a | + 2 | 14 | 51 | + 5 | — | — | — |
| Mizusawa | | 45·1 | 354 | 8 | 25 | + 5 | e 15 | 1 | + 2 | — | — | — |
| Nanking | | 46·1 | 327 | 8 | 29 _a | + 1 | i 15 | 22 | + 8 | — | — | — |
| Tatung | | 55·1 | 329 | e 9 | 36 | 0 | e 17 | 26 | + 8 | — | — | — |
| Shillong | | 61·7 | 303 | e 9 | 34 | ? | e 18 | 46 | + 2 | — | — | — |
| Quetta | | 84·1 | 301 | e 12 | 33 | - 1 | e 23 | 6 | + 8 | — | — | — |
| College | | 85·2 | 23 | i 12 | 35 | - 4 | — | — | — | — | — | — |
| Victoria | | 94·3 | 42 | 19 | 21 | PPP | — | — | — | — | — | — |
| Tananarive | | 96·7 | 250 | e 13 | 35 | + 2 | — | — | — | — | — | — |
| China Lake | z. | 98·0 | 55 | e 13 | 54 | +15 | — | — | — | e 18 | 7 | PP — |
| Riverside | z. | 98·1 | 57 | e 13 | 40 | 0 | — | — | — | e 17 | 56 | PP — |
| Boulder City | | 100·3 | 55 | i 18 | 44 | PP | — | — | — | — | — | — |
| Nelson | z. | 100·3 | 55 | e 13 | 36 | -14 | e 17 | 45 | PP | e 19 | 29 | PPP — |
| Hungry Horse | | 100·5 | 42 | e 13 | 48 | - 3 | e 18 | 12 | PP | e 14 | 5 | pP — |
| Butte | N. | 101·6 | 44 | e 18 | 4 | PP | e 24 | 14 | [-21] | e 27 | 22 | PS e 42·2 |
| Bozeman | | 102·7 | 45 | e 13 | 59 | - 1 | — | — | — | — | — | — |
| Resolute Bay | | 102·9 | 14 | — | — | — | e 27 | 14 | PS | — | — | e 53·0 |
| Tucson | | 103·6 | 58 | e 18 | 15 | PP | — | — | — | — | — | e 47·8 |
| Kiruna | | 108·5 | 341 | i 18 | 31 | [+ 1] | e 28 | 26 | PS | e 18 | 56 | PP e 49·5 |
| Ksara | | 110·5 | 304 | e 19 | 14 | PP | — | — | — | — | — | — |
| Kimberley | z. | 114·4 | 235 | i 18 | 44 _a | [+ 2] | — | — | — | — | — | — |
| Warsaw | | 115·9 | 326 | — | — | — | e 29 | 45 | PS | — | — | e 58·5 |
| Fayetteville | | 116·8 | 52 | e 18 | 53 | [+ 6] | e 29 | 18 | PS | — | — | — |
| Potsdam | | 120·1 | 329 | e 20 | 24 | PP | e 30 | 19 | PS | — | — | e 53·5 |
| Prague | N. | 120·6 | 326 | e 20 | 51 | PP | e 21 | 54 | ? | e 25 | 4 | ? — |
| Collmberg | z. | 120·7 | 328 | e 18 | 54 | [0] | e 29 | 0 | PS | — | — | — |
| Jena | z. | 121·6 | 328 | e 18 | 58? | [+ 2] | 20 | 49 | PP | e 23 | 7 | PPP — |
| Triest | | 123·2 | 322 | e 23 | 2 | PPP | e 33 | 7 | ? | e 23 | 50 | ? — |
| De Bilt | | 124·1 | 332 | e 20 | 49 | PP | e 30 | 49 | PS | e 23 | 43 | PPP e 60·5 |
| Stuttgart | | 124·2 | 327 | e 18 | 59 | [- 2] | e 31 | 1 | PS | e 20 | 52 | PP — |
| Strasbourg | | 125·0 | 328 | e 20 | 55 | PP | e 22 | 46 | SKP | e 31 | 1 | PS e 51·5 |
| Uccle | | 125·3 | 332 | e 21 | 16 | PP | e 33 | 32 | ? | e 42 | 31 | SSS e 59·5 |
| Messina | N. | 125·3 | 313 | — | — | — | e 38 | 8 | SS | — | — | — |
| Rome | | 125·8 | 319 | — | — | — | e 29 | 19 | ? | — | — | e 64·6 |
| Ottawa | | 126·1 | 36 | e 19 | 2 | [- 2] | — | — | — | e 21 | 2 | PP — |
| Pavia | | 126·2 | 324 | — | — | — | e 44 | 18 | SSS | — | — | e 76·0 |
| Paris | | 127·6 | 331 | e 19 | 9 | [+ 2] | e 33 | 15 | PPS | e 19 | 31 | pPKP e 52·5 |
| Columbia | | 127·8 | 51 | e 19 | 10 | [+ 2] | e 28 | 17 | (+11) | e 21 | 44 | PP e 61·7 |
| Palisades | | 129·6 | 40 | e 21 | 15 | PP | e 33 | 19 | PPS | e 39 | 42 | SSP e 61·1 |
| Montezuma | z. | 135·2 | 130 | e 19 | 15 | [- 7] | i 21 | 55 | PP | — | — | — |
| Chinchina | | 137·9 | 89 | e 19 | 28 | [+ 1] | e 23 | 3 | PP | — | — | — |
| Tamanrasset | z. | 139·0 | 298 | e 19 | 34 | [+ 5] | e 22 | 26 | PP | e 20 | 6 | pPKP — |
| La Paz | | 139·0 | 123 | i 19 | 32 | [+ 3] | 23 | 8 | PKS | i 19 | 51 | pPKP 67·5 |
| Bogota | | 139·4 | 90 | e 19 | 52 | [+23] | e 24 | 8 | ? | — | — | — |
| Malaga | | 139·5 | 323 | e 19 | 33 | [+ 3] | 28 | 51 | (-27) | i 22 | 37 | PP 64·5 |
| San Juan | | 145·7 | 66 | i 19 | 39 | [- 1] | i 20 | 14 | ? | i 19 | 58 | PKP, — |

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Aug. 6d. 2h. 54m. Epicentre 36°·9N. 71°·3E. Depth of focus 170km.
Widely recorded in the U.S.S.R. as well as at some stations in Europe, and College in Alaska.
Bulletin of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, pp. 75-76.

Aug. 6d. 11h. 33m. Epicentre 36°·75N. 23°·25E. Depth 100km.
Poorly recorded up to 90°.
Intensity V at Kythera; IV at Milos, Kalamae, and Athens. Magnitude 5·25 (Athens).
Loc. cit., 5d. 3h. 48m., p. 93.

Aug. 6d. 12h. 2m. Epicentre 42°·1N. 142°·7E. Depth of focus 40km.
Intensity IV at Urakawa; II-III at Tomakomai.
Seismo. Bull. Cent. Met. Obs., Japan, for August, 1954, Tokyo, 1954, p. 14, with macro-seismic chart.

Aug. 6d. 16h. 1m. Epicentre 39°·75N. 25°E. Poorly recorded up to 86°.
Intensity III at Lemnos; felt also at Canakkale (according to Istanbul).
Loc. cit., 5d. 3h. 48m., p. 94.

Aug. 6d. 16h. 19m. 47s. Epicentre 1°·0S. 23°·5W.

$$A = +\cdot9169, B = -\cdot3987, C = -\cdot0173; \quad \delta = -3; \quad h = +7;$$

$$D = -\cdot399, E = -\cdot917; \quad G = -\cdot016, H = +\cdot007, K = -1\cdot000.$$

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|----------------|----|----------|-----|---------------------|------|---------|------|-----------|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| M'Bour | | 16·7 | 23 | i 3 51 | - 6 | e 7 15 | +12 | — | — |
| Tamanrasset | z. | 36·9 | 48 | i 7 13 | + 1 | e 13 1 | + 3 | e 8 37 | PP |
| Averroes | | 37·4 | 22 | e 7 17 | + 1 | — | — | e 8 43 | PP |
| Malaga | | 41·6 | 23 | i 8 0 | + 9 | i 14 13 | + 5 | 9 54 | PcP |
| Granada | | 42·3 | 24 | i 8 6k | + 9 | i 14 31 | +12 | 8 18 | pP |
| Almeria | | 42·5 | 25 | i 8 14 | +15 | i 14 38 | +16 | 9 54 | PcP |
| Toledo | | 44·5 | 22 | e 8 14 | - 1 | i 14 56 | + 5 | e 10 6 | PP |
| Alicante | | 44·6 | 26 | e 8 17 | + 1 | i 14 53 | + 1 | 10 2 | PP |
| Algiers Univ. | z. | 45·0 | 30 | e 8 20 | + 1 | e 14 59 | + 1 | e 10 5 | PP |
| San Juan | | 46·1 | 297 | i 8 29 | + 1 | — | — | — | — |
| La Paz | | 46·5 | 248 | e 8 31 | 0 | i 15 20 | - 1 | i 19 13 | ? |
| Montezuma | z. | 48·9 | 241 | e 8 48 | - 2 | — | — | — | — |
| Bogota | | 50·8 | 277 | i 9 8 | + 4 | e 16 22 | + 2 | e 16 59 | PPS |
| Bermuda | | 51·1 | 314 | e 9 16 | +10 | e 16 30 | + 6 | (e 21 40) | SSS |
| Lwiro | | 52·3 | 92 | e 9 15 | 0 | — | — | — | — |
| Chinchina | | 52·4 | 277 | e 9 17 | + 1 | e 16 41 | - 1 | — | — |
| Huancayo | | 52·5 | 256 | e 9 20 | + 3 | e 16 49 | + 6 | e 20 43 | SS |
| Messina | | 53·1 | 38 | 9 27 | + 6 | 17 3 | +12 | 20 50 | SS |
| Kimberley | z. | 53·7 | 126 | i 9 24k | - 2 | — | — | — | — |
| Rome | | 53·8 | 33 | e 9 25 | - 1 | i 17 1 | 0 | e 20 31 | SS |
| Florence | | 54·4 | 30 | e 9 29 | - 2 | e 17 16 | + 7 | e 21 2 | SS |
| Pavia | | 54·4 | 28 | e 9 42 | +11 | — | — | — | e 27·4 |
| Paris | | 54·5 | 21 | e 9 33 | + 1 | e 17 13 | + 3 | e 11 43 | PP |
| Padova | | 55·2 | 30 | e 9 43 | + 6 | — | — | — | e 26·2 |
| Salo | | 55·4 | 28 | e 9 42 | + 4 | e 17 20 | - 2 | e 12 36 | PPP |
| Basle | | 55·5 | 25 | e 9 42 _a | + 3 | e 17 28 | + 4 | — | — |
| Pretoria | z. | 55·5 | 121 | i 9 38 _a | - 1 | — | — | — | — |
| Taranto | | 55·5 | 37 | e 14 1 | ? | — | — | — | 30·0 |
| Zürich | | 55·8 | 26 | e 9 40 | - 1 | e 17 26 | - 2 | — | — |
| Kew | | 55·9 | 17 | i 9 42 | 0 | e 17 33 | + 4 | — | e 35·2 |
| Rathfarnham C. | z. | 56·0 | 12 | i 9 44 | + 1 | e 9 56 | ? | i 12 0 | PP |
| Strasbourg | | 56·4 | 24 | e 9 45 | 0 | e 17 40 | + 4 | e 11 55 | PP |
| Grahamstown | z. | 56·8 | 130 | i 10 17 | +29 | — | — | — | — |
| Uccle | | 56·9 | 21 | e 9 48 | - 1 | e 17 44 | + 2 | e 19 48 | ScS |
| Karlsruhe | z. | 57·0 | 25 | e 9 49 | - 1 | — | — | — | — |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | l. | |
|--------------------|----|--------------|--------------|----------|-------|---------------|------|---------|------|--------|
| | | ^c | ^o | m. s. | s. | m. s. | s. | m. s. | m. | |
| Triest | | 57.0 | 30 | e 9 50 | 0 | i 17 43 | 0 | e 19 29 | ScS | e 24.5 |
| Stuttgart | | 57.1 | 25 | e 9 49 | - 1 | e 17 43 | - 2 | e 11 54 | PP | e 30.2 |
| Halifax | | 57.7 | 327 | e 9 54 | - 1 | e 17 53 | 0 | e 23 58 | SSS | — |
| De Bilt | | 58.2 | 20 | e 10 10 | +12 | e 18 5 | + 6 | — | — | e 26.2 |
| Pietermartizburg | z. | 58.6 | 124 | i 10 1a | 0 | — | — | — | — | — |
| Witteveen | z. | 59.3 | 21 | e 10 6 | 0 | — | — | — | — | — |
| Jena | | 59.8 | 25 | e 10 7 | - 2 | e 18 18 | - 2 | e 12 21 | PP | — |
| Belgrade | | 60.0 | 35 | e 10 10a | - 1 | e 18 27 | + 4 | e 13 48 | PPP | 35.8 |
| Prague | | 60.4 | 27 | i 10 15 | + 2 | e 18 29 | + 1 | i 10 56 | PcP | — |
| Sofia | | 60.5 | 38 | e 10 13? | - 1 | e 18 34 | + 5 | — | — | — |
| Collmberg | | 60.6 | 25 | e 10 14 | - 1 | e 18 32 | + 2 | — | — | — |
| Helwan | | 60.6 | 55 | 10 13 | - 2 | 18 31 | + 1 | e 10 34 | ? | — |
| Weston | | 61.0 | 321 | i 10 18a | 0 | e 18 38 | + 3 | — | — | e 29.1 |
| Hamburg | z. | 61.1 | 22 | e 10 19 | + 1 | — | — | e 11 6 | PcP | — |
| Harvard | | 61.2 | 321 | i 10 17 | - 2 | — | — | — | — | e 28.7 |
| Potsdam | | 61.5 | 25 | e 10 21 | 0 | i 18 45 | + 3 | e 22 31 | SS | e 29.2 |
| City College, N.Y. | | 61.9 | 318 | e 10 25 | + 1 | i 18 53 | + 6 | — | — | — |
| Palisades | | 61.9 | 319 | e 10 24 | 0 | e 18 51 | + 4 | e 20 17 | ScS | — |
| Philadelphia | | 62.3 | 317 | e 10 23 | - 3 | e 18 51 | - 1 | e 20 19 | ScS | e 26.5 |
| Washington | z. | 63.1 | 315 | i 10 33 | + 1 | — | — | — | — | — |
| Seven Falls | | 63.2 | 326 | e 10 38 | + 6 | 19 14 | +11 | — | — | — |
| Istanbul | | 63.4 | 42 | e 10 32 | - 2 | e 19 4 | - 2 | — | — | — |
| Copenhagen | | 63.7 | 22 | e 10 38 | + 2 | i 19 8 | - 2 | 23 19 | SS | 31.2 |
| Columbia | | 64.1 | 309 | e 10 40 | + 2 | — | — | — | — | — |
| Shawinigan Falls | | 64.1 | 324 | e 10 38 | 0 | — | — | — | — | — |
| Jerusalem | | 64.4 | 54 | i 10 41 | + 1 | — | — | — | — | — |
| Safed | | 65.0 | 53 | i 10 41 | - 3 | — | — | — | — | — |
| Ottawa | | 65.2 | 322 | e 10 44 | - 1 | 19 33 | + 5 | 20 41 | ScS | — |
| Ksara | | 65.6 | 52 | 10 48 | 0 | 19 41 | + 8 | — | — | — |
| Buffalo (Larkin) | | 65.9 | 319 | i 10 46 | - 4 | — | — | — | — | — |
| Cleveland | | 67.3 | 316 | i 11 0a | + 1 | e 19 56 | + 2 | e 20 49 | ScS | — |
| Cincinnati | | 68.5 | 313 | 11 5 | - 1 | — | — | — | — | — |
| Upsala | z. | 68.6 | 21 | i 11 6 | - 1 | — | — | i 11 22 | PcP | — |
| Kirkland Lake | z. | 69.2 | 323 | e 11 10 | 0 | — | — | — | — | — |
| Scoresby Sund | | 71.4 | 1 | i 11 25 | + 1 | e 20 47 | + 5 | e 21 40 | PPS | 33.2 |
| Tananarive | | 71.8 | 110 | i 11 29 | + 3 | — | — | e 11 33 | ? | — |
| Fayetteville | | 75.1 | 308 | i 11 44 | - 2 | e 21 23 | - 1 | e 12 9 | ? | — |
| Kiruna | | 75.2 | 16 | i 11 45 | - 1 | i 21 27 | + 2 | e 22 8 | PS | e 33.2 |
| Dallas | | 76.5 | 304 | i 11 52 | - 2 | — | — | — | — | — |
| Boulder | | 84.4 | 310 | e 11 57 | -39 | — | — | — | — | — |
| Resolute Bay | | 86.1 | 345 | e 12 45a | + 1 | e 23 3 [- 5] | — | — | — | e 42.3 |
| Tucson | | 88.3 | 302 | e 12 54 | - 1 | — | — | e 17 28 | ? | e 45.4 |
| Salt Lake City | | 89.4 | 311 | i 13 1 | + 1 | — | — | e 13 38 | ? | — |
| Butte | n. | 90.1 | 316 | e 13 6 | + 3 | e 23 33 [- 0] | — | i 24 0 | S | e 39.3 |
| Quetta | z. | 90.9 | 60 | e 13 8 | + 1 | — | — | — | — | — |
| Hungry Horse | | 91.1 | 318 | i 13 7 | - 1 | — | — | e 18 28 | PPP | — |
| Boulder City | | 91.7 | 306 | e 13 7 | - 3 | — | — | — | — | — |
| Nelson | z. | 91.7 | 306 | i 13 10 | 0 | — | — | e 17 8 | PP | — |
| Palomar | z. | 93.4 | 303 | e 13 20 | + 2 | — | — | — | — | — |
| Riverside | z. | 93.8 | 304 | e 13 18 | - 2 | — | — | — | — | — |
| China Lake | z. | 93.9 | 306 | e 13 21 | 0 | — | — | — | — | — |
| Lembang | z. | 130.6 | 100 | e 19 15a | [+ 2] | i 22 45 | PKS | — | — | — |
| Mizusawa | n. | 139.6 | 18 | — | — | 33 50 | PPS | — | — | — |
| Matusiro | | 140.8 | 24 | 19 31 | [- 1] | — | — | 22 22 | PP | — |
| Riverview | z. | 145.0 | 172 | i 19 39a | [0] | — | — | i 19 42 | PKP, | — |
| Apia | | 145.2 | 244 | e 19 37 | [- 3] | — | — | — | — | — |

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Aug. 6d. 19h. 21m. 13s. Epicentre 40°·6N. 16°·0E.

Intensity V-VI at Cancellara; IV at Avigliano and Canosa di Puglia; III at Valva; II at Materdomini and Laviano.

M. de Panflis.

Attivita sismica in Italia dal 1953 al 1957, Annali di geofisica, rivista dell' istituto nazionale di geofisica, Roma, Vol. XII, No. 1, gen.-mar., 1959, p. 44-45.

A = +·7320, B = +·2099, C = +·6482; $\delta = +5$; $h = -2$;
D = +·276, E = -·961; G = +·623, H = +·179, K = -·761.

| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|-----------------|----------|------|------|-----------------|------------------|------|------|------------------|------------------|------|----------------|-----|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Taranto | 0·9 | 99 | i 0 | 19 | - 1 | i 0 | 44 | ? | — | — | e 0·8 | |
| Messina | 2·4 | 189 | i 0 | 44 ^a | 0* | i 1 | 12 | 0 | — | — | — | |
| Reggio Calabria | 2·5 | 187 | i 0 | 46 | + 1* | i 1 | 13 | - 1 | — | — | i 1·5 | |
| Rome | 2·9 | 297 | e 0 | 51 | - 1* | i 1 | 41 | + 5 _g | e 0 | 57 | P _g | |
| Florence | 4·8 | 313 | e 1 | 14 | - 1 | e 2 | 22 | - 4* | — | — | — | |
| Padova | 4·9 | 323 | — | — | — | e 1 | 55 | -20 | — | — | e 3·0 | |
| Prato | 4·9 | 313 | e 1 | 23 | - 4* | e 2 | 31 | + 2* | — | — | — | |
| Bologna | 5·2 | 320 | e 1 | 22 | + 1 | e 1 | 58 | -24 | — | — | e 3·4 | |
| Belgrade | 5·3 | 36 | e 1 | 24 ^k | + 2 | e 2 | 16 | - 9 | e 1 | 48 | P _g | |
| Triest | 5·3 | 342 | e 1 | 23 | - 1 | e 2 | 19 | - 6 | e 2 | 43 | S* | |
| Sofia | 5·8 | 67 | e 1 | 30 | + 1 | 2 | 45 | + 7 | e 1 | 57 | P _g | |
| Kalossa | 6·3 | 19 | 2 | 6 | 0 _g | 3 | 20 | - 8 _g | — | — | e 3·7 | |
| Salo | 6·4 | 323 | e 1 | 39 | + 1 | e 3 | 9 | - 5* | e 2 | 34 | ? | |
| Szeged | 6·4 | 26 | e 2 | 5 | - 3 _g | e 3 | 10 | - 4* | 2 | 42 | S | |
| Timisoara | N. | 6·4 | 35 | e 1 | 42 | + 4 | e 3 | 16 | + 2* | — | — | |
| Athens | 6·5 | 112 | e 1 | 42 ^a | + 3 | i 3 | 45 | +10 _g | i 1 | 54 | P* | |
| Pavia | 6·8 | 314 | e 2 | 17 | + 1 _g | e 3 | 29 | + 3* | — | — | e 4·3 | |
| Budapest | 7·2 | 17 | e 2 | 11 | + 5* | e 3 | 15 | + 2 | 3 | 47 | S _g | |
| Ogyalla | 7·4 | 11 | e 2 | 15 | + 6* | e 3 | 13 | - 5 | i 3 | 40 | S* | |
| Vienna | 7·6 | 2 | e 1 | 59 | + 4 | e 3 | 22 | - 1 | i 2 | 34 | P _g | |
| Oropa | 7·7 | 313 | — | — | — | e 2 | 53 | -32 | e 3 | 57 | S* | |
| Chur | 7·8 | 325 | e 1 | 54 | - 4 | e 3 | 2 | -26 | — | — | e 6·1 | |
| Bucharest | 8·3 | 60 | e 2 | 21 | P* | e 3 | 37 | - 3 | e 2 | 27 | ? | |
| Zürich | 8·6 | 324 | e 2 | 0 | - 9 | e 3 | 36 | -12 | — | — | — | |
| Basle | 9·2 | 321 | e 2 | 23 | + 7 | e 3 | 47 | -16 | e 4 | 54 | S _g | |
| Neuchatel | 9·2 | 317 | e 2 | 17 | + 1 | — | — | — | — | — | e 6·0 | |
| Prague | 9·5 | 354 | e 2 | 25 | + 5 | i 4 | 15 | + 5 | i 4 | 45 | S* | |
| Stuttgart | 9·5 | 331 | e 2 | 15 | - 5 | e 4 | 36 | -10* | e 2 | 33 | P* | |
| Raciborzu | 9·6 | 8 | e 2 | 41 | P* | — | — | — | — | — | e 5·6 | |
| Istanbul | 9·9 | 83 | e 2 | 28 | + 3 | e 4 | 16 | - 4 | — | — | e 5·2 | |
| Strasbourg | 9·9 | 326 | e 2 | 27 | + 2 | e 4 | 54 | - 4* | e 2 | 49 | P* | |
| Karlsruhe | Z. | 10·0 | 330 | 2 | 47 | P* | — | — | — | — | — | |
| Iasi | 10·6 | 48 | e 2 | 36 | 0 | — | — | — | — | — | — | |
| Algiers Univ. | Z. | 10·8 | 253 | e 2 | 36 | - 3 | — | — | e 2 | 55 | PPP | |
| Jena | 10·8 | 345 | e 2 | 36 | - 3 | e 5 | 4 | SS | e 2 | 44 | PP | |
| Collmberg | Z. | 10·9 | 350 | e 2 | 37 | - 3 | e 4 | 58 | SS | e 2 | 54 | PPP |
| Potsdam | 11·9 | 351 | — | — | — | e 5 | 17 | + 8 | — | — | e 6·2 | |
| Warsaw | N. | 12·1 | 15 | e 3 | 4 | PP | e 5 | 37 | SSS | e 3 | 29 | ? |
| Paris | 12·6 | 315 | e 3 | 6 | + 3 | e 3 | 14 | PP | e 3 | 25 | PPP | |
| Uccle | 13·0 | 325 | e 2 | 14 | -55 | — | — | — | — | — | e 6·8 | |
| Hamburg | 13·6 | 344 | e 3 | 19? | + 2 | — | — | — | — | — | 7·3 | |
| Granada | 15·7 | 264 | i 3 | 43 ^k | - 1 | 6 | 34 | - 5 | — | — | 8·2 | |
| Malaga | 16·4 | 263 | e 4 | 10 | PP | — | — | — | — | — | 8·8 | |
| Helwan | 16·4 | 126 | e 3 | 46 | - 7 | 6 | 43 | -13 | 4 | 8 | PP | |
| Jerusalem | 17·8 | 114 | e 4 | 9 | - 2 | — | — | — | — | — | — | |
| Upsala | 19·3 | 2 | e 4 | 25 | - 4 | e 12 | 23 | P _c S | — | — | e 10·5 | |
| Rathfarnham C. | Z. | 19·7 | 318 | i 7 | 36? | ? | i 7 | 49? | -21 | — | — | |
| Tamanrasset | Z. | 19·9 | 210 | i 4 | 34 ^a | - 2 | e 8 | 26 | +11 | e 4 | 55 | PP |
| Kiruna | 27·4 | 4 | i 5 | 48 | - 1 | e 10 | 31 | + 3 | — | — | e 14·4 | |
| Seven Falls | 59·8 | 308 | e 10 | 3 | - 6 | — | — | — | — | — | — | |
| Ottawa | 63·6 | 308 | e 10 | 28 | - 7 | — | — | — | — | — | — | |
| Hungry Horse | 81·0 | 329 | i 12 | 14 | - 4 | — | — | — | — | — | — | |
| Bozeman | 81·9 | 326 | e 12 | 18 | - 5 | — | — | — | — | — | — | |
| Butte | N. | 82·3 | 327 | e 12 | 23 | - 2 | — | — | — | — | — | |
| Boulder | 83·6 | 319 | e 12 | 26 | - 5 | — | — | — | — | — | — | |
| Nelson | Z. | 91·6 | 322 | i 13 | 8 | - 2 | i 13 | 14 | P _c P | e 13 | 49 | ? |

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1954

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Aug. 6d. 21h. 36m. Epicentre 24°·3N. 122°·3E.

Seismo. Bulletin of the Taiwan Weather Bureau for July-Sept., 1954, Vol. 1, No. 3, Taipei, 1954, p. 19.

Aug. 7d. 9h. 37m. 29s. Epicentre 19°·7S. 68°·4W.

A = +·3468, B = -·8760, C = -·3351; $\delta = -6$; $h = +5$;
D = -·930, E = -·368; G = -·123, H = +·312, K = -·942.

| | | Δ ° | Az. ° | P. | | O - C. s. | S. | | O - C. s. | Supp. | | L. m. |
|------------------|----|---------------|----------|------|-----|--------------|---------|-----|--------------|-------|----|----------|
| | | | | m. | s. | | m. | s. | | m. | s. | |
| Montezuma | z. | 2·9 | 188 | i 0 | 50 | + 3 | — | — | — | — | — | — |
| La Paz | | 3·2 | 5 | i 0 | 50 | - 1 | i 1 | 28 | - 2 | i 0 | 57 | PP |
| Antofagasta | N. | 4·4 | 205 | i 1 | 5 | - 1 | e 1 | 54 | - 4 | i 1 | 39 | ? |
| Copiapo | E. | 7·8 | 193 | 1 | 48 | - 4 | 3 | 12 | - 7 | 3 | 1 | ? |
| Huancayo | | 10·1 | 318 | e 2 | 19 | - 3 | e 4 | 2 | -11 | — | — | — |
| Santa Lucia | N. | 13·8 | 188 | e 3 | 8 | - 2 | e 5 | 35 | - 4 | 5 | 55 | SS |
| Concepción | N. | 17·4 | 190 | e 3 | 52 | - 2 | e 7 | 11 | +10 | e 4 | 36 | PPP |
| La Plata | | 17·8 | 151 | i 3 | 58 | - 1 | i 7 | 23 | +14 | — | — | 10·1 |
| Bogota | | 24·8 | 346 | i 5 | 10 | + 2 | i 9 | 18 | + 1 | i 6 | 3 | pP |
| Chinchina | | 25·5 | 343 | e 5 | 15 | 0 | e 9 | 30 | + 2 | e 5 | 47 | pP |
| Galerazamba | | 31·0 | 347 | — | — | — | i 14 | 31 | ? | i 12 | 30 | sS |
| Trinidad | | 31·0 | 13 | e 3 | 56 | -128 | — | — | — | — | — | — |
| Fort de France | | 35·0 | 12 | e 6 | 33 | - 6 | — | — | — | — | — | — |
| San Juan | | 37·9 | 4 | i 6 | 59 | - 4 | e 12 | 34 | - 8 | e 9 | 5 | PcP |
| Tacubaya | | 49·2 | 320 | e 9 | 5 | pP | — | — | — | — | — | — |
| Columbia | | 54·7 | 347 | e 9 | 14 | - 1 | e 17 | 42 | sS | e 9 | 50 | pP |
| Dallas | | 58·9 | 332 | e 9 | 43 | - 1 | e 17 | 36 | 0 | i 10 | 18 | pP |
| Cincinnati | | 60·4 | 346 | i 9 | 55 | 0 | — | — | — | i 10 | 30 | pP |
| Fayetteville | | 60·6 | 336 | i 9 | 54 | - 2 | e 18 | 55 | sS | i 10 | 32 | pP |
| Palisades | | 60·6 | 355 | e 10 | 31 | pP | e 18 | 53 | sS | e 20 | 36 | ? |
| Weston | | 61·8 | 358 | i 10 | 3k | - 1 | — | — | — | i 10 | 41 | pP |
| Harvard | | 62·0 | 357 | i 10 | 3 | - 2 | — | — | — | i 10 | 46 | pP |
| Cleveland | | 62·1 | 349 | i 10 | 5 | - 1 | e 19 | 15 | PPS | i 10 | 42 | pP |
| Buffalo (Larkin) | | 63·0 | 352 | i 10 | 10 | - 2 | — | — | — | 10 | 45 | pP |
| Halifax | | 64·1 | 4 | e 10 | 18 | - 1 | — | — | — | 10 | 56 | pP |
| Ottawa | | 65·1 | 354 | e 10 | 23k | - 3 | 19 | 57 | ScS | 11 | 1 | pP |
| Tucson | | 65·7 | 321 | e 10 | 29 | - 1 | — | — | — | i 11 | 5 | pP |
| Shawinigan Falls | | 66·1 | 357 | e 10 | 32 | 0 | — | — | — | 11 | 9 | pP |
| Seven Falls | | 66·5 | 358 | e 10 | 33k | - 1 | — | — | — | 11 | 11 | pP |
| Kirkland Lake | z. | 68·3 | 352 | e 10 | 44 | - 2 | — | — | — | e 11 | 23 | pP |
| Boulder | | 68·7 | 330 | i 10 | 47 | - 1 | — | — | — | — | — | — |
| Barratt | z. | 69·6 | 318 | i 10 | 54k | 0 | i 11 | 47 | sP | i 11 | 30 | pP |
| Palomar | z. | 70·2 | 318 | i 10 | 59 | + 2 | — | — | — | e 11 | 35 | pP |
| Nelson | z. | 70·5 | 321 | i 11 | 0 | + 1 | i 11 | 54 | sP | i 11 | 35 | pP |
| Boulder City | | 70·7 | 322 | i 11 | 1 | + 1 | e 14 | 12 | PP | e 11 | 38 | pP |
| Riverside | z. | 70·9 | 318 | i 11 | 2k | 0 | — | — | — | i 11 | 38 | pP |
| Pasadena | z. | 71·5 | 318 | i 11 | 5k | 0 | — | — | — | i 11 | 41 | pP |
| China Lake | z. | 72·2 | 320 | i 11 | 10k | + 1 | — | — | — | i 11 | 45 | pP |
| Salt Lake City | | 72·4 | 327 | i 11 | 12 | + 2 | — | — | — | e 11 | 46 | pP |
| Woody | z. | 72·9 | 319 | i 11 | 14 | + 1 | — | — | — | i 11 | 51 | pP |
| Tinemaha | z. | 73·4 | 320 | i 11 | 18k | + 2 | — | — | — | i 11 | 55 | pP |
| Fresno | z. | 74·2 | 319 | e 11 | 21 | 0 | — | — | — | e 11 | 57 | pP |
| Bozeman | | 75·7 | 331 | e 11 | 30 | + 1 | e 12 | 15 | sP | e 12 | 6 | pP |
| Lick | z. | 75·7 | 319 | i 11 | 30k | + 1 | — | — | — | i 12 | 7 | pP |
| Reno | z. | 76·0 | 321 | e 11 | 33k | + 2 | i 12 | 28 | sP | e 12 | 9 | pP |
| Berkeley | z. | 76·4 | 319 | 12 | 11a | pP | — | — | — | — | — | — |
| Butte | N. | 76·7 | 330 | e 11 | 36 | + 1 | — | — | — | e 12 | 12 | pP |
| Shasta | z. | 78·3 | 321 | i 11 | 43a | - 1 | — | — | — | i 12 | 20 | pP |
| Hungry Horse | | 79·1 | 331 | i 11 | 48 | 0 | — | — | — | i 12 | 26 | pP |
| Malaga | | 82·4 | 47 | i 12 | 7 | + 2 | (22 41) | +35 | — | — | — | e 22·7 |
| Seattle | | 82·6 | 327 | i 12 | 8 | + 2 | e 23 | 29 | PS | i 12 | 46 | pP |
| Granada | | 83·2 | 47 | i 12 | 52a | pP | e 21 | 58 | -16 | — | — | — |
| Kimberley | z. | 83·4 | 118 | i 12 | 10a | 0 | — | — | — | — | — | — |
| Tamanrasset | z. | 83·6 | 63 | e 12 | 13 | + 2 | e 15 | 28 | PP | e 12 | 52 | pP |
| Victoria | | 83·7 | 327 | 12 | 13 | + 1 | — | — | — | — | — | — |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|---------------|----|------------|------------|----------|------|---------|------|---------|----|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Pretoria | z. | 87.3 | 116 | i 12 32 | + 2 | — | — | — | — |
| Algiers Univ. | z. | 87.6 | 50 | e 12 28 | - 3 | e 13 23 | sP | e 13 10 | pP |
| Resolute Bay | | 95.7 | 353 | — | — | e 25 11 | +62 | — | — |
| Stuttgart | | 96.7 | 41 | e 13 11? | - 2 | — | — | e 13 52 | pP |
| Kiruna | z. | 107.6 | 24 | i 16 50 | ? | — | — | — | — |
| Riverview | z. | 114.8 | 216 | i 20 13 | ? | — | — | — | — |
| Lembang | z. | 153.4 | 171 | i 20 3k | pPKP | — | — | — | — |

Aug. 7d. 15h. 13m. 44s. Epicentre 36°·4N. 70°·7E. Depth of focus 0·025.

A = +·2667, B = +·7615, C = +·5908; δ = +6; h = 0;
D = +·944, E = -·331; G = +·195, H = +·558, K = -·807.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----|------------|------------|---------------------|------|---------|------|---------|----------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Khorog | | 1.3 | 34 | i 0 34 | + 3 | i 0 58 | + 2 | — | — |
| Kulyab | | 1.6 | 333 | i 0 37 | + 3 | i 1 3 | + 2 | — | — |
| Obi-garm | | 2.4 | 342 | i 0 43 | 0 | i 1 14 | - 2 | — | — |
| Garm | | 2.6 | 353 | i 0 45 | 0 | i 1 17 | - 3 | — | — |
| Dzhergetal | | 2.8 | 9 | i 0 49 | + 2 | e 1 24 | 0 | — | — |
| Murgab | | 3.2 | 52 | i 0 55 | + 3 | e 1 34 | + 1 | — | — |
| Fergana | | 4.0 | 12 | i 1 3 | + 1 | i 1 49 | - 1 | — | — |
| Samarkand | | 4.3 | 319 | i 1 6 | 0 | 1 53 | - 4 | — | — |
| Andijan | | 4.5 | 17 | i 1 8 | - 1 | i 2 0 | - 2 | — | — |
| Namangan | | 4.6 | 9 | i 1 11 | + 1 | i 2 4 | 0 | — | — |
| Tashkent | | 5.0 | 348 | i 1 16 | + 1 | i 2 10 | - 3 | — | — |
| Tchimkent | | 5.9 | 352 | i 1 27 | 0 | 2 30 | - 4 | — | — |
| Naryn | | 6.5 | 38 | i 1 33 | - 2 | — | — | — | — |
| Bairam-Ali | | 6.9 | 282 | i 1 38 | - 2 | i 2 52 | - 5 | — | — |
| Quetta | | 7.0 | 208 | i 1 41 | 0 | i 2 58 | - 2 | i 1 56 | PP e 4.0 |
| Frunse | | 7.1 | 24 | i 1 43 | + 1 | e 3 1 | - 1 | — | — |
| Almata | | 8.4 | 33 | i 1 59 | 0 | i 3 31 | - 2 | — | — |
| Przhevalsk | | 8.5 | 42 | 2 0 | - 1 | — | — | — | — |
| Dehra Dun | | 8.7 | 133 | e 2 8 | + 5 | 3 40 | 0 | 3 55 | SS |
| Ili | | 9.0 | 31 | i 2 5 | - 2 | — | — | — | — |
| New Delhi | | 9.6 | 143 | i 2 13 _a | - 2 | 4 4 | + 3 | 2 20 | PP |
| Ashkabad | | 10.0 | 282 | 2 19 | - 1 | 4 5 | - 5 | — | — |
| Semipalatinsk | | 15.6 | 23 | e 3 30 | - 1 | e 6 13 | - 5 | — | — |
| Poona | z. | 18.1 | 170 | i 3 51 | - 9 | — | — | — | — |
| Goris | | 19.4 | 286 | e 4 14 | + 1 | e 7 48 | +11 | — | — |
| Kirovobad | | 19.5 | 290 | 4 13 | - 1 | e 7 43 | + 4 | — | — |
| Tiflis | | 20.7 | 293 | e 4 28 | + 2 | e 8 16 | +15 | — | — |
| Erevan | | 20.8 | 288 | e 4 29 | + 2 | 8 13 | +10 | — | — |
| Shillong | | 21.1 | 115 | i 4 31 | + 1 | i 8 12 | + 3 | — | — |
| Sverdlovsk | | 21.5 | 345 | i 4 34 | 0 | 8 21 | + 5 | 5 10 | pP |
| Abastumanj | | 22.2 | 292 | e 4 45 | + 4 | — | — | — | — |
| Piatigorsk | | 22.3 | 298 | 4 46 | + 4 | e 8 41 | +11 | — | — |
| Irkutsk | | 28.5 | 46 | e 5 38 | - 2 | — | — | — | — |
| Kyakta | | 29.2 | 50 | e 5 43 | - 3 | — | — | — | — |
| Moscow | | 29.5 | 321 | e 5 47 | - 1 | — | — | e 6 51 | PP |
| Kabansk | | 29.8 | 47 | e 5 49 | - 2 | — | — | — | — |
| Pulkovo | | 34.8 | 325 | i 6 33 | - 1 | e 11 48 | - 2 | — | — |
| Upsala | z. | 41.0 | 322 | i 7 24 _a | - 2 | — | — | — | — |
| Kiruna | z. | 42.0 | 334 | i 7 33 _a | - 1 | — | — | i 7 42 | ? |
| Collmberg | z. | 43.0 | 309 | e 7 37 | - 5 | — | — | — | — |
| Jena | z. | 43.9 | 308 | e 7 59? | +10 | e 9 33 | PP | e 10 43 | ? |
| Stuttgart | | 45.7 | 306 | e 8 3 | 0 | — | — | — | — |
| Tamanrasset | z. | 57.3 | 276 | e 9 29 | - 1 | — | — | e 10 16 | PcP |
| Pretoria | z. | 73.7 | 219 | e 11 15 | 0 | — | — | — | — |
| College | | 74.6 | 16 | i 11 19 | - 1 | — | — | e 14 8 | PP |
| Pietermaritzburg | z. | 75.8 | 216 | i 11 28k | + 2 | — | — | — | — |
| Kimberley | z. | 77.9 | 220 | e 11 37 | - 1 | — | — | — | — |
| Hungry Horse | z. | 95.5 | 3 | e 13 3 | - 1 | e 16 35 | ? | e 17 1 | PP |
| Nelson | z. | 108.0 | 5 | e 14 4 | P | — | — | — | — |

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1954

468

Aug. 7d. 17h. 37m. Epicentre 24°·2N. 121°·4E.

Seismo. Bull. of the Taiwan Weather Bureau, Taiwan, China, July-Sept., 1954, Vol. 1, No. 3, p. 19.

Aug. 9d. 19h. 16m. 54s. Epicentre 53°·5N. 160°·8E. Depth of focus 0·005.

Seismo. Bull. Cent. Met. Obs., Japan, for Aug., 1954, Tokyo, 1954, pp. 32-34.

A = -·5642, B = +·1965, C = +·8019; $\delta = -2$; $h = -7$;
D = +·329, E = +·944; G = -·757, H = +·264, K = -·597.

| | Δ ° | Az. ° | P. | | O - C. s. | S. | | O - C. s. | Supp. | | L. m. |
|-----------------|---------------|----------|-----|-----------------|--------------|-----|----|--------------|-------|----|-----------|
| | | | m. | s. | | m. | s. | | m. | s. | |
| Petropavlovsk | 1·4 | 249 | i 0 | 20 | - 4 | — | — | — | — | — | — |
| Klyuchi | 2·8 | 1 | i 0 | 46 | + 2 | i 1 | 24 | + 7 | — | — | — |
| Magadan | 8·2 | 322 | i 1 | 57 | - 2 | 3 | 38 | + 7 | — | — | — |
| Kurilsk | 11·8 | 230 | i 2 | 43 | - 5 | i 4 | 56 | - 2 | — | — | — |
| Uglegorsk | 12·5 | 257 | i 2 | 58 | + 1 | i 5 | 21 | + 6 | — | — | — |
| Yuzno-Sakhlinsk | 13·2 | 248 | i 3 | 6 | 0 | e 5 | 34 | + 2 | — | — | — |
| Nemuro | 14·3 | 231 | e 3 | 28 | + 7 | e 6 | 55 | + 57 | e 4 | 0 | ? |
| Abashiri | 14·4 | 235 | e 3 | 19 | - 3 | 15 | 44 | SS | — | — | — |
| Wakkanai | E. 14·8 | 244 | 3 | 27 | 0 | e 6 | 28 | SS | — | — | — |
| Kusiro | 15·1 | 232 | e 3 | 27 | - 4 | e 6 | 36 | SS | i 3 | 37 | PP e 8·1 |
| Asahigawa | 15·6 | 239 | e 3 | 37 | 0 | — | — | — | — | — | — |
| Urakawa | 16·5 | 234 | e 3 | 40 | - 9 | e 6 | 51 | + 2 | — | — | e 7·7 |
| Sapporo | 16·6 | 239 | e 3 | 41 | - 9 | e 6 | 58 | + 7 | i 3 | 53 | PP e 8·9 |
| Tomakomai | 16·9 | 237 | e 3 | 44 | -10 | e 7 | 10 | +12 | i 4 | 19 | ? |
| Suttsu | 17·4 | 240 | e 3 | 50 | -10 | — | — | — | — | — | — |
| Mori | 17·7 | 238 | i 3 | 58 | - 5 | 7 | 22 | + 6 | e 4 | 14 | PP 9·3 |
| Hatinohe | Z. 18·4 | 233 | e 4 | 3 | - 9 | — | — | — | — | — | e 9·9 |
| Aomori | 18·5 | 235 | e 4 | 14 | + 1 | 7 | 56 | SS | — | — | — |
| Miyako | 18·9 | 230 | i 4 | 15 ^a | - 3 | e 7 | 40 | - 3 | — | — | — |
| Morioka | 19·2 | 232 | i 4 | 20 | - 1 | e 7 | 52 | + 3 | e 4 | 12 | ? |
| Akita | 19·7 | 234 | e 4 | 25 | - 2 | 8 | 16 | SS | e 4 | 41 | PP e 10·5 |
| Mizusawa | 19·7 | 231 | 4 | 25 | - 2 | 8 | 6 | + 6 | 8 | 15 | SS |
| Isinomaki | 20·2 | 229 | e 4 | 30 ^a | - 2 | e 7 | 58 | + 12 | — | — | — |
| Sakata | 20·5 | 233 | e 4 | 39 | + 4 | e 8 | 30 | SS | — | — | — |
| Sendai | 20·5 | 230 | e 4 | 29 ^k | - 6 | 8 | 38 | SS | e 5 | 42 | ? e 11·0 |
| Yamagata | 20·8 | 231 | e 4 | 38 | 0 | — | — | — | — | — | — |
| Hokusima | 21·1 | 230 | 4 | 40 | - 1 | e 8 | 32 | + 5 | — | — | — |
| Inawasiro | 21·4 | 230 | i 4 | 45 | + 1 | 8 | 41 | + 8 | e 16 | 15 | SS |
| Onahama | 21·6 | 228 | e 4 | 44 ^k | - 2 | e 8 | 44 | + 8 | e 4 | 54 | PP |
| Shirakawa | 21·7 | 229 | 4 | 46 | - 1 | 8 | 36 | - 2 | e 5 | 30 | PPP |
| Aikawa | 21·9 | 234 | i 5 | 0 | PP | 8 | 48 | + 6 | — | — | 12·0 |
| Mito | N. 22·2 | 228 | 4 | 52 | 0 | e 8 | 54 | + 7 | — | — | — |
| Utsunomiya | 22·4 | 229 | e 4 | 51 | - 3 | e 8 | 53 | + 2 | e 5 | 4 | PP |
| Kakioka | E. 22·5 | 228 | e 4 | 56 | + 1 | — | — | — | — | — | — |
| Takada | 22·7 | 233 | 4 | 57 | 0 | e 9 | 3 | + 7 | — | — | — |
| Kashiwa | 22·9 | 228 | e 5 | 0 | + 1 | e 9 | 37 | SS | — | — | — |
| Kumagaya | 22·9 | 229 | 4 | 59 ^a | 0 | e 9 | 8 | + 5 | — | — | — |
| Maebasi | 22·9 | 230 | i 4 | 58 ^a | - 1 | 9 | 6 | + 6 | — | — | — |
| Nagano | 23·0 | 232 | i 5 | 3 ^k | - 3 | i 9 | 12 | +10 | i 5 | 13 | PP 12·7 |
| Matusiro | 23·1 | 232 | i 5 | 0 ^a | - 1 | i 9 | 10 | + 7 | i 7 | 2 | ? 11·7 |
| Wazima | 23·1 | 235 | e 5 | 1 | 0 | e 9 | 11 | + 8 | — | — | e 12·3 |
| Oiwake | 23·2 | 231 | e 5 | 3 | - 1 | e 9 | 21 | +16 | e 5 | 43 | PP |
| Titibu | N. 23·2 | 230 | e 5 | 3 | - 1 | — | — | — | — | — | — |
| Tokyo | 23·2 | 228 | i 5 | 1 ^k | - 1 | i 9 | 11 | + 6 | 6 | 8 | ? |
| Yokohama | 23·4 | 228 | 5 | 5 | + 1 | 9 | 39 | SS | e 5 | 13 | PP 17·0 |
| Matumoto | E. 23·5 | 232 | i 5 | 4 | - 1 | — | — | — | — | — | — |
| Toyama | 23·5 | 234 | 5 | 6 | + 1 | e 9 | 19 | + 9 | — | — | — |
| Hunatu | 23·7 | 230 | e 5 | 7 | 0 | e 9 | 17 | + 3 | e 5 | 59 | PPP |
| Kohu | 23·7 | 230 | e 5 | 5 | - 2 | e 9 | 19 | + 5 | e 5 | 31 | sP |
| Mera | 23·8 | 227 | 5 | 10 | + 2 | e 6 | 38 | ? | e 5 | 56 | PPP |
| Kanazawa | 23·9 | 234 | e 5 | 7 | - 2 | — | — | — | — | — | — |
| Takayama | 23·9 | 233 | e 5 | 10 | + 1 | — | — | — | — | — | — |
| Misima | 24·0 | 229 | i 5 | 10 | 0 | e 9 | 21 | - 2 | i 5 | 30 | PP e 10·4 |
| Osima | 24·1 | 227 | e 5 | 5 | - 5 | i 5 | 38 | sP | i 5 | 56 | PPP |
| Iida | 24·2 | 231 | e 5 | 11 | 0 | e 9 | 27 | + 5 | — | — | — |

Continued on next page.

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1954

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | | |
|---------------|------------|------------|-------------------|---------------------|--------|----------------------|--------|---------|--------|--------|
| | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. | | |
| Shizuoka | 24.3 | 229 | 5 14 _a | + 2 | e 9 29 | + 5 | e 5 27 | pP | — | |
| Hukui | 24.5 | 234 | e 5 16 | + 2 | — | — | — | — | — | |
| Omaesaki | 24.7 | 229 | e 5 17 | - 1 | e 9 39 | + 8 | e 5 24 | ? | e 14.2 | |
| Gihu | 24.8 | 233 | e 5 18 | + 1 | — | — | — | — | — | |
| Hamamatu | 24.9 | 230 | e 5 21 | + 3 | — | — | — | — | — | |
| Ibukisan | N. | 25.0 | 233 | e 5 36 | pP | — | — | — | — | |
| Hikone | | 25.1 | 233 | 5 24 | + 4 | — | — | — | e 13.9 | |
| Kameyama | | 25.3 | 232 | 5 22 | 0 | 9 43 | + 2 | — | 14.7 | |
| Kyoto | | 25.6 | 234 | e 5 25 | 0 | e 9 53 | + 7 | — | e 11.8 | |
| Toyooka | | 25.6 | 236 | e 5 24 | - 1 | e 9 47 | + 1 | — | — | |
| Nara | | 25.8 | 233 | 5 27 | 0 | e 9 54 | + 5 | e 5 52 | sP | — |
| Osaka | | 26.0 | 234 | e 5 30 | - 1 | e 9 59 | + 7 | — | — | — |
| Kobe | | 26.1 | 234 | e 5 30 | 0 | e 9 58 | + 4 | e 6 29 | PPP | e 12.5 |
| Owase | | 26.1 | 232 | e 5 29 | - 1 | — | — | — | — | — |
| Yonago | | 26.4 | 238 | e 5 34 | + 2 | e 10 3 | + 4 | — | — | 14.4 |
| Sumoto | | 26.5 | 234 | 5 33 | 0 | e 10 1 | 0 | — | — | e 13.3 |
| Wakayama | | 26.5 | 234 | e 5 30 | - 3 | — | — | e 5 47 | pP | — |
| Siomisaki | | 26.8 | 232 | e 5 37 | + 1 | i 10 9 | + 4 | e 6 42 | PPP | — |
| Takamatu | | 26.9 | 235 | e 5 38 | + 1 | e 10 13 | + 6 | e 6 38 | PP | 13.9 |
| Tokusima | | 26.9 | 234 | 5 37 | 0 | e 10 12 | + 5 | — | — | — |
| Torisima | | 27.4 | 221 | e 5 37 | - 4 | — | — | — | — | — |
| Hamada | | 27.5 | 239 | e 5 39 | - 3 | e 10 18 | + 1 | e 12 58 | Q | e 14.4 |
| Hirosima | | 27.7 | 238 | e 5 44 _k | 0 | e 10 22 | + 2 | — | — | e 14.2 |
| Muroto | | 27.7 | 234 | e 5 45 | + 1 | e 10 25 | + 5 | — | — | — |
| College | | 27.8 | 46 | i 5 44 | + 1 | i 10 23 | + 1 | e 6 46 | PP | i 13.6 |
| Koti | | 27.8 | 235 | e 5 51 _a | + 6 | e 10 36 | + 14 | e 12 12 | SSS | 13.1 |
| Matuyama | | 28.0 | 236 | e 5 45 | - 2 | e 10 28 | + 3 | e 6 44 | PP | e 13.1 |
| Simidu | | 28.7 | 235 | e 5 54 | + 1 | — | — | — | — | 14.4 |
| Ooita | | 29.0 | 237 | e 5 57 | + 1 | e 10 35 | - 6 | — | — | e 16.2 |
| Hukuoka | | 29.4 | 240 | i 5 58 _a | - 1 | e 10 47 | 0 | e 6 55 | PP | 14.9 |
| Kumamoto | | 29.8 | 238 | e 6 5 | + 2 | — | — | — | — | — |
| Miyazaki | | 30.2 | 236 | e 6 9 | + 3 | — | — | — | — | — |
| Kwanting | | 33.0 | 265 | e 6 29 | - 2 | e 11 41 | - 3 | — | — | — |
| Irkutsk | | 33.3 | 291 | 6 32 | - 2 | 11 45 | - 3 | — | — | — |
| Tatung | | 34.5 | 267 | e 6 45 | + 1 | 12 17 | + 10 | — | — | — |
| Sitka | | 35.4 | 58 | i 6 50 | - 2 | i 12 24 | + 3 | i 7 15 | pP | e 15.0 |
| Paotow | | 36.2 | 270 | e 6 58 _? | 0 | e 12 30 | - 3 | — | — | — |
| Zô-Sê | | 36.2 | 248 | i 6 56 _a | - 2 | e 12 33 | 0 | i 8 17 | PP | — |
| Taiyuan | | 36.4 | 264 | e 7 1 | + 1 | — | — | — | — | — |
| Nanking | | 36.8 | 251 | i 7 1 | - 2 | 12 39 | - 3 | 8 26 | PP | — |
| Linfen | | 38.2 | 263 | e 7 17 | + 2 | — | — | — | — | — |
| Yinchuan | | 39.7 | 270 | e 7 29 | + 1 | — | — | — | — | — |
| Sian | | 41.0 | 263 | e 7 45 | + 7 | e 13 44 | - 2 | — | — | — |
| Wuwei | | 42.2 | 273 | e 7 49 | + 1 | 14 3 | 0 | — | — | — |
| Resolute Bay | | 42.8 | 22 | e 7 53 _k | 0 | i 14 16 | + 4 | e 17 51 | ScS | — |
| Lanchow Univ. | | 42.8 | 270 | e 7 53 | 0 | e 13 54 | - 18 | — | — | — |
| Sining | E. | 43.6 | 272 | e 7 57 | - 2 | — | — | — | — | — |
| Honolulu | | 44.8 | 120 | e 8 9 | 0 | e 14 50 | + 9 | i 8 23 | pP | e 18.2 |
| Victoria | | 45.9 | 64 | 8 17 | - 1 | e 18 12 | SS | e 8 52 | sP | 22.5 |
| Hong Kong | E. | 46.9 | 247 | e 8 26 | 0 | e 15 14 _? | + 3 | — | — | — |
| Seattle | | 47.0 | 64 | i 8 28 | - 1 | e 15 37 | sS | e 9 0 | sP | 24.1 |
| Semipalatinsk | | 47.2 | 301 | e 8 25 | - 3 | e 15 10 | - 5 | — | — | — |
| Corvallis | Z. | 48.3 | 68 | i 8 36 | - 1 | e 15 56 | sS | i 10 3 | PcP | — |
| Baguio | | 48.5 | 236 | i 8 37 | - 1 | i 15 34 | + 1 | — | — | — |
| Manila | | 49.8 | 234 | i 8 49 | + 1 | i 15 56 | + 4 | — | — | — |
| Hungry Horse | | 50.9 | 59 | i 8 55 _k | - 2 | e 16 17 | + 10 | e 18 43 | ScS | — |
| Mineral | Z. | 52.0 | 71 | i 9 5 _k | 0 | — | — | i 9 30 | pP | — |
| Saskatoon | | 52.0 | 51 | e 9 4 | - 1 | — | — | e 9 24 | pP | 24.1 |
| Sverdlovsk | | 52.2 | 317 | i 9 6 | 0 | i 16 26 | + 1 | — | — | — |
| Butte | N. | 53.2 | 60 | i 9 13 | - 1 | e 16 39 | + 1 | i 9 28 | pP | e 21.8 |
| Berkeley | | 53.3 | 74 | e 9 14 _k | - 1 | e 16 46 | + 6 | i 19 2 | ScS | — |
| Almata | | 53.5 | 295 | i 9 15 | - 1 | e 16 39 | - 3 | — | — | — |
| Reno | Z. | 53.6 | 71 | e 9 16 | - 1 | — | — | i 10 22 | PcP | — |
| Santa Clara | | 53.9 | 74 | e 9 19 _a | 0 | e 17 21 | sS | — | — | e 25.4 |
| Lick | Z. | 54.1 | 74 | i 9 19 _k | - 1 | — | — | i 10 15 | PcP | — |

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----------|-----|----------|------|---------|-------|---------|------------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Bozeman | 54.2 | 60 | e 9 18 | - 3 | e 16 56 | + 4 | i 9 46 | pP e 22.7 |
| Frunse | 55.0 | 296 | i 9 25 | - 2 | i 17 2 | 0 | — | — |
| Naryn | 55.3 | 294 | i 9 27 | - 2 | i 17 7 | + 1 | — | — |
| Kiruna | 55.4 | 343 | i 9 28 | - 2 | i 17 8? | 0 | i 9 49 | pP e 25.6 |
| Fresno | z. 55.5 | 73 | e 9 30 | - 1 | — | — | i 9 53 | pP |
| Tinemaha | z. 56.2 | 72 | i 9 36k | 0 | e 39 45 | pP'P' | i 10 3 | pP |
| Scoresby Sund | 56.3 | 1 | i 9 37a | + 1 | i 17 27 | + 7 | i 9 45 | pP |
| Woody | z. 56.8 | 74 | i 9 39k | - 1 | e 39 31 | P'P' | e 39 50 | pP'P' |
| Salt Lake City | 57.1 | 65 | e 9 33 | - 9 | e 17 30 | 0 | i 9 56 | pP e 24.1 |
| China Lake | 57.4 | 72 | i 9 44k | 0 | i 39 40 | pP'P' | i 10 6 | pP |
| Shillong | 57.4 | 270 | i 9 42 | - 2 | i 17 32 | - 2 | — | — |
| Andijan | 57.7 | 296 | i 9 44 | - 2 | 17 38 | 0 | — | — |
| Pasadena | 58.3 | 74 | i 9 49k | - 1 | i 17 53 | + 7 | i 10 4 | pP e 26.8 |
| Boulder City | 58.9 | 71 | e 39 25 | P'P' | — | — | i 39 36 | pP'P' |
| Riverside | 58.9 | 74 | e 9 52k | - 3 | i 10 28 | sP | i 10 11 | pP |
| Tashkent | 58.9 | 298 | e 9 51 | - 4 | e 17 51 | - 3 | — | — |
| Nelson | z. 59.1 | 71 | i 9 56 | 0 | i 10 28 | sP | i 39 35 | P'P' |
| Rapid City | E. 59.3 | 56 | i 9 57 | 0 | e 18 2 | + 3 | e 10 21 | pP e 24.6 |
| Palomar | z. 59.6 | 74 | i 9 59k | 0 | i 39 41 | pP'P' | i 10 23 | pP |
| Barratt | z. 60.2 | 74 | i 10 2k | - 2 | e 18 26 | SP | i 10 26 | pP |
| Pulkovo | 60.3 | 334 | e 10 3 | - 1 | e 18 10 | - 2 | — | — |
| Boulder | 61.1 | 61 | i 10 12 | + 2 | — | — | — | — |
| Moscow | 61.5 | 327 | 10 13 | + 1 | 18 30 | + 3 | — | — |
| Calcutta | E. 61.8 | 270 | — | — | 18 36 | + 5 | — | — |
| Dehra Dun | N. 62.1 | 284 | e 10 12 | - 4 | e 18 39 | + 4 | 12 31 | PP 29.1 |
| Reykjavik | 62.7 | 1 | e 10 10 | -10 | i 10 21 | ? | i 10 30 | pP |
| Upsala | 63.2 | 340 | i 10 23 | - 1 | i 18 50 | + 1 | i 10 42 | pP e 29.1 |
| Tucson | 63.9 | 71 | i 10 28 | 0 | e 19 2 | + 5 | i 10 49 | pP e 27.0 |
| New Delhi | 65.3 | 284 | e 10 25 | -12 | i 20 12 | ? | — | — |
| Kirkland Lake | z. 66.4 | 40 | e 10 43k | - 1 | — | — | i 10 55 | pP |
| Ashkabad | 67.1 | 303 | 10 49 | 0 | 19 43 | + 7 | — | — |
| Copenhagen | 68.1 | 341 | i 10 56 | + 1 | i 19 52 | + 4 | 15 13 | PPP |
| Chicago | 68.4 | 48 | e 10 56 | - 1 | e 19 54 | + 2 | e 13 31 | PP e 34.1 |
| Quetta | 68.5 | 292 | e 10 56 | - 2 | e 19 54 | + 1 | i 13 48 | PPP |
| Aberdeen | 68.8 | 350 | i 11 5 | + 6 | i 19 59 | + 2 | i 20 59 | PPS e 39.1 |
| Warsaw | 69.4 | 335 | e 11 0 | - 3 | e 20 5 | + 1 | e 11 13 | pP e 34.1 |
| St. Louis | 69.7 | 52 | i 11 4 | - 1 | i 20 11 | + 4 | — | — |
| Fayetteville | 69.8 | 56 | i 11 4a | - 1 | — | — | — | e 42.2 |
| Ottawa | 70.3 | 39 | i 11 7k | - 2 | 20 15 | + 1 | 13 47 | PP |
| Shawinigan Falls | 70.3 | 36 | i 11 8 | - 1 | e 15 1 | PPP | i 11 17 | pP |
| Terre Haute | 70.4 | 50 | i 11 11 | + 2 | i 21 21 | +66 | — | — |
| Tiflis | 70.4 | 314 | i 11 10 | + 1 | i 20 17 | + 2 | — | — |
| Kirovobad | 70.5 | 313 | 11 9 | - 1 | 20 15 | - 2 | — | — |
| Hamburg | 70.6 | 342 | i 11 12k | + 2 | i 20 22 | + 4 | e 11 21 | pP e 39.1 |
| Seven Falls | 70.6 | 35 | i 11 9k | - 1 | 20 20 | + 2 | i 11 21 | pP |
| Lwow | 70.8 | 332 | i 11 12 | 0 | i 20 21 | + 1 | — | — |
| Dallas | 71.0 | 60 | i 11 11 | - 2 | i 20 30 | + 8 | e 14 0 | PP |
| Durham | 71.1 | 349 | — | — | i 20 27 | + 4 | i 21 19 | PPS |
| Potsdam | 71.1 | 340 | i 11 15a | + 2 | i 20 30 | + 7 | e 21 14 | PPS e 35.1 |
| Buffalo (Larkin) | 71.3 | 42 | i 11 13 | - 2 | — | — | — | — |
| Cleveland | 71.3 | 45 | i 11 14k | - 1 | e 20 27 | + 1 | — | — |
| Goris | 71.5 | 312 | 11 16 | 0 | i 20 30 | + 2 | — | — |
| Hyderabad | 71.6 | 275 | 11 16 | 0 | e 20 28 | - 1 | 21 2 | sS 35.4 |
| Erevan | 71.8 | 314 | i 11 17 | - 1 | 20 33 | + 1 | — | — |
| Witteveen | z. 71.8 | 344 | i 11 18k | 0 | — | — | — | — |
| Cincinnati | 72.0 | 48 | i 11 17 | - 2 | — | — | i 11 30 | pP |
| Collmberg | 72.1 | 339 | e 11 18 | - 1 | e 20 39 | + 4 | e 14 21 | PP e 34.6 |
| Iasi | 72.1 | 328 | e 11 20 | + 1 | e 20 38 | + 3 | — | — |
| Raciborzu | 72.1 | 336 | e 11 15? | - 4 | e 20 30 | - 5 | e 20 41 | ? e 38.1 |
| Yalta | 72.2 | 323 | e 11 19? | - 1 | i 20 37 | + 1 | — | — |
| Skalnate Pleso | 72.4 | 334 | e 11 25 | + 4 | i 20 43 | + 5 | e 11 37 | pP e 35.6 |
| Bacau | 72.8 | 329 | — | — | e 20 48 | + 5 | — | — |
| De Bilt | 72.8 | 344 | e 11 16 | - 7 | i 20 49 | + 6 | i 21 30 | PS e 32.1 |
| Jena | 72.8 | 340 | e 11 23 | 0 | e 20 46 | + 3 | e 11 41 | pP e 37.1 |
| Pittsburgh | z. 72.8 | 44 | i 11 23 | 0 | — | — | i 11 32 | pP |

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|-------------------|------------|------------|------|-----------------|------|------|----|-------|-------|----|------------|
| | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Prague | 73.0 | 338 | i 11 | 26 | + 1 | i 20 | 50 | + 5 | i 11 | 47 | pP e 38.6 |
| Rathfarnham C. z. | 73.0 | 352 | i 11 | 25 _a | 0 | e 21 | 2 | pS | i 11 | 43 | pP — |
| Cheb | 73.4 | 339 | e 11 | 33 | - 6 | i 20 | 53 | + 3 | e 11 | 42 | pP — |
| Pennsylvania | 73.4 | 43 | i 11 | 26 | - 1 | i 20 | 49 | - 1 | i 14 | 16 | PP — |
| Focsani | 73.5 | 328 | e 11 | 41 | PcP | e 20 | 57 | + 6 | e 11 | 51 | pP — |
| Poona | 73.5 | 279 | e 11 | 29 | - 1 | i 20 | 56 | + 5 | 11 | 56 | sP — |
| Bombay | 73.8 | 280 | e 11 | 42 | PcP | e 20 | 51 | - 3 | e 21 | 34 | PS — |
| Madras | 74.1 | 270 | e 11 | 30 | - 1 | i 20 | 59 | + 2 | 14 | 20 | PP — |
| Ogyalla | 74.1 | 335 | e 11 | 34 | + 3 | e 20 | 36 | - 21 | e 11 | 56 | pP — |
| Kew | 74.2 | 348 | i 11 | 32 _a | 0 | i 21 | 1 | + 2 | i 11 | 51 | pP e 46.1 |
| Uccle | 74.2 | 345 | e 11 | 32 | 0 | e 20 | 59 | 0 | e 11 | 56 | pP e 35.1 |
| Vienna | 74.2 | 336 | e 11 | 34 | - 2 | i 21 | 6 | + 7 | i 21 | 43 | PS 40.1 |
| Budapest | 74.3 | 334 | 11 | 34 | + 2 | 21 | 6 | + 6 | 11 | 49 | pP 42.6 |
| Harvard | 74.3 | 38 | i 11 | 32 | 0 | e 21 | 2 | + 2 | e 11 | 51 | pP e 41.3 |
| Weston | 74.5 | 37 | i 11 | 33 _k | 0 | e 21 | 5 | + 3 | i 11 | 45 | pP — |
| Djakarta | 74.7 | 236 | e 11 | 33 _k | - 1 | e 21 | 6 | + 2 | e 14 | 12 | PP — |
| Palisades | 74.7 | 40 | i 11 | 33 | - 1 | i 21 | 9 | + 5 | i 11 | 48 | pP e 39.8 |
| Bandung | 74.9 | 235 | e 11 | 40 | + 4 | e 21 | 8 | + 2 | e 21 | 35 | sS — |
| Lembang | 74.9 | 235 | e 11 | 33 _k | 3 | e 21 | 8 | + 2 | i 11 | 46 | pP e 43.8 |
| Bucharest | 75.0 | 328 | e 11 | 37 | - 1 | i 21 | 11 | + 3 | e 21 | 36 | sS 35.1 |
| Halifax | 75.1 | 31 | i 11 | 36 _a | - 1 | i 21 | 17 | + 8 | i 29 | 29 | SSS e 35.4 |
| Philadelphia | 75.1 | 41 | e 11 | 35 | - 2 | e 21 | 7 | - 2 | e 14 | 27 | PP e 30.1 |
| Szeged | 75.1 | 333 | 11 | 41 | + 4 | 21 | 14 | + 5 | 21 | 40 | sS e 43.1 |
| Karlsruhe | 75.2 | 342 | e 11 | 38 _a | + 1 | i 21 | 16 | + 6 | e 11 | 45 | pP — |
| Stuttgart | 75.3 | 341 | e 11 | 38 | 0 | e 21 | 16 | + 5 | e 11 | 57 | pP e 38.1 |
| Timisoara | 75.3 | 332 | e 11 | 42 | + 4 | e 21 | 16 | + 5 | — | — | — |
| Washington z. | 75.3 | 43 | i 11 | 37 | - 1 | i 12 | 6 | sP | i 12 | 26 | ? — |
| Noumea | 75.7 | 175 | i 11 | 41 _k | + 1 | i 12 | 10 | sP | i 12 | 0 | pP — |
| Strasbourg | 75.7 | 342 | i 11 | 42 | + 2 | e 21 | 20 | + 5 | i 11 | 58 | pP e 37.1 |
| Belgrade | 76.3 | 332 | e 11 | 45 | - 1 | e 21 | 26 | + 4 | e 16 | 32 | PPP e 42.7 |
| Paris | 76.4 | 345 | e 11 | 45 | + 1 | i 21 | 30 | + 7 | i 12 | 2 | pP e 37.1 |
| Zürich | 76.7 | 341 | e 11 | 46 _a | 0 | e 21 | 34 | + 8 | — | — | — |
| Basle | 76.8 | 342 | e 11 | 47 | + 1 | e 21 | 32 | + 5 | e 20 | 32 | ? — |
| Chur | 77.0 | 340 | e 11 | 48 | 0 | — | — | — | — | — | e 46.1 |
| Istanbul | 77.0 | 325 | i 11 | 49 | + 1 | i 21 | 34 | + 5 | e 21 | 57 | sS e 35.1 |
| Triest | 77.3 | 337 | e 11 | 49 _k | 0 | e 21 | 57 | sS | e 22 | 11 | ScS e 39.8 |
| Neuchatel | 77.4 | 342 | e 11 | 50 | 0 | e 21 | 39 | + 5 | — | — | — |
| Sofia | 77.4 | 329 | e 11 | 56? | + 6 | — | — | — | — | — | — |
| Columbia | 77.8 | 48 | i 11 | 52 | 0 | e 21 | 39 | + 1 | i 12 | 4 | pP e 32.7 |
| Milton | 77.8 | 55 | — | — | — | e 21 | 47 | + 9 | — | — | — |
| Kodaikanal | 77.9 | 271 | e 12 | 10 | pP | i 21 | 40 | + 1 | — | — | — |
| Salo | 78.0 | 339 | e 11 | 52 | - 1 | e 21 | 40 | 0 | e 12 | 13 | pP — |
| Oropa | 78.5 | 341 | e 11 | 49 | - 7 | e 21 | 43 | - 2 | — | — | — |
| Pavia | 78.7 | 340 | e 12 | 0 _a | + 3 | e 22 | 10 | sS | e 13 | 23 | ? e 31.8 |
| Padova | 78.8 | 338 | e 12 | 1 | + 4 | e 21 | 49 | 0 | — | — | — |
| Bologna | 78.9 | 338 | e 12 | 1 | - 3 | e 21 | 58 | + 8 | — | — | — |
| Colombo | 79.1 | 267 | e 10 | 25 | ? | 21 | 45 | - 7 | — | — | 44.7 |
| Florence | 79.6 | 338 | e 12 | 9 | + 7 | e 22 | 3 | + 6 | i 27 | 14 | SS — |
| Prato | 79.6 | 338 | e 12 | 6 | + 4 | i 22 | 0 | + 3 | — | — | — |
| Tacubaya | 80.4 | 70 | e 12 | 1 | - 5 | — | — | — | — | — | — |
| Ksara | 80.8 | 316 | i 11 | 49 | - 19 | 21 | 52 | - 18 | — | — | — |
| Rome | 81.1 | 337 | e 12 | 12 | + 2 | i 22 | 20 | + 7 | 23 | 10 | PS e 37.8 |
| Taranto | 81.2 | 333 | — | — | — | e 22 | 11 | - 3 | e 26 | 11 | ? 42.1 |
| Athens | 81.6 | 327 | e 12 | 6? | - 6 | i 22 | 19 | + 1 | i 12 | 21 | pP — |
| Jerusalem | 82.8 | 316 | i 12 | 21 | + 3 | — | — | — | i 13 | 13 | ? — |
| Barcelona | 83.7 | 344 | e 12 | 16 | - 7 | i 22 | 46 | + 7 | — | — | e 44.8 |
| Messina | 83.8 | 333 | i 12 | 23 | - 1 | i 22 | 37 | - 3 | i 12 | 34 | pP 40.3 |
| Reggio Calabria | 83.9 | 333 | e 12 | 28 | + 4 | e 22 | 24 | - 17 | — | — | — |
| Miami | 84.9 | 52 | i 12 | 32 | + 3 | — | — | — | 15 | 45 | PP — |
| Bermuda | 85.8 | 37 | e 12 | 33 | - 1 | e 23 | 8 | + 8 | e 29 | 26 | sSS e 41.4 |
| Toledo | 86.0 | 348 | i 12 | 37 | + 2 | i 23 | 9 | + 7 | i 13 | 1 | pP 46.8 |
| Helwan | 86.1 | 318 | i 12 | 35 _a | 0 | 22 | 56 | [+ 4] | 16 | 11 | PP — |
| Coimbra | 86.2 | 352 | 12 | 38 | + 3 | 23 | 7 | + 3 | — | — | 42.4 |
| Alicante | 87.1 | 345 | 12 | 32 | - 8 | i 23 | 20 | + 8 | 16 | 1 | PP 41.7 |
| Riverview | 87.4 | 188 | i 12 | 42 _k | - 1 | e 23 | 20 | + 5 | i 12 | 52 | pP e 41.4 |

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
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| | | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Lisbon | E. | 87.7 | 352 | — | — | — | i 23 | 25 | + 7 | — | — | — |
| Algiers Univ. | Z. | 88.0 | 342 | e 12 | 43 | - 1 | e 23 | 25 | + 4 | e 13 | 0 | pP |
| Granada | | 88.7 | 348 | i 12 | 51 _a | + 4 | i 23 | 37 | +10 | 24 | 18 | SP |
| Almeria | | 88.8 | 347 | 12 | 40 | - 8 | i 23 | 18 | SKKS | 29 | 16 | SS |
| Malaga | | 89.2 | 348 | i 12 | 54 | + 4 | i 23 | 38 | + 6 | 16 | 24 | PP |
| Guantanamo Bay | | 92.5 | 51 | e 13 | 2 | pP | — | — | — | 16 | 33 | PP |
| Wellington | | 95.2 | 170 | — | — | — | e 24 | 51 | sS | e 25 | 2 | — |
| San Juan | | 97.8 | 44 | i 13 | 31 | + 2 | — | — | — | e 17 | 11 | PP |
| Galerazamba | | 100.3 | 56 | — | — | — | e 24 | 57 | -10 | e 25 | 51 | sS |
| Tamanrasset | Z. | 101.0 | 337 | e 13 | 45 | + 1 | e 29 | 54 | PKKP | i 13 | 55 | pP |
| Bogota | | 106.2 | 58 | e 18 | 37 | PP | e 24 | 46 | [+ 6] | e 27 | 56 | PS |
| Lwiro | | 115.5 | 305 | e 18 | 38 | [+ 3] | e 29 | 11 | PS | — | — | — |
| Huancayo | | 119.5 | 69 | e 18 | 46 | [+ 4] | e 29 | 53 | PS | e 20 | 13 | PP |
| La Paz | | 127.1 | 65 | i 19 | 1 | [+ 4] | — | — | — | 21 | 3 | PP |
| Montezuma | Z. | 131.6 | 70 | i 19 | 8 | [+ 2] | e 21 | 24 | PP | i 19 | 21 | pPKP |
| Pretoria | Z. | 135.3 | 289 | i 19 | 15 _a | [+ 2] | — | — | — | — | — | — |
| Kimberley | Z. | 139.6 | 290 | e 19 | 15 | [- 5] | — | — | — | — | — | — |
| Grahamstown | Z. | 141.9 | 283 | e 19 | 52 | sPKP | — | — | — | i 20 | 53 | ? |
| La Plata | | 147.1 | 71 | — | — | — | 29 | 48 | SKKS | 42 | 18 | SS |

Aug. 9d. 21h. 24m. 12s. Epicentre 45°·6N. 146°·3E. Depth of focus 0·010.

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Seismo. Bull. Cent. Met. Obs. for Japan, 1954, August, Tokyo, 1954, p. 15.

A = -·5841, B = +·3895, C = +·7121; δ = -3; h = -4;
D = +·555, E = +·832; G = -·592, H = +·395, K = -·702.

| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | |
|--------------|----|----------|-----|------|-----------------|------|------|----|------|-------|----|----|
| | | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | |
| Abashiri | | 2.1 | 224 | i 0 | 35 _a | + 1 | i 0 | 59 | - 1 | — | — | — |
| Nemuro | | 2.3 | 193 | e 0 | 33 | - 4 | i 0 | 53 | -12 | — | — | — |
| Kusiro | | 2.9 | 209 | i 0 | 42 _a | - 3 | i 1 | 8 | -11 | — | — | — |
| Wakkanai | E. | 3.2 | 269 | e 1 | 0 | +10 | e 1 | 43 | +16 | — | — | — |
| Urakawa | | 4.2 | 218 | e 0 | 59 | - 4 | e 1 | 40 | -11 | — | — | — |
| Sapporo | | 4.4 | 237 | i 1 | 5 | - 1 | i 1 | 49 | - 7 | — | — | — |
| Tomakomai | | 4.6 | 230 | e 1 | 4 | - 5 | i 1 | 53 | - 8 | e 1 | 28 | ? |
| Suttsu | | 5.2 | 240 | e 1 | 10 | - 7 | — | — | — | — | — | — |
| Mori | | 5.4 | 232 | 1 | 24 | + 4 | 2 | 8 | -13 | e 2 | 40 | ? |
| Aomori | | 6.2 | 222 | e 1 | 29 | - 1 | i 2 | 24 | -17 | — | — | — |
| Miyako | | 6.7 | 210 | — | — | — | 2 | 30 | -23 | — | — | — |
| Morioka | | 7.0 | 215 | e 1 | 32 | -10 | i 2 | 36 | -24 | — | — | — |
| Akita | | 7.4 | 220 | — | — | — | i 2 | 52 | -18 | — | — | — |
| Mizusawa | | 7.5 | 213 | 1 | 44 | - 4 | 2 | 50 | ? | — | — | — |
| Sendai | | 8.3 | 211 | e 2 | 1 | + 2 | e 3 | 10 | -22 | — | — | — |
| Hokusima | | 8.9 | 211 | e 1 | 58 | - 9 | e 3 | 22 | -25 | — | — | — |
| Onahama | | 9.5 | 207 | e 3 | 5 | ? | e 3 | 36 | ? | — | — | — |
| Shirakawa | | 9.6 | 211 | e 2 | 6 | -11 | — | — | — | — | — | — |
| Mito | E. | 10.2 | 208 | 3 | 40 | ? | e 3 | 53 | -25 | — | — | — |
| Utunomiya | | 10.2 | 210 | — | — | — | e 3 | 55 | -23 | — | — | — |
| Maebasi | Z. | 10.6 | 213 | e 2 | 26 | - 4 | e 4 | 11 | -17 | e 2 | 39 | PP |
| Kumagaya | | 10.8 | 212 | — | — | — | e 4 | 8 | -24 | — | — | — |
| Nagano | N. | 10.8 | 217 | e 3 | 15 | ? | e 4 | 3 | ? | — | — | — |
| Tokyo | | 11.0 | 209 | — | — | — | i 4 | 14 | -23 | — | — | — |
| Yokohama | | 11.3 | 209 | 3 | 22 | ? | — | — | — | — | — | — |
| Kohu | | 11.5 | 213 | — | — | — | e 4 | 11 | ? | — | — | — |
| College | | 40.0 | 37 | i 7 | 30 | + 3 | — | — | — | — | — | — |
| Shillong | Z. | 47.6 | 264 | i 8 | 24 | - 4 | — | — | — | — | — | — |
| Kiruna | Z. | 59.9 | 339 | i 9 | 57 | - 1 | — | — | — | — | — | — |
| Quetta | Z. | 62.1 | 286 | e 10 | 10 | - 3 | — | — | — | — | — | — |
| Hungry Horse | | 63.2 | 48 | i 10 | 21 | + 1 | — | — | — | i 10 | 59 | pP |
| Mineral | Z. | 63.9 | 58 | i 10 | 26 | + 1 | — | — | — | — | — | — |
| Butte | N. | 65.4 | 49 | e 10 | 36 | + 2 | — | — | — | e 11 | 14 | pP |
| Lick | Z. | 65.8 | 61 | i 10 | 38? | + 1 | — | — | — | — | — | — |
| Bozeman | | 66.5 | 48 | e 10 | 42 | + 1 | e 11 | 33 | sP | e 11 | 20 | pP |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | |
|----------------|----|------------|------------|----------------------|-------|---------|------|---------|-----|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | |
| Upsala | z. | 66.9 | 335 | i 10 43 | - 1 | — | — | i 11 10 | PcP |
| Fresno | z. | 67.3 | 60 | e 10 47 | + 1 | — | — | — | — |
| Tinemaha | z. | 68.1 | 59 | i 10 53 | + 2 | e 11 24 | sP | e 11 4 | pP |
| Woody | z. | 68.6 | 61 | i 10 54 _a | 0 | — | — | i 11 30 | pP |
| China Lake | z. | 69.3 | 60 | i 10 59 _a | 0 | — | — | i 11 36 | pP |
| Salt Lake City | | 69.3 | 53 | e 11 0 | + 1 | — | — | e 11 37 | pP |
| Pasadena | z. | 70.0 | 61 | e 11 3 | 0 | — | — | — | — |
| Boulder City | | 70.8 | 58 | i 11 9 | + 1 | — | — | i 11 46 | pP |
| Nelson | | 71.0 | 58 | i 11 11 | + 2 | — | — | i 11 47 | pP |
| Palomar | z. | 71.4 | 61 | i 11 12 _a | 0 | — | — | — | — |
| Barratt | z. | 72.0 | 62 | i 11 14 _a | - 1 | — | — | e 11 50 | pP |
| Collmberg | z. | 75.4 | 332 | e 11 35 | 0 | — | — | — | — |
| Prague | | 76.0 | 330 | i 11 39 | + 1 | — | — | e 12 6 | pP |
| Jena | | 76.2 | 332 | e 11 40 | + 1 | — | — | e 12 52 | PP |
| Rathfarnham C. | z. | 78.8 | 344 | e 11 53 | - 1 | — | — | e 13 47 | PP |
| Stuttgart | | 78.9 | 333 | e 11 54 | 0 | — | — | e 12 35 | pP |
| Jerusalem | | 80.9 | 306 | i 12 7 | + 2 | — | — | — | — |
| Fayetteville | | 82.1 | 45 | i 12 11 _a | 0 | — | — | i 12 51 | pP |
| Ottawa | | 82.1 | 28 | e 12 10 | - 1 | i 15 8 | PP | e 12 52 | pP |
| Montezuma | z. | 143.4 | 63 | e 19 17 | [- 6] | — | — | — | — |

Aug. 10d. 1h. 1m. Epicentre 16°22'N. 97°48'W. Magnitude 5.6 (Tacubaya).
Monthly Bulletin of the B.C.I.S. for August, 1954, Strasbourg, 1955, p. 437.

Aug. 10d. 4h. 16m. Epicentre 43°.4N. 78°.6E.
Seismo. Bulletin of the Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, p. 77.

Aug. 10d. 5h. 34m. 27s. Epicentre 30°.1N. 139°.0E. Depth of focus 0.060. Unfelt.
Epicentre 30°.2N. 139°.4E. Depth of focus 430km.
Seismo. Bull. Cent. Met. Obs., Japan, for Aug., 1954, Tokyo, 1954, pp. 15-17.

A = -0.6540, B = +0.5685, C = +0.4990; δ = -9; h = +2;
D = +0.656, E = +0.755; G = -0.377, H = +0.327, K = -0.867.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | |
|-------------|----|------------|------------|---------------------|------|---------|------|--------|---|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | |
| Hatidyozima | | 3.1 | 12 | e 1 7 | + 1 | 1 56 | - 1 | — | — |
| Siomisaki | z. | 4.4 | 321 | e 1 17 | 0 | e 2 17 | - 1 | — | — |
| Omaesaki | E. | 4.6 | 352 | e 1 20 | + 1 | i 2 24 | + 2 | — | — |
| Owase | | 4.6 | 330 | 1 19 | 0 | — | — | — | — |
| Hamamatu | | 4.7 | 347 | e 1 22 | + 2 | i 2 26 | + 3 | — | — |
| Osima | | 4.7 | 4 | i 1 20 | 0 | i 2 21 | - 2 | — | — |
| Mera | | 4.9 | 8 | e 1 23 | + 1 | 2 24 | - 3 | — | — |
| Shizuoka | | 4.9 | 354 | e 1 24 | + 2 | e 2 27 | 0 | — | — |
| Misima | | 5.0 | 359 | e 1 23 | 0 | i 2 28 | - 1 | — | — |
| Tu | | 5.1 | 336 | 1 25 | + 1 | e 2 35 | + 5 | — | — |
| Kameyama | | 5.2 | 336 | i 1 26 | + 1 | i 2 29 | - 3 | i 1 35 | ? |
| Muroto | | 5.2 | 309 | 1 26 | + 1 | e 2 35 | + 3 | — | — |
| Nara | | 5.3 | 330 | e 1 28 | + 2 | e 2 39 | + 5 | — | — |
| Hunatu | | 5.4 | 358 | 1 28 | + 1 | e 2 29 | - 7 | — | — |
| Nagoya | E. | 5.4 | 342 | e 1 39? | +12 | e 2 49? | +13 | — | — |
| Osaka | | 5.4 | 328 | e 1 29 | + 2 | e 2 22 | -14 | — | — |
| Yokohama | | 5.4 | 5 | 1 26 | - 1 | 2 33 | - 3 | — | — |
| Sumoto | | 5.5 | 322 | i 1 28 _a | 0 | e 2 42 | + 4 | — | — |
| Tokusima | | 5.5 | 318 | 1 29 | + 1 | — | — | — | — |
| Gihu | | 5.6 | 341 | e 1 32 | + 2 | — | — | — | — |
| Kobe | | 5.6 | 326 | e 1 29 | - 1 | e 2 42 | + 2 | e 3 24 | ? |
| Kohu | | 5.6 | 356 | e 1 29 | - 1 | e 2 39 | - 1 | — | — |
| Kyoto | | 5.6 | 331 | e 1 33 | + 3 | e 2 46 | + 6 | — | — |
| Tokyo | | 5.6 | 6 | i 1 29 | - 1 | i 2 39 | - 1 | — | — |
| Hikone | | 5.7 | 336 | i 1 32 | + 1 | c 1 39 | ? | c 1 44 | ? |
| Kashiwa | | 5.8 | 8 | e 1 32 | 0 | c 2 42 | - 2 | — | — |
| Koti | | 5.8 | 308 | i 1 32 _a | 0 | e 2 57 | +13 | — | — |
| Simidu | | 5.8 | 299 | 1 33 _a | + 1 | — | — | — | — |
| Tyosi | E. | 5.8 | 15 | — | — | e 2 41 | - 3 | e 3 29 | ? |
| Titibu | | 5.9 | 0 | e 1 32 | - 1 | e 2 43 | - 3 | — | — |

^o *tinued on next page.*

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | |
|----------------|----|----------|-----|------|-----------------|------|------|-----------------|------|-------|-----|
| | | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. |
| Takamatu | | 6.0 | 316 | e 1 | 34 | 0 | e 2 | 11 | -36 | --- | --- |
| Kumagaya | | 6.1 | 3 | 1 | 33 | -2 | i 2 | 45 | -4 | --- | --- |
| Tsuruga | | 6.1 | 337 | i 1 | 36 | +1 | --- | --- | --- | e 1 | 43 |
| Kakioka | E. | 6.2 | 9 | e 1 | 33 | -3 | 2 | 49 | -2 | --- | --- |
| Matumoto | | 6.2 | 352 | 1 | 36 | 0 | i 2 | 52 | +1 | --- | --- |
| Oiwake | | 6.2 | 356 | e 1 | 37 | +1 | e 2 | 55 | -4 | --- | --- |
| Maebasi | | 6.3 | 0 | e 1 | 34 | -3 | e 2 | 54 | +1 | --- | --- |
| Hukui | | 6.4 | 339 | e 1 | 39 | +1 | --- | --- | --- | --- | --- |
| Mito | N. | 6.4 | 10 | e 1 | 38 | 0 | i 2 | 53 | -2 | --- | --- |
| Matusiro | | 6.5 | 354 | i 1 | 37 _a | -2 | i 2 | 58 | +1 | i 2 | 33 |
| Matuyama | N. | 6.5 | 307 | e 1 | 39 | 0 | e 2 | 59 | +2 | --- | --- |
| Toyooka | | 6.5 | 328 | e 1 | 39 | 0 | e 2 | 58 | +1 | --- | --- |
| Utunomiya | | 6.5 | 6 | e 1 | 37 | -2 | e 2 | 52 | -5 | e 1 | 47 |
| Nagano | N. | 6.6 | 354 | i 1 | 41 | +1 | i 2 | 59 | 0 | --- | --- |
| Miyazaki | | 6.8 | 288 | e 1 | 40 | -3 | e 3 | 1 | -3 | --- | --- |
| Toyama | | 6.8 | 347 | e 1 | 41 | -2 | e 3 | 12 | +8 | --- | --- |
| Hirosima | | 7.0 | 309 | e 1 | 59 _a | +14 | e 3 | 35 | +27 | --- | --- |
| Onahama | | 7.0 | 12 | e 1 | 46 | +1 | e 3 | 3 | -5 | --- | --- |
| Ooita | | 7.1 | 298 | e 1 | 49 | +3 | e 3 | 11 | +1 | --- | --- |
| Shirakawa | | 7.1 | 8 | e 1 | 45 | -1 | 3 | 1 | -9 | --- | --- |
| Yakusima | | 7.4 | 275 | e 1 | 49 | 0 | e 3 | 17 | +1 | --- | --- |
| Inawasiro | | 7.5 | 7 | 1 | 49 | -1 | i 3 | 18 | 0 | e 2 | 16 |
| Hamada | | 7.6 | 311 | e 1 | 37 _? | -49 | e 2 | 37 _? | -43 | --- | --- |
| Hukusima | | 7.7 | 8 | 1 | 52 | -1 | 3 | 21 | -1 | --- | --- |
| Niigata | | 7.8 | 0 | --- | --- | --- | e 3 | 24 | 0 | --- | --- |
| Aikawa | | 7.9 | 356 | e 1 | 53 | -2 | --- | --- | --- | --- | --- |
| Hukuoka | | 8.2 | 298 | e 1 | 57 | -1 | 3 | 33 | +1 | --- | --- |
| Yamagata | | 8.2 | 7 | e 1 | 56 | -2 | e 3 | 28 | -4 | --- | --- |
| Sendai | | 8.3 | 10 | e 1 | 59 | -1 | e 3 | 34 | 0 | --- | --- |
| Sakata | | 8.8 | 9 | e 1 | 44 | -21 | --- | --- | --- | --- | --- |
| Mizusawa | | 9.2 | 10 | 2 | 10 | 0 | 3 | 50 | -2 | --- | --- |
| Akita | | 9.6 | 5 | i 2 | 15 | +1 | e 4 | 1 | 0 | e 2 | 51 |
| Miyako | | 9.8 | 13 | 2 | 16 | -1 | 4 | 7 | +2 | --- | --- |
| Aomori | | 10.8 | 7 | e 2 | 31 | +3 | e 4 | 31 | +5 | --- | --- |
| Mori | | 12.0 | 6 | e 2 | 40 | -2 | e 4 | 55 | +4 | e 4 | 29 |
| Obihiro | | 13.2 | 14 | --- | --- | --- | e 5 | 20 | +5 | --- | --- |
| Zô-Sô | Z. | 15.4 | 278 | --- | --- | --- | i 5 | 54 | -4 | --- | --- |
| Nanking | N. | 17.4 | 282 | --- | --- | --- | e 6 | 31 | -4 | --- | --- |
| Baguio | | 21.7 | 335 | i 4 | 15 _a | -5 | i 7 | 48 | -2 | --- | --- |
| Lembang | Z. | 47.5 | 225 | i 7 | 52 _k | -5 | --- | --- | --- | --- | --- |
| College | | 56.1 | 30 | i 8 | 57 | -3 | --- | --- | --- | --- | --- |
| Quetta | Z. | 61.3 | 290 | i 9 | 32 | -3 | --- | --- | --- | --- | --- |
| Kiruna | Z. | 72.3 | 340 | i 10 | 40 _k | -4 | --- | --- | --- | --- | --- |
| Hungry Horse | | 78.3 | 41 | i 11 | 15 | -2 | --- | --- | --- | e 12 | 45 |
| Upsala | Z. | 78.3 | 334 | i 11 | 14 _k | -3 | --- | --- | --- | --- | --- |
| Butte | N. | 80.4 | 42 | e 11 | 28 | 0 | --- | --- | --- | e 13 | 2 |
| Tinemaha | Z. | 81.6 | 52 | i 11 | 33 | -1 | --- | --- | --- | e 13 | 7 |
| Woody | Z. | 81.8 | 54 | i 11 | 34 | -1 | --- | --- | --- | e 13 | 6 |
| China Lake | Z. | 82.7 | 53 | i 11 | 38 | -2 | --- | --- | --- | e 13 | 12 |
| Mount Wilson | Z. | 83.2 | 54 | i 11 | 41 | -1 | --- | --- | --- | --- | --- |
| Riverside | Z. | 83.8 | 54 | i 11 | 44 | -1 | --- | --- | --- | --- | --- |
| Salt Lake City | | 83.8 | 46 | e 11 | 45 | 0 | --- | --- | --- | e 12 | 20 |
| Palomar | Z. | 84.5 | 55 | i 11 | 49 _k | 0 | --- | --- | --- | --- | --- |
| Nelson | Z. | 84.6 | 52 | i 11 | 48 | -1 | i 13 | 31 | ? | i 13 | 23 |
| Barratt | Z. | 85.0 | 55 | i 11 | 49 _k | -2 | --- | --- | --- | --- | --- |
| Rathfarham C. | Z. | 91.7 | 310 | e 13 | 23 | +60 | --- | --- | --- | e 14 | 0 |

Aug. 10d. 13h. 44m. Epicentre 33°-25S. 176°-25W. Magnitude 5.9.
Seismological Observatory Bulletin No. E-135, Jan.-Dec., 1954, New Zealand Department of Scientific and Industrial Research, Wellington, 1959, p. 16.

Aug. 11d. 7h. 27m. Epicentre 41°-0N. 143°-4E. Depth of focus 60km.
Intensity IV at Urakawa: II-III at Hatinohe, Miyako, and Morioka.
Seismo. Bull. Cent. Obs., Japan, for Aug., 1954, Tokyo 1954, pp. 17-18, with macroseismic chart.

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Aug. 11d. 8h. 30m. Epicentre 35°N. 24°·5E.

Magnitude 5. Recorded up to 80°.

Seismo. Institute Bulletin, National Observatory of Athens for 1954, Athens, 1955, p. 95.

Aug. 11d. 11h. 12m. 39s. Epicentre 19°·2N. 69°·2W. Depth of focus 0·010.

$\Lambda = +\cdot3356$, $B = -\cdot8835$, $C = +\cdot3269$; $\delta = +6$; $h = +5$;

$D = -\cdot935$, $E = -\cdot355$; $G = +\cdot116$, $H = -\cdot306$, $K = -\cdot945$.

| | | Δ | | Az. | | P. | | O-C. | | S. | | O-C. | | Supp. | | L. m. |
|-----------------|----|----------|---|-----|---|------|-----|------|----|------|----|------|----|-------|----|----------|
| | | ° | ' | ° | ' | m. | s. | s. | m. | s. | s. | m. | s. | m. | s. | |
| Ciudad Trujillo | | 1·0 | | 220 | | i 0 | 24 | + 4 | | i 0 | 36 | 0 | | — | — | — |
| San Juan | | 3·1 | | 105 | | i 0 | 45 | - 3 | | — | — | — | | — | — | — |
| Roosevelt Roads | | 3·6 | | 105 | | i 0 | 43 | -12 | | — | — | — | | — | — | — |
| Fort de France | | 8·9 | | 119 | | i 2 | 4 | - 3 | | e 3 | 47 | 0 | | — | — | — |
| St. Vincent | | 9·7 | | 127 | | i 2 | 15 | - 3 | | i 13 | 39 | ? | | i 2 | 40 | ? |
| Galerazamba | | 10·2 | | 216 | | e 2 | 27 | + 2 | | i 4 | 1 | -17 | | i 4 | 41 | SS |
| Bermuda | | 13·7 | | 16 | | i 3 | 17k | + 6 | | e 5 | 36 | - 5 | | — | — | — |
| Swan Island | | 14·0 | | 265 | | e 3 | 46 | +31 | | — | — | — | | — | — | — |
| Bogota | | 15·2 | | 199 | | i 3 | 25 | - 5 | | e 6 | 15 | - 1 | | i 3 | 37 | PP |
| Chinchina | | 15·4 | | 204 | | i 3 | 24 | - 9 | | i 6 | 15 | - 6 | | i 3 | 32 | P |
| Columbia | | 18·1 | | 327 | | e 4 | 7 | + 1 | | i 7 | 27 | + 5 | | e 4 | 28 | PP |
| Chapel Hill | | 18·8 | | 335 | | i 4 | 17 | + 3 | | — | — | — | | — | — | — |
| Washington | z. | 20·8 | | 343 | | e 4 | 39 | + 4 | | i 8 | 32 | +15 | | — | — | — |
| Pali-ades | | 22·1 | | 351 | | e 4 | 50 | + 2 | | i 8 | 50 | +10 | | i 5 | 14 | pP |
| Weston | | 23·2 | | 356 | | i 5 | 0a | + 1 | | i 9 | 19 | +19 | | i 5 | 21 | pP |
| Harvard | | 23·3 | | 356 | | i 5 | 4 | + 4 | | e 9 | 21 | +19 | | — | — | — |
| Cleveland | | 24·5 | | 337 | | i 5 | 14a | + 3 | | e 9 | 40 | +18 | | i 5 | 28 | pP |
| Halifax | | 25·8 | | 9 | | e 5 | 36 | +12 | | i 10 | 26 | sS | | i 5 | 51 | pP |
| Fayetteville | | 27·6 | | 313 | | i 5 | 40k | 0 | | e 14 | 54 | ? | | i 6 | 4 | pP |
| Seven Falls | | 27·8 | | 358 | | e 6 | 8 | pP | | 11 | 28 | SS | | — | — | — |
| Dallas | | 28·1 | | 304 | | i 5 | 45 | 0 | | — | — | — | | — | — | — |
| Tacubaya | | 28·3 | | 275 | | e 6 | 1 | pP | | — | — | — | | — | — | — |
| Kirkland Lake | z. | 30·2 | | 346 | | e 6 | 3a | 0 | | — | — | — | | — | — | — |
| La Paz | z. | 35·5 | | 178 | | e 6 | 47 | - 2 | | — | — | — | | e 8 | 33 | PPP |
| Tucson | | 39·4 | | 298 | | i 7 | 21 | - 1 | | — | — | — | | — | — | — |
| Montezuma | z. | 41·6 | | 179 | | i 7 | 41 | + 1 | | — | — | — | | i 7 | 31 | ? |
| Salt Lake City | | 42·2 | | 310 | | 7 | 25 | -20 | | i 8 | 21 | sP | | i 8 | 9 | pP |
| Nelson | z. | 43·2 | | 302 | | i 7 | 54 | + 1 | | i 8 | 29 | sP | | i 8 | 17 | pP |
| Boulder City | | 43·3 | | 302 | | i 8 | 14 | +20 | | — | — | — | | i 8 | 19 | pP |
| Bozeman | | 43·4 | | 317 | | e 7 | 52 | - 2 | | e 9 | 38 | PP | | e 8 | 16 | pP |
| Barratt | z. | 44·4 | | 297 | | i 8 | 1a | - 2 | | i 9 | 42 | PcP | | i 8 | 16 | pP |
| Butte | N. | 44·5 | | 317 | | i 8 | 4k | + 1 | | i 8 | 39 | sP | | i 8 | 29 | pP |
| Riverside | z. | 45·1 | | 299 | | i 8 | 7a | - 1 | | e 12 | 6 | ? | | e 8 | 32 | pP |
| China Lake | z. | 45·5 | | 302 | | i 8 | 10a | - 1 | | i 8 | 45 | sP | | i 9 | 46 | PcP |
| Pasadena | | 45·8 | | 299 | | i 8 | 12a | - 2 | | — | — | — | | — | — | — |
| Tinemaha | z. | 46·2 | | 303 | | i 8 | 17a | 0 | | i 8 | 53 | sP | | i 8 | 42 | pP |
| Hungry Horse | | 46·3 | | 319 | | i 8 | 17 | - 1 | | i 8 | 53 | sP | | i 8 | 42 | pP |
| Woody | z. | 46·5 | | 301 | | i 8 | 19a | 0 | | i 8 | 54 | sP | | i 8 | 46 | pP |
| Fresno | z. | 47·4 | | 303 | | e 8 | 25 | - 1 | | — | — | — | | — | — | — |
| Reno | z. | 47·8 | | 306 | | e 8 | 31 | + 2 | | — | — | — | | — | — | — |
| Lick | z. | 48·9 | | 303 | | i 8 | 38 | 0 | | e 9 | 13 | sP | | — | — | — |
| Mineral | z. | 49·3 | | 307 | | i 8 | 39 | - 2 | | e 9 | 15 | sP | | — | — | — |
| Berkeley | z. | 49·5 | | 304 | | i 8 | 42 | 0 | | i 9 | 18 | sP | | — | — | — |
| Shasta | z. | 50·0 | | 307 | | e 8 | 43 | - 3 | | — | — | — | | — | — | — |
| Victoria | | 52·2 | | 317 | | 9 | 1 | - 2 | | e 9 | 40 | sP | | e 9 | 26 | pP |
| Malaga | | 58·8 | | 58 | | e 9 | 24 | -26 | | — | — | — | | e 10 | 11 | pP |
| Granada | | 59·5 | | 58 | | i 10 | 22a | pP | | — | — | — | | 12 | 8 | PP |
| Paris | | 63·8 | | 44 | | i 10 | 24 | 0 | | i 11 | 3 | sP | | i 10 | 51 | pP |
| Strasbourg | | 67·3 | | 44 | | e 10 | 48 | + 2 | | — | — | — | | e 11 | 13 | pP |
| College | | 67·9 | | 333 | | i 10 | 48 | - 2 | | i 11 | 27 | sP | | i 11 | 17 | pP |
| Stuttgart | | 68·2 | | 44 | | e 10 | 52 | 0 | | — | — | — | | e 11 | 18 | pP |
| Tamanrasset | z. | 69·2 | | 72 | | i 11 | 0a | + 2 | | e 13 | 40 | PP | | e 11 | 25 | pP |
| Jena | z. | 69·6 | | 42 | | e 11 | 1 | 0 | | — | — | — | | — | — | — |
| Collmberg | z. | 70·5 | | 41 | | e 11 | 7 | + 1 | | — | — | — | | — | — | — |
| Upsala | z. | 72·0 | | 32 | | i 11 | 15 | 0 | | — | — | — | | i 11 | 44 | pP |
| Kiruna | z. | 72·3 | | 24 | | i 11 | 17a | 0 | | — | — | — | | i 11 | 43 | pP |

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Aug. 12d. 5h. 17m. Epicentre 43°·1N. 77°·5E.
Bull. of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, p. 77-78.

Aug. 12d. 10h. 12m. 37s. Epicentre 36°·6N. 140°·7E. Depth of focus 40-50km.
Intensity IV at Mito and Tsubasan; II-III at Kakioka, Utunomiya, Shirakwa, and Hukusima.
Loc. cit., 11d., 7h., pp. 19-20, with macroseismic chart.

Aug. 12d. 19h. 47m. Epicentre 37°·5N. 176°·5E. Depth 200km. Magnitude 5ca.
New Zealand Seismo. Obs. Bull. E-135, 1954, Department of Scientific and Industrial Research, Wellington, 1959, p. 16.

Aug. 12d. 23h. 18m. 13s. Epicentre 52°·8N. 159°·1E.

A = -·5672, B = +·2166, C = +·7945; $\delta = -14$; $h = -6$;
D = +·357, E = +·934; G = -·742, H = +·283, K = -·607.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------------|----|----------|-----|----------------------|------|---------|------|---------|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| College | | 29·1 | 45 | i 6 5 | + 1 | — | — | — | — |
| Resolute Bay | | 43·9 | 22 | i 8 0 _a | - 10 | — | — | i 9 44 | PP |
| Victoria | | 47·1 | 62 | e 8 37 _a | + 2 | — | — | — | — |
| Baguio | | 47·2 | 234 | i 8 35 _a | - 1 | — | — | — | — |
| Hungry Horse | | 52·2 | 58 | i 9 15 | 0 | — | — | i 10 26 | PcP |
| Mineral | z. | 53·2 | 70 | i 9 24 | + 2 | — | — | — | — |
| Butte | N. | 54·4 | 59 | e 9 32 | + 1 | — | — | e 10 35 | PcP |
| Berkeley | z. | 54·6 | 72 | i 9 31 | - 1 | — | — | — | — |
| Reno | z. | 54·8 | 69 | e 9 36 | - 2 | — | — | — | — |
| Lick | z. | 55·3 | 72 | i 9 38 | 0 | — | — | — | — |
| Bozeman | | 55·4 | 58 | i 9 38 | 0 | — | — | — | — |
| Kiruna | | 55·8 | 342 | i 9 40 _a | - 1 | e 17 13 | -15 | i 10 38 | PcP |
| Fresno | z. | 56·7 | 72 | e 9 48 | 0 | — | — | — | e 26·8 |
| Tinemaha | z. | 57·4 | 70 | i 9 54 _a | + 1 | — | — | i 10 42 | PcP |
| Woody | z. | 58·0 | 72 | i 9 57 _a | 0 | i 10 16 | ? | i 10 48 | PcP |
| Salt Lake City | | 58·4 | 63 | i 10 2 | + 2 | — | — | e 10 17 | ? |
| China Lake | z. | 58·7 | 71 | i 10 2 _a | 0 | i 10 15 | ? | i 10 50 | PcP |
| Pasadena | | 59·5 | 73 | i 10 7 _a | 0 | e 10 22 | ? | i 10 34 | ? |
| Boulder City | | 60·1 | 69 | i 10 13 | + 2 | — | — | i 10 28 | ? |
| Riverside | z. | 60·1 | 72 | i 10 10 _a | - 1 | — | — | e 10 23 | ? |
| Nelson | z. | 60·3 | 69 | i 10 14 | + 1 | — | — | e 10 28 | ? |
| Palomar | z. | 60·8 | 72 | i 10 17 _a | + 1 | e 10 33 | ? | i 11 3 | PcP |
| Barratt | z. | 61·4 | 73 | i 10 20 _a | 0 | — | — | — | — |
| Reykjavik | z. | 63·4 | 0 | i 10 35 _a | + 1 | — | — | — | — |
| Upsala | z. | 63·5 | 339 | i 10 33 | - 1 | — | — | i 11 9 | PcP |
| Tucson | | 65·1 | 69 | i 10 45 | 0 | — | — | — | — |
| Kirkland Lake | z. | 67·6 | 38 | e 11 0 | - 1 | — | — | — | — |
| Copenhagen | | 68·5 | 340 | i 11 6 _a | 0 | — | — | — | — |
| Hamburg | z. | 71·0 | 341 | i 11 23 _a | + 1 | e 11 57 | ? | e 11 42 | PcP |
| St. Louis | | 71·0 | 51 | i 11 22 | 0 | e 20 33 | - 4 | — | — |
| Fayetteville | | 71·1 | 55 | i 11 22 _k | 0 | — | — | e 11 37 | PcP |
| Potsdam | z. | 71·4 | 339 | e 11 24 | 0 | — | — | — | — |
| Ottawa | | 71·6 | 37 | i 11 23 _a | - 2 | — | — | — | — |
| Shawinigan Falls | | 71·6 | 35 | i 11 25 _a | 0 | — | — | — | — |
| Dallas | | 72·3 | 59 | e 11 27 | - 2 | — | — | — | — |
| Witteveen | z. | 72·3 | 343 | i 11 30 _a | + 1 | — | — | — | — |
| Collmberg | z. | 72·4 | 338 | e 11 29 | - 1 | — | — | — | — |
| Jena | | 73·1 | 339 | i 11 34 | 0 | — | — | e 11 58 | PcP |
| Prague | | 73·3 | 337 | i 11 35 | 0 | e 12 0 | PcP | e 14 15 | PP |
| Rathfarnham Castle | | 73·6 | 351 | i 11 36 _a | - 1 | — | — | e 12 9 | ? |
| Uccle | z. | 74·6 | 344 | i 11 43 | 0 | — | — | i 11 51 | pP |
| Kew | | 74·7 | 347 | i 11 43 | 0 | — | — | — | — |
| Harvard | | 75·6 | 36 | i 11 43 | - 5 | — | — | — | — |
| Karlsruhe | z. | 75·6 | 340 | e 11 48 _a | 0 | — | — | — | — |
| Stuttgart | z. | 75·7 | 340 | i 11 49 _a | 0 | — | — | — | — |

Continued on next page.

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| | Δ ° | Az. ° | P. m. s. | | O-C. s. | S. m. s. | | O-C. s. | Supp. m. s. | | L. m. |
|------------------|---------------|----------|-------------|-----------------|------------|-------------|---|------------|----------------|----|------------|
| Weston | 75.8 | 36 | i 11 | 49 _a | - 1 | — | — | — | — | — | — |
| Palisades | 76.0 | 38 | i 11 | 43 | - 8 | — | — | — | — | — | — |
| Strasbourg | 76.1 | 341 | i 11 | 51 | 0 | — | — | e 12 | 37 | ? | e 38.8 |
| Halifax | 76.3 | 30 | e 11 | 52 | 0 | — | — | — | — | — | — |
| Paris | 76.9 | 344 | i 11 | 56 | 0 | e 13 | 2 | ? | e 12 | 5 | PcP e 38.8 |
| Zürich | 77.1 | 340 | i 11 | 57 _a | 0 | — | — | — | — | — | — |
| Chur | 77.4 | 339 | i 11 | 59 _a | + 1 | — | — | — | — | — | — |
| Neuchatel | 77.8 | 341 | i 12 | 1 | 0 | — | — | — | — | — | — |
| Columbia | 79.0 | 47 | i 12 | 7 | 0 | — | — | — | — | — | — |
| Florence | z. 79.9 | 337 | i 12 | 9 _a | - 3 | — | — | — | — | — | — |
| Jerusalem | 82.7 | 314 | i 12 | 26 | - 1 | — | — | — | — | — | — |
| Messina | 84.0 | 332 | i 12 | 33 | 0 | — | — | — | — | — | e 41.2 |
| Helwan | z. 86.0 | 316 | i 12 | 43 _a | 0 | — | — | e 12 | 55 | ? | — |
| Tamanrasset | z. 101.3 | 335 | e 13 | 52 | - 2 | — | — | e 17 | 54 | PP | — |
| Pretoria | z. 134.6 | 287 | i 19 | 17 _k | [- 4] | — | — | — | — | — | — |
| Pietermaritzburg | z. 136.2 | 281 | i 19 | 25 | [+ 1] | — | — | — | — | — | — |
| Kimberley | z. 138.8 | 287 | e 19 | 18 | [- 10] | — | — | — | — | — | — |
| Grahamstown | z. 141.1 | 281 | e 19 | 57 | [+ 25] | — | — | — | — | — | — |

Aug. 12d. 23h. 54m. Epicentre 33°S. 177°·25W. Magnitude 5.9ca.
New Zealand Seismo. Obs. Bull. E-135, 1954, Department of Scientific and Industrial Research, Wellington, 1959, p. 16.

Aug. 14d. 1h. 36m. 45s. Epicentre 51°·6N. 160°·9E.

A = -·5894, B = +·2041, C = +·7817; $\delta = +10$; $h = -6$;
D = +·327, E = +·945; G = -·739, H = +·256, K = -·624.

| | Δ ° | Az. ° | P. m. s. | | O-C. s. | S. m. s. | | O-C. s. | Supp. m. s. | | L. m. |
|----------------|---------------|----------|-------------|-----------------|------------|-------------|----|------------|----------------|-----|------------|
| Matusiro | 22.0 | 236 | 4 | 59 | + 1 | 9 | 1 | + 5 | — | — | — |
| College | 29.1 | 43 | i 6 | 5 | + 1 | — | — | — | — | — | — |
| Resolute Bay | 44.5 | 22 | i 8 | 15 _k | 0 | — | — | — | — | — | e 24.2 |
| Seattle | z. 47.8 | 63 | e 8 | 43 | + 2 | — | — | — | — | — | — |
| Hungry Horse | 51.8 | 58 | i 9 | 12 | 0 | — | — | i 10 | 27 | PcP | — |
| Shasta | z. 51.9 | 70 | i 9 | 13 | + 1 | — | — | — | — | — | — |
| Mineral | z. 52.6 | 70 | i 9 | 18 | 0 | — | — | — | — | — | — |
| Berkeley | z. 53.8 | 73 | i 9 | 27 | + 1 | — | — | — | — | — | — |
| Butte | N. 54.1 | 59 | e 9 | 29 | 0 | — | — | — | — | — | — |
| Reno | z. 54.2 | 70 | e 9 | 30 | + 1 | — | — | — | — | — | — |
| Lick | z. 54.6 | 73 | e 9 | 33 | + 1 | — | — | — | — | — | — |
| Bozeman | 55.1 | 59 | e 9 | 36 | 0 | — | — | — | — | — | — |
| Fresno | z. 56.0 | 72 | e 9 | 43 | 0 | — | — | — | — | — | — |
| Tinemaha | 56.8 | 71 | i 9 | 49 _k | + 1 | — | — | — | — | — | — |
| Kiruna | 57.2 | 343 | i 9 | 51 _k | 0 | i 17 | 50 | + 4 | e 17 | 58 | PS e 31.4 |
| Woody | z. 57.3 | 72 | i 9 | 50 _k | - 2 | i 10 | 3 | ? | i 10 | 13 | ? |
| Salt Lake City | 57.9 | 64 | i 9 | 57 | + 1 | — | — | — | — | — | — |
| China Lake | z. 58.0 | 72 | i 9 | 57 _k | 0 | i 10 | 9 | ? | — | — | — |
| Pasadena | z. 58.8 | 73 | i 10 | 1 _k | - 1 | e 10 | 19 | ? | e 10 | 42 | ? |
| Riverside | z. 59.4 | 73 | i 10 | 5 _k | - 1 | — | — | — | e 10 | 21 | ? |
| Boulder City | 59.5 | 70 | i 10 | 8 | + 1 | i 10 | 15 | ? | i 10 | 39 | ? |
| Nelson | 59.7 | 70 | i 10 | 9 | 0 | i 10 | 26 | ? | i 10 | 38 | ? |
| Palomar | z. 60.1 | 73 | i 10 | 11 | 0 | i 10 | 28 | ? | — | — | — |
| Barratt | z. 60.7 | 74 | i 10 | 15 | 0 | — | — | — | i 10 | 36 | ? |
| Boulder | 62.0 | 60 | e 10 | 25 | + 1 | — | — | — | — | — | — |
| Tucson | 64.5 | 70 | i 10 | 41 | 0 | — | — | — | — | — | — |
| Upsala | 65.0 | 340 | i 10 | 43 | - 1 | i 19 | 28 | + 2 | i 11 | 26 | ? |
| Kirkland Lake | z. 67.8 | 39 | e 10 | 51 | - 11 | — | — | — | — | — | — |
| Quetta | 69.2 | 292 | i 11 | 9 | - 1 | i 20 | 17 | + 1 | e 28 | 11 | SSS e 38.4 |
| Copenhagen | 70.0 | 342 | e 11 | 16 | + 1 | e 20 | 32 | + 6 | e 11 | 34 | PcP 35.2 |
| Fayetteville | 70.8 | 56 | i 11 | 20 _a | 0 | — | — | — | i 11 | 40 | PcP |
| Warsaw | 71.1 | 335 | e 11 | 25 | + 3 | e 20 | 44 | + 6 | e 21 | 4 | PS e 38.2 |
| Ottawa | 71.8 | 38 | i 11 | 24 _k | - 2 | 13 | 59 | PP | 15 | 30 | PPP |
| Dallas | 71.9 | 60 | i 11 | 27 | 0 | — | — | — | — | — | — |
| Seven Falls | 72.1 | 34 | i 11 | 28 _k | 0 | — | — | — | — | — | — |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-------------|----|------------|------------|----------------------|-------|---------|------|---------|------------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Hamburg | z. | 72.4 | 343 | i 11 32 | + 2 | — | — | — | — |
| Cleveland | z. | 72.6 | 44 | i 11 31 _k | 0 | — | — | — | — |
| Potsdam | | 72.8 | 340 | e 11 34 | + 2 | e 21 4 | + 6 | e 11 50 | PcP e 39.2 |
| Cincinnati | | 73.2 | 48 | i 11 33 | - 2 | — | — | — | — |
| Iasi | N. | 73.7 | 329 | e 11 38 | 0 | — | — | — | — |
| Witteveen | z. | 73.7 | 344 | e 11 38 | 0 | — | — | — | — |
| Collmberg | z. | 73.9 | 340 | e 11 39 | 0 | — | — | e 11 57 | PcP |
| Pittsburgh | z. | 74.1 | 44 | i 11 41 | + 1 | — | — | — | — |
| Jena | | 74.5 | 340 | e 11 42 | 0 | — | — | e 11 58 | PcP |
| De Bilt | | 74.6 | 345 | e 11 43 | 0 | e 21 31 | +13 | e 14 34 | PP e 37.2 |
| Prague | N. | 74.7 | 338 | e 11 44 | + 1 | e 12 0 | PcP | e 13 1 | ? |
| Harvard | | 75.8 | 37 | i 11 49 | - 1 | — | — | — | — |
| Uccle | | 76.0 | 345 | e 11 51 | 0 | e 21 33 | - 1 | e 12 11 | PcP e 39.2 |
| Weston | | 76.0 | 37 | i 11 51 _k | 0 | — | — | — | — |
| Stuttgart | | 77.1 | 341 | e 11 57 | 0 | e 21 51 | + 5 | — | e 42.2 |
| Strasbourg | | 77.5 | 342 | e 12 0 | + 1 | e 21 53 | + 3 | e 12 51 | ? |
| Paris | | 78.2 | 346 | i 12 5 | + 2 | e 22 58 | PPS | e 15 3 | PP |
| Florence | | 81.4 | 338 | e 12 21 | + 1 | e 22 39 | + 8 | e 23 42 | PPS |
| Rome | | 82.8 | 337 | e 12 25 | - 2 | e 23 11 | +26 | — | e 40.2 |
| Jerusalem | | 84.2 | 316 | i 12 37 | + 3 | — | — | — | — |
| Messina | | 85.5 | 333 | e 12 40 | - 1 | e 23 15 | + 3 | 28 47 | SS |
| Helwan | z. | 87.5 | 318 | 12 52 | + 1 | — | — | e 13 13 | ? |
| Tamanrasset | z. | 102.8 | 337 | e 17 51 | PKJKP | — | — | e 18 10 | PP |
| Pretoria | z. | 136.0 | 288 | e 25 25 | PPP | — | — | — | — |
| Kimberley | z. | 140.2 | 288 | e 19 24 | [- 7] | — | — | — | — |

Aug. 14d. 14h. 1m. Epicentre 18°S. 179°W. Depth of focus 550km.
Monthly Bulletin of the B.C.I.S. for August, 1954, Strasbourg, 1955, p. 443.

Aug. 14d. 19h. 30m. Epicentre 42°5N. 44°9E.
Bulletin of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, p. 78.

Aug. 14d. 22h. 56m. 12s. Epicentre 3°6S. 126°8E.

Intensity III-IV at Namlea on Buru Island (according to Djakarta). Magnitude 6.25 (Kiruna).

$$A = -0.5979, B = +0.7992, C = -0.0623; \quad \delta = +9; \quad h = +7; \\ D = +0.801, E = +0.599; \quad G = +0.037, H = -0.050, K = -0.998.$$

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------|----|------------|------------|---------------------|------|---------|-------|----------|------------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Manila | | 18.9 | 342 | e 4 18 | - 6 | — | — | e 6 24 | ? |
| Bandung | | 19.3 | 260 | 4 45? | +16 | e 8 33? | +31 | e 16 10? | ScS |
| Lembang | z. | 19.4 | 260 | i 4 33 _a | + 3 | i 8 18 | +14 | e 16 5 | ScS |
| Baguio | | 20.8 | 343 | i 4 37 _a | - 8 | i 8 25 | - 8 | — | — |
| Hong Kong | E. | 28.5 | 335 | e 6 4? | + 5 | e 10 40 | - 6 | e 6 30 | PP |
| Brisbane | | 34.5 | 136 | i 6 45 | - 7 | i 13 1 | PcS | — | — |
| Riverview | | 37.7 | 146 | i 7 23 _a | + 4 | e 13 13 | + 3 | i 15 20 | SS e 17.4 |
| Matusiro | | 41.3 | 14 | e 7 36 | -13 | e 13 37 | -27 | — | — |
| Mizusawa | E. | 44.5 | 16 | 8 23 | + 8 | — | — | 9 21 | ? |
| Shillong | | 44.6 | 312 | e 8 16 | 0 | i 14 49 | - 3 | — | — |
| Colombo | E. | 48.0 | 282 | 7 53 | -50 | 16 26 | +45 | — | — |
| Madras | E. | 49.1 | 290 | e 8 54 | + 3 | — | — | — | — |
| Kodaikanal | E. | 51.0 | 286 | e 9 36 | +30 | — | — | — | — |
| Hyderabad | N. | 52.1 | 295 | — | — | 16 43 | + 5 | — | — |
| Poona | | 56.6 | 295 | e 9 49 | + 2 | i 17 43 | + 5 | 12 4 | PP 27.0 |
| New Delhi | | 57.4 | 307 | e 9 50 | - 3 | i 17 46 | - 3 | — | — |
| Quetta | | 66.2 | 305 | e 10 51 | - 1 | e 19 38 | - 2 | e 13 19 | PP |
| Potsdam | | 72.8 | 340 | e 18 54 | ? | e 26 18 | SS | e 28 30 | SSS e 28.8 |
| Tananarive | | 78.7 | 252 | e 12 10 | + 4 | — | — | e 15 53 | ? |
| College | | 91.2 | 25 | e 13 11 | + 3 | e 23 25 | [-15] | — | e 32.3 |

Continued on next page.

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|---------------|------------|------------|----------|-------|---------|-------|----------|------------------|
| | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Ksara | 92.7 | 304 | e 13 19 | + 4 | 25 19 | PS | 16 45 | PP |
| Jerusalem | 93.2 | 302 | i 13 19 | + 2 | — | — | i 16 53 | PP |
| Helwan | 96.5 | 300 | e 17 21 | PP | e 24 54 | + 3 | — | — |
| Istanbul | 98.2 | 311 | e 13 50? | +10 | e 24 13 | [- 5] | e 24 59 | S |
| Kiruna | 99.4 | 338 | i 13 40 | - 6 | e 24 14 | [-10] | i 25 3 | S e 46.4 |
| Warsaw | 102.4 | 323 | e 28 18 | PPS | e 24 34 | [- 5] | e 25 16 | SKKS e 56.8 |
| Resolute Bay | 104.9 | 11 | — | — | e 24 37 | [-13] | — | e 49.3 |
| Collenberg | z. 107.5 | 323 | e 17 57 | ? | — | — | — | — |
| Shasta | z. 108.0 | 48 | e 18 36 | PKP | — | — | — | — |
| Jena | z. 108.5 | 323 | e 18 53 | PP | e 19 25 | ? | e 18 0? | ? |
| Messina | E. 108.8 | 309 | e 19 11 | PP | e 31 5 | ? | e 22 55 | ? |
| Lick | z. 109.2 | 52 | e 19 0 | PP | — | — | — | — |
| Scoresby Sund | 110.2 | 349 | — | — | e 25 9 | [- 4] | e 26 8 | SKKS 57.8 |
| Stuttgart | 110.6 | 321 | e 18 48 | [+14] | e 26 48 | {+39} | — | — |
| Florence | 110.8 | 316 | e 19 12 | PP | e 29 58 | PPS | e 39 28 | SSS |
| Hungry Horse | 111.8 | 39 | e 18 38 | [+ 1] | e 29 41 | PPS | — | — |
| Pavia | 111.8 | 318 | e 19 27 | PP | e 29 15 | PS | e 35 7 | SS |
| Woody | z. 111.8 | 53 | e 18 44 | [+ 7] | — | — | e 18 58 | ? |
| China Lake | z. 112.7 | 53 | e 19 12 | [+33] | — | — | e 20 15 | ? |
| Riverside | z. 113.3 | 54 | e 19 1 | [+21] | — | — | e 19 43 | PP |
| Palomar | z. 113.9 | 55 | e 19 5 | [+24] | — | — | e 19 50 | PP |
| Tucson | 119.0 | 55 | e 18 57 | [+ 6] | e 29 39 | PS | — | e 55.2 |
| Tamanrasset | z. 120.1 | 294 | e 18 53 | [0] | e 20 34 | PP | e 28 59? | PKKP |
| Dallas | 129.9 | 49 | e 19 9 | [- 3] | — | — | — | — |
| Fayetteville | 130.3 | 44 | e 19 10 | [- 3] | — | — | e 21 10 | PP |
| Ottawa | 133.9 | 22 | e 19 15 | [- 4] | 22 40 | PKS | — | — |
| Cincinnati | 134.6 | 35 | — | — | i 22 41 | PKS | — | — |
| Weston | 138.1 | 20 | e 19 29 | [+ 2] | — | — | — | — |
| Palisades | 138.2 | 24 | e 19 27 | [0] | e 22 44 | PKS | e 40 54 | SSP |
| Bermuda | 149.4 | 19 | e 19 48 | [+ 2] | e 23 2 | PKS | — | e 77.1 |
| Montezuma | z. 149.8 | 150 | i 19 46 | [- 1] | — | — | i 19 55 | PKP ₂ |
| Huancayo | 153.1 | 126 | e 20 0 | [+ 8] | — | — | — | — |
| San Juan | 160.6 | 40 | e 20 6 | [+ 5] | — | — | — | — |

Aug. 15d. 23h. 57m. Epicentre 24°·8N. 122°·2E. Depth of focus 60km.
Seismo. Bulletin of Taiwan Weather Bureau for July-Sept., 1954, Vol. 1, No. 3, Taipei, China p. 20.

Aug. 16d. 9h. 2m. Epicentre 43°·7N. 84°·4E.
Bulletin of the Seismo. Stations of the U.S.S.R. for 1954, July-Sept., Moscow, 1955, p. 78.

Aug. 16d. 14h. 59m. Epicentre 39°·0N. 48°·7E.
Loc. cit., 9h., pp. 78-79.

Aug. 16d. 19h. 50m. Epicentre 41°·2N. 44°·0E.
Loc. cit., 9h., p. 79.

Aug. 16d. 21h. 49m. Epicentre 24°·2N. 122°·1E. Depth of focus 80km. Unfelt.
Seismo. Bulletin of Taiwan Weather Bureau for July-Sept., 1954, Vol. 1, No. 3, Taipei, China, p. 20.

Aug. 17d. 12h. 17m. Epicentre 43°·2N. 78°·6E.
Bulletin of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, p. 79.

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Aug. 18d. 4h. 42m. 26s. Epicentre 21°·2S. 176°·0W. Depth of focus 0·020.

Intensity VI at Nukualofa ; III at Apia (according to Apia).
Magnitude 7·5 (Wellington and Tacubaya) ; 7·25 (Berkeley).

A = -·9308, B = -·0651, C = -·3596 ; $\delta = -6$; $h = +4$;
D = -·070, E = +·998 ; G = +·359, H = +·025, K = -·933.

| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. m. | |
|--------------|------|----------|-----|------|-----|------|------|----|------|-------|----|----------|--------|
| | | | | m. | s. | | m. | s. | | m. | s. | | |
| Apia | | 8·4 | 29 | e 1 | 50 | -10 | 3 | 8 | -25 | e 7 | 34 | ? | — |
| Nouméa | | 16·4 | 263 | i 3 | 47k | + 5 | i 6 | 57 | SS | e 11 | 49 | ScP | — |
| Auckland | N. | 17·6 | 205 | i 3 | 59 | + 2 | i 7 | 14 | + 9 | — | — | — | — |
| Karapiro | N. | 18·2 | 202 | i 4 | 5 | + 2 | e 7 | 25 | + 7 | e 15 | 29 | ScS | — |
| Tuai | N. | 18·5 | 197 | e 4 | 8 | + 2 | e 7 | 20 | - 4 | e 15 | 31 | ScS | — |
| New Plymouth | E. | 19·8 | 203 | e 4 | 12 | - 8 | i 8 | 0 | +11 | e 4 | 22 | P | — |
| Wellington | | 21·5 | 199 | i 4 | 35k | - 2 | e 8 | 20 | 0 | e 15 | 38 | ScS | — |
| Kaimata | N.E. | 23·7 | 204 | i 4 | 59 | + 1 | i 9 | 7 | + 9 | e 15 | 44 | ScS | — |
| Christchurch | | 24·2 | 200 | i 5 | 4k | + 1 | e 9 | 12 | + 5 | e 17 | 11 | sScS | — |
| Brisbane | | 28·9 | 251 | i 5 | 46 | 0 | i 11 | 34 | sS | — | — | — | — |
| Riverview | | 31·6 | 240 | i 6 | 12k | + 2 | i 11 | 13 | + 7 | i 6 | 46 | pP | — |
| Melbourne | E. | 37·5 | 235 | i 7 | 2 | + 2 | e 12 | 56 | +20 | i 16 | 55 | ScS | — |
| Honolulu | | 45·7 | 24 | i 8 | 5a | - 1 | i 14 | 36 | - 1 | e 8 | 45 | pP | i 18·7 |
| Perth | | 61·0 | 244 | 9 | 2 | -57 | i 19 | 23 | sS | i 12 | 14 | PP | — |
| Mera | | 69·8 | 322 | 10 | 53 | - 2 | — | — | — | — | — | — | — |
| Osima | | 70·0 | 322 | i 10 | 56 | 0 | — | — | — | e 12 | 8 | sP | — |
| Yokohama | | 70·3 | 323 | e 11 | 26 | PcP | e 20 | 48 | sS | e 13 | 25 | PP | — |
| Tokyo | | 70·4 | 323 | i 10 | 59k | 0 | e 19 | 49 | - 7 | e 20 | 50 | sS | — |
| Misima | N. | 70·5 | 322 | e 11 | 0 | + 1 | e 20 | 0 | + 2 | — | — | — | — |
| Mito | N. | 70·5 | 324 | e 11 | 1 | + 2 | e 20 | 0 | + 2 | — | — | — | — |
| Kakioka | N. | 70·6 | 324 | e 11 | 0 | 0 | — | — | — | — | — | — | — |
| Onahama | | 70·7 | 324 | e 11 | 3 | + 3 | e 19 | 56 | - 4 | — | — | — | — |
| Hunatu | N. | 70·8 | 322 | e 11 | 0 | - 1 | 20 | 2 | + 1 | — | — | — | — |
| Shizuoka | | 70·8 | 322 | 11 | 0 | - 1 | e 20 | 0 | - 1 | 20 | 57 | sS | — |
| Kumagaya | | 71·0 | 323 | 11 | 2 | 0 | e 20 | 12 | + 9 | — | — | — | — |
| Titibu | E. | 71·0 | 323 | i 11 | 3 | + 1 | i 20 | 4 | + 1 | — | — | — | — |
| Utunomiya | | 71·0 | 324 | e 11 | 2 | 0 | e 20 | 2 | - 1 | e 11 | 38 | pP | — |
| Kohu | | 71·1 | 322 | e 11 | 2 | - 1 | e 20 | 4 | 0 | e 20 | 58 | sS | — |
| Shirakawa | | 71·2 | 324 | e 11 | 1 | - 2 | e 19 | 50 | -16 | — | — | — | — |
| Siomisaki | | 71·2 | 319 | — | — | — | i 20 | 6 | 0 | — | — | — | — |
| Maebasi | | 71·3 | 323 | e 11 | 4 | 0 | e 20 | 26 | +19 | e 21 | 9 | sS | — |
| Manila | | 71·3 | 294 | i 11 | 4 | 0 | e 20 | 2 | - 5 | — | — | — | — |
| Iida | | 71·4 | 322 | e 22 | 43 | ? | e 20 | 6 | - 2 | e 21 | 0 | sS | — |
| Hokusima | | 71·5 | 325 | e 11 | 6 | + 1 | e 20 | 9 | 0 | 21 | 2 | sS | — |
| Inawasiro | | 71·6 | 324 | i 11 | 6 | 0 | — | — | — | — | — | — | — |
| Nagoya | N. | 71·6 | 321 | e 11 | 0 | - 6 | e 20 | 12 | + 2 | — | — | — | — |
| Oiwake | | 71·6 | 323 | e 11 | 5 | - 1 | — | — | — | — | — | — | — |
| Kameyama | | 71·7 | 320 | 11 | 9 | + 3 | 20 | 14 | + 3 | e 12 | 39 | ? | — |
| Sendai | | 71·7 | 326 | 11 | 5k | - 1 | e 20 | 9 | - 2 | e 11 | 39 | pP | — |
| Matumoto | N. | 71·8 | 322 | 11 | 9 | + 2 | i 20 | 13 | + 1 | — | — | — | — |
| Gihu | | 71·9 | 321 | e 11 | 8 | + 1 | — | — | — | — | — | — | — |
| Matusiro | | 71·9 | 323 | 11 | 7 | 0 | 20 | 13 | - 1 | e 12 | 9 | sP | — |
| Nagano | | 72·0 | 323 | i 11 | 10 | + 2 | i 20 | 17 | + 2 | e 13 | 54 | PP | — |
| Hikone | | 72·2 | 320 | 11 | 11 | + 2 | — | — | — | — | — | — | — |
| Miyako | | 72·2 | 327 | 11 | 9 | 0 | e 20 | 23 | + 6 | i 21 | 1 | ScS | — |
| Mizusawa | E. | 72·2 | 326 | 11 | 9 | 0 | — | — | — | 15 | 14 | ScP | — |
| Kobe | N. | 72·4 | 319 | — | — | — | e 20 | 14 | - 5 | e 21 | 9 | sS | — |
| Niigata | | 72·4 | 324 | i 11 | 11k | + 1 | e 20 | 26 | + 7 | e 11 | 55 | pP | — |
| Bagulo | | 72·6 | 296 | i 11 | 11k | - 1 | i 20 | 23 | + 1 | i 11 | 54 | pP | — |
| Sakata | | 72·7 | 325 | e 11 | 20 | + 8 | — | — | — | — | — | — | — |
| Takamatu | | 72·8 | 318 | i 11 | 14 | + 1 | i 20 | 28 | + 4 | e 14 | 17 | PP | — |
| Hatinohe | | 73·0 | 327 | 11 | 14k | 0 | e 21 | 9 | ScS | — | — | — | — |
| Akita | | 73·2 | 326 | i 11 | 15 | 0 | e 20 | 31 | + 3 | i 21 | 11 | ScS | — |
| Wazima | | 73·2 | 322 | e 11 | 14 | - 1 | e 20 | 30 | + 2 | e 21 | 12 | ScS | — |
| Nemuro | | 73·3 | 332 | i 11 | 15k | - 1 | i 20 | 29 | - 1 | i 11 | 57 | pP | — |

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|-----------------|----|----------|-----|----------|------|---------|-------|---------|-----|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Kusiro | | 73.5 | 331 | i 11 18k | + 1 | i 20 34 | + 2 | i 21 12 | ScS | — |
| Aomori | | 73.6 | 327 | 11 19 | + 2 | e 21 15 | ScS | i 12 20 | sP | — |
| Urakawa | | 73.7 | 329 | e 11 18 | 0 | e 20 36 | + 2 | — | — | — |
| Kurilsk | | 73.8 | 334 | i 11 18 | 0 | i 20 36 | + 1 | 11 58 | pP | — |
| Obihiro | N. | 74.0 | 330 | e 11 22 | + 2 | — | — | — | — | — |
| Hamada | | 74.4 | 318 | — | — | e 20 44 | + 2 | — | — | — |
| Tomakomai | | 74.5 | 329 | e 11 24 | + 2 | i 20 44 | + 1 | — | — | — |
| Mori | | 74.7 | 328 | i 11 24 | 0 | 20 48 | + 3 | 21 21 | ScS | — |
| Bandung | | 74.8 | 268 | e 11 27k | + 3 | i 20 48 | + 2 | i 12 17 | pP | — |
| Lembang | | 74.9 | 268 | i 11 28k | + 3 | i 20 52 | + 5 | i 12 10 | pP | — |
| Sapporo | | 75.0 | 329 | i 11 26k | + 1 | i 20 51 | + 3 | i 12 7 | pP | — |
| Djakarta | | 75.9 | 269 | i 11 31k | + 1 | i 20 58 | 0 | i 12 14 | pP | — |
| Petropavlovsk | | 77.1 | 345 | i 11 35 | - 2 | e 21 8 | - 3 | 12 15 | pP | — |
| San Francisco | E. | 77.3 | 41 | e 11 39 | + 1 | e 21 18 | + 5 | — | — | — |
| Santa Clara | | 77.3 | 41 | i 11 39k | + 1 | i 21 20 | + 7 | i 12 18 | pP | — |
| Yuzno-Sakhlinsk | | 77.4 | 332 | i 11 41 | + 2 | i 21 19 | + 5 | 12 23 | pP | — |
| Berkeley | | 77.5 | 41 | i 11 40a | + 1 | e 21 20 | + 4 | i 12 17 | pP | — |
| Lick | Z. | 77.5 | 42 | i 11 40a | + 1 | i 21 21 | + 5 | i 12 17 | pP | — |
| Ukiah | | 77.7 | 39 | e 11 49 | + 9 | e 21 30 | + 12 | e 21 59 | ScS | e 30.4 |
| Pasadena | | 77.8 | 46 | i 11 41a | 0 | i 21 18 | - 1 | i 12 20 | pP | e 34.9 |
| Barratt | Z. | 78.0 | 48 | i 11 42a | 0 | i 21 24 | + 3 | i 12 21 | pP | — |
| Ferndale | | 78.0 | 38 | — | — | e 21 28 | + 7 | — | — | — |
| Palomar | Z. | 78.2 | 47 | i 11 44a | + 1 | e 21 25 | + 2 | i 12 19 | pP | — |
| Riverside | | 78.2 | 46 | i 11 43a | 0 | e 21 29 | + 6 | i 12 20 | pP | — |
| Arcata | N. | 78.3 | 38 | — | — | e 21 29 | + 5 | — | — | — |
| Fresno | | 78.3 | 43 | i 11 44a | 0 | i 21 29 | - 5 | e 12 22 | pP | — |
| Woody | | 78.3 | 44 | i 11 43a | - 1 | i 21 29 | + 5 | i 12 21 | pP | — |
| China Lake | Z. | 79.2 | 45 | i 11 48a | - 1 | i 21 33 | - 1 | i 12 26 | pP | — |
| Shasta | Z. | 79.2 | 38 | i 11 48a | - 1 | i 14 49 | PP | i 12 37 | pP | — |
| Uglegorsk | | 79.3 | 333 | i 11 49 | 0 | i 21 36 | + 1 | 12 29 | pP | — |
| Mineral | Z. | 79.5 | 39 | i 11 50a | 0 | e 21 38 | + 1 | e 12 27 | pP | — |
| Tinemaha | | 79.5 | 44 | i 11 51 | + 1 | i 21 41 | + 4 | i 12 30 | pP | — |
| Z6-Sè | E. | 79.6 | 309 | 11 52 | + 1 | 21 42 | + 4 | 14 54 | PP | — |
| Reno | | 80.0 | 41 | i 11 54a | + 1 | i 21 47 | + 5 | i 12 33 | pP | — |
| Hong Kong | E. | 80.6 | 298 | i 11 58k | + 2 | 21 54 | + 6 | — | — | — |
| Manzanillo | | 80.7 | 66 | e 11 54 | - 3 | e 21 42 | - 7 | — | — | — |
| Nelson | Z. | 80.9 | 46 | i 11 58a | 0 | i 21 56 | + 5 | i 12 32 | pP | — |
| Boulder City | | 81.1 | 46 | i 11 59 | 0 | i 21 59 | + 6 | i 12 38 | pP | — |
| Corvallis | | 81.2 | 35 | i 12 1 | + 2 | i 21 57 | + 3 | — | — | — |
| Nanking | Z. | 81.8 | 309 | 12 3 | + 1 | — | — | e 12 45 | pP | — |
| Punta Arenas | N. | 81.9 | 144 | i 18 58 | ? | — | — | — | — | — |
| Tucson | | 81.9 | 51 | i 12 4a | + 1 | i 22 7 | + 6 | i 12 42 | pP | e 33.5 |
| Guadalajara | | 82.3 | 64 | e 12 2 | - 3 | e 22 4 | - 1 | — | — | — |
| Chihuahua | | 83.7 | 56 | i 12 15 | + 3 | i 22 15 | - 4 | — | — | — |
| Seattle | | 83.8 | 33 | i 12 14a | + 2 | i 22 24 | + 4 | i 12 53 | pP | — |
| Victoria | | 83.8 | 32 | i 12 12a | 0 | 22 20 | 0 | 12 52 | pP | — |
| Magadan | | 84.9 | 344 | 12 18 | 0 | i 22 29 | - 2 | — | — | — |
| Sitka | | 85.1 | 21 | e 12 19 | 0 | i 22 28 | [+ 4] | i 12 54 | pP | e 34.6 |
| Tacubaya | | 85.3 | 67 | i 12 20a | 0 | e 22 30 | [+ 4] | i 12 56 | pP | — |
| Salt Lake City | | 85.7 | 43 | i 12 22k | 0 | e 22 33 | [+ 5] | i 13 0 | pP | e 34.9 |
| Puebla | | 86.0 | 68 | e 12 30 | + 7 | i 22 40 | - 2 | e 22 25 | SKS | — |
| Oaxaca | | 86.4 | 70 | i 12 28a | + 3 | e 23 58 | sS | e 25 46 | ? | — |
| Vera Cruz | | 87.8 | 69 | i 12 27a | - 5 | e 22 44 | [+ 2] | — | — | — |
| Concepción | N. | 88.0 | 129 | e 13 45 | + 72 | e 23 5 | + 4 | e 15 28 | ? | — |
| Butte | N. | 88.1 | 39 | i 12 33k | - 1 | i 23 3 | + 1 | i 13 12 | pP | e 35.9 |
| Kwanting | | 88.2 | 315 | e 12 36 | + 2 | 22 49 | [+ 4] | 23 10 | S | — |
| College | | 88.5 | 12 | i 12 34k | - 1 | i 22 47 | [+ 1] | i 13 10 | pP | e 35.7 |
| Hungry Horse | | 88.6 | 36 | i 12 35a | - 1 | i 23 8 | + 2 | i 13 16 | pP | — |
| Bozeman | | 88.8 | 39 | i 12 37k | 0 | e 22 50 | [+ 2] | e 13 15 | pP | e 35.7 |
| Linfen | | 89.0 | 309 | e 12 42 | + 4 | e 22 55 | [+ 5] | 24 34 | sS | — |

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|------------------|----|------------|------------|------|-----------------|-------|------|----|-------|-------|----|------|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Taiyuan | | 89.1 | 311 | e 12 | 41 | + 3 | 22 | 55 | [+ 4] | 24 | 28 | SS | --- |
| Boulder | | 89.6 | 46 | i 12 | 41 | 0 | | | | | | | --- |
| Tatung | | 89.7 | 314 | e 12 | 47 | + 6 | e 23 | 1 | [+ 7] | 23 | 31 | S | --- |
| Santa Lucia | N. | 90.6 | 126 | 12 | 37 | - 8 | 23 | 0 | [0] | 13 | 24 | pP | --- |
| San Salvador | | 91.9 | 76 | e 12 | 47 | - 4 | e 23 | 4 | [- 3] | | | | --- |
| Paotow | | 92.1 | 313 | e 12 | 54 | + 2 | 23 | 42 | + 4 | | | | --- |
| Dallas | | 92.7 | 56 | i 12 | 56 | + 1 | i 23 | 16 | [+ 4] | | | | --- |
| Rapid City | E. | 92.9 | 44 | i 12 | 56 | 0 | i 23 | 17 | [+ 4] | i 13 | 35 | pP | --- |
| Saskatoon | | 94.6 | 35 | e 13 | 5 | + 1 | e 23 | 24 | [+ 2] | e 24 | 2 | S | --- |
| Lanchow Univ. | | 94.7 | 307 | e 13 | 7 | + 3 | 23 | 28 | [+ 5] | 24 | 9 | S | --- |
| Antofagasta | N. | 95.0 | 118 | e 13 | 13 | + 8 | e 23 | 24 | [0] | e 25 | 4 | SS | --- |
| Huancayo | | 95.4 | 105 | e 13 | 10 | + 3 | i 23 | 34 | [+ 8] | e 13 | 48 | pP | e 40.6 |
| Fayetteville | | 95.9 | 54 | i 13 | 10 _k | + 1 | e 23 | 30 | [+ 1] | i 13 | 51 | pP | --- |
| Wuwei | | 96.3 | 308 | e 12 | 47 | -24 | e 23 | 33 | [+ 2] | 23 | 56 | SKKS | --- |
| Montezuma | Z. | 96.7 | 117 | i 13 | 17 _a | + 4 | e 25 | 45 | PS | i 13 | 56 | pP | e 37.9 |
| Balboa Heights | | 99.0 | 83 | e 16 | 34 | ? | e 24 | 3 | [+18] | | | | --- |
| La Plata | | 99.0 | 133 | e 13 | 16 | - 8 | i 23 | 47 | [+ 2] | i 24 | 20 | SKKS | 48.5 |
| St. Louis | | 99.8 | 52 | i 14 | 6 | pP | e 24 | 28 | -15 | | | | --- |
| La Paz | | 100.0 | 112 | i 13 | 34 _a | + 6 | i 24 | 58 | +13 | i 14 | 12 | pP | 48.8 |
| Irkutsk | | 100.4 | 322 | 13 | 29 | - 1 | | | | 17 | 30 | PP | --- |
| Shillong | | 100.7 | 293 | e 12 | 10 | -81 | 23 | 54 | [0] | 17 | 43 | PP | --- |
| Chinchina | | 101.4 | 89 | e 13 | 34 | 0 | i 23 | 59 | [+ 2] | i 14 | 16 | pP | --- |
| Terre Haute | | 102.1 | 52 | i 17 | 49 | PP | | | | i 21 | 4 | ? | --- |
| Bogota | | 102.8 | 90 | i 13 | 43 | + 2 | i 23 | 40 | [-23] | i 14 | 23 | pP | --- |
| Calcutta | E. | 102.8 | 289 | 17 | 52 | PP | 24 | 2 | [- 1] | | | | --- |
| Galerazamba | | 103.8 | 84 | e 18 | 48 | pPP | i 24 | 18 | [+10] | e 25 | 26 | S | 45.6 |
| Cincinnati | | 104.2 | 53 | i 13 | 46 | - 1 | | | | i 18 | 2 | PP | --- |
| Columbia | | 105.5 | 59 | i 18 | 7 _a | PKP | e 24 | 15 | [0] | i 18 | 49 | pPKP | e 43.8 |
| Cleveland | | 107.0 | 52 | e 13 | 58 _k | P | i 24 | 24 | [+ 2] | e 14 | 27 | pP | --- |
| Madras | E. | 107.3 | 278 | 18 | 28 | PP | 24 | 4 | [-19] | | | | --- |
| Chapel Hill | | 107.6 | 58 | e 17 | 36 | ? | | | | | | | --- |
| Pittsburgh | Z. | 107.9 | 53 | i 18 | 35 | PP | i 24 | 32 | [+ 6] | i 25 | 12 | SKKS | --- |
| Resolute Bay | | 108.0 | 16 | i 14 | 45 | pP | i 24 | 28 | [+ 1] | i 28 | 39 | sSP | e 54.6 |
| Kodaikanal | E. | 109.0 | 274 | e 17 | 34 | [-36] | i 23 | 37 | [-54] | | | | --- |
| Kirkland Lake | Z. | 109.4 | 45 | e 18 | 1 | [-10] | e 24 | 30 | [- 3] | e 18 | 40 | pPKP | --- |
| Pennsylvania | | 109.5 | 53 | e 18 | 30 | PP | e 24 | 36 | [+ 3] | e 19 | 16 | pPP | --- |
| Washington | Z. | 109.8 | 55 | e 17 | 42 | [-30] | e 24 | 44 | [+10] | e 14 | 14 | P | e 46.7 |
| Hyderabad | | 110.2 | 281 | e 14 | 14 | P | i 24 | 39 | [+ 3] | 25 | 37 | SKKS | 49.0 |
| Philadelphia | | 111.4 | 54 | e 14 | 52 | pP | i 24 | 40 | [- 1] | e 18 | 55 | PP | e 48.6 |
| Ottawa | | 111.9 | 48 | e 18 | 17 _k | [+ 1] | 24 | 44 | [+ 1] | 19 | 34 | pPP | --- |
| Palisades | | 112.5 | 53 | e 14 | 21 | P | i 24 | 49 | [+ 4] | i 14 | 59 | pP | e 52.0 |
| Dehra Dun | N. | 113.8 | 295 | e 17 | 34 | [-46] | 24 | 40 | [-10] | 19 | 26 | PP | --- |
| Shawinigan Falls | | 114.0 | 47 | e 18 | 55 | pPKP | | | | | | | --- |
| New Delhi | | 114.1 | 293 | e 18 | 20 | [0] | i 24 | 54 | [+ 3] | 28 | 57 | PS | --- |
| San Juan | | 114.4 | 79 | e 18 | 25 | [+ 4] | i 24 | 56 | [+ 4] | i 18 | 54 | pPKP | e 47.8 |
| Harvard | | 114.5 | 52 | i 19 | 15 | [+54] | i 24 | 58 | [+ 5] | e 15 | 6 | pP | e 50.1 |
| Weston | | 114.6 | 52 | e 18 | 23 | [+ 2] | i 24 | 58 | [+ 5] | e 18 | 58 | pPKP | --- |
| Semipalatinsk | | 114.7 | 317 | e 18 | 28 | [+ 7] | i 24 | 55 | [+ 2] | e 25 | 59 | SKKS | --- |
| Poona | | 114.8 | 281 | 18 | 24 | [+ 3] | 24 | 59 | [+ 5] | i 19 | 7 | pPKP | --- |
| Seven Falls | | 115.4 | 47 | e 18 | 24 _k | [+ 1] | 24 | 58 | [+ 2] | e 19 | 5 | pPKP | --- |
| Bombay | | 115.8 | 281 | 18 | 26 | [+ 3] | 25 | 5 | [+ 8] | 19 | 9 | pPKP | --- |
| Fort de France | | 118.0 | 84 | i 19 | 42 | PP | i 25 | 14 | [+ 8] | | | | --- |
| Frunse | | 118.2 | 308 | i 18 | 30 | [+ 2] | i 26 | 28 | SKKS | i 19 | 47 | PP | --- |
| Bermuda | | 118.6 | 64 | i 19 | 48 _a | PP | e 25 | 12 | [+ 4] | e 29 | 36 | PS | --- |
| Andijan | | 119.7 | 306 | i 18 | 33 | [+ 2] | i 26 | 34 | SKKS | i 22 | 31 | PPP | --- |
| Tananarive | | 121.6 | 230 | e 18 | 38 | [+ 3] | 25 | 30 | [+12] | i 20 | 12 | PP | --- |
| Grahamstown | Z. | 121.7 | 202 | i 18 | 36 _k | [+ 1] | | | | | | | --- |
| Tashkent | | 122.0 | 306 | i 18 | 36 | [+ 1] | 26 | 34 | SKKS | e 19 | 21 | pPKP | --- |
| Stalinabad | | 122.4 | 303 | i 18 | 39 | [+ 3] | | | | i 20 | 16 | PP | --- |
| Quetta | | 123.2 | 293 | i 18 | 40 | [+ 2] | i 25 | 30 | [+ 7] | i 19 | 24 | pPKP | --- |

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
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| | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Pietermaritzburg z. | 123.4 | 208 | i 18 | 41k | [+ 3] | — | — | — | — | — | — |
| Sverdlovsk | 125.6 | 326 | 18 | 43 | [+ 1] | 37 | 16 | SS | e 15 | 22 | P |
| Kimberley z. | 126.4 | 203 | i 18 | 46k | [+ 2] | — | — | — | — | — | — |
| Pretoria z. | 127.8 | 208 | i 18 | 49a | [+ 2] | — | — | — | — | — | — |
| Scoresby Sund | 128.4 | 11 | i 18 | 48 | [0] | i 25 | 46 | [+ 8] | e 19 | 33 | pPKP |
| Ashkabad | 130.6 | 302 | i 18 | 54 | [+ 2] | e 25 | 40 | [- 4] | 19 | 36 | pPKP |
| Kiruna | 132.2 | 352 | i 18 | 56 | [+ 1] | i 22 | 9 | SKP | i 19 | 37 | pPKP |
| Akureyri N. | 133.3 | 12 | — | — | — | e 22 | 14 | SKP | — | — | e 61.6 |
| Reykjavik | 133.7 | 15 | i 19 | 2a | [+ 4] | i 22 | 15 | SKP | i 19 | 45 | pPKP |
| Pulkovo | 137.2 | 341 | e 19 | 3 | [- 1] | i 25 | 47 | [- 10] | i 19 | 50 | pPKP |
| Moscow | 137.4 | 332 | e 18 | 58 | [- 7] | — | — | — | — | — | — |
| Goris | 139.6 | 306 | i 19 | 1 | [- 8] | e 22 | 34 | SKP | i 22 | 6 | PP |
| Upsala | 140.2 | 349 | i 19 | 2 | [- 8] | e 26 | 12 | [+ 10] | i 22 | 44 | PKS |
| Piatigorsk | 140.5 | 314 | i 19 | 6 | [- 4] | i 22 | 38 | SKP | — | — | e 54.6 |
| Erevan | 140.8 | 308 | i 19 | 6 | [- 5] | — | — | — | 22 | 13 | PP |
| Aberdeen | 143.8 | 6 | i 19 | 16 | [0] | i 29 | 8 | SKKS | i 23 | 6 | PKS |
| Edinburgh E. | 144.9 | 7 | — | — | — | 41 | 9 | SS | — | — | — |
| Copenhagen | 145.0 | 352 | i 19 | 19k | [+ 1] | i 30 | 32 | sSKKS | i 19 | 59 | pPKP |
| Yalta | 146.0 | 320 | i 19 | 21 | [+ 1] | e 32 | 35 | SKSP | i 20 | 6 | pPKP |
| Durham | 146.2 | 6 | e 19 | 12 | [- 8] | i 41 | 26 | SS | i 20 | 3 | pPKP |
| Warsaw | 146.3 | 341 | i 19 | 23k | [+ 3] | e 26 | 18 | [+ 7] | e 20 | 4 | pPKP |
| Rathfarnham C. z. | 147.0 | 11 | i 19 | 19 | [- 3] | i 20 | 23 | sPKP | i 19 | 1k | ? |
| Kishinev | 147.3 | 328 | i 19 | 23 | [+ 1] | i 29 | 29 | SKKS | i 20 | 7 | pPKP |
| Lwow | 147.3 | 336 | i 19 | 23 | [+ 1] | i 29 | 29 | SKKS | i 20 | 8 | pPKP |
| Hamburg | 147.4 | 353 | i 19 | 24k | [+ 2] | e 29 | 32 | SKKS | i 20 | 10 | pPKP |
| Iasi | 147.8 | 329 | e 19 | 29 | [+ 6] | e 29 | 33 | SKKS | e 20 | 12 | pPKP |
| Angra do Heroismo | 148.0 | 50 | i 20 | 5 | pPKP | — | — | — | — | — | — |
| Potsdam | 148.1 | 350 | i 19 | 25k | [+ 2] | e 26 | 11 | [- 3] | i 20 | 9 | pPKP |
| Witteveen z. | 148.4 | 357 | i 19 | 27a | [+ 3] | — | — | — | e 20 | 12 | pPKP |
| Bacau | 148.6 | 329 | e 19 | 31 | [+ 7] | e 29 | 38 | SKKS | — | — | — |
| Focsani | 149.0 | 328 | e 19 | 34 | [+ 9] | e 29 | 42 | SKKS | — | — | — |
| Raciborzu | 149.1 | 342 | e 19 | 28 | [+ 3] | e 20 | 43 | sPKP | e 20 | 14 | pPKP |
| Collnberg | 149.2 | 349 | e 19 | 27 | [+ 2] | e 29 | 39 | SKKS | i 20 | 16 | pPKP |
| De Bilt | 149.2 | 359 | i 19 | 27k | [+ 2] | e 41 | 59 | SS | i 20 | 24 | pPKP |
| Ksara | 149.2 | 301 | e 18 | 17 | [- 68] | — | — | — | — | — | e 67.6 |
| Skalnate Pleso | 149.2 | 339 | i 19 | 33 | [+ 8] | e 26 | 23 | [+ 8] | i 20 | 17 | pPKP |
| Kew | 149.6 | 5 | i 18 | 37k | [- 49] | e 29 | 42 | SKKS | i 19 | 32 | PKP ₂ |
| Jena | 149.7 | 350 | i 19 | 27 | [+ 1] | e 27 | 19 | sSKS | i 20 | 14 | pPKP |
| Prague | 150.0 | 346 | i 19 | 29k | [+ 3] | e 26 | 8 | [- 8] | i 20 | 21 | pPKP |
| Jerusalem | 150.2 | 297 | i 19 | 33a | [+ 7] | — | — | — | i 20 | 20 | pPKP |
| Campulung N. | 150.4 | 329 | e 19 | 31 | [+ 4] | — | — | — | — | — | — |
| Cheb | 150.4 | 349 | i 19 | 34 | [+ 7] | i 29 | 49 | SKKS | i 20 | 28 | pPKP |
| Bucharest | 150.5 | 327 | e 19 | 30 | [+ 3] | e 26 | 4 | [- 13] | e 23 | 38 | PP |
| Uccle | 150.5 | 0 | e 19 | 29 | [+ 2] | e 29 | 41 | SKKS | e 20 | 15 | pPKP |
| Istanbul | 151.0 | 319 | e 19 | 28 | [0] | e 31 | 1 | sSKKS | e 20 | 13 | pPKP |
| Ogyalla N. | 151.0 | 340 | e 19 | 36 | [+ 8] | e 30 | 47 | sSKKS | e 20 | 26 | pPKP |
| Budapest | 151.1 | 339 | e 19 | 30 | [+ 2] | 26 | 9 | [- 9] | 20 | 2 | pPKP |
| Vienna | 151.2 | 343 | i 19 | 30 | [+ 2] | e 29 | 46 | SKKS | i 20 | 15 | pPKP |
| Jersey E. | 151.7 | 8 | e 19 | 38 | [+ 9] | e 29 | 39 | SKKS | — | — | — |
| Timisoara | 151.7 | 334 | 19 | 35 | [+ 6] | e 30 | 0 | SKKS | e 22 | 6 | ? |
| Szeged | 151.8 | 336 | 19 | 39 | [+ 10] | 29 | 52 | SKKS | 23 | 2 | PKS |
| Kalossa | 151.9 | 338 | e 19 | 40 | [+ 11] | — | — | — | e 19 | 44 | PKP ₂ |
| Karlsruhe | 152.0 | 354 | 19 | 28 | [- 1] | e 41 | 52 | SS | e 20 | 19 | pPKP |
| Stuttgart | 152.2 | 353 | i 19 | 32k | [+ 3] | e 27 | 46 | sSKS | e 20 | 14 | pPKP |
| Paris | 152.4 | 2 | i 19 | 32 | [+ 2] | i 26 | 41 | [+ 22] | i 20 | 13 | pPKP |
| Strasbourg | 152.5 | 355 | i 19 | 33 | [+ 3] | e 29 | 52 | SKKS | e 20 | 17 | pPKP |
| Belgrade | 152.8 | 334 | e 19 | 33 | [+ 3] | e 31 | 14 | sSKKS | e 20 | 24 | pPKP |
| Sofia | 153.2 | 327 | e 19 | 32 | [+ 1] | e 19 | 42 | PKP ₁ | e 21 | 27 | ? |
| Basle | 153.6 | 355 | e 19 | 32k | [+ 1] | — | — | — | e 20 | 38 | sPKP |
| Zürich | 153.6 | 353 | e 19 | 32 | [+ 1] | e 24 | 5 | sPKS | e 20 | 19 | pPKP |

Continued on next page.

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------------|------------|------------|----------|------------------|---------|--------|--------------------------|--------|
| | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Helwan | 153.9 | 295 | i 19 32k | [0] | e 30 4 | SKKS | 20 12 pPKP | — |
| Neuchatel | 154.2 | 355 | i 19 34 | [+ 2] | — | — | e 20 37 sPKP | — |
| Triest | 154.3 | 344 | i 19 37 | [+ 5] | e 30 8 | SKKS | e 23 26 PP | e 58.4 |
| Oropa | 155.4 | 353 | e 19 45 | [+ 11] | e 30 2 | SKKS | e 20 21 pPKP | — |
| Pavia | 155.7 | 351 | e 19 36k | [+ 2] | e 30 13 | SKKS | e 20 19 pPKP | — |
| Bologna | 156.0 | 347 | e 19 37k | [+ 3] | e 30 5 | SKKS | e 20 6 PKP ₂ | — |
| Athens | 156.1 | 319 | e 19 36k | [+ 1] | e 19 41 | ? | i 20 43 sPKP | — |
| Prato | 156.6 | 347 | i 19 38 | [+ 3] | — | — | i 20 7 PKP ₂ | — |
| Florence | 156.7 | 347 | i 19 35 | [0] | i 30 20 | SKKS | i 20 6 pPKP | — |
| Taranto | 157.7 | 332 | e 29 17 | ? | e 43 39 | SS | e 33 12 ? | — |
| Rome | 158.2 | 343 | i 19 41k | [+ 4] | i 31 48 | sSKKS | i 20 15 pPKP | — |
| Coimbra | 158.3 | 27 | 19 44 | [+ 6] | 43 42 | SS | 20 17 pPKP | — |
| Lisbon | z. 159.2 | 30 | i 19 42k | [+ 3] | e 27 36 | sSKS | i 20 19 PKP ₂ | — |
| Barcelona | 159.8 | 4 | e 19 38 | [+ 1] | e 30 44 | SKKS | (e 32 8) sSKKS | e 32.1 |
| Toledo | 160.2 | 18 | i 19 44 | [+ 4] | 26 16 | [- 11] | 20 25 pPKP | — |
| Messina | 160.4 | 332 | i 20 22 | PKP ₂ | i 26 15 | [- 12] | i 21 5 pPKP ₂ | — |
| Reggio Calabria | 160.4 | 332 | e 19 43 | [+ 3] | — | — | e 20 30 PKP ₂ | — |
| Alicante | 162.5 | 12 | 19 40 | [- 2] | 26 22 | [- 7] | 20 32 PKP ₂ | 73.2 |
| Granada | 162.8 | 21 | i 19 46k | [+ 4] | 26 55 | [+ 26] | 20 35 pPKP | 83.3 |
| Malaga | 162.9 | 24 | i 19 40 | [- 2] | 30 30 | SKKS | i 23 34 PKS | 94.3 |
| Almeria | 163.4 | 18 | e 19 48 | [+ 5] | 26 50 | [+ 20] | 31 0 SKKS | 74.1 |
| Averroes | 164.3 | 38 | i 19 46 | [+ 2] | 26 43 | [+ 13] | e 20 24 pPKP | — |
| Algiers Univ. | z. 164.5 | 3 | i 19 45k | [+ 1] | e 31 28 | SKKS | e 20 31 pPKP | — |
| Tamanrasset | z. 177.9 | — | i 19 54a | [+ 3] | e 32 9 | SKKS | e 20 40 pPKP | — |

Aug. 18d. 15h. 4m. Epicentre 2°N. 95°W.

Monthly Bulletin of the B.C.I.S. for August, 1954, Strasbourg, 1955, p. 450.

Aug. 18d. 17h. 58m. Epicentre 52°N. 159°5E.

Loc. cit., 15h., pp. 450-451.

Aug. 18d. 22h. 53m. Epicentre 14°43'N. 93°20'W. (Tacubaya).

Loc. cit., 15h., p. 451.

Aug. 18d. 23h. 32m. 10s. Epicentre 39°0N. 70°6E.

A = +.2588, B = +.7350, C = +.6268; $\delta = +8$; $h = -1$;
D = +.943, E = -.332; G = +.208, H = +.591, K = -.779.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-------------|------------|------------|--------|------------------|--------|------------------|--------|----------------|
| | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Garm | 0.3 | 267 | 0 7 | + 1 _g | 0 11 | + 1 _g | — | — |
| Dzhergetal | 0.5 | 64 | e 0 10 | 0 _g | — | — | — | — |
| Obi-garm | 0.8 | 249 | i 0 18 | 0 | e 0 30 | - 1 | — | — |
| Kulyab | 1.3 | 213 | i 0 28 | + 2 _g | — | — | — | — |
| Stalinabad | 1.5 | 254 | i 0 32 | + 2 _g | i 0 53 | + 3 _g | — | — |
| Fergana | 1.6 | 32 | 0 31 | - 1 | i 0 50 | - 1 | — | — |
| Khorog | 1.7 | 154 | i 0 34 | 0 _g | 1 4 | + 8 _g | — | — |
| Namangan | 2.1 | 21 | i 0 40 | + 1* | i 1 9 | 0 _g | i 0 42 | P _g |
| Andijan | 2.2 | 37 | i 0 41 | + 1* | — | — | — | — |
| Murgab | 2.6 | 103 | e 0 53 | + 1 _g | i 1 33 | + 7 _g | i 0 56 | ? |
| Samarkand | 2.9 | 284 | 0 51 | - 1* | e 1 36 | 0 _g | e 0 56 | P _g |
| Tchimkent | 3.4 | 347 | 0 59 | - 2* | e 1 43 | - 2* | — | — |
| Naryn | 4.8 | 58 | e 1 18 | + 3 | — | — | — | — |
| Frunse | 4.9 | 36 | i 1 19 | + 2 | i 2 19 | + 4 | i 1 30 | P* |
| Rybach'c | 5.4 | 49 | i 1 26 | + 2 | 2 30 | + 2 | — | — |
| Fabrichnaya | 6.0 | 44 | 1 35 | + 3 | — | — | — | — |
| Almata | 6.4 | 46 | i 1 39 | + 1 | i 2 56 | + 3 | i 2 41 | ? |
| Almata II | 6.6 | 48 | e 1 43 | + 2 | e 3 3 | + 5 | e 3 23 | S* |
| Balram-Ali | 6.8 | 261 | 1 43 | - 1 | e 3 0 | - 3 | i 2 33 | ? |
| Przhevalsk | 6.8 | 57 | 1 46 | + 2 | — | — | — | — |

Continued on next page.

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|---------------|----------|------|--------|---------|--------|---------|--------|------------------------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Ili | 6.9 | 42 | e 1 45 | 0 | — | — | — | — |
| Kurmenty | 7.0 | 52 | e 1 48 | + 2 | — | — | — | — |
| Quetta | 9.3 | 200 | i 2 18 | + 1 | i 4 4 | - 1 | i 2 49 | P* |
| Dehra Dun | 10.6 | 143 | 2 27 | - 9 | 4 34 | - 3 | e 2 12 | ? |
| Kizyl-Arvat | 11.2 | 276 | 2 46 | + 2 | — | — | — | — |
| New Delhi | 11.7 | 150 | e 2 50 | - 1 | i 5 0 | - 4 | 3 4 | PP |
| Semipalatinsk | 13.3 | 28 | e 3 9 | - 4 | — | — | — | — |
| Shemakla | 17.0 | 282 | e 4 0 | - 1 | — | — | — | — |
| Kirovobad | 18.7 | 283 | 4 20 | - 2 | e 7 49 | + 1 | — | — |
| Goris | 18.8 | 279 | e 4 23 | 0 | e 7 56 | + 6 | — | — |
| Sverdlovsk | 19.0 | 343 | e 4 24 | - 2 | — | — | — | — |
| Duzheti | 19.9 | 287 | e 4 36 | 0 | — | — | — | — |
| Tiflis | 19.9 | 286 | 4 35 | - 1 | e 8 18 | + 3 | — | — |
| Erevan | 20.2 | 282 | i 4 41 | + 2 | e 8 31 | +10 | — | — |
| Gori | 20.4 | 287 | e 4 41 | 0 | — | — | — | — |
| Poona | z. | 20.6 | 171 | e 4 45 | + 2 | — | — | — |
| Borzhom | | 20.9 | 286 | i 4 47 | + 1 | — | — | — |
| Piatigorsk | | 21.2 | 293 | e 4 53 | + 4 | i 8 43 | + 2 | — |
| Shillong | z. | 22.3 | 121 | e 5 1 | 0 | — | — | — |
| Sotchi | | 23.6 | 291 | e 5 15 | + 2 | — | — | — |
| Moscow | | 27.6 | 318 | e 5 50 | - 1 | — | — | — |
| Pulkovo | | 32.7 | 323 | e 6 35 | - 1 | i 11 36 | -16 | — |
| Lwow | | 34.5 | 304 | i 6 51 | - 1 | — | — | — |
| Upsala | z. | 39.0 | 320 | i 7 28 | - 2 | i 16 15 | SS | i 8 57 |
| Kiruna | | 39.7 | 333 | i 7 34 | - 2 | — | — | i 7 41 |
| Collmberg | z. | 41.4 | 307 | e 7 52 | + 2 | — | — | — |
| Jena | | 42.3 | 306 | e 7 57 | 0 | — | — | e 9 36 |
| Stuttgart | | 44.2 | 304 | e 8 12 | 0 | — | — | PP |
| Strasbourg | | 45.2 | 304 | e 8 20 | 0 | — | — | — |
| Paris | | 48.6 | 305 | e 8 46 | - 1 | — | — | (e 30 50t) PKKP e 30.8 |
| Tamanrasset | z. | 57.1 | 274 | e 9 48 | - 2 | — | — | e 11 55 |
| College | | 72.2 | 16 | i 11 26 | - 3 | i 11 32 | ? | i 11 51 |
| Victoria | | 92.0 | 9 | 13 12 | 0 | — | — | PP |
| Hungry Horse | | 92.9 | 3 | e 13 15 | - 1 | — | — | PcP |

Aug. 19d. 21h. 3m. 23s. Epicentre 41°·1N. 36°·3E.

A = +·6091, B = +·4474, C = +·6548; $\delta = -7$; $h = -2$;
D = +·592, E = -·806; G = +·528, H = +·388, K = -·756.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-------------|----------|-----|--------|------|--------|------------------|--------|-------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Sotchi | 3.5 | 45 | e 0 57 | 0 | e 2 0 | + 4 _g | — | — |
| Yalta | 3.7 | 336 | i 1 3 | + 3 | e 2 10 | + 8 _g | — | — |
| Theodosia | 3.9 | 351 | i 1 7 | + 5 | i 2 21 | +12 _g | — | — |
| Zugdidi | 4.4 | 70 | 1 8 | - 2 | — | — | — | — |
| Abastumanj | 5.0 | 81 | e 1 16 | - 2 | — | — | — | — |
| Borzhom | 5.4 | 80 | e 1 22 | - 2 | e 2 23 | - 5 | — | — |
| Akhalkalaki | 5.4 | 85 | e 1 24 | 0 | — | — | — | — |
| Istanbul | 5.4 | 268 | e 1 24 | 0 | e 2 38 | - 6* | i 1 34 | P* |
| Piatigorsk | 5.8 | 58 | 1 30 | + 1 | — | — | — | e 2.8 |
| Gori | 5.9 | 79 | e 1 28 | - 3 | — | — | — | — |
| Erevan | 6.3 | 96 | i 1 36 | 0 | — | — | — | — |
| Duzheti | 6.4 | 79 | 1 38 | 0 | — | — | — | — |
| Tiflis | 6.4 | 82 | 1 37 | - 1 | — | — | — | — |
| Ksara | 7.3 | 183 | 0 40? | -70 | 2 44 | -31 | — | — |
| Kirovobad | 7.6 | 90 | 1 54 | - 1 | — | — | — | — |
| Goris | 7.8 | 99 | i 2 0 | + 2 | — | — | — | — |
| Kishinev | 8.0 | 320 | i 2 0 | 0 | i 3 35 | + 2 | — | — |
| Focsani | 8.0 | 308 | e 2 7 | + 7 | e 3 36 | + 3 | e 3 41 | S |
| Safed | 8.2 | 185 | i 2 0 | - 3 | — | — | i 2 44 | P* |
| Bucharest | 8.2 | 297 | e 2 9 | + 6 | e 3 45 | + 7 | e 2 25 | P* |

Continued on next page.

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|-----------------|----------|-----|------|-----------------|------|------|-----|------------------|-------|-----|----------------|
| | | | m. | s. | | m. | s. | | m. | s. | |
| Makhach-Kala | 8.5 | 74 | 1 2 | 12 | + 5 | — | — | — | — | — | — |
| Bacau | 8.7 | 312 | e 2 | 14 | + 4 | e 3 | 53 | + 3 | e 3 | 59 | SS |
| Iasi | 8.7 | 317 | e 2 | 9 | - 1 | e 3 | 48 | - 2 | e 2 | 24 | PP |
| Shemakla | 9.4 | 91 | i 2 | 21 | + 3 | — | — | — | — | — | — |
| Jerusalem | 9.4 | 186 | i 2 | 22 | + 4 | i 5 | 3 | - 8 _z | — | — | — |
| Sofia | 9.8 | 283 | e 2 | 32 | PP | i 4 | 20 | + 3 | e 5 | 28 | S _z |
| Lenkoran | 9.9 | 100 | 2 | 29 | + 4 | — | — | — | — | — | — |
| Athens | 10.2 | 256 | e 2 | 31 _a | 0 | i 5 | 14 | + 7* | e 2 | 43 | PP |
| Cernauti | 10.3 | 318 | i 2 | 30 | - 2 | i 4 | 24 | - 6 | — | — | — |
| Baku | 10.4 | 90 | e 2 | 36 | + 2 | — | — | — | — | — | — |
| Helwan | 11.9 | 201 | e 2 | 55 | + 1 | 5 | 22 | SS | 3 | 12 | PPP |
| Belgrade | 12.2 | 293 | — | — | — | e 5 | 34 | SS | e 5 | 48 | SSS |
| Lwow | 12.2 | 319 | i 2 | 57 | - 1 | i 5 | 17 | + 1 | — | — | — |
| Szeged | 12.8 | 299 | e 5 | 5 | ? | 5 | 35 | + 5 | 8 | 35 | PcP |
| Kalossa | 13.6 | 299 | e 4 | 9 | ? | — | — | — | — | — | e 7.2 |
| Budapest | 13.8 | 303 | e 3 | 27 | + 8 | e 5 | 59 | + 5 | 6 | 17 | SS |
| Taranto | 14.4 | 274 | e 3 | 33 | + 6 | e 8 | 13 | ? | e 10 | 37? | ? |
| Moscow | 14.6 | 3 | 3 | 30 | 0 | — | — | — | — | — | — |
| Warsaw | 15.2 | 322 | i 3 | 37 _a | - 1 | e 6 | 34 | + 6 | i 3 | 46 | PP |
| Kizyl-Arvat | 15.4 | 91 | 3 | 37 | - 3 | — | — | — | — | — | — |
| Raciborz | 15.5 | 311 | 3 | 39? | - 3 | e 6 | 59 | SS | e 7 | 15 | SSS |
| Reggio Calabria | 16.2 | 266 | e 3 | 57 | + 7 | — | — | — | — | — | — |
| Messina | 16.2 | 266 | e 3 | 53 | + 3 | 17 | 4 | SS | i 3 | 57 | PP |
| Triest | 17.0 | 293 | e 3 | 53 _k | - 8 | e 7 | 25 | SS | e 4 | 12 | PP |
| Prague | 17.7 | 308 | e 4 | 12 _a | + 2 | e 7 | 31 | + 5 | i 8 | 46 | PcP |
| Rome | 17.8 | 280 | e 4 | 12 | + 1 | e 7 | 42 | +14 | i 4 | 18 | PP |
| Bologna | 18.6 | 289 | e 4 | 24 | + 3 | — | — | — | e 4 | 46 | PPP |
| Florence | 18.6 | 286 | i 4 | 22 | + 1 | i 8 | 11 | SS | i 4 | 44 | PPP |
| Prato | 18.8 | 287 | e 4 | 27 | + 4 | e 8 | 12 | SS | — | — | — |
| Cheb | 18.9 | 306 | i 4 | 25 | + 1 | i 8 | 2 | + 9 | e 8 | 20 | SS |
| Collmberg | 19.0 | 310 | e 4 | 26 | 0 | — | — | — | — | — | e 10.6 |
| Pulkovo | 19.0 | 351 | e 4 | 22 | - 4 | — | — | — | — | — | — |
| Potsdam | 19.4 | 313 | e 4 | 30 | 0 | e 8 | 21 | SS | — | — | e 10.6 |
| Jena | 19.7 | 308 | e 4 | 33 | - 1 | e 8 | 20 | +10 | e 5 | 1 | PP |
| Chur | 20.0 | 296 | e 4 | 37 _a | 0 | — | — | — | — | — | — |
| Pavia | 20.2 | 291 | e 4 | 39 _k | 0 | e 9 | 30 | Q | — | — | e 10.0 |
| Stuttgart | 20.6 | 301 | e 4 | 42 | - 1 | e 8 | 33 | + 4 | e 4 | 53 | PP |
| Zürich | 20.7 | 297 | e 4 | 45 _a | + 1 | e 8 | 31 | 0 | — | — | e 11.3 |
| Oropa | 21.0 | 292 | e 4 | 55 | + 8 | e 8 | 46 | + 9 | — | — | — |
| Karlsruhe | 21.1 | 301 | e 4 | 47 | - 1 | e 4 | 53 | PcP | e 5 | 16 | PP |
| Copenhagen | 21.4 | 321 | e 4 | 52 | + 1 | e 8 | 55 | +10 | i 4 | 56 | PcP |
| Basle | 21.4 | 297 | e 4 | 51 _a | 0 | e 8 | 54 | + 9 | — | — | — |
| Strasbourg | 21.5 | 300 | e 4 | 52 | 0 | e 8 | 52 | + 5 | i 5 | 21 | PP |
| Hamburg | 21.6 | 314 | i 4 | 57 _a | + 3 | e 9 | 13 | SS | e 5 | 15 | PP |
| Neuchatel | 21.8 | 296 | e 4 | 55 | - 1 | e 8 | 58 | + 6 | — | — | — |
| Upsala | 22.0 | 334 | i 4 | 59 | + 1 | e 8 | 57 | + 1 | e 12 | 31 | PcS |
| Sverdlovsk | 22.2 | 37 | 5 | 0 | 0 | 9 | 2 | + 2 | — | — | — |
| Witteveen | 23.2 | 310 | e 5 | 17 | + 8 | — | — | — | — | — | — |
| De Bilt | 23.8 | 308 | e 5 | 20 | + 5 | e 9 | 52 | +24 | — | — | e 11.6 |
| Uccle | 24.0 | 304 | e 5 | 19 | + 2 | 9 | 41 | + 9 | e 5 | 39 | PP |
| Paris | 25.0 | 299 | e 5 | 28 | + 1 | e 10 | 0 | +11 | e 6 | 4 | PP |
| Algiers Univ. | 26.1 | 271 | e 5 | 40 | + 3 | — | — | — | e 5 | 51 | ? |
| Fergana | 26.8 | 80 | e 5 | 42 | - 2 | — | — | — | — | — | — |
| Kew | 27.0 | 305 | — | — | — | e 10 | 37? | +15 | — | — | — |
| Quetta | 27.1 | 104 | e 5 | 54? | + 8 | i 10 | 45 | +21 | — | — | — |
| Kiruna | 28.1 | 347 | i 5 | 56 | + 1 | e 10 | 37? | - 3 | i 6 | 38 | PP |
| Aberdeen | 29.3 | 316 | — | — | — | e 11 | 37? | +38 | — | — | e 16.3 |
| Rathfarnham C. | 30.9 | 308 | e 5 | 54 | -26 | — | — | — | — | — | — |
| Granada | 31.0 | 276 | 6 | 28 _k | + 7 | 11 | 37 | +11 | — | — | 14.5 |
| Tamanrasset | 31.6 | 244 | i 6 | 27 _a | + 1 | e 11 | 31 | - 4 | e 7 | 9 | PP |
| Pretoria | 67.0 | 188 | e 10 | 55 | - 2 | — | — | — | — | — | — |
| Kimberley | 70.3 | 191 | e 11 | 17 | 0 | — | — | — | — | — | — |
| Seven Falls | 70.9 | 316 | e 11 | 21 | 0 | — | — | — | — | — | — |
| College | 74.3 | 2 | e 11 | 38 | - 3 | — | — | — | — | — | — |
| Hungry Horse | 87.1 | 341 | e 12 | 51 | + 2 | — | — | — | — | — | — |

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1954

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Aug. 19d. 21h. 25m. Epicentre 24°·6N. 121°·5E.
Seismo. Bull. of the Taiwan Weather Bureau for July-Sept., 1954, Vol. 1, No. 3, p. 20-21,
Taipei, Taiwan, China.

Aug. 20d. 19h. 21m. 30s. Epicentre 71°·1N. 14°·0W.

A = +·3162, B = -·0788, C = +·9454; $\delta = -3$; $h = -12$;
D = -·242, E = -·970; G = +·917, H = -·229, K = -·326.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------------|----|----------|-----|---------------------|------|---------|------|---------|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Scoresby Sund | | 2·7 | 261 | e 0 36 | - 9 | e 1 4 | -15 | — | — |
| Akureyri | N. | 5·7 | 198 | 1 23? | - 5 | e 2 12 | -23 | — | — |
| Reykjavik | | 7·6 | 207 | i 1 54 | - 1 | e 3 57 | + 7* | i 2 0 | PP |
| Kiruna | | 12·4 | 88 | i 3 8 | + 7 | — | — | — | e 6·1 |
| Aberdeen | | 14·8 | 154 | i 3 29 | - 3 | e 7 0 | SSS | — | — |
| Upsala | | 17·0 | 115 | i 4 4 _a | + 3 | 7 30? | SS | — | — |
| Durham | N. | 17·2 | 155 | i 4 0 | - 3 | — | — | — | — |
| Rathfarnham Castle | | 18·2 | 165 | i 4 27 _a | +11 | — | — | e 4 32 | PP |
| Copenhagen | | 19·2 | 130 | e 4 26 | - 2 | — | — | — | e 12·5 |
| Kew | | 20·6 | 155 | i 4 39 | - 4 | e 8 33 | + 4 | — | e 9·5 |
| De Bilt | | 20·9 | 146 | e 4 45 | - 1 | — | — | e 8 53 | PcP |
| Uccle | | 22·0 | 148 | e 4 54 | - 4 | e 9 4 | + 8 | e 9 22 | SS |
| Potsdam | | 22·3 | 133 | e 5 3 | + 2 | e 9 12 | +10 | e 9 54 | SS |
| Collmberg | Z. | 23·3 | 134 | e 5 10 | 0 | — | — | — | e 11·0 |
| Jena | | 23·3 | 136 | e 5 10 | 0 | e 5 18 | ? | e 5 47 | PP |
| Paris | | 23·6 | 152 | e 5 10 | - 3 | e 9 35 | +10 | e 9 1 | PcP |
| Warsaw | N. | 24·5 | 122 | e 5 23 | + 1 | e 9 49 | + 9 | — | e 11·5 |
| Prague | | 24·8 | 133 | i 5 25 | 0 | e 9 51 | + 5 | e 5 51 | PP |
| Strasbourg | | 24·8 | 144 | e 5 24 | - 1 | e 9 52 | + 6 | e 11 6 | SSS |
| Stuttgart | | 24·9 | 142 | e 5 25 | - 1 | e 9 50 | + 3 | — | e 12·1 |
| Basle | | 25·8 | 145 | e 5 36 | + 2 | — | — | — | — |
| Zürich | | 26·1 | 144 | e 5 35 | - 2 | — | — | — | — |
| Pavia | | 28·3 | 144 | e 7 0 | PPP | — | — | e 8 2 | ? |
| Florence | | 30·1 | 142 | — | — | e 13 10 | SSS | — | e 17·8 |
| Rome | N. | 32·1 | 141 | — | — | e 11 49 | + 6 | — | e 16·8 |
| Granada | | 34·4 | 165 | — | — | (14 48) | SSS | — | 14·8 |
| Seven Falls | | 35·7 | 259 | e 7 1 | 1 | — | — | — | — |
| Messina | | 36·3 | 139 | e 7 7 | 0 | e 11 10 | ? | e 8 32 | PP |
| College | | 40·7 | 332 | i 7 49 | + 5 | — | — | — | — |
| Palisades | | 42·1 | 258 | — | — | e 14 26 | +10 | e 19 19 | Q |
| Hungry Horse | | 48·2 | 298 | e 8 45 | - 1 | — | — | — | — |
| Tamanrasset | Z. | 49·6 | 156 | e 8 54 | - 1 | — | — | — | — |
| Bozeman | | 49·8 | 294 | e 8 57 | + 1 | — | — | — | — |
| Quetta | | 58·8 | 88 | e 10 7 | + 5 | — | — | — | e 35·3 |
| Nelson | Z. | 60·1 | 293 | e 10 10 | - 1 | — | — | — | — |
| Tucson | | 62·0 | 288 | e 10 26 | + 2 | — | — | — | e 34·7 |
| Mount Wilson | Z. | 62·4 | 295 | e 10 22 | - 5 | e 10 29 | P | e 10 33 | ? |
| Pasadena | Z. | 62·5 | 295 | e 10 7 | 21 | — | — | — | — |
| Palomar | Z. | 62·8 | 294 | e 10 35 | + 5 | — | — | i 13 24 | ? |

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1954

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Aug. 20d. 20h. 24m. 9s. Epicentre 71°·1N. 14°·0W. (as at 19h.).

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|----------------|----|----------|-----|---------------------|------|---------|------|---------|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Scoresby Sund | | 2·7 | 261 | i 0 39 | - 6 | i 1 8 | -11 | — | — |
| Akureyri | N. | 5·7 | 198 | e 1 16 | -12 | e 2 3 | -32 | — | — |
| Reykjavik | Z. | 7·6 | 207 | i 1 50 | - 5 | — | — | — | — |
| Kiruna | | 12·4 | 88 | i 3 5 | + 4 | — | — | e 3 28 | PPP |
| Aberdeen | | 14·8 | 154 | e 3 21 | -11 | — | — | — | e 6·5 |
| Upsala | | 17·0 | 115 | i 4 1 | 0 | — | — | (7 51?) | SSS |
| Durham | N. | 17·2 | 155 | i 4 0 | - 3 | — | — | — | — |
| Rathfarnham C. | Z. | 18·2 | 165 | i 4 19 | + 3 | — | — | — | — |
| Copenhagen | | 19·2 | 130 | e 4 28 | 0 | 7 51 | - 8 | — | 9·4 |
| Hamburg | | 20·5 | 136 | e 4 41 | - 1 | — | — | e 4 45 | P |
| Kew | | 20·6 | 155 | i 4 39 | - 4 | e 8 34 | + 5 | — | — |
| De Bilt | | 20·9 | 146 | e 4 47 | + 1 | e 8 51 | +16 | — | — |
| Uccle | | 22·0 | 148 | e 4 54 | - 4 | e 9 6 | +10 | — | — |
| Potsdam | | 22·3 | 133 | e 5 2 | + 1 | e 9 16 | +14 | e 9 33 | SS |
| Resolute Bay | | 22·3 | 316 | e 4 44 | -17 | e 9 22 | +20 | — | — |
| Collmberg | | 23·3 | 134 | e 5 10 | 0 | e 13 1 | ? | e 17 33 | ? |
| Jena | | 23·3 | 136 | e 5 9 | - 1 | e 9 57 | SS | e 6 9 | ? |
| Paris | | 23·6 | 152 | e 5 14 | + 1 | e 9 14 | -11 | e 5 49 | PP |
| Karlsruhe | | 24·5 | 143 | e 5 22 _a | 0 | — | — | — | — |
| Warsaw | | 24·5 | 122 | e 5 25 | + 3 | e 9 45 | + 5 | e 6 3 | PP |
| Prague | | 24·8 | 133 | i 5 26 _a | + 1 | e 9 54 | + 8 | e 6 3 | PP |
| Strasbourg | | 24·8 | 144 | e 5 25 | 0 | e 9 53 | + 7 | e 6 6 | PP |
| Stuttgart | | 24·9 | 142 | e 5 23 _? | - 3 | e 9 54 | + 7 | — | — |
| Basle | | 25·8 | 145 | e 5 35 _a | + 1 | — | — | — | — |
| Zürich | | 26·1 | 144 | e 5 38 | + 1 | — | — | — | — |
| Pavia | | 28·3 | 144 | e 7 36 | ? | — | — | e 8 44 | ? |
| Florence | | 30·1 | 142 | e 6 28 | +16 | e 11 41 | +29 | — | — |
| Rome | | 32·1 | 141 | e 6 31 | 0 | e 11 44 | + 1 | — | — |
| Alicante | | 33·6 | 161 | e 6 42 | - 2 | 11 58 | - 8 | — | — |
| Granada | | 34·4 | 165 | e 6 36 _a | -15 | e 12 39 | +20 | — | — |
| Seven Falls | | 35·7 | 259 | e 7 3 | + 1 | — | — | — | — |
| Messina | | 36·3 | 139 | e 7 3 | - 4 | 12 31 | -17 | e 8 31 | PP |
| College | | 40·7 | 332 | i 7 50 | + 6 | — | — | — | — |
| Palisades | | 42·1 | 258 | — | — | e 14 21 | + 5 | e 17 32 | SS |
| Ksara | | 45·7 | 117 | i 9 4 | +40 | — | — | — | e 21·8 |
| Hungry Horse | | 48·2 | 298 | e 8 43 | - 1 | — | — | e 12 7 | ? |
| Tamanrasset | Z. | 49·6 | 156 | e 8 55 | 0 | — | — | — | — |
| Bozeman | | 49·8 | 294 | e 8 58 | + 2 | — | — | — | — |
| Fayetteville | | 53·2 | 274 | e 11 11 | PP | — | — | — | — |
| Quetta | Z. | 58·8 | 88 | e 10 7 | + 5 | — | — | — | — |
| Nelson | Z. | 60·1 | 293 | e 10 17 | + 6 | — | — | e 13 31 | PPP |
| Tucson | | 62·0 | 288 | e 10 30 | + 6 | — | — | — | — |
| Shillong | Z. | 71·0 | 67 | e 11 39 | +17 | — | — | — | — |

Aug. 20d. 22h. 50m. Epicentre 37°·5N. 27°·0E.

Probably two shocks. Recorded up to 23°.

Seismo. Institute Bulletin, National Observatory of Athens, for 1954, Athens, 1955, p. 96.

Aug. 20d. 22h. 59m. 12s. Epicentre 71°·1N. 14°·0W. (s at 20h.).

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------------|----|----------|-----|---------------------|------|---------|------|---------|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Scoresby Sund | | 2·7 | 261 | i 0 39 | - 6 | i 1 2 | -17 | — | — |
| Akureyri | N. | 5·7 | 198 | e 1 18 | -10 | i 2 17 | -18 | — | e 2·8 |
| Reykjavik | Z. | 7·6 | 207 | i 1 51 | - 4 | — | — | — | e 4·2 |
| Kiruna | | 12·4 | 88 | i 3 6 | + 5 | e 5 48? | +27 | e 4 48? | ? |
| Upsala | | 17·0 | 115 | i 4 6 | + 5 | e 6 48 | ? | — | e 8·8 |
| Durham | N. | 17·2 | 155 | i 4 2 | - 1 | — | — | — | — |
| Rathfarnham Castle | | 18·2 | 165 | i 4 18 _a | + 2 | — | — | e 5 36 | ? |
| Copenhagen | | 19·2 | 130 | e 4 27 | - 1 | — | — | — | e 11·3 |
| Hamburg | | 20·5 | 136 | e 4 44 | + 2 | — | — | e 5 0 | PP |
| Kew | | 20·6 | 155 | i 4 43? | 0 | e 8 37 | + 8 | — | e 9·8 |

Continued on next page.

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|----------------|----|----------|-----|------|-----------------|------|------|----|------|-------|----|--------|--------|
| | | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| De Bilt | | 20.9 | 146 | e 4 | 46 | 0 | e 8 | 51 | +16 | — | — | e 9.8 | |
| Uccle | | 22.0 | 148 | e 4 | 57 | -1 | e 9 | 5 | +9 | — | — | e 10.5 | |
| Potsdam | | 22.3 | 133 | e 5 | 2 | +1 | e 9 | 22 | +20 | e 9 | 51 | SS | e 10.8 |
| Resolute Bay | | 22.3 | 316 | e 4 | 58 | -3 | e 9 | 14 | +12 | — | — | — | e 11.6 |
| Collmberg | z. | 23.3 | 134 | e 5 | 10 | 0 | — | — | — | — | — | — | — |
| Jena | z. | 23.3 | 136 | e 5 | 10 | 0 | — | — | — | — | — | — | — |
| Paris | | 23.6 | 152 | e 5 | 11 | -2 | e 9 | 31 | +6 | e 5 | 54 | PP | e 10.8 |
| Karlsruhe | | 24.5 | 143 | e 5 | 22 | 0 | e 9 | 54 | +14 | e 6 | 15 | PPP | e 13.3 |
| Warsaw | | 24.5 | 122 | i 5 | 24 ^a | +2 | — | — | — | e 5 | 40 | ? | e 12.8 |
| Prague | | 24.8 | 133 | i 5 | 26 | +1 | e 9 | 57 | +11 | e 6 | 17 | PPP | — |
| Strasbourg | | 24.8 | 144 | e 5 | 26 | +1 | e 9 | 54 | +8 | e 6 | 3 | PP | e 11.8 |
| Stuttgart | | 24.9 | 142 | e 5 | 24 | -2 | e 9 | 53 | +6 | — | — | — | — |
| Basle | | 25.8 | 145 | e 5 | 34 | 0 | e 10 | 5 | +3 | — | — | — | — |
| Zürich | | 26.1 | 144 | e 5 | 36 | -1 | — | — | — | — | — | — | — |
| Florence | | 30.1 | 142 | e 6 | 30 | +18 | e 11 | 41 | +29 | — | — | — | — |
| Toledo | | 31.7 | 165 | 6 | 20 | -7 | — | — | — | — | — | — | 16.3 |
| Rome | | 32.1 | 141 | e 6 | 32 | +1 | e 11 | 50 | +7 | — | — | — | e 14.9 |
| Alicante | | 33.6 | 161 | 6 | 40 | -4 | 11 | 56 | -10 | — | — | — | 16.0 |
| Granada | | 34.4 | 165 | 7 | 18 ^k | +27 | — | — | — | — | — | — | 15.4 |
| Taranto | | 34.5 | 136 | — | — | — | e 12 | 0 | -20 | — | — | — | — |
| Algiers Univ. | z. | 35.5 | 156 | e 6 | 57 | -3 | — | — | — | — | — | — | — |
| Seven Falls | | 35.7 | 259 | e 7 | 0 | -2 | — | — | — | — | — | — | — |
| Messina | n. | 36.3 | 139 | e 7 | 4 | -3 | e 12 | 48 | 0 | e 8 | 34 | PP | — |
| Ottawa | | 38.8 | 262 | e 7 | 28 | 0 | — | — | — | — | — | — | — |
| Harvard | | 40.0 | 256 | e 7 | 40 | +2 | — | — | — | — | — | — | — |
| College | | 40.7 | 332 | e 7 | 49 | +5 | — | — | — | — | — | — | — |
| Palisades | | 42.1 | 258 | e 2 | 43 | ? | — | — | — | e 17 | 14 | Q | e 21.8 |
| Cleveland | | 44.2 | 265 | i 8 | 5 ^k | -7 | e 14 | 51 | +5 | — | — | — | — |
| Hungry Horse | | 48.2 | 298 | e 8 | 32 | -12 | — | — | — | e 10 | 15 | PcP | — |
| Tamanrasset | z. | 49.6 | 156 | e 8 | 53 | -2 | — | — | — | — | — | — | — |
| Fayetteville | | 53.2 | 274 | i 9 | 20 | -2 | — | — | — | — | — | — | — |
| Salt Lake City | | 54.5 | 292 | e 9 | 35 | +3 | — | — | — | — | — | — | — |
| Quetta | z. | 58.8 | 88 | e 10 | 4 | +2 | — | — | — | — | — | — | — |
| Boulder City | | 59.8 | 293 | e 10 | 14 | +5 | — | — | — | — | — | — | — |
| Nelson | z. | 60.1 | 293 | e 10 | 12 | +1 | — | — | — | e 10 | 22 | ? | — |
| Isabella | z. | 61.2 | 296 | e 10 | 21 | +2 | — | — | — | e 12 | 34 | PP | — |
| Tucson | | 62.0 | 288 | e 10 | 27 | +3 | — | — | — | — | — | — | e 32.1 |

Aug. 20d. Other shocks were also recorded at epicentre 71°·1N. 14°·0W. at:—

17h. 29m. 20h. 36m. 20h. 42m. 20h. 46m. 21h. 4m.
21h. 19m. 21h. 47m. 22h. 9m. 22h. 39m. 23h. 38m.

See B.C.I.S. for Aug., 1954, pp. 453-457.

Aug. 21d. 0h. 25m. 33s. Epicentre 71°·1N. 14°·0W. (as on 20d. 22h.).

| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|--------------------|----|----------|-----|-----|-----------------|------|-----|-----|------|-------|----|-----|--------|
| | | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Scoresby Sund | | 2.7 | 261 | e 0 | 36 | -9 | i 1 | 8 | -11 | — | — | — | |
| Akureyri | n. | 5.7 | 198 | i 1 | 19 | -9 | e 2 | 17 | -18 | — | — | — | |
| Reykjavik | | 7.6 | 207 | i 1 | 51 | -4 | — | — | — | — | — | — | |
| Kiruna | | 12.4 | 88 | i 3 | 3 | +2 | e 5 | 27? | +6 | i 3 | 10 | PP | |
| Aberdeen | | 14.8 | 154 | i 3 | 29 | -3 | — | — | — | — | — | — | |
| Edinburgh | e. | 15.9 | 157 | 8 | 27 | ? | e 6 | 48 | +4 | 12 | 27 | PcS | |
| Upsala | | 17.0 | 115 | i 4 | 2 | +1 | i 7 | 25 | +15 | i 4 | 26 | PP | e 8.1 |
| Durham | | 17.2 | 155 | i 4 | 0 | -3 | i 5 | 31 | ? | 2 | 54 | ? | — |
| Rathfarnham Castle | | 18.2 | 165 | i 4 | 14 ^k | -2 | e 7 | 39 | +2 | i 4 | 42 | PPP | e 9.7 |
| Copenhagen | | 19.2 | 130 | i 4 | 26 | -2 | — | — | — | — | — | — | 9.4 |
| Hamburg | | 20.5 | 136 | i 4 | 44 ^k | +2 | e 4 | 59 | PP | e 5 | 33 | ? | e 10.4 |
| Witteveen | z. | 20.5 | 142 | e 4 | 42 | 0 | — | — | — | — | — | — | — |
| Kew | | 20.6 | 155 | i 4 | 40 | -3 | e 8 | 33 | +4 | i 5 | 9 | PP | e 10.4 |
| De Bilt | | 20.9 | 146 | e 4 | 47 | +1 | e 8 | 50 | +15 | — | — | — | e 10.4 |
| Pulkovo | | 21.0 | 100 | i 4 | 49 | +2 | — | — | — | — | — | — | — |

Continued on next page.

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1954

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| | | Δ ° | Az. ° | P. | | O-C. s. | S. | | O-C. s. | Supp. | | L. m. | |
|----------------|----|---------------|----------|------|-----------------|------------|------|-----|------------|-------|-----|----------|--------|
| | | | | m. | s. | | m. | s. | | m. | s. | | |
| Uccle | | 22.0 | 148 | e 4 | 54 | - 4 | e 9 | 4 | + 8 | — | — | e 10.4 | |
| Potsdam | | 22.3 | 133 | i 5 | 2 _a | + 1 | e 9 | 37 | SS | i 5 | 30 | PP | e 10.4 |
| Resolute Bay | | 22.3 | 316 | e 4 | 59 | - 2 | e 9 | 13 | +11 | e 5 | 30 | PP | e 11.4 |
| Collmberg | z. | 23.3 | 134 | e 5 | 10 | 0 | — | — | — | — | — | — | e 12.0 |
| Jena | | 23.3 | 136 | e 5 | 10 | 0 | 9 | 32 | +12 | e 5 | 41 | PP | — |
| Paris | | 23.6 | 152 | e 5 | 11 | - 2 | e 9 | 11 | - 14 | (e 10 | 27) | SSS | e 10.4 |
| Cheb | | 24.3 | 136 | i 5 | 21 | + 1 | i 9 | 48 | +11 | i 6 | 14 | PPP | — |
| Karlsruhe | | 24.5 | 143 | 5 | 21 | - 1 | e 9 | 49 | + 9 | — | — | — | e 12.4 |
| Warsaw | | 24.5 | 122 | i 5 | 21 | - 1 | e 9 | 48? | + 8 | e 6 | 2 | PP | e 13.4 |
| Prague | | 24.8 | 133 | i 5 | 26 _a | - 1 | i 9 | 55 | + 9 | — | — | — | e 12.8 |
| Strasbourg | | 24.8 | 144 | e 5 | 25 | 0 | e 9 | 51 | + 5 | e 5 | 45 | PP | 12.2 |
| Stuttgart | | 24.9 | 142 | e 5 | 25 _a | - 1 | e 9 | 54 | + 7 | — | — | — | 12.4 |
| Raciborz | | 25.7 | 128 | e 5 | 30? | - 3 | e 10 | 10 | + 9 | e 7 | 3 | ? | — |
| Basle | | 25.8 | 145 | e 5 | 32 | - 2 | e 10 | 6 | + 4 | — | — | — | — |
| Neuchatel | | 26.1 | 146 | e 5 | 36 | - 1 | e 10 | 21 | +14 | e 6 | 7 | PP | — |
| Zürich | | 26.1 | 144 | e 5 | 35 | - 2 | — | — | — | — | — | — | — |
| Moscow | | 26.6 | 98 | e 5 | 43 | + 1 | e 10 | 8 | - 8 | — | — | — | — |
| Lwow | | 27.5 | 120 | i 5 | 51 | + 1 | — | — | — | — | — | — | — |
| Pavia | | 28.3 | 144 | e 5 | 59 | + 2 | e 12 | 3 | SS | e 6 | 49 | PP | e 14.3 |
| Budapest | | 28.4 | 129 | e 6 | 37 | PP | e 17 | 11 | ? | e 7 | 10 | PPP | 19.4 |
| Triest | | 28.8 | 137 | e 6 | 1 | - 1 | e 12 | 5 | SS | e 9 | 5 | PcP | e 15.8 |
| Florence | | 30.1 | 142 | e 6 | 44 | +32 | e 11 | 57 | ? | — | — | — | — |
| Iasi | | 30.9 | 118 | e 6 | 21 | + 1 | e 11 | 27 | + 3 | e 7 | 1 | PP | — |
| Toledo | | 31.7 | 165 | 6 | 19 | - 8 | — | — | — | — | — | — | — |
| Rome | | 32.1 | 141 | e 6 | 31 | 0 | e 11 | 39 | - 4 | — | — | — | e 14.9 |
| Sverdlovsk | | 33.2 | 76 | 6 | 45 | + 5 | — | — | — | — | — | — | — |
| Alicante | | 33.6 | 161 | 6 | 38 | - 6 | e 12 | 1 | - 5 | — | — | — | 15.9 |
| Granada | | 34.4 | 165 | i 6 | 52 _a | + 1 | e 12 | 46 | +27 | 17 | 12 | ScS | 18.8 |
| Almeria | | 34.8 | 164 | 6 | 50 | - 4 | 12 | 36 | +11 | 8 | 4 | PP | 19.1 |
| Malaga | | 34.8 | 166 | e 6 | 50 | - 4 | — | — | — | — | — | — | 23.3 |
| Theodosia | | 35.2 | 111 | e 7 | 1 | + 3 | — | — | — | — | — | — | — |
| Algiers Univ. | | 35.5 | 156 | 6 | 58 | - 2 | — | — | — | — | — | — | — |
| Seven Falls | | 35.7 | 259 | e 7 | 8 | + 6 | — | — | — | — | — | — | — |
| Messina | | 36.3 | 139 | e 6 | 56 | -11 | 12 | 51 | + 3 | i 8 | 32 | PP | 19.2 |
| Istanbul | | 37.0 | 121 | e 7 | 13 | 0 | e 13 | 4 | + 5 | — | — | — | e 18.4 |
| Ottawa | | 38.8 | 262 | e 7 | 30 _k | + 2 | 13 | 29 | - 3 | 16 | 31 | SSS | — |
| Harvard | | 40.0 | 256 | i 7 | 39 _a | + 1 | — | — | — | — | — | — | — |
| Weston | | 40.1 | 256 | e 7 | 40 | - 1 | — | — | — | — | — | — | — |
| College | | 40.7 | 332 | i 7 | 48 | + 4 | — | — | — | — | — | — | — |
| Palisades | | 42.1 | 258 | e 9 | 30 | PP | e 14 | 29 | +13 | e 17 | 31 | SS | e 20.6 |
| Cleveland | | 44.2 | 265 | i 8 | 14 _k | + 2 | e 14 | 51 | + 5 | — | — | — | — |
| Ksara | | 45.7 | 117 | e 7 | 17 | -67 | 14 | 14 | -54 | — | — | — | — |
| Bermuda | | 47.3 | 243 | e 8 | 36 | - 1 | e 15 | 34 | + 3 | — | — | — | e 22.6 |
| Cincinnati | | 47.3 | 267 | e 8 | 36 | - 1 | — | — | — | — | — | — | — |
| Helwan | | 48.1 | 124 | 8 | 45 | + 2 | 15 | 51 | + 9 | 10 | 36 | PP | — |
| Hungry Horse | | 48.2 | 298 | e 8 | 45 | + 1 | — | — | — | e 10 | 43 | PP | — |
| Ashkabad | | 48.9 | 92 | 8 | 54 | + 4 | — | — | — | — | — | — | — |
| Irkutsk | | 49.4 | 45 | e 8 | 58 | + 5 | — | — | — | — | — | — | — |
| Tashkent | | 49.4 | 80 | e 8 | 56 | + 3 | — | — | — | — | — | — | — |
| Tamanrasset | z. | 49.6 | 156 | e 8 | 53 | - 2 | — | — | — | e 10 | 51 | PP | — |
| Frunse | | 49.7 | 74 | i 9 | 1 | + 5 | — | — | — | — | — | — | — |
| Bozeman | | 49.8 | 294 | e 8 | 57 | + 1 | — | — | — | — | — | — | — |
| Butte | n. | 49.9 | 296 | e 9 | 29 | +32 | e 16 | 2 | - 5 | e 11 | 5 | PPP | e 20.2 |
| Boulder | | 53.2 | 286 | e 9 | 23 | + 1 | — | — | — | — | — | — | — |
| Fayetteville | | 53.2 | 274 | i 9 | 20 | - 2 | — | — | — | — | — | — | — |
| Salt Lake City | | 54.5 | 292 | e 9 | 35 | + 3 | — | — | — | — | — | — | — |
| Dallas | | 57.0 | 275 | e 9 | 46 | - 4 | — | — | — | — | — | — | — |
| Quetta | z. | 58.8 | 88 | 10 | 4 | + 2 | — | — | — | — | — | — | — |
| Tinemaha | z. | 59.8 | 296 | e 10 | 18 | + 9 | — | — | — | — | — | — | — |
| Isabella | z. | 61.2 | 296 | e 10 | 20 | + 1 | — | — | — | — | — | — | — |
| Woody | z. | 61.2 | 296 | e 10 | 19 | 0 | — | — | — | — | — | — | — |
| Tucson | | 62.0 | 288 | e 10 | 25 | + 1 | — | — | — | — | — | — | e 32.0 |
| Mount Wilson | z. | 62.4 | 295 | e 10 | 21 | - 6 | — | — | — | — | — | — | — |
| Riverside | z. | 62.4 | 294 | e 10 | 33 | + 6 | — | — | — | — | — | — | — |
| Palomar | z. | 62.8 | 294 | e 10 | 29 | - 1 | — | — | — | — | — | — | — |

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1954

491

Aug. 21d. 6h. 38m. 35s. Epicentre 7°·1N. 126°·8E.

A = -·5945, B = +·7947, C = +·1228; δ = +6; h = +7;
D = +·801, E = +·599; G = -·074, H = +·098, K = -·992.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|---------------|----|----------|-----|---------------------|-------|----------|-------|----------|------------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Manila | | 9·4 | 323 | i 2 19 | + 1 | e 4 13? | + 6 | — | — |
| Baguio | | 11·1 | 328 | i 2 40 | - 3 | i 4 4? | -45 | — | — |
| Hong Kong | E. | 19·4 | 323 | 4 27? | - 3 | 8 0 | - 4 | — | — |
| Bandung | | 23·6 | 234 | e 5 15 _a | + 2 | e 9 29 | + 4 | i 5 35 | PP |
| Lembang | | 23·6 | 235 | i 5 10 _k | - 3 | e 9 18 | - 7 | i 9 55 | SS |
| Djakarta | | 23·9 | 237 | e 5 12 _a | - 4 | i 9 31 | + 1 | i 5 36 | PP |
| Z6-S6 | | 24·5 | 348 | 5 23 | + 1 | 9 43 | + 3 | — | — |
| Nanking | | 26·0 | 344 | 5 34 _k | - 2 | i 10 3 | - 3 | — | — |
| Matusiro | | 31·1 | 18 | 6 19 | - 3 | — | — | i 7 32 | PP |
| Linfen | | 32·1 | 336 | e 6 33 | + 2 | — | — | — | — |
| Kwanting | N. | 34·5 | 345 | e 7 4 | +12 | — | — | — | — |
| Tatung | | 35·0 | 342 | e 7 1 | + 5 | e 12 42 | +14 | — | — |
| Lanchow Univ. | | 35·7 | 327 | e 7 3 | + 1 | e 12 35 | - 4 | — | — |
| Sining | | 37·2 | 326 | 7 16 | + 1 | e 13 0 | - 2 | — | — |
| Wuwei | | 37·7 | 328 | e 7 20 | + 1 | e 13 8 | - 2 | — | — |
| Shillong | Z. | 38·0 | 303 | e 7 19 | - 2 | — | — | — | — |
| Brisbane | | 42·7 | 145 | i 8 2 | + 2 | i 14 24 | 0 | — | — |
| Madras | E. | 46·2 | 281 | i 8 37 | + 9 | i 15 25 | +10 | 10 23 | PP |
| Colombo | E. | 46·6 | 273 | e 6 14 | ? | e 14 44 | ? | — | — |
| Riverview | | 46·8 | 152 | e 8 33 | 0 | e 15 24 | 0 | i 18 50 | SS e 23·7 |
| Hyderabad | N. | 48·2 | 287 | — | — | e 15 31 | -12 | — | — |
| Dehra Dun | N. | 51·2 | 303 | e 9 1 | - 6 | 16 18 | - 7 | 10 37 | PP |
| Poona | | 52·7 | 288 | e 9 23 | + 5 | i 16 33 | -13 | — | — |
| Quetta | | 60·5 | 301 | e 10 11 | - 3 | e 18 19 | -10 | i 18 52 | PPS |
| College | | 81·7 | 26 | e 12 20 | - 2 | — | — | — | — |
| Tananarive | | 82·2 | 250 | e 12 25 | + 1 | — | — | e 13 20 | ? |
| Safed | | 87·3 | 303 | i 12 47 | - 3 | — | — | i 13 1 | ? |
| Jerusalem | | 87·6 | 302 | i 12 55 | + 4 | — | — | — | — |
| Kiruna | | 89·6 | 339 | i 12 58 | - 3 | i 23 43 | - 8 | e 25 5 | PS |
| Istanbul | | 91·2 | 312 | e 13 14 | + 6 | e 23 34 | [- 6] | e 23 55 | S e 42·4 |
| Bucharest | | 92·7 | 315 | e 16 37 | PP | 23 41 | [- 7] | e 24 9 | S |
| Upsala | | 93·4 | 332 | i 13 14 | - 4 | e 24 36 | +12 | i 13 28 | ? |
| Warsaw | | 94·0 | 324 | e 17 17 | PP | e 23 46? | [-10] | e 25 46? | PS |
| Potsdam | | 98·5 | 325 | — | — | e 24 18 | [- 2] | e 25 27 | S |
| Collmberg | Z. | 99·0 | 324 | e 13 42 | - 2 | e 25 48 | ? | e 17 56 | PP |
| Triest | | 100·7 | 319 | — | — | e 24 49 | [+19] | e 27 54 | PPS e 56·2 |
| Shasta | Z. | 100·9 | 46 | e 17 15 | ? | — | — | — | — |
| Messina | N. | 102·0 | 311 | e 18 11 | PP | e 32 42 | SS | i 18 32 | ? |
| Reno | Z. | 103·1 | 47 | e 17 36 | ? | — | — | — | — |
| Hungry Horse | | 103·4 | 37 | e 14 4 | 0 | — | — | e 17 46 | ? |
| Tinemaha | Z. | 105·2 | 49 | e 18 53 | PP | — | — | — | — |
| Woody | Z. | 105·2 | 50 | e 18 50 | PP | — | — | — | — |
| Isabella | Z. | 105·5 | 50 | e 18 47 | PP | — | — | — | — |
| Mount Wilson | Z. | 106·3 | 51 | e 18 42 | PP | — | — | — | — |
| Palomar | Z. | 107·6 | 52 | e 19 1 | PP | — | — | — | — |
| Nelson | Z. | 108·2 | 49 | e 18 22 | [- 8] | — | — | — | — |
| Tucson | | 112·7 | 51 | e 18 58 | [+20] | — | — | — | — |
| Tamanrasset | Z. | 115·4 | 299 | e 18 38 | [- 6] | e 19 37 | ? | e 19 58 | PP |
| Fayetteville | | 122·4 | 39 | e 18 58 | [+ 1] | — | — | — | — |
| Dallas | | 122·6 | 44 | e 19 0 | [+ 2] | — | — | — | — |
| Seven Falls | | 123·8 | 14 | e 19 0 _k | [0] | — | — | e 19 18 | ? |
| Ottawa | | 124·0 | 19 | e 18 59 | [- 1] | — | — | — | — |
| Cincinnati | | 125·7 | 30 | e 19 17 | [+13] | — | — | — | — |
| Harvard | | 127·9 | 17 | e 19 13 | [+ 5] | — | — | — | — |
| Weston | | 128·1 | 17 | e 19 26 | [+18] | — | — | — | — |
| Palisades | | 128·5 | 20 | e 21 30 | PP | — | — | — | — |
| Columbia | | 131·4 | 31 | e 19 32 | [+17] | — | — | — | — |
| San Juan | | 151·7 | 27 | e 19 58 | [+ 8] | — | — | i 20 7 | PKP, |
| Montezuma | Z. | 158·4 | 137 | e 20 22? | PKP, | e 22 17 | ? | e 24 20? | PP |
| La Paz | | 162·7 | 124 | 19 57 | [- 6] | 23 45 | PKS | i 24 21 | PP |

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1954

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Aug. 21d. 7h. 19m. 45s. Epicentre 71°·1N. 14°·0W. (as at 0h.).

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------------|----------|-----|---------|------|---------|------|---------|------------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Scoresby Sund | 2·7 | 261 | i 0 40 | - 5 | — | — | — | — |
| Akureyri | 5·7 | 198 | e 1 19 | - 9 | e 2 18 | -17 | — | — |
| Reykjavik | 7·6 | 207 | i 1 49 | - 6 | e 3 24 | + 1 | i 1 56 | PP 3·9 |
| Kiruna | 12·4 | 88 | i 3 2 | + 1 | e 5 15? | - 6 | i 3 10 | PP e 6·2 |
| Aberdeen | 14·8 | 154 | i 3 33 | + 1 | — | — | — | — |
| Upsala | 17·0 | 115 | i 4 1 | 0 | e 7 41 | SSS | i 4 11 | PP e 8·2 |
| Durham | 17·2 | 155 | i 4 4 | + 1 | — | — | i 4 14 | PP |
| Rathfarnham Castle | 18·2 | 165 | i 4 10? | - 6 | — | — | — | e 9·2 |
| Copenhagen | 19·2 | 130 | e 4 27 | - 1 | 8 21 | SS | — | 9·4 |
| Hamburg | 20·5 | 136 | e 4 40 | - 2 | e 8 50 | SS | e 4 45 | P e 11·2 |
| Witteveen | 20·5 | 142 | e 4 47 | + 5 | — | — | — | — |
| Kew | 20·6 | 155 | i 4 40 | - 3 | e 8 30 | + 1 | — | e 10·2 |
| Uccle | 22·0 | 148 | e 4 52 | - 6 | e 9 4 | + 8 | e 5 21 | PP e 10·2 |
| Potsdam | 22·3 | 133 | e 5 1 | 0 | e 9 15 | +13 | e 5 22 | PP e 10·2 |
| Resolute Bay | 22·3 | 316 | e 5 2 | + 1 | e 9 0 | - 2 | i 9 37 | SS e 11·8 |
| Collmberg | 23·3 | 134 | e 5 10 | 0 | — | — | — | — |
| Jena | 23·3 | 136 | e 5 15 | + 5 | e 9 32 | +12 | — | — |
| Paris | 23·6 | 152 | — | — | e 9 16 | - 9 | i 9 38 | ? e 10·8 |
| Cheb | 24·3 | 136 | e 5 25? | + 5 | i 9 50 | +13 | e 6 4 | PP |
| Karlsruhe | 24·5 | 143 | e 5 24k | + 2 | e 9 51 | +11 | e 6 21 | PPP e 13·8 |
| Warsaw | 24·5 | 122 | i 5 25a | + 3 | e 9 46 | + 6 | i 5 56 | PP e 14·2 |
| Prague | 24·8 | 133 | i 5 26 | + 1 | i 9 54 | + 8 | e 6 11 | PP e 12·6 |
| Strasbourg | 24·8 | 144 | e 5 27 | + 2 | e 9 51 | + 5 | — | — |
| Stuttgart | 24·9 | 142 | i 5 27a | + 1 | e 9 56 | + 9 | — | e 12·2 |
| Basle | 25·8 | 145 | e 5 36 | + 2 | e 10 7 | + 5 | — | — |
| Zürich | 26·1 | 144 | e 5 44 | + 7 | — | — | — | — |
| Skalnate Pleso | 27·1 | 126 | i 6 49 | PPP | e 11 29 | SS | e 7 7 | ? e 14·1 |
| Pavia | 28·3 | 144 | e 6 1 | + 4 | e 12 45 | PcS | e 6 50 | PP |
| Florence | 30·1 | 142 | e 6 35 | +23 | e 11 50 | +38 | — | — |
| Rome | 32·1 | 141 | e 6 34 | + 3 | i 11 46 | + 3 | — | — |
| Bucharest | 33·0 | 122 | e 6 47 | + 8 | e 12 9 | +12 | — | — |
| Alicante | 33·6 | 161 | 6 37 | - 7 | 12 1 | - 5 | — | 15·9 |
| Granada | 34·4 | 165 | 6 57a | + 6 | (12 27) | + 8 | — | 12·4 |
| Seven Falls | 35·7 | 259 | e 7 1a | - 1 | — | — | — | — |
| Messina | 36·3 | 139 | e 7 6 | - 1 | e 12 52 | + 4 | i 8 34 | PP 17·4 |
| Istanbul | 37·0 | 121 | e 7 15 | + 2 | e 13 7 | + 8 | — | — |
| Ottawa | 38·8 | 262 | e 7 26k | - 2 | 13 27 | + 1 | — | — |
| Harvard | 40·0 | 256 | i 7 38 | 0 | — | — | — | — |
| Weston | 40·1 | 256 | e 7 37 | - 2 | — | — | — | — |
| College | 40·7 | 332 | e 7 47 | + 3 | — | — | e 12 0 | ? e 20·4 |
| Palisades | 42·1 | 258 | e 7 54 | 1 | e 14 30 | +14 | e 9 34 | PP e 22·0 |
| Philadelphin | 43·5 | 258 | e 8 12 | + 5 | e 14 38 | + 2 | — | e 19·0 |
| Cleveland | 44·2 | 265 | i 8 13a | + 1 | e 14 53 | + 7 | — | — |
| Bermuda | 47·3 | 243 | e 8 29 | - 8 | e 15 35 | + 4 | — | e 21·0 |
| Cincinnati | 47·3 | 267 | e 8 35 | - 2 | — | — | — | — |
| Helwan | 48·1 | 124 | e 8 48 | + 5 | e 15 51 | + 9 | e 10 36 | PP |
| Hungry Horse | 48·2 | 298 | e 8 44 | 0 | — | — | e 10 59 | PP |
| Tamanrasset | 49·6 | 156 | e 8 55 | 0 | — | — | — | — |
| Bozeman | 49·8 | 294 | e 8 56 | 0 | — | — | — | — |
| Columbia | 50·8 | 261 | e 9 3 | - 1 | e 15 23 | -57 | — | e 20·4 |
| Boulder | 53·2 | 286 | i 9 52 | +30 | — | — | — | — |
| Fayetteville | 53·2 | 274 | i 9 20 | - 2 | — | — | — | — |
| Salt Lake City | 54·5 | 292 | e 9 33 | + 1 | — | — | — | — |
| Dallas | 57·0 | 275 | e 9 48 | - 2 | — | — | — | — |
| Quetta | 58·8 | 88 | e 10 6 | + 4 | — | — | — | — |
| Boulder City | 59·8 | 293 | e 10 12 | + 3 | — | — | i 10 46 | PcP |
| Tinemaha | 59·8 | 296 | e 10 12 | + 3 | — | — | — | — |
| Nelson | 60·1 | 293 | i 10 12 | + 1 | — | — | e 12 25 | PP |
| Isabella | 61·2 | 296 | e 10 19 | 0 | — | — | — | — |
| Woody | 61·2 | 296 | e 10 19 | 0 | — | — | — | — |
| Tucson | 62·0 | 288 | e 10 25 | + 1 | i 10 33 | ? | e 14 15 | PPP e 29·6 |
| Mount Wilson | 62·4 | 295 | e 10 28 | + 1 | — | — | — | — |
| Palomar | 62·8 | 294 | e 10 37 | + 7 | — | — | — | — |
| Barratt | 63·4 | 293 | e 10 32 | - 2 | — | — | — | — |

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1954

498

Aug. 21d. 17h. 40m. 3s. Epicentre 71°·1N. 14°·0W. (as at 7h.).

| | | Δ ° | Az. ° | P. | | O-C. s. | S. | | O-C. s. | Supp. | | L. m. | |
|--------------------|----|---------------|----------|------|-----------------|------------|------|-----|------------|-------|----|----------|--------|
| | | | | m. | s. | | m. | s. | | m. | s. | | |
| Scoresby Sund | | 2·7 | 261 | i 0 | 39 | - 6 | e 1 | 8 | -11 | — | — | — | |
| Akureyri | N. | 5·7 | 198 | e 1 | 20 | - 8 | i 2 | 20 | -15 | — | — | — | |
| Reykjavik | | 7·6 | 207 | i 1 | 51k | - 4 | i 3 | 21 | - 2 | i 1 | 54 | P | e 4·4 |
| Kiruna | | 12·4 | 88 | e 3 | 2 | + 1 | e 5 | 20 | - 1 | e 5 | 33 | SS | e 6·0 |
| Aberdeen | | 14·8 | 154 | — | — | — | i 6 | 40 | SS | — | — | — | — |
| Upsala | | 17·0 | 115 | i 4 | 3 | + 2 | i 7 | 23 | +13 | — | — | — | e 8·0 |
| Rathfarnham Castle | | 18·2 | 165 | i 4 | 28 _a | PP | — | — | — | e 5 | 3 | ? | e 9·8 |
| Copenhagen | | 19·2 | 130 | e 4 | 26 | - 2 | — | — | — | — | — | — | 9·4 |
| Hamburg | | 20·5 | 136 | e 4 | 44 | + 2 | — | — | — | i 5 | 36 | ? | e 14·0 |
| Witteveen | Z. | 20·5 | 142 | e 4 | 47 | + 5 | — | — | — | — | — | — | — |
| Kew | | 20·6 | 155 | i 4 | 41 | - 2 | e 8 | 33 | + 4 | — | — | — | e 10·0 |
| De Bilt | | 20·9 | 146 | e 4 | 49 | + 3 | — | — | — | e 8 | 53 | PcP | e 10·0 |
| Uccle | | 22·0 | 148 | e 4 | 56 | - 2 | e 9 | 5 | + 9 | — | — | — | e 10·4 |
| Potsdam | | 22·3 | 133 | e 5 | 3 | + 2 | e 9 | 9 | + 7 | e 9 | 33 | SS | e 11·0 |
| Resolute Bay | | 22·3 | 316 | e 5 | 3 | + 2 | e 9 | 13 | +11 | — | — | — | e 11·8 |
| Collmberg | Z. | 23·3 | 134 | e 5 | 10 | 0 | — | — | — | — | — | — | — |
| Jena | | 23·3 | 136 | e 5 | 11 | + 1 | e 9 | 32 | +12 | e 5 | 24 | ? | — |
| Paris | | 23·6 | 152 | e 5 | 13 | 0 | e 9 | 17 | - 8 | i 5 | 27 | ? | e 11·0 |
| Cheb | | 24·3 | 136 | e 5 | 22 | + 2 | e 9 | 48 | +11 | e 5 | 41 | PP | — |
| Karlsruhe | | 24·5 | 143 | e 5 | 23k | + 1 | e 9 | 59 | +19 | e 5 | 29 | ? | — |
| Warsaw | | 24·5 | 122 | i 5 | 24 | + 2 | e 9 | 47 | + 7 | e 10 | 40 | SS | e 14·0 |
| Prague | | 24·8 | 133 | i 5 | 26 | + 1 | e 9 | 57? | +11 | i 6 | 2 | PP | — |
| Strasbourg | | 24·8 | 144 | e 5 | 26 | + 1 | e 9 | 54 | + 8 | e 6 | 1 | PP | e 11·6 |
| Stuttgart | | 24·9 | 142 | e 5 | 27 | + 1 | e 9 | 56 | + 9 | — | — | — | e 12·0 |
| Raciborz | Z. | 25·7 | 128 | e 5 | 36 | + 3 | — | — | — | e 6 | 25 | PPP | — |
| Basle | | 25·8 | 145 | e 5 | 27 | - 7 | — | — | — | — | — | — | — |
| Neuchatel | | 26·1 | 146 | e 5 | 37 | 0 | — | — | — | — | — | — | — |
| Zürich | | 26·1 | 144 | e 5 | 39 | + 2 | — | — | — | — | — | — | — |
| Salo | N. | 28·2 | 142 | e 6 | 1 | + 5 | — | — | — | e 7 | 13 | PPP | — |
| Florence | | 30·1 | 142 | — | — | — | e 11 | 43 | +31 | — | — | — | — |
| Iasi | | 30·9 | 118 | e 6 | 20 | 0 | — | — | — | e 7 | 12 | PP | — |
| Rome | | 32·1 | 141 | e 6 | 30 | - 1 | e 11 | 45 | + 2 | — | — | — | — |
| Alicante | | 33·6 | 161 | e 6 | 38 | - 6 | 11 | 54 | -12 | — | — | — | 17·0 |
| Seven Falls | | 35·7 | 259 | i 7 | 2 _a | 0 | — | — | — | — | — | — | — |
| Messina | | 36·3 | 139 | e 7 | 11 | + 4 | e 12 | 51 | + 3 | e 8 | 34 | PP | 18·7 |
| Istanbul | | 37·0 | 121 | e 7 | 14 | + 1 | e 13 | 7 | + 8 | — | — | — | e 19·0 |
| Ottawa | | 38·8 | 262 | e 7 | 24 | - 4 | 13 | 30 | + 4 | e 9 | 27 | PPP | — |
| Harvard | | 40·0 | 256 | e 7 | 37 | - 1 | — | — | — | i 8 | 8 | ? | — |
| Weston | | 40·1 | 256 | e 7 | 39 | 0 | — | — | — | — | — | — | — |
| College | | 40·7 | 332 | i 7 | 47 | + 3 | — | — | — | — | — | — | — |
| Palisades | | 42·1 | 258 | — | — | — | e 14 | 11 | - 5 | e 17 | 28 | SS | e 21·8 |
| Cleveland | Z. | 44·2 | 265 | i 8 | 13k | + 1 | — | — | — | — | — | — | — |
| Ksara | | 45·7 | 117 | e 7 | 14 | -70 | e 14 | 3 | -65 | — | — | — | — |
| Helwan | Z. | 48·1 | 124 | e 8 | 42 | - 1 | — | — | — | e 10 | 35 | PP | — |
| Hungry Horse | | 48·2 | 298 | e 8 | 44 | 0 | — | — | — | — | — | — | — |
| Tamanrasset | Z. | 49·6 | 156 | e 8 | 56 | + 1 | — | — | — | — | — | — | — |
| Bozeman | | 49·8 | 294 | e 8 | 56 | 0 | — | — | — | — | — | — | — |
| Fayetteville | | 53·2 | 274 | i 9 | 20 | - 2 | — | — | — | — | — | — | — |
| Salt Lake City | | 54·5 | 292 | e 9 | 36 | + 4 | — | — | — | — | — | — | — |
| Quetta | Z. | 58·8 | 88 | e 10 | 4 | + 2 | — | — | — | — | — | — | — |
| Tinemaha | Z. | 59·8 | 296 | e 10 | 12 | + 3 | — | — | — | — | — | — | — |
| Isabella | Z. | 61·2 | 296 | e 10 | 20 | + 1 | — | — | — | — | — | — | — |
| Woody | Z. | 61·2 | 296 | e 10 | 16 | - 3 | — | — | — | — | — | — | — |
| Tucson | | 62·0 | 288 | e 10 | 23 | - 1 | — | — | — | — | — | — | e 34·2 |
| Mount Wilson | Z. | 62·4 | 295 | e 10 | 29 | + 2 | — | — | — | — | — | — | — |
| Barratt | Z. | 63·4 | 293 | e 10 | 34 | 0 | — | — | — | — | — | — | — |
| Lembang | Z. | 106·3 | 62 | i 19 | 56k | ? | — | — | — | — | — | — | — |

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1954

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Aug. 21d. 22h. 50m. 59s. Epicentre 71°·1N. 14°·0W. (as as 17h.).

| | △ | Az. | P. | | O - C. | S. | | O - C. | Supp. | | L. m. |
|--------------------|------|-----|-----|-----------------|--------|------|----|--------|-------|----|------------|
| | | | m. | s. | | m. | s. | | m. | s. | |
| Scoresby Sund | 2.7 | 261 | i 0 | 32 | -13 | i 1 | 9 | -10 | — | — | — |
| Reykjavik | 7.6 | 207 | i 1 | 43 | -12 | i 1 | 52 | P | i 1 | 58 | P |
| Kiruna | 12.4 | 88 | e 3 | 4? | + 3 | e 5 | 26 | + 5 | e 5 | 1? | ? |
| Aberdeen | 14.8 | 154 | i 3 | 33 | + 1 | i 5 | 49 | -29 | i 2 | 47 | ? |
| Upsala | 17.0 | 115 | i 4 | 5 | + 4 | i 7 | 23 | +13 | i 7 | 28 | SS e 8.0 |
| Durham | 17.2 | 155 | i 4 | 3 | 0 | i 7 | 25 | +11 | i 4 | 10 | PP |
| Rathfarnham Castle | 18.2 | 165 | i 4 | 19 _a | + 3 | e 7 | 41 | - 4 | e 4 | 33 | PP e 10.0 |
| Copenhagen | 19.2 | 130 | e 4 | 28 | 0 | — | — | — | — | — | 8.8 |
| Hamburg | 20.5 | 136 | i 4 | 48 | + 6 | i 10 | 34 | ? | e 10 | 41 | ? e 11.3 |
| Witteveen z. | 20.5 | 142 | e 4 | 46 | + 4 | — | — | — | — | — | — |
| Kew | 20.6 | 155 | i 4 | 34 | - 9 | e 8 | 23 | - 6 | — | — | e 10.0 |
| De Bilt | 20.9 | 146 | e 4 | 44 | - 2 | e 8 | 50 | +15 | — | — | e 10.0 |
| Uccle | 22.0 | 148 | e 4 | 58 | 0 | i 9 | 7 | +11 | — | — | e 10.4 |
| Potsdam | 22.3 | 133 | e 5 | 3 | + 2 | e 9 | 14 | +12 | e 5 | 25 | PP e 11.0 |
| Resolute Bay | 22.3 | 316 | e 5 | 3 | + 2 | e 9 | 20 | +18 | — | — | e 11.9 |
| Collmberg | 23.3 | 134 | e 5 | 2 | - 8 | — | — | — | e 5 | 12 | P e 11.5 |
| Jena | 23.3 | 136 | e 5 | 3 | - 7 | e 9 | 33 | +13 | i 5 | 13 | P e 12.0 |
| Paris | 23.6 | 152 | e 5 | 7 | - 6 | e 9 | 13 | -12 | e 5 | 35 | PP e 11.5 |
| Cheb | 24.3 | 136 | i 5 | 21 | + 1 | i 9 | 50 | +13 | e 6 | 3 | PP |
| Karlsruhe | 24.5 | 143 | e 5 | 19 | - 3 | e 9 | 55 | +15 | e 6 | 11 | PPP e 13.0 |
| Warsaw | 24.5 | 122 | e 5 | 20 | - 2 | e 9 | 49 | + 9 | e 5 | 58 | PP e 13.0 |
| Prague | 24.8 | 133 | i 5 | 27 | + 2 | i 9 | 59 | +13 | i 6 | 11 | PP e 12.1 |
| Strasbourg | 24.8 | 144 | e 5 | 26 | + 1 | e 9 | 56 | +10 | e 5 | 51 | PP e 12.0 |
| Stuttgart | 24.9 | 142 | e 5 | 22 | - 4 | e 9 | 56 | + 9 | e 5 | 50 | PP e 12.0 |
| Raciborzu | 25.7 | 128 | e 5 | 39 | + 6 | e 6 | 26 | PPP | e 7 | 25 | ? — |
| Basle | 25.8 | 145 | e 5 | 26 | - 8 | e 9 | 52 | -10 | e 5 | 40 | P — |
| Neuchatel | 26.1 | 146 | e 5 | 29 | - 8 | — | — | — | — | — | — |
| Zürich | 26.1 | 144 | e 5 | 33 | - 4 | — | — | — | e 5 | 39 | P — |
| Skalnate Pleso | 27.1 | 126 | e 5 | 48 | + 2 | e 10 | 30 | + 6 | e 6 | 18 | PP — |
| Oropa | 27.7 | 146 | e 5 | 56 | + 4 | — | — | — | — | — | — |
| Salo | 28.2 | 142 | e 6 | 13 | +17 | e 10 | 56 | +15 | e 6 | 32 | PP — |
| Pavia | 28.3 | 144 | e 6 | 1 | + 4 | e 10 | 56 | +13 | — | — | e 13.9 |
| Budapest | 28.4 | 129 | 6 | 1 | + 3 | 10 | 45 | 0 | 9 | 4 | PcP e 17.7 |
| Florence | 30.1 | 142 | e 6 | 27 | +15 | e 11 | 41 | +29 | — | — | — |
| Iasi | 30.9 | 118 | e 6 | 23 | + 3 | — | — | — | — | — | — |
| Toledo | 31.7 | 165 | e 6 | 31 | + 4 | — | — | — | — | — | 15.0 |
| Rome | 32.1 | 141 | e 6 | 36 | + 5 | i 11 | 52 | + 9 | — | — | e 15.4 |
| Bucharest | 33.0 | 122 | 6 | 30 | - 9 | e 12 | 1 | + 4 | e 7 | 7 | ? — |
| Alicante | 33.6 | 161 | 6 | 47 | + 3 | 12 | 2 | - 4 | 14 | 5 | SS 16.2 |
| Taranto | 34.5 | 136 | e 7 | 47 | +55 | e 12 | 17 | - 3 | — | — | — |
| Malaga | 34.8 | 166 | i 6 | 57 | + 3 | i 12 | 38 | +13 | 8 | 26 | PP 17.7 |
| Seven Falls | 35.7 | 259 | i 7 | 4 _a | + 2 | — | — | — | 9 | 34 | PcP 20.8 |
| Messina | 36.3 | 139 | e 7 | 11 | + 4 | i 12 | 52 | + 4 | i 8 | 36 | PP 18.7 |
| Shawinigan Falls | 36.8 | 260 | e 7 | 12 | + 1 | — | — | — | — | — | — |
| Istanbul | 37.0 | 121 | e 7 | 9 | - 4 | e 13 | 3 | + 4 | — | — | e 18.0 |
| Kirkland Lake z. | 37.8 | 269 | e 7 | 21 | + 1 | — | — | — | — | — | — |
| Ottawa | 38.8 | 262 | e 7 | 29 _k | + 1 | 13 | 33 | + 7 | 9 | 41 | PPP — |
| Harvard | 40.0 | 256 | i 7 | 41 | + 3 | e 13 | 45 | + 1 | — | — | 20.4 |
| Weston | 40.1 | 256 | i 7 | 43 | + 4 | — | — | — | — | — | — |
| College | 40.7 | 332 | e 7 | 40 | - 4 | e 14 | 3 | + 8 | i 9 | 32 | PP e 17.2 |
| Palisades | 42.1 | 258 | e 7 | 58 | + 3 | e 14 | 26 | +10 | e 19 | 33 | ? e 21.8 |
| Philadelphia | 43.5 | 258 | e 8 | 5 | - 2 | e 14 | 42 | + 6 | e 10 | 6 | PP e 19.2 |
| Pennsylvania | 43.6 | 261 | — | — | — | i 14 | 49 | +11 | — | — | — |
| Cleveland | 44.2 | 265 | i 8 | 15 _k | + 3 | e 14 | 53 | + 7 | — | — | — |
| Ksara | 45.7 | 117 | e 7 | 16 | -68 | e 14 | 4 | -64 | — | — | — |
| Bermuda | 47.3 | 243 | e 8 | 37 | 0 | e 15 | 36 | + 5 | — | — | e 21.5 |
| Cincinnati | 47.3 | 267 | e 8 | 27 | -10 | — | — | — | — | — | — |
| Helwan | 48.1 | 124 | e 8 | 46 | + 3 | e 15 | 49 | + 7 | e 9 | 17 | ? — |
| Hungry Horse | 48.2 | 298 | e 8 | 42 | - 2 | — | — | — | e 10 | 46 | PP — |
| Tamanrasset z. | 49.6 | 156 | e 8 | 48 | - 7 | e 10 | 44 | PP | e 11 | 31 | PPP — |

Continued on next page.

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1954

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| | | Δ ° | Az. ° | P. m. s. | O-C. s. | S. m. s. | O-C. s. | Supp. m. s. | L. m. |
|----------------|----|---------------|----------|-------------|------------|-------------|------------|----------------|------------|
| Bozeman | | 49.8 | 294 | e 8 58 | + 2 | — | — | — | — |
| Butte | N. | 49.9 | 296 | e 12 22 | ? | e 20 17 | ? | — | e 21.7 |
| Columbia | | 50.8 | 261 | — | — | e 16 28 | + 8 | — | e 22.5 |
| Fayetteville | | 53.2 | 274 | e 9 22 | 0 | — | — | — | — |
| Salt Lake City | | 54.5 | 292 | e 9 34 | + 2 | e 9 55 | ? | e 10 8 | ? |
| Dallas | | 57.0 | 275 | e 9 52 | + 2 | — | — | — | — |
| Mineral | Z. | 57.7 | 300 | i 9 36 | -19 | — | — | — | — |
| Quetta | Z. | 58.8 | 88 | e 9 58 | - 4 | — | — | — | — |
| Berkeley | Z. | 60.2 | 300 | i 9 31 | -41 | — | — | — | — |
| Fresno | Z. | 60.5 | 298 | e 9 23 | -51 | — | — | — | — |
| Tucson | | 62.0 | 288 | e 10 25 | - 1 | e 18 37 | -11 | e 14 8 | PPP e 30.1 |
| Riverside | Z. | 62.4 | 294 | e 10 15 | -12 | — | — | — | — |
| Pasadena | Z. | 62.5 | 295 | e 10 24 | - 4 | — | — | e 10 36 | ? |
| Palomar | Z. | 62.8 | 294 | e 10 25 | - 5 | — | — | i 10 41 | ? |
| Barratt | Z. | 63.4 | 293 | i 10 38 | + 4 | — | — | — | — |
| Matusiro | | 70.8 | 24 | — | — | e 20 51 | PS | e 25 41 | ? |

Aug. 21d. Other shocks were also recorded from epicentre $71^{\circ}1N$, $14^{\circ}0W$, at :—
4h. 13m. 8h. 50m. 13h. 5m. 14h. 0m.

See B.C.I.S. for Aug., 1954, pp. 458-462.

Aug. 22d. 2h. 51m. 40s. Epicentre $71^{\circ}1N$, $14^{\circ}0W$, (as on 21d.).

| | | Δ ° | Az. ° | P. m. s. | O-C. s. | S. m. s. | O-C. s. | Supp. m. s. | L. m. |
|----------------|----|---------------|----------|---------------------|------------|-------------|------------|----------------|-----------|
| Scoresby Sund | | 2.7 | 261 | i 0 38 | - 7 | i 1 8 | -11 | — | — |
| Akureyri | N. | 5.7 | 198 | i 1 27 | - 1 | i 2 19 | -16 | i 1 21 | ? |
| Reykjavik | | 7.6 | 207 | i 1 52 _a | - 3 | i 3 26 | + 3 | i 1 57 | — |
| Kiruna | | 12.4 | 88 | e 3 7 | + 6 | e 5 23? | + 2 | — | e 6.2 |
| Aberdeen | E. | 14.8 | 154 | i 4 38 | ? | — | — | — | — |
| Upsala | | 17.0 | 115 | i 4 2 | + 1 | — | — | i 4 19 | PP e 8.3 |
| Rathfarnham C. | Z. | 18.2 | 165 | i 4 15 | - 1 | — | — | e 4 30 | PP |
| Copenhagen | | 19.2 | 130 | 4 26 | - 2 | — | — | — | 10.3 |
| Hamburg | Z. | 20.5 | 136 | e 4 43 | + 1 | — | — | — | — |
| Witteveen | Z. | 20.5 | 142 | e 4 45 | + 3 | — | — | — | — |
| Kew | | 20.6 | 155 | i 4 41 | - 2 | e 8 33 | + 4 | — | e 10.3 |
| De Bilt | | 20.9 | 146 | e 4 49 | + 3 | e 8 48 | +13 | — | e 10.3 |
| Uccle | | 22.0 | 148 | e 4 56 | - 2 | e 9 5 | + 9 | — | e 10.8 |
| Potsdam | | 22.3 | 133 | e 5 2 | + 1 | — | — | — | e 11.1 |
| Resolute Bay | | 22.3 | 316 | i 5 2 _k | + 1 | e 9 16 | +14 | — | e 11.9 |
| Collmberg | | 23.3 | 134 | e 5 11 | + 1 | — | — | — | — |
| Jena | | 23.3 | 136 | e 5 7 | - 3 | — | — | e 5 35 | PP |
| Paris | | 23.6 | 152 | e 5 10 | - 3 | e 9 36 | +11 | i 5 14 | ? |
| Karlsruhe | Z. | 24.5 | 143 | e 5 24 | + 2 | — | — | — | e 11.3 |
| Warsaw | | 24.5 | 122 | e 5 28 | + 6 | e 9 47 | + 7 | e 5 51 | PP e 15.3 |
| Prague | | 24.8 | 133 | i 5 26 | + 1 | i 5 46 | PP | e 6 28 | ? |
| Strasbourg | | 24.8 | 144 | e 5 29 | + 4 | — | — | — | 13.3 |
| Stuttgart | | 24.9 | 142 | e 5 28 | + 2 | e 9 52 | + 5 | — | — |
| Basle | | 25.8 | 145 | e 5 33 | - 1 | — | — | — | — |
| Florence | | 30.1 | 142 | — | — | e 13 10 | SSS | — | — |
| Seven Falls | | 35.7 | 259 | e 7 0 _a | - 2 | — | — | — | — |
| Messina | | 36.3 | 139 | — | — | e 12 51 | + 3 | — | e 18.7 |
| Istanbul | | 37.0 | 121 | e 7 12 | - 1 | e 13 5 | + 6 | — | 19.3 |
| Ottawa | | 38.8 | 262 | e 7 27 _a | - 1 | — | — | — | — |
| Harvard | | 40.0 | 256 | i 7 32 _a | - 6 | — | — | — | — |
| College | | 40.7 | 332 | i 7 46 | + 2 | — | — | — | — |
| Cincinnati | | 47.3 | 267 | e 8 36 | - 1 | — | — | — | — |
| Hungry Horse | | 48.2 | 298 | e 8 43 | - 1 | — | — | e 10 37 | PP |
| Tamanrasset | Z. | 49.6 | 156 | e 8 54 | - 1 | — | — | — | — |
| Bozeman | | 49.8 | 294 | e 8 56 | 0 | — | — | — | — |

Continued on next page.

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|--------------|----|------------|------------|------|----|------|---------|----|------|---------|----|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Fayetteville | | 53.2 | 274 | e 9 | 21 | - 1 | — | — | — | — | — | — |
| Shasta | z. | 57.6 | 301 | e 9 | 55 | + 1 | — | — | — | — | — | — |
| Mineral | z. | 57.7 | 300 | e 9 | 56 | + 1 | — | — | — | — | — | — |
| Reno | z. | 58.0 | 299 | e 9 | 57 | 0 | — | — | — | — | — | — |
| Quetta | | 58.8 | 88 | e 10 | 4 | + 2 | — | — | — | — | — | e 34.7 |
| Boulder City | | 59.8 | 293 | e 10 | 9 | 0 | — | — | — | — | — | — |
| Tinemaha | z. | 59.8 | 296 | e 10 | 11 | + 2 | — | — | — | — | — | — |
| Fresno | z. | 60.5 | 298 | e 10 | 17 | + 3 | — | — | — | — | — | — |
| Isabella | z. | 61.2 | 296 | e 10 | 4 | -15 | — | — | — | — | — | — |
| Woody | z. | 61.2 | 296 | e 10 | 17 | - 2 | — | — | — | e 10 26 | ? | — |
| Tucson | | 62.0 | 288 | e 10 | 23 | - 1 | — | — | — | — | — | e 35.6 |
| Mount Wilson | z. | 62.4 | 295 | e 10 | 26 | - 1 | — | — | — | — | — | — |
| Palomar | z. | 62.8 | 294 | e 10 | 29 | - 1 | e 10 44 | ? | ? | e 11 25 | ? | — |
| Barratt | z. | 63.4 | 293 | e 10 | 36 | + 2 | — | — | — | — | — | — |

Aug. 22d. 6h. 42m. Epicentre 37°·8N. 71°·8E. Depth of focus 110km.
Bulletin of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, pp. 82-83.

Aug. 22d. 10h. 8m. 0s. Epicentre 71°·1N. 14°·0W. (as at 2h.).

| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|----------------|----|------------|------------|-----|-----------------|------|------|----|------|--------|-----|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Akureyri | N. | 5.7 | 198 | e 1 | 18 | -10 | i 2 | 18 | -17 | — | — | — |
| Reykjavik | | 7.6 | 207 | i 1 | 49 | - 6 | i 3 | 23 | 0 | i 2 2 | P* | — |
| Kiruna | | 12.4 | 88 | i 3 | 5 | + 4 | e 4 | 53 | -28 | i 3 18 | PP | e 6.0 |
| Aberdeen | | 14.8 | 154 | — | — | — | i 5 | 40 | -38 | — | — | — |
| Upsala | | 17.0 | 115 | i 4 | 6 | + 5 | e 7 | 23 | +13 | — | — | — |
| Durham | | 17.2 | 155 | i 4 | 3 | 0 | — | — | — | i 4 11 | PP | — |
| Rathfarnham C. | z. | 18.2 | 165 | i 4 | 16 _a | 0 | — | — | — | e 4 36 | PP | — |
| Copenhagen | | 19.2 | 130 | e 4 | 27 | - 1 | — | — | — | — | — | 9.5 |
| Hamburg | | 20.5 | 136 | e 4 | 46 | + 4 | e 4 | 58 | PP | e 5 10 | PPP | — |
| Witteveen | z. | 20.5 | 142 | e 4 | 43 | + 1 | — | — | — | — | — | — |
| Kew | | 20.6 | 155 | e 4 | 40 | - 3 | e 8 | 31 | + 2 | — | — | e 10.0 |
| De Bilt | | 20.9 | 146 | i 4 | 45 | - 1 | e 8 | 50 | +15 | — | — | e 10.0 |
| Uccle | E. | 22.0 | 148 | e 4 | 55 | - 3 | e 9 | 5 | + 9 | — | — | e 10.5 |
| Potsdam | | 22.3 | 133 | e 5 | 4 | + 3 | e 9 | 18 | +16 | e 9 39 | SS | e 11.0 |
| Resolute Bay | | 22.3 | 316 | e 5 | 2 | + 1 | e 9 | 16 | +14 | — | — | e 11.4 |
| Collmberg | | 23.3 | 134 | e 5 | 10 | 0 | — | — | — | — | — | — |
| Jena | z. | 23.3 | 136 | e 5 | 10 | 0 | e 9 | 27 | + 7 | — | — | — |
| Paris | | 23.6 | 152 | e 5 | 12 | - 1 | e 9 | 36 | +11 | i 5 32 | PP | e 11.0 |
| Cheb | | 24.3 | 136 | i 5 | 24 | + 4 | e 9 | 49 | +12 | e 6 17 | PPP | — |
| Karlsruhe | z. | 24.5 | 143 | e 5 | 24 | + 2 | — | — | — | — | — | — |
| Warsaw | | 24.5 | 122 | e 5 | 22 _? | 0 | e 9 | 47 | + 7 | e 6 5 | PP | e 15.0 |
| Prague | | 24.8 | 133 | i 5 | 28 | + 3 | e 9 | 55 | + 9 | i 6 39 | ? | — |
| Strasbourg | | 24.8 | 144 | e 5 | 27 | + 2 | e 9 | 54 | + 8 | e 5 40 | ? | e 12.0 |
| Stuttgart | | 24.9 | 142 | e 5 | 24 | - 2 | e 9 | 51 | + 4 | — | — | — |
| Basle | | 25.8 | 145 | e 5 | 31 | - 3 | — | — | — | — | — | — |
| Neuchatel | | 26.1 | 146 | e 5 | 35 | - 2 | — | — | — | — | — | — |
| Zürich | | 26.1 | 144 | e 5 | 34 | - 3 | — | — | — | — | — | — |
| Seven Falls | | 35.7 | 259 | e 6 | 59 _a | - 3 | — | — | — | — | — | — |
| Messina | N. | 36.3 | 139 | e 7 | 8 | + 1 | e 12 | 49 | + 1 | e 8 32 | PP | — |
| Istanbul | | 37.0 | 121 | e 7 | 12 | - 1 | e 13 | 7 | + 8 | — | — | e 19.0 |
| Ottawa | | 38.8 | 262 | e 7 | 26 _a | - 2 | — | — | — | — | — | — |
| Harvard | | 40.0 | 256 | i 7 | 37 _a | - 1 | — | — | — | — | — | — |
| College | | 40.7 | 332 | i 7 | 46 | + 2 | — | — | — | — | — | — |
| Palisades | | 42.1 | 258 | e 7 | 55 | 0 | e 14 | 15 | - 1 | e 9 34 | PP | e 19.6 |
| Cleveland | | 44.2 | 265 | i 8 | 13 _k | + 1 | e 14 | 51 | + 5 | — | — | — |

Continued on next page.

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1954

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------|----|------------|------------|---------|------|---------|------|---------|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Cincinnati | | 47.3 | 267 | e 8 36 | - 1 | — | — | — | — |
| Hungry Horse | | 48.2 | 298 | e 8 44 | 0 | — | — | — | — |
| Tamanrasset | z. | 49.6 | 156 | e 8 54 | - 1 | — | — | e 10 17 | PcP |
| Bozeman | | 49.8 | 294 | e 8 56 | 0 | — | — | — | — |
| Columbia | | 50.8 | 261 | e 9 1 | - 3 | e 16 23 | + 3 | — | e 20.2 |
| Boulder | | 53.2 | 286 | e 9 19 | - 3 | — | — | — | — |
| Fayetteville | | 53.2 | 274 | i 9 19k | - 3 | — | — | — | — |
| Dallas | | 57.0 | 275 | e 9 40 | -10 | — | — | — | — |
| Quetta | | 58.8 | 88 | e 10 5 | + 3 | — | — | — | e 35.2 |
| Boulder City | | 59.8 | 293 | e 10 9 | 0 | — | — | — | — |
| Tinemaha | z. | 59.8 | 296 | e 10 11 | + 2 | — | — | — | — |
| Isabella | z. | 61.2 | 296 | e 10 19 | 0 | — | — | — | — |
| Tucson | | 62.0 | 288 | e 10 23 | - 1 | — | — | — | e 33.8 |
| Mount Wilson | z. | 62.4 | 295 | e 10 31 | + 4 | — | — | — | — |
| Palomar | z. | 62.8 | 294 | e 10 30 | 0 | — | — | — | — |

Aug. 22d. 12h. 39m. Epicentre 71°N. 14°W.
B.C.I.S. Monthly Bulletin, Aug., 1954, p. 465.

Aug. 22d. 18h. 13m. Epicentre 21°N. 145°E.
Loc. cit., 12h., pp. 465-466.

Aug. 22d. 18h. 21m. Epicentre 70°·5N. 14°W.
Loc. cit., 12h., p. 466.

Aug. 22d. 23h. 10m. Epicentre 42°·7N. 48°·2E.
Fairly widely recorded throughout the U.S.S.R., also at Hungry Horse in N. America,
Tamanrasset, and several stations in Europe.
Loc. cit., 6h., p. 83.

Aug. 23d. 9h. 32m. Epicentre 70°·5N. 14°W.
Loc. cit., 22d. 12h., p. 467.

Aug. 23d. 11h. 39m. Epicentre 71°N. 15°W.
Loc. cit., 22d. 12h., pp. 467-468.

Aug. 23d. 12h. 4m. Epicentre 8°N. 83°W.
Felt at Puerto Armuelles (according to Balboa Heights).
Loc. cit., 9h., p. 468.

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1954

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Aug. 24d. 5h. 51m. 30s. Epicentre 39°·5N. 118°·3W.

Considerable damage to Roger's Dam in Lovelock District; Intensity VII-VIII at Fallon, Stillwater, Dixie Valley, Gerlach, and Imlay; VI at Austin, Battle Mountain, Berlin, Dayton, Empire, Fernley, Flanigan, Goldfield, Mason, Red House, Twin Springs, Valmy, Baxter, Coleville, Sonora, and Lucin, etc.

Felt less strongly in many other localities; landslides to the east of Fallon.

Epicentre 39°35'N. 118°27'W. Macro seismic area 150,000 sq. km. Magnitude 7.

L. M. Murphy and W. K. Cloud.

United States Earthquakes, 1954, Washington, 1956, Serial No. 793, pp. 29-33, with macro seismic chart on page 30.

The Fallon-Stillwater Earthquakes of July 6, 1954, and Aug. 23, 1954, Bulletin of the Seismological Society of America, Vol. 46, 1956, No. 1, pp. 1-40, with diagrams, maps, and charts. Magnitude 7 (Prague), 6·8 (Pasadena).

A = -·3668, B = -·6812, C = +·6335; $\delta = -10$; $h = -1$;
D = -·881, E = +·474; G = -·300, H = -·558, K = -·774.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|----------------|----|------------|------------|---------------------|------------------|---------|------------------|----------|----------------------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Reno | Z. | 1·2 | 268 | i 0 21 _a | - 3 | — | — | — | — |
| Tinemaha | | 2·5 | 178 | i 0 42 _k | - 1 | — | — | — | — |
| Mineral | Z. | 2·6 | 289 | i 0 44 _a | 0 | — | — | — | — |
| Fresno | Z. | 3·0 | 203 | i 0 49 _k | - 1 | — | — | — | — |
| Shasta | Z. | 3·3 | 292 | i 0 53 _a | 0 | — | — | — | — |
| Haiwee | | 3·4 | 175 | e 0 54 | - 1 | — | — | — | — |
| Lick | Z. | 3·4 | 231 | i 0 53 _k | - 2 | — | — | — | — |
| Berkeley | | 3·5 | 243 | i 0 54 _k | - 3 | i 1 31 | - 9 | — | — |
| Santa Clara | | 3·6 | 234 | e 0 56 | - 2 | i 1 42 | 0 | — | — |
| Branner | Z. | 3·7 | 236 | i 0 56 _k | - 4 | — | — | — | — |
| San Francisco | E. | 3·7 | 243 | e 0 57 | 3 | — | — | — | — |
| Ukiah | | 3·8 | 266 | e 1 5 | - 3* | i 2 7 | + 1 _g | i 1 17 | P _g i 2·7 |
| Woody | Z. | 3·8 | 186 | i 1 1 | 0 | — | — | — | — |
| Isabella | Z. | 3·9 | 182 | e 1 1 | - 1 | — | — | — | — |
| Boulder City | | 4·5 | 141 | i 1 10 | - 1 | — | — | — | — |
| Arcata | E. | 4·6 | 289 | e 1 13 | + 1 | — | — | — | — |
| Ferndale | E. | 4·7 | 285 | e 1 18 | + 4 | — | — | — | — |
| Fort Tejon | Z. | 4·7 | 186 | e 1 29 | - 5 _e | — | — | — | — |
| Nelson | Z. | 4·7 | 143 | i 1 13 | - 1 | — | — | — | — |
| Salt Lake City | | 5·1 | 74 | i 1 21 | + 1 | — | — | i 1 24 | P* |
| Santa Barbara | Z. | 5·2 | 193 | e 1 21 | 0 | — | — | — | — |
| Dalton | Z. | 5·4 | 175 | i 1 23 | - 1 | — | — | — | — |
| Pasadena | | 5·4 | 179 | e 1 22 _k | - 2 | i 2 52 | - 6 _g | — | — |
| Riverside | E. | 5·6 | 172 | e 1 25 | - 2 | — | — | — | — |
| Corvallis | Z. | 6·3 | 325 | i 1 38 | + 2 | — | — | — | — |
| Palomar | Z. | 6·3 | 169 | i 1 35 | - 1 | — | — | — | — |
| San Diego | | 6·9 | 172 | 1 52 | + 7 | 3 39 | + 10* | — | — |
| Butte | N. | 7·8 | 31 | e 1 56 | - 2 | — | — | — | e 3·7 |
| Bozeman | | 8·2 | 39 | e 2 5 | + 2 | — | — | — | i 4·0 |
| Seattle | | 8·6 | 342 | i 2 14 | + 5 | e 2 28 | P* | e 2 52 | P _g 4·7 |
| Hungry Horse | | 9·4 | 18 | i 2 20 | + 2 | — | — | — | — |
| Tucson | | 9·5 | 138 | e 2 20 | 0 | i 4 38 | - 8* | i 3 2 | P _g i 4·8 |
| Victoria | | 9·7 | 340 | 2 25 | + 3 | i 4 14 | - 1 | — | — |
| Boulder | | 10·0 | 83 | i 2 31 | + 4 | — | — | — | — |
| Rapid City | E. | 12·2 | 63 | i 2 56 | - 2 | i 5 2 | - 14 | (i 5 34) | SS i 5·6 |
| Chihuahua | | 14·8 | 133 | e 3 43 _k | PP | i 6 44 | SS | — | — |
| Saskatoon | | 15·0 | 29 | i 3 33 | - 2 | i 6 24 | + 1 | — | — |
| Dallas | | 18·6 | 104 | i 4 21 | 0 | i 8 6 | SS | — | e 10·0 |
| Mazatlan | | 19·2 | 145 | e 4 27 | - 1 | e 8 8 | + 9 | — | e 9·4 |
| Fayetteville | | 19·4 | 93 | i 4 32 | + 2 | e 7 50? | - 14 | — | — |
| Sitka | | 20·8 | 333 | i 4 45 | 0 | i 8 44 | + 11 | — | — |
| St. Louis | | 21·8 | 83 | i 4 55 | - 1 | i 8 53 | + 1 | — | — |
| Guadalajara | | 22·8 | 141 | e 5 10 | + 5 | e 9 25 | + 14 | e 10 39 | Q e 11·4 |
| Chicago | | 23·4 | 74 | i 5 11 | 0 | i 9 26 | + 5 | i 5 50 | PPP i 11·1 |
| Manzanillo | | 23·7 | 145 | i 5 17 | + 3 | e 9 38 | - 11 | — | — |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
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| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Terre Haute | | 23.8 | 80 | i 5 26 | +11 | i 9 55 | +27 | — | — |
| Tacubaya | | 26.0 | 135 | i 5 42k | + 6 | e 10 33 | +27 | — | e 13.6 |
| Cincinnati | | 26.1 | 80 | i 5 36 | - 1 | — | — | — | — |
| Puebla | | 26.8 | 134 | i 5 47 | + 3 | e 10 33 | +14 | — | e 13.7 |
| Milton | | 27.0 | 100 | i 5 48 | + 3 | — | — | e 6 50 | PPP |
| Cleveland | | 27.9 | 74 | i 5 51k | - 3 | i 10 48 | +11 | — | — |
| Vera Cruz | | 27.9 | 130 | i 6 3 | + 9 | e 11 3 | +26 | i 11 29 | SS |
| Kirkland Lake | z. | 28.7 | 60 | e 5 59 | - 2 | — | — | — | i 14.2 |
| Oaxaca | | 29.2 | 134 | i 6 10 | + 5 | e 11 11 | +13 | e 11 41 | ? |
| Pittsburgh | z. | 29.3 | 76 | i 6 7 | + 1 | — | — | — | i 15.6 |
| Columbia | | 30.2 | 89 | i 6 12 | - 1 | i 11 12 | - 1 | e 7 13 | PP |
| College | | 30.6 | 336 | i 6 17 | - 1 | i 11 12 | - 8 | i 7 30 | PPP |
| Pennsylvania | | 30.8 | 74 | i 6 25 | + 5 | i 11 22 | - 1 | — | — |
| Chapel Hill | | 31.1 | 84 | i 6 26 | + 4 | — | — | — | — |
| Ottawa | | 31.7 | 65 | e 6 26k | - 1 | 11 48 | +11 | 7 38 | PP |
| Washington | z. | 31.8 | 78 | e 6 27 | - 1 | e 11 57 | +19 | i 7 50 | PPP |
| Philadelphia | | 33.0 | 75 | e 6 34 | - 5 | e 11 52 | - 5 | e 7 53 | PP |
| Palisades | | 33.6 | 73 | i 6 44 | 0 | i 12 15 | + 9 | i 7 3 | pP |
| Shawinigan Falls | | 33.6 | 63 | e 6 43 | - 1 | — | — | — | e 17.8 |
| City College, N.Y. | | 33.7 | 73 | e 6 43 | - 2 | e 12 0 | - 8 | — | e 17.1 |
| Seven Falls | | 35.0 | 62 | e 6 54k | - 2 | e 12 24 | - 4 | 8 15 | PP |
| Weston | | 35.3 | 70 | e 6 58 | - 1 | e 12 28 | - 5 | 14 30 | SS |
| San Salvador | | 36.3 | 127 | e 7 6 | - 1 | e 13 4 | +16 | — | — |
| Resolute Bay | | 36.9 | 10 | i 7 10k | - 2 | i 13 4 | + 6 | e 9 45 | PcP |
| Swan Island | | 37.1 | 116 | e 6 53 | -21 | i 12 41 | -20 | — | e 18.1 |
| Honolulu | | 38.4 | 254 | e 7 28 | + 3 | e 13 33 | +13 | (e 15 36) | SS |
| Guantanamo Bay | | 41.9 | 105 | i 7 56 | + 2 | — | — | — | e 15.6 |
| Bermuda | | 43.5 | 82 | i 8 5 | - 2 | e 14 40 | + 4 | e 17 58 | SS |
| Balboa Heights | | 45.5 | 121 | e 8 30 | + 7 | — | — | — | e 20.7 |
| Galerazamba | | 47.7 | 115 | e 8 47 | + 7 | i 15 44 | + 8 | e 10 43 | PP |
| San Juan | | 49.6 | 100 | e 8 53 | - 2 | e 16 7 | + 4 | e 18 57 | ScS |
| Roosevelt Roads | | 50.0 | 99 | e 8 59 | + 1 | — | — | — | e 21.7 |
| Chinchina | | 51.6 | 120 | i 9 9 | - 1 | i 16 37 | + 6 | i 11 7 | PP |
| Bogota | | 52.9 | 119 | i 9 20 | 0 | i 16 58 | PS | i 11 18 | PP |
| Klyuchi | | 53.5 | 317 | 9 26 | + 2 | — | — | — | 26.5 |
| Scoresby Sund | | 55.4 | 24 | i 9 37 | - 1 | i 17 35 | PS | e 21 15 | SS |
| Petropavlovsk | | 55.8 | 314 | e 9 40 | - 1 | — | — | — | — |
| Magadan | | 57.4 | 323 | i 9 51 | - 2 | — | — | — | — |
| Reykjavik | | 57.9 | 31 | i 9 56a | 0 | e 18 6 | PS | e 22 0 | SS |
| Huancayo | | 65.0 | 133 | e 10 44 | 0 | i 19 30 | + 4 | e 23 54 | SS |
| Ulegorsk | | 66.9 | 315 | i 10 54 | - 2 | — | — | — | — |
| Yuzno-Sakhlinsk | | 67.7 | 313 | i 10 59 | - 2 | — | — | — | — |
| Kiruna | | 68.6 | 16 | i 11 0 | - 7 | i 20 7 | - 2 | i 21 2 | ScS |
| Kusiro | | 69.0 | 309 | e 11 14 | + 5 | e 20 20 | + 6 | — | e 27.9 |
| Wakkanai | E. | 69.2 | 312 | — | — | i 20 28 | +12 | — | e 33.1 |
| Obihiro | N. | 69.7 | 309 | e 11 41 | +27 | — | — | — | e 28.4 |
| Aberdeen | | 69.8 | 31 | i 11 15 | + 1 | i 20 28 | + 5 | i 13 47 | PP |
| Edinburgh | E. | 70.2 | 33 | e 11 8 | - 9 | e 20 28 | 0 | 13 54 | PP |
| Urakawa | | 70.4 | 309 | e 11 17 | - 1 | e 20 17 | -13 | e 25 15 | SS |
| Rathfarnham Castle | | 70.6 | 36 | i 11 15k | - 4 | i 20 38 | + 5 | i 13 53 | PP |
| Sapporo | | 70.8 | 310 | e 11 18 | - 2 | e 20 34 | - 1 | e 28 40 | SSS |
| Durham | | 71.6 | 33 | e 11 30 | + 5 | i 20 55 | +11 | 21 34 | PPS |
| Mori | | 71.8 | 310 | e 11 25 | - 1 | 20 41 | - 5 | e 11 7 | ? |
| Hatinohe | | 72.2 | 308 | e 10 51 | -38 | e 20 53 | + 2 | — | e 29.1 |
| Aomori | | 72.4 | 309 | 11 40 | +10 | 20 54 | + 1 | — | e 46.2 |
| Miyako | | 72.4 | 307 | — | — | e 20 58 | + 5 | — | — |
| Apia | | 72.7 | 235 | e 11 33 | + 1 | — | — | e 11 43 | PcP |
| La Paz | | 72.8 | 130 | i 11 33 | + 1 | 20 48 | -10 | i 14 18 | PP |
| Akita | | 73.5 | 308 | e 11 37 | + 1 | e 21 14 | + 8 | e 29 49 | SSS |
| Sendai | | 73.9 | 306 | e 11 43 | + 4 | e 21 13 | + 3 | e 16 20 | PPP |

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| | | Δ | Az. | P. | | O-C. | S. | O-C. | Supp. | | L. |
|-------------|----|------------|------------|------|-----|------|-----------|------|---------|-------------------|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | m. | s. | m. |
| Hukusima | | 74.5 | 306 | e 11 | 45 | + 3 | (22 30?) | PPS | — | — | 22.5 |
| Kew | | 74.5 | 35 | i 11 | 41k | - 1 | i 21 26 | + 9 | i 14 36 | PP | — |
| Upsala | | 74.6 | 21 | i 11 | 41k | - 2 | i 21 20 | + 2 | i 37 53 | SKKS ₂ | — |
| Shirakawa | | 75.0 | 306 | e 11 | 36 | - 9 | — | — | — | — | — |
| Jersey | E. | 75.3 | 38 | e 11 | 51 | + 4 | e 21 34 | + 8 | e 29 49 | SSS | 37.5 |
| Niigata | | 75.3 | 307 | e 12 | 8 | +21 | e 21 22 | - 4 | e 26 22 | SS | e 37.1 |
| Utunomiya | | 75.6 | 306 | e 11 | 41 | - 7 | e 21 25 | - 4 | e 22 12 | PS | e 31.9 |
| Helsinki | | 76.2 | 18 | e 11 | 34 | -18 | e 21 40 | + 4 | e 14 42 | PP | — |
| Kumagaya | | 76.2 | 306 | 11 | 57 | + 5 | e 21 40 | + 4 | — | — | e 32.9 |
| Maebasi | | 76.2 | 306 | e 11 | 51 | - 1 | e 21 48 | +12 | e 11 57 | ? | e 37.2 |
| Tokyo | N. | 76.2 | 305 | 12 | 0 | - 8 | 21 30 | - 6 | i 13 10 | ? | — |
| Copenhagen | | 76.3 | 26 | i 11 | 52k | 0 | i 21 44 | + 7 | 22 0 | ScS | 36.5 |
| De Bilt | | 76.4 | 32 | i 11 | 54 | + 1 | e 21 50 | +12 | e 26 30 | SS | e 34.5 |
| Witteveen | Z. | 76.4 | 31 | e 11 | 52 | - 1 | — | — | — | — | — |
| Titibu | E. | 76.5 | 306 | e 11 | 56 | + 2 | — | — | — | — | — |
| Yokohama | | 76.5 | 305 | — | — | — | e 22 16 | PS | — | — | 39.9 |
| Matusiro | | 76.6 | 306 | e 11 | 54 | 0 | 21 42 | + 2 | e 14 47 | PP | e 29.5 |
| Nagano | N. | 76.6 | 306 | e 11 | 56 | + 2 | e 21 47 | + 7 | e 27 26 | SS | e 38.1 |
| Mera | | 76.7 | 304 | e 12 | 1 | + 6 | e 21 36 | - 5 | — | — | 30.3 |
| Hunatu | | 77.0 | 305 | — | — | — | e 22 5 | +20 | — | — | — |
| Kohu | | 77.0 | 306 | e 11 | 57 | + 1 | — | — | — | — | — |
| Uccle | | 77.0 | 33 | e 11 | 55 | - 1 | e 21 48 | - 3 | e 14 49 | PP | e 36.5 |
| Antofagasta | N. | 77.1 | 136 | e 21 | 54 | S | (e 21 54) | - 8 | e 27 12 | SS | 37.3 |
| Hamburg | | 77.1 | 29 | e 11 | 56 | - 1 | e 21 55 | + 9 | i 22 4 | ScS | e 36.0 |
| Misima | N. | 77.1 | 305 | e 12 | 4 | + 7 | e 21 51 | + 5 | — | — | e 38.2 |
| Montezuma | Z. | 77.2 | 134 | i 11 | 57 | 0 | — | — | i 12 9 | PcP | — |
| Shizuoka | | 77.5 | 305 | e 12 | 6 | + 7 | e 21 55 | + 5 | — | — | e 33.3 |
| Paris | | 77.7 | 36 | i 11 | 59 | - 1 | e 21 57 | + 5 | i 12 6 | PcP | e 36.5 |
| Pulkovo | | 77.7 | 16 | e 12 | 0 | 0 | — | — | — | — | — |
| Omaesaki | | 77.9 | 305 | e 12 | 8 | + 7 | e 21 58 | + 4 | — | — | e 34.4 |
| Coimbra | | 78.1 | 47 | 12 | 1k | - 1 | 21 52 | - 4 | 22 7 | ScS | 35.1 |
| Gihu | | 78.3 | 306 | e 12 | 13 | +10 | — | — | — | — | — |
| Nagoya | N. | 78.3 | 306 | e 12 | 10 | + 7 | — | — | — | — | — |
| Lisbon | | 78.7 | 49 | e 12 | 4k | - 2 | 22 2 | - 1 | e 12 15 | PcP | 37.7 |
| Kameyama | | 78.8 | 306 | e 12 | 7 | + 1 | e 22 6 | + 2 | — | — | e 34.2 |
| Potsdam | | 79.2 | 28 | i 12 | 9a | + 1 | i 22 19 | -11 | e 17 6 | PPP | — |
| Osaka | | 79.6 | 306 | e 12 | 21 | +11 | — | — | — | — | — |
| Jena | | 79.8 | 30 | e 12 | 11 | - 1 | e 22 17 | + 3 | e 15 21 | PP | e 38.5 |
| Kobe | | 79.8 | 307 | e 12 | 17 | + 5 | e 22 20 | + 6 | e 23 12 | PPS | e 31.3 |
| Collmberg | | 80.1 | 29 | e 12 | 12 | - 1 | e 22 26 | + 8 | e 23 11 | PPS | e 37.0 |
| Karlsruhe | | 80.1 | 32 | e 12 | 12 | - 1 | e 22 28 | +10 | e 15 10 | PP | e 38.5 |
| Strasbourg | | 80.1 | 33 | e 12 | 13 | 0 | e 22 23 | + 5 | e 15 17 | PP | e 38.5 |
| Sumoto | | 80.1 | 306 | e 12 | 13 | 0 | i 22 21 | + 3 | — | — | e 35.4 |
| Yonago | | 80.4 | 308 | — | — | — | e 22 29 | + 8 | e 31 42 | Q | e 37.1 |
| Stuttgart | | 80.6 | 32 | e 12 | 15 | - 1 | e 22 33 | +10 | e 15 24 | PP | e 38.5 |
| Takamatu | | 80.7 | 307 | e 12 | 25 | + 9 | e 22 26 | + 2 | e 15 17 | PP | — |
| Cheb | | 80.8 | 30 | i 12 | 17 | 0 | i 22 36 | +11 | e 27 42 | SS | — |
| Toledo | | 80.8 | 45 | i 12 | 16 | - 1 | i 22 35 | +10 | 15 29 | PP | 41.7 |
| Basle | | 80.9 | 34 | e 12 | 17 | 0 | e 22 30 | + 4 | — | — | — |
| Neuchatel | | 81.0 | 34 | e 12 | 17 | - 1 | e 22 36 | + 9 | — | — | — |
| Irkutsk | | 81.4 | 335 | 12 | 20 | 0 | 22 37 | + 6 | 12 28 | PcP | — |
| Zürich | | 81.4 | 33 | e 12 | 18 | - 2 | e 22 39 | + 8 | e 13 3 | ? | — |
| Hamada | | 81.5 | 308 | — | — | — | e 22 37 | + 5 | e 27 41 | SS | e 36.3 |
| Koti | | 81.5 | 307 | e 12 | 17 | - 4 | e 22 35 | + 3 | (31 36) | SSS | 31.6 |
| Hirosima | | 81.6 | 308 | e 12 | 4 | -17 | e 22 28 | - 5 | — | — | — |
| Prague | | 81.6 | 29 | i 12 | 25a | + 4 | e 22 34 | + 1 | e 15 35 | PP | e 34.5 |
| Warsaw | | 82.0 | 24 | e 12 | 27 | + 4 | i 22 45 | + 8 | e 15 38 | PP | — |
| Chur | | 82.2 | 33 | e 12 | 24k | 0 | e 22 52 | +13 | e 32 21 | Q | e 42.9 |
| Oropa | | 82.5 | 35 | e 12 | 35 | + 9 | e 22 58 | +16 | e 32 35 | Q | 41.5 |
| Malaga | | 82.8 | 48 | i 12 | 26 | - 1 | i 22 52 | + 7 | i 15 52 | PP | 41.0 |

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|----------------|----------|-----|------|-----------------|------|------|-----------------|-------|-------|-----------------|------------|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Barcelona | 82.9 | 41 | e 12 | 35 | + 7 | 23 | 46 | PS | 15 | 42 | PP e 42.3 |
| Granada | 82.9 | 47 | i 12 | 32 _a | + 4 | 22 | 50 | + 4 | 23 | 20 | PS i 37.9 |
| Moscow | 82.9 | 13 | 12 | 29 | + 1 | e 23 | 1 | ScS | e 23 | 39 | PS — |
| Raciborzu | 82.9 | 26 | e 12 | 28 | 0 | e 22 | 55 | + 9 | e 26 | 23 | ? — |
| Averroes | 83.4 | 52 | e 12 | 33 | + 3 | — | — | — | — | — | 40.5 |
| Hukuoka | 83.4 | 308 | e 12 | 30 _k | 0 | e 22 | 54 | + 3 | — | — | e 36.4 |
| Pavia | 83.4 | 34 | e 12 | 31 _k | + 1 | e 22 | 54 | + 3 | e 15 | 43 | PP e 41.3 |
| Salo | 83.6 | 33 | e 12 | 37 _? | + 6 | e 13 | 27 | ? | e 16 | 24 | ? — |
| Alicante | 83.8 | 44 | 12 | 33 | + 1 | e 22 | 57 | + 2 | 15 | 49 | PP 40.1 |
| Almeria | 83.8 | 47 | i 11 | 50 | -42 | i 22 | 14 | -41 | 17 | 0 | PPP 38.8 |
| Vienna | 83.8 | 28 | e 12 | 33 | + 1 | i 23 | 7 | +12 | e 23 | 51 _? | PS i 33.1 |
| Sverdlovsk | 84.0 | 1 | i 12 | 32 | - 1 | e 22 | 54 | - 3 | 15 | 54 | PP — |
| Skalnate Pleso | 84.4 | 26 | e 12 | 37 | + 1 | i 23 | 9 | + 8 | e 15 | 54 | PP — |
| Ogyalla | 84.8 | 28 | e 12 | 44 | + 7 | e 24 | 15 | PPS | e 16 | 13 | PP e 37.2 |
| Bologna | 84.9 | 34 | e 12 | 44 | + 6 | e 23 | 15 | + 9 | — | — | — |
| Santa Lucia | N. 84.9 | 142 | e 24 | 24 | PPS | e 23 | 12 | + 6 | e 33 | 30 | Q e 42.5 |
| Triest | 84.9 | 32 | e 12 | 38 _k | 0 | e 23 | 8 | + 2 | e 24 | 12 | PS e 40.0 |
| Prato | 85.3 | 34 | e 12 | 33 | - 7 | i 23 | 14 | + 4 | — | — | — |
| Budapest | 85.4 | 27 | 12 | 47 | + 7 | 23 | 13 | + 2 | 16 | 7 | PP 39.7 |
| Florence | 85.4 | 34 | e 12 | 39 | - 1 | i 23 | 14 | + 3 | i 24 | 3 | PS 40.5 |
| Kalossa | 86.2 | 28 | e 12 | 52 | + 8 | e 23 | 7 | [- 2] | e 23 | 30 | S — |
| Concepción | N. 86.6 | 145 | — | — | — | e 23 | 29 | + 6 | e 38 | 27 | Q e 42.9 |
| Kwanting | N. 86.6 | 322 | e 12 | 45 | - 1 | 23 | 19 | - 4 | — | — | — |
| Algiers Univ. | Z. 86.9 | 43 | e 12 | 45 | - 3 | e 23 | 28 | + 2 | e 13 | 23 | ? — |
| Szeged | 86.9 | 27 | e 12 | 54 | + 6 | 23 | 31 | + 5 | 16 | 25 | PP e 46.0 |
| Rome | 87.5 | 34 | e 12 | 50 | - 1 | e 23 | 27 | - 4 | e 16 | 14 | PP — |
| Timisoara | E. 87.7 | 27 | 13 | 0 | + 8 | 23 | 51 | +18 | — | — | — |
| Tatung | 87.8 | 323 | e 12 | 55 | + 3 | 23 | 35 | + 1 | — | — | — |
| Belgrade | 88.2 | 28 | e 12 | 58 _a | + 4 | e 23 | 36 | - 2 | e 25 | 31 | PPS e 45.4 |
| Iasi | 88.5 | 22 | e 13 | 0 | + 4 | e 23 | 54 | +13 | e 16 | 27 | PP 43.5 |
| Semipalatinsk | 89.0 | 348 | i 12 | 57 | - 1 | e 23 | 29 | [+ 2] | e 16 | 25 | PP — |
| M'Bour | 89.5 | 72 | e 13 | 13 | +13 | — | — | — | e 16 | 17 | PP 41.5 |
| Taiyuan | N. 90.0 | 322 | e 13 | 10 | + 7 | e 24 | 4 | +10 | — | — | — |
| Zó-Sè | 90.6 | 312 | i 13 | 5 _k | 0 | e 23 | 59 | - 1 | 16 | 38 | PP — |
| Taranto | 90.7 | 32 | e 13 | 29 | +23 | e 23 | 3 | [-34] | e 25 | 7 | PS e 34.0 |
| Sofia | 91.1 | 27 | e 25 | 20 | PS | e 23 | 45 | [+ 6] | e 38 | 50 | P'P' 46.7 |
| Nanking | 91.2 | 314 | 13 | 10 | + 2 | 24 | 8 | + 3 | 30 | 16 | SS — |
| Linfen | 91.8 | 322 | e 13 | 22 | +11 | 24 | 28 | +17 | — | — | — |
| Messina | 91.8 | 35 | e 13 | 10 | - 1 | i 23 | 47 | [+ 4] | 16 | 51 | PP — |
| Yinchuan | 92.3 | 326 | e 13 | 22 | + 9 | e 24 | 23 | + 8 | — | — | — |
| La Plata | 92.7 | 134 | 13 | 12 | - 3 | 23 | 36 | [-12] | 30 | 36 | SS 46.2 |
| Yalta | 92.8 | 19 | e 13 | 14 | - 2 | e 25 | 40 | PS | e 16 | 53 | PP — |
| Istanbul | Z. 94.5 | 24 | e 13 | 22 | - 1 | — | — | — | e 17 | 10 | PP — |
| Piatigorsk | 95.2 | 13 | 13 | 25 | - 2 | — | — | — | i 17 | 14 | PP — |
| Athens | 95.4 | 29 | — | — | — | i 24 | 14 | {- 7} | i 24 | 54 | S i 40.0 |
| Almata | 96.4 | 349 | i 13 | 31 | - 1 | e 24 | 11 | [+ 2] | — | — | — |
| Frunse | 97.2 | 350 | i 13 | 36 | 0 | i 24 | 19 | [+ 6] | i 17 | 34 | PP — |
| Tiflis | 97.7 | 13 | 13 | 38 | 0 | e 24 | 23 | [+ 8] | e 26 | 27 | PS — |
| Tamanrasset | Z. 98.8 | 51 | e 13 | 48 | + 5 | e 17 | 52 | PP | e 30 | 15 | PKKP — |
| Kirovobad | 98.9 | 12 | 13 | 43 | 0 | e 24 | 28 | [+ 6] | 17 | 34 | PP — |
| Erevan | 99.1 | 13 | 13 | 45 | + 1 | — | — | — | — | — | — |
| Tashkent | 99.2 | 354 | e 13 | 44 | - 1 | i 24 | 28 | [+ 5] | e 32 | 12 | SS — |
| Andijan | 99.5 | 352 | 13 | 46 | 0 | 26 | 51 | PS | 17 | 50 | PP — |
| Goris | 100.1 | 12 | i 13 | 51 | + 2 | 25 | 3 | {+ 8} | 17 | 53 | PP — |
| Wellington | 100.8 | 225 | e 18 | 6 | PP | e 24 | 35 | [+ 4] | e 41 | 30 _? | Q e 47.5 |
| Hong Kong | E. 101.3 | 312 | — | — | — | e 24 | 35 _? | [+ 2] | e 25 | 41 _? | S e 51.8 |
| Baguio | 101.8 | 303 | e 13 | 30 | -26 | 24 | 46 | [+10] | — | — | — |
| Stalinabad | 102.0 | 354 | i 13 | 58 | + 1 | i 24 | 44 | [+ 7] | — | — | — |
| Ksara | 103.2 | 22 | e 12 | 40 | -83 | 26 | 12 | +25 | — | — | — |
| Christchurch | 103.5 | 224 | — | — | — | e 27 | 40 | PS | e 33 | 30 _? | SSP e 42.5 |

Continued on next page.

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|------------------|----------|-----|------|-----|-------|-------|----|------------------|-------|----|------|--------|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Helwan | 105.4 | 27 | 14 | 15 | P | 25 | 0 | [+ 8] | 25 | 48 | S | — |
| Brisbane | 105.9 | 248 | e 13 | 23 | P | i 25 | 6 | [+11] | — | — | — | — |
| Shillong | N. 109.4 | 331 | 18 | 32 | [0] | 25 | 14 | [+ 4] | 28 | 33 | PS | e 50.3 |
| Quetta | 110.5 | 355 | e 18 | 34 | [0] | e 34 | 51 | SSP | e 18 | 2 | ? | — |
| New Delhi | N. 110.7 | 345 | i 19 | 13 | PP | 25 | 17 | [+ 2] | 26 | 23 | SKKS | — |
| Riverview | 110.9 | 243 | e 28 | 50 | PS | e 25 | 29 | [+13] | e 34 | 52 | SS | e 46.2 |
| Calcutta | E. 113.4 | 333 | e 29 | 23 | PS | 25 | 34 | [+ 8] | i 35 | 29 | SSP | — |
| Bombay | 121.0 | 348 | e 19 | 0 | [+ 5] | 26 | 7 | [+14] | 37 | 0 | SS | 46.0 |
| Poona | z. 121.1 | 346 | 18 | 53 | [- 2] | — | — | — | — | — | — | — |
| Hyderabad | N. 121.2 | 341 | e 20 | 23 | PP | e 30 | 18 | PS | — | — | — | — |
| Madras | E. 125.0 | 338 | e 17 | 20 | ? | e 38 | 6 | SSP | — | — | — | — |
| Lembang | 127.5 | 296 | e 19 | 21 | [+14] | (e 33 | 5) | PPS | — | — | — | e 33.1 |
| Kodaikanal | E. 128.4 | 340 | — | — | — | e 27 | 29 | ? | e 38 | 17 | SS | — |
| Colombo | E. 130.8 | 336 | 21 | 35 | PP | 39 | 0? | SS | — | — | — | 60.8 |
| Kimberley | z. 147.8 | 82 | i 19 | 47k | [+ 3] | — | — | — | — | — | — | — |
| Pretoria | z. 148.8 | 74 | i 19 | 50a | [+ 5] | — | — | — | — | — | — | — |
| Grahamstown | z. 151.2 | 89 | i 19 | 56a | [+ 7] | — | — | — | — | — | — | — |
| Pietermaritzburg | z. 152.5 | 79 | e 20 | 3 | [+12] | — | — | — | — | — | — | — |
| Tananarive | 156.1 | 35 | e 20 | 2? | [+ 6] | 20 | 28 | PKP ₂ | 24 | 11 | PP | 72.5 |

Aug. 25d. 2h. 1m. Epicentre 37°·5N. 30°·0E.

Recorded up to 31°.

Seismo. Institute Bulletin, 1954, National Observatory of Athens, 1955, p. 96.

Aug. 25d. 2h. 17m. Epicentre 39°·5N. 118°·5W.

Magnitude 5 (Pasadena), 4.5 (Berkeley).

Loc. cit., 24d., 5h.

Aug. 25d. 5h. 52m. Epicentre 36°·1N. 140°·4E. Depth of focus 60km.

Intensity IV at Tukubasan; II-III at Kashiwa, Kakioka, Mito, Tokyo, Osima, and Hunatu.

Seismo. Bull. Cent. Met. Obs., Japan, for Aug., 1954, Tokyo, 1954, pp. 20-21, with macro-seismic chart.

Aug. 25d. 12h. 27m. Epicentre 24°·5N. 121°·8E. Depth of focus 20km. Unfelt.

Seismo. Bulletin of the Taiwan Weather Bureau for July-Sept., 1954, Vol. 1, No. 3, Taipei, 1954, p. 21.

Aug. 25d. 21h. 48m. Epicentre 42°·5N. 75°·2E.

Bulletin of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, p. 84.

Aug. 26d. 12h. 56m. Epicentre 39°·5N. 118°·5W.

Loc. cit., 24d., 5h.

Aug. 26d. 18h. 40m. Epicentre 5°·1S. 153°·0E.

Monthly Bulletin of the B.C.I.S. for Aug., 1954, Strasbourg, 1955, p. 473.

Aug. 26d. 18h. 43m. Epicentre 44°·5N. 148°E. Depth of focus 60km.

Intensity II-III at Nemuro and Kusiro.

Seismo. Bull. Cent. Met. Obs., Japan, for Aug., 1954, Tokyo, 1954, pp. 21-22, with macro-seismic chart.

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Aug. 27d. 10h. 54m. 59s. Epicentre 24°·2N. 143°·3E. Depth of focus 0·005.

Unfelt. Epicentre 25°N. 143°E. Shallow.

Seismo. Bull. Cent. Met. Obs., Japan, for Aug., 1954, Tokyo, 1954, pp. 22-24. Magnitude 6·7 (Pasadena).

A = -·7322, B = +·5457, C = +·4076; $\delta = +4$; $h = +4$;
D = +·598, E = +·802; G = -·327, H = +·244, K = -·913.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-------------|----------|-----|--------|------|--------|------|----------|---------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Torisima | 6·8 | 338 | e 1 39 | 0 | e 2 56 | 0 | e 2 12 | e 3·3 |
| Hatidyozima | 9·4 | 342 | e 2 15 | 0 | — | — | — | — |
| Mera | 11·1 | 345 | e 2 37 | - 1 | e 5 5 | SS | i 5 19 | e 5·7 |
| Osima | 11·1 | 343 | e 2 34 | - 4 | e 4 31 | -11 | e 5 26 | e 6·0 |
| Omaesaki | 11·3 | 338 | e 2 39 | - 2 | e 5 17 | SSS | — | e 6·4 |
| Ajiro | 11·4 | 342 | e 2 39 | - 3 | e 4 48 | - 1 | e 5 28 | — |
| Siomisaki | 11·4 | 326 | e 2 38 | - 4 | 4 55 | + 6 | — | e 6·1 |
| Hamamatu | 11·6 | 336 | e 2 42 | - 3 | e 4 35 | -19 | e 11 33 | — |
| Misima | N. 11·6 | 342 | e 2 41 | - 4 | e 4 51 | - 3 | (5 17) | 5·3 |
| Owase | 11·6 | 330 | e 2 31 | -14 | e 5 9 | SS | — | — |
| Shizuoka | 11·6 | 340 | e 2 44 | - 1 | e 5 6 | SS | e 5 36 | e 6·1 |
| Yokohama | 11·6 | 345 | 2 40 | - 5 | e 4 49 | - 5 | e 5 49 | 7·2 |
| Tyosi | E. 11·7 | 350 | e 2 51 | + 5 | — | — | — | — |
| Tokyo | 11·8 | 346 | e 2 45 | - 3 | e 4 52 | - 6 | 5 26 | — |
| Kashiwa | 12·0 | 347 | e 2 45 | - 5 | — | — | — | e 6·7 |
| Tu | 12·0 | 332 | e 2 56 | + 6 | — | — | — | — |
| Muroto | 12·1 | 321 | e 2 50 | - 2 | — | — | — | 5·7 |
| Kameyama | 12·2 | 332 | e 2 50 | - 3 | e 5 28 | SS | e 4 14 | 7·2 |
| Kohu | 12·2 | 342 | e 2 50 | - 3 | e 5 1 | - 7 | — | e 5·7 |
| Nagoya | 12·2 | 335 | e 2 53 | 0 | e 5 26 | SS | — | 6·7 |
| Iida | 12·3 | 339 | e 2 52 | - 2 | e 5 46 | SSS | e 15 29 | — |
| Kakioka | E. 12·3 | 348 | e 2 48 | - 6 | 5 2 | - 8 | — | e 8·0 |
| Titibu | E. 12·3 | 344 | i 2 51 | - 3 | e 5 13 | + 3 | — | — |
| Kumagaya | 12·4 | 345 | 2 52 | - 4 | e 5 10 | - 3 | — | — |
| Mito | 12·4 | 349 | e 2 56 | 0 | 5 6 | - 7 | — | i 6·0 |
| Osaka | 12·4 | 329 | e 2 41 | -15 | e 4 45 | -28 | — | e 6·9 |
| Tokusima | 12·4 | 324 | e 2 55 | - 1 | — | — | — | 6·8 |
| Gihu | 12·5 | 335 | e 2 55 | - 2 | — | — | — | — |
| Simidu | 12·5 | 316 | e 3 1 | + 4 | — | — | — | e 6·0 |
| Sumoto | 12·5 | 326 | e 2 54 | - 3 | e 5 5 | -10 | — | i 6·6 |
| Hikone | 12·6 | 333 | e 3 6 | + 8 | — | — | — | — |
| Kobe | N. 12·6 | 328 | e 2 57 | - 1 | e 5 18 | 0 | — | e 6·9 |
| Kyoto | 12·6 | 330 | e 2 57 | - 1 | e 5 17 | - 1 | — | e 6·0 |
| Koti | 12·7 | 320 | e 2 51 | - 9 | e 5 22 | + 2 | i 3 6 | 6·0 |
| Maebasi | 12·7 | 344 | e 2 56 | - 4 | e 5 33 | +13 | e 5 41 | e 6·8 |
| Utunomiya | 12·7 | 347 | e 2 54 | - 6 | e 5 9 | -11 | e 3 5 | e 6·6 |
| Oiwake | 12·8 | 342 | e 3 0 | - 1 | e 6 11 | ? | — | e 7·4 |
| Matumoto | 12·9 | 340 | e 2 59 | - 3 | e 6 10 | ? | (e 8 50) | e 8·8 |
| Onahama | 12·9 | 351 | e 3 1 | - 1 | e 5 11 | -14 | — | e 7·3 |
| Takamatu | 12·9 | 324 | e 3 0 | - 2 | e 5 34 | + 9 | — | 7·0 |
| Miyazaki | 13·0 | 309 | e 3 31 | PPP | e 5 15 | -12 | — | — |
| Tsuruga | 13·0 | 333 | e 3 3 | - 1 | — | — | — | 6·8 |
| Yakusima | 13·0 | 302 | e 3 7 | + 3 | e 5 29 | + 2 | — | e 6·7 |
| Matusiro | 13·1 | 342 | 3 4 | - 1 | 5 26 | - 3 | i 5 55 | 6·2 |
| Nagano | N. 13·2 | 342 | e 3 4 | - 2 | i 5 50 | SS | i 3 21 | 7·2 |
| Shirakawa | 13·2 | 349 | e 3 2 | - 4 | e 5 17 | -15 | — | — |
| Matuyama | N. 13·3 | 319 | e 3 14 | + 6 | e 5 37 | + 3 | e 3 47 | e 6·4 |
| Toyama | 13·5 | 339 | e 3 53 | +43 | e 6 19 | +40 | e 6 33 | (e 6·6) |
| Toyooka | 13·5 | 329 | e 3 13 | + 3 | e 5 44 | + 5 | — | e 6·3 |
| Inawasiro | 13·6 | 349 | 3 8 | - 3 | 5 33 | - 8 | i 3 29 | 6·2 |
| Ooita | 13·6 | 314 | e 3 23 | PP | e 5 41 | 0 | — | — |
| Takada | 13·6 | 343 | e 3 9 | - 2 | e 6 8 | SS | (8 28) | 8·5 |
| Hokusima | 13·8 | 351 | e 3 11 | - 3 | e 5 36 | -10 | e 6 18 | — |
| Hirosima | 13·9 | 320 | e 3 11 | - 4 | e 5 56 | + 8 | e 3 36 | e 7·3 |
| Kumamoto | 14·0 | 311 | e 3 17 | 0 | — | — | — | — |

Continued on next page.

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|---------------|----|----------|-----|------|-----|------|------|-----|------|-------|-----|-------|--------|
| | | | | m. | s. | | m. | s. | | m. | s. | | |
| Yonago | | 14.1 | 325 | e 3 | 34 | PP | — | — | e 7 | 39 | ? | e 9.9 | |
| Niigata | | 14.2 | 346 | e 3 | 17 | — 2 | e 5 | 43 | — 13 | e 5 | 30 | e 7.1 | |
| Sendai | | 14.2 | 352 | e 3 | 15 | — 4 | e 6 | 4 | + 8 | e 3 | 26 | PP | |
| Isinomaki | | 14.3 | 354 | e 3 | 16 | — 5 | e 5 | 49 | — 9 | — | — | — | |
| Unzendake | | 14.3 | 310 | e 3 | 23 | + 2 | — | — | — | — | — | — | |
| Wazima | | 14.3 | 339 | e 3 | 28 | + 7 | e 5 | 54 | — 4 | (e 6 | 27) | SSS | e 6.4 |
| Aikawa | | 14.5 | 344 | e 3 | 18 | — 5 | — | — | — | — | — | — | 7.4 |
| Hamada | | 14.5 | 320 | e 3 | 35 | PP | (e 6 | 10) | + 7 | e 5 | 41 | ? | e 6.2 |
| Saga | E. | 14.5 | 311 | e 3 | 29 | + 6 | — | — | — | i 3 | 48 | PPP | i 6.8 |
| Simonoseki | | 14.5 | 315 | e 3 | 43 | PP | i 6 | 19 | SS | — | — | — | — |
| Hukuoka | | 14.7 | 313 | e 3 | 21 | — 5 | e 6 | 24 | SS | i 3 | 33 | ? | e 8.7 |
| Mizusawa | | 15.0 | 354 | 3 | 28 | — 2 | e 6 | 2 | — 12 | — | — | — | — |
| Sakata | | 15.0 | 350 | e 3 | 31 | + 1 | e 6 | 38 | SS | — | — | — | e 8.4 |
| Tomie | | 15.3 | 307 | e 3 | 37 | + 4 | — | — | — | e 4 | 2 | PPP | — |
| Miyako | | 15.5 | 356 | 3 | 34 | — 2 | e 6 | 17 | — 9 | e 6 | 40 | SS | — |
| Morioka | | 15.6 | 354 | e 3 | 36 | — 1 | e 6 | 28 | 0 | — | — | — | e 7.5 |
| Akita | | 15.7 | 351 | e 3 | 37 | — 1 | 6 | 34 | + 3 | i 6 | 44 | SS | e 7.1 |
| Ituhara | | 15.8 | 312 | e 3 | 41 | + 1 | e 6 | 38 | + 5 | — | — | — | — |
| Hatinohe | | 16.4 | 355 | e 3 | 46 | — 1 | e 7 | 0 | + 13 | — | — | — | e 9.2 |
| Aomori | | 16.7 | 353 | e 3 | 58 | + 7 | e 7 | 13 | SS | e 4 | 34 | ? | — |
| Mori | | 18.0 | 353 | e 4 | 5 | — 2 | i 7 | 37 | + 14 | e 4 | 16 | ? | 9.7 |
| Urakawa | | 18.0 | 359 | e 4 | 6 | — 1 | e 7 | 17 | — 6 | — | — | — | e 8.6 |
| Tomakomai | | 18.4 | 356 | e 4 | 12 | 0 | e 7 | 48 | + 16 | — | — | — | — |
| Obihiro | N. | 18.7 | 0 | e 4 | 19 | + 4 | — | — | — | — | — | — | — |
| Kusiro | | 18.8 | 2 | e 4 | 17 | 0 | e 7 | 56 | + 15 | i 4 | 27 | ? | e 9.8 |
| Sapporo | | 18.9 | 356 | i 4 | 17k | — 1 | i 7 | 53 | + 10 | e 8 | 14 | SS | e 10.4 |
| Nemuro | | 19.2 | 5 | e 4 | 22 | + 1 | e 8 | 20 | SS | i 8 | 37 | SSS | e 9.5 |
| Ilan | | 19.6 | 276 | e 3 | 48 | — 37 | 7 | 8 | — 50 | — | — | — | — |
| Abashiri | | 19.8 | 2 | e 4 | 25 | — 3 | — | — | — | — | — | — | — |
| Hwalien | | 19.8 | 274 | e 4 | 30k | + 2 | 8 | 7 | + 5 | — | — | — | — |
| Taipei | | 19.8 | 277 | e 4 | 37 | + 9 | 8 | 5 | + 3 | — | — | — | — |
| Hsinkong | | 20.1 | 271 | e 4 | 29 | — 2 | 8 | 12 | + 4 | — | — | — | — |
| Hsinchu | | 20.3 | 276 | e 4 | 35 | + 2 | — | — | — | — | — | — | — |
| Taitung | | 20.4 | 270 | i 4 | 41 | + 7 | 8 | 22 | + 8 | — | — | — | — |
| Alishan | | 20.6 | 273 | e 4 | 33 | — 3 | — | — | — | — | — | — | — |
| Taichung | | 20.6 | 275 | e 4 | 39 | + 3 | 8 | 22 | + 4 | — | — | — | — |
| Tawu | | 20.7 | 270 | 4 | 38 | + 1 | 8 | 21 | + 1 | — | — | — | — |
| Hengchun | | 20.8 | 269 | 4 | 42 | + 4 | 8 | 24 | + 3 | — | — | — | — |
| Zô-Sè | | 20.8 | 294 | i 4 | 34a | — 4 | i 8 | 17 | — 4 | e 4 | 53 | pP | — |
| Tainan | | 21.2 | 272 | e 4 | 39 | — 3 | 8 | 24 | — 5 | — | — | — | — |
| Wakkanai | E. | 21.2 | 357 | e 4 | 53 | + 11 | e 8 | 37 | + 8 | — | — | — | — |
| Nanking | | 22.9 | 296 | i 4 | 57a | — 2 | 8 | 58 | — 2 | e 5 | 18 | pP | i 9.8 |
| Manila | | 23.1 | 250 | e 4 | 57 | — 4 | e 9 | 22 | + 19 | — | — | — | — |
| Hong Kong | E. | 26.8 | 272 | e 5 | 33 | — 3 | e 9 | 54? | — 11 | — | — | — | — |
| Taiyuan | | 29.5 | 305 | e 5 | 58 | — 2 | e 10 | 44 | — 5 | — | — | — | — |
| Lanchow Univ. | | 35.9 | 299 | e 6 | 55 | — 1 | e 12 | 26 | — 2 | e 7 | 18 | pP | — |
| Wuwei | | 37.1 | 301 | e 7 | 11 | + 5 | e 12 | 45 | — 2 | — | — | — | — |
| Sining | | 37.6 | 299 | e 7 | 9 | — 1 | e 12 | 52 | — 2 | — | — | — | — |
| Shillong | | 46.4 | 283 | i 8 | 19 | — 3 | i 15 | 0 | — 4 | 9 | 54 | PcP | 22.2 |
| Bandung | | 46.5 | 233 | e 8 | 20a | — 3 | e 15 | 2 | — 3 | i 8 | 47 | sP | — |
| Lembang | | 46.5 | 233 | i 8 | 20a | — 3 | e 15 | 6 | + 1 | i 8 | 43 | pP | e 26.0 |
| Calcutta | E. | 50.2 | 280 | e 8 | 48 | — 3 | 15 | 53 | — 4 | 20 | 0 | sSS | 20.5 |
| Nouméa | | 51.4 | 152 | e 8 | 57a | — 3 | — | — | — | e 9 | 8 | ? | — |
| Brisbane | | 52.2 | 169 | e 9 | 4 | — 2 | — | — | — | — | — | — | — |
| Honolulu | | 53.8 | 81 | e 9 | 37 | pP | e 17 | 4 | PS | e 21 | 14 | sSS | e 22.8 |
| Dehra Dun | N. | 57.6 | 292 | e 9 | 47 | + 1 | e 17 | 36 | — 1 | — | — | — | — |
| Apia | | 57.9 | 126 | e 10 | 11 | pP | — | — | — | — | — | — | — |
| Riverview | | 58.2 | 172 | i 9 | 48a | — 2 | i 17 | 46 | + 1 | i 10 | 6 | pP | e 24.4 |
| New Delhi | E. | 58.7 | 290 | e 9 | 50 | — 3 | i 17 | 48 | — 3 | 19 | 33 | ScS | — |
| College | | 59.4 | 28 | i 9 | 58k | 0 | e 18 | 5 | + 5 | i 10 | 28 | pP | e 25.3 |
| Madras | E. | 60.4 | 272 | i 10 | 2 | — 3 | i 18 | 12 | — 1 | 13 | 41 | PPP | 28.3 |
| Hyderabad | | 60.5 | 277 | 10 | 12 | + 6 | i 18 | 15 | + 1 | 18 | 41 | sS | 28.3 |
| Melbourne | E. | 61.7 | 178 | — | — | — | e 18 | 35 | + 5 | — | — | — | — |
| Colombo | | 63.0 | 265 | 10 | 25 | + 3 | 18 | 42 | — 4 | — | — | — | 32.0 |
| Kodaikanal | | 63.9 | 270 | e 10 | 28 | 0 | i 18 | 58 | + 1 | — | — | — | — |

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|----------------|----------|-----|------|-----|------|------|----|-------|-------|-----|-----|--------|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Poona | 64.4 | 280 | i 10 | 32 | 0 | i 19 | 2 | - 1 | 23 | 15 | SS | — |
| Bombay | 65.2 | 280 | i 10 | 37 | 0 | i 19 | 14 | + 1 | 11 | 13 | sP | — |
| Quetta | 67.0 | 294 | i 10 | 47 | - 1 | e 19 | 32 | - 3 | i 11 | 9 | pP | i 31.7 |
| Victoria | 74.4 | 44 | 11 | 35 | + 2 | e 21 | 13 | +12 | — | — | — | 35.0 |
| Resolute Bay | 74.6 | 14 | i 11 | 35k | + 1 | i 21 | 10 | + 7 | i 14 | 1 | PP | e 36.0 |
| Seattle | 75.4 | 44 | e 11 | 38 | 0 | 21 | 24 | +12 | 21 | 38 | sS | 37.0 |
| Shasta | z. 77.8 | 51 | i 11 | 54k | + 2 | — | — | — | — | — | — | — |
| Mineral | z. 78.4 | 51 | e 11 | 57k | + 2 | — | — | — | — | — | — | — |
| Berkeley | 78.9 | 54 | i 12 | 0k | + 2 | e 22 | 0 | +10 | e 23 | 23 | PPS | e 36.0 |
| Kiruna | 79.1 | 341 | i 11 | 59 | 0 | i 21 | 54 | + 2 | i 12 | 20 | pP | e 38.0 |
| Santa Clara | 79.3 | 54 | e 11 | 52a | - 8 | e 22 | 18 | sS | — | — | — | e 35.3 |
| Reno | z. 80.0 | 51 | e 12 | 7k | + 3 | — | — | — | — | — | — | — |
| Hungry Horse | 80.2 | 41 | i 12 | 8k | + 3 | e 22 | 5 | + 2 | i 12 | 29 | pP | — |
| Fresno | z. 81.1 | 54 | e 12 | 11k | + 1 | — | — | — | — | — | — | — |
| Butte | N. 82.2 | 43 | e 12 | 15 | 0 | i 22 | 31 | + 7 | i 12 | 48 | sP | e 31.8 |
| Woody | z. 82.2 | 54 | i 12 | 17 | + 2 | — | — | — | — | — | — | — |
| Isabella | z. 82.6 | 54 | e 12 | 18 | + 1 | — | — | — | — | — | — | — |
| Bozeman | 83.2 | 43 | e 12 | 22 | + 1 | e 16 | 25 | ? | i 12 | 32 | PcP | — |
| Pasadena | 83.4 | 56 | i 12 | 23k | + 1 | i 22 | 42 | + 6 | i 12 | 51 | pP | e 37.3 |
| Riverside | z. 84.0 | 56 | e 12 | 26 | + 1 | — | — | — | i 12 | 53 | pP | — |
| Palomar | z. 84.7 | 56 | i 12 | 30 | + 2 | — | — | — | i 12 | 57 | pP | — |
| Salt Lake City | 85.0 | 48 | e 12 | 30a | 0 | e 22 | 50 | - 2 | i 12 | 58 | pP | e 39.0 |
| Scoresby Sund | 85.0 | 355 | i 12 | 31 | + 1 | i 22 | 54 | + 2 | i 23 | 14 | pS | 47.0 |
| Boulder City | 85.1 | 53 | i 12 | 32 | + 2 | i 31 | 46 | SSS | i 14 | 18 | ? | — |
| Barratt | z. 85.2 | 56 | i 12 | 32 | + 1 | — | — | — | i 13 | 3 | pP | — |
| Nelson | z. 85.2 | 53 | i 12 | 32k | + 1 | i 31 | 47 | SSS | i 12 | 59 | pP | — |
| Upsala | 85.2 | 336 | i 12 | 29 | - 2 | i 22 | 52 | - 2 | i 12 | 37 | PcP | e 40.0 |
| Iasi | 88.4 | 322 | e 12 | 46 | 0 | e 23 | 25 | + 1 | e 13 | 16 | sP | — |
| Warsaw | 88.8 | 329 | i 12 | 50 | + 2 | e 23 | 6 | [- 4] | e 13 | 9 | pP | e 48.0 |
| Rapid City | E. 88.9 | 41 | e 12 | 53 | + 5 | e 23 | 17 | [+ 7] | e 13 | 34 | sP | — |
| Focsani | N. 89.5 | 321 | — | — | — | e 23 | 37 | + 3 | — | — | — | — |
| Tucson | 89.7 | 55 | e 12 | 56k | + 4 | e 23 | 26 | [+11] | i 13 | 6 | pP | e 36.9 |
| Ksara | 90.1 | 307 | e 12 | 1 | -53 | e 23 | 1 | [-16] | — | — | — | — |
| Copenhagen | 90.2 | 335 | e 12 | 44 | -11 | e 23 | 29 | SKKS | 29 | 44 | SS | 44.0 |
| Bucharest | N. 90.9 | 320 | — | — | — | e 23 | 44 | - 3 | — | — | — | — |
| Istanbul | 91.0 | 316 | e 12 | 57 | - 1 | e 23 | 44 | - 4 | e 16 | 41? | PP | e 47.0 |
| Skalnate Pleso | 91.1 | 327 | e 16 | 15 | PP | e 23 | 36 | SKKS | e 25 | 17 | PS | — |
| Reykjavik | z. 91.2 | 354 | i 13 | 3 | + 4 | — | — | — | i 15 | 38 | ? | — |
| Raciborz | 91.6 | 328 | e 13 | 2 | + 1 | e 23 | 55 | + 2 | — | — | — | — |
| Potsdam | 92.3 | 332 | e 17 | 1 | PP | e 23 | 55 | - 4 | e 25 | 13 | SP | e 46.0 |
| Budapest | 92.8 | 326 | e 13 | 27 | pP | e 23 | 35 | [+ 2] | e 25 | 26 | PS | e 48.8 |
| Collmberg | z. 93.1 | 331 | e 13 | 3 | - 5 | — | — | — | — | — | — | — |
| Szeged | 93.1 | 324 | e 22 | 55 | ? | 23 | 48 | SKKS | — | — | — | — |
| Prague | 93.3 | 330 | e 13 | 10 | + 1 | e 24 | 1? | - 7 | e 17 | 20 | pPP | — |
| Sofia | 93.5 | 320 | e 26 | 29 | PPS | e 24 | 13 | + 3 | — | — | — | e 50.0 |
| Belgrade | 93.8 | 323 | e 13 | 13a | + 2 | e 24 | 10 | - 2 | e 17 | 8 | PP | e 54.2 |
| Aberdeen | E. 93.9 | 342 | i 27 | 19 | ? | i 24 | 29 | +16 | i 34 | 40 | SSS | e 47.1 |
| Jena | z. 94.0 | 332 | e 13 | 10 | - 2 | — | — | — | — | — | — | — |
| Witteveen | z. 94.6 | 335 | e 13 | 16 | + 1 | — | — | — | — | — | — | — |
| Helwan | 95.4 | 306 | 13 | 18 | 0 | 23 | 51 | [+ 4] | 24 | 31 | S | — |
| De Bilt | 95.7 | 336 | e 13 | 19 | - 1 | e 24 | 0 | [+11] | — | — | — | e 44.0 |
| Stuttgart | 96.6 | 331 | e 13 | 23 | - 1 | e 24 | 36 | 0 | e 24 | 2 | SKS | e 50.0 |
| Triest | 96.8 | 327 | e 10 | 5 | ? | e 23 | 59 | [+ 4] | e 17 | 22 | PP | e 40.5 |
| Uccle | 97.0 | 335 | e 18 | 40 | ? | e 24 | 40 | 0 | e 24 | 0 | SKS | e 45.0 |
| Strasbourg | 97.4 | 332 | 13 | 25 | - 3 | e 24 | 46 | + 3 | e 31 | 25 | SS | — |
| Zürich | 97.9 | 331 | e 13 | 23 | - 7 | — | — | — | — | — | — | — |
| Rathfarnham C. | z. 98.4 | 342 | e 13 | 53 | pP | e 24 | 22 | SKKS | i 17 | 33 | PP | — |
| Salo | 98.4 | 329 | e 13 | 54 | pP | e 23 | 4 | [-59] | — | — | — | — |
| Fayetteville | 99.1 | 44 | e 13 | 37 | + 2 | e 14 | 19 | sP | e 17 | 39 | PP | — |
| Chicago | 99.2 | 36 | e 26 | 34 | PS | i 24 | 10 | [+ 3] | e 25 | 8 | S | e 44.7 |
| Florence | 99.3 | 327 | e 14 | 19 | sP | e 25 | 3 | + 4 | e 31 | 1? | SS | — |
| Dallas | 99.4 | 48 | i 13 | 39 | + 2 | — | — | — | — | — | — | — |
| Paris | 99.4 | 335 | e 13 | 43 | + 6 | e 24 | 15 | [+ 7] | e 17 | 47 | PP | e 48.0 |
| Rome | 100.0 | 325 | e 14 | 18 | sP | e 25 | 6 | + 1 | e 17 | 38 | PP | — |
| Messina | 100.9 | 321 | e 13 | 50 | + 7 | i 25 | 16 | + 4 | e 19 | 27 | ? | — |

Continued on next page.

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|--------------|------------|------------|------|-----|-------|------|----|-------|-------|----|------------|
| | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Terre Haute | 101.0 | 38 | e 18 | 6 | PP | i 24 | 31 | [+15] | — | — | — |
| Ottawa | 102.2 | 27 | e 18 | 6 | PP | 24 | 23 | [+ 1] | 24 | 41 | SKKS |
| Cleveland | 102.6 | 33 | e 27 | 15 | PS | i 24 | 29 | [+ 6] | e 25 | 36 | S |
| Pittsburgh | 104.2 | 33 | — | — | — | i 24 | 35 | [+ 4] | — | — | — |
| Palisades | 106.5 | 28 | e 14 | 10 | P | i 24 | 44 | [+ 3] | i 18 | 35 | PP e 50.1 |
| Philadelphia | 106.8 | 30 | e 19 | 26 | ? | e 24 | 47 | [+ 5] | e 33 | 47 | SSP e 50.0 |
| Columbia | 108.4 | 38 | e 28 | 16 | PS | e 24 | 51 | [+ 2] | e 33 | 22 | SS e 45.1 |
| Alicante | 109.1 | 330 | 18 | 19 | [- 3] | 25 | 15 | [+23] | 18 | 53 | PP 52.2 |
| Toledo | 109.4 | 334 | 18 | 40 | pPKP | e 26 | 27 | S | e 22 | 27 | ? 52.5 |
| Granada | 111.5 | 332 | 19 | 18k | PP | 25 | 51 | SKKS | 21 | 43 | PPP e 56.0 |
| Bermuda | 117.7 | 27 | e 19 | 55 | PP | e 29 | 30 | PS | — | — | e 58.6 |
| Tamanrasset | z. 117.9 | 315 | e 19 | 49 | PP | e 20 | 52 | ? | e 20 | 20 | sPP |
| Pretoria | z. 121.7 | 254 | e 18 | 47 | [0] | — | — | — | — | — | — |
| Kimberley | z. 125.3 | 251 | e 19 | 10 | pPKP | — | — | — | — | — | — |
| Galerazamba | 128.8 | 52 | — | — | — | e 23 | 29 | sPKS | — | — | 61.0 |
| San Juan | 128.9 | 37 | e 19 | 1 | [0] | e 22 | 20 | SKP | — | — | — |
| Chinchina | 132.3 | 58 | i 19 | 10 | [+ 3] | i 28 | 25 | SKKS | i 22 | 34 | SKP |
| Bogota | 133.7 | 57 | e 19 | 22 | [+12] | i 39 | 8 | SS | i 22 | 45 | PKS 63.0 |
| Huancayo | 141.5 | 79 | e 19 | 22 | [- 2] | e 32 | 42 | SP | e 22 | 44 | PP |
| La Paz | 149.6 | 81 | i 19 | 43 | [+ 6] | 26 | 23 | [-14] | i 30 | 11 | SKKS 71.2 |
| Montezuma | z. 150.5 | 94 | e 19 | 48 | [+ 9] | — | — | — | i 20 | 3 | pPKP |

Aug. 27d. 12h. 21m. 26s. Epicentre 71°·1N. 14°·0W. (as on 22d.).

Magnitude 5.25 (Upsala).

| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|----------------|------------|------------|-----|-----|------|-------|------|------|-------|----|-----------|
| | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Scoresby Sund | 2.7 | 261 | i 0 | 40 | - 5 | — | — | — | — | — | — |
| Akureyri | N. 5.7 | 198 | e 1 | 19 | - 9 | (e 2 | 28) | - 7 | e 2 | 19 | ? e 2.5 |
| Reykjavik | 7.6 | 207 | i 1 | 54k | - 1 | i 3 | 26 | + 3 | i 3 | 35 | ? e 4.4 |
| Kiruna | 12.4 | 88 | i 3 | 2 | + 1 | — | — | — | i 3 | 11 | PP e 6.3 |
| Aberdeen | 14.8 | 154 | i 3 | 32 | 0 | (6 | 42) | SSS | i 2 | 59 | ? 6.7 |
| Upsala | 17.0 | 115 | i 4 | 1 | 0 | e 7 | 38? | SSS | i 4 | 16 | PP e 9.8 |
| Rathfarnham C. | z. 18.2 | 165 | i 4 | 16a | 0 | i 4 | 24 | PP | i 4 | 42 | PPP |
| Copenhagen | 19.2 | 130 | i 4 | 32 | + 4 | — | — | — | — | — | — |
| Hamburg | z. 20.5 | 136 | e 4 | 44 | + 2 | e 4 | 58 | PP | e 5 | 10 | PPP |
| Witteveen | z. 20.5 | 142 | e 4 | 43 | + 1 | — | — | — | — | — | — |
| Uccle | 22.0 | 148 | e 4 | 57 | - 1 | e 9 | 7 | +11 | — | — | e 11.1 |
| Potsdam | 22.3 | 133 | e 5 | 1 | 0 | e 9 | 22 | +20 | e 9 | 40 | SS e 10.6 |
| Resolute Bay | 22.3 | 316 | e 5 | 8 | + 7 | e 9 | 17 | +15 | — | — | e 11.5 |
| Collmberg | z. 23.3 | 134 | e 5 | 10 | 0 | — | — | — | — | — | — |
| Jena | 23.3 | 136 | e 5 | 8? | - 2 | e 9 | 17? | - 3 | e 5 | 55 | PPP |
| Paris | 23.6 | 152 | e 5 | 12 | - 1 | (e 10 | 34?) | SSS | e 5 | 24 | pP e 10.6 |
| Karlsruhe | z. 24.5 | 143 | e 5 | 24 | + 2 | — | — | — | — | — | — |
| Warsaw | 24.5 | 122 | i 5 | 27a | + 5 | e 9 | 49 | + 9 | e 5 | 55 | PP e 13.6 |
| Prague | 24.8 | 133 | i 5 | 23 | - 2 | i 9 | 55 | + 9 | e 5 | 45 | PP |
| Strasbourg | 24.8 | 144 | e 5 | 26 | + 1 | e 9 | 53 | + 7 | e 6 | 2 | PP e 11.8 |
| Stuttgart | 24.9 | 142 | e 5 | 25 | - 1 | e 9 | 53 | + 6 | e 5 | 54 | PP |
| Raciborzu | 25.7 | 128 | e 5 | 39? | + 6 | e 10 | 19 | +18 | — | — | — |
| Basle | 25.8 | 145 | e 5 | 34 | 0 | e 10 | 15 | +13 | — | — | — |
| Neuchatel | 26.1 | 146 | i 5 | 37 | 0 | e 10 | 26 | +19 | — | — | — |
| Zürich | 26.1 | 144 | e 5 | 35 | - 2 | e 10 | 20 | +13 | — | — | — |
| Rome | 32.1 | 141 | e 6 | 36 | + 5 | e 11 | 52 | + 9 | — | — | — |
| Alicante | 33.6 | 161 | 6 | 37 | - 7 | e 11 | 53 | -13 | 13 | 8 | PcS 16.0 |
| Granada | 34.4 | 165 | i 7 | 9a | +18 | — | — | — | — | — | — |
| Messina | N. 36.3 | 139 | e 7 | 11 | + 4 | e 12 | 51 | + 3 | e 8 | 34 | PP |
| Istanbul | z. 37.0 | 121 | e 7 | 15 | + 2 | — | — | — | — | — | — |
| College | 40.7 | 332 | i 7 | 48 | + 4 | — | — | — | — | — | — |
| Helwan | z. 48.1 | 124 | e 8 | 45 | + 2 | — | — | — | — | — | — |
| Hungry Horse | 48.2 | 298 | e 8 | 47 | + 3 | — | — | — | — | — | — |
| Tamanrasset | z. 49.6 | 156 | e 8 | 53 | - 2 | — | — | — | — | — | — |
| Bozeman | 49.8 | 294 | e 8 | 56 | 0 | — | — | — | — | — | — |

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------|----|------------|------------|---------|------|-------|------|-------|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Fayetteville | | 53.2 | 274 | i 9 20 | - 2 | — | — | — | — |
| Mineral | | 57.7 | 300 | e 9 55 | 0 | — | — | — | — |
| Reno | z. | 58.0 | 299 | e 9 58 | + 1 | — | — | — | — |
| Quetta | z. | 58.8 | 88 | e 10 4 | + 2 | — | — | — | — |
| Nelson | z. | 60.1 | 293 | e 10 12 | + 1 | — | — | — | — |
| Fresno | z. | 60.5 | 298 | e 10 17 | + 3 | — | — | — | — |
| Isabella | z. | 61.2 | 296 | e 10 20 | + 1 | — | — | — | — |
| Tucson | | 62.0 | 288 | e 10 25 | + 1 | — | — | — | e 33.3 |
| Mount Wilson | z. | 62.4 | 295 | e 10 29 | + 2 | — | — | — | — |
| Palomar | z. | 62.8 | 294 | e 10 30 | 0 | — | — | — | — |
| Barratt | z. | 63.4 | 293 | e 10 33 | - 1 | — | — | — | — |

Aug. 27d. 23h. 48m. Epicentre 22°S. 68°W. Depth of focus 100km.

Intensity IV between 22° and 23°S. in Chili, also at Antofagasta.

Annales de l'Institut de Physique du Globe de Strasbourg, 2e partie, Séismologie, August, 1954.

Aug. 28d. 10h. 1m. 24s. Epicentre 36°·6N. 141°·4E. Focus at Base of Superficial Layers.

Intensity VI at Onahama; V at Kakioka, Mito, Tukubasan, Shirakawa, and Hokusima; IV at Tyosi, Utunomiya, Kashiwa, Inawasiro, Tokyo, Kumagaya, Sendai, Maebasi, Titibu, Isinomaki, Oiwake, Karnizawa, and Ajiro; II-III at Yokohama, Yamagata, Kohu, Osima, Mizusawa, Iida, Miyako, Morioka, and Wakamatu.

Epicentre 36°·7N. 141°·1E. Depth of focus 40km.

Seismo. Bull. Cent. Met. Obs., Japan, for Aug., 1954, Tokyo, 1954, pp. 25-28, with macroseismic chart.

$$A = -.6289, B = +.5021, C = +.5936; \quad \delta = -2; \quad h = 0;$$

$$D = +.624, E = +.782; \quad G = -.464, H = +.370, K = -.805.$$

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------|----|------------|------------|---------|------|--------|------|--------|----|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Onahama | | 0.5 | 312 | i 0 9 | - 1 | i 0 16 | - 2 | — | — |
| Mito | | 0.8 | 253 | i 0 14k | - 1 | 0 22 | - 4 | — | — |
| Kakioka | z. | 1.0 | 248 | i 0 16k | - 2 | 0 27 | - 4 | — | — |
| Shirakawa | | 1.0 | 299 | i 0 18k | 0 | i 0 29 | - 2 | — | — |
| Tyosi | n. | 1.0 | 206 | i 0 18a | 0 | i 0 30 | - 1 | — | — |
| Utunomiya | | 1.2 | 268 | i 0 19 | - 1 | e 0 30 | - 6 | — | — |
| Hokusima | | 1.4 | 328 | i 0 28k | + 5 | i 0 43 | + 2 | — | — |
| Inawasiro | | 1.4 | 314 | i 0 25k | + 2 | i 0 35 | - 6 | — | — |
| Kashiwa | | 1.4 | 237 | i 0 21k | - 2 | i 0 32 | - 9 | — | — |
| Tokyo | | 1.6 | 235 | i 0 26k | 0 | 0 42 | - 4 | — | — |
| Kumagaya | | 1.7 | 255 | i 0 27k | - 1 | i 0 44 | - 5 | — | — |
| Sendai | | 1.7 | 347 | i 0 29k | + 1 | i 0 49 | 0 | — | — |
| Isinomaki | | 1.8 | 358 | 0 31k | + 2 | i 0 52 | + 1 | — | — |
| Yamagata | | 1.8 | 334 | 0 31 | + 2 | 0 56 | + 5 | — | — |
| Yokohama | | 1.8 | 230 | 0 29k | 0 | 0 49 | - 2 | — | — |
| Maebasi | | 1.9 | 264 | i 0 30k | - 1 | 0 49 | - 5 | — | — |
| Titibu | | 2.0 | 252 | i 0 30k | - 2 | e 0 50 | - 6 | — | — |
| Mera | | 2.1 | 217 | 0 38 | + 5 | 0 58 | - 1 | — | — |
| Niigata | | 2.3 | 306 | e 0 36 | 0 | 1 4 | 0 | — | — |
| Oiwake | | 2.3 | 264 | i 0 35k | - 1 | e 1 1 | - 3 | — | — |
| Ajiro | | 2.4 | 230 | e 0 38 | 0 | e 1 8 | + 2 | — | — |
| Hunatu | | 2.4 | 243 | 0 37a | - 1 | 1 2 | - 4 | — | — |
| Kohu | | 2.4 | 248 | i 0 39k | + 1 | e 1 8 | + 2 | — | — |
| Osima | | 2.4 | 222 | i 0 40k | + 2 | i 1 6 | 0 | i 0 54 | ? |
| Matusiro | | 2.5 | 270 | e 0 38k | - 1 | i 1 5 | - 4 | i 0 52 | ? |
| Misima | | 2.5 | 234 | i 0 38k | - 1 | i 1 11 | + 2 | i 0 49 | ? |
| Mizusawa | | 2.5 | 356 | 0 42 | + 3 | 1 12 | + 3 | — | — |
| Nagano | n. | 2.6 | 268 | i 0 39 | - 2 | i 1 10 | - 1 | — | — |
| Sakata | | 2.6 | 332 | 0 47 | + 6 | 1 19 | + 8 | e 1 26 | ? |
| Takada | | 2.6 | 282 | i 0 40 | - 1 | i 1 18 | + 7 | — | — |

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. m. |
|------------|----|----------|-----|-----|-----|------|-----|-----|------|-------|----|----------|
| | | | | m. | s. | | m. | s. | | m. | s. | |
| Matumoto | E. | 2.8 | 264 | i 0 | 43 | 0 | i 1 | 13 | - 3 | — | — | — |
| Aikawa | | 2.9 | 300 | i 0 | 43k | - 2 | 1 | 26 | + 7 | e 0 | 51 | ? |
| Shizuoka | | 2.9 | 237 | 0 | 45k | 0 | i 1 | 19 | 0 | — | — | — |
| Iida | | 3.1 | 250 | i 0 | 47k | - 1 | i 1 | 22 | - 2 | — | — | — |
| Miyako | N. | 3.1 | 9 | 0 | 48 | 0 | e 1 | 21 | - 3 | — | — | — |
| Morioka | | 3.1 | 357 | i 0 | 50k | + 2 | i 1 | 24 | 0 | — | — | — |
| Akita | | 3.3 | 342 | e 0 | 52 | + 1 | 1 | 33 | + 4 | — | — | — |
| Omaesaki | | 3.3 | 233 | 0 | 55 | + 4 | 1 | 31 | + 2 | i 1 | 44 | ? |
| Takayama | | 3.4 | 263 | e 0 | 51 | - 1 | e 1 | 34 | + 2 | — | — | — |
| Toyama | | 3.4 | 267 | i 0 | 52k | 0 | 1 | 31 | - 1 | — | — | — |
| Hamamatu | | 3.5 | 238 | e 0 | 54 | + 1 | 1 | 37 | + 3 | — | — | — |
| Wazima | | 3.7 | 283 | e 0 | 55 | - 1 | — | — | — | — | — | — |
| Kanazawa | | 3.8 | 270 | e 0 | 56 | - 2 | e 1 | 48 | + 6 | — | — | — |
| Nagoya | | 3.8 | 249 | e 0 | 59 | + 1 | e 1 | 42 | 0 | — | — | — |
| Gihu | | 3.9 | 253 | i 1 | 1k | + 2 | 1 | 44 | 0 | — | — | — |
| Hatinohe | | 3.9 | 2 | i 1 | 3k | + 4 | e 1 | 47 | + 3 | — | — | — |
| Aomori | | 4.2 | 354 | 1 | 8 | + 5 | i 1 | 59 | + 7 | — | — | — |
| Hukui | | 4.2 | 264 | e 1 | 4 | + 1 | e 1 | 54 | + 2 | — | — | — |
| Ibukisan | N. | 4.2 | 255 | e 1 | 2 | - 1 | e 1 | 48 | - 4 | — | — | — |
| Hikone | | 4.4 | 254 | i 1 | 4a | - 2 | 1 | 53 | - 4 | e 1 | 38 | ? |
| Kameyama | | 4.4 | 248 | 1 | 8 | + 2 | 2 | 1 | + 4 | — | — | — |
| Tsuruga | E. | 4.4 | 259 | i 1 | 7 | + 1 | i 2 | 0 | + 3 | — | — | — |
| Tu | | 4.4 | 246 | i 1 | 10 | + 4 | i 2 | 5 | + 8 | — | — | — |
| Kyoto | | 4.8 | 253 | e 1 | 12 | 0 | i 2 | 12 | + 5 | — | — | — |
| Nara | | 4.9 | 248 | e 1 | 10 | - 3 | e 2 | 21 | + 11 | e 1 | 25 | ? |
| Owase | | 4.9 | 241 | e 1 | 12 | - 1 | e 2 | 23 | + 13 | — | — | — |
| Maizuru | | 5.0 | 259 | e 1 | 14 | - 1 | e 2 | 10 | - 2 | — | — | — |
| Osaka | | 5.1 | 249 | e 1 | 36 | + 20 | e 2 | 28 | + 13 | — | — | — |
| Hakodate | | 5.2 | 355 | e 1 | 12? | - 6 | i 2 | 18? | + 1 | — | — | — |
| Kobe | | 5.4 | 251 | e 1 | 28 | + 8 | e 2 | 35 | + 13 | — | — | — |
| Toyooka | | 5.4 | 260 | e 1 | 20 | 0 | e 2 | 24 | + 2 | — | — | — |
| Siomisaki | | 5.6 | 237 | e 1 | 22 | - 1 | e 2 | 22 | - 5 | — | — | — |
| Wakayama | | 5.6 | 247 | e 1 | 24 | + 1 | e 2 | 20 | - 7 | — | — | — |
| Himeji | | 5.7 | 254 | e 1 | 27 | + 3 | e 2 | 42 | + 12 | — | — | — |
| Muroran | | 5.7 | 357 | e 1 | 24 | 0 | e 2 | 39 | + 9 | — | — | — |
| Sumoto | | 5.7 | 248 | 1 | 25 | + 1 | e 2 | 43 | + 13 | — | — | — |
| Urakawa | | 5.7 | 11 | e 1 | 25 | + 1 | e 2 | 28 | - 2 | — | — | — |
| Tomakomai | | 5.9 | 2 | e 1 | 24 | - 3 | i 2 | 39 | + 4 | — | — | — |
| Tokusima | | 6.1 | 247 | e 1 | 31 | + 1 | e 2 | 59 | + 19 | — | — | — |
| Suttsu | | 6.2 | 352 | e 1 | 37 | + 5 | e 2 | 51 | + 9 | — | — | — |
| Torisima | | 6.2 | 189 | e 1 | 33 | + 1 | e 2 | 43 | + 1 | e 1 | 57 | ? |
| Sapporo | | 6.4 | 0 | e 1 | 37 | + 3 | e 2 | 52 | + 5 | — | — | — |
| Takamatu | | 6.4 | 251 | e 1 | 34 | 0 | e 2 | 53 | + 6 | e 2 | 22 | ? |
| Obihiro | N. | 6.5 | 12 | e 1 | 37 | + 1 | i 2 | 48 | - 2 | — | — | — |
| Saigo | | 6.5 | 269 | 1 | 33 | - 3 | 2 | 52 | + 2 | — | — | — |
| Yonago | | 6.6 | 262 | e 1 | 41 | + 4 | e 3 | 8 | + 16 | — | — | — |
| Kusiro | | 6.8 | 19 | e 1 | 37 | - 3 | 2 | 51 | - 6 | — | — | i 3.5 |
| Muroto | | 6.8 | 242 | e 1 | 40 | 0 | i 3 | 4 | + 7 | — | — | — |
| Koti | | 7.1 | 247 | e 1 | 44 | 0 | e 3 | 12 | + 7 | — | — | — |
| Asahigawa | | 7.2 | 6 | e 1 | 46 | 0 | e 3 | 7 | 0 | — | — | — |
| Nemuro | | 7.4 | 24 | e 2 | 34 | ? | i 3 | 6 | - 6 | — | — | — |
| Hirosima | | 7.6 | 256 | e 1 | 41 | - 10 | e 3 | 21 | + 4 | e 1 | 53 | P |
| Matuyama | N. | 7.6 | 251 | e 1 | 51 | 0 | e 3 | 32 | + 15 | — | — | — |
| Abashiri | | 7.7 | 16 | e 2 | 9 | + 16 | e 3 | 15 | - 5 | — | — | 3.8 |
| Hamada | | 7.8 | 260 | e 1 | 53 | - 1 | e 3 | 13 | - 9 | — | — | — |
| Simidu | | 7.9 | 244 | e 2 | 1 | + 6 | e 3 | 20 | - 5 | — | — | — |
| Uwazima | | 8.0 | 248 | — | — | — | e 4 | 7 | + 40 | — | — | — |
| Ooita | | 8.7 | 250 | e 2 | 8 | + 2 | e 3 | 59 | + 14 | e 2 | 17 | ? |
| Simonoseki | | 9.0 | 256 | e 2 | 7 | - 4 | i 3 | 52 | 0 | — | — | — |
| Asosan | | 9.2 | 249 | 2 | 14 | + 1 | 4 | 3 | + 6 | — | — | — |

Continued on next page.

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1954

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| | | Δ ° | Az. ° | P. | | O-C. s. | S. | | O-C. s. | Supp. | | L. m. | |
|------------------|----|---------------|----------|------|------|------------|------|----|------------|-------|----|----------|--------|
| | | | | m. | s. | | m. | s. | | m. | s. | | |
| Hukuoka | | 9.5 | 255 | e 2 | 16 | - 2 | e 4 | 13 | + 9 | — | — | e 4.7 | |
| Miyazaki | | 9.5 | 243 | e 2 | 17 | - 1 | e 4 | 6 | + 2 | — | — | e 4.8 | |
| Kumamoto | | 9.6 | 250 | e 2 | 19 | 0 | — | — | — | — | — | — | |
| Unzendake | | 9.9 | 250 | e 2 | 14 | - 9 | e 4 | 32 | +18 | — | — | — | |
| Zô-Sô | z. | 17.6 | 258 | i 4 | 6k | + 2 | e 7 | 35 | +18 | — | — | — | |
| Nanking | z. | 19.2 | 263 | 4 | 17 | - 7 | — | — | — | — | — | — | |
| Shillong | | 43.4 | 270 | i 7 | 57 | - 4 | — | — | — | i 9 | 47 | PP | e 26.2 |
| College | | 49.5 | 32 | i 8 | 50 | + 1 | — | — | — | — | — | — | — |
| Dehra Dun | N. | 52.4 | 283 | e 9 | 16 | + 5 | — | — | — | — | — | — | — |
| Djakarta | z. | 53.4 | 225 | e 9 | 15?a | - 4 | — | — | — | — | — | — | — |
| Lembang | z. | 53.6 | 223 | i 9 | 25a | + 5 | e 16 | 54 | + 4 | e 20 | 51 | SS | — |
| Quetta | | 61.0 | 288 | i 10 | 10 | - 2 | e 24 | 55 | SSS | e 10 | 54 | PcP | e 34.3 |
| Poona | z. | 61.4 | 272 | i 10 | 12 | - 3 | — | — | — | — | — | — | — |
| Bombay | E. | 62.0 | 274 | e 10 | 16 | - 3 | e 18 | 55 | +15 | — | — | — | — |
| Resolute Bay | | 63.0 | 14 | e 10 | 22a | - 4 | — | — | — | — | — | — | — |
| Nouméa | | 63.2 | 154 | e 10 | 43a | +16 | — | — | — | — | — | — | — |
| Victoria | | 66.8 | 46 | 10 | 50a | 0 | — | — | — | — | — | — | — |
| Kiruna | | 66.9 | 339 | i 10 | 49a | - 2 | — | — | — | i 13 | 13 | PP | e 36.6 |
| Shasta | z. | 71.4 | 53 | e 11 | 20 | + 1 | — | — | — | — | — | — | — |
| Hungry Horse | | 72.1 | 43 | i 11 | 24 | + 1 | e 14 | 35 | PP | i 11 | 38 | PcP | — |
| Mineral | z. | 72.1 | 53 | e 11 | 23 | 0 | — | — | — | — | — | — | — |
| Scoresby Sund | z. | 72.5 | 354 | i 11 | 25 | 0 | — | — | — | — | — | — | — |
| Berkeley | z. | 73.0 | 55 | e 11 | 30 | + 2 | — | — | — | — | — | — | — |
| Upsala | z. | 73.3 | 334 | i 11 | 28a | - 2 | — | — | — | i 14 | 10 | PP | — |
| Lick | z. | 73.7 | 56 | e 11 | 31 | - 1 | — | — | — | — | — | — | — |
| Reno | z. | 73.7 | 53 | i 11 | 35 | + 3 | — | — | — | — | — | — | — |
| Butte | N. | 74.3 | 44 | e 11 | 37 | + 1 | — | — | — | i 11 | 51 | pP | — |
| Fresno | z. | 75.2 | 55 | e 11 | 43 | + 2 | — | — | — | — | — | — | — |
| Bozeman | | 75.4 | 44 | i 11 | 42 | 0 | — | — | — | — | — | — | — |
| Woody | z. | 76.5 | 56 | i 11 | 49k | + 1 | — | — | — | i 12 | 2 | pP | — |
| Isabella | z. | 76.8 | 56 | e 11 | 51 | + 1 | — | — | — | i 12 | 4 | pP | — |
| Iasi | | 77.7 | 320 | e 11 | 55 | 0 | — | — | — | — | — | — | — |
| Pasadena | z. | 77.8 | 56 | e 11 | 56 | 0 | — | — | — | e 12 | 10 | pP | — |
| Salt Lake City | | 77.9 | 48 | e 11 | 59 | + 3 | — | — | — | e 12 | 12 | pP | — |
| Copenhagen | | 78.3 | 333 | i 11 | 57a | - 1 | — | — | — | — | — | — | 40.6 |
| Riverside | z. | 78.5 | 56 | e 12 | 0 | + 1 | — | — | — | e 12 | 14 | pP | — |
| Reykjavik | z. | 78.7 | 353 | i 12 | 1 | + 1 | — | — | — | — | — | — | — |
| Boulder City | | 79.0 | 53 | i 12 | 4 | + 2 | — | — | — | i 12 | 16 | pP | — |
| Nelson | z. | 79.1 | 54 | i 12 | 4 | + 1 | — | — | — | i 12 | 18 | pP | — |
| Palomar | z. | 79.2 | 56 | e 12 | 4 | + 1 | — | — | — | i 12 | 18 | pP | — |
| Barratt | z. | 79.7 | 57 | i 12 | 7 | + 1 | — | — | — | i 12 | 21 | pP | — |
| Raciborzu | | 80.2 | 327 | e 12 | 9 | 0 | — | — | — | — | — | — | — |
| Hamburg | z. | 80.8 | 333 | i 12 | 12 | 0 | — | — | — | — | — | — | — |
| Collmberg | z. | 81.4 | 330 | e 12 | 13 | - 2 | — | — | — | — | — | — | — |
| Ksara | | 81.4 | 306 | e 21 | 36? | ? | — | — | — | — | — | — | — |
| Prague | | 81.8 | 329 | i 12 | 16 | - 1 | e 15 | 44 | PP | e 12 | 28 | pP | — |
| Boulder | | 82.2 | 45 | i 12 | 21 | + 2 | — | — | — | — | — | — | — |
| Jena | | 82.3 | 331 | i 12 | 18 | - 2 | e 15 | 10 | PP | e 12 | 29 | pP | — |
| Witteveen | z. | 82.6 | 334 | i 12 | 21 | 0 | — | — | — | e 12 | 34 | pP | — |
| Tucson | | 83.9 | 54 | i 12 | 29 | + 1 | — | — | — | i 12 | 43 | pP | — |
| Stuttgart | | 85.0 | 330 | i 12 | 32a | - 1 | — | — | — | e 12 | 50 | pP | — |
| Uccle | | 85.1 | 334 | e 12 | 32 | - 2 | — | — | — | — | — | — | e 42.6 |
| Strasbourg | | 85.7 | 331 | e 12 | 36 | - 1 | e 13 | 16 | ? | e 12 | 49 | pP | — |
| Zürich | | 86.3 | 330 | e 12 | 37 | - 3 | — | — | — | — | — | — | — |
| Basle | | 86.6 | 331 | e 12 | 40 | - 1 | — | — | — | e 17 | 28 | PPP | — |
| Paris | | 87.4 | 334 | i 12 | 45 | 0 | — | — | — | — | — | — | e 46.6 |
| Kirkland Lake | z. | 87.9 | 26 | e 12 | 46 | - 1 | — | — | — | — | — | — | — |
| Messina | | 90.3 | 320 | — | — | — | e 33 | 3 | SSS | — | — | — | e 44.5 |
| Fayetteville | | 91.2 | 42 | i 13 | 4k | + 1 | — | — | — | 13 | 17 | pP | — |
| Shawinigan Falls | | 91.7 | 23 | i 13 | 7 | + 2 | — | — | — | — | — | — | — |
| Ottawa | | 91.8 | 25 | i 13 | 6k | 0 | — | — | — | i 13 | 21 | pP | — |
| Dallas | | 92.1 | 46 | i 13 | 9 | + 2 | — | — | — | — | — | — | — |
| Tamanrasset | z. | 107.7 | 318 | e 18 | 41 | PP | — | — | — | — | — | — | — |
| Montezuma | z. | 150.4 | 70 | i 19 | 52 | [+ 9] | — | — | — | i 20 | 6 | pPKP | — |

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1954

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Aug. 28d. 23h. 4m. 24s. Epicentre 57°·6S. 65°·8W.

A = +·2207, B = -·4911, C = -·8427; $\delta = +3$; $h = -8$;
D = -·912, E = -·410; G = -·345, H = +·769, K = -·538.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|----------------|----|----------|-----|----------------------|-------|---------|-------|---------|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Punta Arenas | N. | 5·4 | 325 | e 1 24 | 0 | i 2 29 | + 1 | i 1 46 | — |
| Concepción | N. | 21·2 | 346 | e 4 49 | 0 | 8 59 | +18 | e 5 55 | e 12·1 |
| La Plata | | 23·4 | 16 | i 5 12 | + 1 | i 9 28 | + 7 | 15 48 | 10·9 |
| Santa Lucia | N. | 24·4 | 350 | i 5 10 | -11 | e 9 43 | + 4 | — | e 13·3 |
| Antofagasta | N. | 34·1 | 352 | e 6 55 | + 7 | e 11 52 | -22 | e 7 59 | e 18·4 |
| Montezuma | z. | 35·1 | 355 | e 6 54 | - 3 | — | — | — | — |
| La Paz | | 41·1 | 357 | i 7 48 _a | + 1 | i 14 4 | + 3 | i 9 30 | 20·1 |
| Huancayo | | 46·1 | 347 | i 8 28 | 0 | e 15 18 | + 4 | e 10 50 | e 23·8 |
| Bogota | | 62·4 | 351 | i 10 29 | + 2 | i 19 5 | +12 | i 12 59 | 33·6 |
| Chinchina | | 62·9 | 349 | i 10 28 | - 2 | e 19 6 | + 6 | e 12 46 | 33·6 |
| Kimberley | z. | 66·5 | 107 | i 10 54 _k | 0 | — | — | — | — |
| Galerazamba | | 68·6 | 350 | i 11 2 | - 5 | e 20 8 | - 1 | e 13 50 | 34·6 |
| Pretoria | z. | 70·7 | 108 | i 11 20 _k | 0 | — | — | — | — |
| Fort de France | | 72·2 | 5 | i 11 7 | -22 | — | — | — | — |
| Vera Cruz | | 80·6 | 331 | e 12 16 | 0 | — | — | e 12 26 | — |
| Tacubaya | | 81·6 | 328 | e 12 21 | 0 | — | — | — | — |
| M'Bour | | 82·2 | 47 | i 12 24 | 0 | — | — | — | — |
| Riverview | | 83·7 | 210 | i 12 32 _a | 0 | — | — | — | e 35·7 |
| Tananarive | | 86·0 | 119 | i 12 46 | + 3 | — | — | e 12 55 | — |
| Bermuda | | 89·7 | 1 | i 13 1 _a | 0 | e 24 3 | +11 | — | e 43·1 |
| Dallas | | 93·9 | 334 | i 13 18 | - 3 | — | — | — | — |
| Fayetteville | | 96·4 | 337 | e 13 34 | + 2 | — | — | e 17 21 | — |
| Tucson | | 97·2 | 323 | e 13 35 | - 1 | — | — | e 16 48 | e 47·4 |
| Palisades | | 98·5 | 354 | e 13 41 | - 1 | e 24 18 | [- 2] | e 17 38 | e 48·2 |
| Tamanrasset | z. | 99·5 | 62 | e 13 48 | + 2 | e 17 51 | PP | e 17 13 | — |
| Nelson | z. | 101·7 | 321 | e 13 55 | - 1 | — | — | i 18 4 | — |
| Boulder City | | 102·0 | 321 | e 18 6 | PKP | — | — | — | — |
| Ottawa | | 103·0 | 353 | e 14 11 | + 9 | 24 40 | [- 1] | 18 21 | — |
| Santa Clara | E. | 105·7 | 317 | — | — | e 35 39 | ? | — | — |
| Bozeman | | 109·6 | 328 | e 18 54 | PP | — | — | — | — |
| Hungry Horse | | 112·9 | 327 | i 18 38 | [- 1] | e 29 28 | PS | e 19 20 | — |
| Messina | | 117·1 | 61 | — | — | e 27 32 | {+37} | e 29 59 | e 67·1 |
| Helwan | E. | 118·4 | 78 | — | — | e 25 36 | [- 8] | e 36 48 | — |
| Rome | | 118·7 | 56 | e 15 21 | P | e 25 51 | {+ 6} | e 20 10 | — |
| Florence | | 119·6 | 54 | — | — | e 35 20 | SS | — | — |
| Paris | | 120·1 | 45 | i 18 53 | [0] | e 30 11 | PS | e 20 51 | e 60·6 |
| Strasbourg | | 122·0 | 49 | e 18 58 | {+ 1} | e 20 31 | PP | e 31 54 | e 59·6 |
| Uccle | | 122·4 | 45 | e 18 45 | [-12] | e 37 42 | SS | — | e 57·6 |
| Karlsruhe | z. | 122·6 | 49 | e 18 59 _k | {+ 1} | — | — | — | — |
| Stuttgart | | 122·7 | 49 | e 18 58 | [0] | — | — | — | — |
| De Bilt | | 123·8 | 44 | e 20 54 | PP | e 37 36 | SS | e 23 36 | e 57·6 |
| Ksara | | 123·9 | 79 | 17 36 _? | ? | — | — | — | — |
| Witteveen | z. | 124·9 | 45 | 18 57 | [- 5] | — | — | — | — |
| Prague | | 125·9 | 52 | e 19 6 | {+ 2} | — | — | e 20 55 | — |
| Potsdam | | 127·0 | 49 | e 19 7 | {+ 1} | e 32 36 | PPS | e 21 5 | e 66·6 |
| Raciborzu | z. | 127·5 | 54 | e 19 9 | {+ 2} | — | — | — | — |
| Iasi | | 129·7 | 62 | e 19 13 | {+ 2} | e 22 32 | PKS | — | — |
| Lwow | | 129·9 | 58 | i 19 11 | [- 1] | — | — | — | — |
| Warsaw | | 130·3 | 54 | e 21 30 | PP | e 22 42 | PKS | — | — |
| Scoresby Sund | z. | 131·6 | 18 | i 19 16 | {+ 1} | — | — | — | — |
| Resolute Bay | | 133·5 | 350 | i 19 16 _k | [- 3] | — | — | — | e 66·2 |
| Upsala | z. | 134·2 | 44 | i 19 19 _a | [- 1] | — | — | — | — |
| Quetta | | 137·5 | 110 | e 15 19 | ? | e 25 41 | [-54] | e 23 5 | — |
| Pulkovo | | 139·1 | 50 | e 19 31 | {+ 2} | e 23 5 | PKS | — | — |
| Kiruna | z. | 140·0 | 36 | i 19 23 | [- 7] | — | — | — | — |
| Moscow | | 140·0 | 59 | e 19 31 | {+ 1} | — | — | e 22 26 | — |
| Shillong | z. | 144·2 | 144 | i 19 36 | [- 2] | — | — | — | — |
| Andijan | | 148·5 | 104 | i 19 44 | [- 1] | — | — | e 19 49 | — |
| Naryn | | 150·9 | 107 | i 19 50 | {+ 1} | — | — | i 19 57 | — |
| Frunse | | 151·2 | 104 | i 19 50 | {+ 1} | i 23 37 | PP | i 20 1 | — |
| Magadan | | 161·0 | 291 | e 19 56 | [- 6] | — | — | e 20 44 | — |
| Uglegorsk | | 161·4 | 254 | e 19 50 | [-12] | — | — | — | — |
| Irkutsk | | 172·2 | 129 | 20 10 | [0] | e 25 26 | PP | e 29 26 | — |

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1954

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Aug. 30d. 7h. 57m. 25s. Epicentre 43°·9N. 147°·7E. Depth of focus 0·005.

Intensity IV at Nemuro and Kuro; II-III at Urakawa.

Epicentre 43°·6N. 147°·8E. Depth of focus 60km.

Seismo. Bull. Cent. Met. Obs., Japan, for Aug., 1954, Tokyo, 1954, pp. 28-30, with macro-seismic chart.

A = -·6110, B = +·3863, C = +·6909; $\delta = -11$; $h = -3$;
D = +·534, E = +·845; G = -·584, H = +·369, K = -·723.

| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|-----------------|----------|-----|-----|-----|------|-----|-----|------|-------|-----|-------|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Kurilsk | 1·3 | 5 | i 0 | 23 | 0 | i 0 | 36 | - 4 | — | — | — |
| Nemuro | 1·6 | 251 | i 0 | 24k | - 3 | e 0 | 44 | - 3 | i 0 | 37 | ? |
| Abashiri | 2·5 | 266 | 0 | 39 | 0 | i 1 | 13 | + 4 | — | — | — |
| Kuro | 2·6 | 250 | i 0 | 39k | - 2 | i 1 | 12 | 0 | — | — | — |
| Obihiro | E. 3·4 | 255 | 0 | 53 | + 1 | i 1 | 34 | + 2 | — | — | — |
| Asahigawa | 3·9 | 270 | e 1 | 1 | + 2 | — | — | — | — | — | — |
| Urakawa | E. 4·0 | 246 | i 1 | 1a | 0 | i 1 | 46 | - 1 | — | — | — |
| Wakkanai | 4·6 | 292 | e 1 | 11 | + 2 | e 2 | 9 | + 7 | i 2 | 57 | ? |
| Sapporo | 4·7 | 262 | i 1 | 10 | 0 | e 2 | 4 | 0 | e 1 | 26 | ? |
| Tomakomai | 4·7 | 255 | e 1 | 9 | - 1 | e 2 | 5 | + 1 | — | — | — |
| Yuzno-Sakhlinsk | 4·7 | 313 | i 1 | 10 | 0 | — | — | — | — | — | — |
| Muroran | 5·2 | 255 | e 1 | 17 | 0 | e 2 | 17 | 0 | — | — | — |
| Hakodate | 5·5 | 250 | e 1 | 21? | 0 | i 2 | 28? | + 4 | i 2 | 12? | ? |
| Mori | 5·5 | 254 | i 1 | 21a | 0 | i 2 | 25 | + 1 | i 2 | 14 | ? |
| Suttsu | E. 5·6 | 261 | i 1 | 21 | - 2 | i 2 | 25 | - 2 | — | — | — |
| Hatinohe | 5·7 | 236 | 1 | 22a | - 2 | i 2 | 22 | - 7 | — | — | — |
| Aomori | 6·0 | 242 | e 1 | 26 | - 2 | 2 | 42 | + 5 | e 2 | 20 | ? |
| Miyako | 6·0 | 227 | 1 | 24 | - 4 | 2 | 27 | -10 | — | — | — |
| Morioka | 6·4 | 232 | i 1 | 30 | - 4 | i 2 | 34 | -12 | — | — | — |
| Uglegorsk | 6·5 | 325 | i 1 | 35 | 0 | e 2 | 45 | - 4 | — | — | — |
| Mizusawa | N. 6·9 | 228 | 1 | 35 | - 6 | 2 | 48 | -11 | — | — | — |
| Akita | 7·0 | 236 | 1 | 41 | - 1 | e 2 | 57 | - 4 | — | — | — |
| Isinomaki | 7·3 | 224 | e 1 | 38 | - 8 | e 2 | 56 | -13 | — | — | — |
| Sendai | 7·6 | 225 | e 1 | 47 | - 3 | e 3 | 6 | -10 | — | — | — |
| Sakata | 7·7 | 233 | e 1 | 58 | + 6 | — | — | — | — | — | e 4·2 |
| Yamagata | 7·9 | 227 | e 1 | 49 | - 6 | e 3 | 14 | - 9 | — | — | — |
| Hokusima | Z. 8·2 | 224 | e 2 | 9 | +10 | e 3 | 21 | -10 | — | — | — |
| Inawasiro | 8·6 | 225 | 2 | 1 | - 3 | 3 | 36 | - 5 | e 2 | 21 | ? |
| Onahama | 8·7 | 219 | e 2 | 8 | + 2 | e 3 | 18 | ? | e 3 | 30 | ? |
| Shirakawa | 8·8 | 223 | e 2 | 9 | + 2 | e 3 | 30 | -16 | — | — | — |
| Niigata | 8·9 | 231 | e 2 | 6 | - 2 | e 3 | 39 | - 9 | e 3 | 49 | S |
| Aikawa | 9·2 | 234 | e 2 | 11 | - 1 | — | — | — | — | — | i 4·3 |
| Mito | 9·3 | 219 | e 2 | 10 | - 4 | 3 | 46 | -12 | — | — | — |
| Utunomiya | 9·5 | 222 | e 2 | 10 | - 7 | e 3 | 49 | -14 | — | — | — |
| Kakioka | E. 9·6 | 220 | e 2 | 2 | -16 | 3 | 49 | -16 | — | — | — |
| Kashiwa | 10·0 | 219 | e 2 | 21 | - 2 | e 4 | 26 | +11 | — | — | — |
| Kumagaya | 10·0 | 222 | 2 | 22 | - 1 | 4 | 4 | -11 | — | — | — |
| Maebasi | 10·0 | 224 | e 2 | 21 | - 2 | 4 | 5 | -10 | — | — | e 4·8 |
| Nagano | N. 10·2 | 228 | i 2 | 23 | - 3 | i 4 | 25 | + 5 | — | — | e 4·6 |
| Tokyo | N. 10·2 | 219 | e 2 | 24 | - 2 | 4 | 8 | -12 | — | — | — |
| Matusiro | 10·3 | 228 | i 2 | 23a | - 4 | i 4 | 15 | - 7 | i 3 | 47 | ? |
| Oiwake | 10·3 | 226 | e 2 | 37 | +10 | e 4 | 43 | +21 | — | — | 5·2 |
| Titibu | E. 10·3 | 223 | e 2 | 24 | - 3 | e 4 | 12 | -10 | — | — | — |
| Wazima | 10·5 | 235 | e 2 | 29 | - 1 | e 4 | 19 | - 8 | — | — | — |
| Yokohama | 10·5 | 219 | 2 | 37 | + 7 | 4 | 15 | -12 | — | — | — |
| Matumoto | N. 10·7 | 228 | e 2 | 35 | + 2 | e 4 | 23 | - 9 | — | — | — |
| Hunatu | 10·8 | 222 | e 2 | 37 | + 3 | e 4 | 19 | -15 | — | — | — |
| Kohu | 10·8 | 224 | e 2 | 31 | - 3 | e 4 | 24 | -10 | — | — | — |
| Mera | 10·8 | 217 | e 3 | 3 | ? | 4 | 28 | - 6 | — | — | — |
| Toyama | 10·8 | 232 | e 2 | 31 | - 3 | — | — | — | — | — | e 5·3 |
| Ajio | 11·0 | 220 | e 2 | 52 | +15 | e 4 | 26 | -13 | — | — | — |
| Misima | N. 11·1 | 221 | e 2 | 33 | - 5 | e 4 | 30 | -12 | — | — | e 4·8 |
| Osima | 11·2 | 218 | e 2 | 45 | + 5 | e 4 | 28 | -16 | — | — | — |
| Shizuoka | 11·4 | 222 | e 2 | 58 | +16 | e 4 | 40 | - 9 | — | — | e 5·4 |
| Petropavlovsk | 11·6 | 35 | i 2 | 51 | + 6 | e 5 | 4 | +10 | — | — | — |

Continued on next page.

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| | | Δ ° | Az. ° | P. | | O-C. s. | S. | | O-C. s. | Supp. | | L. m. | |
|---------------|----|---------------|----------|------|-----------------|------------|------|-----|------------|-------|----|----------|--------|
| | | | | m. | s. | | m. | s. | | m. | s. | | |
| Omaesaki | | 11.8 | 222 | e 3 | 13 | ? | — | — | — | — | — | e 5.8 | |
| Gihu | | 12.0 | 228 | e 2 | 48 | - 2 | — | — | — | — | — | — | |
| Hamamatu | | 12.0 | 224 | e 3 | 36 | ? | — | — | — | — | — | — | |
| Nagoya | | 12.0 | 227 | e 2 | 49 | - 1 | e 5 | 11 | + 8 | — | — | — | |
| Tsuruga | | 12.2 | 231 | e 2 | 50 | - 3 | — | — | — | — | — | — | |
| Hikone | | 12.3 | 230 | 2 | 54 | 0 | e 5 | 45 | ? | — | — | e 8.0 | |
| Kameyama | | 12.5 | 228 | e 2 | 55 | - 2 | e 5 | 39 | +24 | — | — | — | |
| Kyoto | | 12.8 | 230 | e 3 | 5 | + 4 | — | — | — | e 6 | 9 | Q | e 7.2 |
| Toyooka | | 13.0 | 234 | e 3 | 2 | - 2 | 5 | 22 | - 5 | — | — | — | 7.3 |
| Osaka | | 13.2 | 230 | e 3 | 7 | + 1 | — | — | — | — | — | — | e 6.0 |
| Kobe | E. | 13.4 | 231 | e 3 | 6 | - 3 | — | — | — | e 6 | 26 | Q | e 6.9 |
| Saigo | | 13.4 | 240 | e 3 | 7 | - 2 | — | — | — | — | — | — | 8.8 |
| Sumoto | | 13.8 | 230 | 1 | 3 | 8 | - 6 | e 6 | 6 | +20 | — | — | 7.7 |
| Yonago | | 13.9 | 238 | e 3 | 15 | 0 | — | — | — | — | — | — | e 7.6 |
| Siomisaki | | 14.0 | 226 | e 3 | 4 | -13 | e 6 | 13 | +22 | e 3 | 26 | ? | e 7.4 |
| Tokusima | | 14.1 | 230 | e 3 | 16 | - 2 | — | — | — | — | — | — | — |
| Takamatu | | 14.3 | 232 | 1 | 3 | 17 | - 4 | e 6 | 21 | +23 | — | — | — |
| Hamada | | 15.0 | 239 | e 3 | 27 | - 3 | e 6 | 25 | +11 | — | — | — | e 7.6 |
| Klyuchi | | 15.0 | 29 | 3 | 34 | + 4 | — | — | — | — | — | — | — |
| Muroto | | 15.0 | 229 | e 3 | 7 | -23 | — | — | — | — | — | — | 9.4 |
| Koti | | 15.1 | 232 | e 3 | 29 | - 2 | e 6 | 35 | +18 | — | — | — | 7.9 |
| Hirosima | | 15.2 | 236 | e 3 | 36 | + 4 | e 6 | 16 | - 3 | — | — | — | e 8.4 |
| Magadan | | 15.8 | 6 | 1 | 3 | 40 | 0 | 6 | 31 | - 2 | — | — | — |
| Simidu | | 16.0 | 231 | e 3 | 32 | -10 | — | — | — | — | — | — | — |
| Ooita | | 16.5 | 235 | e 3 | 53 | + 4 | e 7 | 13 | +24 | — | — | — | — |
| Hukuoka | | 17.0 | 238 | e 3 | 54 _a | - 1 | e 7 | 9 | + 9 | — | — | — | e 8.9 |
| Saga | E. | 17.2 | 238 | e 3 | 48 | - 9 | — | — | — | — | — | — | — |
| Kumamoto | | 17.3 | 236 | e 3 | 57 | - 2 | — | — | — | — | — | — | — |
| Miyazaki | | 17.5 | 232 | 4 | 7 | + 6 | 7 | 14 | + 2 | — | — | — | — |
| Kagosima | | 18.3 | 233 | 4 | 11 | 0 | e 6 | 19 | ? | — | — | — | — |
| Yakusima | | 19.1 | 231 | e 4 | 24 | + 4 | e 7 | 32 | -15 | — | — | — | e 7.9 |
| Kwanting | | 24.0 | 272 | 5 | 11 | + 1 | 9 | 28 | + 9 | — | — | — | — |
| Zò-Sè | | 24.5 | 248 | i 5 | 16 _a | + 2 | 9 | 37 | +10 | e 5 | 31 | pP | — |
| Nanking | | 25.5 | 252 | i 5 | 26 _a | + 2 | 9 | 54 | +10 | e 5 | 41 | pP | — |
| Tatung | | 25.8 | 274 | e 5 | 29 | + 2 | e 9 | 58 | + 9 | e 5 | 43 | pP | — |
| Taiyuan | | 27.1 | 269 | e 5 | 41 | + 2 | e 10 | 19 | + 9 | — | — | — | — |
| Linfen | | 28.6 | 267 | e 6 | 1 | + 9 | 10 | 51 | +17 | — | — | — | — |
| Irkutsk | | 29.8 | 302 | 6 | 1 | - 2 | 10 | 59 | + 5 | — | — | — | — |
| Sian | N. | 31.4 | 266 | e 6 | 32 | +15 | e 11 | 24 | + 5 | — | — | — | — |
| Yinchuan | E. | 31.4 | 275 | e 6 | 23 | + 6 | 12 | 33 | SS | — | — | — | — |
| Lanchow Univ. | N. | 34.2 | 272 | 6 | 44 | + 3 | e 12 | 8 | + 6 | — | — | — | — |
| Sining | | 35.4 | 274 | e 6 | 54 | + 2 | e 12 | 25 | + 4 | — | — | — | — |
| Baguio | | 35.7 | 228 | i 6 | 54 _a | 0 | e 12 | 28 | + 3 | — | — | — | — |
| Manila | | 37.1 | 226 | e 7 | 7 | + 1 | — | — | — | — | — | — | — |
| College | | 40.7 | 36 | i 7 | 38 _a | + 2 | i 13 | 45 | + 4 | i 14 | 2 | sS | e 16.7 |
| Semipalatinsk | | 44.9 | 303 | 8 | 10 | 0 | — | — | — | — | — | — | — |
| Sitka | | 48.1 | 46 | e 8 | 37 | + 2 | e 15 | 37 | + 9 | e 10 | 10 | PcP | e 22.0 |
| Shillong | | 48.4 | 267 | i 8 | 38 | + 1 | e 15 | 33 | + 1 | 10 | 32 | PP | — |
| Rybach'e | | 50.6 | 295 | i 8 | 56 | + 2 | i 16 | 6 | + 3 | — | — | — | — |
| Frunse | | 51.5 | 296 | i 9 | 13 | +12 | — | — | — | — | — | — | — |
| Andijan | | 54.0 | 295 | i 9 | 21 | + 1 | i 16 | 53 | + 4 | — | — | — | — |
| Dehra Dun | N. | 55.7 | 281 | e 8 | 34 | -58 | — | — | — | — | — | — | — |
| Tashkent | | 55.7 | 297 | e 9 | 32 | 0 | e 17 | 16 | + 4 | — | — | — | — |
| New Delhi | | 57.3 | 280 | e 9 | 43 | - 1 | — | — | — | i 9 | 54 | pP | — |
| Stalinabad | | 57.5 | 294 | i 9 | 45 | 0 | i 17 | 37 | + 1 | — | — | — | — |
| Victoria | | 58.3 | 51 | 11 | 10? | ? | — | — | — | — | — | — | — |
| Seattle | z. | 59.4 | 52 | e 10 | 2 | + 4 | — | — | — | — | — | — | — |
| Corvallis | | 60.5 | 55 | e 10 | 7 | + 1 | — | — | — | — | — | — | — |
| Kiruna | z. | 61.8 | 340 | i 10 | 13 | - 1 | — | — | — | i 10 | 35 | pP | — |
| Djakarta | | 62.0 | 228 | e 10 | 16 _a | 0 | e 18 | 45 | +11 | e 10 | 34 | pP | — |
| Lembang | | 62.1 | 226 | i 10 | 26 _a | +10 | e 18 | 45 | +10 | e 23 | 6 | SS | — |
| Hyderabad | E. | 63.2 | 269 | — | — | — | e 18 | 52 | + 3 | — | — | — | — |
| Shasta | z. | 63.3 | 58 | e 10 | 16 | - 8 | — | — | — | — | — | — | — |
| Quetta | | 63.5 | 287 | e 10 | 25 | - 1 | e 18 | 55 | + 3 | i 10 | 38 | pP | e 34.5 |
| Hungry Horse | | 63.6 | 48 | i 10 | 28 | + 2 | e 20 | 17 | ScS | i 10 | 43 | pP | — |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----|------------|------------|----------------------|------|----------|------|----------|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Mineral | z. | 64.0 | 58 | e 10 30 | + 1 | — | — | — | — |
| Ashkabad | | 64.6 | 299 | i 10 33 | 0 | 19 11 | + 5 | — | — |
| Moscow | | 64.6 | 324 | i 10 32 | - 1 | e 19 6 | 0 | — | — |
| Pulkovo | | 64.7 | 330 | e 10 32 | - 1 | — | — | — | — |
| Berkeley | | 65.0 | 61 | e 10 38 | + 3 | e 19 18 | + 7 | e 10 54 | pP |
| Reno | z. | 65.6 | 58 | e 10 42 | + 3 | — | — | — | — |
| Scoresby Sund | | 65.7 | 356 | i 10 40 | 0 | — | — | e 11 13 | PcP |
| Butte | N. | 65.8 | 49 | e 10 42 | + 1 | i 19 25 | + 4 | i 10 58 | pP |
| Lick | z. | 65.8 | 61 | e 10 41 | 0 | — | — | e 10 57 | pP |
| Poona | | 65.9 | 273 | e 10 43 | + 2 | e 19 25 | + 3 | 11 19 | PcP |
| Bombay | | 66.4 | 274 | e 10 45 | + 1 | e 19 34 | + 6 | 11 16 | PcP |
| Bozeman | | 66.8 | 48 | e 10 49 | + 2 | — | — | i 11 6 | pP |
| Fresno | z. | 67.3 | 60 | e 10 51 | + 1 | — | — | — | — |
| Nouméa | | 68.1 | 161 | i 11 12 | pP | — | — | — | — |
| Woody | z. | 68.5 | 61 | i 10 58 | 0 | e 39 11 | P'P' | i 11 14 | pP |
| Isabella | z. | 68.8 | 61 | i 11 1 | + 2 | — | — | i 11 17 | pP |
| Upsala | | 68.8 | 336 | i 10 59 | 0 | e 20 53 | ScS | i 11 34 | PcP |
| Colombo | E. | 69.3 | 259 | — | — | 20 16 | +13 | — | — |
| Salt Lake City | | 69.5 | 53 | i 11 7 | + 3 | — | — | i 11 22 | pP |
| Piatigorsk | | 69.7 | 312 | 11 8 | + 3 | 20 12 | + 5 | — | — |
| Pasadena | | 69.9 | 62 | i 11 9 | + 3 | e 20 16 | + 6 | e 39 8 | P'P' |
| Tiflis | | 70.3 | 309 | i 11 12 | + 3 | i 20 22 | + 8 | — | — |
| Riverside | z. | 70.5 | 61 | e 11 11 | + 1 | e 39 5 | P'P' | i 11 26 | pP |
| Boulder City | | 70.8 | 58 | i 11 15 | + 3 | i 12 31 | ? | i 11 27 | pP |
| Goris | | 70.9 | 307 | i 11 14 | + 2 | i 20 28 | + 7 | — | — |
| Nelson | z. | 71.0 | 59 | e 11 15 | + 2 | — | — | i 11 31 | pP |
| Palomar | z. | 71.3 | 62 | i 11 17 | + 2 | — | — | i 11 32 | pP |
| Erevan | | 71.5 | 308 | 11 18 | + 2 | 20 32 | + 4 | — | — |
| Barratt | z. | 71.8 | 62 | i 11 20 | + 2 | — | — | i 11 30 | pP |
| Boulder | | 73.7 | 50 | i 11 32 | + 3 | — | — | — | — |
| Copenhagen | | 73.8 | 336 | i 11 30 | + 1 | — | — | — | 38.6 |
| Warsaw | | 73.8 | 329 | i 11 32 _a | + 3 | i 20 58 | + 4 | e 11 41 | pP |
| Yalta | | 74.0 | 317 | i 11 32 | + 2 | e 21 0 | + 4 | — | e 42.6 |
| Lwow | | 74.5 | 326 | i 11 34 | + 1 | i 21 7 | + 5 | — | — |
| Iasi | | 75.1 | 322 | e 11 39 | + 2 | e 21 11 | + 2 | e 14 17 | PP |
| Tucson | | 75.8 | 59 | e 11 43 | + 2 | e 21 20 | + 4 | i 12 6 | pP |
| Hamburg | z. | 76.4 | 336 | i 11 47 | + 3 | — | — | — | e 31.6 |
| Potsdam | | 76.4 | 333 | i 11 45 _a | + 1 | e 21 29 | + 6 | i 12 0 | pP |
| Skalnate Pleso | | 76.5 | 328 | i 11 46 | + 1 | i 21 28 | + 4 | e 11 57 | pP |
| Raciborz | | 76.6 | 329 | e 11 48 | + 3 | — | — | e 12 4 | PcP |
| Collmberg | z. | 77.4 | 333 | i 11 51 | + 1 | — | — | — | — |
| Riverview | | 77.4 | 177 | i 11 53 _a | + 3 | i 21 43 | + 9 | i 12 9 | pP |
| Bucharest | | 77.9 | 321 | e 11 56 | + 4 | e 21 43 | + 4 | e 12 15 | pP |
| Prague | | 77.9 | 331 | i 11 54 | + 2 | e 21 43 | + 4 | i 12 3 | PcP |
| Jena | | 78.2 | 333 | i 11 55 | + 1 | e 21 59? | +17 | e 12 12 | pP |
| Budapest | | 78.4 | 327 | 11 59 | + 4 | 22 6 | +22 | 12 14 | PcP |
| Istanbul | | 79.0 | 318 | i 12 1 | + 2 | i 21 57 | + 6 | e 12 15 | pP |
| Kirkland Lake | z. | 79.2 | 30 | e 12 1 | + 1 | — | — | i 12 11 | pP |
| Sofia | | 80.5 | 322 | — | — | e 32 18 | SSS | — | — |
| Uccle | | 80.5 | 337 | e 12 8 | + 1 | — | — | e 34 35? | Q |
| Stuttgart | | 80.8 | 334 | i 12 9 _a | + 1 | e 22 13 | + 3 | e 12 25 | pP |
| Karlsruhe | | 80.9 | 334 | e 12 11 _k | + 2 | — | — | e 12 45 | pPcP |
| Ksara | | 80.9 | 308 | i 11 35? | -34 | — | — | — | — |
| Kew | z. | 81.1 | 340 | i 12 11 | + 1 | — | — | — | — |
| Strasbourg | | 81.4 | 334 | e 12 13 | + 2 | e 12 53 | pPcP | e 12 30 | pP |
| Zürich | | 82.2 | 333 | e 12 16 | + 1 | e 22 39 | +15 | e 22 47 | ScS |
| Basle | | 82.4 | 334 | e 12 18 _a | + 2 | — | — | e 18 23 | ? |
| Chur | | 82.4 | 332 | e 12 18 _a | + 2 | — | — | — | — |
| Fayetteville | | 82.6 | 46 | i 12 18 _k | + 1 | e 22 29 | + 1 | e 22 49 | SKS |
| St. Louis | | 82.6 | 42 | i 12 19 | + 2 | i 22 30 | + 2 | — | — |
| Paris | | 82.8 | 338 | i 12 20 | + 2 | i 12 44 | sP | i 12 37 | pP |
| Shawinigan Falls | | 83.0 | 27 | e 12 15 | - 5 | — | — | — | e 43.6 |
| Ottawa | | 83.1 | 29 | i 12 21 _a | + 1 | 22 35 | + 2 | i 12 37 | pP |
| Salo | | 83.1 | 331 | e 12 37? | pP | e 22 31 | - 2 | e 17 30 | PPP |
| Seven Falls | | 83.2 | 25 | e 12 38 | pP | 22 40 | + 6 | — | — |

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----------|-----|----------------------|-------|---------|-------|---------|-----------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Dallas | 83.6 | 50 | e 12 24 | + 1 | — | — | — | — |
| Buffalo (Larkin) | 84.2 | 32 | i 12 26 | 0 | — | — | — | — |
| Cleveland | 84.2 | 35 | — | — | i 22 46 | + 2 | — | — |
| Florence | 84.4 | 330 | i 12 27 _a | 0 | i 22 49 | + 3 | i 12 46 | pP e 46.6 |
| Prato | 84.4 | 330 | e 12 27 | 0 | e 21 3 | ? | — | — |
| Rome | 85.6 | 328 | i 12 34 _a | + 1 | e 23 4 | + 6 | e 22 36 | SKS — |
| Harvard | 87.1 | 28 | i 12 49 | + 9 | — | — | — | e 46.9 |
| Weston | 87.3 | 28 | i 12 43 _a | + 2 | e 23 19 | + 5 | i 12 55 | pP — |
| Messina | 87.5 | 324 | e 12 44 | + 2 | i 23 18 | + 2 | — | — |
| Halifax | 87.6 | 22 | e 12 45 | + 3 | i 23 21 | + 4 | e 35 22 | Q e 40.6 |
| Palisades | 87.6 | 30 | e 12 43 | + 1 | i 23 7 | [+ 5] | e 12 54 | pP e 44.4 |
| Philadelphia | 88.0 | 32 | — | — | e 23 46 | +25 | — | e 42.2 |
| Tacubaya | 92.3 | 60 | e 13 25 _? | pP | — | — | — | — |
| Toledo | 92.8 | 339 | i 13 9 | + 2 | 24 55 | PS | — | — |
| Alicante | 93.2 | 336 | 13 6 | - 2 | 24 0 | - 7 | — | 44.3 |
| Granada | 95.2 | 337 | — | — | 25 6 | ? | — | 45.6 |
| Bermuda | 98.5 | 27 | — | — | e 26 20 | PS | — | e 48.2 |
| Tamanrasset | z. 105.1 | 324 | — | — | — | — | e 17 35 | ? 50.6 |
| Pretoria | z. 128.3 | 270 | i 18 58 _a | [- 1] | — | — | — | — |
| Huancayo | 131.3 | 63 | e 19 12 | [+ 7] | — | — | — | e 62.1 |
| La Paz | 139.2 | 59 | i 19 27 | [+ 7] | — | — | i 22 57 | PKS 68.2 |
| Montezuma | z. 143.2 | 67 | e 19 29 | [+ 2] | — | — | — | — |

Aug. 30d. 8h. 29m. Epicentre 38°·2N. 22°·1E.
Intensity IV at Patras; III at Athens. Magnitude 5. Poorly recorded as far as 22°.
Seismo. Institute Bulletin for 1954, National Observatory of Athens, Athens, 1955, p. 97.

Aug. 30d. 10h. 47m. 24s. Epicentre 37°·2N. 140°·7E. Depth of focus 80-90km.
Intensity II-III at Onahama, Shirakawa, Inawasiro, Hukusima, Kakioka, Mito, Utunomiya, and Wakamatu.
Seismo. Bull. Cent. Met. Obs. Japan, for Aug., 1954, Tokyo, 1954, pp 30, 31, with macroseismic chart.

Aug. 31d. 8h. 24m. 22s. Epicentre 42°·8N. 143°·8E. Depth of focus 60-80km.
Intensity IV at Obihiro; II-III at Kusiro and Urakawa.
Seismo. Bull. Cent. Met. Obs., Japan, for Aug., 1954, Tokyo, 1954, pp. 31-32, with macroseismic chart.

Aug. 31d. 22h. 20m. 32s. Epicentre 39°·8N. 118°·7W.

$$A = -.3700, B = -.6757, C = +.6376; \quad \delta = 0 \quad h = -2;$$

$$D = -.877, E = +.480; \quad G = -.306, H = -.559, K = -.770.$$

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|----------------|----------|-----|--------|------------------|--------|------|--------|------------------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Mineral | E. 2.3 | 286 | i 0 47 | + 1 _g | — | — | — | — |
| Fresno | Z. 3.1 | 197 | i 0 57 | + 1* | — | — | — | — |
| Berkeley | Z. 3.4 | 237 | i 0 55 | 0 | — | — | — | — |
| Santa Clara | 3.5 | 227 | 1 6 | + 3* | 1 46 | - 2* | — | — |
| San Francisco | E. 3.5 | 237 | i 1 3 | 0* | — | — | — | — |
| Ukiah | 3.6 | 262 | e 0 55 | - 3 | e 1 34 | - 8 | — | e 1.8 |
| Woody | E. 4.0 | 182 | i 0 56 | - 8 | i 2 2 | - 1* | — | — |
| Isabella | Z. 4.1 | 178 | i 1 7 | + 2 | e 2 8 | + 2* | — | — |
| Arcata | E. 4.3 | 287 | e 1 28 | + 2 _g | — | — | — | — |
| Nelson | Z. 5.1 | 142 | i 1 25 | + 5 | — | — | — | — |
| Salt Lake City | 5.3 | 77 | i 1 19 | - 3 | e 2 21 | - 4 | — | i 2.6 |
| Pasadena | Z. 5.6 | 176 | i 1 25 | - 2 | — | — | — | — |
| Corvallis | 5.9 | 326 | e 1 40 | - 4* | — | — | — | — |
| San Diego | 7.1 | 170 | e 2 16 | - 6 _g | e 3 13 | + 3 | — | — |
| Butte | N. 7.7 | 34 | i 1 56 | 0 | — | — | i 2 32 | P _c — |
| Bozeman | 8.2 | 41 | e 2 2 | - 1 | e 3 36 | - 2 | — | i 4.1 |
| Seattle | 8.3 | 343 | e 1 59 | - 5 | — | — | i 2 14 | ? i 4.9 |
| Hungry Horse | 9.2 | 20 | i 2 18 | + 2 | — | — | — | i 4.8 |
| Victoria | 9.4 | 340 | e 2 22 | + 4 | e 4 19 | +12 | — | 4.9 |
| Tucson | 9.8 | 137 | e 2 14 | -10 | i 4 14 | - 3 | i 2 22 | P i 5.0 |

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------------|----|----------|-----|----------------------|------|-----------|-------|----------|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Boulder | | 10.3 | 84 | e 1 39 | -53 | — | — | — | — |
| Rapid City | E. | 12.3 | 64 | e 2 55 | -4 | e 5 6 | -12 | — | e 5.4 |
| Saskatoon | | 14.9 | 30 | e 3 33 | -1 | 7 56 | L | — | 9.0 |
| Chihuahua | | 15.2 | 133 | e 3 43 | +5 | i 5 46 | -42 | — | e 8.0 |
| Dallas | | 18.9 | 104 | e 4 21 | -3 | i 7 56 | +3 | — | e 9.8 |
| Mazatlan | | 19.5 | 144 | e 4 32 | +1 | i 8 16 | +10 | — | — |
| Fayetteville | | 19.7 | 93 | e 4 25? | -9 | e 8 2 | -8 | — | e 10.2 |
| Sitka | | 20.4 | 333 | e 4 39 | -2 | i 8 42 | +17 | e 5 10 | PP |
| Guadalajara | | 23.1 | 141 | e 5 10 | +2 | 9 28 | +12 | — | — |
| Chicago | | 23.6 | 75 | e 5 5 | -8 | e 9 25 | 0 | — | e 11.7 |
| Terre Haute | | 24.0 | 81 | i 5 38 | +21 | i 9 58 | +26 | — | — |
| Manzanillo | | 24.1 | 145 | e 5 18 | 0 | e 9 41 | +7 | — | — |
| Cincinnati | | 26.3 | 80 | e 5 33 | -6 | — | — | — | — |
| Tacubaya | | 26.3 | 135 | e 5 44 | +5 | e 10 36 | +25 | — | i 14.1 |
| Puebla | | 27.2 | 134 | 5 47 | 0 | 10 32 | +7 | — | i 15.1 |
| Cleveland | E. | 28.1 | 74 | — | — | e 10 41 | +1 | — | — |
| Vera Cruz | | 28.3 | 130 | 6 1 | +4 | e 11 12 | +29 | — | e 15.5 |
| Kirkland Lake | Z. | 28.8 | 60 | e 6 1 | -1 | — | — | — | — |
| Buffalo (Larkin) | | 30.0 | 71 | e 6 48 | +36 | — | — | — | — |
| College | | 30.3 | 336 | i 6 14 | -1 | e 11 18 | +3 | i 9 14 | PcP |
| Ottawa | | 31.9 | 66 | i 6 27 ^k | -2 | 11 30 | -10 | 9 16 | PcP |
| Washington | Z. | 32.0 | 78 | i 6 33 | +3 | e 11 33 | -9 | e 10 44 | ? |
| Palisades | | 33.9 | 73 | — | — | e 12 13 | +2 | — | e 15.4 |
| Resolute Bay | | 36.7 | 10 | e 7 11 | +1 | e 12 58 | +4 | — | — |
| Honolulu | | 38.2 | 253 | e 7 9 | -14 | e 13 1 | -16 | — | e 15.3 |
| Halifax | | 40.5 | 64 | — | — | e 13 46 | -6 | — | e 19.1 |
| Bermuda | | 43.7 | 82 | — | — | e 17 57 | SS | — | e 20.7 |
| Chinchina | | 52.0 | 120 | i 9 9 | -4 | i 16 36 | 0 | — | 24.5 |
| Bogota | | 53.3 | 119 | i 9 29 | +6 | e 16 57 | +3 | e 21 35 | SSS |
| Scoresby Sund | | 55.3 | 24 | e 9 39 | +1 | e 17 26 | +5 | i 21 19 | SS |
| Huancayo | | 65.4 | 132 | e 10 44 | -3 | e 19 36 | +6 | — | e 27.2 |
| Kiruna | Z. | 68.4 | 16 | i 11 3 ^a | -3 | — | — | i 14 3 | PP |
| Aberdeen | | 69.8 | 31 | i 12 16 | +62 | i 28 16 | SSS | e 24 18 | ? |
| Rathfarnham Castle | | 70.5 | 36 | i 11 25 | +7 | e 20 51 | PS | — | e 34.5 |
| Durham | E. | 71.6 | 33 | i 15 45 | PPP | 20 52 | +8 | — | — |
| La Paz | E. | 73.1 | 129 | e 11 13 | -21 | 21 0 | -1 | — | — |
| Upsala | | 74.4 | 21 | i 11 40 | -2 | e 21 9 | -7 | e 31 28 | Q |
| Kew | | 74.5 | 35 | i 11 42 | 0 | e 21 21 | +4 | e 29 45 | Q |
| Matusiro | | 76.3 | 306 | 11 52 ^a | 0 | e 21 33 | -4 | — | — |
| Uccle | | 77.0 | 33 | e 11 58 | +2 | e 21 45 | 0 | e 26 49 | SS |
| Hamburg | | 77.1 | 29 | e 11 59 | +2 | — | — | — | e 39.5 |
| Montezuma | | 77.6 | 134 | e 11 57 | -3 | — | — | — | — |
| Paris | | 77.6 | 35 | e 11 57 | -3 | e 21 55 | +4 | — | e 34.5 |
| Potsdam | | 79.2 | 28 | e 12 12 | +4 | e 22 16 | +8 | e 23 5 | PS |
| Jena | | 79.8 | 29 | e 12 12 | 0 | e 21 59 | -15 | e 15 45 | PP |
| Karlsruhe | Z. | 80.0 | 32 | e 12 16 | +3 | — | — | e 12 50 | ? |
| Strasbourg | | 80.1 | 33 | e 12 16 | +3 | e 22 22 | +4 | e 22 57 | PS |
| Stuttgart | | 80.5 | 32 | e 12 13 | -2 | e 22 22 | 0 | e 39 28? | Q |
| Basle | | 80.8 | 34 | e 12 17 | 0 | — | — | — | 41.5 |
| Toledo | | 80.8 | 45 | e 12 17 | 0 | 22 23 | -2 | 15 19 | PP |
| Zürich | | 81.4 | 33 | e 12 20 | 0 | — | — | — | 40.8 |
| Prague | | 81.5 | 28 | i 12 16 | -5 | e 15 14 | PP | e 22 41 | ScS |
| Warsaw | | 81.9 | 24 | — | — | e 22 39 | +3 | e 23 27 | PS |
| Malaga | | 82.9 | 48 | i 12 25 | -3 | — | — | — | e 40.5 |
| Granada | | 83.0 | 47 | — | — | i 22 50 | +3 | — | 44.8 |
| Alicante | | 83.9 | 44 | 12 32 | -1 | e 22 56 | 0 | — | 40.7 |
| Almeria | | 83.9 | 46 | — | — | 22 37 | -19 | 28 11 | SS |
| Triest | | 84.9 | 31 | e 12 35 | -3 | e 23 6 | 0 | — | e 40.1 |
| Florence | | 85.4 | 34 | e 12 39 | -1 | e 23 16 | +5 | e 16 4 | PP |
| Rome | | 87.5 | 34 | — | — | e 23 19 | [+2] | e 36 3? | ? |
| Zô-Sê | | 90.3 | 312 | 13 6 | +2 | e 24 8 | +11 | 23 43 | SKS |
| Nanking | | 90.9 | 314 | — | — | 24 15 | +12 | 23 44 | SKS |
| Messina | E. | 91.8 | 34 | — | — | e 23 36 | [-7] | e 25 27 | PS |
| Istanbul | | 94.4 | 24 | e 23 58 | SKS | (e 23 58) | [0] | e 25 48 | PS |
| Tamanrasset | Z. | 98.9 | 51 | e 13 42 | -1 | — | — | — | 49.5 |
| Quetta | | 110.2 | 355 | — | — | (e 25 28) | [+15] | — | e 25.5 |
| Riverview | Z. | 110.8 | 243 | i 14 43 ^a | P | — | — | — | — |
| Kimberley | Z. | 148.1 | 81 | e 19 45 | [+1] | — | — | — | — |
| Pretoria | Z. | 149.0 | 73 | e 19 50 | [+4] | — | — | — | — |

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1954

516

Sept. 1d. 5h. 18m. 46s. Epicentre 39°·8N. 118°·7W. (as on Aug. 31d.).

L. M. Murphy and W. K. Cloud.

United States Earthquakes, 1954, Serial No. 793, Washington, 1956, p. 33-34.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|----------------|----|----------|-----|---------------------|------|---------|------|--------|------------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Reno | Z. | 0·9 | 253 | i 0 20 _a | 0 | — | — | — | — |
| Mineral | E. | 2·3 | 286 | e 0 43 | + 1* | — | — | — | — |
| Shasta | Z. | 3·0 | 290 | i 0 52 | + 2 | — | — | — | — |
| Fresno | Z. | 3·1 | 197 | i 0 49 | - 2 | — | — | — | — |
| Berkeley | Z. | 3·4 | 237 | e 0 53 _k | 0 | — | — | — | — |
| San Francisco | E. | 3·5 | 237 | e 0 56 | - 1 | — | — | — | — |
| Santa Clara | | 3·5 | 227 | i 0 55 _a | - 2 | i 1 37 | - 3 | — | — |
| Branner | Z. | 3·6 | 230 | i 0 56 | - 2 | — | — | — | — |
| Haiwee | N. | 3·7 | 171 | e 0 57 | - 3 | — | — | — | — |
| Woody | Z. | 4·0 | 182 | i 1 2 | - 2 | — | — | — | — |
| Isabella | Z. | 4·1 | 178 | e 1 2 | - 3 | — | — | — | — |
| Arcata | N. | 4·3 | 287 | e 1 14 | - 2* | — | — | — | — |
| Boulder City | | 4·9 | 140 | i 1 11 | - 6 | — | — | — | — |
| Nelson | Z. | 5·1 | 142 | i 1 13 | - 7 | — | — | i 1 30 | P* |
| Salt Lake City | | 5·3 | 77 | i 1 23 | + 1 | i 2 18 | - 7 | — | i 2·7 |
| Pasadena | Z. | 5·6 | 176 | e 1 24 | - 3 | i 2 51 | + 1* | — | — |
| Corvallis | Z. | 5·9 | 326 | e 1 38 | + 7 | — | — | — | — |
| Palomar | Z. | 6·6 | 167 | i 1 36 | - 5 | — | — | — | — |
| Butte | N. | 7·7 | 34 | e 1 59 | + 3 | — | — | i 2 21 | P* |
| Bozeman | | 8·2 | 41 | e 2 5 | + 2 | i 3 26 | - 12 | e 2 21 | P* e 4·2 |
| Seattle | | 8·3 | 343 | 2 15 | + 11 | — | — | — | e 4·5 |
| Hungry Horse | | 9·2 | 20 | e 2 20 | + 4 | — | — | — | i 5·1 |
| Victoria | | 9·4 | 340 | 2 24 | + 6 | e 4 26 | SS | — | 5·1 |
| Tucson | | 9·8 | 137 | e 2 23 | - 1 | i 2 59 | ? | i 2 31 | PP i 4·8 |
| Boulder | | 10·3 | 84 | i 2 31 | - 1 | — | — | — | — |
| Rapid City | E. | 12·3 | 64 | e 3 1 | + 2 | e 5 21 | + 3 | e 3 59 | ? e 6·2 |
| Chihuahua | | 15·2 | 133 | — | — | e 6 44 | SS | — | — |
| Dallas | | 18·9 | 104 | e 3 26 | - 58 | i 7 37 | - 16 | — | e 9·9 |
| Fayetteville | | 19·7 | 93 | e 4 31 | - 3 | — | — | e 4 58 | PPP e 10·2 |
| Sitka | | 20·4 | 333 | e 4 42 | + 1 | e 8 46 | SS | e 5 35 | ? e 9·4 |
| Chicago | | 23·6 | 75 | e 5 14 | + 1 | e 9 27 | + 2 | — | e 12·3 |
| Terre Haute | | 24·0 | 81 | i 8 42 | PcP | — | — | — | i 13·7 |
| Cincinnati | | 26·3 | 80 | e 5 39 | 0 | — | — | — | — |
| College | | 30·3 | 336 | i 6 18 | + 3 | e 11 28 | + 13 | i 9 15 | PcP e 12·7 |
| Ottawa | | 31·9 | 66 | e 6 28 _a | - 1 | 11 43 | + 3 | 9 20 | PcP e 16·0 |
| Palisades | | 33·9 | 73 | — | — | e 11 56 | - 15 | — | e 16·0 |
| Scoresby Sund | | 55·3 | 24 | e 9 37 | - 1 | e 17 28 | + 7 | — | 26·2 |
| Kiruna | Z. | 68·4 | 16 | i 11 6 | 0 | — | — | — | — |
| Upsala | Z. | 74·4 | 21 | e 11 40 | - 2 | — | — | — | — |
| De Bilt | | 76·3 | 32 | — | — | e 21 44 | + 7 | — | e 38·2 |
| Matusiro | | 76·3 | 306 | e 11 54 | + 2 | e 21 48 | + 11 | — | — |
| Potsdam | | 79·2 | 28 | — | — | e 22 14 | + 6 | — | e 40·2 |

Sept. 1d. 7h. 38m. 13s. Epicentre 35°·7N. 141°·0E. Depth 40km.

Intensity IV at Tyosi.

Seismo Bull. Cent. Met. Obs., Japan, for Sept., 1954, Tokyo, 1954, p. 10-11, with macro-seismic chart.

Sept. 1d. 23h. 55m. Epicentre 32°·75S. 178°·5W. Magnitude 5·7ca.

New Zealand Seismo. Obs., Bull. No. E-135 for 1954, Wellington, 1959, p. 17.

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1954

517

Sept. 2d. 1h. 54m. 34s. Epicentre 42°·1N. 19°·8E.

A = +·7002, B = +·2521, C = +·6679; $\delta = -8$; $h = -2$;
D = +·339, E = -·941; G = +·628, H = +·226, K = -·744.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|------------------|----|----------|-----|----------------------|-------------------|---------|-------------------|--------|----------------|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Taranto | | 2·5 | 231 | e 0 40 | - 3 | e 1 20 | + 2* | e 1 28 | S _g | — |
| Sofia | | 2·7 | 76 | e 0 45 | 0 | i 1 29 | 0 _g | i 0 50 | P* | — |
| Belgrade | z. | 2·8 | 10 | e 0 48 _a | + 1 | 1 21 | - 1 | i 0 52 | P* | — |
| Timisoara | N. | 3·8 | 15 | e 1 2 | + 1 | e 1 48 | + 1 | e 1 7 | P* | — |
| Szeged | N. | 4·2 | 3 | e 1 19 | + 4* | e 2 19 | 0 _g | 1 25 | P _g | — |
| Kalossa | | 4·5 | 353 | e 1 19 | - 1* | 2 4 | - 1 | 1 31 | P _g | 2·4 |
| Kecskemet | | 4·8 | 359 | 1 39 | + 3 _g | e 2 17 | + 5 | 2 27 | S* | — |
| Athens | | 5·1 | 142 | i 1 19 _k | - 1 | i 2 20 | 0 | i 2 28 | S* | — |
| Messina | | 5·1 | 221 | e 1 17 | - 3 | 2 35 | 0* | i 1 31 | P* | — |
| Bucharest | | 5·2 | 61 | e 1 28 | - 4* | e 2 41 | + 3* | e 1 40 | P _g | — |
| Budapest | E. | 5·4 | 355 | 1 28 | + 4 | 2 26 | - 2 | e 2 56 | S _g | — |
| Rome | z. | 5·4 | 270 | e 1 22 | - 2 | e 2 23 | - 5 | — | — | — |
| Ogyalla | | 5·9 | 350 | e 1 42 | - 2* | e 2 42 | + 2 | i 2 2 | P _g | e 3·4 |
| Padova | | 6·2 | 295 | e 2 19 | + 15 _g | i 3 45 | + 20 _g | — | — | — |
| Bologna | | 6·6 | 294 | e 1 45 | + 4 | e 2 55 | - 3 | e 2 24 | P _g | — |
| Prato | | 6·6 | 289 | e 1 42 | + 1 | i 2 51 | - 7 | — | — | — |
| Istanbul | | 7·0 | 95 | e 1 46 | 0 | e 3 41 | + 9* | — | — | e 3·9 |
| Raciborz | | 8·1 | 353 | e 2 2 | 0 | e 4 25 | - 3 _g | e 3 25 | S | e 5·4 |
| Bytom | | 8·3 | 356 | — | — | 4 35 | + 1 _g | 4 30 | S _g | — |
| Pavia | | 8·3 | 296 | e 2 3 | - 1 | e 3 37 | - 3 | e 2 12 | PP | — |
| Chur | | 8·8 | 306 | e 2 9 _k | - 2 | — | — | — | — | — |
| Prague | | 8·8 | 337 | e 2 11 | 0 | i 4 43 | - 2* | e 2 52 | P _g | e 5·1 |
| Oropa | | 9·2 | 296 | e 1 54 | - 22 | e 3 48 | - 15 | — | — | e 5·7 |
| Ravensburg | | 9·2 | 312 | — | — | e 4 14 | SS | — | — | — |
| Cheb | | 9·5 | 330 | e 3 6 | - 4 _g | e 5 15 | + 1 _g | e 4 8 | S | — |
| Zürich | | 9·6 | 307 | e 2 20 | - 1 | e 4 8 | - 4 | e 2 27 | PP | — |
| Stuttgart | | 10·0 | 316 | e 2 24 | - 3 | e 4 21 | - 1 | e 4 42 | SS | — |
| Basle | | 10·2 | 306 | e 2 28 | - 3 | e 3 59 | - 28 | — | — | — |
| Warsaw | | 10·2 | 4 | — | — | e 4 42 | SS | i 4 58 | SSS | e 5·9 |
| Collmberg | | 10·3 | 336 | e 2 32 | 0 | e 4 31 | + 1 | e 5 51 | S _g | — |
| Neuchatel | | 10·4 | 302 | e 2 30 | - 4 | — | — | — | — | e 5·9 |
| Jena | | 10·5 | 330 | e 2 33 | - 2 | e 4 32 | - 3 | e 4 2 | ? | — |
| Karlsruhe | | 10·6 | 315 | 3 26 | ? | e 4 28 | - 9 | (4 57) | SS | e 5·0 |
| Strasbourg | | 10·7 | 312 | e 2 34 | - 4 | e 4 33 | - 6 | e 2 52 | PPP | e 5·3 |
| Besançon | | 11·1 | 302 | e 2 39 | - 4 | e 4 29 | - 20 | e 2 44 | P | e 5·5 |
| Clermont-Ferrand | | 12·6 | 293 | — | — | e 5 13? | - 13 | — | — | — |
| Hamburg | | 13·2 | 334 | e 3 11 | 0 | — | — | — | — | e 7·3 |
| Paris | | 13·9 | 305 | e 3 19 | - 2 | e 3 29 | PP | e 3 35 | PPP | e 7·4 |
| Witteveen | z. | 13·9 | 325 | e 3 21 | 0 | — | — | — | — | — |
| Algiers Univ. | z. | 14·0 | 253 | e 3 20 | - 2 | — | — | — | — | — |
| Ksara | | 15·1 | 118 | e 3 29 | - 7 | — | — | e 4 40 | ? | — |
| Helwan | | 15·3 | 139 | 3 33 | - 6 | 6 44 | SS | 3 46 | PP | — |
| Alicante | | 15·9 | 263 | e 3 56 | + 9 | e 6 56 | + 12 | 7 12 | SS | 8·0 |
| Jerusalem | | 16·0 | 125 | i 3 48 | 0 | — | — | — | — | — |
| Kew | | 16·6 | 311 | i 3 56 | 0 | — | — | i 5 46 | ? | i 8·3 |
| Jersey | E. | 16·8 | 302 | e 3 57 | - 1 | — | — | e 4 51 | ? | — |
| Upsala | | 17·8 | 356 | i 4 11 | 0 | — | — | — | — | e 9·4 |
| Almeria | | 18·0 | 260 | — | — | 8 27 | + 55 | — | — | 10·8 |
| Granada | | 18·6 | 262 | i 4 26 _a | + 5 | e 8 23 | SSS | — | — | 10·3 |
| Durham | E. | 18·9 | 319 | — | — | 8 1 | + 8 | — | — | — |
| Rathfarnham C. | z. | 20·7 | 312 | e 4 48 | + 4 | — | — | — | — | — |
| Tamanrasset | z. | 22·6 | 216 | e 5 5? | + 2 | e 9 34 | SS | — | — | — |
| Kiruna | | 25·8 | 0 | i 5 35 | + 1 | e 10 7 | + 5 | i 6 17 | PP | e 12·4 |
| Ottawa | | 64·9 | 309 | i 10 44 _a | + 1 | — | — | — | — | — |
| College | | 72·9 | 354 | i 11 33 | 0 | — | — | — | — | — |
| Hungry Horse | | 81·2 | 331 | e 12 17 | - 2 | — | — | — | — | — |
| Nelson | z. | 92·2 | 325 | e 13 16 | + 3 | — | — | — | — | — |
| Lembang | z. | 92·9 | 96 | e 13 28 | + 12 | — | — | — | — | — |

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1954

518

Sept. 2d. 6h. 18m. 37s. Epicentre 35°·8N. 140°·2E. Depth about 70km.
Intensity V at Kakioka; IV at Tokyo, Yokohama, Mito, Kumagaya, Utunomiya, Hunatu, Osima, Ajiro, and Kashiwa; II-III at Tyosi, Mera, Titibu, Misima, Maebasi, Kohu, Onahama, Shirakawa, Shizuoka, and Hukusima.
Seismo. Bull. Cent. Met. Obs., Japan, for Sept., 1954, Tokyo, 1954, p. 11-13, with macroseismic chart.

Sept. 2d. 10h. 31m. Epicentre 41°·3N. 44°·0E.
Bull. of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow 1955, p. 86.

Sept. 2d. 17h. 8m. Epicentre 36°·5N. 69°·3E. Depth 150km.
Loc. cit., 10h., p. 86.

Sept. 2d. 18h. 51m. 44s. Epicentre 10°·8S. 166°·0E. Depth of focus 0·025.

A = -·9533, B = +·2377, C = -·1861; $\delta = -8$; $h = +7$;
D = +·242, E = +·970; G = +·181, H = -·045, K = -·982.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|------------------|------|----------|-----|----------------------|-------|----------|-------|---------|------|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Nouméa | | 11·4 | 178 | i 2 40 _a | + 2 | i 4 43 | 0 | i 3 44 | sP | i 6·2 |
| Brisbane | | 20·6 | 215 | i 4 26 | + 1 | i 8 15 | +16 | — | — | — |
| Apia | | 21·9 | 100 | 4 38 | 0 | e 5 39 | ? | e 4 53 | pP | — |
| Riverview | | 26·6 | 208 | i 5 24 _k | + 2 | i 9 51 | +10 | i 6 12 | PP | — |
| Auckland | N. | 27·1 | 164 | e 5 28 | + 1 | — | — | — | — | — |
| New Plymouth | E. | 29·0 | 167 | e 5 48 | + 4 | — | — | e 7 15 | PPP | — |
| Tongariro | Z. | 29·5 | 165 | i 5 48 | 0 | — | — | — | — | — |
| Tuai | N. | 29·6 | 162 | e 5 48 | - 1 | e 10 31 | + 2 | — | — | — |
| Wellington | | 31·3 | 167 | e 6 3 | - 1 | e 10 58 | + 2 | — | — | — |
| Kaimata | N.E. | 31·9 | 172 | i 6 8 | - 1 | e 11 13? | + 8 | — | — | — |
| Christchurch | | 33·1 | 171 | i 6 19 | - 1 | e 11 28 | + 4 | — | — | e 13·3 |
| Macquarie Island | | 43·9 | 186 | i 7 48 | - 1 | — | — | — | — | — |
| Honolulu | | 47·6 | 48 | e 8 20 | + 2 | e 15 1 | + 3 | — | — | e 19·5 |
| Perth | | 50·7 | 238 | i 15 56 | SP | i 19 21 | SS | i 20 39 | ? | — |
| Manila | | 51·2 | 299 | e 9 13 | pP | e 15 55 | + 7 | — | — | — |
| Baguio | | 52·4 | 300 | i 8 43 _k | -12 | i 16 11 | + 7 | i 9 23 | pP | — |
| Matusiro | | 53·9 | 332 | e 8 54 | -12 | e 15 53 | -31 | — | — | — |
| Bandung | | 57·7 | 269 | e 9 35 | + 2 | e 17 18 | + 4 | — | — | — |
| Lembang | Z. | 57·8 | 269 | i 9 31 _a | - 2 | e 17 20 | + 4 | i 10 1 | pP | — |
| Zô-Sè | | 59·9 | 316 | 10 14 _k | +26 | i 17 45 | + 2 | — | — | — |
| Nanking | | 62·1 | 315 | i 10 30 _a | +27 | i 18 14 | + 3 | — | — | — |
| Tatung | | 70·3 | 320 | e 11 33 | ? | — | — | — | — | — |
| Shillong | | 80·6 | 298 | i 11 53 | + 1 | e 21 43 | + 1 | e 12 25 | pP | — |
| Berkeley | Z. | 82·5 | 49 | i 12 3 _a | + 1 | — | — | — | — | — |
| Santa Clara | E. | 82·6 | 50 | e 12 4 | + 1 | — | — | — | — | — |
| College Shasta | | 83·0 | 18 | i 12 1 | - 4 | e 22 7 | + 1 | i 12 32 | pP | e 35·3 |
| Mineral | Z. | 83·4 | 47 | i 12 6 | - 1 | — | — | — | — | — |
| Fresno | Z. | 83·9 | 47 | i 12 8 | - 2 | — | — | — | — | — |
| Corvallis | Z. | 84·0 | 51 | i 12 10 | 0 | — | — | — | — | — |
| | Z. | 84·2 | 43 | i 12 10 | - 1 | — | — | — | — | — |
| Pasadena | | 84·5 | 54 | i 12 12 _a | - 1 | — | — | — | — | — |
| Reno | Z. | 84·9 | 48 | e 12 15 | 0 | — | — | — | — | — |
| Victoria | | 85·5 | 39 | i 12 16 _a | - 1 | — | — | — | — | — |
| Seattle | | 85·9 | 40 | 12 20 | + 1 | i 22 45 | +10 | — | — | — |
| Nelson | Z. | 87·6 | 53 | i 12 28 | 0 | i 15 54 | PP | i 13 0 | pP | — |
| Boulder City | | 87·7 | 53 | i 12 28 | 0 | — | — | — | — | — |
| Tucson | | 90·0 | 57 | i 12 39 | 0 | e 23 25 | +12 | e 13 11 | pP | — |
| Salt Lake City | | 91·1 | 49 | i 12 44 | 0 | e 23 29 | + 7 | e 13 17 | pP | — |
| Hungry Horse | | 91·4 | 41 | i 12 44 | - 1 | i 30 8 | SSP | e 38 11 | P'P' | — |
| Butte | N. | 91·8 | 44 | i 12 45 | - 2 | e 23 7 | [+ 7] | e 24 38 | SP | e 40·4 |
| Bozeman | | 92·8 | 44 | i 12 51 | - 1 | — | — | — | — | — |
| Quetta | | 103·1 | 299 | e 18 26 | pPP | e 25 1 | - 3 | i 24 11 | SKS | — |
| Fayetteville | | 104·2 | 55 | e 13 42 | - 1 | — | — | e 17 59 | PP | — |
| Dallas | | 111·8 | 59 | e 18 17 | [+ 6] | i 27 39 | ? | — | — | — |
| Ottawa | | 117·4 | 44 | e 18 22 _k | [- 1] | 35 20 | SS | e 31 16 | ? | — |

Continued on next page.

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1954

519

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|------------|------------|----------|-------|---------|-------|---------|------------|
| | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Kiruna | 118.7 | 346 | i 18 25 | [0] | e 35 51 | SS | e 36 10 | SSP e 55.9 |
| Shawinigan Falls | 119.1 | 42 | e 18 27 | [+ 1] | — | — | — | — |
| Palisades | 119.6 | 49 | e 30 39 | SPP | — | — | — | e 54.2 |
| La Paz | 120.0 | 116 | 20 3 | PP | 27 18 | SKKS | e 20 9 | PP |
| Grahamstown | z. 121.5 | 220 | i 18 34k | [+ 3] | — | — | — | — |
| Pretoria | z. 125.2 | 228 | i 18 40 | [+ 2] | — | — | — | — |
| Upsala | z. 125.7 | 341 | i 18 39k | [+ 0] | i 28 16 | ? | i 31 58 | SPP |
| Reykjavik | z. 126.5 | 4 | i 18 42k | [+ 2] | — | — | — | — |
| Ksara | 129.1 | 305 | i 17 45 | [-60] | i 28 17 | SKKS | 18 14 | pP' |
| San Juan | 129.1 | 75 | i 18 46 | [+ 1] | — | — | — | — |
| Warsaw | 130.0 | 333 | e 18 48 | [+ 1] | i 22 11 | SKP | e 32 56 | PPS |
| Jerusalem | 130.1 | 302 | i 18 52 | [+ 5] | i 22 3 | SKP | — | — |
| Copenhagen | 130.7 | 341 | e 21 33 | PP | 39 23 | PSS | i 22 51 | ? |
| Istanbul | z. 131.7 | 316 | e 18 49 | [- 1] | — | — | e 21 37 | PP |
| Bucharest | E. 132.0 | 322 | 18 46 | [- 5] | e 22 20 | PKS | e 22 55 | sPKS |
| Aberdeen | N. 132.9 | 351 | e 22 16? | SKP | — | — | — | — |
| Hamburg | 133.3 | 341 | e 18 55 | [+ 2] | e 22 30 | PKS | e 23 1 | sPKS |
| Helwan | 133.8 | 301 | e 18 56 | [+ 2] | 23 1 | sPKS | 19 31 | sPKP |
| Collmborg | 134.0 | 337 | e 18 54 | [0] | — | — | e 20 11 | ? |
| Prague | 134.4 | 335 | i 18 56 | [+ 1] | i 22 27 | PKS | e 31 28 | SKSP |
| Jena | 134.9 | 337 | e 18 58 | [+ 2] | e 22 29 | PKS | e 19 33 | pP' |
| Lwiro | 135.5 | 256 | e 18 45 | [-12] | e 22 22 | SKP | — | — |
| De Bilt | 136.0 | 343 | e 21 58 | pPP | e 33 34 | SPP | e 39 39 | SS e 55.3 |
| Uccle | 137.4 | 343 | e 19 3 | [+ 2] | e 22 19 | SKP | e 40 39 | PSS e 63.3 |
| Stuttgart | 137.5 | 337 | e 18 58? | [- 3] | e 28 28 | SKKS | e 19 38 | pP' |
| Strasbourg | 138.2 | 338 | e 18 56 | [- 6] | e 25 52 | [0] | e 19 39 | pP' |
| Zürich | 138.9 | 337 | e 19 4 | [0] | — | — | — | — |
| Basle | 139.2 | 338 | e 18 59 | [- 5] | — | — | — | — |
| Paris | 139.7 | 343 | e 19 5 | [0] | e 22 31 | SKP | e 19 36 | pP' |
| Besançon | 140.0 | 339 | e 19 7 | [+ 1] | — | — | — | e 66.3 |
| Rome | 141.3 | 328 | e 19 2 | [- 6] | e 40 33 | SS | e 22 29 | PP |
| Messina | 142.0 | 321 | e 19 4 | [- 5] | 22 51 | PKS | e 45 47 | SSS |
| Clermont-Ferrand | 142.2 | 340 | e 19 12 | [+ 2] | — | — | — | — |
| Toledo | 149.8 | 345 | i 19 22 | [0] | e 23 2 | PP | i 20 5 | pP' |
| Algiers Univ. | z. 149.9 | 332 | e 19 23 | [+ 1] | e 23 18 | PP | e 20 3 | pP' |
| Alicante | 150.0 | 338 | e 19 12 | [-10] | 26 5 | [- 4] | 19 23 | PKP, |
| Almeria | 152.1 | 340 | e 19 27 | [+ 2] | 29 59 | SKKS | 23 11 | PP 72.6 |
| Granada | 152.1 | 342 | i 19 30k | [+ 5] | 33 32 | SKSP | 20 11 | pP' 77.4 |
| Malaga | 152.8 | 343 | 19 26 | [0] | — | — | 23 18 | PP 68.3 |
| Tamanrasset | z. 157.9 | 305 | i 19 35a | [+ 2] | e 30 0 | SKKS | e 20 8 | pP' |

Sept. 3d. 15h. 45m. 27s. Epicentre 34°·25N. 140°·75E. Unfelt.
Seismo. Bull. Cent. Met. Obs., Japan, for Sept., 1954, Tokyo, 1954, pp. 13-14.

Sept. 4d. 3h. 28m. 47s. Epicentre 3°·3S. 139°·8E. Depth of focus 0·020.
(as on 1952, September 9d.).

A = -·7625, B = +·6444, C = -·0572; $\delta = -7$; $h = +7$;
D = +·645, E = +·764; G = +·044, H = -·037, K = -·998.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------|------------|------------|---------|------|---------|------|--------|-----------|
| | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Manila | 25.8 | 314 | i 5 13 | - 5 | e 9 42 | + 9 | — | — |
| Brisbane | 27.2 | 154 | i 5 28 | - 3 | i 10 2 | + 6 | — | — |
| Baguio | 27.3 | 317 | i 5 29a | - 3 | i 11 45 | ? | — | — |
| Nouméa | 32.0 | 128 | e 6 21a | + 8 | e 11 54 | ? | e 7 28 | PP e 15.4 |
| Bandung | 32.2 | 262 | e 6 17 | + 2 | e 11 41 | +26 | e 7 41 | PP |
| Riverview | 32.2 | 162 | i 6 13a | - 2 | i 11 22 | + 7 | i 6 30 | pP |
| Djakarta | z. 32.9 | 264 | e 6 17 | - 4 | e 10 54 | -32 | e 6 33 | pP e 16.6 |
| Ilan | 33.0 | 329 | e 6 4 | -18 | 11 25 | - 2 | — | — |
| Taichung | 33.0 | 327 | e 6 19 | - 3 | — | — | — | — |
| Taipei | 33.3 | 329 | e 6 26 | + 2 | 11 38 | + 6 | — | — |

Continued on next page.

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1954

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------|----|------------|------------|---------|------|---------|------|---------|-----|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Melbourne | E. | 34.7 | 173 | 6 34 | - 2 | — | — | — | — |
| Hong Kong | E. | 35.7 | 317 | 7 56 | PP | — | — | — | — |
| Kagosima | | 35.8 | 346 | e 6 17 | -29 | — | — | e 6 53 | P |
| Perth | | 36.3 | 216 | i 6 55 | + 5 | i 12 33 | +15 | i 7 41 | PP |
| Simidu | N. | 36.5 | 350 | e 6 46 | - 5 | — | — | — | — |
| Siomisaki | | 36.8 | 354 | — | — | e 12 12 | -14 | — | — |
| Koti | | 37.2 | 351 | e 6 57 | 0 | e 12 40 | + 8 | e 15 31 | SSS |
| Ooita | | 37.2 | 349 | e 6 57 | 0 | e 12 41 | + 9 | — | — |
| Matuyama | N. | 37.5 | 350 | e 6 59 | - 1 | — | — | e 9 14 | PcP |
| Sumoto | | 37.7 | 354 | e 7 0 | - 2 | — | — | — | — |
| Hukuoka | Z. | 37.8 | 347 | e 7 0 | - 2 | — | — | e 10 29 | ? |
| Omaesaki | | 37.8 | 358 | e 7 42 | +40 | — | — | — | — |
| Takamatu | | 37.8 | 352 | e 7 11 | + 9 | e 12 51 | +10 | — | — |
| Kobe | | 38.0 | 354 | e 7 4 | 0 | e 12 53 | + 9 | i 15 51 | SSS |
| Mera | | 38.0 | 0 | e 7 19 | +15 | — | — | — | — |
| Hirosima | | 38.1 | 350 | e 7 4 | - 1 | e 12 53 | + 8 | — | — |
| Kameyama | | 38.1 | 356 | 7 9 | + 4 | 12 54 | + 9 | e 10 16 | ? |
| Shizuoka | N. | 38.1 | 358 | e 7 17 | +12 | — | — | — | — |
| Misima | N. | 38.2 | 359 | e 7 21 | +15 | — | — | e 9 54 | PcP |
| Nagoya | | 38.4 | 356 | e 7 23 | +16 | — | — | e 8 39 | PP |
| Hikone | | 38.5 | 355 | e 7 8 | 0 | — | — | — | — |
| Zô-Sê | | 38.5 | 334 | 7 7k | - 1 | 12 59 | + 8 | — | — |
| Gihu | | 38.6 | 356 | e 7 10 | + 1 | — | — | — | — |
| Hunatu | | 38.6 | 359 | e 7 4 | - 5 | — | — | e 12 49 | — |
| Yokohama | | 38.6 | 0 | e 7 47 | +38 | e 13 43 | ? | e 9 19 | PPP |
| Hamada | | 38.7 | 350 | e 7 10 | 0 | e 13 9 | +15 | — | — |
| Iida | | 38.7 | 358 | e 7 10 | 0 | — | — | — | — |
| Kohu | N. | 38.8 | 358 | e 7 10 | - 1 | — | — | — | — |
| Tokyo | | 38.8 | 0 | e 7 29 | +18 | 12 58 | + 2 | e 8 28 | PP |
| Toyooka | | 38.9 | 354 | e 7 11 | - 1 | e 13 6 | + 9 | — | — |
| Titibu | E. | 39.1 | 359 | e 7 14 | + 1 | — | — | — | — |
| Kumagaya | | 39.3 | 0 | e 7 17 | + 2 | — | — | — | — |
| Matumoto | N. | 39.4 | 358 | e 7 23 | + 7 | — | — | — | — |
| Maebasi | | 39.5 | 359 | e 7 22 | + 6 | — | — | e 7 46 | pP |
| Matusiro | | 39.7 | 358k | 7 16 | - 2 | 13 23 | +14 | e 9 32 | PPP |
| Utunomiya | | 39.7 | 0 | e 7 3 | -15 | e 13 15 | + 6 | e 7 17 | P |
| Nagano | N. | 39.8 | 358 | e 7 23 | + 4 | e 13 20 | + 9 | e 9 31 | PPP |
| Toyama | | 39.9 | 357 | e 7 9 | -11 | — | — | e 7 47 | pP |
| Shirakawa | | 40.2 | 1 | e 8 18 | ? | e 13 19 | + 2 | — | — |
| Nanking | | 40.4 | 332 | i 7 23a | - 1 | 13 30 | +10 | — | — |
| Inawasiro | | 40.7 | 0 | i 7 27 | + 1 | i 13 34 | +10 | i 7 57 | pP |
| Hokusima | | 40.9 | 1 | e 7 27 | - 1 | — | — | — | — |
| Niigata | | 41.0 | 359 | e 7 29 | 0 | i 13 44 | +16 | e 9 39 | PcP |
| Sendai | | 41.4 | 1 | e 7 33 | + 1 | — | — | e 8 17 | ? |
| Yamagata | | 41.4 | 1 | e 7 48 | +16 | — | — | — | — |
| Sakata | | 42.0 | 0 | e 8 0 | +23 | — | — | — | — |
| Mizusawa | E. | 42.3 | 2 | e 7 26 | -13 | e 10 27 | PPP | — | — |
| Akita | | 42.8 | 0 | e 7 54 | +11 | i 14 8 | +13 | e 14 21 | ? |
| Miyako | | 42.8 | 2 | e 7 9? | ? | e 14 0? | + 5 | — | — |
| Aomori | | 43.9 | 1 | e 8 12 | +20 | — | — | — | — |
| Mori | | 45.2 | 1 | e 7 49 | -14 | 14 10 | -19 | e 9 29 | PP |
| Onerahi | E. | 45.4 | 140 | e 8 6 | + 2 | e 14 51 | +19 | — | — |
| Urakawa | | 45.4 | 3 | e 7 21 | -43 | e 14 28 | - 4 | e 11 54 | ? |
| Obihiro | N. | 46.1 | 4 | e 8 1 | - 9 | — | — | — | — |
| Sapporo | | 46.2 | 2 | e 8 7 | - 3 | e 14 49 | + 5 | e 8 30 | pP |
| Kusiro | | 46.3 | 5 | e 8 13 | + 2 | i 14 54 | + 9 | e 15 41 | PPS |
| Auckland | N. | 46.4 | 140 | e 8 6 | - 6 | e 13 59 | ? | — | — |
| Vladivostok | | 46.8 | 352 | e 8 15 | 0 | i 15 5 | +13 | — | — |
| Linfen | E. | 47.3 | 329 | e 8 20 | + 1 | — | — | — | — |
| New Plymouth | E. | 47.3 | 143 | e 8 24 | + 5 | e 15 10 | +11 | e 8 32 | pP |
| Sian | N. | 47.3 | 325 | e 8 22 | + 3 | — | — | — | — |
| Karapiro | N. | 47.5 | 141 | e 8 21 | 0 | e 15 20 | +18 | e 10 24 | PP |
| Apia | | 48.9 | 105 | e 8 27 | - 4 | — | — | e 8 44 | pP |
| Kurilsk | | 48.9 | 8 | e 8 29 | - 2 | e 15 31 | + 9 | — | — |
| Wellington | | 49.1 | 145 | e 8 29 | - 4 | e 15 45 | +21 | e 8 41 | pP |

Continued on next page.

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| 1954 | | 521 | | | | | | | | | |
|-----------------|----|----------|-----|----------|------|---------|-------|---------|-----|--------|--|
| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | | |
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | m. | |
| Christchurch | | 49.5 | 149 | e 8 47 | +11 | e 15 39 | + 9 | — | — | e 25.2 | |
| Tatung | N. | 49.6 | 333 | e 8 39 | + 3 | — | — | — | — | — | |
| Yuzno-Sakhlinsk | | 50.2 | 3 | e 8 40 | - 1 | i 15 50 | +10 | — | — | — | |
| Paotow | | 51.5 | 331 | e 8 50 | - 1 | — | — | — | — | — | |
| Uglegorsk | | 52.2 | 2 | e 8 55 | - 1 | e 16 17 | +10 | — | — | — | |
| Sining | | 53.2 | 322 | e 9 6 | + 2 | — | — | — | — | — | |
| Macquarie Is. | | 53.4 | 166 | i 9 16 | +11 | — | — | — | — | e 26.2 | |
| Wuwei | | 53.5 | 324 | e 9 8 | + 2 | — | — | — | — | — | |
| Shillong | | 54.6 | 305 | i 9 12 | - 2 | i 16 45 | + 6 | 12 21 | PPP | 24.8 | |
| Calcutta | E. | 56.4 | 300 | e 9 48 | pP | i 17 9 | + 6 | — | — | — | |
| Petropavlovsk | | 58.4 | 13 | e 9 39 | - 2 | i 17 42 | +13 | — | — | — | |
| Colombo | K. | 60.6 | 280 | 9 56 | 0 | 18 3 | + 5 | — | — | 26.2 | |
| Madras | K. | 61.3 | 287 | i 9 59 | - 2 | i 18 16 | +10 | 10 33 | PcP | 28.2 | |
| Klyuchi | | 61.9 | 13 | e 10 4 | - 1 | i 18 29 | +15 | — | — | — | |
| Irkutsk | | 63.0 | 336 | 10 11 | - 1 | i 18 41 | +13 | — | — | — | |
| Magadan | | 63.3 | 6 | e 10 13 | - 1 | e 18 46 | +15 | — | — | — | |
| Kodaikanal | E. | 63.5 | 283 | e 10 38 | pP | 18 42 | + 8 | 12 48 | PP | 26.0 | |
| Hyderabad | | 63.9 | 291 | i 10 14 | - 4 | i 18 46 | + 7 | 10 50 | PcP | — | |
| Honolulu | | 65.7 | 65 | i 10 28 | - 2 | e 19 17 | +16 | i 10 46 | pP | e 25.7 | |
| Dehra Dun | | 67.7 | 305 | i 10 44 | + 2 | — | — | — | — | — | |
| New Delhi | | 67.8 | 303 | e 10 42 | - 1 | i 19 35 | + 9 | — | — | — | |
| Poona | | 68.4 | 291 | e 10 46 | 0 | e 19 37 | + 4 | 13 14 | PP | 30.9 | |
| Bombay | E. | 69.4 | 292 | e 10 47 | - 5 | i 19 52 | + 7 | 11 11 | pP | 29.5 | |
| Almata | | 72.9 | 317 | i 11 14 | + 1 | i 20 38 | +13 | — | — | — | |
| Naryn | | 72.9 | 315 | 11 13 | 0 | i 20 40 | +15 | — | — | — | |
| Semipalatinsk | | 73.7 | 325 | e 11 18 | 0 | — | — | — | — | — | |
| Andijan | | 75.3 | 314 | i 11 28 | + 1 | i 21 5 | +13 | — | — | — | |
| Quetta | | 76.9 | 302 | i 11 36 | 0 | i 21 23 | +14 | i 12 4 | pP | — | |
| Stalinabad | | 77.3 | 311 | i 11 39 | + 1 | i 21 27 | +14 | — | — | — | |
| Tashkent | | 77.7 | 313 | e 11 41 | + 1 | e 21 29 | +11 | — | — | — | |
| Ashkabad | | 85.3 | 308 | i 12 21 | + 1 | 22 42 | + 7 | 23 40 | PS | — | |
| College | | 85.6 | 24 | i 12 20 | - 1 | i 22 47 | + 9 | i 12 36 | pP | e 34.8 | |
| Sverdlovsk | | 86.8 | 327 | e 12 25 | - 2 | i 23 0 | +11 | — | — | — | |
| Tananarive | | 91.0 | 251 | 12 49 | + 2 | — | — | e 13 2 | pP | — | |
| Tiflis | | 95.9 | 311 | i 13 9 | 0 | i 23 43 | [+14] | e 16 55 | PP | — | |
| Erevan | | 96.2 | 310 | e 13 9 | - 2 | — | — | — | — | — | |
| Piatigorsk | | 97.1 | 314 | 13 14 | - 1 | i 24 28 | + 8 | 23 50 | SKS | — | |
| Seattle | | 97.8 | 42 | 13 22 | + 4 | 23 58 | [+19] | e 13 37 | pP | — | |
| Shasta | Z. | 98.1 | 50 | e 13 21 | + 2 | — | — | — | — | — | |
| Berkeley | | 98.3 | 52 | e 13 23 | + 3 | e 26 15 | PS | — | — | e 44.2 | |
| Santa Clara | E. | 98.6 | 53 | e 17 1 | PP | e 23 57 | [+14] | — | — | e 44.9 | |
| Mineral | Z. | 98.7 | 50 | e 13 22 | 0 | — | — | — | — | — | |
| Moscow | | 99.6 | 326 | e 13 26 | 0 | — | — | 17 33 | PP | — | |
| Reno | Z. | 100.2 | 51 | e 13 29 | 0 | — | — | — | — | — | |
| Fresno | Z. | 100.4 | 53 | e 13 31 | + 1 | — | — | — | — | — | |
| Woody | Z. | 101.2 | 54 | i 13 33 | - 1 | — | — | — | — | — | |
| Isabella | Z. | 101.5 | 54 | i 13 37 | + 2 | — | — | — | — | — | |
| Pasadena | | 101.8 | 56 | e 13 36 | 0 | e 26 52 | PS | i 17 47 | PP | e 44.2 | |
| Resolute Bay | | 102.1 | 13 | e 17 9 | PKP | 24 14 | [+14] | e 17 47 | PP | e 43.8 | |
| Riverside | Z. | 102.5 | 56 | e 13 40 | + 1 | — | — | — | — | — | |
| Pulkovo | | 102.6 | 331 | i 17 54 | PP | e 24 50 | -16 | — | — | — | |
| Palomar | Z. | 103.0 | 57 | i 13 44 | + 3 | — | — | — | — | — | |
| Barratt | Z. | 103.2 | 57 | e 13 42 | 0 | — | — | — | — | — | |
| Hungry Horse | | 103.2 | 41 | e 13 44 | + 2 | e 24 17 | [+12] | i 14 5 | pP | — | |
| Ksara | | 103.4 | 304 | e 20 14 | PPP | 24 12 | [+ 6] | i 33 19 | sSS | — | |
| Kiruna | | 103.8 | 340 | i 13 53 | + 8 | e 24 33 | SKKS | i 18 13 | PP | e 46.2 | |
| Jerusalem | | 104.1 | 302 | e 18 19 | PP | — | — | — | — | — | |
| Boulder City | | 104.4 | 54 | e 13 51 | + 3 | — | — | i 18 20 | PP | — | |
| Nelson | Z. | 104.4 | 54 | i 13 49 | + 1 | i 18 19 | PP | i 14 11 | pP | — | |
| Butte | N. | 104.6 | 43 | e 14 31 | ? | e 25 25 | + 2 | e 17 58 | PP | — | |
| Bozeman | | 105.7 | 44 | e 13 56 | P | — | — | — | — | — | |
| Salt Lake City | | 106.0 | 48 | e 29 52 | PKKP | — | — | — | — | — | |
| Grahamstown | Z. | 107.3 | 234 | e 18 13? | PP | — | — | — | — | — | |
| Helwan | | 107.6 | 300 | 14 4 | P | e 24 40 | [+15] | e 18 23 | PP | — | |
| Istanbul | | 107.7 | 312 | e 18 35 | PP | e 24 40 | [+15] | e 27 44 | PS | — | |

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----|------------|------------|----------------------|-------|---------|-------|---------|-------------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Pretoria | z. | 107.8 | 342 | e 17 33? | PP | — | — | — | — |
| Tucson | | 108.1 | 57 | e 14 6 | P | e 27 56 | PS | e 34 24 | SS e 44.4 |
| Upsala | | 108.5 | 333 | e 14 21 | P | e 25 22 | ? | i 18 2 | PKP e 49.2 |
| Lwow | | 108.9 | 322 | e 14 7 | P | — | — | e 18 32 | PP |
| Warsaw | | 109.9 | 325 | e 18 32 | PP | e 26 19 | S | 19 12 | sPP e 57.2 |
| Scoresby Sund | | 111.9 | 354 | e 19 0 | PP | e 34 22 | SS | — | — 59.2 |
| Copenhagen | | 113.0 | 331 | e 19 7 | PP | 26 49 | S | 34 49 | SS 51.2 |
| Prague | | 114.6 | 325 | e 19 4 | PP | e 29 3 | PS | i 21 33 | PPP e 52.7 |
| Collmberg | | 114.8 | 326 | e 14 34 | P | e 28 49 | PS | e 19 21 | PP e 51.2 |
| Hamburg | | 115.3 | 330 | e 18 46 | pPKP | — | — | e 19 29 | PP e 53.2 |
| Jena | | 115.8 | 326 | e 18 28 | [+ 5] | e 22 23 | PKS | e 19 32 | PP e 54.6 |
| Taranto | | 116.5 | 314 | e 18 52 | ? | e 30 27 | PPS | e 35 42 | SS 59.7 |
| Triest | | 116.9 | 320 | e 19 22 | PP | e 25 16 | [+14] | e 21 51 | PPP e 59.9 |
| Witteveen | z. | 117.4 | 330 | e 18 31 | [+ 5] | e 19 16 | PP | e 19 44 | pPP |
| Stuttgart | | 118.2 | 325 | e 18 31 | [+ 3] | e 27 32 | S | e 18 51 | pPKP e 55.2 |
| Aberdeen | | 118.4 | 338 | i 19 52 | PP | i 25 55 | SKKS | 27 55 | S e 61.0 |
| De Bilt | | 118.5 | 330 | e 19 53 | pPP | e 25 29 | [+22] | e 29 31 | PS e 51.2 |
| Padova | | 118.6 | 320 | e 21 0 | ? | e 26 26 | SKKS | — | — |
| Bologna | | 119.0 | 320 | e 20 28 | PP | — | — | — | — |
| Salo | | 119.0 | 322 | e 19 55 | PP | i 27 32 | ? | — | — |
| Strasbourg | | 119.1 | 326 | e 18 33 | [+ 3] | e 25 25 | [+16] | e 19 55 | PP 55.2 |
| Rome | | 119.3 | 317 | e 19 59 | PP | e 29 34 | PS | e 36 14 | SS e 56.4 |
| Zürich | | 119.3 | 324 | e 18 31 _k | [+ 1] | — | — | e 21 11 | ? |
| Dallas | | 119.6 | 54 | i 18 34 | [+ 3] | — | — | — | e 56.2 |
| Uccle | | 119.7 | 329 | e 19 2 | pPKP | e 25 26 | [+15] | e 19 57 | PP e 49.2 |
| Basle | | 119.8 | 325 | 19 16 | pPKP | — | — | e 19 39 | ? |
| Pavia | | 120.0 | 322 | e 20 2 | PP | e 29 39 | PS | e 31 55 | PPS e 64.4 |
| Tacubaya | | 120.3 | 70 | e 21 31 | ? | e 27 45 | ? | e 24 29 | ? |
| Fayetteville | | 120.6 | 50 | i 18 35 | [+ 2] | — | — | e 20 14 | PP |
| Besançon | | 120.8 | 325 | e 19 58 | PP | — | — | e 20 46 | pP |
| Kew | | 121.6 | 332 | i 14 59 | P | e 26 40 | SKKS | i 19 0 | PKP e 61.2 |
| Paris | | 121.9 | 328 | e 18 39 | [+ 4] | e 22 19 | PKS | e 20 14 | PP e 57.2 |
| Rathfarnham C. | z. | 122.9 | 336 | e 19 56 | PP | e 22 17 | PKS | i 28 20 | SKKS |
| Clermont-Ferrand | | 123.3 | 325 | e 18 33? | — | e 37 10 | SS | e 20 26 | PP 55.2 |
| Kirkland Lake | z. | 123.8 | 31 | e 18 41 | [+ 2] | — | — | — | — |
| Cleveland | | 127.0 | 38 | i 18 49 | [+ 4] | e 30 45 | PS | 37 48 | SS |
| Buffalo (Larkin) | | 127.9 | 35 | e 18 48 | [+ 1] | — | — | — | — |
| Ottawa | | 127.9 | 31 | e 18 44 _a | — | 27 43 | SKKS | 22 15 | PKS |
| Shawinigan Falls | | 128.5 | 28 | e 18 51 | [+ 3] | — | — | — | — |
| Pennsylvania | n. | 129.6 | 37 | — | — | i 31 10 | PS | — | — |
| Alicante | | 129.7 | 319 | e 18 47 | — | 25 43 | [+ 1] | 20 59 | PP 61.4 |
| Toledo | | 131.1 | 323 | e 18 55 | [+ 2] | 25 46 | [+ 1] | e 21 18 | PP 63.6 |
| Columbia | | 131.3 | 46 | e 18 58 | [+ 5] | e 28 5 | SKKS | i 22 23 | PKS |
| Philadelphia | | 131.7 | 36 | e 21 15 | PP | e 31 15 | SP | e 22 22 | PKS e 54.0 |
| Tamanrasset | z. | 131.7 | 298 | e 18 58 | [+ 4] | e 22 13 | PKS | i 19 22 | pPKP |
| Palisades | | 131.8 | 34 | e 18 59 | [+ 5] | e 28 11 | SKKS | e 21 16 | PP e 60.6 |
| Almeria | | 131.9 | 319 | 19 8 | [+14] | 38 44 | SS | 21 22 | PP 64.7 |
| Harvard | | 132.0 | 31 | e 18 55 | [0] | — | — | — | — |
| Weston | | 132.2 | 31 | i 19 1 _k | [+ 6] | e 39 3 | SS | — | e 65.0 |
| Granada | | 132.4 | 320 | e 19 19 _k | pPKP | 32 25 | PS | i 21 16 | PP 65.4 |
| Malaga | | 133.2 | 320 | i 18 59 | [+ 2] | i 21 35 | PP | i 24 43 | PPP 73.0 |
| Halifax | | 134.0 | 23 | e 19 1 | [+ 3] | e 28 58 | SKKS | e 22 28 | PKS e 56.2 |
| La Plata | | 138.5 | 158 | — | — | 22 55 | PKS | 40 7 | SS 65.3 |
| Huancayo | | 141.9 | 114 | e 19 17 | [+ 4] | e 22 51 | PKS | e 41 19 | SS e 66.4 |
| Montezuma | z. | 142.0 | 134 | e 19 16 | [+ 3] | — | — | — | — |
| Bermuda | | 143.1 | 36 | i 19 14 | — | e 37 28 | ? | e 41 8 | SS e 65.5 |
| Galerazamba | | 144.5 | 76 | i 19 31 | pPKP | e 42 13 | SS | i 20 42 | ? 68.2 |
| Chinchina | | 144.7 | 86 | i 19 19 | [+ 1] | — | — | i 19 30 | pPKP |
| La Paz | | 146.1 | 126 | i 19 26 | [+ 6] | i 30 2 | SKKS | i 19 37 | pPKP 70.2 |
| Bogota | | 146.2 | 87 | e 19 25 | [+ 5] | e 27 5 | [+54] | i 19 43 | pPKP 60.2 |
| San Juan | | 150.5 | 57 | e 19 30 | [+ 3] | — | — | i 19 35 | PKP |
| M'Bour | | 154.5 | 297 | i 20 0 | pPKP | e 24 8 | PP | e 27 46 | PPP |

Sept. 4d. 4h. 19m. Epicentre 36°·75N. 26°·75E. Magnitude 5.

Probably deep, 130km. Recorded up to 31°.

Seismo. Institute Bulletin for 1954, National Observatory, Athens, 1955, p. 97.

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Sept. 4d. 6h. 43m. 45s. Epicentre 28°·3N. 83°·8E.

Readings for a second shock 89 seconds later confuse those of this one.

$\Delta = +0.0952$, $B = +0.8766$, $C = +0.4716$; $\delta = -10$; $h = +2$;
 $D = +0.994$, $E = -0.108$; $G = +0.051$, $H = +0.469$, $K = -0.882$.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|---------------|----------|-----|----------------------|------|---------|------|---------|----------------|--------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Chatra | 3.3 | 114 | i 0 58 | - 1* | i 1 39 | + 4 | 1 6 | PP | 1.6 |
| Dehra Dun | 5.4 | 294 | e 1 27 | + 3 | 2 29 | + 1 | 1 50 | P _g | 2.6 |
| New Delhi | 5.8 | 275 | i 1 33 | + 4 | i 2 38 | 0 | 2 0 | P _g | — |
| Calcutta | 7.0 | 143 | i 1 50 _k | + 4 | i 3 5 | - 3 | 3 47 | S _c | — |
| Shillong | 7.7 | 108 | i 1 55 | - 1 | i 3 19 | - 6 | e 4 8 | S _g | — |
| Hyderabad | 11.8 | 206 | i 2 50 | - 3 | i 6 16 | L | — | — | 7.4 |
| Poona | 13.3 | 225 | e 3 12 | - 1 | e 5 38 | - 4 | 3 19 | PP | — |
| Bombay | N. 13.7 | 230 | e 3 16 | - 2 | e 5 43 | - 9 | — | — | — |
| Quetta | 14.8 | 282 | i 3 32 | 0 | i 6 15 | - 3 | i 3 43 | PP | — |
| Madras | E. 15.6 | 193 | i 3 42 | - 1 | i 6 29 | - 8 | 3 51 | PP | 7.2 |
| Sining | 17.3 | 57 | e 4 4 | 0 | — | — | — | — | — |
| Wuwei | 18.5 | 54 | e 4 21 | + 2 | — | — | — | — | — |
| Lanchow Univ. | N. 18.6 | 60 | e 4 22 | + 1 | — | — | — | — | — |
| Kodaikanal | E. 18.9 | 200 | i 7 8 | S | (i 7 8) | -45 | — | — | 10.6 |
| Linfen | E. 24.7 | 64 | e 5 22 | - 2 | — | — | — | — | — |
| Paotow | E. 24.8 | 53 | e 5 27 | + 2 | — | — | — | — | — |
| Nanking | 30.4 | 74 | 6 17 | + 1 | — | — | — | — | — |
| Zô-Sè | N. 32.5 | 76 | — | — | 11 52 | + 3 | — | — | — |
| Baguio | 35.9 | 101 | i 7 6 | + 2 | — | — | — | — | — |
| Ksara | 41.1 | 290 | i 4 2 | ? | e 10 22 | ? | — | — | — |
| Lembang | Z. 41.8 | 143 | e 9 19 | PP | — | — | — | — | — |
| Jerusalem | 41.9 | 287 | i 8 21 | +27 | — | — | — | — | — |
| Helwan | 45.6 | 285 | 8 26 | + 2 | i 15 8 | + 2 | e 9 28 | PP | — |
| Istanbul | Z. 46.1 | 301 | e 9 56 | PcP | — | — | — | — | — |
| Iasi | 47.2 | 310 | e 8 37 | + 1 | — | — | e 9 7 | PP | — |
| Sofia | 50.3 | 304 | e 10 12? | PcP | — | — | — | — | — |
| Warsaw | 51.7 | 316 | i 9 11 _a | 0 | — | — | e 11 11 | PP | e 32.2 |
| Belgrade | Z. 52.2 | 306 | e 10 44 _a | PcP | — | — | e 11 43 | PP | — |
| Raciborz | 53.5 | 313 | e 9 20? | - 4 | — | — | e 13 7 | ? | — |
| Upsala | 54.1 | 325 | i 9 29 _a | 0 | e 17 3 | - 2 | i 14 9 | ? | i 34.9 |
| Kiruna | 54.1 | 335 | i 9 29 _a | 0 | e 22 39 | SSS | — | — | e 25.9 |
| Prague | 55.9 | 313 | i 9 42 | 0 | i 17 28 | - 1 | i 11 51 | PP | — |
| Collnberg | 56.7 | 315 | e 9 48 | 0 | — | — | e 11 17 | ? | — |
| Copenhagen | 56.8 | 320 | i 9 49 | + 1 | — | — | — | — | — |
| Triest | 56.8 | 308 | e 9 49 | + 1 | e 17 56 | +15 | — | — | — |
| Jena | 57.6 | 314 | i 9 55 | + 1 | — | — | i 11 55 | PP | — |
| Padova | 58.3 | 307 | 11 4 | PcP | — | — | e 14 22 | PPP | — |
| Rome | 58.3 | 304 | i 9 58 | - 1 | e 17 56 | - 5 | — | — | — |
| Hamburg | 58.4 | 318 | e 9 59 _k | - 1 | — | — | — | — | e 33.2 |
| Tananarive | 58.6 | 221 | e 10 3 | + 2 | — | — | — | — | 32.5 |
| Bologna | 58.7 | 307 | e 10 7 | + 5 | e 11 56 | PP | e 10 27 | ? | — |
| Prato | 59.0 | 306 | i 10 4 | 0 | i 17 41 | -29 | — | — | — |
| Salo | 59.1 | 308 | e 10 4 | 0 | e 18 15 | + 4 | — | — | — |
| Stuttgart | 59.5 | 312 | i 10 7 _a | 0 | e 18 16 | 0 | e 12 21 | PP | — |
| Karlsruhe | Z. 59.9 | 313 | i 10 9 | - 1 | — | — | i 12 23 | PP | — |
| Pavia | 60.1 | 308 | i 10 13 _a | + 2 | — | — | — | — | i 27.5 |
| Zürich | 60.1 | 311 | e 10 2 | - 9 | — | — | — | — | — |
| Strasbourg | 60.4 | 312 | i 10 15 | + 2 | e 18 31 | + 3 | i 10 52 | PcP | e 32.2 |
| Witteveen | Z. 60.4 | 317 | i 10 15 _k | + 2 | — | — | — | — | — |
| Basle | 60.7 | 311 | e 10 15 | 0 | — | — | e 15 31 | ScP | — |
| Lwiro | 60.8 | 250 | e 10 19 | + 3 | — | — | — | — | — |
| Oropa | 60.8 | 309 | e 10 22 | + 6 | — | — | — | — | — |
| De Bilt | 61.4 | 316 | i 10 22 | + 2 | e 18 42 | + 2 | e 12 37 | PP | e 26.2 |
| Besançon | 61.8 | 311 | i 10 23 | 0 | — | — | — | — | — |
| Uccle | 62.2 | 315 | e 10 26 | 0 | e 18 52 | + 1 | e 14 12 | PPP | — |

Continued on next page.

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1954

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|------------------|----|------------|------------|----------------------|-------|---------|------|---------|------|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. | |
| Paris | | 63.8 | 313 | e 10 37 | + 1 | e 19 11 | 0 | e 12 59 | PP | — |
| Clermont-Ferrand | | 64.1 | 310 | e 10 39 | + 1 | — | — | e 13 2 | PP | — |
| Kew | | 64.9 | 317 | i 10 41 | - 2 | e 19 3 | -21 | i 12 12 | ? | e 35.8 |
| Rathfarnham C. | z. | 67.9 | 320 | i 11 6 _a | + 4 | — | — | — | — | — |
| Scoresby Sund | z. | 68.7 | 340 | e 11 8 | + 1 | — | — | — | — | — |
| Tamanrasset | z. | 69.7 | 286 | i 11 16 _a | + 2 | — | — | i 13 57 | PP | — |
| Toledo | | 71.0 | 306 | i 11 23 _a | + 1 | — | — | — | — | — |
| Granada | | 71.6 | 303 | i 11 27 _k | + 2 | e 19 48 | -56 | 14 6 | PP | — |
| Malaga | | 72.4 | 303 | i 11 29 | - 1 | — | — | 15 35 | PPP | 39.2 |
| Pretoria | z. | 75.8 | 230 | i 11 55 _a | PcP | — | — | — | — | — |
| Pietermaritzburg | z. | 76.9 | 226 | i 13 30 | PP | — | — | — | — | — |
| Resolute Bay | | 77.3 | 0 | i 11 57 _k | - 1 | — | — | — | — | — |
| College | | 78.9 | 20 | e 12 5 | - 2 | e 22 4 | - 1 | i 16 33 | PPP | — |
| Kimberley | z. | 80.0 | 230 | i 12 15 | PcP | — | — | — | — | — |
| Hungry Horse | | 102.0 | 11 | e 13 57 | 0 | — | — | e 17 59 | PP | — |
| Woody | z. | 112.9 | 20 | e 20 15 | PP | — | — | e 20 59 | PPP | — |
| Isabella | z. | 113.1 | 20 | e 17 0 | ? | — | — | e 20 10 | PP | — |
| Boulder City | | 113.7 | 15 | e 18 35 | [- 5] | — | — | — | — | — |
| Nelson | z. | 114.0 | 15 | e 18 46 | [+ 5] | e 19 9 | PP | e 29 33 | PKKP | — |
| Mount Wilson | z. | 114.5 | 19 | e 19 37 | PP | — | — | e 20 37 | ? | — |
| Riverside | z. | 114.9 | 19 | e 20 34 | ? | — | — | e 21 14 | ? | — |
| Palomar | z. | 115.7 | 19 | e 19 51 | PP | — | — | e 30 49 | PKKP | — |
| Fayetteville | | 116.0 | 358 | e 19 39 | PP | — | — | — | — | — |
| Chinchina | z. | 141.5 | 326 | i 19 30 | [- 3] | i 23 12 | PKS | — | — | — |
| La Paz | z. | 151.6 | 288 | i 19 56 | [+ 6] | — | — | 25 5 | ? | — |
| Huancayo | | 154.7 | 305 | e 20 5 | [+11] | — | — | — | — | — |
| Montezuma | z. | 154.7 | 276 | i 20 0 | [+ 6] | — | — | — | — | — |

Sept. 4d. 6h. 45m. 14s. Repetition of the above.

Sept. 4d. 8h. 53m. 24s. Epicentre 21°·5N. 121°·7E.

A = -·4894, B = +·7923, C = +·3644; δ = +4; h = +3;
D = +·851, E = +·525; G = -·191, H = +·310, K = -·931.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|-----------|----|------------|------------|---------------------|------------------|--------|------------------|--------|----|---------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. | |
| Hengchun | | 1.0 | 298 | i 0 20 _k | - 1 | 0 40 | + 4 | — | — | — |
| Tawu | | 1.1 | 318 | i 0 21 | - 1 | 0 41 | + 2 | — | — | — |
| Taitung | | 1.3 | 338 | 0 25 | 0 | 0 44 | 0 | — | — | — |
| Hsinkong | | 1.6 | 350 | e 0 29 | - 1 | 0 50 | - 1 | — | — | — |
| Tainan | | 2.0 | 318 | i 0 38 | + 3 | 1 6 | + 4 | — | — | — |
| Alishan | | 2.1 | 338 | e 0 48 | + 6 _g | 1 16 | + 7 _g | — | — | — |
| Hwalien | | 2.4 | 359 | e 0 37 | - 4 | 1 4 | - 8 | — | — | — |
| Taichung | | 2.8 | 341 | 0 46 | - 1 | 1 19 | - 3 | — | — | — |
| Ilan | | 3.2 | 1 | e 0 53 | + 1 | 1 27 | - 5 | — | — | — |
| Hsingchu | | 3.3 | 349 | 1 5 | - 1 _g | — | — | — | — | — |
| Taipei | | 3.5 | 358 | e 0 57 | 0 | 1 35 | - 5 | — | — | — |
| Baguio | | 5.2 | 191 | i 1 18 _a | - 3 | i 2 34 | - 4* | — | — | — |
| Manila | | 6.9 | 186 | i 1 42 | - 3 | i 3 10 | + 5 | — | — | — |
| Hong Kong | E. | 7.0 | 278 | 1 46 _? | 0 | — | — | — | — | — |
| Zó-Sò | | 9.5 | 358 | 2 18 | - 2 | e 4 8 | - 2 | — | — | — |
| Nanking | | 10.8 | 347 | e 2 39 | 0 | — | — | — | — | i 5.2 |
| Yakusima | | 11.9 | 40 | e 2 52 | - 2 | e 6 45 | L | — | — | (e 6.8) |
| Miyazaki | | 13.5 | 38 | — | — | e 5 58 | +11 | — | — | e 7.8 |
| Saga | N. | 14.0 | 32 | e 3 42 | +20 | — | — | — | — | — |
| Hukuoka | | 14.3 | 31 | e 3 19 _k | - 7 | — | — | e 7 19 | Q | 8.7 |
| Hirosima | | 15.9 | 34 | e 3 46 | - 1 | — | — | — | — | e 9.8 |
| Kotl | | 15.9 | 39 | e 4 2 | +15 | — | — | — | — | e 9.0 |
| Hamada | | 16.2 | 32 | e 3 58 | + 8 | e 7 9 | +18 | — | — | e 8.6 |
| Sian | N. | 16.9 | 321 | e 3 58 _? | - 1 | — | — | — | — | — |
| Tokusima | | 16.9 | 40 | e 4 4 | + 5 | — | — | — | — | — |

Continued on next page.

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| | | Δ ° | Az. ° | P. | | O-C. s. | S. | | O-C. s. | Supp. | | L. m. |
|-----------------|----|---------------|----------|-----|-----------------|------------|------|-----------------|------------|-------|----|----------|
| | | | | m. | s. | | m. | s. | | m. | s. | |
| Sumoto | | 17.3 | 40 | 4 | 5 | + 1 | e 7 | 21 | + 5 | — | — | 11.5 |
| Kobe | | 17.7 | 39 | e 4 | 8 | - 2 | e 7 | 42 | +16 | — | — | e 10.0 |
| Taiyuan | E. | 18.0 | 336 | 4 | 15 | + 2 | e 7 | 38 | + 6 | — | — | — |
| Kameyama | | 18.6 | 41 | i 4 | 19 | - 2 | 7 | 53 | + 7 | — | — | 11.7 |
| Hikone | | 18.7 | 40 | e 4 | 23 | + 1 | — | — | — | — | — | — |
| Gihu | | 19.1 | 40 | e 4 | 29 | + 2 | — | — | — | — | — | — |
| Nagoya | E. | 19.1 | 41 | e 4 | 20 | - 7 | — | — | — | — | — | — |
| Kwanting | N. | 19.3 | 346 | e 4 | 31 | + 2 | — | — | — | — | — | — |
| Omaesaki | | 19.5 | 45 | i 4 | 32 | + 1 | e 8 | 32 | +26 | — | — | — |
| Iida | | 19.8 | 42 | e 4 | 35 | 0 | e 8 | 36 | +23 | — | — | — |
| Shizuoka | | 19.9 | 44 | e 4 | 33 | - 3 | e 8 | 21 | + 6 | — | — | — |
| Misima | N. | 20.3 | 44 | e 4 | 39 | - 1 | e 8 | 37 | +14 | — | — | — |
| Toyama | | 20.3 | 38 | e 4 | 21 | -19 | — | — | — | e 4 | 48 | P |
| Ajiro | | 20.4 | 45 | e 4 | 35 | - 6 | e 8 | 35 | +10 | — | — | — |
| Hunatu | | 20.4 | 43 | e 4 | 40 | - 1 | e 8 | 36 | +11 | — | — | — |
| Kohu | | 20.4 | 43 | e 4 | 47 | + 6 | e 8 | 34 | + 9 | — | — | — |
| Matumoto | | 20.4 | 41 | 4 | 40 | - 1 | 8 | 37 | +12 | — | — | — |
| Osima | E. | 20.4 | 46 | e 4 | 42 | + 1 | e 8 | 39 | +14 | — | — | — |
| Wazima | | 20.6 | 37 | e 4 | 42 | - 1 | e 8 | 38 | + 9 | — | — | — |
| Matusiro | | 20.8 | 40 | 4 | 42 _a | - 3 | 8 | 37 | + 4 | — | — | 11.5 |
| Mera | | 20.8 | 46 | e 5 | 0 | +15 | — | — | — | — | — | — |
| Nagano | N. | 20.8 | 40 | i 4 | 50 | + 5 | i 8 | 51 | +18 | — | — | — |
| Oiwake | | 20.8 | 41 | e 4 | 42 | - 3 | e 8 | 37 | + 4 | — | — | — |
| Titibu | E. | 20.9 | 43 | i 4 | 50 | + 4 | — | — | — | — | — | — |
| Yokohama | | 21.0 | 45 | 4 | 50 | + 3 | e 9 | 28 | Q | — | — | 14.2 |
| Kumagaya | | 21.2 | 43 | e 4 | 57 | + 8 | e 9 | 4 | SS | — | — | — |
| Maebasi | | 21.2 | 42 | 4 | 49 | 0 | e 9 | 1 | SS | — | — | — |
| Tokyo | | 21.2 | 44 | e 4 | 52 | + 3 | 9 | 7 | SS | 5 | 56 | ? |
| Langchow Univ. | E. | 21.3 | 317 | e 4 | 51 | + 1 | — | — | — | — | — | — |
| Kashiwa | | 21.4 | 44 | e 4 | 53 | + 2 | — | — | — | — | — | — |
| Paotow | | 21.5 | 335 | e 4 | 55 | + 3 | 8 | 52 | + 5 | — | — | — |
| Utunomiya | | 21.8 | 43 | e 4 | 49 | - 7 | e 8 | 45 | - 7 | — | — | — |
| Mito | N. | 22.1 | 44 | e 5 | 26 | +27 | — | — | — | — | — | — |
| Niigata | | 22.2 | 39 | e 5 | 42 | PP | e 9 | 34 | SS | — | — | — |
| Shirakawa | | 22.4 | 42 | e 4 | 51 | -11 | — | — | — | — | — | — |
| Hokusima | | 22.9 | 41 | e 5 | 18 | +12 | e 9 | 40 | SS | — | — | — |
| Sining | E. | 22.9 | 315 | e 5 | 7 | + 1 | 9 | 23 | +10 | — | — | — |
| Vladivostok | | 23.2 | 19 | i 5 | 8 | - 1 | — | — | — | — | — | — |
| Wuwei | | 23.2 | 319 | e 5 | 12 | + 3 | — | — | — | — | — | — |
| Sakata | | 23.3 | 38 | e 5 | 27 | +17 | — | — | — | — | — | — |
| Sendai | | 23.5 | 41 | e 4 | 58 | -14 | — | — | — | e 5 | 50 | PP |
| Akita | | 24.0 | 37 | e 4 | 49 | -28 | e 9 | 33 | + 1 | i 10 | 38 | SS |
| Mizusawa | E. | 24.2 | 39 | e 5 | 21 | + 2 | e 9 | 38 | + 3 | — | — | e 11.1 |
| Morioka | | 24.6 | 38 | e 5 | 22 | - 1 | — | — | — | — | — | — |
| Mori | | 25.9 | 34 | e 5 | 28 | - 7 | 10 | 11 | + 7 | i 6 | 0 | PP |
| Tomakomai | | 26.8 | 34 | e 5 | 43 | - 1 | — | — | — | — | — | — |
| Sapporo | | 27.0 | 33 | i 5 | 43 _k | - 2 | e 10 | 38 | +16 | e 6 | 54 | PP |
| Urakawa | | 27.2 | 36 | e 5 | 50 | + 3 | e 10 | 35 | +10 | — | — | e 14.3 |
| Shillong | | 27.6 | 284 | i 5 | 51 _a | 0 | e 10 | 30 | - 2 | 6 | 39 | PP |
| Obihiro | N. | 27.9 | 35 | e 6 | 3 | + 9 | — | — | — | — | — | 12.7 |
| Kusiro | | 28.6 | 36 | e 6 | 2 | + 2 | e 11 | 2 | +14 | — | — | — |
| Nemuro | | 29.5 | 37 | e 6 | 14 | + 6 | — | — | — | — | — | — |
| Yuzno-Sakhlinsk | | 30.6 | 29 | i 6 | 19 | + 1 | — | — | — | — | — | — |
| Calcutta | E. | 30.8 | 278 | e 7 | 6 | PP | i 12 | 24 | SS | 14 | 8 | SSS |
| Djakarta | | 31.2 | 210 | e 6 | 20 _a | - 3 | e 11 | 27 | - 2 | e 13 | 3 | SS |
| Bandung | | 31.4 | 208 | e 6 | 22 _? | - 3 | e 11 | 37 _? | + 5 | — | — | e 15.0 |
| Lembang | Z. | 31.4 | 208 | e 6 | 28 _a | + 3 | e 11 | 40 | + 8 | — | — | — |
| Chatra | | 31.8 | 286 | e 6 | 30 | + 2 | — | — | — | — | — | — |
| Ulegorsk | | 31.9 | 26 | e 6 | 26 | - 3 | — | — | — | — | — | — |
| Kurilsk | | 32.0 | 36 | i 6 | 27 | - 3 | — | — | — | — | — | — |

Continued on next page.

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1954

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|-----------------|----|----------|-----|------|-----|-------|------|----|-------|-------|----|------------------|
| | | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Irkutsk | | 33.5 | 341 | e 6 | 37 | - 6 | — | — | — | — | — | — |
| Dehra Dun | N. | 40.0 | 292 | e 7 | 40 | + 2 | — | — | — | — | — | — |
| Almata | | 42.9 | 311 | i 8 | 1 | - 1 | — | — | — | — | — | — |
| Rybach'e | | 43.2 | 310 | e 8 | 5 | + 1 | — | — | — | — | — | — |
| Magadan | | 43.3 | 21 | e 8 | 4 | - 1 | — | — | — | — | — | — |
| Semipalatinsk | | 43.3 | 322 | e 8 | 3 | - 2 | — | — | — | — | — | — |
| Poona | N. | 44.9 | 275 | i 11 | 49 | ? | — | — | — | — | — | — |
| Klyuchi | | 45.2 | 30 | e 8 | 20 | 0 | — | — | — | — | — | — |
| Andijan | | 45.7 | 306 | i 8 | 25 | + 1 | — | — | — | — | — | — |
| Tashkent | | 48.1 | 307 | e 8 | 41 | - 2 | — | — | — | — | — | — |
| Quetta | | 49.6 | 292 | i 8 | 55 | 0 | i 16 | 4 | + 1 | e 12 | 4 | PPP |
| Ashkabad | | 56.4 | 302 | 9 | 44 | - 1 | — | — | — | — | — | — |
| Sverdlovsk | | 56.4 | 325 | i 9 | 46 | + 1 | 17 | 34 | - 2 | — | — | — |
| Riverview | | 61.8 | 152 | 10 | 27 | + 4 | — | — | — | — | — | e 28.0 |
| Kirovobad | | 65.4 | 306 | 10 | 45 | - 2 | — | — | — | — | — | — |
| Tiflis | | 66.4 | 307 | e 10 | 52 | - 1 | e 19 | 38 | - 5 | — | — | — |
| Erevan | | 66.9 | 306 | e 10 | 56 | 0 | — | — | — | — | — | — |
| Moscow | | 69.2 | 323 | e 11 | 8 | - 2 | i 20 | 8 | - 8 | — | — | — |
| College | | 71.0 | 27 | e 11 | 16 | - 6 | e 20 | 33 | - 4 | e 25 | 52 | SS |
| Pulkovo | | 72.3 | 328 | e 11 | 28 | - 1 | e 20 | 49 | - 3 | — | — | e 28.2 |
| Yalta | | 73.5 | 312 | e 11 | 35 | - 1 | — | — | — | — | — | — |
| Kiruna | | 74.4 | 337 | i 11 | 38 | - 4 | e 21 | 56 | SKS | — | — | e 38.6 |
| Ksara | | 75.0 | 301 | e 10 | 40 | -65 | 17 | 35 | ? | — | — | — |
| Jerusalem | | 76.1 | 299 | i 11 | 53 | + 2 | — | — | — | — | — | — |
| Upsala | | 78.4 | 330 | i 12 | 2 | - 2 | e 21 | 53 | - 7 | e 23 | 6 | ? e 37.6 |
| Lwow | | 78.6 | 319 | e 12 | 4 | - 1 | — | — | — | — | — | — |
| Warsaw | | 79.5 | 322 | e 12 | 20 | PcP | e 22 | 10 | - 1 | e 22 | 28 | SKS |
| Helwan | | 79.9 | 298 | e 12 | 10 | - 2 | e 23 | 18 | PPS | 15 | 11 | PP |
| Resolute Bay | | 81.2 | 9 | — | — | — | e 21 | 49 | ? | — | — | e 38.7 |
| Budapest | | 82.5 | 318 | e 12 | 34 | + 8 | — | — | — | — | — | — |
| Tananarive | | 82.9 | 247 | e 12 | 28 | 0 | — | — | — | — | — | — |
| Prague | | 84.2 | 322 | i 12 | 40 | + 6 | e 22 | 58 | - 1 | e 23 | 15 | PS |
| Collmberg | | 84.4 | 323 | e 12 | 33 | - 3 | — | — | — | — | — | — |
| Scoresby Sund | | 84.7 | 348 | e 12 | 43 | + 6 | e 23 | 23 | +19 | i 23 | 49 | PS |
| Jena | | 85.4 | 323 | 12 | 38? | - 2 | — | — | — | e 16 | 2 | PP |
| Taranto | | 86.6 | 312 | — | — | — | e 21 | 56 | ? | — | — | — |
| Triest | | 86.6 | 318 | e 12 | 41 | - 5 | e 23 | 14 | [+ 3] | e 24 | 21 | PS |
| Witteveen | Z. | 87.1 | 327 | e 12 | 36 | -13 | — | — | — | — | — | — |
| Stuttgart | | 87.8 | 322 | e 12 | 52? | 0 | e 23 | 30 | - 4 | e 20 | 6 | ? e 44.6 |
| Karlsruhe | | 88.1 | 323 | e 12 | 52k | - 2 | — | — | — | — | — | e 46.6 |
| De Bilt | | 88.2 | 326 | e 13 | 4 | +10 | e 23 | 46 | + 8 | — | — | e 43.6 |
| Strasbourg | | 88.7 | 323 | e 12 | 57 | 0 | e 23 | 48 | + 5 | e 29 | 30 | SS |
| Messina | | 88.8 | 311 | e 13 | 5 | + 8 | i 23 | 42 | - 2 | — | — | — |
| Reggio Calabria | | 88.8 | 311 | e 13 | 6? | + 9 | e 23 | 49 | + 5 | — | — | — |
| Rome | | 89.2 | 315 | e 13 | 1 | + 2 | e 23 | 34 | [+ 6] | — | — | — |
| Uccle | | 89.4 | 326 | e 13 | 14 | +14 | e 23 | 53 | + 4 | e 23 | 21 | SKS |
| Pavia | | 89.6 | 319 | — | — | — | e 26 | 6 | PPS | e 38 | 4 | Q |
| Seattle | Z. | 90.4 | 37 | 13 | 10 | + 6 | — | — | — | — | — | — |
| Paris | | 91.5 | 325 | e 16 | 46 | PP | 23 | 50 | {- 2} | e 25 | 24 | PS |
| Hungry Horse | | 94.5 | 34 | e 13 | 21 | - 2 | — | — | — | e 17 | 14 | PP |
| Alicante | | 99.4 | 318 | 13 | 44 | - 2 | 25 | 16 | + 1 | — | — | 47.6 |
| Toledo | | 100.7 | 320 | 13 | 43 | - 9 | — | — | — | — | — | — |
| Granada | | 102.1 | 318 | i 14 | 6k | + 8 | 24 | 36 | [- 1] | 18 | 22 | PP |
| Tamanrasset | Z. | 103.8 | 302 | e 17 | 32 | ? | — | — | — | e 18 | 24 | PP |
| Dallas | | 114.6 | 35 | e 19 | 46 | PP | — | — | — | — | — | — |
| Chinchina | Z. | 148.7 | 35 | i 19 | 48 | [+ 3] | — | — | — | i 20 | 18 | PKP ₂ |
| La Paz | | 169.5 | 63 | e 20 | 0 | [- 9] | — | — | — | i 21 | 5 | PKP ₂ |

Sept. 4d. 9h. 21m. Epicentre 22°·1N. 122°·8E. Depth of focus 60km. Unfelt.
Seismo. Bull. of Taiwan Weather Bureau for July-Sept., 1954, Vol. 1, No. 3, Taipei, China,
p. 22.

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1954

527

Sept. 4d. 13h. 11m. 49s. Epicentre 11°·9S. 166°·8E. (as on 1953, January 30d.).

A = -·9529, B = +·2235, C = -·2049; δ = -5; h = +6;
D = +·228, E = +·974; G = +·199, H = -·047, K = -·979.

| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|------------------|----------|-----|------|-----------------|------------------|------|----|-------|-------|----|------------------|--------|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Nouméa | 10·4 | 182 | i 2 | 34 | 0 | — | — | — | i 2 | 50 | PP | 5·2 |
| Brisbane | 20·2 | 218 | i 4 | 35 | - 4 | i 8 | 18 | - 3 | — | — | — | — |
| Apia | 21·0 | 98 | e 4 | 54 | + 7 | — | — | — | e 5 | 25 | PP | — |
| Riverview | 26·1 | 210 | i 5 | 35 _a | - 2 | i 10 | 3 | - 4 | i 5 | 45 | pP | e 12·5 |
| Manila | 52·5 | 299 | e 9 | 14 | - 3 | — | — | — | — | — | — | — |
| Baguio | 53·7 | 301 | i 9 | 23 _a | - 3 | i 16 | 58 | - 1 | — | — | — | — |
| Matusiro | 55·2 | 333 | e 9 | 36 | - 1 | e 17 | 5 | -15 | — | — | — | — |
| Bandung | 58·5 | 270 | e 10 | 5 | + 5 | e 18 | 2 | - 1 | — | — | — | — |
| Lembang | z. 58·5 | 270 | i 10 | 5 _a | + 5 | e 17 | 49 | -14 | i 11 | 43 | PP | — |
| Zô-Sè | N. 61·2 | 317 | — | — | — | 18 | 35 | - 3 | — | — | — | — |
| Nanking | 63·4 | 316 | i 10 | 32 _a | - 2 | i 19 | 4 | - 2 | — | — | — | — |
| Taiyuan | 70·8 | 318 | 11 | 21 | + 1 | — | — | — | — | — | — | — |
| Tatung | 71·6 | 320 | e 11 | 28 | + 3 | — | — | — | — | — | — | — |
| Wuwei | 77·8 | 313 | e 11 | 58 | - 3 | — | — | — | — | — | — | — |
| Shillong | z. 81·8 | 298 | i 12 | 22 | 0 | — | — | — | — | — | — | — |
| Berkeley | z. 82·7 | 49 | e 12 | 25 | - 2 | — | — | — | — | — | — | — |
| Shasta | z. 83·6 | 47 | e 12 | 37 | + 6 | — | — | — | — | — | — | — |
| College | 83·8 | 18 | i 12 | 31 | - 1 | — | — | — | — | — | — | — |
| Mineral | z. 84·0 | 47 | e 12 | 39 | + 6 | — | — | — | — | — | — | — |
| Pasadena | 84·5 | 54 | e 12 | 46 | +10 | — | — | — | e 16 | 7 | PP | e 39·3 |
| Woody | z. 84·5 | 52 | i 12 | 41 | + 5 | — | — | — | i 13 | 42 | ? | — |
| Reno | z. 85·0 | 49 | e 12 | 49 | +11 | — | — | — | — | — | — | — |
| Riverside | z. 85·1 | 54 | e 12 | 41 | + 2 | — | — | — | e 12 | 53 | ? | — |
| Barratt | z. 85·3 | 56 | e 12 | 44 | + 4 | — | — | — | e 14 | 36 | ? | — |
| Palomar | z. 85·3 | 55 | e 12 | 42 | + 2 | — | — | — | i 12 | 54 | ? | — |
| Chatra | z. 86·3 | 299 | i 12 | 44 | - 1 | — | — | — | — | — | — | — |
| Nelson | z. 87·6 | 53 | e 12 | 53 | + 2 | — | — | — | i 13 | 6 | ? | — |
| Boulder City | 87·7 | 53 | e 12 | 54 | + 2 | — | — | — | — | — | — | — |
| Tucson | 89·9 | 57 | — | — | — | e 25 | 0 | PS | — | — | — | e 41·6 |
| Salt Lake City | 91·2 | 49 | e 13 | 28 | +20 | — | — | — | — | — | — | — |
| Hungry Horse | 91·7 | 41 | e 13 | 9 | - 1 | — | — | — | e 13 | 26 | ? | — |
| Bozeman | 93·0 | 44 | e 13 | 23 | + 6 | — | — | — | — | — | — | — |
| Ottawa | 117·6 | 44 | e 19 | 7 | [+19] | — | — | — | — | — | — | — |
| La Paz | 118·8 | 117 | e 13 | 52 | ? | — | — | — | — | — | — | 61·2 |
| Palisades | 119·8 | 49 | — | — | — | e 30 | 7 | PS | e 37 | 9 | SSP | e 56·4 |
| Scoresby Sund | 121·2 | 3 | e 15 | 58 | ? | — | — | — | e 16 | 23 | ? | — |
| Bermuda | 128·7 | 58 | e 21 | 19 | PP | — | — | — | — | — | — | e 59·5 |
| Ksara | 130·3 | 304 | i 17 | 39 | ? | — | — | — | 22 | 28 | PKS | — |
| Helwan | z. 135·0 | 300 | 19 | 22 | [+ 1] | e 23 | 51 | ? | i 21 | 57 | PP | — |
| Collmberg | 135·3 | 337 | e 19 | 22 | [0] | — | — | — | — | — | — | — |
| Lwiro | 136·0 | 254 | e 19 | 21 | [- 2] | — | — | — | e 22 | 45 | PP | — |
| Jena | z. 136·1 | 337 | e 19 | 24 | [+ 1] | — | — | — | e 22 | 18 | PP | — |
| De Bilt | 137·2 | 343 | e 19 | 28 | [+ 3] | — | — | — | e 22 | 13 | PP | e 64·2 |
| Stuttgart | 138·8 | 337 | e 19 | 28 | [0] | e 23 | 6 | PKS | e 22 | 22 | PP | e 72·2 |
| Strasbourg | 139·5 | 338 | e 19 | 31 | [+ 1] | e 26 | 23 | [-15] | e 22 | 26 | PP | 58·2 |
| Paris | 141·0 | 343 | e 19 | 28 | [- 4] | e 26 | 33 | [- 8] | e 22 | 35 | PP | e 66·2 |
| Pavia | 141·7 | 335 | i 20 | 30 | PKP ₂ | — | — | — | e 23 | 39 | PP | e 72·2 |
| Rome | 142·6 | 328 | i 19 | 30 | [- 5] | — | — | — | i 22 | 43 | PP | — |
| Messina | 143·3 | 321 | e 19 | 33 | [- 3] | e 25 | 44 | [-60] | e 22 | 42 | PP | e 51·7 |
| Clermont-Ferrand | 143·5 | 340 | e 19 | 37 | [0] | — | — | — | e 22 | 49 | PP | — |
| Algiers Univ. | z. 151·2 | 332 | e 19 | 50 | [+ 1] | — | — | — | — | — | — | — |
| Alicante | 151·3 | 339 | 19 | 48 | [- 1] | 26 | 55 | [0] | 23 | 20 | PKS | 71·4 |
| Almeria | 153·4 | 341 | 20 | 13 | [+21] | 37 | 1 | PPS | 24 | 9 | PP | 85·0 |
| Granada | 153·4 | 343 | 20 | 11 _a | [+19] | 25 | 5 | PP | 20 | 38 | PKP ₂ | 85·2 |
| Malaga | 154·0 | 344 | e 19 | 55 | [+ 2] | — | — | — | — | — | — | 93·8 |
| Tamanrasset | z. 159·1 | 305 | e 20 | 0 | [0] | e 24 | 16 | PP | e 20 | 37 | PKP ₂ | — |

Sept. 4d. 18h. 42m. Epicentre 22°·8N. 121°·1E. Unfelt.
Loc. cit., above at 9h. 21m., pp. 22-23.

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1954

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Sept. 5d. 7h. 45m. 35s. Epicentre 19°·4S. 176°·1E. Magnitude 6·5 (Pasadena).

A = -·9417, B = +·0642, C = -·3302; $\delta = -5$; $h = +5$;
D = +·068, E = +·998; G = +·329, H = -·022, K = -·944.

| | | Δ | Az | P. | O - C. | S. | O - C. | Supp. | L. |
|-----------------|------|----------|-----|----------------------|--------|----------|--------|---------|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Nouméa | | 9·4 | 251 | i 2 20 | + 2 | i 4 43 | 0* | i 15 24 | ScS |
| Apia | | 12·9 | 66 | e 3 4 | - 3 | e 5 19 | -14 | | e 7·2 |
| Onerahi | E. | 16·3 | 185 | e 3 52 | 0 | e 7 5 | +12 | (7 25?) | SSS |
| Auckland | N. | 17·4 | 183 | i 4 15 | + 9 | e 7 38 | SS | | e 8·4 |
| Karapiro | N. | 18·4 | 181 | e 4 22 | + 4 | e 8 4 | SS | e 4 36 | PP |
| Tuai | N. | 19·3 | 178 | e 4 29 | 0 | i 8 3 | + 1 | | |
| New Plymouth | E. | 19·6 | 185 | e 4 34 | + 2 | | | | e 9·2 |
| Tongariro | Z. | 19·7 | 181 | 4 31 | - 3 | 8 23 | +13 | | |
| Wellington | | 21·8 | 183 | e 4 53 | - 3 | e 8 55 | + 3 | | e 10·4 |
| Brisbane | | 22·6 | 245 | i 5 3 | 0 | e 8 56 | -11 | | |
| Kaimata | N.E. | 23·4 | 189 | 5 7 | - 4 | e 10 23? | +62 | | |
| Christchurch | | 24·2 | 186 | 5 16 | - 3 | 9 35 | 0 | e 9 51 | ? |
| Riverview | | 26·4 | 232 | i 5 38 ^a | - 2 | i 10 4 | - 8 | i 5 46 | pP |
| Honolulu | | 47·7 | 33 | e 8 42 | + 2 | e 15 33 | - 3 | e 18 10 | ScS |
| Perth | | 55·1 | 244 | i 9 40 | + 4 | 17 25 | + 7 | e 22 15 | ? |
| Manila | | 63·9 | 298 | e 10 37 | 0 | i 19 22 | +10 | | |
| Yokohama | | 64·6 | 338 | e 10 55 | +14 | (19 32) | +11 | e 12 32 | PP |
| Misima | N. | 64·7 | 327 | e 10 41 | - 1 | e 19 30 | + 8 | | 19·5 |
| Tokyo | | 64·7 | 328 | e 10 43 | + 1 | 19 31 | + 9 | e 14 32 | PPP |
| Kakioka | E. | 64·9 | 328 | e 10 39 | - 4 | | | | |
| Baguio | | 65·1 | 299 | i 10 45 ^a | 0 | i 19 31 | + 4 | | |
| Kohu | | 65·3 | 327 | e 10 48 | + 2 | | | | |
| Kumagaya | | 65·3 | 328 | e 10 52 | + 6 | | | | |
| Utunomiya | | 65·4 | 328 | e 10 45 | - 2 | e 19 31 | + 1 | e 18 47 | ? |
| Maebasi | E. | 65·6 | 328 | e 10 51 | + 3 | | | | |
| Shirakawa | | 65·6 | 329 | e 10 21 | -27 | | | | |
| Nagoya | E. | 65·8 | 326 | e 10 49 | 0 | | | | |
| Oiwake | | 65·8 | 327 | e 10 47 | - 2 | | | 13 40 | PP |
| Inawasiro | | 66·0 | 329 | e 10 52 | + 2 | | | | |
| Matumoto | E. | 66·1 | 327 | 10 52 | + 1 | | | | |
| Matusiro | | 66·2 | 327 | 10 53 | + 1 | 19 42 | + 2 | 19 49 | ? |
| Osaka | | 66·2 | 324 | e 11 39 | +47 | | | | 27·3 |
| Sendai | E. | 66·2 | 330 | e 10 53 | + 1 | | | | |
| Nagano | N. | 66·3 | 327 | e 10 56 | + 4 | i 19 52 | +10 | e 13 21 | PP |
| Kobe | | 66·4 | 324 | e 10 55 | + 2 | e 19 50 | + 7 | e 11 44 | ? |
| Koti | | 66·5 | 322 | e 10 55 | + 1 | e 19 55 | +11 | | 27·9 |
| Nilgata | | 66·8 | 329 | e 10 57 | + 1 | e 11 20 | PcP | e 12 4 | ? |
| Toyama | | 66·8 | 327 | e 11 1 | + 5 | | | | |
| Toyooka | | 67·2 | 324 | e 11 0 | + 2 | e 20 2 | +10 | | |
| Bandung | | 67·4 | 270 | e 11 1 | + 2 | e 19 58 | + 3 | e 13 34 | PP |
| Ooita | | 67·4 | 320 | e 11 5 | + 6 | | | | |
| Lembang | | 67·5 | 271 | i 10 50 ^a | -10 | i 20 5 | + 9 | i 20 21 | PS |
| Hirosima | | 67·7 | 322 | e 11 3 | + 2 | e 20 8 | +10 | | |
| Akita | E. | 67·8 | 331 | e 11 9 | + 7 | e 20 9 | + 9 | | |
| Hamada | | 68·3 | 322 | e 10 55 | -10 | e 20 5 | - 1 | | e 32·4 |
| Djakarta | | 68·4 | 271 | e 10 58 | - 8 | e 20 10 | + 3 | e 11 49 | PcP |
| Kusiro | | 68·6 | 336 | e 14 53 | PPP | | | | e 28·0 |
| Urakawa | | 68·6 | 334 | e 11 0 | - 7 | e 20 1 | - 8 | | e 27·6 |
| Kurilsk | | 69·3 | 339 | e 11 11 | 0 | | | | |
| Mori | | 69·5 | 332 | 11 6 | - 6 | 20 7 | -13 | | |
| Sapporo | | 69·9 | 334 | i 11 15 | 0 | e 20 32 | + 8 | e 14 13 | PP |
| Yuzno-Sakhlinsk | | 72·6 | 337 | i 11 43 | +12 | | | | e 30·1 |
| Zô-Sè | | 72·8 | 313 | 11 33 ^k | + 1 | 21 4 | + 6 | | |
| Hong Kong | E. | 73·3 | 302 | e 11 37 [?] | + 2 | 21 9 | + 5 | | |
| Petropavlovsk | | 73·7 | 349 | e 11 37 | - 1 | | | | |
| Vladivostok | | 74·3 | 328 | i 11 43 | + 2 | | | | |
| Nanking | | 75·0 | 312 | 11 47 ^k | + 2 | 21 29 | + 6 | | |
| Klyuchi | | 76·5 | 351 | e 11 55 | + 1 | | | | |
| Berkeley | | 81·2 | 45 | e 12 19 | 0 | e 22 38 | + 9 | i 23 29 | PPS |
| Santa Clara | | 81·2 | 45 | e 12 23 ^k | + 4 | e 22 37 | + 8 | | e 37·8 |

Continued on next page.

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1954

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------------------|----------|-----|----------------------|-------|---------|-------|---------|-------------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Ukiah | 81.3 | 43 | e 11 42 | -38 | e 22 36 | + 6 | — | e 33.7 |
| Magadan | 81.4 | 347 | i 12 20 | 0 | 22 39 | + 8 | — | — |
| Pasadena | 82.2 | 50 | i 12 23 | - 1 | i 22 44 | + 5 | e 15 33 | PP e 37.4 |
| Fresno | 82.3 | 47 | e 12 25 | 0 | — | — | — | — |
| Taiyuan | 82.4 | 314 | e 12 29 | + 4 | — | — | — | — |
| Barratt | 82.5 | 52 | i 12 25 | - 1 | — | — | — | — |
| Riverside | 82.6 | 50 | i 12 26 | 0 | — | — | — | — |
| Isabella | 82.7 | 48 | e 12 24 | - 3 | — | — | — | — |
| Palomar | 82.7 | 51 | i 12 27 | 0 | — | — | i 15 31 | PP |
| Shasta | 82.7 | 42 | i 12 26 | - 1 | — | — | — | — |
| Mineral | 83.0 | 43 | e 12 28 | 0 | — | — | — | — |
| Corvallis | 84.3 | 39 | e 12 36 | + 1 | — | — | — | — |
| Nelson | 85.3 | 50 | i 12 40 | 0 | i 15 59 | PP | e 38 52 | P'P' |
| Boulder City | 85.4 | 50 | i 12 41 | + 1 | — | — | — | — |
| Paotow | 85.5 | 316 | e 12 44 | + 3 | — | — | — | — |
| Victoria | 86.4 | 36 | 12 43 | - 2 | e 23 17 | - 4 | — | — 35.4 |
| Seattle | 86.6 | 37 | 12 49 | + 3 | 23 20 | - 3 | — | — 36.9 |
| Tucson | 86.7 | 54 | e 12 47 | 0 | e 23 20 | - 4 | e 23 35 | ScS e 35.6 |
| Lanchow Univ. College | 87.8 | 310 | e 12 53 | + 1 | — | — | — | — |
| | 88.5 | 15 | e 12 51 | - 5 | e 23 20 | [- 4] | e 24 41 | PS |
| Chihuahua | 89.0 | 59 | e 20 13 | ? | — | — | — | — e 40.2 |
| Salt Lake City | 89.7 | 46 | i 12 52 | - 9 | e 23 35 | [+ 4] | e 16 29 | PP e 35.7 |
| Butte | 91.5 | 41 | e 13 9 | - 1 | i 23 43 | [+ 1] | i 24 15 | S e 37.1 |
| Tacubaya | 91.6 | 70 | e 13 15 | + 5 | e 14 39 | ? | e 18 28 | PPP |
| Hungry Horse | 91.7 | 39 | e 13 9 | - 1 | e 23 43 | [0] | e 30 27 | PKKP |
| Bozeman | 92.4 | 42 | e 13 12 | - 2 | — | — | — | — |
| Shillong | 93.2 | 296 | i 13 15 | - 2 | 23 58 | [+ 7] | e 25 43 | PS |
| Irkutsk | 94.6 | 324 | 13 23 | - 1 | 24 1 | [+ 2] | 25 55 | PS |
| Chatra | 97.6 | 296 | e 13 33 | - 5 | — | — | — | — |
| Dallas | 98.0 | 58 | e 13 41 | + 2 | e 24 13 | [- 4] | e 17 43 | PP |
| Colombo | 98.1 | 274 | 17 25? | PP | 31 45 | SS | — | — 53.8 |
| Fayetteville | 101.0 | 56 | e 14 2 | + 9 | — | — | e 17 55 | PP |
| Hyderabad | 102.6 | 284 | e 16 14 | ? | i 24 47 | [+ 7] | 25 47 | S |
| Huancayo | 103.0 | 108 | e 18 37 | PP | e 24 48 | [+ 7] | e 27 31 | PS e 40.5 |
| La Plata | 105.5 | 136 | 27 49 | PS | 33 37 | SS | — | — 49.1 |
| Poona | 107.1 | 284 | e 18 33 | [+ 6] | e 26 25 | + 5 | e 21 52 | ? 35.3 |
| La Paz | 107.5 | 115 | e 18 31 | [+ 3] | 25 7 | [+ 5] | 18 49 | PP 45.1 |
| Bombay | 108.1 | 284 | e 18 57 | PP | e 26 37 | S | e 28 26 | PS |
| Resolute Bay | 108.3 | 16 | e 28 15 | PS | e 25 2 | [- 3] | e 26 3 | SKKS e 49.8 |
| Sempalatinsk | 108.4 | 318 | e 18 29 | [- 1] | — | — | — | — |
| Naryn | 110.0 | 308 | e 14 32 | P | i 34 43 | SSP | i 19 10 | PP |
| Bogota | 110.2 | 92 | e 19 21 | PP | e 26 17 | {+11} | e 26 49 | S 46.4 |
| Galerazamba | 111.0 | 86 | e 19 27 | PP | i 24 58 | [-18] | i 21 31 | PPP 47.4 |
| Cleveland | 111.7 | 52 | e 19 24 | PP | e 25 19 | [0] | e 26 21 | SKKS |
| Andijan | 112.6 | 307 | i 19 23 | PP | — | — | — | — |
| Pennsylvania | 114.4 | 53 | i 28 53 | PS | i 26 35 | {- 1} | e 34 36 | SS |
| Tashkent | 115.0 | 307 | 14 56 | P | e 29 30 | PS | e 35 31 | SS |
| Quetta | 115.7 | 295 | e 18 43 | [- 1] | e 25 41 | [+ 6] | e 29 34 | PS |
| Ottawa | 116.3 | 48 | e 18 42 _a | [- 4] | 25 38 | [+ 1] | 26 45 | SKKS |
| Philadelphia | 116.4 | 54 | e 19 52 | PP | e 25 34 | [- 3] | e 30 38 | PPS e 47.2 |
| City College, N.Y. | 117.4 | 53 | e 19 45 | PP | i 27 44 | {+18} | — | — |
| Palisades | 117.4 | 53 | e 18 47 | [- 1] | i 25 43 | [+ 2] | e 15 9 | P e 53.9 |
| Shawinigan Falls | 118.3 | 47 | e 18 44 | [- 5] | — | — | — | — |
| Harvard | 119.2 | 52 | e 18 49 | [- 2] | i 30 17 | PS | — | e 59.9 |
| Weston | 119.4 | 52 | e 19 0 | [+ 8] | e 36 45 | SS | e 30 5 | PS |
| Seven Falls | 119.6 | 46 | — | — | 25 49 | [0] | 27 15 | SKKS 51.6 |
| Sverdlovsk | 119.9 | 325 | e 18 53 | [0] | 36 49 | SS | e 15 19 | P |
| San Juan | 121.4 | 80 | e 18 54 | [- 1] | — | — | — | — |
| Ashkabad | 123.3 | 303 | 19 1 | [+ 2] | — | — | — | — |
| Bermuda | 124.5 | 64 | e 19 1 | [0] | e 27 51 | {+ 7} | e 20 51 | PP e 58.2 |
| Kimberley | 124.6 | 211 | i 19 1k | [- 1] | — | — | — | — |
| Halifax | 124.9 | 49 | e 19 0 | [- 2] | i 26 5 | [- 1] | i 27 47 | SKKS |
| Pretoria | 125.3 | 216 | e 19 3 | [0] | — | — | — | — |
| Scoresby Sund | 127.8 | 8 | e 19 11 | [+ 3] | e 31 9 | PS | e 21 11 | PP 58.4 |
| Kiruna | 129.2 | 348 | i 19 11 | [+ 1] | e 26 39 | [+21] | i 22 30 | PKS e 53.4 |

Continued on next page.

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| | Δ | Az. | P. | | O-C. | S. | O-C. | Supp. | | L. |
|------------------|------------|------------|------|-----------------|------------------|---------|------------------|---------|-------------------|--------|
| | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. s. | s. | m. s. | | m. |
| Moscow | 132.2 | 330 | 19 | 17 | [+ 1] | — | — | e 21 39 | PP | — |
| Goris | 132.6 | 306 | 19 | 18 | [+ 1] | 26 18 | [- 8] | i 16 18 | P | — |
| Pulkovo | 132.8 | 337 | e 19 | 17 | [+ 0] | i 22 47 | PKS | e 24 40 | PPP | — |
| Tiflis | 133.3 | 309 | e 19 | 21 | [+ 3] | e 22 52 | PKS | — | — | — |
| Upsala | 136.8 | 344 | i 19 | 25 | [+ 0] | e 25 23 | [- 71] | e 39 55 | SS | e 55.4 |
| Yalta | 139.7 | 317 | e 19 | 29 | [- 1] | i 23 9 | PKS | — | — | — |
| Lwiro | 141.3 | 240 | e 19 | 33 | [+ 0] | — | — | e 22 27 | PP | — |
| Copenhagen | 141.8 | 345 | i 19 | 30 | [- 4] | 41 19 | SS | i 22 41 | PP | — |
| Ksara | 141.9 | 300 | i 19 | 41 | [+ 7] | — | — | 22 54 | PP | — |
| Warsaw | 141.9 | 335 | i 19 | 30 _a | [- 4] | e 29 39 | (+ 7) | i 23 14 | PKS | e 61.4 |
| Lwow | 142.4 | 330 | e 19 | 33 | [- 2] | e 41 49 | SS | i 23 14 | PKS | — |
| Jerusalem | 142.8 | 297 | i 19 | 34 | [- 1] | — | — | e 20 57 | ? | — |
| Hamburg | 144.3 | 346 | i 19 | 40 _a | [+ 2] | — | — | e 21 52 | ? | e 68.4 |
| Istanbul | 144.6 | 315 | i 19 | 36 | [- 2] | e 27 52 | [+ 66] | e 22 52 | PP | — |
| Bucharest | 144.7 | 322 | e 19 | 42 | [+ 3] | e 21 36 | ? | e 22 49 | PP | — |
| Raciborz | 144.7 | 335 | e 19 | 37 | [- 2] | — | — | e 20 52 | ? | — |
| Campulung | 144.8 | 324 | e 19 | 37 | [- 2] | — | — | — | — | — |
| Collmburg | 145.5 | 341 | e 19 | 38 | [- 2] | — | — | — | — | — |
| Witteveen | z. 145.7 | 349 | e 19 | 41 | [+ 1] | — | — | — | — | — |
| Prague | 146.1 | 339 | i 19 | 45 _a | [+ 4] | e 42 13 | SS | e 23 2 | PP | — |
| Budapest | 146.3 | 331 | 19 | 46 | [+ 5] | e 20 55 | ? | e 24 38 | ? | e 69.6 |
| Jena | 146.3 | 312 | e 19 | 40 | [- 1] | e 23 23 | PKS | e 23 3 | PP | — |
| Helwan | z. 146.4 | 295 | i 19 | 42 _k | [+ 0] | — | — | — | — | — |
| Ogyalla | 146.4 | 333 | e 19 | 46 | [+ 4] | e 26 56 | [+ 7] | e 22 51 | PP | — |
| Timisoara | 146.5 | 327 | e 19 | 43 | [+ 1] | — | — | — | — | — |
| De Bilt | 146.6 | 350 | e 19 | 44 | [+ 2] | e 23 25 | PKS | — | — | e 64.4 |
| Szeged | 146.7 | 329 | 19 | 48 | [+ 6] | — | — | — | — | — |
| Kalossa | n. 147.1 | 330 | 19 | 48 | [+ 5] | — | — | e 21 2 | ? | — |
| Sofia | 147.4 | 321 | e 19 | 46 _? | [+ 3] | — | — | — | — | — |
| Belgrade | 147.6 | 327 | e 19 | 46 _a | [+ 2] | e 26 3 | [- 48] | e 24 45 | ? | — |
| Kew | 147.9 | 356 | i 19 | 47 | [+ 3] | i 42 24 | SS | i 19 51 | PKP ₂ | e 82.4 |
| Uccle | 148.0 | 350 | e 19 | 47 | [+ 3] | — | — | — | — | e 59.4 |
| Karlsruhe | z. 148.9 | 344 | e 19 | 47 _a | [+ 1] | i 19 52 | PKP ₂ | e 20 43 | ? | — |
| Stuttgart | 148.9 | 343 | e 19 | 44 | [- 2] | e 30 13 | {+ 1} | e 23 25 | PP | 70.4 |
| Strasbourg | 149.4 | 345 | i 19 | 49 | [+ 3] | e 26 49 | [- 4] | e 23 13 | SKP | e 67.4 |
| Triest | 150.0 | 335 | e 19 | 47 | [+ 0] | e 29 8 | {- 70} | e 33 30 | PSKS | — |
| Paris | 150.2 | 352 | e 19 | 46 | [- 2] | e 23 17 | PKS | e 23 28 | PP | e 71.4 |
| Zürich | 150.3 | 343 | e 19 | 50 _a | [+ 2] | — | — | e 19 55 | PKP ₂ | — |
| Basle | 150.4 | 344 | e 19 | 47 | [- 1] | e 25 6 | ? | e 19 56 | PKP ₂ | — |
| Besançon | 151.1 | 346 | e 19 | 50 | [+ 1] | e 23 11 | SKP | e 20 6 | PKP ₂ | — |
| Neuchatel | 151.1 | 344 | e 19 | 51 | [+ 2] | — | — | — | — | — |
| Padova | 151.8 | 336 | e 20 | 6 | PKP ₂ | — | — | — | — | — |
| Bologna | 152.0 | 336 | e 20 | 1 | PKP ₂ | — | — | e 20 36 | ? | — |
| Oropa | 152.1 | 342 | e 19 | 55 | [+ 4] | — | — | — | — | — |
| Pavia | 152.1 | 340 | e 19 | 51 | [+ 0] | e 26 54 | [- 2] | e 23 46 | PP | e 74.8 |
| Taranto | 152.3 | 324 | — | — | — | e 43 0 | SS | e 34 55 | SKKS ₂ | — |
| Clermont-Ferrand | 153.1 | 349 | i 19 | 55 | [+ 3] | e 27 6 | [+ 8] | e 30 39 | SKKS | 73.4 |
| Rome | 153.6 | 332 | i 19 | 54 | [+ 1] | i 43 31 | SS | i 20 16 | PKP ₂ | e 71.3 |
| Messina | 154.8 | 322 | i 19 | 55 | [+ 1] | i 20 23 | PKP ₂ | i 24 2 | PP | — |
| Reggio Calabria | n. 154.8 | 322 | e 20 | 44 | PKP ₂ | — | — | — | — | — |
| Tunis | 158.8 | 327 | 20 | 1 | [+ 2] | 26 55 | [- 9] | 24 19 | PP | e 75.4 |
| Coimbra | z. 159.0 | 10 | 20 | 2 | [+ 2] | 20 37 | PKP ₂ | 24 23 | PP | — |
| Toledo | 159.6 | 0 | e 20 | 3 | [+ 3] | e 55 19 | ? | e 24 25 | PP | — |
| Alicante | 160.9 | 352 | 20 | 38 | PKP ₂ | 26 58 | [- 8] | 28 6 | PPP | 76.0 |
| Algiers Univ. | z. 161.7 | 342 | e 20 | 4 | [+ 1] | — | — | e 20 51 | PKP ₂ | — |
| Granada | 162.3 | 359 | i 20 | 2 _a | [- 1] | 31 25 | { 0} | i 24 45 | PP | 84.3 |
| Almeria | 162.6 | 356 | i 20 | 1 | [- 2] | 44 45 | SS | 20 53 | PKP ₂ | 83.4 |
| Malaga | 162.8 | 1 | i 20 | 5 | [+ 1] | i 26 57 | [- 10] | i 20 53 | PKP ₂ | 81.3 |
| Averroes | 165.8 | 12 | i 20 | 9 | [+ 2] | — | — | — | — | — |
| M'Bour | 166.6 | 110 | i 20 | 0 | [- 7] | e 21 5 | PKP ₂ | e 28 10 | ? | 81.4 |
| Tamanrasset | z. 170.6 | 292 | e 20 | 8 | [- 2] | i 21 29 | PKP ₂ | e 25 22 | PP | — |

Sept. 5d. 9h. 58m. Epicentre 39°·2N, 71°·7E.

Bulletin of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955,

pp. 88-89.

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Sept. 6d. 7h. 37m. Epicentre 46°·3N. 7°·5E.

Intensity V at Leukerbad and Sion; IV at Gsteig.

Dr. E. Wanner.

Jahresbericht des Erdbebendienstes der Schweiz im Jahre, 1954, Zürich, 1955, p. 4, with Figure 6 separate from the text.

Sept. 6d. 10h. 46m. Depth of focus 40km. Unfelt.

Seismo. Bulletin of the Taiwan Weather Bureau for July-Sept., 1954, Vol. 1, No. 3, Taipei, 1954, p. 23.

Sept. 6d. 11h. 24m. Epicentre 22°·7N. 122°·4E. Depth of focus 20km. Unfelt.
Loc. cit., 10h., p. 23.

Sept. 6d. 14h. 6m. Epicentre 22°·2N. 118°·6E. Depth of focus 10km. Unfelt.
Loc. cit., 10h., pp. 23-24.

Sept. 6d. 14h. 16m. Epicentre 21°·5N. 122°·9E. Depth of focus 10km. Unfelt.
Loc. cit., 10h., p. 24.

Sept. 6d. 14h. 39m. Epicentre 21°·5N. 121°·9E. Depth of focus 10km. Unfelt.
Loc. cit., 10h., p. 24.

Sept. 6d. 15h. 8m. Epicentre 21°·0N. 121°·2E. Unfelt.
Loc. cit., 10h., p. 24.

Sept. 6d. 15h. 39m. 34s. Epicentre 36°·7N. 139°·3E. Depth of focus 20km.

Intensity II-III at Maebasi, Utunomiya, Kakioka, Kashiwa, and Mito.

Seismo. Bull. Cent. Met. Obs., Japan, for September, 1954, Tokyo, 1954, pp. 14-15, with macroseismic chart.

Sept. 6d. 16h. 47m. 0s. Epicentre 20°·7N. 120°·8E.

A = -·4794, B = +·8042, C = +·3514; $\delta = +4$; $h = +5$;
D = +·859, E = +·512; G = -·183, H = +·302, K = -·936.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------|----------|------|---------------------|------------------|--------|------------------|--------|---------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Hengchun | 1·3 | 356 | i 0 26 _a | 0 _g | 0 49 | + 6 _g | — | — |
| Tawu | 1·6 | 1 | e 0 27 _k | - 3 | 0 54 | + 1 _g | — | — |
| Taitung | 2·0 | 8 | e 0 36 | + 1 | 1 6 | 0 _g | — | — |
| Tainan | 2·3 | 346 | e 0 36 | - 4 | 1 15 | - 1 _g | — | — |
| Hsinkong | 2·4 | 12 | e 0 40 | - 1 | 1 12 | 0 | — | — |
| Alishan | 2·8 | 359 | e 0 56 | 0 _g | 1 34 | + 2 _g | — | — |
| Penghu | 3·0 | 337 | i 0 0 | - 50 | 0 49 | - 38 | — | — |
| Hwalien | 3·3 | 12 | e 0 51 | - 2 | 1 34 | - 1 | — | — |
| Taichung | 3·4 | 358 | 0 36 | - 19 | 1 26 | - 11 | — | — |
| Hsinchu | 4·0 | 2 | 1 16 | - 4 _g | 2 12 | 0 _g | — | — |
| Ilan | 4·1 | 12 | e 1 20 | - 2 _g | 2 10 | + 4* | — | — |
| Baguio | 4·3 | 183 | i 1 9 _k | + 1 | i 2 7 | - 5* | — | — |
| Taipei | 4·3 | 8 | e 1 12 | + 4 | 2 10 | - 2* | — | — |
| Manila | 6·1 | 178 | i 1 37 | + 3 | i 2 50 | + 5 | — | — |
| Hong Kong | E. | 6·4 | 1 38 _k | 0 | — | — | — | — |
| Zô-Sè | N. | 10·3 | e 2 26 | - 6 | e 4 27 | - 3 | — | — |
| Nanking | | 11·4 | e 2 44 | - 3 | 4 52 | - 4 | — | — |
| Hukuoka | | 15·3 | e 3 50 | PP | e 6 54 | SS | e 4 30 | ? e 9·3 |
| Ooita | | 15·7 | e 3 57 | PP | e 6 30 | - 9 | — | — |
| Hirosima | | 17·0 | e 4 28 | PPP | — | — | — | — |
| Koti | | 17·0 | e 4 6 | + 5 | e 7 19 | + 9 | — | — |
| Sian | N. | 17·1 | e 4 4 | + 2 | e 7 15 | + 3 | — | — |
| Hamada | | 17·2 | e 4 20 | PP | e 8 6 | SSS | — | e 10·4 |
| Linfen | N. | 17·3 | e 4 9 | + 5 | — | — | — | — |
| Takamatu | | 17·9 | e 4 10 | - 2 | e 7 53 | SS | — | — |

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|---------------|----|----------|-----|---------------------|------|---------|------|---------|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Tokusima | | 18.0 | 40 | e 4 15 | + 2 | — | — | — | — |
| Sumoto | | 18.4 | 40 | 4 18 | 0 | e 7 51 | +10 | — | 11.6 |
| Taiyuan | N. | 18.4 | 339 | 4 20 | + 2 | — | — | — | — |
| Kobe | | 18.8 | 39 | e 4 20 | - 3 | e 7 53 | + 3 | e 8 5 | ? |
| Osaka | | 19.0 | 40 | e 4 34 | + 8 | — | — | — | — |
| Toyooka | | 19.2 | 37 | e 4 27 | - 1 | — | — | — | — |
| Kameyama | | 19.7 | 41 | 4 31 | - 3 | e 7 47 | ? | — | e 9.7 |
| Hikone | | 19.8 | 40 | e 4 35 | 0 | e 8 20 | + 7 | — | — |
| Kwanting | N. | 20.0 | 348 | e 4 36 | - 1 | — | — | — | — |
| Torisima | | 20.0 | 57 | e 4 22 | -15 | e 8 19 | + 2 | — | — |
| Tsuruga | E. | 20.0 | 39 | e 4 34 | - 3 | — | — | — | — |
| Gihu | | 20.2 | 40 | e 4 35 | - 4 | — | — | — | — |
| Nagoya | E. | 20.2 | 41 | e 4 36 | - 3 | — | — | — | — |
| Hukui | | 20.4 | 38 | e 4 39 | - 2 | — | — | — | — |
| Tatung | | 20.4 | 343 | e 4 47 | + 6 | — | — | — | — |
| Omaesaki | | 20.6 | 44 | e 4 48 | + 5 | e 8 47 | SS | e 5 0 | PP |
| Iida | | 21.0 | 42 | e 4 47 | 0 | — | — | — | — |
| Shizuoka | | 21.0 | 44 | e 4 45 | - 2 | e 8 36 | - 1 | — | — |
| Lanchow Univ. | | 21.4 | 319 | e 4 51 | 0 | — | — | — | — |
| Misima | N. | 21.4 | 44 | e 4 44 | - 7 | e 9 1 | +16 | — | — |
| Toyama | | 21.4 | 38 | e 4 48 | - 3 | — | — | e 5 2 | PP |
| Kohu | | 21.5 | 42 | e 4 49 | - 3 | — | — | — | — |
| Matumoto | | 21.5 | 40 | 4 52 | 0 | e 8 56 | + 9 | — | — |
| Osima | | 21.5 | 46 | e 4 54 | + 2 | e 9 3 | +16 | — | — |
| Hunatu | | 21.6 | 43 | e 4 51 | - 3 | e 8 48 | - 1 | — | — |
| Wazima | | 21.7 | 37 | e 4 53 | - 2 | e 8 49 | - 2 | — | — |
| Paotow | N. | 21.8 | 337 | e 4 55 | - 1 | — | — | — | — |
| Matusiro | | 21.9 | 40 | 4 50 | - 7 | 8 50 | - 4 | i 8 58 | PcP |
| Mera | | 21.9 | 46 | e 4 52 | - 5 | — | — | — | e 11.6 |
| Nagano | N. | 21.9 | 40 | e 4 58 | + 1 | i 9 12 | +18 | 5 41 | PPP |
| Oiwake | | 21.9 | 41 | e 5 5 | + 8 | — | — | — | — |
| Titibu | E. | 22.0 | 43 | e 5 4 | + 6 | — | — | — | — |
| Yokohama | | 22.1 | 44 | 5 9 | +10 | 8 28 | -30 | — | 13.2 |
| Kumagaya | | 22.3 | 43 | e 5 8 | + 7 | e 9 14 | +12 | — | — |
| Maebasi | | 22.3 | 42 | e 5 12 | +11 | e 9 12 | +10 | e 5 24 | PP |
| Tokyo | | 22.3 | 44 | e 5 0 | - 1 | e 9 11 | + 9 | e 9 48 | SS |
| Kakioka | E. | 22.9 | 44 | e 5 6 | 0 | — | — | — | — |
| Utunomiya | | 22.9 | 42 | e 4 59 | - 7 | e 9 5 | - 8 | — | — |
| Sining | | 23.0 | 318 | e 5 8 | + 1 | — | — | — | — |
| Niigata | | 23.3 | 39 | e 5 42 | PP | e 9 48 | SS | — | — |
| Wuwei | | 23.3 | 321 | e 5 13 | + 3 | e 9 24 | + 4 | — | — |
| Shirakawa | | 23.5 | 42 | e 5 6 | - 6 | — | — | — | — |
| Hokusima | | 24.0 | 41 | e 5 18 | + 1 | e 9 33 | + 1 | — | — |
| Sendai | | 24.6 | 40 | e 5 33 | +10 | e 9 39 | - 3 | e 6 48 | ? |
| Akita | | 25.1 | 37 | e 5 26 | - 2 | e 10 4 | +13 | e 6 11 | PP |
| Miyako | | 26.1 | 39 | e 5 46 | + 9 | e 10 28 | +21 | — | — |
| Shillong | N. | 27.0 | 286 | — | — | e 11 47 | SS | e 12 44 | PcS |
| Sapporo | | 28.1 | 33 | e 5 52 | - 3 | e 11 0 | +20 | — | e 15.4 |
| Djakarta | | 30.1 | 209 | e 6 15 _a | + 2 | e 11 21 | + 9 | — | e 16.4 |
| Calcutta | E. | 30.2 | 279 | e 6 17 | + 3 | i 11 13 | 0 | — | 14.1 |
| Lembang | | 30.3 | 207 | e 6 16 _k | + 1 | i 11 19 | + 4 | e 13 1 | SS |
| Bandung | | 30.4 | 207 | e 6 27 | +11 | e 11 23 | + 7 | e 7 41 | PPP |
| Chatra | | 31.3 | 288 | i 6 24 | 0 | e 11 37 | + 6 | — | — |
| Madras | E. | 39.6 | 265 | e 7 31 | - 4 | i 13 43 | + 5 | 9 35 | PPP |
| Hyderabad | | 40.1 | 273 | i 7 41 | + 2 | i 13 52 | + 6 | 9 21 | PP |
| Kodaikanal | E. | 43.0 | 263 | e 12 41 | ? | — | — | — | — |
| Poona | | 44.2 | 276 | i 8 13 | + 1 | i 14 46 | 0 | i 20 28 | Q |
| Bombay | N. | 45.1 | 276 | e 8 45 | +25 | e 15 40 | +41 | — | i 25.6 |
| Quetta | | 49.2 | 292 | i 8 51 | - 1 | i 16 2 | + 4 | e 18 46 | ScS |
| Brisbane | | 57.2 | 146 | 9 48 | - 3 | — | — | — | — |
| Riverview | | 61.5 | 151 | e 10 24 | + 3 | e 18 43 | + 1 | e 22 21 | SS |
| College | | 72.0 | 27 | i 11 22 | - 6 | — | — | i 11 35 | ? |
| Ksara | | 74.7 | 301 | — | — | e 20 21 | -58 | — | — |
| Kiruna | | 74.8 | 337 | i 11 43 | - 1 | e 21 15 | - 5 | i 16 18 | PPP |
| Istanbul | | 78.0 | 309 | e 12 0 | - 2 | e 21 55 | 0 | e 14 59 | PP |

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|------------------|------------|------------|------|-----------------|-------|------|----|-------|-------|----|------|--------|
| | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Upsala | 78.7 | 330 | i 12 | 3 | - 3 | e 22 | 4? | + 1 | i 17 | 1 | PPP | e 42.0 |
| Helwan | 79.6 | 298 | 12 | 9 | - 1 | e 22 | 15 | + 3 | e 12 | 24 | PcP | — |
| Warsaw | 79.7 | 322 | e 12 | 11 | 0 | e 22 | 15 | + 2 | e 23 | 20 | PPS | e 43.0 |
| Tananarive | 81.9 | 246 | i 12 | 23 | 0 | — | — | — | e 13 | 29 | ? | — |
| Resolute Bay | 82.1 | 9 | i 12 | 23 _a | - 1 | — | — | — | — | — | — | e 49.7 |
| Copenhagen | 83.0 | 327 | e 12 | 27 | - 1 | — | — | — | — | — | — | 43.0 |
| Prague | 84.3 | 322 | i 12 | 34 | - 1 | e 22 | 48 | -12 | e 12 | 48 | ? | e 45.2 |
| Collmberg | 84.6 | 323 | e 12 | 10 | -26 | — | — | — | e 19 | 26 | ? | e 47.0 |
| Hamburg | 85.2 | 326 | e 12 | 42? | + 3 | — | — | — | — | — | — | e 45.5 |
| Scoresby Sund | 85.4 | 348 | — | — | — | e 23 | 13 | + 2 | — | — | — | 45.0 |
| Jena | 85.6 | 323 | e 12 | 41 | 0 | e 13 | 12 | ? | e 15 | 33 | ? | — |
| Triest | 86.7 | 318 | e 24 | 25 | PS | e 23 | 23 | - 1 | e 27 | 46 | ? | — |
| Witteveen | z. 87.3 | 326 | e 12 | 50 | 0 | — | — | — | — | — | — | — |
| Stuttgart | 88.0 | 322 | e 12 | 52? | - 1 | e 23 | 36 | 0 | e 16 | 18 | PP | e 48.0 |
| De Bilt | 88.5 | 326 | e 12 | 52 | - 4 | e 23 | 42 | + 1 | — | — | — | e 47.0 |
| Messina | 88.7 | 310 | e 12 | 56 | - 1 | i 23 | 42 | - 1 | 29 | 47 | SS | — |
| Reggio Calabria | n. 88.7 | 310 | e 12 | 59 | + 2 | 23 | 33 | {+ 1} | — | — | — | — |
| Strasbourg | 88.9 | 322 | e 12 | 56 | - 2 | e 23 | 48 | + 4 | e 24 | 48 | PS | e 45.0 |
| Aberdeen | 89.0 | 333 | i 24 | 59 | PS | i 23 | 57 | +12 | e 42 | 0 | Q | e 47.0 |
| Rome | 89.2 | 315 | e 13 | 0 | + 1 | e 23 | 37 | {+ 1} | e 29 | 42 | SS | — |
| Uccle | 89.6 | 325 | e 13 | 5 | + 4 | e 23 | 57 | + 6 | e 25 | 1 | PS | e 43.0 |
| Pavia | z. 89.8 | 319 | e 13 | 1 | - 1 | — | — | — | — | — | — | — |
| Durham | E. 90.2 | 331 | — | — | — | e 24 | 0 | + 4 | — | — | — | — |
| Victoria | 90.4 | 37 | 13 | 0 | - 4 | — | — | — | — | — | — | — |
| Kew | 91.6 | 328 | i 13 | 8 | - 2 | — | — | — | e 15 | 59 | ? | e 49.0 |
| Paris | 91.7 | 324 | e 13 | 19 | + 9 | e 16 | 52 | PP | e 17 | 6 | ? | e 48.0 |
| Clermont-Ferrand | 93.1 | 322 | — | — | — | e 26 | 0? | PPS | — | — | — | 52.5 |
| Rathfarnham C. | z. 93.3 | 331 | i 19 | 41 _a | PPP | — | — | — | — | — | — | — |
| Hungry Horse | 95.6 | 33 | i 13 | 26 | - 2 | e 17 | 16 | PP | e 30 | 17 | PKKP | — |
| Isabella | z. 100.6 | 46 | e 17 | 51 | PP | — | — | — | — | — | — | — |
| Tamanrasset | z. 103.5 | 301 | e 17 | 32 | ? | — | — | — | — | — | — | — |
| Chinchina | z. 149.8 | 34 | i 19 | 48 | {+ 1} | — | — | — | — | — | — | — |
| Montezuma | z. 170.8 | 104 | e 20 | 14 | {+ 4} | — | — | — | — | — | — | — |

Sept. 6d. 16h. 57m. Epicentre 21°-0N. 121°-7E. Depth of focus 10km. Unfelt.
Loc. cit., 10h., p. 25.

Sept. 6d. 18h. 30m. 52s. Epicentre 51°-5N. 158°-2E. Depth of focus 0.005.

A = -0.5804, B = +0.2321, C = +0.7806; $\delta = +7$; $h = -6$;
D = +0.371, E = +0.928; G = -0.725, H = +0.290, K = -0.625.

| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|-----------|------------|------------|-----|----|------|-----|----|------|-------|----|----|--------|
| | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Klyuchi | 5.1 | 17 | e 1 | 15 | - 1 | i 2 | 19 | + 5 | — | — | — | |
| Magadan | 9.1 | 336 | i 2 | 14 | + 3 | e 4 | 7 | +14 | — | — | — | |
| Kurilsk | 9.3 | 232 | i 2 | 9 | - 5 | 4 | 0 | + 2 | — | — | — | |
| Uglegorsk | 10.6 | 263 | 2 | 32 | + 1 | 4 | 40 | +11 | — | — | — | |
| Nemuro | 11.8 | 231 | e 2 | 43 | - 5 | e 4 | 50 | - 8 | i 3 | 4 | PP | — |
| Abashiri | 11.9 | 237 | e 2 | 46 | - 3 | 5 | 18 | SS | e 2 | 58 | PP | — |
| Wakkanai | E. 12.5 | 248 | e 3 | 9 | +12 | e 5 | 25 | +10 | — | — | — | — |
| Kusiro | 12.6 | 233 | i 2 | 57 | - 1 | e 5 | 9 | - 9 | i 3 | 4 | PP | — |
| Asahigawa | 13.1 | 240 | e 3 | 10 | + 5 | — | — | — | — | — | — | — |
| Obihiro | z. 13.2 | 236 | e 3 | 5 | - 1 | — | — | — | — | — | — | — |
| Urakawa | 14.0 | 234 | e 3 | 15 | - 2 | e 5 | 43 | - 8 | e 6 | 12 | SS | — |
| Sapporo | 14.2 | 240 | i 3 | 15 | - 4 | i 6 | 7 | +11 | i 3 | 29 | PP | e 8.1 |
| Tomakomai | 14.4 | 238 | e 3 | 17 | - 5 | e 6 | 12 | +12 | — | — | — | — |
| Muroran | 14.9 | 239 | e 3 | 53 | PPP | — | — | — | — | — | — | — |
| Suttsu | 14.9 | 242 | e 3 | 28 | 0 | — | — | — | — | — | — | — |
| Mori | 15.2 | 239 | 3 | 29 | - 3 | e 6 | 6 | -13 | e 6 | 41 | SS | — |
| Hakodate | 15.3 | 238 | e 3 | 26 | - 7 | — | — | — | — | — | — | — |
| Hatinohe | 15.9 | 233 | e 3 | 35 | - 6 | e 6 | 11 | -24 | — | — | — | e 10.3 |
| Aomori | 16.0 | 235 | e 3 | 42 | 0 | e 7 | 8 | SSS | — | — | — | — |
| Miyako | 16.3 | 230 | 3 | 47 | + 1 | 6 | 43 | - 1 | e 6 | 55 | SS | 7.8 |

Continued on next page.

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|-------------|----------|-----|-----|-----|------|-----|----|------|-------|----|--------|
| | | | m. | s. | | m. | s. | | m. | s. | |
| Morioka | 16.7 | 232 | e 3 | 47 | - 4 | e 6 | 39 | -14 | — | — | — |
| Mizusawa | 17.1 | 231 | 3 | 58 | + 2 | e 7 | 1 | - 2 | — | — | — |
| Akita | 17.3 | 234 | e 3 | 55 | - 4 | e 6 | 57 | -10 | e 4 | 11 | PP |
| Isinomaki | 17.6 | 229 | e 4 | 3 | + 1 | e 7 | 18 | + 4 | — | — | — |
| Sendai | 17.9 | 229 | e 4 | 1a | - 5 | e 7 | 14 | - 6 | 7 | 41 | SSS |
| Sakata | 18.0 | 233 | e 4 | 13 | + 6 | e 7 | 51 | SS | — | — | — |
| Yamagata | 18.2 | 230 | e 4 | 8 | - 2 | — | — | — | — | — | — |
| Hukusima | 18.6 | 229 | e 4 | 10 | - 4 | 7 | 39 | + 3 | — | — | 10.3 |
| Inawasiro | 18.9 | 230 | i 4 | 16 | - 2 | i 7 | 42 | - 1 | i 4 | 36 | PP |
| Onahama | 19.0 | 227 | e 4 | 17 | - 2 | e 7 | 44 | - 1 | — | — | e 9.9 |
| Niigata | 19.1 | 232 | 4 | 23k | + 3 | 7 | 41 | - 6 | e 4 | 43 | PP |
| Shirakawa | 19.2 | 229 | 4 | 20 | - 1 | 7 | 46 | - 3 | — | — | — |
| Aikawa | 19.4 | 234 | 4 | 24 | + 1 | e 7 | 47 | - 6 | — | — | — |
| Vladivostok | 19.6 | 255 | i 4 | 22 | - 3 | e 8 | 3 | + 5 | — | — | — |
| Mito | N. 19.7 | 227 | 4 | 27 | 0 | 8 | 4 | + 4 | — | — | — |
| Utunomiya | 19.8 | 228 | e 4 | 26 | - 2 | e 8 | 5 | + 3 | e 5 | 53 | ? |
| Kakioka | 19.9 | 227 | i 4 | 28a | - 1 | 8 | 14 | +10 | e 8 | 37 | SS |
| Takada | 20.1 | 232 | 4 | 32 | + 1 | e 8 | 17 | + 9 | e 8 | 43 | SS |
| Kashiwa | 20.3 | 227 | e 4 | 32 | - 1 | e 8 | 40 | SS | — | — | — |
| Maebasi | 20.3 | 230 | e 4 | 33 | 0 | 8 | 13 | + 1 | — | — | — |
| Kumagaya | 20.4 | 228 | i 4 | 33 | - 1 | 8 | 15 | + 1 | — | — | — |
| Nagano | N. 20.5 | 232 | i 4 | 36 | + 1 | i 8 | 20 | + 4 | i 5 | 8 | PPP |
| Matusiro | 20.6 | 231 | i 4 | 33a | - 3 | 8 | 18 | 0 | — | — | e 13.8 |
| Oiwake | 20.6 | 230 | e 4 | 31 | - 5 | e 8 | 22 | + 4 | — | — | e 10.0 |
| Titibu | 20.6 | 229 | i 4 | 34a | - 2 | e 8 | 22 | + 4 | — | — | — |
| Tokyo | 20.6 | 227 | i 4 | 34a | - 2 | e 8 | 16 | - 2 | e 4 | 53 | pP |
| Wazima | 20.6 | 235 | e 4 | 32 | - 4 | e 8 | 28 | +10 | — | — | e 11.0 |
| Yokohama | 20.8 | 227 | 4 | 38 | 0 | 8 | 54 | SS | e 9 | 9 | SSS |
| Matumoto | 21.0 | 231 | i 4 | 38a | - 2 | 8 | 29 | + 4 | — | — | e 10.0 |
| Toyama | 21.0 | 233 | e 4 | 37 | - 3 | 8 | 33 | + 8 | — | — | — |
| Kohu | 21.1 | 229 | e 4 | 41 | 0 | e 8 | 26 | - 1 | e 8 | 53 | ss |
| Hunatu | 21.2 | 229 | e 4 | 40 | - 2 | e 8 | 30 | + 1 | — | — | — |
| Mera | 21.2 | 226 | e 4 | 43 | + 1 | 9 | 1 | SS | i 6 | 36 | ? |
| Ajiro | 21.4 | 227 | e 4 | 44 | 0 | e 7 | 37 | -56 | — | — | 13.6 |
| Kanazawa | 21.4 | 234 | e 4 | 46 | + 2 | — | — | — | — | — | — |
| Misima | 21.4 | 228 | i 4 | 43a | - 1 | e 8 | 34 | + 1 | i 9 | 3 | pPcP |
| Osima | 21.5 | 226 | i 4 | 44 | - 1 | e 8 | 38 | + 3 | i 4 | 49 | pP |
| Iida | 21.6 | 230 | e 4 | 45 | - 1 | e 8 | 30 | - 6 | — | — | — |
| Shizuoka | 21.8 | 228 | i 4 | 48a | 0 | e 8 | 43 | + 3 | i 9 | 8 | pPcP |
| Hukul | 22.0 | 234 | e 4 | 50 | 0 | e 8 | 52 | + 8 | — | — | — |
| Gihu | 22.2 | 232 | e 4 | 53 | + 1 | — | — | — | — | — | — |
| Omaesaki | 22.2 | 228 | i 4 | 55a | + 3 | i 8 | 58 | +11 | e 5 | 40 | PPP |
| Nagoya | E. 22.3 | 231 | i 4 | 53 | 0 | e 8 | 57 | + 8 | e 5 | 41 | PPP |
| Tsuruga | 22.4 | 234 | i 4 | 53a | - 1 | 8 | 54 | + 3 | — | — | — |
| Hikone | 22.6 | 233 | i 4 | 57a | + 1 | e 9 | 2 | + 8 | — | — | — |
| Kameyama | 22.8 | 232 | i 4 | 55 | - 3 | 8 | 58 | 0 | i 5 | 35 | PPP |
| Tu | 22.9 | 231 | e 5 | 2 | + 3 | — | — | — | — | — | e 11.6 |
| Kyoto | 23.0 | 233 | i 5 | 1k | + 1 | e 8 | 44 | -18 | — | — | — |
| Toyooka | 23.1 | 236 | e 5 | 2 | + 1 | e 9 | 10 | + 7 | e 9 | 28 | ss |
| Nara | 23.2 | 232 | 5 | 3 | + 1 | e 9 | 8 | + 3 | — | — | — |
| Osaka | 23.4 | 233 | i 5 | 7a | + 3 | e 9 | 22 | +13 | — | — | e 11.4 |
| Saigo | 23.4 | 239 | i 5 | 5k | + 1 | 9 | 6 | - 3 | e 5 | 10 | ? |
| Tottori | N. 23.4 | 236 | e 4 | 40 | -24 | — | — | — | — | — | e 12.8 |
| Kobe | 23.6 | 234 | e 5 | 6k | 0 | e 9 | 12 | 0 | — | — | e 10.9 |
| Owase | 23.6 | 231 | i 5 | 6 | 0 | e 9 | 14 | + 2 | — | — | — |
| Himeji | 23.7 | 235 | i 5 | 7 | 0 | e 9 | 19 | + 5 | — | — | — |
| Wakayama | 23.9 | 233 | e 5 | 10 | + 1 | — | — | — | — | — | — |
| Yonago | 23.9 | 238 | i 5 | 12 | + 3 | e 9 | 32 | +15 | — | — | — |
| Sumoto | 24.0 | 233 | i 5 | 9a | - 1 | 9 | 24 | + 5 | — | — | 12.8 |
| Siomisaki | 24.3 | 231 | i 5 | 10a | - 2 | 9 | 25 | + 1 | 5 | 28 | pP |
| Takamatu | 24.4 | 235 | i 5 | 16 | + 3 | e 9 | 30 | + 4 | — | — | — |
| Tokusima | 24.4 | 234 | i 5 | 14a | + 1 | e 9 | 36 | +10 | — | — | — |
| Torisima | 24.8 | 219 | 5 | 16 | - 1 | e 9 | 22 | -10 | e 10 | 25 | SS |
| Hamada | 25.0 | 239 | i 5 | 21a | + 2 | 9 | 34 | - 2 | — | — | e 12.4 |
| Hirosima | 25.2 | 237 | e 5 | 23a | + 2 | e 9 | 42 | + 3 | e 5 | 45 | pP |

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|----------------|----|------------|------------|---------------------|------|---------|------|---------|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Muroto | | 25.2 | 233 | i 5 23 | + 2 | e 9 39 | 0 | — | — |
| Koti | | 25.3 | 234 | i 5 23 | + 1 | e 9 42 | + 1 | i 5 37 | — |
| Matuyama | N. | 25.5 | 236 | e 5 23 | - 1 | e 9 41 | - 3 | e 6 25 | e 11.4 |
| Simidu | | 26.2 | 234 | 5 31 | + 1 | e 9 50 | - 6 | — | — |
| Simonoseki | | 26.4 | 239 | e 5 33 _a | + 1 | — | — | — | — |
| Ooita | | 26.5 | 237 | e 5 36 | + 3 | e 9 53 | - 8 | e 6 36 | PPP |
| Hukuoka | | 26.9 | 239 | 5 39 | + 2 | e 10 9 | + 2 | e 10 37 | sS |
| Ituhara | | 27.0 | 242 | 5 37 | - 1 | e 10 5 | - 4 | — | — |
| Asosan | | 27.1 | 237 | i 5 40 | + 1 | e 10 18 | + 8 | — | — |
| Saga | E. | 27.2 | 239 | i 5 43 _a | + 3 | — | — | — | — |
| Kumamoto | | 27.3 | 238 | e 5 48 | + 7 | — | — | — | — |
| Unzendake | E. | 27.6 | 238 | e 5 45 | + 2 | e 10 47 | sS | — | — |
| Miyazaki | | 27.7 | 236 | e 5 48 | + 4 | e 10 24 | + 4 | e 10 47 | sS |
| Kagosima | | 28.4 | 236 | e 5 47 | - 3 | e 10 58 | sS | — | e 14.5 |
| College | | 30.4 | 43 | i 6 9 | + 1 | i 11 10 | + 7 | i 11 28 | sS |
| Kwanting | | 31.3 | 266 | e 6 18 | + 2 | — | — | — | — |
| Irkutsk | | 32.6 | 293 | e 6 27 | - 1 | — | — | — | — |
| Tatung | | 32.8 | 268 | e 6 31 | + 2 | — | — | — | — |
| Zô-Sô | N. | 33.9 | 248 | 6 38 | - 1 | — | — | — | — |
| Nanking | | 34.6 | 251 | i 6 44 _a | - 1 | 12 8 | 0 | i 7 3 | pP |
| Taiyuan | N. | 34.6 | 265 | e 6 45 | 0 | — | — | — | — |
| Linfen | E. | 36.4 | 264 | e 7 2 | + 2 | — | — | — | — |
| Sitka | | 37.9 | 55 | i 7 16 | + 3 | e 13 4 | + 5 | e 7 30 | pP |
| Wuwu | N. | 40.8 | 273 | e 7 40 | + 3 | — | — | — | e 15.4 |
| Lanchow Univ. | | 41.2 | 270 | e 7 42 | + 2 | — | — | — | — |
| Sining | | 42.1 | 272 | e 7 49 | + 2 | — | — | — | — |
| Hong Kong | E. | 44.6 | 246 | 8 9? | + 1 | 14 38 | 0 | — | — |
| Honolulu | | 45.3 | 115 | e 8 16 | + 3 | e 14 50 | + 2 | e 14 39 | ? |
| Resolute Bay | | 45.3 | 21 | i 8 15 _k | + 2 | i 14 56 | + 8 | e 15 19 | sS |
| Baguio | | 46.0 | 234 | i 8 18 _a | - 1 | — | — | i 9 26 | ? |
| Semipalatinsk | | 46.9 | 301 | i 8 25 | - 1 | e 15 20 | + 9 | — | — |
| Manila | | 47.4 | 233 | i 8 28 | - 2 | i 15 21 | + 3 | — | — |
| Victoria | | 48.2 | 61 | 8 36 | 0 | e 15 38 | + 9 | — | 23.2 |
| Seattle | | 49.3 | 61 | 8 50 | + 6 | i 15 59 | +14 | i 9 5 | pP |
| Corvallis | Z. | 50.6 | 65 | e 8 56 | + 2 | — | — | — | 23.6 |
| Sverdlovsk | | 52.6 | 317 | i 9 10 | + 1 | — | — | — | — |
| Almata | | 52.9 | 295 | i 9 11 | - 1 | — | — | — | — |
| Hungry Horse | | 53.3 | 56 | e 9 16 | + 1 | e 16 48 | + 8 | i 9 32 | pP |
| Shasta | Z. | 53.6 | 68 | e 9 17 | 0 | e 16 53 | + 9 | e 9 34 | pP |
| Ukiah | | 54.1 | 70 | e 9 39 | pP | e 17 1 | +11 | — | e 23.4 |
| Frunse | | 54.5 | 296 | i 9 24 | + 1 | — | — | — | — |
| Saskatoon | | 54.6 | 49 | — | — | e 17 3 | + 6 | — | 24.6 |
| Berkeley | | 55.5 | 71 | e 9 33 _k | + 2 | e 17 16 | + 7 | i 9 49 | pP |
| Butte | N. | 55.6 | 58 | e 9 30 | - 1 | — | — | i 9 47 | pP |
| Reno | | 55.8 | 68 | e 9 36 | + 3 | e 17 25 | +12 | i 9 53 | pP |
| Shillong | N. | 55.8 | 269 | i 9 33 | 0 | i 17 8 | - 5 | e 9 52 | pP |
| Santa Clara | | 56.0 | 71 | e 9 42 _a | + 8 | e 17 28 | +12 | — | e 26.1 |
| Bozeman | | 56.6 | 57 | e 9 40 | + 1 | e 39 12 | P'P' | i 9 56 | pP |
| Kiruna | | 56.9 | 342 | i 9 38 | - 3 | e 17 30 | + 2 | i 9 55 | pP |
| Andijan | | 57.2 | 296 | i 9 43 | 0 | — | — | — | e 26.1 |
| Fresno | Z. | 57.7 | 70 | e 9 48 | + 2 | e 39 23 | P'P' | i 10 2 | pP |
| Chatra | | 57.8 | 274 | e 9 46 | - 1 | 17 41 | + 2 | 12 0 | PP |
| Scoresby Sund | | 58.4 | 0 | i 9 52 | + 1 | i 17 57 | +10 | e 12 4 | PP |
| Tashkent | | 58.5 | 298 | i 9 51 | - 1 | — | — | — | — |
| Isabella | Z. | 59.2 | 70 | e 9 56 | - 1 | e 39 29 | P'P' | — | — |
| Salt Lake City | | 59.5 | 62 | i 10 1 | + 2 | e 18 8 | + 6 | i 10 17 | pP |
| Khorog | | 59.8 | 293 | e 10 1 | 0 | i 18 19 | +14 | — | e 25.0 |
| Calcutta | E. | 60.2 | 269 | i 10 0 _a | - 4 | i 18 31 | +20 | 13 56 | PPP |
| Pasadena | | 60.5 | 71 | e 10 7 | + 1 | i 18 21 | + 7 | i 10 23 | pP |
| Stalinabad | | 60.7 | 296 | i 10 6 | - 1 | — | — | — | e 25.5 |
| Riverside | Z. | 61.0 | 71 | e 10 10 | + 1 | i 10 43 | sP | i 10 27 | pP |
| Boulder City | | 61.1 | 68 | e 10 11 | + 1 | i 18 35 | +13 | i 10 27 | pP |
| Nelson | Z. | 61.3 | 68 | i 10 13 | + 2 | i 12 37 | PP | i 10 29 | pP |
| Pulkovo | | 61.4 | 333 | i 10 10 | - 2 | — | — | — | — |
| Palomar | Z. | 61.8 | 71 | i 10 14 | 0 | e 39 17 | P'P' | i 10 33 | pP |

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|--------------------|------------|------------|------|-----------------|------|------|-----|------|-------|----|------------|
| | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Moscow | 62.4 | 327 | i 10 | 18 | 0 | — | — | — | — | — | — |
| Helsinki | 62.5 | 336 | e 10 | 4 | -15 | e 18 | 31 | -9 | — | — | — |
| New Delhi | 62.8 | 282 | i 10 | 19 | -2 | i 18 | 59 | +15 | 19 | 59 | ScS 31.0 |
| Upsala | 64.6 | 339 | i 10 | 32 | -1 | e 19 | 1 | -5 | i 10 | 47 | pP e 30.6 |
| Reykjavik | 64.8 | 0 | i 10 | 38 _a | +4 | — | — | — | — | — | — |
| Tucson | 66.1 | 68 | e 10 | 43 | +1 | e 19 | 30 | +6 | i 11 | 0 | pP e 30.6 |
| Ashkabad | 66.8 | 302 | i 10 | 48 | +1 | — | — | — | — | — | — |
| Quetta | 67.7 | 291 | e 10 | 51 | -2 | i 19 | 39 | -5 | i 11 | 13 | PcP — |
| Kirkland Lake | 69.0 | 38 | e 11 | 0 | -1 | — | — | — | i 11 | 18 | pP — |
| Copenhagen | 69.5 | 340 | e 11 | 5 | +1 | e 20 | 7 | +2 | 24 | 32 | SS 34.1 |
| Hyderabad | 70.2 | 273 | i 11 | 8 | 0 | i 20 | 9 | -4 | 13 | 41 | PP 32.4 |
| Aberdeen | 70.5 | 349 | i 11 | 13 | +3 | i 20 | 20 | +3 | i 11 | 33 | pP — |
| Tiflis | 70.6 | 313 | i 11 | 12 | +2 | 20 | 18 | 0 | — | — | — |
| Warsaw | 70.6 | 334 | i 11 | 11 _a | +1 | e 20 | 16 | -2 | e 11 | 25 | pP e 35.1 |
| Kirovobad | 70.7 | 312 | i 11 | 12 | +1 | — | — | — | — | — | — |
| Lenkoran | 71.1 | 309 | e 11 | 11 | -2 | — | — | — | — | — | — |
| Chihuahua | 71.5 | 67 | e 12 | 8 | +52 | — | — | — | — | — | — |
| Lwow | 71.8 | 331 | i 11 | 19 | +1 | e 20 | 32 | 0 | — | — | — |
| Erevan | 72.0 | 312 | i 11 | 19 | 0 | 20 | 35 | +1 | — | — | — |
| Hamburg | 72.0 | 341 | i 11 | 21 _k | +2 | e 20 | 43 | +9 | — | — | e 29.1 |
| Djakarta | 72.2 | 235 | i 11 | 20 _a | 0 | e 20 | 38 | +2 | i 21 | 5 | sS — |
| Poona | 72.2 | 278 | i 11 | 21 | +1 | i 20 | 36 | 0 | 11 | 41 | pP — |
| Fayetteville | 72.3 | 54 | e 11 | 16 | -4 | — | — | — | — | — | — |
| Bandung | 72.4 | 234 | e 11 | 23 | +2 | e 20 | 41 | +3 | i 11 | 34 | pP — |
| Lembang | 72.4 | 234 | i 11 | 19 _a | -2 | e 20 | 39 | +1 | e 21 | 7 | sS — |
| Madras | 72.5 | 269 | i 11 | 23 | +1 | i 20 | 38 | -2 | 14 | 3 | PP — |
| Bombay | 72.6 | 278 | i 11 | 22 | 0 | e 20 | 38 | -3 | 11 | 49 | sP — |
| Durham | 72.8 | 348 | i 11 | 24 | +1 | e 20 | 45 | +2 | i 15 | 53 | PPP — |
| Ottawa | 72.9 | 36 | i 11 | 24 _k | 0 | 20 | 46 | +2 | e 21 | 12 | sS — |
| Shawinigan Falls | 72.9 | 34 | e 11 | 26 | +2 | — | — | — | i 12 | 43 | ? — |
| Yalta | 72.9 | 322 | e 11 | 24 | 0 | — | — | — | — | — | — |
| Iasi | 73.0 | 327 | e 11 | 26 | +1 | — | — | — | e 11 | 31 | ? — |
| Seven Falls | 73.2 | 33 | e 11 | 29 | +3 | e 20 | 55 | +8 | e 21 | 20 | sS 30.7 |
| Raciborz | 73.3 | 334 | e 11 | 27 | +1 | — | — | — | e 11 | 37 | PcP e 31.2 |
| Collmberg | 73.4 | 338 | e 11 | 26 | -1 | e 20 | 52 | +2 | e 21 | 16 | sS e 36.6 |
| Witteveen | 73.4 | 342 | i 11 | 29 | +2 | — | — | — | — | — | — |
| Dallas | 73.5 | 58 | i 11 | 29 | +1 | — | — | — | — | — | — |
| Skalnate Pleso | 73.5 | 333 | i 11 | 26 | -2 | e 20 | 52 | +1 | e 11 | 39 | pP e 37.3 |
| Buffalo (Larkin) | 73.9 | 40 | e 11 | 31 | +1 | — | — | — | — | — | — |
| Cleveland | 73.9 | 42 | e 11 | 30 _a | 0 | e 20 | 59 | +4 | i 11 | 45 | pP — |
| Jena | 74.1 | 339 | i 11 | 32 | +1 | e 20 | 51 | -6 | e 11 | 54 | pP — |
| Prague | 74.2 | 337 | i 11 | 32 _a | 0 | e 20 | 55 | -4 | i 11 | 50 | pP e 34.4 |
| De Bilt | 74.3 | 343 | i 11 | 35 _a | +3 | e 21 | 6 | +6 | i 11 | 53 | pP e 33.1 |
| Cincinnati | 74.6 | 46 | i 11 | 35 | +1 | i 21 | 6 | +3 | — | — | — |
| Cheb | 74.7 | 338 | i 11 | 36 | +2 | e 21 | 8? | +4 | e 21 | 32 | sS e 40.1 |
| Rathfarnham Castle | 74.8 | 350 | i 11 | 36 _a | +1 | e 21 | 9 | +4 | i 12 | 5 | sP e 42.1 |
| Ogyalla | 75.2 | 333 | e 11 | 42 | +5 | e 14 | 36 | PP | e 11 | 48 | PcP — |
| Budapest | 75.4 | 333 | 11 | 40 | +2 | 21 | 21 | +9 | 21 | 42 | sS 42.4 |
| Pittsburgh | 75.4 | 42 | e 11 | 16 | -22 | i 21 | 17 | +5 | i 20 | 55 | ? — |
| Uccle | 75.7 | 343 | i 11 | 41 | +1 | e 21 | 17 | +2 | e 12 | 1 | pP e 36.1 |
| Kew | 75.8 | 346 | i 11 | 43 | +2 | i 21 | 19 | +3 | e 35 | 8? | Q e 44.1 |
| Bucharest | 75.9 | 327 | e 11 | 42 | +1 | e 21 | 17 | 0 | e 14 | 49 | pPP — |
| Pennsylvania | 76.0 | 40 | i 11 | 45 | +3 | e 21 | 25 | +6 | i 11 | 59 | pP — |
| Szeged | 76.2 | 331 | 11 | 46 | +3 | 14 | 34 | PP | 16 | 37 | PPP — |
| Kalossa | 76.3 | 332 | 11 | 46 | +2 | — | — | — | 14 | 55 | pPP — |
| Kodaikanal | 76.3 | 269 | e 11 | 49 | +5 | — | — | — | — | — | — |
| Timisoara | 76.3 | 330 | e 11 | 47 | +3 | e 21 | 53? | sS | e 22 | 24 | PPS e 37.1 |
| Karlsruhe | 76.6 | 340 | e 11 | 46 _k | +1 | — | — | — | e 12 | 36 | ? — |
| Stuttgart | 76.7 | 340 | e 11 | 46 | 0 | e 21 | 28 | +2 | e 21 | 55 | sS e 39.1 |
| Harvard | 76.9 | 35 | i 11 | 48 | +1 | i 21 | 33 | +5 | i 12 | 5 | pP e 37.6 |
| Weston | 77.1 | 35 | e 11 | 48 | 0 | e 21 | 35 | +5 | i 12 | 6 | pP — |
| Strasbourg | 77.2 | 340 | e 11 | 50 | +1 | e 21 | 28 | -4 | e 12 | 7 | pP e 37.1 |
| Belgrade | 77.4 | 331 | i 11 | 51 | +1 | e 21 | 38 | +4 | e 22 | 43 | PPS e 36.2 |
| Palisades | 77.4 | 38 | e 11 | 49 | -1 | i 21 | 35 | +1 | i 12 | 6 | pP e 36.0 |
| City College, N.Y. | 77.5 | 38 | e 11 | 53 | +3 | i 21 | 38 | +3 | — | — | — |

Continued on next page.

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|------------------|----------|-----|------|-----------------|-------|------|----|-------|-------|----|------|--------|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Halifax | 77.7 | 29 | i 11 | 52 _a | + 1 | i 21 | 42 | + 5 | i 12 | 10 | pP | e 38.1 |
| Istanbul | 77.7 | 323 | e 11 | 52 | + 1 | e 21 | 41 | + 4 | e 14 | 48 | PP | 39.7 |
| Philadelphia | 77.8 | 39 | e 11 | 52 | 0 | e 21 | 34 | - 4 | e 22 | 1 | ScS | e 30.6 |
| Washington | z. 77.9 | 41 | i 11 | 55 | + 3 | e 21 | 58 | ScS | i 12 | 11 | pP | — |
| Paris | 78.0 | 344 | e 11 | 54 | + 1 | i 21 | 41 | + 1 | e 12 | 10 | pP | e 37.1 |
| Zürich | 78.1 | 339 | e 11 | 54 _a | 0 | e 21 | 40 | - 1 | — | — | — | — |
| Basle | 78.2 | 340 | e 11 | 55 | + 1 | e 21 | 48 | + 6 | e 14 | 58 | PP | — |
| Chur | 78.4 | 339 | e 11 | 59 | + 4 | — | — | — | — | — | — | e 48.1 |
| Sofia | 78.4 | 328 | e 11 | 57 | + 2 | e 22 | 8 | sS | e 39 | 5? | P'P' | e 46.1 |
| Triest | 78.5 | 335 | i 11 | 55 | - 1 | i 21 | 47 | + 2 | e 14 | 56 | PP | e 38.0 |
| Brisbane | 78.7 | 185 | 11 | 59 | + 2 | i 21 | 53 | + 5 | — | — | — | — |
| Besançon | 78.8 | 341 | i 12 | 0 | + 3 | e 14 | 56 | PP | e 16 | 46 | PPP | — |
| Neuchatel | 78.8 | 340 | e 11 | 58 | + 1 | — | — | — | — | — | — | — |
| Guadalajara | 79.2 | 70 | e 12 | 8 | + 8 | — | — | — | e 15 | 36 | ? | — |
| Salo | 79.4 | 338 | i 12 | 1 | 0 | e 21 | 56 | + 1 | e 14 | 21 | ? | — |
| Oropa | 79.9 | 339 | e 12 | 3 | 0 | e 22 | 14 | ScS | e 12 | 52 | ? | — |
| Padova | 80.1 | 336 | e 12 | 2 | - 2 | — | — | — | — | — | — | — |
| Pavia | 80.1 | 338 | e 12 | 6 _k | + 2 | e 22 | 14 | ScS | e 15 | 12 | PP | — |
| Bologna | 80.2 | 337 | e 12 | 14 | + 9 | e 22 | 33 | sS | e 12 | 36 | sP | — |
| Clermont-Ferrand | 80.8 | 343 | e 12 | 11 | + 3 | e 22 | 16 | + 6 | i 12 | 24 | pP | 35.1 |
| Prato | 80.8 | 336 | e 12 | 4 | - 4 | i 22 | 15 | + 5 | — | — | — | — |
| Ksara | 81.1 | 315 | i 8 | 22 | ? | 18 | 24 | ? | 11 | 28 | ? | — |
| Rome | 82.3 | 335 | i 12 | 17 _a | + 1 | i 22 | 26 | + 1 | i 23 | 43 | PPS | e 37.1 |
| Athens | 82.4 | 325 | i 12 | 16 _a | 0 | i 22 | 23 | - 3 | e 15 | 28 | PP | — |
| Tacubaya | 82.6 | 68 | e 12 | 25 | + 8 | e 22 | 40 | +12 | i 12 | 54 | sP | — |
| Jerusalem | 83.2 | 314 | i 12 | 24 _a | + 3 | e 22 | 34 | 0 | — | — | — | — |
| Puebla | 83.5 | 68 | e 12 | 36 | pP | e 13 | 34 | ? | e 13 | 40 | ? | — |
| Vera Cruz | 84.5 | 66 | e 12 | 33 | + 6 | e 22 | 53 | + 6 | — | — | — | — |
| Messina | 84.9 | 331 | i 12 | 29 | 0 | e 22 | 47 | - 4 | i 24 | 12 | PPS | e 44.3 |
| Reggio Calabria | N. 85.0 | 331 | e 12 | 27 | - 3 | — | — | — | — | — | — | — |
| Barcelona | 85.2 | 342 | — | — | — | e 23 | 9 | +15 | — | — | — | — |
| Riverview | 85.2 | 186 | i 12 | 33 _a | + 2 | i 22 | 53 | - 1 | i 12 | 48 | pP | e 39.6 |
| Helwan | 86.5 | 316 | i 12 | 39 _a | + 2 | 22 | 56 | [+ 1] | e 12 | 59 | pP | — |
| Toledo | 87.7 | 346 | i 12 | 45 | + 2 | e 23 | 24 | + 6 | i 23 | 47 | sS | 40.5 |
| Bermuda | 88.4 | 35 | e 12 | 48 | + 2 | e 23 | 33 | + 9 | e 16 | 19 | PP | e 41.9 |
| Algiers Univ. | z. 89.5 | 340 | e 12 | 52 | + 1 | e 23 | 2 | [-12] | e 13 | 9 | pP | — |
| Granada | 90.3 | 346 | i 13 | 1 _k | + 6 | 23 | 45 | + 3 | 16 | 34 | PP | i 49.1 |
| Almeria | 90.4 | 345 | i 12 | 56 | + 1 | 23 | 49 | + 6 | 16 | 33 | PP | 50.9 |
| Tamanrasset | z. 102.3 | 334 | e 13 | 51 | + 1 | e 25 | 34 | +10 | e 14 | 7 | pP | — |
| Galerazamba | 102.8 | 54 | i 18 | 16 | PP | e 24 | 29 | [+ 5] | i 20 | 36 | PPP | 49.1 |
| Chinchina | 107.5 | 57 | i 14 | 16 | P | i 24 | 54 | [+ 9] | i 18 | 44 | PP | 53.1 |
| Bogota | 108.6 | 56 | e 18 | 58 | PP | i 24 | 56 | [+ 6] | i 25 | 48 | SKKS | 53.1 |
| Lwiro | 115.3 | 301 | i 18 | 39 | [+ 5] | e 30 | 49 | PPS | — | — | — | — |
| Tananarive | 117.4 | 274 | 18 | 42 | [+ 4] | — | — | — | — | — | — | — |
| Huancayo | 121.7 | 68 | e 18 | 52 | [+ 5] | e 30 | 19 | PS | e 20 | 31 | PP | — |
| La Paz | 129.4 | 64 | i 19 | 8 _k | [+ 7] | 26 | 18 | [+16] | i 22 | 30 | PKS | 63.1 |
| Montezuma | z. 133.8 | 70 | i 19 | 16 | [+ 6] | i 22 | 40 | PKS | i 19 | 34 | pPKP | — |
| Pretoria | z. 134.4 | 285 | i 19 | 15 | [+ 4] | — | — | — | e 18 | 58 | ? | — |
| Pietermaritzburg | z. 135.8 | 279 | i 19 | 16 | [+ 3] | — | — | — | e 19 | 5 | ? | — |
| Grahamstown | z. 140.7 | 278 | i 19 | 19 _a | [- 3] | — | — | — | — | — | — | — |

Sept. 6d. 18h. 49m. Epicentre 21°·5N. 122°·2E. Depth of focus 60km. Unfelt.
Loc. cit., 10h., p. 25.

Sept. 6d. 20h. 11m. Epicentre 20°·6N. 122°·1E. Depth of focus 60km. Unfelt.
Loc. cit., 10h., p. 26.

Sept. 6d. 20h. 30m. Epicentre 21°·3N. 121°·8E. Depth of focus 10km. Unfelt.
Loc. cit., 10h., p. 26.

Sept. 6d. 23h. 54m. Epicentre 21°·6N. 122°·7E. Depth of focus 10km. Unfelt.
Loc. cit., 10h., pp. 26-27.

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Sept. 7d. 0h. 8m. 24s. Epicentre 20°·7N. 120°·8E. (as on 6d.).

Intensity III at Basco (according to Manila).

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------|----|----------|-----|---------------------|------------------|---------|-------------------|---------|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Hengchun | | 1·3 | 356 | i 0 28 _a | + 2 _e | 0 49 | + 6 _e | — | — |
| Tawu | | 1·6 | 1 | e 0 29 _k | - 1 | 1 13 | + 20 _e | — | — |
| Taitung | | 2·0 | 8 | e 0 36 | + 1 | 1 15 | + 9 _e | — | — |
| Tainan | | 2·3 | 346 | e 0 39 | - 1 | 1 19 | + 3 _e | — | — |
| Hsinkong | | 2·4 | 12 | e 0 42 | + 1 | 1 9 | - 3 | — | — |
| Alishan | | 2·8 | 359 | e 0 52 | + 1* | 1 25 | - 2* | — | — |
| Hwalien | | 3·3 | 12 | e 0 50 | - 3 | 1 32 | - 3 | — | — |
| Taichung | | 3·4 | 358 | e 0 54 | - 1 | 1 34 | - 3 | — | — |
| Hsinchu | | 4·0 | 2 | 1 22 | + 2 _e | 2 1 | - 2* | — | — |
| Ilan | | 4·1 | 12 | e 1 7 | + 2 | 1 53 | - 2 | — | — |
| Taipei | | 4·3 | 8 | e 1 20 | + 4* | 2 3 | + 3 | — | — |
| Manila | | 6·1 | 178 | i 1 31 | - 3 | i 2 44 | - 1 | — | — |
| Zō-Sō | N. | 10·3 | 2 | — | — | 4 41 | SS | — | — |
| Hirosima | | 17·0 | 35 | e 4 9 | + 8 | — | — | — | — |
| Sian | | 17·1 | 324 | e 4 10 | + 8 | — | — | — | — |
| Hamada | | 17·2 | 33 | e 4 9 | + 6 | — | — | — | e 8·9 |
| Sumoto | | 18·4 | 40 | e 4 22 | + 4 | 7 52 | + 11 | — | — |
| Taiyuan | | 18·4 | 339 | e 4 22 | + 4 | — | — | — | — |
| Osaka | | 19·0 | 40 | e 4 12 | - 14 | e 8 13 | SS | — | — |
| Kyoto | | 19·4 | 40 | e 4 25 | - 5 | — | — | — | — |
| Kameyama | | 19·7 | 41 | i 4 28 | - 6 | 8 10 | 0 | — | — |
| Hikone | | 19·8 | 40 | e 4 23 | - 12 | — | — | — | — |
| Kwanting | N. | 20·0 | 348 | e 4 36 | - 1 | — | — | — | — |
| Gihu | | 20·2 | 40 | e 4 37 | - 2 | — | — | — | — |
| Nagoya | E. | 20·2 | 41 | e 4 37 | - 2 | — | — | — | — |
| Omaesaki | | 20·6 | 44 | e 4 45 | + 2 | e 8 44 | + 15 | — | e 12·2 |
| Iida | | 21·0 | 42 | e 4 43 | - 4 | — | — | — | — |
| Shizuoka | | 21·0 | 44 | e 4 40 | - 7 | — | — | — | — |
| Misima | | 21·4 | 44 | e 4 48 | - 3 | — | — | — | — |
| Toyama | | 21·4 | 38 | e 4 47 | - 4 | — | — | — | — |
| Kohu | E. | 21·5 | 42 | e 4 49 | - 3 | — | — | — | — |
| Matumoto | N. | 21·5 | 40 | e 4 57 | + 5 | — | — | — | — |
| Osima | N. | 21·5 | 46 | e 4 52 | + 0 | — | — | e 5 4 | ? |
| Hunatu | N. | 21·6 | 43 | e 4 59 | + 5 | — | — | — | — |
| Wazima | | 21·7 | 37 | e 4 59 | + 4 | — | — | — | — |
| Paotow | N. | 21·8 | 337 | e 4 56 | 0 | — | — | — | — |
| Matusiro | | 21·9 | 40 | i 4 50 | - 7 | — | — | 5 43 | PPP |
| Mera | | 21·9 | 46 | e 5 14 | PP | e 9 15 | SS | — | e 10·0 |
| Nagano | N. | 21·9 | 40 | e 5 1 | + 4 | e 8 59 | + 5 | — | — |
| Oiwake | | 21·9 | 41 | e 5 3 | + 6 | e 8 52 | - 2 | — | — |
| Titibu | E. | 22·0 | 43 | e 5 1 | + 3 | — | — | — | — |
| Yokohama | | 22·1 | 44 | 5 0 | + 1 | e 8 57 | - 1 | e 5 42 | PPP |
| Kumagaya | Z. | 22·3 | 43 | e 5 10 | + 9 | — | — | — | e 12·7 |
| Maebasi | E. | 22·3 | 42 | e 5 11 | + 10 | — | — | — | — |
| Tokyo | | 22·3 | 44 | 5 9 | + 8 | e 9 18 | + 16 | e 5 30 | PP |
| Utunomiya | | 22·9 | 42 | e 5 12 | + 6 | — | — | — | — |
| Sining | | 23·0 | 318 | e 5 8 | + 1 | — | — | — | — |
| Wuwei | N. | 23·3 | 321 | e 5 10 | 0 | — | — | — | — |
| Shirakawa | | 23·5 | 42 | e 5 17 | + 5 | — | — | e 7 36 | ? |
| Akita | | 25·1 | 37 | e 5 33 | + 5 | — | — | — | — |
| Mizusawa | E. | 25·4 | 39 | e 5 23 | - 8 | — | — | — | — |
| Morioka | | 25·7 | 38 | e 5 29 | - 4 | — | — | — | — |
| Sapporo | | 28·1 | 33 | e 6 14 | + 19 | e 10 58 | + 18 | — | — |
| Calcutta | E. | 30·2 | 279 | e 6 15 | + 1 | e 11 29 | + 16 | 13 17 | SSS |
| Lembang | | 30·3 | 207 | e 6 13 | - 2 | e 11 24 | + 9 | — | 14·2 |
| Bandung | | 30·4 | 207 | e 6 17 | + 1 | e 11 20 | + 4 | e 6 31 | ? |
| Chatra | | 31·3 | 288 | e 5 50 | - 34 | — | — | — | — |
| Madras | E. | 39·6 | 265 | e 7 3 | - 32 | i 13 41 | + 3 | — | — |
| Poona | Z. | 44·2 | 276 | i 8 13 | + 1 | — | — | — | — |
| Quetta | | 49·2 | 292 | e 8 49 | - 3 | e 15 50 | - 8 | e 19 26 | SS |

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| | Δ ° | Az. ° | P. m. s. | | O-C. s. | S. m. s. | | O-C. s. | Supp. m. s. | | L. m. |
|---------------|---------------|----------|-------------|-----------------|------------|-------------|----|------------|----------------|----|------------|
| Brisbane | 57.2 | 146 | i 10 | 0 | + 9 | — | — | — | — | — | — |
| College | 72.0 | 27 | i 11 | 21 | - 7 | — | — | — | — | — | — |
| Ksara | 74.7 | 301 | 11 | 18 | -25 | — | — | — | — | — | — |
| Kiruna | 74.8 | 337 | e 11 | 41 | - 3 | e 21 | 21 | + 1 | e 16 | 16 | PPP e 40.6 |
| Istanbul | 78.0 | 309 | e 11 | 58 | - 4 | e 21 | 53 | - 2 | — | — | — |
| Upsala | 78.7 | 330 | i 12 | 3 | - 3 | e 22 | 9 | + 6 | — | — | e 38.6 |
| Helwan | 79.6 | 298 | 12 | 7 | - 3 | e 22 | 12 | 0 | e 12 | 39 | ? — |
| Warsaw | 79.7 | 322 | e 12 | 9 | - 2 | e 22 | 12 | - 1 | e 22 | 19 | ScS e 44.5 |
| Tananarive | 81.9 | 246 | e 12 | 21 | - 2 | — | — | — | — | — | — |
| Copenhagen | 83.0 | 327 | — | — | — | e 23 | 0 | +13 | — | — | 38.6 |
| Prague | 84.3 | 322 | e 12 | 40 | + 5 | e 22 | 51 | - 9 | i 13 | 1 | ? — |
| Collmberg | 84.6 | 323 | e 12 | 34 | - 2 | — | — | — | — | — | — |
| Hamburg | 85.2 | 326 | e 12 | 36 | - 3 | — | — | — | — | — | — |
| Scoresby Sund | 85.4 | 348 | — | — | — | e 23 | 2 | [- 1] | — | — | — |
| Jena | z. 85.6 | 323 | e 12 | 36? | - 5 | — | — | — | — | — | — |
| Triest | 86.7 | 318 | e 12 | 42 | - 5 | e 23 | 19 | - 5 | — | — | — |
| Stuttgart | 88.0 | 322 | e 12 | 49? | - 4 | e 23 | 36 | 0 | — | — | — |
| Messina | E. 88.7 | 310 | e 12 | 54 | - 3 | i 23 | 41 | - 2 | — | — | — |
| Strasbourg | 88.9 | 322 | e 12 | 54 | - 4 | e 25 | 8 | PPS | — | — | — |
| Aberdeen | 89.0 | 333 | — | — | — | i 23 | 46 | + 1 | — | — | — |
| Rome | 89.2 | 315 | i 12 | 55 ^a | - 4 | e 23 | 44 | - 3 | — | — | — |
| Uccle | 89.6 | 325 | e 12 | 55 | - 6 | e 23 | 53 | + 2 | — | — | e 45.6 |
| Victoria | 90.4 | 37 | 12 | 59 | - 5 | — | — | — | — | — | — |
| Kew | 91.6 | 328 | — | — | — | i 23 | 47 | [+ 5] | — | — | — |
| Paris | 91.7 | 324 | e 13 | 9 | - 1 | — | — | — | e 13 | 30 | ? — |
| Hungry Horse | 95.6 | 33 | i 13 | 26 | - 2 | — | — | — | — | — | — |
| Boulder City | 102.9 | 43 | e 17 | 48 | PP | — | — | — | — | — | — |
| Nelson | z. 103.1 | 43 | e 17 | 27 | ? | — | — | — | — | — | — |
| Palomar | z. 103.1 | 46 | e 18 | 9 | PP | — | — | — | — | — | — |
| Tucson | 107.8 | 44 | e 18 | 41 | PP | — | — | — | — | — | — |
| Chinchina | z. 149.8 | 34 | i 19 | 45 | [- 2] | — | — | — | — | — | — |
| Bogota | 150.9 | 31 | i 19 | 58 | [+ 9] | — | — | — | — | — | — |
| Montezuma | z. 170.8 | 104 | e 20 | 10 | [0] | — | — | — | — | — | — |

Sept. 7d. 0h. 11m. 48s. Epicentre 20°·7N. 120°·8E. (as at 0h. 8m.).

Magnitude 6 (Kiruna).

| | Δ ° | Az. ° | P. m. s. | | O-C. s. | S. m. s. | | O-C. s. | Supp. m. s. | | L. m. |
|----------|---------------|----------|-------------|----|------------------|-------------|-----|------------------|----------------|----|----------|
| Hengchun | 1.3 | 356 | 0 | 26 | 0 _g | 0 | 49 | + 6 _g | — | — | — |
| Tainan | 2.3 | 346 | e 0 | 42 | 0* | 1 | 21 | + 5 _g | — | — | — |
| Alishan | 2.8 | 359 | 1 | 6 | +10 _g | 1 | 41 | + 9 _g | — | — | — |
| Hwalien | 3.3 | 12 | 1 | 40 | S* | (1 | 40) | - 2* | — | — | — |
| Taichung | 3.4 | 358 | e 1 | 9 | + 1 _g | 1 | 43 | - 2* | — | — | — |
| Hsinchu | 4.0 | 2 | 1 | 12 | + 1* | 2 | 0 | - 3* | — | — | — |
| Ilan | 4.1 | 12 | 1 | 20 | - 2 _g | 1 | 53 | - 2 | — | — | — |
| Taipei | 4.3 | 8 | e 1 | 14 | - 2* | 2 | 4 | + 4 | — | — | — |
| Koti | 17.0 | 39 | e 4 | 2 | + 1 | — | — | — | e 8 | 14 | Q e 10.0 |
| Slan | N. 17.1 | 324 | e 4 | 3 | + 1 | — | — | — | — | — | — |
| Kyoto | 19.4 | 40 | e 4 | 21 | - 9 | — | — | — | — | — | — |
| Tu | 19.7 | 41 | e 4 | 40 | + 6 | — | — | — | — | — | — |
| Hikone | 19.8 | 40 | e 4 | 33 | - 2 | — | — | — | — | — | — |
| Nagoya | E. 20.2 | 41 | e 4 | 39 | 0 | — | — | — | — | — | — |
| Iida | 21.0 | 42 | e 4 | 48 | + 1 | — | — | — | — | — | — |
| Misima | N. 21.4 | 44 | e 4 | 55 | + 4 | — | — | — | — | — | — |
| Toyama | 21.4 | 38 | e 5 | 1 | +10 | — | — | — | — | — | — |
| Kohu | E. 21.5 | 42 | e 4 | 56 | + 4 | — | — | — | — | — | — |
| Matumoto | E. 21.5 | 40 | e 4 | 56 | + 4 | — | — | — | — | — | — |
| Osima | E. 21.5 | 46 | e 4 | 51 | - 1 | — | — | — | — | — | — |

Continued on next page.

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| | | Δ | Az. | P. | | O-C. | S. | O-C. | Supp. | | L. |
|---------------|----|----------|-----|------|----|-------|------|------|-------|------|--------|
| | | ° | ° | m. | s. | s. | m. | s. | m. | s. | m. |
| Hunatu | | 21.6 | 43 | e 4 | 57 | + 3 | e 8 | 51 | + 2 | — | — |
| Wazima | | 21.7 | 37 | e 4 | 53 | - 2 | — | — | — | — | — |
| Matusiro | | 21.9 | 40 | i 5 | 2 | + 5 | — | — | — | — | — |
| Titibu | E. | 22.0 | 43 | e 5 | 4 | + 6 | — | — | — | — | — |
| Kumagaya | | 22.3 | 43 | e 5 | 11 | +10 | — | — | — | — | — |
| Maebasi | | 22.3 | 42 | e 5 | 9 | + 8 | — | — | — | — | — |
| Tokyo | | 22.3 | 44 | e 5 | 3 | + 2 | — | — | — | — | — |
| Utunomiya | N. | 22.9 | 42 | e 5 | 3 | - 3 | — | — | — | — | — |
| Akita | | 25.1 | 37 | e 5 | 23 | - 5 | — | — | — | — | e 15.2 |
| Mizusawa | E. | 25.4 | 39 | 5 | 30 | - 1 | — | — | — | — | — |
| Miyako | E. | 26.1 | 39 | e 5 | 43 | + 6 | — | — | — | — | — |
| Shillong | N. | 27.0 | 286 | e 6 | 19 | PP | e 11 | 14 | SS | e 12 | 49 |
| Lembang | | 30.3 | 207 | e 6 | 22 | + 7 | e 11 | 14 | - 1 | — | — |
| Bandung | | 30.4 | 207 | e 6 | 24 | + 8 | — | — | — | — | e 14.4 |
| Kodaikanal | E. | 43.0 | 263 | e 7 | 53 | -10 | — | — | — | — | e 15.5 |
| Bombay | N. | 45.1 | 276 | e 8 | 53 | +33 | e 15 | 1 | + 2 | e 15 | 46 |
| Quetta | Z. | 49.2 | 292 | e 8 | 54 | + 2 | — | — | — | — | ? |
| Brisbane | | 57.2 | 146 | i 9 | 49 | - 2 | — | — | — | — | — |
| College | | 72.0 | 27 | i 11 | 22 | - 6 | — | — | i 11 | 34 | ? |
| Kiruna | | 74.8 | 337 | i 11 | 42 | - 2 | e 21 | 19 | - 1 | e 26 | 10? |
| Istanbul | Z. | 78.0 | 309 | e 12 | 0 | - 2 | — | — | — | — | SS |
| Upsala | | 78.7 | 330 | i 12 | 4 | - 2 | e 21 | 54 | - 9 | e 22 | 16? |
| Helwan | | 79.6 | 298 | e 12 | 8 | - 2 | e 22 | 17 | + 5 | — | ScS |
| Warsaw | | 79.7 | 322 | e 12 | 11 | 0 | e 22 | 13 | 0 | e 15 | 10 |
| Tananarive | | 81.9 | 246 | e 12 | 23 | 0 | — | — | — | — | PP |
| Resolute Bay | | 82.1 | 9 | e 12 | 22 | - 2 | — | — | — | — | — |
| Prague | | 84.3 | 322 | i 12 | 37 | + 2 | e 22 | 47 | -13 | — | — |
| Collmberg | | 84.6 | 323 | e 12 | 35 | - 1 | — | — | — | — | — |
| Hamburg | | 85.2 | 326 | e 12 | 36 | - 3 | — | — | — | — | e 44.2 |
| Scoresby Sund | | 85.4 | 348 | e 12 | 39 | - 1 | e 23 | 0 | [- 3] | — | — |
| Jena | Z. | 85.6 | 323 | e 12 | 39 | - 2 | — | — | — | — | — |
| Triest | | 86.7 | 318 | e 12 | 59 | +12 | e 23 | 24 | 0 | — | — |
| Stuttgart | | 88.0 | 322 | e 12 | 44 | - 9 | e 24 | 36 | PS | — | — |
| Messina | | 88.7 | 310 | e 13 | 8 | +11 | i 23 | 45 | + 2 | — | — |
| Strasbourg | | 88.9 | 322 | — | — | — | e 23 | 42 | - 2 | e 24 | 48 |
| Aberdeen | | 89.0 | 333 | — | — | — | i 23 | 49 | + 4 | — | — |
| Rome | | 89.2 | 315 | e 12 | 57 | - 2 | e 23 | 47 | 0 | — | — |
| Victoria | | 90.4 | 37 | 12 | 59 | - 5 | — | — | — | — | — |
| Paris | | 91.7 | 324 | e 13 | 16 | + 6 | e 25 | 20 | PS | — | e 46.2 |
| Hungry Horse | | 95.6 | 33 | e 13 | 26 | - 2 | — | — | — | — | — |
| Woody | Z. | 100.4 | 45 | e 13 | 45 | - 5 | e 25 | 33 | + 9 | e 17 | 46 |
| Boulder City | | 102.9 | 43 | e 18 | 8 | PP | — | — | — | — | PP |
| Nelson | Z. | 103.1 | 43 | e 17 | 51 | PKP | — | — | — | — | — |
| Tamanrasset | Z. | 103.5 | 301 | 17 | 54 | PKP | — | — | — | — | — |
| Boulder | | 105.9 | 35 | e 18 | 8 | PKP | — | — | — | — | — |
| Tucson | | 107.8 | 44 | e 18 | 44 | PP | — | — | — | — | — |
| Fayetteville | | 114.5 | 30 | e 19 | 31 | PP | — | — | — | — | — |
| Chinchina | | 149.8 | 34 | i 19 | 50 | [+ 3] | — | — | — | — | — |
| Bogota | | 150.9 | 31 | i 19 | 58 | [+ 9] | — | — | — | — | — |
| Montezuma | Z. | 170.8 | 104 | e 20 | 21 | [+11] | — | — | — | — | — |

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1954

541

Sept. 7d. 0h. 35m. 14s. Epicentre 20°·7N. 120°·8E. (as at 0h. 11m.).

Intensity III at Basco (according to Manila). Magnitude 5·75-6 (Prague).

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|---------------|----|----------|-----|--------------------|------------------|--------|------------------|--------|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Hengchun | | 1·3 | 356 | i 0 30 | + 4 _g | 0 52 | + 9 _g | — | — |
| Tawu | | 1·6 | 1 | i 0 31 | + 1 | i 0 42 | - 9 | — | — |
| Taitung | | 2·0 | 8 | e 0 15 | -20 | 0 33 | -31 | — | — |
| Tainan | | 2·3 | 346 | e 0 41 | + 1 | 1 19 | + 3 _g | — | — |
| Hsinkong | | 2·4 | 12 | e 0 44 | 0* | 1 13 | + 1 | — | — |
| | | | | | | | | | |
| Alishan | | 2·8 | 359 | 1 4 | + 8 _g | 1 43 | +11 _g | — | — |
| Hwalien | | 3·3 | 12 | e 0 54 | + 1 | 1 30 | - 5 | — | — |
| Taichung | | 3·4 | 358 | 0 56 | + 1 | 1 40 | + 3 | — | — |
| Hsinchu | | 4·0 | 2 | 1 15 | + 4* | 2 4 | + 1* | — | — |
| Ilan | | 4·1 | 12 | e 1 11 | - 2* | 1 56 | + 1 | — | — |
| | | | | | | | | | |
| Baguio | | 4·3 | 183 | i 1 7 _a | - 1 | i 2 36 | +14 _g | — | — |
| Manila | | 6·1 | 178 | i 1 34 | 0 | i 2 46 | + 1 | — | — |
| Hong Kong | E. | 6·4 | 286 | 1 38 | 0 | — | — | — | — |
| Zô-Sô | N. | 10·3 | 2 | e 2 37 | + 5 | — | — | — | — |
| Nanking | Z. | 11·4 | 351 | e 2 44 | - 3 | — | — | — | — |
| | | | | | | | | | |
| Kumamoto | | 14·9 | 34 | e 2 57 | -37 | — | — | — | — |
| Hirosima | | 17·0 | 35 | e 3 3 | -58 | — | — | — | — |
| Sian | N. | 17·1 | 324 | e 4 10 | + 8 | — | — | — | — |
| Muroto | | 17·2 | 40 | e 3 3 | -60 | — | — | — | — |
| Siomisaki | | 18·4 | 42 | e 4 11 | - 7 | e 7 52 | +11 | — | — |
| | | | | | | | | | |
| Sumoto | | 18·4 | 40 | e 4 19 | + 1 | — | — | — | 14·2 |
| Taiyuan | N. | 18·4 | 339 | e 4 22 | + 4 | — | — | — | — |
| Osaka | | 19·0 | 40 | e 4 22 | - 4 | — | — | — | — |
| Kyoto | | 19·4 | 40 | e 4 25 | - 5 | e 8 21 | SS | — | — |
| Kameyama | | 19·7 | 41 | i 4 30 | - 4 | 8 12 | + 2 | — | — |
| | | | | | | | | | |
| Hikone | | 19·8 | 40 | e 4 36 | + 1 | — | — | — | — |
| Kwanting | N. | 20·0 | 348 | e 4 38 | + 1 | — | — | — | — |
| Gihu | | 20·2 | 40 | e 4 38 | - 1 | — | — | — | — |
| Nagoya | E. | 20·2 | 41 | e 4 38 | - 1 | — | — | — | — |
| Hukui | | 20·4 | 38 | e 4 36 | - 5 | — | — | — | — |
| | | | | | | | | | |
| Tatung | N. | 20·4 | 343 | e 4 42 | + 1 | — | — | — | — |
| Omaesaki | | 20·6 | 44 | e 5 5 | PP | e 7 48 | -41 | — | — |
| Iida | | 21·0 | 42 | e 4 44 | - 3 | — | — | — | — |
| Shizuoka | | 21·0 | 44 | e 4 46 | - 1 | e 8 37 | 0 | e 4 52 | ? |
| Lanchow Univ. | | 21·4 | 319 | e 4 54 | + 3 | — | — | — | — |
| | | | | | | | | | |
| Misima | N. | 21·4 | 44 | e 4 55 | + 4 | e 8 47 | + 2 | — | — |
| Toyama | | 21·4 | 38 | e 4 52 | + 1 | e 9 1 | +16 | e 5 3 | ? |
| Kohu | | 21·5 | 42 | e 4 52 | 0 | — | — | — | — |
| Matumoto | | 21·5 | 40 | e 4 54 | + 2 | e 8 55 | + 8 | — | — |
| Osima | N. | 21·5 | 46 | e 4 53 | + 1 | e 9 11 | SS | — | — |
| | | | | | | | | | |
| Hunatu | | 21·6 | 43 | e 4 59 | + 5 | e 8 52 | + 3 | — | — |
| Wazima | | 21·7 | 37 | e 4 54 | - 1 | e 8 54 | + 3 | — | — |
| Paotow | N. | 21·8 | 337 | e 4 56 | 0 | — | — | — | — |
| Matusiro | | 21·9 | 40 | e 4 53 | - 4 | i 9 1 | + 7 | 5 48 | ? |
| Mera | | 21·9 | 46 | e 5 8 | +11 | — | — | — | e 10·1 |
| | | | | | | | | | |
| Nagano | N. | 21·9 | 40 | e 5 3 | + 6 | e 9 8 | +14 | i 5 37 | PPP |
| Oiwake | | 21·9 | 41 | e 5 2 | + 5 | e 9 6 | +12 | — | — |
| Titibu | E. | 22·0 | 43 | e 5 5 | + 7 | — | — | — | — |
| Yokohama | | 22·1 | 44 | 5 3 | + 4 | e 9 30 | SS | e 6 6 | ? |
| Kumagaya | | 22·3 | 43 | e 5 10 | + 9 | e 9 22 | +20 | — | — |
| | | | | | | | | | |
| Maebasi | | 22·3 | 42 | e 5 15 | PP | e 9 35 | SS | — | — |
| Tokyo | | 22·3 | 44 | e 5 3 | + 2 | 9 37 | SS | e 5 24 | PP |
| Utunomiya | | 22·9 | 42 | e 5 9 | + 3 | — | — | e 6 21 | ? |
| Sining | | 23·0 | 318 | e 5 8 | + 1 | — | — | — | — |
| Wuwei | | 23·3 | 321 | e 5 16 | + 6 | — | — | — | — |
| | | | | | | | | | |
| Shirakawa | | 23·5 | 42 | e 5 9 | - 3 | — | — | — | — |
| Akita | | 25·1 | 37 | e 5 6 | -22 | — | — | — | e 17·8 |
| Mizusawa | E. | 25·4 | 39 | 5 27 | - 4 | — | — | 8 13 | ? |
| Miyako | N. | 26·1 | 39 | e 5 35 | - 2 | — | — | — | — |
| Shillong | Z. | 27·0 | 286 | e 5 59 | +14 | — | — | — | e 15·3 |

Continued on next page.

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1954

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| | | Δ | Az. | P. | | O-C. | S. | O-C. | Supp. | | L. |
|---------------|----|----------|-----|------|-----------------|------|-------|------|-------|-------|--------|
| | | ° | ° | m. | s. | s. | m. s. | s. | m. s. | | m. |
| Sapporo | E. | 28.1 | 33 | e 6 | 14 | +19 | — | — | — | — | — |
| Djakarta | Z. | 30.1 | 209 | e 6 | 13 ^k | 0 | — | — | — | — | — |
| Lembang | Z. | 30.3 | 207 | e 6 | 13 | -2 | — | — | — | — | — |
| Bandung | Z. | 30.4 | 207 | e 6 | 23 | +7 | e 11 | 14 | -2 | e 11 | 33 |
| Chatra | Z. | 31.3 | 288 | e 6 | 24 | 0 | — | — | — | — | — |
| Madras | E. | 39.6 | 265 | 7 | 33 | -2 | 13 | 45 | +7 | — | — |
| Poona | Z. | 44.2 | 276 | i 8 | 23 | +11 | — | — | — | — | — |
| Quetta | Z. | 49.2 | 292 | i 8 | 51 | -1 | — | — | — | — | — |
| Brisbane | | 57.2 | 146 | 9 | 46 | -5 | — | — | — | — | — |
| College | | 72.0 | 27 | i 11 | 24 | -4 | — | — | i 11 | 39 | PcP |
| Ksara | | 74.7 | 301 | i 7 | 56 | ? | e 19 | 14 | ? | — | — |
| Kiruna | | 74.8 | 337 | i 11 | 41 | -3 | — | — | — | — | e 37.4 |
| Istanbul | | 78.0 | 309 | e 11 | 59 | -3 | e 21 | 54 | -1 | e 14 | 59 |
| Upsala | | 78.7 | 330 | i 12 | 4 | -2 | — | — | — | — | e 40.8 |
| Helwan | | 79.6 | 298 | 12 | 10 | 0 | e 22 | 16 | +4 | — | — |
| Warsaw | | 79.7 | 322 | e 23 | 6 | PS | e 22 | 14 | +1 | (e 23 | 46) |
| Tananarive | | 81.9 | 246 | i 12 | 22 | -1 | — | — | — | — | PPS |
| Resolute Bay | | 82.1 | 9 | e 12 | 19 ^a | -5 | — | — | — | — | e 42.6 |
| Prague | | 84.3 | 322 | i 12 | 36 | +1 | e 22 | 48 | -12 | e 13 | 3 |
| Collmberg | | 84.6 | 323 | e 12 | 34 | -2 | e 23 | 16 | +13 | — | ? |
| Hamburg | Z. | 85.2 | 326 | e 12 | 39 | 0 | — | — | — | — | — |
| Scoresby Sund | | 85.4 | 348 | i 12 | 38 ^a | -2 | e 23 | 17 | +6 | — | — |
| Cheb | | 85.5 | 323 | e 12 | 42 | +1 | e 22 | 55 | [-9] | e 13 | 54 |
| Jena | | 85.6 | 323 | e 12 | 37 | -4 | — | — | — | e 13 | 9 |
| Triest | | 86.7 | 318 | e 12 | 56 | +9 | e 23 | 26 | +2 | e 23 | 37 |
| Stuttgart | | 88.0 | 322 | e 12 | 50 | -3 | — | — | — | e 16 | 46 |
| De Bilt | | 88.5 | 326 | e 12 | 52 | -4 | e 24 | 40 | PS | — | PP |
| Messina | | 88.7 | 310 | e 12 | 55 | -2 | e 23 | 43 | 0 | — | e 48.4 |
| Strasbourg | | 88.9 | 322 | e 12 | 57 | -1 | — | — | — | — | — |
| Rome | | 89.2 | 315 | i 12 | 56 | -3 | e 23 | 47 | 0 | — | — |
| Pavia | | 89.8 | 319 | e 13 | 3 | +1 | e 30 | 33 | SSP | — | — |
| Victoria | | 90.4 | 37 | 13 | 0 | -4 | — | — | — | — | — |
| Besançon | | 90.6 | 322 | e 13 | 4 | -1 | — | — | — | e 13 | 35 |
| Kew | | 91.6 | 328 | — | — | — | e 27 | 46? | ? | — | e 32.3 |
| Hungry Horse | | 95.6 | 33 | e 13 | 26 | -2 | — | — | — | e 17 | 12 |
| Toledo | | 100.8 | 320 | 13 | 46 | -6 | e 31 | 2 | ? | — | — |
| Boulder City | | 102.9 | 43 | e 17 | 4 | ? | — | — | — | — | — |
| Nelson | Z. | 103.1 | 43 | e 13 | 57 | -5 | — | — | — | e 18 | 6 |
| Tamanrasset | Z. | 103.5 | 301 | 16 | 53 | ? | — | — | — | — | PP |
| Chinchina | Z. | 149.8 | 34 | i 19 | 46 | [-1] | — | — | — | — | — |
| Bogota | | 150.9 | 31 | i 19 | 57 | [+8] | — | — | — | — | — |
| La Paz | Z. | 170.5 | 65 | 20 | 9 | [0] | — | — | — | — | — |
| Montezuma | Z. | 170.8 | 104 | e 20 | 12 | [+2] | — | — | — | — | — |

Sept. 7d. 3h. 38m. Epicentre 21°·9N. 122°·3E. Depth of focus 10km. Unfelt.
Loc. cit., 6d. 10h., p. 28.

Sept. 7d. 4h. 37m. Depth of focus 0-10km. Unfelt.
Loc. cit., 6d. 10h., p. 28.

Sept. 7d. 7h. 14m. Epicentre 17°S. 179°E. Depth of focus 600km.
Monthly Bulletin of the B.C.I.S. for Sept., 1954, Strasbourg, 1955, pp. 500-501.

Sept. 7d. 8h. 14m. Depth of focus 0-10km. Unfelt.
Loc. cit., 6d. 10h., pp. 28-29.

Sept. 7d. 9h. 10m. Epicentre 25°·7N. 118°·5E. Depth of focus 0-10km. Unfelt.
Loc. cit., 6d. 10h., p. 29.

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1954

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Sept. 8d. 2h. 41m. Epicentre 21°·7N. 122°·3E. Depth of focus 10km.
Seismo. Bulletin of Taiwan Weather Bureau for July-Sept., 1954, Vol. 1, No. 3, Taiwan, China, p. 29.

Sept. 8d. 3h. 14m. Epicentre 21°·8N. 122°·3E. Depth of focus 10km.
Loc. cit., 2h., p. 29.

Sept. 8d. 17h. 31m. 1s. Epicentre 16°·6S. 73°·6W. Depth of focus 0·015.
(as on 1952, February 11d.).

A = +·2707, B = -·9198, C = -·2839; $\delta = -9$; $h = +5$;
D = -·952, E = -·282; G = -·080, H = +·272, K = -·959.

| | Δ ° | Az. ° | P. | | O-C. s. | S. | | O-C. | | Supp. | | L. m. |
|------------------|---------------|----------|------|-----|------------|------|----|------|------|-------|------------------|----------|
| | | | m. | s. | | m. | s. | s. | m. | s. | | |
| Huancayo | 4·8 | 339 | e 1 | 8 | - 4 | e 1 | 47 | -20 | — | — | — | |
| La Paz | 5·2 | 90 | i 1 | 17 | 0 | i 2 | 13 | - 3 | — | — | — | |
| Montezuma | 7·5 | 144 | e 2 | 1 | +13 | i 3 | 28 | +16 | i 2 | 31 | PP | |
| Bogota | 21·1 | 358 | i 4 | 37 | + 1 | i 8 | 21 | + 3 | i 5 | 10 | pP | |
| Chinchina | 21·5 | 356 | i 4 | 35 | - 5 | i 8 | 31 | + 6 | i 4 | 56 | pP | |
| San Juan | 35·5 | 12 | e 7 | 6 | pP | — | — | — | — | — | — | |
| Dallas | 53·9 | 336 | i 9 | 14 | + 2 | — | — | — | — | — | — | |
| Fayetteville | 55·9 | 340 | i 9 | 26 | - 1 | — | — | — | i 9 | 53 | pP | |
| Buffalo (Larkin) | 59·4 | 356 | i 9 | 49 | - 2 | — | — | — | — | — | — | |
| Ottawa | 61·7 | 359 | e 10 | 4k | - 3 | — | — | — | — | — | — | |
| Shawinigan Falls | 62·9 | 2 | e 10 | 12 | - 3 | — | — | — | — | — | — | |
| Palomar | z. 64·6 | 321 | i 10 | 30k | + 4 | — | — | — | i 10 | 58 | pP | |
| Kirkland Lake | z. 64·7 | 356 | e 10 | 24 | - 3 | — | — | — | e 10 | 53 | pP | |
| Nelson | z. 65·0 | 324 | i 10 | 33 | + 5 | — | — | — | i 11 | 1 | pP | |
| Boulder City | 65·2 | 324 | i 10 | 34 | + 4 | — | — | — | — | — | — | |
| Riverside | z. 65·3 | 321 | i 10 | 34k | + 4 | — | — | — | i 11 | 3 | pP | |
| Pasadena | z. 65·9 | 321 | i 10 | 39 | + 5 | — | — | — | i 11 | 7 | pP | |
| Isabella | z. 67·1 | 323 | i 10 | 46k | + 4 | — | — | — | i 11 | 15 | pP | |
| Salt Lake City | 67·2 | 330 | i 10 | 45 | + 3 | e 11 | 38 | sP | i 11 | 12 | pP | |
| Woody | z. 67·4 | 323 | i 10 | 48k | + 4 | — | — | — | i 11 | 15 | pP | |
| Fresno | z. 68·6 | 322 | e 10 | 55 | + 4 | — | — | — | — | — | — | |
| Lick | z. 70·2 | 321 | i 11 | 6 | + 5 | — | — | — | — | — | — | |
| Reno | z. 70·5 | 323 | e 11 | 9 | + 6 | — | — | — | — | — | — | |
| Bozeman | 70·7 | 333 | e 11 | 7 | + 3 | — | — | — | e 11 | 33 | pP | |
| Butte | N. 71·6 | 333 | e 11 | 13 | + 4 | — | — | — | e 11 | 41 | pP | |
| Shasta | z. 72·8 | 323 | e 11 | 18 | + 2 | — | — | — | — | — | — | |
| Hungry Horse | 74·0 | 334 | i 11 | 27 | + 4 | — | — | — | e 11 | 53 | pP | |
| Tamanrasset | z. 86·7 | 66 | i 12 | 28k | - 2 | e 13 | 4 | sP | e 12 | 57 | pP | |
| College | 98·4 | 336 | i 13 | 27 | + 2 | — | — | — | i 13 | 57 | pP | |
| Lembang | z. 156·7 | 183 | e 19 | 51k | [+12] | e 24 | 10 | PP | e 20 | 25 | PKP ₂ | |
| Shillong | z. 163·8 | 54 | e 23 | 26 | PKS | — | — | — | — | — | — | |

Sept. 9d. 1h. 2m. Epicentre 20°·5S. 177°·0W. Depth of focus 200km.
U.S.C.G.S. quoted by Strasbourg.

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1954

544

Sept. 9d. 1h. 4m. 37s. Epicentre 36°·2N. 1°·6E.

Destructive earthquake in the region of Orléansville, Algiers.

Intensity X-XI at Beni Rached; X at Bouganville, Cinq Palmiers, Flatters, Hanoteau, Medjadja, and Pontéba; IX-X at Orléansville; IX at Oued-Fadda; VIII-IX at Caviagnac, Chassériaux, les Heumis, Montenotte, Vauban, and Warnier; VIII at Carnot, Saint Cyprien, Sainte Monique, Tenes, etc.; V at Algiers, Médéa, Mostaganem, and Tiaret; III at Tizi-Ouzu; II at Aumale. Many casualties and much damage to buildings. Visible fissures and faults on the southern edge of the Massif des Dehras at an epicentral distance of 16km. Area of intensity X isoséist 500 sq. km. Macroseismic radius 220km. The earthquake was followed by many after-shocks, some of which were felt in the neighbourhood of Orléansville.

J. P. Rothé.

Les tremblements de terre d'Orléansville Sept.-Oct., 1954. Revue pour l'étude des calamités, Geneva, No. XIV, 1954, pp. 77-82, with isoseismic chart.

Le tremblement de terre d'Orléansville, et la Séismicite de l'Algérie. La Nature, Paris, Jan., 1955, No. 3237, pp. 1-9, 21 figures and isoseismic chart.

Les Séismes d'Orléansville et le Séismicite en Algérie, Encyclopedia mensuelle d'Outre-Mer, Vol. V, fasc 60-61, Aug.-Sept., 1955, pp. 350-352, 2 maps and 4 figures.

J. Thévenine.

Les effets du Séisme du 9 sept., 1954, sur les ouvrages hydrauliques de la région d'Orléansville, Terre et Eaux, Alger, 6ème année, No. 24, 1955, pp. 14-23, map and 14 figures.

A. Julian.

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Sur la Séismicité de l'Afrique du Nord, Compte Rendu de l'Académie des Sciences de Paris, Tome 240, Jan., 1955, pp. 797-798.

$$A = +.8085, B = +.0226, C = +.5880; \quad \delta = -7; \quad h = 0;$$

$$D = +.028, E = -1.000; \quad G = +.588, H = +.016, K = -.809.$$

| | Δ | Az. | P. | O - C. | S. | O - C. | Supp. | L. |
|------------------|----------|------|-------|---------------------|-------|--------|-------|--------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Algiers Univ. | z. | 1.3 | 64 | e 0 24 _a | - 1 | — | — | — |
| Alicante | | 2.7 | 323 | 0 43 | - 2 | 1 13 | - 6 | — |
| Almeria | | 3.3 | 282 | i 0 50 | - 3 | i 1 26 | - 9 | — |
| Granada | | 4.3 | 285 | 1 7 | - 1 | i 2 11 | - 1* | 1 25 |
| Malaga | | 4.8 | 278 | i 1 16 | - 1 | i 2 12 | 0 | — |
| Barcelona | | 5.2 | 5 | i 1 18 | - 3 | i 2 14 | - 8 | — |
| Toledo | | 5.8 | 311 | i 1 27 | - 2 | 2 33 | - 5 | i 2 16 |
| Cagliari | | 6.8 | 52 | i 1 49 | + 5 | i 3 11 | + 8 | — |
| Tunis | | 6.9 | 82 | e 1 46 | + 1 | i 3 5 | 0 | i 2 0 |
| Averroes | | 7.9 | 251 | i 2 0 | + 1 | e 3 28 | - 2 | e 2 10 |
| Coimbra | | 8.8 | 300 | 2 11 _k | 0 | i 4 0 | + 7 | 4 11 |
| Lisbon | | 8.9 | 290 | i 2 12 _k | 0 | i 3 49 | - 6 | 2 22 |
| Clermont-Ferrand | | 9.6 | 6 | e 2 22 | + 1 | e 4 11 | - 1 | — |
| Rome | | 10.2 | 53 | e 2 31 | 0 | e 4 22 | - 5 | e 4 56 |
| Oropa | | 10.6 | 25 | i 2 49 | + 13 | i 4 57 | + 20 | — |
| Prato | | 10.6 | 41 | i 2 39 | + 3 | i 4 40 | + 3 | — |
| Pavia | | 10.7 | 30 | e 2 40 _k | + 2 | e 4 47 | + 8 | — |
| Bologna | | 11.1 | 39 | e 2 46 | + 3 | — | — | — |
| Messina | z. | 11.3 | 76 | i 2 47 | + 1 | i 5 0 | + 6 | — |
| Padova | | 11.4 | 40 | e 2 58 | + 11 | i 5 4 | + 8 | — |

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|--------------------|----------|-----|-----|-----|------|------|----|------|-------|-----|--------|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Reggio Calabria | 11.4 | 76 | e 2 | 53? | + 6 | e 5 | 15 | +19 | — | — | e 6.1 |
| Besançon | 11.5 | 15 | i 2 | 49 | + 1 | — | — | — | e 3 | 36 | PP |
| Neuchatel | 11.5 | 19 | e 2 | 47 | - 1 | e 5 | 22 | +23 | — | — | — |
| Salo | 11.6 | 33 | e 2 | 52k | + 2 | e 5 | 12 | +11 | — | — | e 7.2 |
| Basle | 12.2 | 20 | e 2 | 55 | - 3 | — | — | — | — | — | e 6.0 |
| Chur | 12.2 | 27 | e 3 | 1 | + 3 | — | — | — | — | — | e 5.9 |
| Zürich | 12.3 | 23 | e 2 | 56 | - 3 | e 5 | 21 | + 3 | — | — | — |
| Paris | 12.6 | 3 | i 3 | 1 | - 2 | i 5 | 23 | - 3 | i 3 | 17 | PPP |
| Taranto | 13.0 | 66 | — | — | — | e 5 | 18 | -17 | — | — | e 6.4 |
| Jersey | κ. 13.2 | 349 | e 3 | 11 | 0 | i 5 | 53 | +13 | — | — | — |
| Strasbourg | 13.2 | 18 | e 3 | 11 | 0 | i 5 | 47 | + 7 | i 6 | 3 | SS |
| Karlsruhe | 13.7 | 19 | 3 | 17 | - 1 | i 5 | 51 | - 1 | i 3 | 23 | PP |
| Stuttgart | 13.8 | 22 | e 3 | 17 | - 2 | e 5 | 48 | - 6 | — | — | e 6.1 |
| Tamanrasset | z. 13.8 | 164 | i 3 | 19 | 0 | — | — | — | — | — | — |
| Uccle | 14.7 | 7 | i 3 | 31 | 0 | i 6 | 15 | - 1 | e 3 | 44 | PP |
| Kew | 15.3 | 356 | e 3 | 38k | - 1 | i 6 | 31 | + 1 | i 8 | 49 | PcP |
| Cheb | 15.9 | 26 | i 3 | 48 | + 1 | i 6 | 48 | + 4 | — | — | e 7.8 |
| De Bilt | 16.1 | 8 | i 3 | 52k | + 3 | i 6 | 47 | - 2 | — | — | e 7.4 |
| Vienna | z. 16.2 | 38 | i 3 | 52 | + 2 | e 7 | 2 | +11 | i 5 | 22 | ? |
| Jena | 16.4 | 23 | e 3 | 53 | 0 | e 7 | 5 | + 9 | — | — | i 7.8 |
| Kalossa | 16.6 | 46 | 3 | 57 | + 1 | 7 | 23 | SS | 4 | 6 | PP |
| Belgrade | 16.7 | 53 | i 3 | 57a | 0 | e 7 | 18 | +15 | e 7 | 46 | SS |
| Prague | 16.7 | 30 | i 3 | 56k | - 1 | i 6 | 56 | - 7 | i 4 | 11 | PP |
| Ogyalla | 17.0 | 41 | i 4 | 10 | + 9 | i 7 | 16 | + 6 | i 4 | 14 | PP |
| Witteveen | z. 17.0 | 11 | i 4 | 3k | + 2 | — | — | — | — | — | e 10.0 |
| Budapest | 17.2 | 44 | 4 | 3 | 0 | 7 | 19 | + 5 | 4 | 18 | PP |
| Collmburg | 17.2 | 25 | e 4 | 4 | + 1 | e 7 | 49 | SS | — | — | e 9.9 |
| Kecskemet | 17.2 | 46 | 4 | 11 | + 8 | 7 | 57 | SS | 4 | 20 | PP |
| Szeged | 17.2 | 48 | 4 | 6 | + 3 | 7 | 9 | - 5 | 4 | 35 | PP |
| Timisoara | 17.6 | 51 | e 4 | 9 | + 1 | — | — | — | e 4 | 16 | PP |
| Athens | 17.8 | 78 | e 4 | 9a | - 2 | e 7 | 24 | - 4 | i 4 | 28 | PP |
| Rathfarnham Castle | 18.0 | 345 | i 4 | 15k | + 2 | i 7 | 38 | + 6 | i 4 | 24 | PP |
| Sofia | 18.0 | 62 | i 4 | 14 | + 1 | i 7 | 47 | +15 | i 8 | 20 | SS |
| Hamburg | 18.3 | 16 | i 4 | 18a | + 1 | i 7 | 58 | +19 | e 5 | 2 | PP |
| Raciborz | 18.4 | 36 | i 4 | 18 | 0 | e 7 | 37 | - 4 | e 4 | 30? | PP |
| Durham | 18.7 | 354 | i 4 | 24a | + 2 | i 7 | 56 | + 8 | i 8 | 35 | SS |
| Skalnate Pleso | 18.8 | 41 | i 4 | 19 | - 4 | i 7 | 49 | - 1 | i 4 | 38 | PP |
| Zabrze | N. 18.8 | 36 | 4 | 23 | 0 | — | — | — | — | — | e 10.6 |
| Bytom | N. 18.9 | 36 | 4 | 26 | + 2 | — | — | — | — | — | — |
| Campulung | 19.9 | 56 | e 4 | 38 | + 2 | e 8 | 32 | +17 | — | — | — |
| Edinburgh | E. 20.0 | 352 | i 4 | 47 | +10 | 8 | 17 | 0 | 9 | 3 | PcP |
| Bucharest | 20.4 | 59 | e 4 | 41 | 0 | i 8 | 40 | +15 | i 9 | 0 | SS |
| Copenhagen | 20.8 | 18 | i 4 | 46 | + 1 | i 8 | 29 | - 4 | i 8 | 45 | ? |
| Aberdeen | 21.1 | 354 | i 4 | 50 | + 2 | i 8 | 42 | + 3 | i 5 | 20 | PP |
| Warsaw | 21.1 | 35 | e 4 | 49 | + 1 | e 8 | 43 | + 4 | e 5 | 11 | PP |
| Lwow | 21.2 | 43 | i 4 | 48 | - 1 | i 8 | 41 | 0 | i 4 | 56 | ? |
| Focsani | 21.5 | 56 | e 4 | 56 | + 4 | e 8 | 39 | - 8 | — | — | — |
| Bacau | 21.6 | 53 | e 4 | 57 | + 3 | e 8 | 58 | + 9 | — | — | — |
| Cernauti | 21.6 | 48 | i 4 | 53 | - 1 | i 8 | 53 | + 4 | — | — | — |
| Ponta Delgada | 21.8 | 282 | e 5 | 9 | +13 | i 9 | 16 | +24 | i 6 | 11 | ? |
| Istanbul | 22.0 | 69 | i 4 | 56 | - 2 | e 9 | 6 | +10 | — | — | e 12.9 |
| Iasi | 22.2 | 52 | e 5 | 0 | 0 | e 9 | 5 | + 5 | i 6 | 7 | ? |
| Angra do Heroismo | 23.0 | 285 | i 5 | 14 | + 7 | i 9 | 24 | +10 | — | — | 12.6 |
| Kishinev | 23.0 | 54 | i 5 | 7 | 0 | i 9 | 18 | + 4 | — | — | — |
| Helwan | 25.7 | 96 | i 5 | 35a | + 2 | 10 | 8 | + 7 | — | — | — |
| Upsala | 25.8 | 19 | i 5 | 33 | - 1 | i 10 | 4 | + 2 | i 6 | 14 | PP |
| Yalta | 26.1 | 61 | i 5 | 36 | - 1 | — | — | — | — | — | — |
| M'Bour | 27.3 | 222 | e 5 | 50 | + 2 | e 10 | 40 | +13 | i 8 | 41 | PcP |
| Jerusalem | 28.2 | 89 | i 6 | 21 | +25 | i 11 | 17 | +36 | — | — | — |
| Pulkovo | 30.0 | 29 | e 6 | 10 | - 2 | e 11 | 5 | - 5 | — | — | — |

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|--------------------|------------|------------|------|-----------------|------|------|----|------|-------|----|------------|
| | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Moscow | 31.3 | 40 | 6 | 23 | - 1 | — | — | — | — | — | — |
| Reykjavik | 31.4 | 340 | i 6 | 28 _a | + 3 | e 11 | 43 | +11 | i 6 | 41 | e 15.8 |
| Akureyri | 31.7 | 345 | e 6 | 31 | + 4 | e 11 | 45 | + 8 | e 7 | 30 | e 14.4 |
| Kiruna | 33.4 | 13 | i 6 | 42 _a | 0 | i 12 | 5 | + 2 | i 7 | 54 | e 16.4 |
| Erevan | 33.7 | 70 | i 6 | 45 | 0 | — | — | — | — | — | — |
| Tiflis | 33.8 | 67 | i 6 | 45 | - 1 | — | — | — | — | — | — |
| Goris | 35.2 | 71 | i 6 | 58 | 0 | — | — | — | e 7 | 6 | ? |
| Scoresby Sund | 36.6 | 347 | e 7 | 10 | 0 | i 13 | 0 | + 7 | e 8 | 28 | PP 17.9 |
| Sverdlovsk | 44.0 | 43 | i 8 | 10 | - 1 | 14 | 42 | - 1 | — | — | — |
| Ashkabad | 44.7 | 70 | i 8 | 17 | + 1 | — | — | — | — | — | — |
| Halifax | 49.2 | 301 | i 8 | 51 _a | - 1 | i 15 | 55 | - 3 | i 10 | 48 | PP |
| Tchimkent | 51.8 | 61 | i 9 | 11 | - 1 | — | — | — | — | — | — |
| Tashkent | 51.9 | 62 | i 9 | 11 | - 1 | — | — | — | — | — | — |
| Stalinabad | 52.4 | 66 | i 9 | 17 | + 1 | — | — | — | — | — | — |
| Seven Falls | 53.4 | 306 | i 9 | 21 | - 3 | 16 | 54 | - 1 | e 9 | 44 | pP |
| Namangan | 53.7 | 62 | i 9 | 25 | - 1 | — | — | — | — | — | — |
| Bermuda | 53.9 | 287 | e 9 | 27 | 0 | e 17 | 10 | + 8 | e 22 | 53 | Q e 25.1 |
| Fergana | 53.9 | 63 | i 9 | 28 | + 1 | e 16 | 59 | - 3 | e 17 | 5 | S |
| Bermuda (Navy) | 54.1 | 286 | i 9 | 29 | 0 | — | — | — | — | — | — |
| Quetta | 54.1 | 76 | i 9 | 29 | 0 | i 17 | 10 | + 5 | i 9 | 47 | pP |
| Andijan | 54.2 | 62 | i 9 | 29 | 0 | e 17 | 7 | + 1 | — | — | — |
| Shawinigan Falls | 54.8 | 306 | e 9 | 33 | - 1 | — | — | — | — | — | — |
| Frunse | 55.1 | 59 | i 9 | 37 | + 1 | — | — | — | — | — | — |
| Weston | 55.2 | 300 | i 9 | 36 _a | - 1 | e 17 | 24 | + 4 | i 11 | 48 | PP e 23.6 |
| Harvard | 55.3 | 301 | i 9 | 33 | - 5 | i 17 | 40 | sS | i 10 | 4 | pP i 25.9 |
| Rybach'e | 56.3 | 59 | i 9 | 45 | 0 | — | — | — | i 9 | 54 | pP |
| Semipalatinsk | 56.4 | 49 | 9 | 45 | 0 | — | — | — | — | — | — |
| Almata | 56.6 | 58 | i 9 | 47 | 0 | — | — | — | — | — | — |
| Ottawa | 57.1 | 305 | i 9 | 50 _a | 0 | 17 | 47 | + 2 | i 10 | 15 | pP |
| Resolute Bay | 57.1 | 342 | i 9 | 49 _a | - 1 | e 17 | 46 | + 1 | i 11 | 57 | PP e 27.4 |
| Palisades | 57.5 | 300 | e 9 | 52 | - 1 | i 17 | 58 | + 8 | i 12 | 20 | PP e 27.0 |
| City College, N.Y. | 57.6 | 300 | i 9 | 53 | - 1 | i 18 | 2 | +11 | — | — | — |
| Philadelphia | 58.8 | 299 | i 10 | 3 | + 1 | e 18 | 7 | 0 | e 20 | 0 | ScS e 24.4 |
| Kirkland Lake | 59.0 | 309 | e 10 | 2 | - 2 | — | — | — | — | — | — |
| Fort de France | 59.5 | 266 | i 10 | 9 | + 2 | i 18 | 27 | +11 | — | — | — |
| Buffalo (Larkin) | 60.0 | 303 | i 10 | 10 | - 1 | — | — | — | — | — | e 39.7 |
| Pennsylvania | 60.3 | 301 | i 10 | 17 | + 4 | e 18 | 27 | + 1 | e 12 | 31 | PP |
| Washington | 60.5 | 298 | i 10 | 15 | + 1 | e 18 | 36 | + 7 | i 10 | 42 | PcP e 28.8 |
| Roosevelt Roads | 61.3 | 272 | i 10 | 20 | 0 | — | — | — | — | — | — |
| San Juan | 61.6 | 273 | i 10 | 22 _a | 0 | e 18 | 47 | + 4 | e 12 | 37 | PP e 25.5 |
| Pittsburgh | 61.9 | 301 | i 10 | 16 | - 8 | i 18 | 50 | + 3 | i 12 | 37 | PP |
| Cherry Point | 62.5 | 293 | i 10 | 28 | 0 | — | — | — | — | — | — |
| Cleveland | 62.6 | 303 | i 10 | 27 _a | - 1 | i 18 | 48 | - 8 | i 12 | 49 | PP |
| Dehra Dun | 62.7 | 71 | e 10 | 40 | +11 | i 19 | 22 | +25 | 11 | 38 | PP 21.0 |
| New Delhi | 62.8 | 73 | i 10 | 30 | 0 | i 19 | 3 | + 5 | 11 | 4 | PcP 30.2 |
| Chapel Hill | 63.3 | 296 | i 10 | 33 | 0 | e 19 | 16 | +12 | — | — | — |
| Bombay | 64.2 | 85 | i 10 | 41 | + 2 | e 19 | 21 | + 5 | 10 | 57 | PcP |
| Poona | 65.2 | 85 | e 10 | 45 | 0 | i 19 | 34 | + 6 | 11 | 1 | PcP 28.0 |
| Cincinnati | 65.6 | 302 | i 10 | 48 | 0 | — | — | — | — | — | — |
| Chicago | 66.5 | 305 | e 10 | 51 | - 3 | e 19 | 35 | - 9 | e 13 | 19 | PP e 27.5 |
| Pretoria | 66.5 | 154 | e 10 | 53 _k | - 1 | — | — | — | — | — | e 34.7 |
| Terre Haute | 67.5 | 303 | i 11 | 3 | + 3 | — | — | — | — | — | — |
| Irkutsk | 69.3 | 40 | 11 | 11 | 0 | — | — | — | — | — | — |
| Hyderabad | 69.5 | 83 | i 11 | 11 | - 1 | i 20 | 20 | 0 | 13 | 47 | PP 33.4 |
| St. Louis | 69.8 | 304 | i 11 | 13 | - 1 | i 20 | 32 | + 9 | — | — | — |
| Tananarive | 70.0 | 134 | e 11 | 18 | + 3 | e 20 | 40 | +14 | 11 | 37 | PcP e 34.4 |
| Pietermaritzburg | 70.9 | 154 | i 11 | 23 _a | + 2 | — | — | — | — | — | e 36.8 |
| Chatra | 71.4 | 70 | e 11 | 23 | - 1 | e 20 | 39 | - 3 | 13 | 48 | PP 34.4 |
| Saskatoon | 72.1 | 322 | e 11 | 28 | 0 | e 20 | 50 | 0 | e 15 | 58 | PPP 33.4 |
| Kodaikanal | 72.7 | 90 | i 10 | 34 | -58 | i 20 | 58 | + 1 | 11 | 52 | PcP 34.5 |
| Grahamstown | 73.0 | 158 | i 11 | 35 _k | + 2 | — | — | — | — | — | — |
| Galerazamba | 73.1 | 271 | i 11 | 45 | +11 | i 21 | 22 | +21 | i 15 | 50 | PPP 33.4 |
| Madras | 73.3 | 86 | i 11 | 37 | + 2 | e 21 | 11 | + 7 | 11 | 47 | PcP 32.0 |
| Fayetteville | 73.8 | 303 | i 11 | 35 | - 3 | e 21 | 7 | - 2 | e 14 | 31 | PP e 29.8 |
| Calcutta | 74.6 | 73 | i 11 | 41 | - 2 | i 21 | 9 | - 9 | — | — | — |

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| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Shillong | | 75.6 | 69 | i 11 50 _a | + 2 | 21 30 | + 1 | 14 40 | PP | 32.2 |
| Bogota | | 75.7 | 265 | i 11 50 | + 1 | i 21 36 | + 6 | i 22 8 | PS | 33.4 |
| Wuwei | | 76.3 | 53 | e 11 53 | + 1 | — | — | — | — | — |
| College | | 76.4 | 347 | i 11 53 _a | 0 | e 21 35 | - 3 | e 14 49 | PP | e 31.4 |
| Swan Is. | | 76.4 | 282 | i 12 19 | +26 | — | — | — | — | — |
| Colombo | E. | 76.5 | 91 | — | — | 21 44 | + 5 | — | — | 38.4 |
| Chinchina | | 76.7 | 266 | i 11 57 | + 2 | i 21 51 | +10 | i 14 46 | PP | 35.4 |
| Dallas | | 77.4 | 301 | i 12 3 | + 5 | i 21 49 | 0 | — | — | — |
| Lanchow Univ. | | 78.1 | 54 | e 12 6 | + 4 | — | — | — | — | — |
| Hungry Horse | | 78.2 | 322 | i 12 2 _a | - 1 | e 21 47 | -10 | e 22 52 | PPS | — |
| Bozeman | | 78.4 | 319 | i 12 5 _k | + 1 | e 22 1 | + 1 | e 15 3 | PP | e 32.6 |
| Boulder | | 78.7 | 312 | i 12 7 | + 1 | — | — | — | — | — |
| Merida | | 78.8 | 288 | e 12 6 | 0 | e 22 4 | 0 | — | — | — |
| Butte | N. | 79.0 | 320 | e 12 7 _k | 0 | i 22 8 | + 2 | e 15 9 | PP | e 34.5 |
| Paotow | | 79.3 | 47 | e 12 13 | + 4 | — | — | — | — | — |
| Sitka | | 80.2 | 338 | i 12 18 | + 4 | i 22 28 | + 9 | i 15 19 | PP | e 33.7 |
| Tatung | E. | 81.5 | 46 | e 12 27 | + 6 | — | — | — | — | — |
| Salt Lake City | | 82.0 | 315 | e 12 24 | + 1 | e 22 38 | + 1 | e 15 28 | PP | e 33.7 |
| Victoria | | 82.5 | 327 | — | — | e 22 53 | +11 | — | — | 39.6 |
| Seattle | | 82.6 | 326 | i 12 28 | + 2 | e 22 46 | + 3 | — | — | — |
| Taiyuan | E. | 82.6 | 48 | e 12 28 | + 2 | — | — | — | — | — |
| Linfen | E. | 83.0 | 50 | e 12 33 | + 5 | — | — | — | — | — |
| La Paz | | 84.1 | 245 | i 12 36 _a | + 2 | i 23 12 | +14 | i 15 50 | PP | — |
| Vera Cruz | | 84.8 | 290 | e 12 39 | + 2 | 23 15 | +10 | e 24 7 | PS | — |
| Corvallis | Z. | 85.4 | 324 | i 12 44 | + 4 | e 23 16 | + 5 | — | — | — |
| Chihuahua | | 86.3 | 303 | i 12 39 _k | - 6 | e 23 15 | - 5 | — | — | — |
| Puebla | | 86.5 | 291 | e 12 46 | 0 | e 23 18 | - 4 | — | — | — |
| Oaxaca | | 86.6 | 288 | e 12 45 | - 1 | e 23 25 | + 2 | — | — | — |
| Huancayo | | 86.7 | 253 | e 12 51 | + 4 | i 23 41 | +17 | i 16 15 | PP | e 41.1 |
| Boulder City | | 87.0 | 313 | i 12 50 _a | + 2 | e 23 31 | + 4 | i 13 4 | PcP | — |
| Tacubaya | | 87.0 | 292 | e 12 47 | - 1 | e 23 33 | + 6 | e 13 8 | PcP | — |
| Tucson | | 87.1 | 308 | i 12 49 _a | 0 | e 23 29 | + 1 | i 16 9 | PP | e 37.2 |
| Nelson | Z. | 87.2 | 313 | i 12 51 _a | + 2 | e 24 27 | PS | i 12 56 | PcP | — |
| Reno | | 87.3 | 319 | e 12 52 | + 2 | e 23 30 | + 1 | — | — | — |
| Mineral | Z. | 87.6 | 320 | i 12 52 _a | + 1 | — | — | — | — | — |
| Shasta | | 87.8 | 321 | e 12 52 | 0 | e 23 22 | [+ 3] | — | — | — |
| Tinemaha | | 88.2 | 316 | i 12 56 | + 2 | — | — | — | — | — |
| Montezuma | Z. | 88.5 | 240 | i 12 58 _a | + 2 | e 27 32 | ? | e 43 8 | SKPP' | — |
| Fresno | Z. | 89.3 | 317 | e 13 1 | + 2 | — | — | — | — | — |
| Guadalajara | | 89.3 | 295 | e 13 2 | + 3 | e 23 55 | + 7 | — | — | — |
| Isabella | Z. | 89.4 | 315 | i 13 0 | 0 | — | — | — | — | — |
| Ukiah | | 89.4 | 320 | e 13 8 | + 8 | e 23 43 | - 6 | e 28 59 | SS | e 35.6 |
| Woody | Z. | 89.5 | 315 | e 13 4 | + 4 | — | — | e 38 46 | P'P' | — |
| Berkeley | | 89.8 | 319 | e 13 2 _a | 0 | e 23 43 | -10 | e 16 32 | PP | — |
| La Plata | | 89.9 | 225 | 30 29 | PKKP | 23 35 | [+ 3] | 29 29 | SS | 39.3 |
| Lick | Z. | 89.9 | 318 | e 13 4 | + 2 | — | — | — | — | — |
| Riverside | Z. | 89.9 | 313 | e 13 2 _a | 0 | — | — | e 16 37 | PP | — |
| Buenos Aires | | 90.0 | 226 | e 12 24 | -39 | 23 33 | [0] | — | — | — |
| Palomar | Z. | 90.0 | 313 | e 13 3 _k | 0 | — | — | i 16 37 | PP | — |
| Santa Clara | | 90.0 | 318 | e 13 9 _k | + 6 | e 23 54 | 0 | — | — | e 43.0 |
| Nanking | Z. | 90.2 | 49 | e 13 2 | - 2 | — | — | — | — | — |
| Pasadena | | 90.2 | 314 | i 13 5 | + 1 | e 24 2 | + 6 | i 16 40 | PP | e 42.2 |
| Antofagasta | N. | 90.3 | 241 | e 13 17 | +13 | e 24 7 | +10 | e 23 43 | SKS | e 44.5 |
| Zô-Sè | Z. | 92.3 | 48 | e 13 13 | 0 | — | — | — | — | — |
| Hong Kong | E. | 93.8 | 59 | e 17 7 | PP | e 23 58 | [+ 4] | 17 15 | ? | — |
| Santa Lucia | N. | 96.6 | 233 | e 13 0 | -33 | 24 19 | [+ 9] | 19 3 | PPP | e 45.1 |
| Matusiro | | 97.2 | 34 | e 13 30 | - 6 | 26 34 | PS | 17 36 | PP | 51.6 |
| Manila | | 103.7 | 60 | e 18 7 | PP | — | — | — | — | — |
| Djakarta | Z. | 105.9 | 86 | e 18 33 _a | PP | — | — | — | — | — |
| Bandung | | 107.0 | 86 | 18 30 | PP | 33 43 | SS | — | — | — |
| Lembang | | 107.0 | 86 | e 18 45 _a | PP | e 23 56 | ? | e 33 50 | SS | e 50.8 |
| Honolulu | | 119.7 | 338 | e 18 47 | [- 5] | e 29 41 | PS | e 21 44 | PP | e 48.5 |
| Perth | | 126.3 | 106 | i 22 5 | ? | i 26 54 | [+44] | i 23 16 | PKS | i 66.1 |
| Riverview | | 155.0 | 94 | i 19 50 _a | [- 4] | 30 56 | {+10} | i 24 7 | PP | e 76.4 |
| Nouméa | | 160.9 | 48 | e 20 10 | [+ 8] | e 24 36 | PP | e 20 56 | PKP ₂ | — |
| Auckland | N. | 174.5 | 99 | — | — | e 47 10 | SS | — | — | e 94.4 |

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1954

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Sept. 9d. 3h. 29m. Epicentre 36°·6N. 70°·0E. Depth of focus 200km.
Bulletin of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, p. 90.

Sept. 9d. 9h. 28m. 42s. Epicentre 36°·2N. 1°·6E. (as at 1h.).

Magnitudes 5-6 (Prague and Upsala).

| | | Δ | Az | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----|----------|-----|---------------------|------|---------|------|---------|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Algiers Univ. | z. | 1·3 | 64 | i 0 26 _a | + 1 | — | — | — | — |
| Alicante | | 2·7 | 323 | 0 40 | - 5 | 1 12 | - 7 | — | — |
| Almer a | | 3·3 | 282 | i 0 54 | + 1 | i 1 30 | - 5 | — | — |
| Granada | | 4·3 | 285 | 1 9 | + 1 | 2 7 | + 7 | 1 17 | P* |
| Malaga | | 4·8 | 278 | i 1 3 | -12 | i 1 53 | -19 | — | — |
| Barcelona | | 5·2 | 5 | e 1 19 | - 2 | e 2 13 | - 9 | — | — |
| Toledo | | 5·8 | 311 | i 1 26 | - 3 | e 2 32 | - 6 | — | — |
| Tunis | | 6·9 | 82 | e 1 48 | + 3 | e 2 54 | -11 | e 3 12 | S |
| Coimbra | | 8·8 | 300 | 2 9 | - 2 | 3 41 | -12 | 4 34 | S* |
| Lisbon | z. | 8·9 | 290 | i 2 11 _k | - 1 | — | — | — | 5·1 |
| Clermont-Ferrand | | 9·6 | 6 | e 2 30 | + 9 | — | — | — | — |
| Rome | | 10·2 | 53 | e 2 31 | 0 | e 4 32 | + 5 | — | e 5·0 |
| Messina | E. | 11·3 | 76 | e 2 49 | + 3 | e 5 6 | +12 | — | — |
| Reggio Calabria | | 11·4 | 76 | e 2 46 | - 1 | — | — | — | — |
| Besançon | | 11·5 | 15 | e 2 52 | + 4 | e 5 6 | + 7 | e 3 4 | PP |
| Neuchatel | | 11·5 | 19 | e 2 49 | + 1 | — | — | — | e 6·0 |
| Salo | | 11·6 | 33 | e 3 13 | +23 | e 5 41 | +40 | — | e 7·6 |
| Basle | | 12·2 | 20 | e 2 59 | + 1 | — | — | — | e 6·4 |
| Zürich | | 12·3 | 23 | e 3 1 | + 2 | — | — | — | — |
| Paris | | 12·6 | 3 | e 3 1 | - 2 | — | — | e 3 9 | PP |
| Strasbourg | | 13·2 | 18 | e 3 14 | + 3 | — | — | i 3 36 | PPP |
| Karlsruhe | | 13·7 | 19 | e 3 19 _k | + 1 | — | — | i 3 39 | PPP |
| Stuttgart | | 13·8 | 22 | e 3 20 | + 1 | — | — | — | e 6·5 |
| Tamanrasset | z. | 13·8 | 164 | e 3 26 _? | + 7 | e 6 12 | +18 | e 5 22 | ? |
| Uccle | | 14·7 | 7 | e 3 34 | + 3 | e 3 48 | PP | e 4 5 | PPP |
| Kew | | 15·3 | 356 | i 3 45 _k | + 6 | i 6 49 | +19 | — | e 7·8 |
| Cheb | | 15·9 | 26 | e 5 48 | ? | — | — | — | — |
| De Bilt | | 16·1 | 8 | e 3 48 | - 1 | — | — | — | e 7·3 |
| Jena | | 16·4 | 23 | e 3 54 | + 1 | e 6 27 | -29 | — | — |
| Prague | | 16·7 | 30 | e 3 51 | - 6 | i 6 52 | -11 | e 4 9 | PP |
| Witteveen | z. | 17·0 | 11 | e 3 58 | - 3 | — | — | — | — |
| Budapest | | 17·2 | 44 | e 4 7 | + 4 | 7 31 | +17 | 4 39 | PPP |
| Collmberg | | 17·2 | 25 | e 4 3 | 0 | — | — | — | — |
| Rathfarnham C. | z. | 18·0 | 345 | e 4 21 | + 8 | — | — | — | — |
| Sofia | | 18·0 | 62 | e 4 15 | + 2 | — | — | — | — |
| Hamburg | | 18·3 | 16 | e 4 18 _? | + 1 | — | — | — | e 10·1 |
| Raciborz | | 18·4 | 36 | e 4 20 | + 2 | — | — | — | — |
| Bucharest | N. | 20·4 | 59 | e 4 44 | + 3 | e 8 40 | +15 | e 5 49 | ? |
| Copenhagen | | 20·8 | 18 | i 4 45 | 0 | 8 30 | - 3 | — | 10·8 |
| Warsaw | | 21·1 | 35 | e 4 50 | + 2 | e 9 10 | +31 | e 6 11 | ? |
| Istanbul | | 22·0 | 69 | e 4 57 | - 1 | — | — | — | — |
| Helwan | | 25·7 | 69 | 5 36 | + 3 | e 10 12 | +11 | — | — |
| Upsala | | 25·8 | 19 | i 5 33 _a | - 1 | — | — | — | e 13·8 |
| Kiruna | | 33·4 | 13 | i 6 43 _a | + 1 | — | — | — | e 14·3 |
| Scoresby Sund | | 36·6 | 347 | e 8 42 | PP | — | — | — | 18·3 |
| Weston | | 55·2 | 300 | e 9 35 _k | - 2 | — | — | — | — |
| Harvard | | 55·3 | 301 | e 9 36 | - 2 | — | — | — | — |
| Ottawa | | 57·1 | 305 | i 9 49 _a | - 1 | — | — | — | — |
| Resolute Bay | | 57·1 | 342 | e 9 48 | - 2 | — | — | — | — |
| Palisades | | 57·5 | 300 | e 9 49 | - 4 | — | — | — | — |
| Kirkland Lake | z. | 59·0 | 309 | e 10 0 | - 4 | — | — | — | — |
| San Juan | | 61·6 | 273 | i 10 21 | - 1 | — | — | — | — |
| College | | 76·4 | 347 | i 11 52 | - 1 | — | — | — | — |
| Chinchina | z. | 76·7 | 266 | i 11 56 | + 1 | — | — | — | — |
| Hungry Horse | | 78·2 | 322 | i 12 2 | - 1 | — | — | e 17 57 | ? |

Continued on next page.

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1954

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|--------------|----|------------|------------|------|----|------|----|----|------|-------|----|----|
| | | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Bozeman | | 78.4 | 319 | e 12 | 4 | 0 | — | — | — | — | — | — |
| Boulder | | 78.7 | 312 | i 12 | 50 | ? | — | — | — | — | — | — |
| Butte | N. | 79.0 | 320 | i 12 | 7 | 0 | — | — | — | — | — | — |
| Victoria | | 82.5 | 327 | 12 | 26 | 0 | — | — | — | — | — | — |
| Boulder City | | 87.0 | 313 | i 12 | 50 | + 2 | — | — | — | — | — | — |
| Nelson | z. | 87.2 | 313 | i 12 | 50 | + 1 | — | — | e 13 | 3 | ? | — |
| Tinemaha | z. | 88.2 | 316 | e 12 | 55 | + 1 | — | — | — | — | — | — |
| Riverside | | 89.9 | 313 | e 13 | 3 | + 1 | — | — | — | — | — | — |
| Pasadena | z. | 90.2 | 314 | e 13 | 3 | - 1 | — | — | — | — | — | — |

Sept. 9d. 18h. 55m. Epicentre $37^{\circ}7'N$, $70^{\circ}5'E$. Depth of focus 200km.
 Bulletin of the Seismo. Stations of the U.S.S.R. for 1954, July-Sept., Moscow, 1955, pp. 90-91. Recorded also by Indian stations.

Sept. 10d. 5h. 44m. 6s. Epicentre $36^{\circ}6'N$, $1^{\circ}2'E$.

Felt strongly in Algeria, particularly at Tunis, where houses crumbled (Intensity IX). Intensity VIII-IX at Montrenotre, Cap Ténès, and Cavaignac; VII at Dupleix; V at Bou Medga, El Marsa, Miliana, and Ouled Fayet; IV at Algiers, etc.

J. P. Rothé.

Talbeau de la Séismicité du Globe pendant les années 1953-954, Revue pour l'étude des calamités, Tome XV, No. 33, janvier-décembre, 1955, p. 15.

$$A = +.8045, B = +.0169, C = +.5936; \quad \delta = -13; \quad h = 0;$$

$$D = +.021, E = -1.000; \quad G = +.594, H = +.012, K = -.805.$$

| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|------------------|----|------------|------------|-----|-----------------|------|-----|-----|------------------|-------|----|-------|
| | | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Algiers Univ. | z. | 1.5 | 82 | i 0 | 26 _a | - 2 | — | — | — | — | — | — |
| Alicante | | 2.2 | 323 | 0 | 36 | - 2 | 1 | 8 | + 2 | — | — | — |
| Almeria | | 3.0 | 276 | i 0 | 39 | -11 | i 1 | 15 | -12 | — | — | — |
| Granada | | 3.9 | 280 | 0 | 59 | - 3 | i 2 | 11 | + 2 _g | 1 | 13 | P* |
| Malaga | | 4.6 | 274 | i 1 | 1 | -11 | i 1 | 55 | -12 | — | — | — |
| Barcelona | | 4.9 | 8 | 1 | 20 | + 3 | 2 | 27 | - 2* | e 2 | 8 | S |
| Toledo | | 5.3 | 310 | i 1 | 22 | 0 | i 2 | 22 | - 3 | i 2 | 10 | ? |
| Cuglieri | | 6.8 | 56 | i 1 | 37 | - 7 | i 3 | 0 | - 3 | — | — | i 3.9 |
| Tunis | | 7.2 | 86 | e 1 | 49 | 0 | e 3 | 9 | - 4 | e 2 | 10 | P* |
| Averroes | | 7.8 | 248 | i 1 | 58 | 0 | e 4 | 16 | - 2 _g | e 3 | 24 | S |
| Coimbra | | 8.4 | 298 | 2 | 5 _a | - 1 | 3 | 42 | - 1 | 4 | 13 | S* |
| Lisbon | | 8.5 | 288 | 2 | 8 _a | + 1 | i 3 | 35 | -10 | 2 | 15 | PP |
| Clermont-Ferrand | | 9.3 | 8 | e 2 | 20 | + 3 | e 4 | 12 | + 7 | — | — | 4.7 |
| Rome | | 10.2 | 55 | e 2 | 29 | - 2 | e 4 | 9 | -18 | — | — | e 4.8 |
| Oropa | | 10.4 | 27 | e 2 | 35 | + 1 | e 4 | 20 | -12 | e 2 | 52 | PPP |
| Pavia | | 10.5 | 32 | e 2 | 33 _a | - 2 | e 4 | 27 | - 8 | e 2 | 45 | PP |
| Prato | | 10.5 | 43 | e 2 | 33 | - 2 | i 4 | 38 | + 3 | — | — | e 5.0 |
| Bologna | | 11.0 | 41 | e 2 | 39 | - 3 | e 4 | 54? | + 7 | e 2 | 51 | PP |
| Neuchatel | | 11.2 | 20 | e 2 | 44 | 0 | — | — | — | e 2 | 49 | PP |
| Besançon | | 11.3 | 17 | e 2 | 48 | + 2 | e 5 | 1 | + 7 | e 3 | 26 | ? |
| Padova | | 11.3 | 42 | e 3 | 1 | PPP | — | — | — | e 3 | 15 | ? |
| Messina | | 11.5 | 78 | e 2 | 49 | + 1 | i 5 | 5 | + 6 | i 2 | 56 | PP |
| Reggio Calabria | | 11.6 | 78 | e 2 | 55 | + 5 | — | — | — | — | — | i 6.1 |
| Basle | | 11.9 | 21 | e 2 | 52 | - 2 | e 5 | 45 | +36 | — | — | — |
| Zürich | | 12.1 | 24 | e 2 | 55 | - 2 | e 5 | 19 | + 5 | — | — | — |
| Paris | | 12.2 | 4 | e 2 | 58 | 0 | e 5 | 12 | - 4 | i 3 | 4 | PP |
| Jersey | E. | 12.8 | 350 | e 3 | 9 | + 3 | e 5 | 36 | + 6 | — | — | e 6.4 |
| Strasbourg | | 12.9 | 20 | e 3 | 10 | + 3 | e 5 | 36 | + 3 | e 6 | 0 | SSS |
| Taranto | | 13.1 | 68 | e 4 | 2 | ? | — | — | — | — | — | e 6.6 |
| Triest | | 13.1 | 42 | i 3 | 8 | - 2 | i 5 | 44 | + 6 | i 4 | 21 | ? |
| Karlsruhe | | 13.5 | 21 | i 3 | 16 _k | + 1 | e 6 | 48 | +61 | i 3 | 20 | PP |
| Stuttgart | | 13.5 | 23 | e 3 | 14 | - 1 | e 5 | 41 | - 6 | i 3 | 20 | PP |
| Tamanrasset | z. | 14.2 | 164 | e 3 | 23 | - 1 | e 5 | 52 | -12 | — | — | e 6.9 |
| Uccle | | 14.4 | 8 | e 3 | 28 | + 1 | e 6 | 6 | - 3 | e 3 | 46 | PPP |
| Kew | | 14.9 | 356 | e 3 | 32 _k | - 2 | i 6 | 28 | + 8 | i 3 | 39 | P |

Continued on next page.

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1954

550

| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|--------------------|----------|-----|------|-----------------|------|-----------------------|-----------------|------|-------|----|-----|--------|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Cheb | 15.7 | 27 | 13 | 46 | + 2 | e 6 | 45 | + 6 | e 4 | 3 | PP | e 8.0 |
| De Bilt | 15.8 | 9 | i 3 | 49 | + 4 | e 6 | 42 | 0 | — | — | — | e 7.8 |
| Vienna | 16.1 | 39 | i 3 | 50 | + 1 | i 6 | 55 | + 6 | e 7 | 6 | SS | 8.9 |
| Jena | 16.2 | 24 | e 3 | 50 | 0 | e 6 | 50 | - 1 | i 3 | 56 | PP | e 8.1 |
| Prague | 16.5 | 31 | i 3 | 56 ^a | + 2 | i 7 | 4 | + 6 | i 4 | 8 | PP | e 8.6 |
| Belgrade | 16.7 | 54 | e 3 | 56 ^a | - 1 | e 7 | 16 | SS | e 4 | 4 | PP | — |
| Witteveen | 16.7 | 12 | e 4 | 1 | + 4 | — | — | — | — | — | — | — |
| Ogyalla | 16.8 | 43 | e 4 | 6 | + 8 | e 7 | 13 | + 8 | e 7 | 30 | SS | — |
| Collnberg | 17.0 | 26 | e 4 | 1 | 0 | e 7 | 38 | SS | — | — | — | e 10.0 |
| Budapest | 17.1 | 45 | 4 | 10 | + 8 | e 7 | 15 | + 3 | e 4 | 19 | PP | 9.2 |
| Szeged | 17.1 | 50 | 4 | 5 | + 3 | 7 | 14 | + 2 | — | — | — | — |
| Kecskemet | 17.2 | 47 | 4 | 0 | - 3 | 7 | 16 | + 2 | 4 | 7 | P | e 10.9 |
| Rathfarnham Castle | 17.5 | 345 | i 4 | 7 ^k | 0 | 7 | 30 | + 9 | i 5 | 47 | ? | e 10.2 |
| Timisoara | 17.6 | 52 | e 4 | 13 | + 5 | e 8 | 12 [?] | SSS | — | — | — | — |
| Athens | 18.0 | 79 | e 4 | 11 | - 2 | e 7 | 29 | - 3 | i 4 | 27 | PP | — |
| Hamburg | 18.0 | 17 | i 4 | 15 ^k | + 2 | i 7 | 44 | +12 | — | — | — | e 10.4 |
| Sofia | 18.1 | 64 | i 4 | 16 | + 2 | i 7 | 41 | + 6 | — | — | — | 10.4 |
| Raciborz | 18.2 | 37 | e 4 | 15 | - 1 | e 5 | 44 | ? | e 4 | 24 | PP | e 11.0 |
| Durham | 18.3 | 355 | i 4 | 16 | - 1 | i 7 | 42 | + 3 | — | — | — | i 9.0 |
| Skalnate Pleso | 18.7 | 42 | i 4 | 22 | 0 | i 7 | 50 | + 2 | i 4 | 35 | PP | — |
| Zabrze | 18.7 | 37 | i 4 | 24 | + 2 | — | — | — | — | — | — | — |
| Bucharest | 20.4 | 60 | e 4 | 45 | + 4 | i 8 | 41 | +16 | i 8 | 59 | PcP | 10.9 |
| Copenhagen | 20.6 | 18 | i 4 | 45 | + 2 | i 8 | 34 | + 5 | — | — | — | 10.7 |
| Aberdeen | 20.7 | 355 | i 4 | 50 | + 6 | i 8 | 39 | + 8 | i 5 | 1 | PP | 11.0 |
| Warsaw | 21.0 | 36 | i 4 | 50 | + 3 | i 8 | 47 | +10 | i 5 | 20 | PPP | e 11.9 |
| Lwow | 21.1 | 44 | e 4 | 49 | + 1 | 8 | 43 | + 4 | — | — | — | — |
| Istanbul | 22.1 | 70 | e 4 | 57 | - 2 | e 8 | 57 | - 1 | — | — | — | e 11.5 |
| Iasi | 22.2 | 53 | e 5 | 1 | + 1 | e 9 | 4 | + 4 | — | — | — | — |
| Angra do Heroismo | 22.6 | 284 | — | — | — | e 9 | 18 | +11 | — | — | — | 12.2 |
| Upsala | 25.6 | 19 | i 5 | 30 | - 2 | i 9 | 51 | - 8 | i 6 | 12 | PP | e 11.9 |
| Helwan | 26.0 | 96 | 5 | 37 | + 1 | 10 | 10 | + 4 | — | — | — | — |
| Yalta | 26.1 | 62 | e 5 | 36 | - 1 | e 10 | 8 | + 1 | — | — | — | — |
| M'Bour | 27.4 | 221 | — | — | — | (10 54 [?]) | +26 | — | — | — | — | e 10.9 |
| Jerusalem | 28.4 | 90 | i 6 | 4 | + 6 | i 11 | 41 | +56 | — | — | — | — |
| Pulkovo | 29.8 | 30 | e 6 | 8 | - 3 | e 11 | 2 | - 5 | — | — | — | — |
| Reykjavik | 30.9 | 340 | i 6 | 22 | + 2 | — | — | — | — | — | — | — |
| Kiruna | 33.1 | 13 | i 6 | 38 ^k | - 2 | e 11 | 50 [?] | - 9 | i 7 | 42 | PP | e 17.4 |
| Erevan | 33.9 | 70 | i 6 | 46 | - 1 | 12 | 8 | - 3 | — | — | — | — |
| Tiflis | 33.9 | 68 | e 6 | 46 | - 1 | — | — | — | — | — | — | — |
| Makhach-Kala | 35.8 | 65 | i 7 | 3 | 0 | e 12 | 36 | - 5 | — | — | — | — |
| Scoresby Sund | 36.2 | 347 | e 7 | 6 | 0 | i 15 | 34 | SSS | i 8 | 34 | PP | 17.9 |
| Sverdlovsk | 43.9 | 43 | i 8 | 8 | - 2 | i 14 | 36 | - 6 | — | — | — | — |
| Ashkabad | 44.9 | 70 | 8 | 17 | - 1 | — | — | — | — | — | — | — |
| Tchinkent | 51.8 | 61 | i 9 | 11 | - 1 | i 16 | 31 | - 2 | — | — | — | — |
| Stalinabad | 52.4 | 66 | i 9 | 15 | - 1 | i 16 | 39 | - 3 | — | — | — | — |
| Bermuda | 53.6 | 286 | e 9 | 26 | + 1 | e 16 | 59 | + 1 | — | — | — | e 24.4 |
| Fergana | 54.0 | 63 | e 9 | 26 | - 2 | e 17 | 0 | - 3 | — | — | — | — |
| Andijan | 54.3 | 62 | i 9 | 30 | 0 | 17 | 7 | 0 | — | — | — | — |
| Quetta | 54.3 | 76 | i 9 | 29 | - 1 | e 17 | 5 | - 2 | e 10 | 34 | PcP | — |
| Shawinigan Falls | 54.4 | 305 | e 9 | 29 ^k | - 2 | — | — | — | e 10 | 34 | PcP | — |
| Weston | 54.7 | 300 | e 9 | 32 ^k | - 1 | e 17 | 12 | - 1 | — | — | — | e 26.0 |
| Harvard | 54.9 | 300 | e 9 | 33 | - 2 | — | — | — | — | — | — | — |
| Khorog | 54.9 | 66 | e 9 | 35 | 0 | — | — | — | — | — | — | — |
| Frunse | 55.1 | 59 | i 9 | 36 | 0 | i 17 | 18 | 0 | — | — | — | — |
| Sempalatinsk | 56.4 | 49 | 9 | 44 | - 1 | 17 | 31 | - 5 | — | — | — | — |
| Ottawa | 56.7 | 305 | e 9 | 46 ^k | - 2 | 17 | 41 | + 1 | 10 | 43 | PcP | — |
| Resolute Bay | 56.7 | 342 | e 9 | 46 | - 2 | i 17 | 54 | +14 | e 13 | 18 | PPP | e 28.4 |
| Palisades | 57.0 | 299 | i 9 | 48 | - 2 | i 17 | 42 | - 1 | 19 | 56 | pP | e 27.1 |
| City College, N.Y. | 57.1 | 299 | e 9 | 52 | + 2 | e 17 | 17 | -28 | — | — | — | — |
| Philadelphia | 58.3 | 299 | e 10 | 4 | + 5 | e 18 | 4 | + 3 | e 19 | 58 | ScS | e 28.1 |

Continued on next page.

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1954

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|------------------|----|----------|-----|-------|-----|------------------|---------|-------|---------|---------|--------|----|
| | | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Kirkland Lake | z. | 58.5 | 309 | e 9 | 59 | - 1 | — | — | — | — | — | — |
| Buffalo (Larkin) | | 59.6 | 303 | i 10 | 6 | - 2 | — | — | — | — | — | — |
| Washington | z. | 60.1 | 298 | i 10 | 10 | - 1 | — | — | — | e 10 23 | ? | — |
| San Juan | | 61.3 | 272 | i 10 | 20 | 0 | — | — | — | — | — | — |
| Cleveland | | 62.1 | 302 | i 10 | 24 | - 1 | e 18 54 | + 5 | — | — | — | — |
| Dehra Dun | N. | 62.8 | 71 | e 10 | 47 | +17 | — | — | — | — | — | — |
| Cincinnati | | 65.2 | 301 | i 10 | 44 | - 1 | — | — | — | — | — | — |
| Poona | | 65.4 | 85 | i 10 | 54 | + 7 | i 19 42 | +12 | — | — | — | — |
| Pretoria | z. | 67.0 | 154 | e 11 | 0 | + 3 | — | — | — | — | — | — |
| Kimberley | z. | 68.6 | 158 | i 11 | 8 | + 1 | — | — | — | — | — | — |
| Hyderabad | z. | 69.7 | 83 | — | — | — | 20 26 | + 4 | — | — | — | — |
| Tananarive | | 70.4 | 133 | e 11 | 22 | + 4 | — | — | e 12 36 | ? | — | — |
| Kyakhta | | 71.3 | 41 | 11 | 23 | 0 | e 20 39 | - 2 | — | — | — | — |
| Galerazamba | | 72.8 | 271 | e 11 | 39 | + 7 | i 21 8 | +10 | — | — | — | — |
| Kodaikanal | E. | 73.0 | 90 | e 10 | 35 | -58 | — | — | — | — | — | — |
| Madras | E. | 73.6 | 86 | i 11 | 46 | + 9 | i 21 4 | - 3 | 21 32 | ScS | — | — |
| Bogota | | 75.5 | 265 | e 11 | 44 | - 4 | i 21 26 | - 2 | e 14 29 | PP | — | — |
| Shillong | z. | 75.7 | 69 | i 11 | 50k | + 1 | — | — | — | — | — | — |
| College | | 76.0 | 347 | i 11 | 49 | - 2 | i 12 13 | ? | i 12 1 | PcP | — | — |
| Chinchina | | 76.5 | 266 | i 11 | 53 | - 1 | i 21 40 | + 1 | — | — | — | — |
| Dallas | | 77.0 | 301 | e 11 | 56 | 0 | i 21 44 | - 1 | — | — | — | — |
| Hungry Horse | | 77.7 | 322 | i 11 | 59 | - 1 | — | — | e 14 53 | PP | — | — |
| Bozeman | | 77.9 | 318 | i 12 | 1 | 0 | — | — | — | — | — | — |
| Boulder | | 78.2 | 311 | i 12 | 3 | 0 | — | — | — | — | — | — |
| Butte | N. | 78.5 | 319 | i 12 | 5 | + 1 | i 22 4 | + 3 | e 14 57 | PP | e 32.0 | — |
| Magadan | | 81.0 | 15 | e 12 | 18 | 0 | — | — | — | — | — | — |
| Salt Lake City | | 81.6 | 315 | i 12 | 20 | - 1 | e 22 34 | + 1 | i 13 19 | ? | e 36.0 | — |
| Victoria | | 82.0 | 326 | 12 | 23 | 0 | — | — | — | — | — | — |
| Seattle | | 82.2 | 325 | i 12 | 25 | + 1 | e 22 46 | + 7 | e 22 24 | S | 45.9 | — |
| La Paz | | 84.0 | 244 | e 12 | 36 | + 3 | i 23 2 | + 5 | — | — | 45.8 | — |
| Boulder City | | 86.6 | 313 | i 12 | 48 | + 2 | i 13 9 | ? | e 16 8 | PP | — | — |
| Huancayo | | 86.6 | 252 | e 12 | 51 | + 5 | e 23 30 | + 7 | — | — | e 47.6 | — |
| Tucson | | 86.6 | 308 | i 12 | 46 | 0 | e 24 18 | PS | e 16 7 | PP | e 42.1 | — |
| Nelson | z. | 86.8 | 313 | i 12 | 48 | + 1 | i 13 3 | ? | i 16 9 | PP | — | — |
| Reno | z. | 86.8 | 318 | i 12 | 49 | + 2 | — | — | — | — | — | — |
| Mineral | z. | 87.2 | 320 | i 12 | 49 | 0 | — | — | — | — | — | — |
| Shasta | z. | 87.3 | 321 | i 12 | 48 | - 2 | — | — | — | — | — | — |
| Tinemaha | z. | 87.8 | 316 | i 12 | 53 | + 1 | — | — | — | — | — | — |
| Montezuma | z. | 88.5 | 240 | e 12 | 57 | + 1 | — | — | — | — | — | — |
| Fresno | z. | 88.8 | 316 | e 12 | 58 | + 1 | — | — | — | — | — | — |
| Vladivostok | | 88.9 | 34 | e 12 | 59 | + 1 | — | — | — | — | — | — |
| Berkeley | | 89.4 | 319 | e 13 | 0 | 0 | e 23 32 | [+ 3] | — | — | — | — |
| Lick | z. | 89.4 | 318 | i 13 | 1 | + 1 | — | — | — | — | — | — |
| Riverside | z. | 89.4 | 313 | i 13 | 0 | 0 | — | — | — | — | — | — |
| Palomar | z. | 89.6 | 312 | i 13 | 1 | 0 | — | — | — | — | — | — |
| Santa Clara | E. | 89.6 | 318 | — | — | — | 23 50 | - 1 | — | — | — | — |
| Pasadena | | 89.8 | 314 | i 13 | 2 | 0 | — | — | — | — | e 46.9 | — |
| La Plata | | 89.9 | 225 | 16 18 | — | PP | 23 30 | [- 2] | 25 12 | PS | 43.3 | — |
| Yuzno-Sakhlinsk | | 89.9 | 25 | e 13 | 1 | - 1 | — | — | — | — | — | — |
| Hong Kong | E. | 93.8 | 59 | e 17 | 22 | PP | — | — | — | — | — | — |
| Riverview | | 155.3 | 93 | i 20 | 32k | PKP ₂ | e 43 53 | SS | i 24 3 | PP | — | — |

Sept. 10d. 19h. 21m. Epicentre 43°·2N. 45°·4E. Depth 80km.
Bulletin of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, p. 91.

Sept. 11d. 20h. 16m. 28s. Epicentre 36°·1N. 140°·0E. Depth of focus 70km.
Intensity IV at Tokyo, Kashiwa, Kakioka, and Utunomiya; II-III at Mito, Kumagaya, Titibu, Shirakawa, Hunatu, and Ajiro.
Seismo. Bull. Cent. Met. Obs., Japan, for Sept., 1954, Tokyo, 1954, pp. 16-17, with macroseismic chart.

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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Sept. 11d. 23h. 58m. 41s. Epicentre 29°·5N. 138°·8E. Depth of focus 0·070. Unfelt.

Epicentre 29°·5N. 139°·5E. Depth of focus 450km.
Seismo. Bull. Cent. Met. Obs., Japan, for Sept., 1954, Tokyo, 1954, pp. 17-18.

A = -·6560, B = +·5742, C = +·4899; $\delta = +4$; $h = +2$;
D = +·659, E = +·752; G = -·369, H = +·323, K = -·872.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------|----|----------|-----|----------------------|------|--------|------|---------|-----|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Torisima | | 1·6 | 51 | e 0 59 | - 3 | e 1 46 | - 4 | — | — |
| Hatidyosima | | 3·7 | 12 | e 1 9 | - 6 | — | — | — | — |
| Osima | | 5·3 | 5 | e 1 29 | 0 | i 2 34 | - 6 | — | — |
| Mera | | 5·5 | 8 | e 1 27 | - 4 | 2 37 | - 7 | — | — |
| Misima | N. | 5·6 | 1 | e 1 30 | - 2 | e 2 42 | - 3 | — | — |
| Ajiro | | 5·8 | 2 | e 1 30 | - 4 | 2 43 | - 6 | — | — |
| Nagoya | E. | 5·9 | 345 | — | — | 2 49 | - 2 | — | — |
| Hunatu | | 6·0 | 0 | — | — | e 2 36 | -16 | — | — |
| Yokohama | | 6·0 | 6 | — | — | 2 45 | - 7 | — | — |
| Gihu | | 6·2 | 344 | — | — | e 2 49 | - 7 | — | — |
| Hikone | | 6·2 | 340 | — | — | i 2 55 | - 1 | — | — |
| Kohu | E. | 6·2 | 358 | e 1 39 | + 1 | — | — | — | — |
| Tokyo | | 6·2 | 7 | e 1 39 | + 1 | 2 51 | - 5 | — | — |
| Titibu | E. | 6·5 | 2 | — | — | e 2 54 | - 8 | — | — |
| Tyosi | N. | 6·5 | 15 | — | — | 2 59 | - 3 | — | — |
| Kumagaya | | 6·7 | 4 | e 1 39 | - 4 | e 2 56 | - 9 | — | — |
| Kakioka | N. | 6·8 | 9 | e 1 39 | - 5 | 3 1 | - 6 | — | — |
| Matumoto | E. | 6·8 | 354 | — | — | e 2 40 | -27 | — | — |
| Oiwake | | 6·8 | 358 | e 1 52 | + 8 | — | — | — | — |
| Maebasi | | 6·9 | 2 | e 1 37 | - 9 | e 3 3 | - 6 | — | — |
| Mito | E. | 7·0 | 11 | — | — | i 3 5 | - 6 | — | — |
| Utunomiya | | 7·1 | 7 | e 1 45 | - 3 | i 3 6 | - 7 | e 3 1 | ? |
| Nagano | N. | 7·2 | 356 | e 1 48 | - 1 | i 3 12 | - 3 | — | — |
| Onahama | | 7·7 | 12 | e 1 54 | 0 | e 3 16 | - 8 | — | — |
| Shirakawa | | 7·7 | 8 | e 1 53 | - 1 | e 3 15 | - 9 | — | — |
| Inawasiro | | 8·2 | 7 | e 2 3 | + 4 | 3 19 | -15 | e 2 30 | ? |
| Hokusima | | 8·4 | 9 | e 2 0 | - 1 | 3 32 | - 6 | — | 3·9 |
| Sendai | | 9·0 | 10 | e 2 5 | - 3 | e 3 41 | - 8 | — | — |
| Mizusawa | | 9·8 | 10 | 2 17 | + 1 | 4 3 | - 2 | — | — |
| Akita | | 10·3 | 6 | e 2 18 | - 4 | i 4 15 | 0 | — | — |
| Morioka | | 10·4 | 10 | e 2 22 | - 1 | e 4 14 | - 3 | — | — |
| Miyako | | 10·5 | 13 | — | — | e 4 14 | - 5 | — | — |
| Aomori | | 11·4 | 8 | e 2 31 | - 2 | i 4 39 | + 3 | — | — |
| Mori | | 12·7 | 6 | 2 49 | + 2 | 4 54 | - 8 | — | — |
| Sapporo | N. | 13·7 | 8 | i 2 57 | - 1 | e 5 21 | 0 | — | — |
| Nemuro | | 14·9 | 20 | — | — | e 5 6 | -38 | — | — |
| Lembang | Z. | 46·9 | 225 | i 7 48 ^k | 0 | — | — | e 7 57 | ? |
| College | | 56·7 | 29 | i 8 58 | - 1 | i 9 15 | ? | i 9 25 | ? |
| Poona | Z. | 59·7 | 275 | i 9 20 | + 1 | — | — | — | — |
| Quetta | Z. | 61·3 | 290 | i 9 31 | + 1 | — | — | — | — |
| Kiruna | Z. | 72·8 | 340 | e 10 43 | + 3 | — | — | — | — |
| Shasta | Z. | 77·5 | 50 | i 11 9 | + 2 | — | — | — | — |
| Upsala | Z. | 78·8 | 334 | i 11 14 | 0 | — | — | — | — |
| Berkeley | Z. | 78·9 | 53 | i 11 17 | + 3 | — | — | — | — |
| Hungry Horse | | 78·9 | 40 | i 11 17 | + 3 | — | — | — | — |
| Lick | Z. | 79·6 | 53 | i 11 14 | - 4 | — | — | — | — |
| Butte | N. | 81·0 | 42 | i 11 27 | + 2 | — | — | — | — |
| Bozeman | | 82·0 | 42 | e 11 33 | + 3 | — | — | — | — |
| Tinemaha | Z. | 82·1 | 52 | i 11 34 | + 3 | — | — | — | — |
| Woody | Z. | 82·4 | 53 | i 11 33 ^a | + 1 | — | — | — | — |
| Pasadena | | 83·6 | 54 | i 11 40 | + 2 | — | — | — | — |
| Riverside | Z. | 84·3 | 54 | i 11 43 | + 1 | — | — | — | — |
| Boulder City | | 85·0 | 51 | i 11 48 | + 3 | — | — | — | — |
| Palomar | Z. | 85·0 | 54 | i 11 48 | + 3 | — | — | — | — |
| Nelson | Z. | 85·1 | 52 | i 11 48 | + 3 | — | — | e 13 28 | pP |

Sept. 12d. 2h. 21m. Epicentre 1°·75S. 19°·5W.
Monthly Bulletin of the B.C.I.S. for Sept., 1954, Strasbourg, 1955, p. 512.

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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Sept. 12d. 7h. 43m. 49s. Epicentre 40°·9N. 143°·8E.

Intensity IV at Urakawa, Hatinohe, Kusiro, Morioka, Aomori, Hakodate, Muroran, and Tomakomai; II-III at Mori, Miyako, Obihiro, and Sapporo.

Epicentre 40°·9N. 143°·6E. Depth of focus 20km.

Seismo. Bull. Cent. Met. Obs., Japan, for Sept., 1954, Tokyo, 1954, pp. 18-21, with macroseismic chart. Magnitude 6·5 (Upsala and Prague).

$$A = -.6117, B = +.4477, C = +.6522; \quad \delta = -2; \quad h = -2; \\ D = +.591, E = +.807; \quad G = -.526, H = +.385, K = -.758.$$

| | | Δ | Az. | P. | | O-C. | | S. | | O-C. | | Supp. | | L. m. |
|-----------|----|----------|-----|-----|------------------|------------------|-----|-----------------|------------------|------|----|----------------|-------|----------|
| | | | | m. | s. | s. | m. | s. | s. | m. | s. | | | |
| Urakawa | | 1·5 | 328 | i 0 | 30 _k | 0 _g | i 0 | 48 | 0* | — | — | — | — | |
| Hatinohe | | 1·8 | 258 | i 0 | 31 _a | - 1 | i 0 | 49 | - 7 | — | — | — | — | |
| Miyako | | 1·9 | 229 | 0 | 32 _a | - 2 | e 0 | 59 | 0 | e 0 | 43 | P _g | — | |
| Kusiro | | 2·1 | 12 | i 0 | 39 _a | 0* | i 1 | 5 | + 1 | i 1 | 15 | S _g | — | |
| Obihiro | E. | 2·1 | 348 | e 0 | 40 | + 1* | e 1 | 11 | + 2 _g | i 0 | 48 | P _g | — | |
| Aomori | | 2·3 | 269 | i 0 | 40 _k | 0 | 1 | 11 | - 1* | — | — | — | — | |
| Tomakomai | | 2·3 | 314 | i 0 | 44 | - 2 _g | i 1 | 17 | + 1 _g | — | — | — | — | |
| Morioka | | 2·4 | 240 | i 0 | 40 _a | - 1 | i 1 | 11 | - 1 | — | — | — | — | |
| Hakodate | | 2·5 | 292 | i 0 | 41 | - 2 | i 1 | 7 | - 7 | — | — | — | — | |
| Muroran | | 2·6 | 304 | i 0 | 42 _k | - 2 | e 1 | 16 | - 1 | — | — | — | — | |
| Mizusawa | F. | 2·7 | 230 | 0 | 45 | 0 | 1 | 22 | - 2* | — | — | — | — | |
| Mori | | 2·7 | 297 | i 0 | 25 _{7k} | - 20 | 0 | 58 _? | - 21 | — | — | — | — | |
| Nemuro | | 2·8 | 28 | i 0 | 48 _a | + 1 | i 1 | 13 | - 9 | — | — | — | — | |
| Sapporo | | 2·8 | 320 | i 0 | 48 _k | + 1 | i 1 | 27 | 0* | i 0 | 52 | P* | — | |
| Asahigawa | | 3·0 | 340 | e 0 | 52 | + 2 | — | — | — | — | — | — | — | |
| Abashiri | | 3·1 | 6 | 0 | 53 _k | + 2 | i 1 | 30 | + 1 | e 1 | 12 | ? | — | |
| Akita | | 3·1 | 248 | i 0 | 51 | 0 | 1 | 34 | - 2* | — | — | — | — | |
| Isinomaki | | 3·2 | 219 | 0 | 51 | - 1 | 1 | 33 | + 1 | — | — | — | — | |
| Suttsu | N. | 3·3 | 306 | i 0 | 52 | - 1 | i 1 | 35 | 0 | — | — | — | — | |
| Sendai | | 3·5 | 222 | 0 | 56 _a | - 1 | i 1 | 37 | - 3 | i 1 | 51 | S _g | — | |
| Sakata | | 3·7 | 238 | 1 | 2 | + 2 | 2 | 2 | 0 _g | — | — | — | — | |
| Yamagata | | 3·8 | 226 | 0 | 59 | - 2 | e 1 | 54 | - 3* | — | — | — | — | |
| Hukusima | | 4·1 | 220 | e 1 | 4 | - 1 | 2 | 3 | - 3* | — | — | — | — | |
| Inawasiro | | 4·4 | 222 | 1 | 10 | 0 | i 2 | 12 | - 3* | i 1 | 14 | P* | — | |
| Onahama | | 4·6 | 211 | i 1 | 9 | - 3 | e 2 | 11 | + 4 | e 1 | 31 | P _g | — | |
| Niigata | | 4·7 | 233 | e 1 | 15 | + 1 | 2 | 13 | + 3 | e 1 | 25 | P* | — | |
| Shirakawa | | 4·7 | 218 | 1 | 12 | - 2 | 2 | 12 | + 2 | — | — | — | — | |
| Wakkanai | E. | 4·8 | 342 | e 1 | 10 | - 5 | e 2 | 7 | - 5 | — | — | — | i 3·0 | |
| Mito | E. | 5·2 | 211 | 1 | 20 | - 1 | 2 | 41 | + 3* | — | — | — | — | |
| Utunomiya | | 5·3 | 217 | e 1 | 20 | - 2 | e 2 | 49 | - 6 _g | e 1 | 41 | P _g | — | |
| Kakioka | E. | 5·5 | 212 | 1 | 22 | - 3 | 2 | 47 | 0* | — | — | — | — | |
| Tyosi | N. | 5·7 | 205 | 1 | 33 | + 5 | 2 | 50 | - 3* | — | — | — | — | |
| Maebasi | | 5·8 | 221 | e 1 | 29 | 0 | e 3 | 10 | - 2 _g | e 2 | 49 | S* | — | |
| Takada | | 5·8 | 230 | 1 | 29 | 0 | 3 | 1 | + 5* | — | — | — | — | |
| Kashiwa | | 5·9 | 212 | e 1 | 29 _? | - 2 | e 2 | 56 | - 3* | — | — | — | — | |
| Kumagaya | | 5·9 | 218 | 1 | 30 | - 1 | e 2 | 47 | + 7 | — | — | — | — | |
| Nagano | N. | 6·1 | 228 | e 1 | 35 | + 1 | i 3 | 7 | + 2* | e 1 | 43 | P* | — | |
| Tokyo | | 6·1 | 213 | 1 | 32 | - 2 | e 2 | 48 | + 3 | e 1 | 46 | P* | — | |
| Matusiro | | 6·2 | 227 | e 1 | 34 | - 1 | e 2 | 46 | - 2 | — | — | — | e 3·2 | |
| Oiwake | | 6·2 | 224 | 1 | 36 | + 1 | 3 | 16 | + 8* | e 2 | 1 | P _g | — | |
| Titibu | | 6·2 | 219 | i 1 | 34 | - 1 | e 2 | 53 | + 5 | — | — | — | — | |
| Wazima | | 6·4 | 239 | e 1 | 38 | 0 | e 2 | 55 | + 2 | — | — | — | — | |
| Yokohama | | 6·4 | 212 | 1 | 29 | - 9 | e 2 | 50 | - 3 | 3 | 0 | S* | — | |
| Matumoto | | 6·5 | 226 | e 1 | 39 | 0 | e 3 | 27 | - 8 _g | i 2 | 31 | ? | — | |
| Hunatu | | 6·7 | 218 | e 1 | 42 | 0 | e 3 | 6 | + 6 | e 2 | 4 | P* | — | |
| Kohu | | 6·7 | 220 | e 1 | 42 | 0 | e 2 | 57 | - 3 | e 3 | 19 | S* | — | |
| Toyama | | 6·7 | 233 | 1 | 40 | - 2 | e 3 | 34 | - 7 _g | 2 | 36 | ? | — | |
| Mera | | 6·8 | 209 | e 1 | 39 | - 5 | 3 | 5 | + 2 | — | — | — | — | |
| Ajiro | | 6·9 | 214 | e 1 | 50 | + 5 | e 3 | 24 | - 5* | — | — | — | — | |
| Misima | | 7·0 | 215 | e 1 | 43 | - 3 | e 3 | 10 | + 2 | e 2 | 6 | P* | — | |
| Kanazawa | | 7·1 | 234 | e 1 | 47 | - 1 | — | — | — | — | — | — | — | |
| Osima | | 7·1 | 211 | e 1 | 45 | - 3 | i 3 | 35 | 0* | i 3 | 0 | S | — | |
| Iida | | 7·2 | 223 | e 1 | 50 | + 1 | i 3 | 19 | + 6 | — | — | — | — | |
| Shizuoka | | 7·3 | 218 | e 1 | 47 | - 3 | e 3 | 14 | - 1 | — | — | — | — | |
| Hukui | | 7·7 | 233 | e 1 | 54 | - 2 | — | — | — | — | — | — | — | |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|---------------|----|----------|-----|----------------------|------|----------------------|------------------|---------|----------------|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Omaesaki | | 7.7 | 217 | e 2 22 | + 8* | e 3 35 | +10 | e 2 53 | P _g | — |
| Gihu | | 7.8 | 228 | e 1 57 | - 1 | — | — | — | — | — |
| Hamamatu | | 7.9 | 220 | e 2 27 | + 9* | i 3 50 | - 8* | — | — | — |
| Nagoya | E. | 7.9 | 226 | e 2 4 | + 5 | e 3 43 | +13 | — | — | — |
| Ibukisan | N. | 8.0 | 229 | e 1 56 | - 4 | — | — | — | — | — |
| Tsuruga | | 8.0 | 232 | e 1 59 | - 1 | 3 43 | +10 | i 2 6 | ? | — |
| Hikone | | 8.2 | 229 | 2 2 | - 1 | e 3 42 | + 4 | e 2 17 | P* | — |
| Kameyama | | 8.4 | 226 | e 2 5 | - 1 | 3 37 | - 6 | — | — | — |
| Tu | | 8.5 | 225 | e 2 15 | + 8 | e 4 47 | + 6 _g | — | — | — |
| Kyoto | | 8.7 | 230 | e 2 12 | + 2 | e 4 41 | - 6 _g | — | — | e 5.2 |
| Nara | | 8.9 | 228 | e 2 12 | + 0 | — | — | — | — | — |
| Toyooka | | 8.9 | 236 | e 2 12 | 0 | e 4 2 | + 7 | — | — | e 6.7 |
| Owase | | 9.1 | 224 | e 2 33 | P* | e 4 35 | + 1* | — | — | — |
| Kobe | | 9.2 | 230 | e 2 11 ^f | - 5 | e 4 6 | + 3 | — | — | — |
| Himeji | | 9.4 | 233 | e 2 15 | - 3 | e 4 10 | + 3 | — | — | — |
| Saigo | | 9.5 | 244 | e 2 27 | + 7 | e 4 9 | - 1 | e 8 42 | PcP | e 6.6 |
| Sumoto | | 9.6 | 230 | e 2 35 | P* | e 4 32 | -17* | — | — | e 9.4 |
| Wakayama | | 9.6 | 229 | e 2 37 | P* | e 4 57 | + 8* | — | — | e 8.1 |
| Siomisaki | | 9.8 | 223 | e 2 33 | + 9 | 4 45 | -10* | 5 5 | ? | 5.8 |
| Yonago | | 9.9 | 240 | e 2 33 | + 8 | e 6 35 | ? | — | — | e 8.5 |
| Tokusima | | 10.0 | 230 | e 2 37 | +10 | e 5 27 | - 3 _g | — | — | — |
| Takamatu | | 10.2 | 233 | e 2 27 | - 4 | e 5 6 | S* | — | — | e 5.6 |
| Hamada | | 11.0 | 241 | e 2 40 | - 2 | e 5 39 | +52 | — | — | e 7.5 |
| Koti | | 11.0 | 231 | e 2 48 | + 6 | e 5 11 | +24 | e 3 7 | ? | 6.0 |
| Hirosima | | 11.1 | 238 | e 2 44 | + 1 | e 4 55 | + 6 | e 3 9 | ? | e 6.3 |
| Matuyama | N. | 11.3 | 235 | e 2 49 | + 3 | e 5 50 | +56 | e 8 44 | PcP | e 7.1 |
| Ooita | | 12.4 | 236 | e 3 12 | PP | e 5 58 | +37 | — | — | — |
| Asosan | | 13.0 | 236 | e 3 12 | + 3 | — | — | — | — | — |
| Hukuoka | | 13.0 | 240 | e 3 13 _a | + 4 | e 5 38 | + 3 | — | — | 6.5 |
| Kumamoto | | 13.2 | 236 | e 3 15 | + 4 | — | — | — | — | — |
| Saga | E. | 13.2 | 239 | 3 27 | PPP | i 5 40 | 0 | — | — | i 7.8 |
| Ituhara | | 13.3 | 244 | 3 20 | PP | e 5 44 | + 2 | — | — | — |
| Zô-Sè | E. | 20.7 | 249 | e 4 41 | - 3 | — | — | — | — | — |
| Nanking | | 21.9 | 254 | e 4 54 | - 3 | e 8 52 | - 2 | — | — | — |
| Taipei | | 24.4 | 236 | e 5 21 | 0 | — | — | — | — | — |
| Hong Kong | E. | 31.1 | 242 | — | — | e 11 11 ^f | -17 | — | — | — |
| Baguio | | 31.6 | 226 | i 5 41 | -45 | i 11 12 | -23 | i 5 58 | ? | — |
| Manila | | 32.9 | 224 | e 6 46 | + 8 | — | — | — | — | — |
| College | | 44.8 | 34 | i 8 18 _a | + 1 | i 14 56 | + 1 | i 10 7 | PP | e 19.6 |
| Shillong | | 45.4 | 267 | 8 20 | - 2 | 15 4 | 0 | — | — | — |
| Chatra | | 48.3 | 272 | i 8 43 | - 2 | e 15 41 | - 4 | 14 9 | PcS | 22.2 |
| Sitka | | 52.3 | 43 | e 9 16 | + 1 | i 16 38 | - 2 | e 11 58 | PPP | e 22.0 |
| Dehra Dun | N. | 53.4 | 281 | e 9 29 | + 5 | i 16 45 | -10 | i 10 28 | PcP | — |
| New Delhi | | 54.9 | 279 | e 9 31 | - 4 | e 17 6 | -10 | 19 23 | ScS | — |
| Djakarta | | 57.8 | 225 | e 9 54 _a | - 1 | e 17 57 | + 3 | e 10 5 | pP | — |
| Lembang | | 58.0 | 224 | e 9 54 _a | - 3 | e 17 55 | - 2 | i 10 4 | pP | e 40.3 |
| Resolute Bay | | 58.4 | 16 | i 9 58 _a | - 2 | i 18 2 | 0 | e 21 58 | SS | e 28.3 |
| Hyderabad | | 60.3 | 268 | i 10 14 | + 1 | 18 18 | - 8 | 22 18 | SS | — |
| Quetta | | 61.6 | 287 | i 10 20 | - 2 | e 18 39 | - 4 | i 10 30 | pP | — |
| Madras | E. | 61.7 | 263 | e 10 17 | - 5 | e 18 48 | + 4 | 19 2 | PS | — |
| Victoria | | 62.4 | 48 | 10 28 | + 1 | e 19 29 | PPS | — | — | 28.2 |
| Poona | | 63.1 | 272 | i 10 29 | - 3 | e 18 58 | - 4 | — | — | — |
| Seattle | Z. | 63.5 | 49 | i 10 38 | + 4 | — | — | — | — | — |
| Kiruna | | 63.6 | 339 | i 10 32 _a | - 3 | i 19 7 ^f | - 1 | i 23 17 | SS | e 31.2 |
| Bombay | | 63.7 | 273 | e 10 36 | 0 | e 19 7 | - 3 | 23 20 | SS | — |
| Kodaikanal | E. | 65.5 | 262 | e 10 52 | + 5 | — | — | — | — | — |
| Colombo | E. | 65.9 | 258 | e 17 43 | ? | — | — | — | — | — |
| Nouméa | | 66.3 | 157 | e 10 55 _k | + 3 | e 20 31 | ScS | e 13 16 | PP | — |
| Shasta | Z. | 67.3 | 55 | i 11 0 _a | + 1 | — | — | — | — | — |
| Hungry Horse | | 67.7 | 45 | i 10 32 | -29 | e 20 2 | + 4 | e 39 16 | P'P' | — |
| Mineral | Z. | 68.0 | 55 | i 11 3 _a | 0 | — | — | — | — | — |
| Scoresby Sund | | 68.4 | 355 | i 11 6 | 0 | e 20 9 | + 2 | e 21 9 | ScS | 32.2 |
| Berkeley | | 69.0 | 58 | i 11 10 _a | + 1 | e 20 20 | + 6 | — | — | — |
| Santa Clara | E. | 69.5 | 58 | e 20 28 | S | (e 20 28) | + 8 | e 29 53 | Q | e 33.8 |
| Reno | Z. | 69.6 | 55 | e 11 15 _a | + 2 | — | — | — | — | — |

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|------------------|----|------------|------------|------|-----------------|------|------|-----|-------|-------|----|------------|
| | | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Lick | z. | 69.8 | 58 | i 10 | 59 _a | -15 | — | — | — | — | — | — |
| Butte | N. | 69.9 | 46 | i 11 | 15 | 0 | i 20 | 28 | + 4 | i 20 | 43 | PS e 29.5 |
| Upsala | | 70.3 | 334 | i 11 | 15 | - 2 | i 20 | 23 | - 6 | e 11 | 34 | PcP e 34.2 |
| Bozeman | | 71.0 | 46 | e 11 | 22 | 0 | e 20 | 39 | + 2 | e 25 | 27 | SS e 29.4 |
| Fresno | z. | 71.3 | 57 | e 11 | 24 | + 1 | — | — | — | — | — | — |
| Tinemaha | z. | 72.1 | 56 | i 11 | 29 _a | + 1 | — | — | — | i 11 | 41 | PcP — |
| Woody | z. | 72.5 | 58 | i 11 | 31 _a | + 1 | — | — | — | i 11 | 43 | PcP — |
| Salt Lake City | | 73.6 | 50 | i 11 | 38 | + 1 | e 21 | 12 | + 5 | e 21 | 46 | PS e 29.5 |
| Pasadena | | 73.9 | 59 | i 11 | 39 | 0 | e 21 | 16 | + 6 | i 11 | 52 | PcP e 31.7 |
| Riverside | z. | 74.5 | 58 | i 11 | 42 | 0 | — | — | — | — | — | — |
| Reykjavik | z. | 74.7 | 354 | i 11 | 45 | + 2 | — | — | — | i 12 | 3 | PcP — |
| Riverview | | 74.7 | 174 | i 11 | 44 _a | + 1 | e 21 | 22 | + 3 | 14 | 39 | PP e 35.4 |
| Warsaw | | 74.8 | 328 | e 11 | 45 | + 1 | e 21 | 18 | - 2 | i 22 | 5 | PPS e 39.2 |
| Boulder City | | 74.9 | 56 | i 11 | 47 | + 3 | e 21 | 27 | + 5 | i 11 | 59 | PcP — |
| Nelson | z. | 75.1 | 56 | i 11 | 47 | + 1 | i 11 | 59 | PcP | i 12 | 58 | ? — |
| Copenhagen | | 75.3 | 334 | 22 | 0 | PS | e 21 | 17 | - 9 | 26 | 19 | SS 35.7 |
| Palomar | z. | 75.3 | 59 | i 11 | 48 | + 1 | — | — | — | — | — | — |
| Iasi | | 75.6 | 321 | e 11 | 48 | 0 | e 21 | 24 | - 5 | — | — | — |
| Raciborz | | 77.6 | 328 | e 12 | 0 | 0 | e 22 | 39 | PS | — | — | e 42.0 |
| Boulder | | 77.8 | 47 | i 12 | 3 | + 2 | e 21 | 32 | -21 | — | — | — |
| Hamburg | | 77.9 | 334 | i 12 | 2 _k | + 1 | e 21 | 52 | - 2 | e 15 | 2 | PP e 41.2 |
| Bucharest | | 78.3 | 320 | 12 | 7 | + 4 | e 21 | 57 | - 2 | 11 | 43 | ? — |
| Collmberg | | 78.6 | 331 | e 12 | 4 | - 1 | e 20 | 34 | ? | — | — | e 38.7 |
| Prague | | 79.1 | 330 | e 12 | 6 | - 2 | e 22 | 4 | - 3 | e 22 | 24 | ScS e 41.5 |
| Istanbul | | 79.2 | 316 | e 12 | 8 | 0 | e 22 | 7 | - 1 | e 15 | 8 | PP — |
| Budapest | | 79.3 | 325 | e 12 | 5 | - 4 | 22 | 9 | 0 | e 16 | 59 | PPP 42.4 |
| Ogyalla | | 79.3 | 326 | e 12 | 50 | +41 | e 13 | 11 | ? | e 14 | 28 | ? — |
| Jena | | 79.5 | 332 | e 12 | 10 | 0 | e 22 | 15? | + 4 | e 22 | 39 | PS — |
| Timisoara | N. | 79.6 | 323 | e 12 | 13 | + 3 | e 22 | 11 | - 1 | e 22 | 41 | PS — |
| Witteveen | z. | 79.6 | 335 | i 12 | 9 | - 1 | — | — | — | — | — | — |
| Tucson | | 79.8 | 56 | i 12 | 13 | + 1 | e 22 | 46 | PS | i 12 | 25 | PcP e 37.4 |
| Ksara | | 80.4 | 307 | 12 | 17 | + 2 | 22 | 41 | ScS | 15 | 33 | PP — |
| De Bilt | | 80.6 | 336 | e 12 | 35 | +19 | e 22 | 21 | - 2 | — | — | e 38.2 |
| Belgrade | | 80.7 | 323 | e 12 | 15 _k | - 1 | e 22 | 23 | - 1 | e 22 | 39 | ScS e 42.5 |
| Sofia | | 81.0 | 320 | e 12 | 22 | + 4 | i 22 | 8 | -19 | e 15 | 31 | PP 43.1 |
| Uccle | | 82.0 | 335 | e 12 | 23 | 0 | e 22 | 34 | - 3 | e 15 | 35 | PP e 40.2 |
| Stuttgart | | 82.1 | 332 | e 12 | 23 | - 1 | e 22 | 35 | - 3 | — | — | e 42.2 |
| Jerusalem | | 82.2 | 305 | i 12 | 23 | - 1 | — | — | — | i 17 | 24 | PPP — |
| Karlsruhe | | 82.2 | 332 | e 12 | 23 | - 1 | e 22 | 35 | - 4 | e 13 | 17 | ? — |
| Kew | | 82.8 | 338 | e 12 | 28 | + 1 | i 22 | 45 | 0 | e 28 | 5 | SS e 48.2 |
| Strasbourg | | 82.8 | 332 | e 12 | 27 | 0 | e 22 | 46 | + 1 | e 15 | 42 | PP e 40.7 |
| Triest | | 83.0 | 327 | e 12 | 26 | - 2 | e 22 | 35 | -12 | e 23 | 29 | PS e 44.2 |
| Kirkland Lake | z. | 83.2 | 28 | e 12 | 31 | + 2 | — | — | — | — | — | — |
| Zürich | | 83.5 | 331 | e 12 | 30 | - 1 | — | — | — | e 13 | 3 | ? e 42.2 |
| Basle | | 83.8 | 332 | e 12 | 32 | 0 | e 23 | 11 | ScS | e 13 | 43 | ? — |
| Neuchatel | | 84.4 | 332 | i 12 | 35 | - 1 | — | — | — | — | — | — |
| Paris | | 84.4 | 336 | e 12 | 36 | 0 | e 22 | 58 | - 2 | e 24 | 24 | PPS e 42.2 |
| Besançon | | 84.5 | 333 | i 12 | 36 | 0 | e 12 | 56 | ? | — | — | — |
| Bologna | | 84.9 | 328 | e 12 | 40 | + 2 | e 23 | 7 | + 1 | — | — | — |
| Oropa | | 85.2 | 331 | e 12 | 37 | - 2 | e 23 | 4 | [+ 2] | — | — | — |
| Pavia | | 85.2 | 330 | e 12 | 52 | +13 | e 23 | 9 | 0 | e 14 | 1 | ? e 34.9 |
| Prato | | 85.5 | 328 | e 12 | 1 | -40 | e 21 | 18 | ? | — | — | — |
| Taranto | | 85.6 | 322 | e 12 | 41 | 0 | e 22 | 55 | [-10] | — | — | e 44.4 |
| Rome | | 86.5 | 326 | e 12 | 46 _k | 0 | e 23 | 6 | [- 5] | e 16 | 6 | PP — |
| Fayetteville | | 86.7 | 44 | i 12 | 48 _k | + 1 | e 23 | 25 | + 1 | e 13 | 23 | ? — |
| Clermont-Ferrand | | 86.8 | 334 | e 12 | 49 | + 2 | e 23 | 17 | [+ 4] | e 16 | 15 | PP 39.2 |
| Ottawa | | 87.1 | 27 | e 12 | 48 _a | - 1 | 23 | 27 | - 1 | 16 | 17 | PP — |
| Dallas | | 87.8 | 47 | i 12 | 53 | + 1 | i 23 | 37 | + 3 | — | — | — |
| Messina | | 88.2 | 322 | e 12 | 52 | - 2 | i 23 | 21 | [- 1] | 18 | 19 | PPP — |
| Cleveland | | 88.3 | 32 | i 12 | 56 _k | + 1 | e 23 | 37 | - 2 | — | — | — |
| Cincinnati | | 89.0 | 36 | i 12 | 59 | + 1 | — | — | — | — | — | — |
| Pennsylvania | | 90.3 | 30 | — | — | — | e 24 | 3 | + 6 | — | — | — |
| Weston | | 91.2 | 25 | e 13 | 10 _k | + 2 | — | — | — | — | — | — |
| Philadelphia | | 92.0 | 29 | — | — | — | e 24 | 10 | - 2 | e 42 | 56 | Q e 46.1 |
| Toledo | | 94.4 | 336 | i 13 | 22 | - 1 | 24 | 0 | [+ 2] | 17 | 14 | PP 48.4 |

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|---------------|----|----------|-----|--------------------|-------|---------|------|---------|-----|------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Alicante | | 94.6 | 333 | e 13 21 | - 3 | 24 28 | - 7 | 25 47 | PS | 44.7 |
| Algiers Univ. | z. | 94.7 | 329 | e 13 27 | + 3 | — | — | e 17 14 | PP | — |
| Almeria | | 96.7 | 333 | 13 30 | - 3 | 24 41 | -12 | 17 24 | PP | 53.8 |
| Granada | | 96.8 | 334 | 13 38 _a | + 4 | 24 52 | - 2 | 31 24 | SS | 49.4 |
| Malaga | | 97.4 | 335 | i 16 26 | ? | — | — | — | — | 56.6 |
| Tamanrasset | z. | 105.7 | 320 | e 14 23 | P | e 18 44 | PP | e 21 8 | PPP | — |
| Tananarive | | 106.8 | 259 | e 18 50 | PP | — | — | e 19 0 | ? | — |
| Bogota | | 123.0 | 47 | — | — | e 32 49 | PPS | — | — | 71.2 |
| Pretoria | z. | 125.3 | 265 | i 19 3k | [0] | — | — | — | — | — |
| Kimberley | z. | 129.4 | 264 | e 19 12 | [+ 1] | — | — | — | — | — |
| La Paz | | 143.2 | 58 | 19 45 | [+ 9] | 23 19 | PKS | 22 51 | PP | 70.5 |

Sept. 13d. 2h. 10m. 0s. Epicentre 20°·5S. 175°·8W. Depth of focus 0·015.

A = -·9349, B = -·0687, C = -·3481; δ = -7; h = +5;
D = -·073, E = +·997; G = +·347, H = +·025, K = -·937.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|---------------|------|----------|-----|----------------------|------|---------|------|---------|-----|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Apia | | 7.7 | 31 | e 1 49 | - 2 | e 3 5 | -12 | — | — | — |
| Nouméa | | 16.6 | 261 | i 3 50 _k | + 4 | i 6 47 | + 1 | i 4 19 | PP | e 7.9 |
| Onerahi | E. | 17.5 | 207 | 4 0? | + 3 | — | — | — | — | — |
| Auckland | N. | 18.2 | 205 | 4 5 | 0 | 7 24 | + 3 | — | — | — |
| Karapiro | N. | 18.9 | 202 | i 4 12 | - 1 | 7 37 | + 1 | 4 24 | PP | e 8.2 |
| Tuai | N. | 19.2 | 197 | e 3 42 | -34 | e 7 31 | -11 | — | — | — |
| New Plymouth | E. | 20.5 | 203 | e 4 30 | 0 | e 8 6 | - 1 | e 15 35 | ScS | — |
| Wellington | | 22.2 | 199 | e 4 43 | - 3 | e 8 33 | - 4 | i 15 45 | ScS | — |
| Kaimata | N.E. | 24.4 | 203 | i 5 6 | - 2 | i 9 14 | - 1 | e 15 48 | ScS | — |
| Christchurch | | 24.9 | 200 | 5 12 | 0 | e 9 20 | - 4 | 15 58 | ScS | — |
| Brisbane | | 29.2 | 250 | i 5 50 | - 2 | i 10 30 | - 3 | — | — | — |
| Riverview | | 32.1 | 239 | i 6 15 _k | - 2 | i 11 12 | - 7 | i 6 50 | pP | — |
| Melbourne | E. | 38.0 | 234 | i 7 5 | - 2 | i 12 45 | - 5 | — | — | — |
| Macquarie Is. | | 39.0 | 203 | i 7 18 | + 3 | — | — | — | — | — |
| Honolulu | | 45.0 | 24 | i 8 5 _a | + 1 | i 14 34 | + 2 | i 8 48 | pP | e 18.5 |
| Perth | | 61.5 | 244 | i 10 7 | + 2 | i 18 10 | - 5 | i 14 58 | ? | i 28.6 |
| Tokyo | N. | 69.9 | 323 | e 11 2 | + 3 | — | — | e 12 30 | ? | — |
| Kakioka | N. | 70.1 | 323 | e 11 0 | 0 | — | — | e 11 22 | PcP | — |
| Kumagaya | | 70.5 | 323 | e 11 9 | + 6 | e 20 52 | pS | — | — | — |
| Utunomiya | | 70.5 | 323 | e 10 58 | - 5 | e 20 2 | - 2 | e 20 54 | pS | — |
| Kohu | | 70.6 | 322 | e 11 6 | + 3 | — | — | — | — | — |
| Maebasi | z. | 70.8 | 323 | e 11 7 | + 3 | — | — | — | — | — |
| Hokusima | | 71.0 | 325 | e 11 7 | + 1 | e 21 1 | pS | e 14 11 | PP | — |
| Inawasiro | | 71.1 | 324 | e 11 7 | + 1 | — | — | i 13 38 | PP | — |
| Oiwake | | 71.1 | 322 | e 11 11 | + 5 | — | — | — | — | — |
| Sendai | | 71.2 | 325 | e 11 5 | - 2 | 20 58 | pS | e 14 12 | PP | — |
| Manila | | 71.2 | 294 | e 11 5 | - 2 | — | — | — | — | — |
| Matusiro | | 71.4 | 322 | i 11 7 _k | - 1 | i 20 11 | - 3 | e 15 0 | pPP | e 29.5 |
| Nagano | N. | 71.5 | 322 | e 11 24 | +15 | — | — | e 15 56 | PPP | — |
| Miyako | | 71.6 | 327 | e 11 4 | - 5 | — | — | — | — | — |
| Hikone | | 71.7 | 320 | e 11 12 | + 2 | — | — | — | — | — |
| Niigata | | 71.9 | 324 | e 11 10 | - 1 | e 20 51 | pS | e 13 27 | ? | — |
| Baguio | | 72.4 | 296 | i 11 12 _k | - 2 | i 20 24 | - 2 | — | — | — |
| Takamatu | | 72.4 | 318 | e 11 14 | 0 | — | — | e 12 57 | PP | — |
| Akita | | 72.7 | 326 | e 11 18 | + 2 | i 21 11 | ScS | e 14 37 | ? | — |
| Nemuro | | 72.7 | 332 | e 11 15 | - 1 | — | — | — | — | — |
| Wazima | | 72.8 | 322 | e 11 18 | + 2 | — | — | — | — | — |
| Kusiro | | 73.0 | 331 | e 11 17 | 0 | i 20 28 | - 4 | 12 19 | pP | — |
| Aomori | | 73.1 | 327 | e 11 30 | +12 | e 21 17 | ScS | — | — | — |
| Urakawa | | 73.1 | 329 | e 11 0 | -18 | e 20 36 | + 2 | e 15 45 | PP | — |
| Kurilsk | | 73.3 | 334 | i 11 18 | - 1 | i 20 34 | - 2 | — | — | — |
| Obihiro | N. | 73.5 | 330 | e 11 30 | +10 | — | — | — | — | — |
| Tomakomai | | 74.0 | 329 | e 11 12 | -11 | — | — | — | — | — |
| Mori | | 74.2 | 328 | 11 29 | + 5 | 20 25 | -21 | 21 20 | ScS | — |
| Sapporo | | 74.5 | 329 | i 11 26 _k | 0 | e 20 46 | - 3 | i 12 9 | pP | — |

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| | | Δ ° | Az. ° | P. | | O-C. s. | S. | | O-C. s. | Supp. | | L. m. | |
|-----------------|----|--------|----------|------|-----|------------|------|----|------------|-------|-----|----------|--------|
| | | | | m. | s. | | m. | s. | | m. | s. | | |
| Bandung | | 75.0 | 268 | e 11 | 28 | - 1 | e 20 | 48 | - 7 | e 12 | 14 | pP | — |
| Lembang | z. | 75.1 | 268 | i 11 | 28k | - 2 | e 20 | 57 | + 1 | i 12 | 13 | pP | — |
| Djakarta | | 76.0 | 269 | i 11 | 34k | - 1 | e 20 | 58 | - 8 | i 12 | 19 | pP | — |
| Petropavlovsk | | 76.5 | 344 | i 11 | 36 | - 1 | i 21 | 8 | - 3 | — | — | — | — |
| Santa Clara | | 76.7 | 41 | e 11 | 42k | + 3 | — | — | — | e 12 | 19 | pP | — |
| Berkeley | | 76.8 | 41 | e 11 | 40k | + 1 | i 21 | 18 | + 4 | e 12 | 24 | pP | — |
| Lick | z. | 76.9 | 42 | i 11 | 35k | - 5 | — | — | — | — | — | — | — |
| Yuzno-Sakhlinsk | | 76.9 | 332 | i 11 | 39 | - 1 | i 21 | 13 | - 2 | — | — | — | — |
| Pasadena | | 77.2 | 46 | e 11 | 41k | 0 | i 21 | 21 | + 2 | i 12 | 20 | pP | e 32.0 |
| Palomar | z. | 77.6 | 47 | i 11 | 45k | + 2 | e 38 | 59 | P'P' | i 12 | 29 | pP | — |
| Riverside | z. | 77.6 | 46 | e 11 | 44 | + 1 | e 38 | 58 | P'P' | i 12 | 30 | pP | e 39.7 |
| Fresno | | 77.7 | 43 | e 11 | 45k | + 1 | e 21 | 27 | + 3 | — | — | — | — |
| Woody | | 77.7 | 44 | i 11 | 44k | 0 | e 21 | 25 | + 1 | 38 | 55 | P'P' | e 39.7 |
| Shasta | z. | 78.6 | 38 | i 11 | 49k | 0 | — | — | — | — | — | — | — |
| Mineral | z. | 78.8 | 39 | e 11 | 49k | - 1 | — | — | — | — | — | — | — |
| Tinemaha | z. | 78.9 | 44 | e 11 | 51 | 0 | e 21 | 40 | + 3 | e 38 | 53 | P'P' | e 39.7 |
| Klyuchi | | 79.0 | 347 | i 11 | 50 | - 1 | i 21 | 35 | - 3 | — | — | — | — |
| Zô-Sè | | 79.3 | 309 | i 11 | 51k | - 2 | 21 | 41 | 0 | — | — | — | — |
| Reno | | 79.4 | 41 | i 11 | 54k | + 1 | e 21 | 44 | + 2 | — | — | — | — |
| Vladivostok | | 79.4 | 324 | i 11 | 54 | + 1 | — | — | — | — | — | — | — |
| Nelson | z. | 80.3 | 46 | i 11 | 59k | + 1 | i 21 | 57 | + 5 | i 12 | 44 | pP | — |
| Hong Kong | E. | 80.4 | 298 | 11 | 53? | - 6 | — | — | — | — | — | — | — |
| Boulder City | | 80.5 | 46 | i 12 | 0k | + 1 | i 21 | 58 | + 4 | i 12 | 43 | pP | — |
| Corvallis | z. | 80.6 | 35 | e 12 | 1 | + 1 | e 21 | 56 | + 1 | — | — | — | — |
| Tucson | | 81.3 | 51 | i 12 | 4a | + 1 | e 22 | 2 | 0 | i 12 | 45 | pP | e 34.4 |
| Nanking | | 81.5 | 309 | i 12 | 5k | + 1 | 22 | 6 | + 2 | — | — | — | — |
| Guadalajara | | 81.9 | 64 | 12 | 4 | - 3 | e 22 | 8 | 0 | e 23 | 0 | PS | — |
| Seattle | | 83.1 | 33 | 12 | 15 | + 2 | i 22 | 25 | + 5 | — | — | — | — |
| Victoria | | 83.1 | 32 | e 12 | 55 | pP | e 22 | 18 | - 2 | (24 | 54) | ? | 24.9 |
| Chihuahua | | 83.2 | 56 | e 12 | 12k | - 1 | e 22 | 25 | + 4 | — | — | — | — |
| Magadan | | 84.3 | 344 | i 12 | 16 | - 3 | i 22 | 26 | - 6 | — | — | — | — |
| Sitka | | 84.4 | 21 | e 12 | 15 | - 4 | i 22 | 26 | - 7 | e 12 | 58 | pP | e 34.4 |
| Tacubaya | | 84.9 | 67 | i 12 | 25 | + 3 | e 22 | 33 | - 5 | — | — | — | — |
| Salt Lake City | | 85.1 | 43 | e 12 | 22 | - 1 | e 22 | 36 | - 4 | e 13 | 4 | pP | — |
| Puebla | | 85.6 | 68 | e 12 | 22 | - 3 | e 22 | 44 | - 1 | — | — | — | — |
| Oaxaca | | 86.0 | 70 | e 12 | 26 | - 1 | e 22 | 32 | [- 6] | — | — | — | — |
| Butte | N. | 87.5 | 38 | e 12 | 33 | - 1 | e 22 | 43 | [- 5] | i 13 | 23 | pP | e 34.9 |
| College | | 87.8 | 12 | e 12 | 33a | - 3 | i 23 | 0 | - 5 | i 13 | 12 | pP | e 36.9 |
| Kwanting | | 87.8 | 314 | e 12 | 37 | + 1 | — | — | — | — | — | — | — |
| Hungry Horse | | 87.9 | 36 | e 12 | 36k | 0 | i 23 | 8 | + 2 | i 13 | 21 | pP | — |
| Bozeman | | 88.2 | 39 | e 12 | 38a | 0 | i 23 | 10 | + 1 | e 13 | 21 | pP | — |
| Linfen | N. | 88.7 | 309 | e 12 | 45 | + 5 | — | — | — | — | — | — | — |
| Boulder | | 89.0 | 46 | i 12 | 42 | + 1 | — | — | — | — | — | — | — |
| Tatung | | 89.3 | 314 | e 12 | 47 | + 4 | — | — | — | — | — | — | — |
| Santa Lucia | N. | 90.9 | 126 | e 13 | 35 | pP | e 23 | 0 | [- 8] | 24 | 21 | PS | — |
| Dallas | | 92.2 | 56 | i 12 | 56 | 0 | i 23 | 48 | + 3 | e 13 | 41 | pP | — |
| Rapid City | E | 92.3 | 44 | e 13 | 1 | + 4 | e 23 | 14 | [- 2] | e 13 | 45 | pP | e 39.2 |
| Merida | | 93.8 | 69 | — | — | — | e 23 | 37 | [+ 12] | e 24 | 15 | PS | — |
| Saskatoon | | 93.9 | 35 | — | — | — | i 23 | 58 | - 2 | — | — | — | — |
| Antofagasta | N. | 95.2 | 117 | e 13 | 54 | pP | i 23 | 30 | [- 2] | e 18 | 58 | PPP | — |
| Fayetteville | | 05.4 | 54 | e 13 | 11k | 0 | e 24 | 18 | + 6 | e 13 | 55 | pP | — |
| Huancayo | | 95.4 | 105 | e 13 | 17 | + 6 | i 23 | 38 | [+ 5] | e 14 | 0 | pP | e 45.4 |
| Montezuma | z. | 96.9 | 117 | i 13 | 23a | + 5 | — | — | — | i 14 | 6 | pP | — |
| La Plata | | 99.3 | 133 | 13 | 54 | pP | i 23 | 50 | [- 4] | 18 | 0 | PP | 46.8 |
| Irkutsk | | 100.0 | 322 | 13 | 30 | - 2 | 24 | 52 | + 1 | 14 | 20 | pP | — |
| La Paz | | 100.1 | 112 | i 13 | 36a | + 4 | i 24 | 0 | [+ 3] | i 14 | 20 | pP | e 45.5 |
| Shillong | z. | 100.6 | 293 | 13 | 33 | - 1 | — | — | — | — | — | — | — |
| Chinchina | | 101.3 | 89 | i 13 | 40 | + 2 | i 24 | 0 | [- 3] | i 14 | 20 | pP | 48.0 |
| Chicago | | 102.1 | 50 | e 14 | 24 | pP | e 25 | 9 | 0 | e 24 | 0 | SKS | e 45.1 |
| Bogota | | 102.6 | 90 | e 14 | 30 | pP | e 24 | 6 | [- 4] | e 18 | 1 | PP | — |
| Calcutta | E. | 102.7 | 289 | e 17 | 40 | PP | i 24 | 2 | [- 8] | i 27 | 55 | PPS | — |
| Galerazamba | N. | 103.5 | 83 | — | — | — | i 25 | 18 | - 3 | i 26 | 39 | PS | — |
| Cincinnati | | 103.6 | 53 | e 18 | 1 | PP | — | — | — | i 18 | 48 | pPP | — |
| Colombo | E. | 105.7 | 272 | e 12 | 1 | ? | 24 | 21 | [- 3] | — | — | — | 44.0 |
| Cleveland | | 106.4 | 51 | i 18 | 23 | PP | i 24 | 23 | [- 4] | i 19 | 3 | pPP | — |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|-------------------|----|------------|------------|----------------------|--------|---------|--------|---------|------------------|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. | |
| Resolute Bay | | 107.2 | 16 | e 14 46 | sP | e 24 26 | [- 4] | e 18 36 | PP | e 45.0 |
| Madras | E. | 107.4 | 278 | i 18 35 | PP | — | — | — | — | — |
| Pittsburgh | | 107.4 | 53 | i 19 19 | pPP | i 24 35 | [+ 4] | — | — | — |
| Kirkland Lake | Z. | 108.8 | 45 | e 18 22 | [+ 9] | — | — | — | — | — |
| Pennsylvania | | 109.0 | 53 | e 18 47 | PP | e 24 36 | [- 2] | e 19 22 | pPP | — |
| Kodaikanal | E. | 109.1 | 274 | e 16 41 | PP | — | — | — | — | — |
| Washington | Z. | 109.2 | 55 | i 18 49 | PP | e 28 18 | PS | e 19 28 | pPP | e 45.3 |
| Hyderabad | N. | 110.2 | 282 | — | — | 24 36 | [- 7] | — | — | — |
| Philadelphia | | 110.8 | 54 | e 18 9 | [- 8] | i 24 43 | [- 2] | e 18 51 | pPKP | e 44.4 |
| Ottawa | | 111.3 | 48 | i 18 18 _a | [0] | 24 44 | [- 3] | 19 1 | PP | 45.1 |
| Palisades | | 112.0 | 53 | i 15 5 | P | i 24 49 | [- 1] | i 19 8 | PP | e 52.8 |
| Shawinigan Falls | | 113.4 | 47 | e 18 25 | [+ 2] | — | — | 19 17 | PP | — |
| Dehra Dun | N. | 113.6 | 295 | e 18 16 | [- 7] | — | — | i 19 19 | PP | — |
| Harvard | | 113.9 | 52 | e 18 25 | [+ 1] | i 24 59 | [+ 2] | i 19 21 | PP | e 50.7 |
| Weston | | 114.1 | 52 | e 18 27 | [+ 3] | e 24 59 | [+ 1] | i 19 25 | PP | — |
| San Juan | | 114.2 | 78 | e 18 25 | [+ 1] | e 24 56 | [- 3] | e 19 11 | PP | e 48.4 |
| Semipalatinsk | | 114.3 | 317 | e 18 22 | [- 2] | e 29 37 | PS | e 19 21 | PP | — |
| Poona | Z. | 114.8 | 282 | e 18 27 | [+ 2] | — | — | — | — | — |
| Seven Falls | | 114.8 | 47 | 29 2 | PS | 24 57 | [- 4] | 26 9 | SKKS | — |
| Bombay | | 115.8 | 282 | e 18 1 | [- 26] | 25 5 | [0] | 19 32 | PP | i 47.5 |
| Naryn | | 116.7 | 307 | e 18 30 | [+ 1] | i 25 5? | [- 3] | i 19 17 | pPKP | — |
| Fort de France | | 117.8 | 84 | i 19 48 | PP | i 25 11 | [- 1] | — | — | — |
| Bermuda | | 118.2 | 64 | e 19 28 | pPKP | e 25 12 | [- 1] | e 20 28 | PP | e 55.0 |
| Andijan | | 119.4 | 306 | i 18 34 | [0] | 25 16 | [- 1] | 19 23 | pPKP | — |
| Tashkent | | 121.7 | 307 | e 18 36 | [- 3] | e 26 48 | SKKS | e 19 25 | pPKP | — |
| Tananarive | | 122.2 | 230 | 18 42 | [+ 2] | 25 31 | [+ 4] | 20 16 | PP | — |
| Grahamstown | Z. | 122.4 | 202 | i 18 41 _k | [+ 1] | — | — | — | — | — |
| Quetta | | 123.0 | 293 | e 18 41 | [0] | e 25 25 | [- 4] | i 19 28 | pPKP | — |
| Pietermaritzburg | Z. | 124.1 | 208 | i 18 45 | [+ 2] | — | — | — | — | — |
| Sverdlovsk | | 125.1 | 326 | e 15 24 | P | 25 33 | [- 3] | 21 13 | PP | — |
| Kimberley | Z. | 127.2 | 203 | i 19 20 _k | pPKP | — | — | — | — | — |
| Scoresby Sund | | 127.6 | 11 | i 18 52 _a | [+ 2] | i 22 15 | PKS | e 20 35 | PP | — |
| Pretoria | Z. | 128.5 | 208 | i 18 53 | [+ 1] | — | — | — | — | — |
| Ashkabad | | 130.3 | 303 | 18 53 | [- 2] | i 21 16 | PP | 19 31 | pPKP | — |
| Kiruna | | 131.6 | 352 | i 18 46 | [- 12] | i 22 8 | SKP | i 19 44 | pPKP | — |
| Reykjavik | Z. | 133.0 | 15 | e 19 0 | [0] | i 22 17 | SKP | — | — | — |
| Pulkovo | | 136.6 | 341 | e 19 6 | [- 1] | i 25 47 | [- 16] | i 19 53 | pPKP | — |
| Moscow | | 136.8 | 333 | i 19 7 | [0] | i 22 41 | SKP | i 19 54 | pPKP | — |
| Makhach-Kala | | 137.5 | 312 | e 19 10 | [+ 1] | i 22 26 | PKS | i 19 56 | pPKP | — |
| Upsala | | 139.5 | 350 | i 19 3 | [- 9] | i 22 32 | SKP | i 20 0 | pPKP | e 56.0 |
| Tiflis | | 139.8 | 311 | e 19 3 | [- 10] | i 22 38 | PKS | i 19 59 | pPKP | — |
| Piatigorsk | | 140.1 | 315 | 19 4 | [- 9] | — | — | — | — | — |
| Edinburgh | E. | 144.2 | 7 | — | — | 41 7 | SS | — | — | — |
| Copenhagen | | 144.3 | 352 | i 19 20 _k | [- 1] | i 23 5 | PKS | i 20 9 | pPKP | — |
| Durham | | 145.5 | 6 | i 19 26 | [+ 3] | i 41 23 | SS | — | — | — |
| Yalta | | 145.5 | 321 | i 19 24 | [+ 1] | e 22 27 | PKS | i 20 11 | pPKP | — |
| Warsaw | | 145.7 | 342 | i 19 23 _k | [0] | i 22 52 | PKS | i 20 1 | pPKP | e 45.0 |
| Rathfarnham C. | Z. | 146.3 | 11 | i 19 25 _k | [+ 1] | i 23 31 | PP | i 20 10 | pPKP | — |
| Hamburg | | 146.7 | 354 | i 19 26 _k | [+ 1] | e 26 9 | [- 10] | i 20 14 | pPKP | — |
| Lwow | | 146.7 | 336 | e 19 25 | [0] | e 26 6 | [- 13] | e 29 31 | SKKS | — |
| Iasi | | 147.3 | 330 | e 19 29 | [+ 3] | e 29 33 | SKKS | e 20 17 | pPKP | — |
| Angra do Heroismo | | 147.5 | 49 | e 20 15 | pPKP | — | — | — | — | — |
| Witteveen | Z. | 147.7 | 357 | i 19 26 _k | [- 1] | — | — | i 20 13 | pPKP | — |
| Bacau | | 148.0 | 330 | e 19 37 | [+ 10] | — | — | e 20 15 | pPKP | — |
| Zabrze | | 148.1 | 342 | i 19 34 | [+ 7] | — | — | — | — | — |
| De Bilt | | 148.4 | 359 | i 19 28 _k | [0] | e 42 0 | SS | i 20 18 | pPKP | — |
| Raciborz | | 148.4 | 343 | e 19 30 | [+ 2] | e 29 39 | SKKS | e 20 22 | pPKP | — |
| Collnberg | | 148.5 | 349 | e 19 29 | [+ 1] | e 30 35 | SKKS | i 20 19 | pPKP | e 48.0 |
| Focsani | | 148.5 | 328 | e 19 33 | [+ 5] | — | — | e 23 38 | pPP | — |
| Skalnate Pleso | | 148.6 | 340 | e 19 35 | [+ 7] | e 27 24 | sSKS | e 19 56 | PKP ₂ | 70.9 |
| Kew | | 148.9 | 5 | e 19 28 _k | [- 1] | i 23 4 | SKP | i 20 18 | pPKP | — |
| Ksara | | 149.0 | 302 | 19 30 | [+ 1] | 22 50 | PP | 20 11 | pPKP | — |
| Jena | | 149.1 | 351 | i 19 29 | [0] | e 26 18 | [- 4] | i 20 17 | pPKP | — |
| Prague | | 149.4 | 347 | i 19 32 _a | [+ 3] | i 29 46 | SKKS | i 20 18 | pPKP | — |
| Uccle | Z. | 149.8 | 0 | i 19 29 | [- 1] | e 22 37 | SKP | i 20 15 | pPKP | e 70.0 |

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| | Δ ° | Az. ° | P. m. s. | O-C. s. | S. m. s. | O-C. s. | Supp. m. s. | L. m. |
|------------------|---------------|----------|-------------|------------|-------------|------------|--------------------------|----------|
| Campulung | 149.9 | 330 | e 19 35 | [+ 5] | — | — | e 20 25 pPKP | — |
| Bucharest | 150.0 | 328 | e 19 36 | [+ 6] | e 26 29 | [+ 6] | e 23 18 PP | — |
| Jerusalem | 150.0 | 298 | i 19 34 | [+ 4] | — | — | — | — |
| Ogyalla | 150.4 | 341 | i 19 46 | [+15] | e 22 17 | SKP | i 20 9 pPKP | — |
| Budapest | E. 150.5 | 339 | 19 37 | [+ 6] | 26 56 | [+32] | 19 58 pPKP | 43.2 |
| Istanbul | 150.5 | 320 | e 19 30 | [- 1] | e 23 20 | PP | e 20 10 pPKP | — |
| Jersey | E. 150.9 | 8 | e 19 48 | [+17] | e 42 16 | SS | e 23 25 PP | — |
| Szeged | N. 151.2 | 337 | 19 39 | [+ 7] | — | — | — | — |
| Timisoara | 151.2 | 335 | e 19 39 | [+ 7] | e 29 52 | SKKS | — | — |
| Karlsruhe | 151.4 | 354 | e 19 33k | [+ 1] | e 23 18 | PP | e 20 19 pPKP | — |
| Stuttgart | 151.5 | 353 | e 19 31 | [- 1] | e 29 57 | SKKS | e 20 16 pPKP | — |
| Paris | 151.7 | 2 | e 19 34 | [+ 1] | e 26 31 | [+ 6] | i 20 20 pPKP | e 75.0 |
| Strasbourg | 151.8 | 355 | e 19 33 | [0] | e 23 31 | PP | e 20 18 pPKP | — |
| Belgrade | 152.2 | 335 | e 19 35 | [+ 2] | e 30 1 | SKKS | e 23 28 PP | — |
| Sofia | 152.6 | 328 | e 19 37? | [+ 3] | e 26 51 | [+24] | e 22 57 PP | — |
| Basle | 152.9 | 355 | e 19 34 | [0] | — | — | — | — |
| Zürich | 153.0 | 353 | e 19 37 | [+ 2] | e 23 21 | PP | e 20 20 pPKP | — |
| Besançon | 153.2 | 357 | e 19 37 | [+ 2] | e 22 41 | SKP | e 20 25 pPKP | — |
| Neuchatel | 153.5 | 356 | e 19 37 | [+ 2] | — | — | — | — |
| Triest | 153.7 | 345 | e 19 47 | [+12] | e 30 6 | SKKS | e 20 30 pPKP | — |
| Helwan | 153.8 | 296 | 19 36 | [0] | e 30 8 | SKKS | 20 21 pPKP | — |
| Oropa | 154.7 | 354 | e 19 50 | [+13] | e 34 44 | PS | — | — |
| Clermont-Ferrand | 154.8 | 2 | e 19 41 | [+ 4] | e 30 27 | SKKS | e 20 25 pPKP | — |
| Pavia | 155.0 | 352 | i 19 39 | [+ 2] | e 34 8 | PS | i 20 28 pPKP | — |
| Padova | Z. 155.2 | 347 | e 19 38 | [+ 1] | — | — | — | — |
| Bologna | 155.4 | 348 | e 19 40 | [+ 2] | e 30 44 | SKKS | — | — |
| Athens | 155.7 | 320 | i 19 38 | [0] | i 22 53 | SKP | i 20 6 PKP ₂ | — |
| Rome | 157.5 | 344 | i 19 40k | [- 1] | i 23 52 | PP | i 20 25 pPKP | e 74.6 |
| Coimbra | 157.8 | 26 | 19 42 | [+ 1] | 43 39 | SS | 20 56 pPKP ₂ | — |
| Lisbon | 158.5 | 29 | e 19 44 | [+ 2] | 43 45 | SS | e 20 22 PKP ₂ | — |
| M'Bour | 159.0 | 103 | i 19 46 | [+ 4] | e 30 36 | SKKS | i 20 23 PKP ₂ | — |
| Barcelona | 159.1 | 4 | e 24 34 | PP | — | — | — | e 53.6 |
| Toledo | 159.4 | 18 | 19 45 | [+ 2] | 26 37 | [+ 3] | i 20 24 pPKP | — |
| Messina | 159.8 | 333 | 19 42? | [- 1] | i 27 46 | sSKS | 20 22 pPKP | — |
| Alicante | 161.8 | 12 | 19 33 | [-12] | 26 15 | [-21] | 20 23 PKP ₂ | 76.8 |
| Granada | 162.0 | 20 | i 19 47k | [+ 1] | 26 37 | [+ 1] | 20 36 PKP ₂ | 80.4 |
| Malaga | 162.2 | 23 | i 19 47 | [+ 1] | 31 23 | SKKS | 20 33 PKP ₂ | 73.4 |
| Almeria | 162.7 | 18 | i 19 52 | [+ 6] | 26 48 | [+12] | i 20 40 PKP ₂ | 86.1 |
| Tunis | 162.9 | 344 | e 19 48 | [+ 2] | e 26 24 | [-13] | e 20 30 pPKP | — |
| Averroes | 163.6 | 37 | i 19 47 | [0] | i 25 8 | sPP | i 20 33 PKP ₂ | — |
| Tamanrasset | Z. 177.4 | 331 | i 19 56k | [+ 1] | e 32 9 | SKKS | i 20 42 pPKP | — |

Sept. 13d. 17h. 39m. Epicentre 21°·4N. 121°·7E. Unfelt.
Seismo. Bulletin of Taiwan Weather Bureau for July-Sept., 1954, Vol. 1, No. 3, Taipei, China, p. 30.

Sept. 13d. 18h. 12m. 38s. (I)) Epicentre 20°·7N. 120°·8E.
18h. 19m. 17s. (II)) (as on 7d.).

| | Δ ° | Az. ° | P. m. s. | O-C. s. | S. m. s. | O-C. s. | Supp. m. s. | L. m. |
|------------|---------------|----------|-------------|------------|-------------|------------------|----------------|----------|
| I Hengchun | 1.3 | 356 | 0 24 | - 1 | 0 42 | - 2 | — | — |
| II | 1.3 | 356 | 0 25 | 0 | 0 43 | - 1 | — | — |
| I Tawu | 1.6 | 1 | e 0 28 | - 2 | 0 49 | - 2 | — | — |
| II | 1.6 | 1 | e 0 30 | 0 | 0 51 | 0 | — | — |
| I Taitung | 2.0 | 8 | 0 35 | 0 | 0 57 | + 5 | — | — |
| I Tainan | 2.3 | 346 | e 0 40 | 0 | 1 27 | +11 _g | — | — |
| II | 2.3 | 346 | e 0 43 | + 3 | 1 30 | +14 _g | — | — |
| I Hsinkong | 2.4 | 12 | e 0 39 | - 2 | 1 6 | - 6 | — | — |
| I Alishan | 2.8 | 359 | 0 43 | - 4 | 1 19 | - 3 | — | — |
| II | 2.8 | 359 | 0 42 | - 5 | 1 17 | - 5 | — | — |

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| 1954 | | 560 | | | | | | | | | | | |
|------|---------------|----------|------|-----|------|------------------|-----|------|------------------|-------|------|----------|--------|
| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
| | | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| II | Penghu | 3.0 | 337 | i 0 | 1k | ? | 0 | 41 | ? | — | — | — | |
| I | Hwalien | 3.3 | 12 | e 0 | 50 | - 3 | 1 | 25 | -10 | — | — | — | |
| II | | 3.3 | 12 | e 1 | 13 | + 7 _g | — | — | — | — | — | — | |
| I | Taichung | 3.4 | 358 | 1 | 18 | +10 _g | 1 | 58 | + 6 _g | — | — | — | |
| II | | 3.4 | 358 | e 1 | 15 | + 7 _g | 1 | 57 | + 5 _g | — | — | — | |
| I | Ilan | 4.1 | 12 | e 1 | 4 | - 1 | 1 | 50 | - 5 | — | — | — | |
| II | | 4.1 | 12 | e 1 | 5 | 0 | 1 | 51 | - 4 | — | — | — | |
| I | Baguio | 4.3 | 183 | i 1 | 10 | + 2 | i 2 | 7 | + 7 | — | — | — | |
| II | | 4.3 | 183 | i 1 | 10k | + 2 | i 2 | 9 | + 9 | — | — | — | |
| I | Manila | 6.1 | 178 | e 1 | 35 | + 1 | — | — | — | — | — | — | |
| II | | 6.1 | 178 | e 1 | 35 | + 1 | — | — | — | — | — | — | |
| I | Hong Kong | E. | 6.4 | 286 | 1 | 42 | + 4 | — | — | — | — | — | |
| I | Taiyuan | N. | 18.4 | 339 | e 4 | 21 | + 3 | — | — | — | — | — | |
| II | | | 18.4 | 339 | e 4 | 20 | + 2 | — | — | — | — | — | |
| I | Kwanting | N. | 20.0 | 348 | e 4 | 35 | - 2 | — | — | — | — | — | |
| II | | | 20.0 | 348 | e 4 | 36 | - 1 | — | — | — | — | — | |
| I | Tatung | N. | 20.4 | 343 | e 4 | 43 | + 2 | — | — | — | — | — | |
| II | | | 20.4 | 343 | e 4 | 44 | + 3 | — | — | — | — | — | |
| I | Lanchow Univ. | | 21.4 | 219 | e 4 | 52 | + 1 | — | — | — | — | — | |
| I | Paotow | N. | 21.8 | 337 | e 4 | 57 | + 1 | — | — | — | — | — | |
| I | Matusiro | | 21.9 | 40 | e 5 | 4 | + 7 | e 8 | 57 | + 3 | — | — | |
| II | | | 21.9 | 40 | e 5 | 1 | + 4 | i 10 | 54 | L | — | (i 10.9) | |
| II | Mizusawa | E. | 25.4 | 39 | (5 | 29) | - 2 | 5 | 29 | P | — | — | |
| I | Calcutta | E. | 30.2 | 279 | — | — | — | e 11 | 19 | + 6 | — | e 15.0 | |
| I | Lembang | Z. | 30.3 | 207 | e 6 | 22 _a | + 7 | e 11 | 25 | +10 | e 6 | 54 ? | |
| II | | Z. | 30.3 | 207 | e 6 | 24 _a | + 9 | — | — | — | e 6 | 58 ? | |
| I | Bandung | | 30.4 | 207 | e 6 | 22 | + 6 | i 11 | 26 | +10 | — | — | |
| II | | | 30.4 | 207 | e 6 | 22 | + 6 | e 11 | 29 | +13 | — | — | |
| I | Chatra | | 31.3 | 288 | e 6 | 26 | + 2 | — | — | — | — | — | |
| II | | | 31.3 | 288 | e 6 | 25 | + 1 | — | — | — | — | e 14.2 | |
| II | Dehra Dun | N. | 39.6 | 293 | e 7 | 34 | - 1 | — | — | — | — | — | |
| I | Madras | E. | 39.6 | 265 | e 7 | 50 | +15 | — | — | — | — | — | |
| II | Colombo | E. | 41.9 | 257 | 7 | 3 | -51 | — | — | — | — | — | |
| I | Kodaikanal | E. | 43.0 | 263 | — | — | — | e 12 | 3 | ? | — | — | |
| II | Poona | Z. | 44.2 | 276 | e 8 | 14 | + 2 | — | — | — | — | — | |
| II | Bombay | | 45.1 | 276 | 1 | 8 | 22 | + 2 | e 15 | 5 | + 6 | i 9 | 4 PcP |
| I | Quetta | | 49.2 | 292 | e 8 | 52 | 0 | e 18 | 41 | ScS | — | — | |
| II | | | 49.2 | 292 | e 8 | 52 | 0 | e 15 | 39 | -19 | e 18 | 24 ScS | |
| I | Brisbane | | 57.2 | 146 | i 9 | 48 | - 3 | — | — | — | — | — | |
| I | College | | 72.0 | 27 | i 11 | 23 | - 5 | — | — | — | — | — | |
| II | | | 72.0 | 27 | i 11 | 22 | - 6 | — | — | — | — | — | |
| I | Ksara | | 74.7 | 301 | 11 | 48 | + 5 | 21 | 40 | +21 | 14 | 46 PP | |
| II | | | 74.7 | 301 | 11 | 47 | + 4 | 22 | 5? | PS | 14 | 55 PP | |
| I | Kiruna | | 74.8 | 337 | i 11 | 42 | - 2 | e 21 | 20? | 0 | e 16 | 20? PPP | e 40.1 |
| II | | | 74.8 | 337 | i 11 | 41 | - 3 | e 21 | 20 | 0 | i 11 | 57 PcP | e 36.7 |
| I | Istanbul | | 78.0 | 309 | e 12 | 1 | - 1 | e 21 | 54 | - 1 | e 15 | 1 PP | — |
| II | | | 78.0 | 309 | e 12 | 1 | - 1 | e 21 | 55 | 0 | e 15 | 1 PP | — |
| I | Upsala | | 78.7 | 330 | e 12 | 6 | 0 | e 22 | 0 | - 3 | — | — | e 41.4 |
| II | | Z. | 78.7 | 330 | i 12 | 5 | - 1 | — | — | — | — | — | — |
| I | Helwan | Z. | 79.6 | 298 | i 12 | 10 _a | 0 | — | — | — | e 12 | 26 PcP | — |
| II | | | 79.6 | 298 | i 12 | 11 _a | + 1 | 22 | 15 | + 3 | e 12 | 25 PcP | — |
| I | Warsaw | | 79.7 | 322 | — | — | — | e 22 | 17 | + 4 | e 22 | 7? ? | — |
| II | | | 79.7 | 322 | e 12 | 10 | - 1 | e 22 | 13 | 0 | e 12 | 25 PcP | e 38.7 |
| I | Tananarive | | 81.9 | 246 | e 12 | 24 | + 1 | — | — | — | — | — | — |
| II | | | 81.9 | 246 | e 12 | 24 | + 1 | — | — | — | — | — | — |
| I | Resolute Bay | | 82.1 | 9 | e 12 | 20 | - 4 | — | — | — | — | — | — |
| II | | | 82.1 | 9 | e 12 | 20 _a | - 4 | — | — | — | — | — | — |
| I | Copenhagen | | 83.0 | 327 | — | — | — | 22 | 52 | + 5 | — | — | 44.4 |
| I | Prague | | 84.3 | 322 | i 12 | 35 | 0 | e 22 | 53 | - 7 | e 12 | 51 PcP | — |
| II | | | 84.3 | 322 | i 12 | 35 | 0 | e 15 | 52 | PP | e 12 | 50 PcP | — |
| I | Collmberg | Z. | 84.6 | 323 | e 12 | 35 | - 1 | — | — | — | e 18 | 11 PPP | — |
| II | Hamburg | | 85.2 | 326 | e 12 | 40 | + 1 | — | — | — | — | — | e 39.7 |
| I | Scoresby Sund | | 85.4 | 348 | e 12 | 39 | - 1 | e 22 | 59 | [- 4] | — | — | — |
| II | | | 85.4 | 348 | i 12 | 40 | 0 | e 23 | 6 | [+ 3] | — | — | e 45.7 |
| II | Jena | | 85.6 | 323 | e 12 | 40 | - 1 | — | — | — | e 12 | 56 PcP | — |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|----------------------|----|------------|------------|---------|-------|---------|--------|-----------|------------------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| II Stuttgart | z. | 88.0 | 322 | e 12 50 | - 3 | — | — | e 16 17 | PP |
| II De Bilt | | 88.5 | 326 | i 12 55 | - 1 | e 23 49 | + 8 | (e 29 43) | SS |
| I Messina | | 88.7 | 310 | e 12 57 | 0 | i 23 41 | - 2 | — | — |
| II | | 88.7 | 310 | e 12 58 | + 1 | i 23 44 | + 1 | — | — |
| II Strasbourg | | 88.9 | 322 | e 12 57 | - 1 | e 23 49 | + 5 | — | e 41.7 |
| II Aberdeen | | 89.0 | 333 | i 16 29 | PP | e 23 52 | + 7 | i 25 20 | PPS |
| I Rome | | 89.2 | 315 | e 13 1 | + 2 | e 23 26 | [- 2] | — | — |
| II | | 89.2 | 315 | e 12 56 | - 3 | e 23 46 | - 1 | e 16 45 | PP |
| II Uccle | | 89.6 | 325 | e 16 47 | PP | e 23 3 | ? | e 29 42 | SS |
| II Durham | | 90.2 | 331 | e 16 50 | PP | e 24 4 | + 8 | — | — |
| II Kew | | 91.6 | 328 | e 13 17 | + 7 | e 23 17 | [- 25] | e 16 7 | PP |
| II Paris | | 91.7 | 324 | e 13 10 | 0 | e 25 16 | PS | e 16 47 | PP |
| II Clermont-Ferrand | | 93.1 | 322 | — | — | e 24 0 | [+ 9] | — | — |
| II Rathfarnham C. z. | | 93.3 | 331 | e 13 17 | - 1 | — | — | — | — |
| II Jersey E. | | 93.9 | 326 | — | — | e 23 39 | [- 16] | — | — |
| I Hungry Horse | | 95.6 | 33 | i 13 25 | - 3 | — | — | — | — |
| II | | 95.6 | 33 | e 13 27 | - 1 | — | — | — | — |
| II Granada | | 102.2 | 318 | — | — | 28 25 | PPS | — | 46.8 |
| I Nelson | z. | 103.1 | 43 | e 14 14 | + 12 | — | — | e 17 17 | PP |
| II | z. | 103.1 | 43 | e 11 34 | ? | — | — | — | — |
| II Fayetteville | | 114.5 | 30 | — | — | 31 32 | ? | — | — |
| I Chinchina | z. | 149.8 | 34 | i 19 47 | [0] | — | — | — | — |
| II | z. | 149.8 | 34 | i 19 43 | [- 4] | — | — | — | — |
| I Montezuma | z. | 170.8 | 104 | e 20 13 | [+ 3] | — | — | i 21 30 | PKP ₂ |

Sept. 13d. 19h. 23m. Epicentre 21°·2N. 121°·0E. Unfelt.
Loc. cit., 13d. 17h. above, pp. 30-31.

Sept. 13d. 19h. 52m. Epicentre 21°·7N. 121°·8E. Unfelt.
Loc. cit., p. 31.

Sept. 13d. 20h. 23m. Epicentre 22°·3N. 121°·9E. Unfelt.
Loc. cit., p. 31.

Sept. 13d. 21h. 27m. Epicentre 21°·4N. 122°·3E. Unfelt.
Loc. cit., pp. 31-32.

Sept. 13d. 21h. 46m. Epicentre 31°·2N. 37°·2E. Magnitude 4.
Intensity VI South of the Dead Sea.

N. Shalem.

The tremor of 13th September, 1954. Geological Survey of Israel, Jerusalem, July, 1955, with maps.

Sept. 14d. 0h. 48m. Epicentre 21°·4N. 121°·9E. Unfelt.
Loc. cit., 13d. 17h. above, p. 32.

Sept. 14d. 7h. 20m. 10s. Epicentre 27°·4N. 126°·6E.

Intensity V at Ryukyu-Zamami. Unfelt.

Se.smo. Bull. Cent. Met. Obs. Japan for September, 1954. Tokyo, 1954, pp. 21, 22.

A = -·5301, B = +·7138, C = +·4577; $\delta = +1$; $h = +3$;
D = +·803, E = +·596; G = -·273, H = +·367, K = -·889.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|----------|------------|------------|---------------------|------|----------|-------------------|--------|----|
| | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Yakusima | 4.6 | 48 | e 1 12 | 0 | — | — | — | — |
| Ilan | 5.1 | 240 | e 1 29 | - 1* | 2 58 | + 10 _g | — | — |
| Taipei | 5.1 | 243 | e 1 23 | + 3 | 2 31 | - 4* | — | — |
| Kagosima | 5.4 | 39 | e 1 28 _a | + 4 | e 2 29 | + 1 | — | — |
| Tomie | 5.5 | 20 | e 2 52 | S* | (e 2 52) | + 5* | e 3 50 | ? |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|---------------|----|----------|-----|----------------------|------------------|----------------------|------------------|---------|----------------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Hwalien | | 5.6 | 234 | e 1 27 | 0 | 2 52 | + 2* | — | — |
| Hsinchu | | 5.7 | 244 | 1 22 | - 6 | 2 31 | - 4 | — | — |
| Zō-Sō | Z. | 6.0 | 309 | 1 38 | + 6 | 3 0 | - 2* | — | — |
| Miyazaki | | 6.2 | 42 | e 1 36 | + 1 | 4 6 | ? | e 2 34 | ? |
| Taichung | | 6.2 | 240 | e 1 40 | + 5 | 3 7 | - 1* | — | 4.7 |
| Unzendake | | 6.2 | 30 | e 1 50 | + 1* | e 3 51 | +26 _g | — | — |
| Kumamoto | | 6.5 | 33 | e 1 40 | + 1 | e 2 55 | 0 | — | e 4.0 |
| Saga | N. | 6.6 | 28 | 2 11 | - 1 _g | — | — | — | i 5.1 |
| Asosan | | 6.7 | 35 | 1 35 | - 7 | — | — | — | — |
| Taitung | | 6.8 | 228 | e 1 41 | - 3 | — | — | — | — |
| Hukuoka | | 7.0 | 27 | e 1 51 | + 5 | e 4 19 | ? | e 2 16 | PP |
| Ituhara | | 7.2 | 19 | e 2 21 | - 3 _g | e 4 8 | +10 _g | — | — |
| Tainan | | 7.2 | 234 | e 1 50 | + 1 | 3 29 | - 9* | — | — |
| Tawu | | 7.2 | 227 | 1 50 | + 1 | 3 4 | - 9 | — | — |
| Ooita | | 7.3 | 36 | e 1 55 | + 5 | e 3 28 | +13 | — | — |
| Simonoseki | | 7.5 | 29 | e 1 58 _k | + 5 | i 4 12 | + 4 _g | — | — |
| Hengchun | | 7.6 | 226 | e 1 52 | - 3 | — | — | — | — |
| Nanking | N. | 8.2 | 306 | e 2 2 | - 1 | — | — | — | — |
| Hirosima | | 8.6 | 35 | — | — | e 4 23 | + 4* | — | — |
| Koti | | 8.6 | 43 | — | — | e 3 55 | + 7 | e 5 34 | ? |
| Takamatu | | 9.4 | 41 | e 2 18 | 0 | e 5 46 | ? | — | e 6.3 |
| Tokusima | | 9.6 | 44 | e 2 18 | - 3 | e 6 16 | ? | — | — |
| Sumoto | | 10.0 | 44 | — | — | e 4 27 | + 5 | — | e 5.9 |
| Kyoto | | 10.9 | 44 | e 2 39 | - 1 | e 5 40 | L | — | e 7.2 |
| Gihu | | 11.8 | 45 | e 2 51 | - 2 | — | — | — | — |
| Baguio | | 12.3 | 208 | i 2 58 | - 1 | — | — | — | — |
| Kohu | N. | 13.1 | 48 | e 3 53 | +43 | — | — | — | e 8.7 |
| Matusiro | | 13.4 | 44 | e 3 10 | - 4 | e 6 10 | +25 | 7 50 | Q |
| Nagano | N. | 13.5 | 44 | e 3 22 | + 7 | — | — | — | — |
| Titibu | E. | 13.6 | 48 | e 3 26 | + 9 | — | — | — | — |
| Manila | | 13.8 | 203 | e 3 24 | + 5 | — | — | — | — |
| Kumagaya | | 13.9 | 48 | e 3 26 | + 5 | — | — | — | — |
| Maebasi | | 13.9 | 47 | e 3 31 | +10 | — | — | — | — |
| Kakioka | E. | 14.5 | 49 | e 3 26 | - 2 | — | — | — | — |
| Utunomiya | | 14.5 | 48 | e 3 30 | + 2 | — | — | — | — |
| Shirakawa | | 15.1 | 47 | e 3 35 | - 1 | — | — | — | — |
| Taiyuan | E. | 15.6 | 315 | e 3 43 | 0 | — | — | — | — |
| Tatung | E. | 16.8 | 322 | — | — | e 7 15 | +10 | — | — |
| Lanchow Univ. | | 21.1 | 300 | e 4 46 | - 2 | — | — | — | — |
| Wuwei | | 22.6 | 304 | e 5 6 | + 3 | e 9 14 | + 7 | — | — |
| Shillong | | 31.0 | 275 | e 6 16 | - 5 | — | — | e 14 3 | SSS |
| Djakarta | | 38.5 | 213 | e 7 31 _k | + 5 | e 13 28 | + 6 | e 14 35 | ? |
| Bandung | | 38.7 | 211 | e 7 23 _? | - 4 | e 13 21 _? | - 4 | — | — |
| Lembang | | 38.7 | 211 | i 7 26 _k | - 1 | e 13 23 | - 2 | e 15 30 | SS |
| Dehra Dun | N. | 42.3 | 286 | e 8 0 | + 3 | — | — | — | — |
| Bombay | N. | 49.8 | 272 | e 10 4 | PP | e 16 5 | - 1 | e 18 36 | SS |
| Quetta | | 51.8 | 288 | e 9 7 | - 5 | e 16 31 | - 2 | — | e 26.8 |
| College | | 63.7 | 28 | i 10 31 | - 5 | — | — | — | e 22.9 |
| Riverview | Z. | 65.2 | 158 | i 11 9 _a | +24 | — | — | — | — |
| Kiruna | | 70.7 | 337 | i 11 25 | + 5 | — | — | — | e 37.8 |
| Resolute Bay | | 74.7 | 10 | e 11 52 _a | + 9 | — | — | — | e 38.4 |
| Upsala | | 75.5 | 330 | i 11 53 | + 5 | — | — | — | e 40.8 |
| Ksara | | 75.8 | 301 | e 12 4 | +14 | 22 24 | PS | — | — |
| Warsaw | | 77.6 | 323 | e 11 56 | - 4 | e 16 43 | PPP | e 12 7 | PcP |
| Copenhagen | | 80.1 | 328 | — | — | i 27 6 | SS | — | e 41.8 42.8 |
| Collmberg | Z. | 82.3 | 324 | e 12 31 | + 6 | — | — | — | — |
| Prague | | 82.3 | 323 | — | — | e 24 18 | PPS | — | e 44.8 |
| Jena | Z. | 83.3 | 325 | e 12 41 | +11 | — | — | e 13 31 | ? |
| Aberdeen | | 85.4 | 335 | — | — | e 23 10 | - 1 | e 30 50 | SSS |
| Stuttgart | | 85.8 | 324 | e 12 53 | +11 | e 22 50 | [-16] | e 29 20 | SS |
| Shasta | Z. | 86.9 | 45 | i 12 44 | - 4 | — | — | — | — |
| Hungry Horse | | 87.1 | 36 | i 12 45 | - 4 | — | — | — | e 39.2 |
| Mineral | Z. | 87.6 | 45 | e 12 46 | - 5 | — | — | — | — |
| Pavia | | 88.0 | 321 | — | — | e 28 28 | SS | — | — |
| Messina | E. | 88.2 | 313 | — | — | e 23 27 | [+ 5] | — | e 52.5 |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|----------------|----|------------|------------|---------|------|-------|------|---------|-----|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Reno | Z. | 89.2 | 45 | e 13 2 | + 3 | — | — | — | — |
| Butte | N. | 89.4 | 37 | e 12 56 | - 4 | — | — | — | — |
| Bozeman | | 90.4 | 36 | e 13 1 | - 3 | — | — | — | — |
| Tinemaha | Z. | 91.6 | 46 | e 12 45 | -25 | — | — | e 13 1 | P |
| Woody | Z. | 92.0 | 48 | e 13 7 | - 5 | — | — | e 13 12 | PcP |
| Salt Lake City | | 93.2 | 40 | e 13 14 | - 3 | — | — | — | — |
| Pasadena | Z. | 93.4 | 49 | e 13 35 | +17 | — | — | — | — |
| Boulder City | | 94.4 | 46 | e 13 21 | - 2 | — | — | — | — |
| Nelson | Z. | 94.6 | 46 | e 13 20 | - 4 | — | — | i 13 37 | PcP |
| Palomar | Z. | 94.7 | 49 | e 13 39 | +15 | — | — | — | — |
| Tamanrasset | Z. | 104.3 | 305 | e 18 21 | PP | — | — | — | — |
| Palisades | | 109.3 | 16 | e 31 6 | ? | — | — | — | — |

Sept. 14d. 16h. 18m. Epicentre 23°·7N. 120°·7E. Unfelt.
Loc. cit., 13d. 17h., p. 33.

Sept. 14d. 16h. 24m. Epicentre 22°·4N. 125°·6E. Unfelt. Depth of focus 40km.
Loc. cit., above, p. 33.

Sept. 15d. 2h. 48m. Epicentre 23°·5N. 120°·7E.
 Intensity IV at Alishan; II-III at Tainan, Penghu, and Taichung.
Seismo. Bulletin of the Taiwan Weather Bureau for July-Sept., 1954, Vol. 1, No. 3, Taipei, 1954, pp. 33-34.

Sept. 15d. 6h. 38m. Epicentre 4°·5S. 82°W. Depth of focus 60km.
Monthly Bulletin of the B.C.I.S. for Sept., 1954, Strasbourg, 1955, p. 520.

Sept. 15d. 8h. 49m. Epicentre 41°·2N. 43°·8E.
Bulletin of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, p. 93.

Sept. 15d. 15h. 50m. Epicentre 36°·4N. 70°·5E. Depth of focus 120km.
Loc. cit., 8h., p. 93.

Sept. 15d. 17h. 56m. 9s. Epicentre 17°·8S. 178°·6W. Depth of focus 0.080.
 (as on 1954, June 12d.).

Magnitude 7 (Pasadena).

A = -·9525, B = -·0233, C = -·3038; $\delta = +9$; $h = +5$;
 D = -·024, E = +1·000; G = +·304, H = +·007, K = -·953.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----|------------|------------|---------|------|---------|------|---------|-----|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Apia | | 7.7 | 60 | i 1 56 | + 1 | i 3 29 | + 2 | — | — |
| Nouméa | | 14.7 | 250 | i 4 27 | ? | i 5 48 | +12 | i 6 7 | ScS |
| Onerahi | E. | 18.9 | 198 | i 3 50 | + 3 | e 6 55 | + 5 | e 10 31 | ScP |
| Auckland | N. | 19.9 | 196 | i 3 56 | 0 | e 7 7 | + 1 | e 6 33 | ? |
| Karapiro | N. | 20.7 | 193 | i 4 3 | - 1 | e 7 19 | - 1 | 14 12 | ScS |
| Tuai | N. | 21.2 | 189 | e 4 5 | - 3 | e 7 20 | - 8 | e 14 16 | ScS |
| New Plymouth | E. | 22.1 | 195 | e 4 19 | + 2 | e 7 46 | + 3 | e 14 9 | ScS |
| Wellington | | 24.1 | 192 | i 4 31k | - 4 | e 8 12 | - 3 | e 10 52 | ScP |
| Christchurch | | 26.7 | 194 | i 4 55 | - 3 | e 8 51 | - 5 | e 11 44 | PcS |
| Brisbane | | 27.8 | 245 | i 5 6 | - 1 | i 9 10 | - 3 | — | — |
| Riverview | | 31.4 | 234 | i 5 38k | 0 | i 10 6 | - 3 | i 7 7 | pP |
| Melbourne | E. | 37.6 | 230 | i 6 30 | 0 | i 11 39 | - 3 | i 8 21 | PP |
| Macquarie Island | | 40.5 | 200 | i 6 51 | - 2 | — | — | — | — |
| Honolulu | | 43.7 | 28 | i 7 19k | + 1 | i 13 8 | - 2 | e 9 27 | pP |
| Perth | | 60.3 | 243 | — | — | i 16 49 | - 2 | i 18 21 | ScS |
| Mera | | 65.6 | 323 | e 9 53 | + 1 | — | — | — | — |
| Osima | | 65.8 | 323 | i 9 53 | 0 | e 17 50 | - 8 | — | — |
| Yokohama | | 66.1 | 324 | e 9 54 | - 1 | e 19 6 | ScS | e 10 46 | PcP |
| Kashiwa | | 66.2 | 324 | e 10 2 | + 6 | — | — | — | — |
| Tokyo | N. | 66.2 | 324 | e 9 57 | + 1 | e 10 43 | PcP | i 11 14 | ? |

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------------|----|----------|-----|----------------------|------|---------|------|---------|-----|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Misima | | 66.3 | 323 | i 9 55 _a | - 1 | i 18 1 | - 2 | — | — |
| Mito | E. | 66.3 | 325 | i 9 58 | + 2 | — | — | — | — |
| Omaesaki | | 66.3 | 322 | 9 57 | + 1 | — | — | e 10 15 | ? |
| Kakioka | E. | 66.4 | 324 | e 9 58 | + 1 | — | — | — | — |
| Shizuoka | | 66.5 | 322 | 9 57 _a | - 1 | e 18 6 | 0 | e 19 8 | ScS |
| Hunatu | | 66.7 | 323 | 9 59 | 0 | e 18 43 | SP | e 19 9 | ScS |
| Kumagaya | | 66.8 | 324 | 10 0 | 0 | — | — | — | — |
| Titibu | E. | 66.8 | 324 | i 10 1 | + 1 | — | — | — | — |
| Utunomiya | | 66.8 | 324 | e 9 58 | - 2 | e 18 7 | - 2 | e 12 19 | sP |
| Kohu | | 66.9 | 323 | e 10 0 | 0 | e 18 10 | 0 | e 19 11 | ScS |
| Siomisaki | | 67.0 | 320 | e 9 59 | - 2 | — | — | — | — |
| Maebasi | | 67.1 | 324 | e 10 1 | 0 | e 18 21 | + 8 | — | — |
| Hokusima | | 67.3 | 326 | e 10 3 | + 1 | e 18 13 | - 2 | — | — |
| Oiwake | | 67.4 | 324 | e 10 4 | + 1 | e 18 16 | 0 | — | — |
| Nagoya | | 67.5 | 322 | e 10 5 | + 1 | e 18 19 | + 1 | e 12 31 | PP |
| Sendai | | 67.5 | 326 | e 10 3 | - 1 | — | — | — | — |
| Kameyama | | 67.6 | 321 | i 10 5 _a | + 1 | — | — | e 12 40 | PP |
| Matumoto | | 67.6 | 323 | i 10 5 _a | + 1 | e 18 21 | + 2 | — | — |
| Manila | | 67.7 | 295 | e 10 5 | 0 | — | — | — | — |
| Matusiro | | 67.7 | 324 | i 10 4 _a | - 1 | i 18 20 | 0 | e 11 51 | pP |
| Gihu | | 67.8 | 322 | e 10 5 | - 1 | — | — | — | — |
| Nagano | N. | 67.8 | 324 | i 10 6 | 0 | e 17 57 | -24 | i 12 41 | PP |
| Nara | | 67.8 | 321 | e 10 5 | - 1 | — | — | e 12 44 | PP |
| Muroto | | 67.9 | 318 | i 9 59 _? | - 7 | — | — | — | — |
| Hikone | | 68.0 | 321 | i 10 9 | + 2 | — | — | — | — |
| Miyako | | 68.0 | 328 | e 10 6 | - 1 | — | — | — | — |
| Mizusawa | E. | 68.0 | 327 | (10 8) | + 1 | 10 8 | P | — | — |
| Osaka | | 68.0 | 320 | e 10 15 | + 8 | — | — | e 10 56 | ? |
| Sumoto | | 68.1 | 320 | i 10 8 | + 1 | i 18 25 | + 1 | — | — |
| Kobe | | 68.2 | 320 | e 10 8 | 0 | e 18 25 | - 1 | e 19 23 | ScS |
| Niigata | N. | 68.2 | 325 | e 10 16 | + 8 | — | — | e 10 46 | PcP |
| Tsuruga | | 68.3 | 322 | e 10 10 | + 1 | — | — | — | — |
| Toyama | | 68.4 | 323 | e 10 9 | 0 | — | — | — | — |
| Koti | | 68.5 | 318 | e 10 10 | 0 | e 18 31 | + 2 | — | — |
| Yakusima | | 68.6 | 314 | e 10 7 | - 3 | — | — | — | — |
| Takamatu | | 68.7 | 319 | e 10 12 | + 1 | e 18 33 | + 2 | — | — |
| Baguio | | 68.8 | 296 | i 10 12 _a | 0 | i 18 32 | 0 | — | — |
| Miyazaki | | 68.8 | 316 | e 10 14 | + 2 | — | — | — | — |
| Akita | | 69.0 | 327 | e 10 15 | + 2 | — | — | — | — |
| Toyooka | | 69.0 | 321 | e 10 12 | - 1 | — | — | — | — |
| Wazima | | 69.0 | 323 | e 10 15 | + 2 | — | — | — | — |
| Kagosima | | 69.2 | 315 | e 10 15 | + 1 | — | — | e 11 7 | ? |
| Matuyama | N. | 69.2 | 318 | e 10 11 | - 3 | — | — | e 12 47 | PP |
| Ooita | | 69.5 | 317 | e 10 22 | + 6 | e 18 43 | + 3 | — | — |
| Urakawa | | 69.5 | 330 | e 10 10 | - 6 | — | — | — | — |
| Hirosima | | 69.7 | 318 | e 10 16 | - 1 | — | — | — | — |
| Kurilsk | | 69.7 | 335 | i 10 16 | - 1 | i 18 44 | + 1 | — | — |
| Kumamoto | | 69.8 | 316 | e 10 17 | - 1 | — | — | — | — |
| Abashiro | | 70.3 | 332 | e 10 21 | + 1 | — | — | — | — |
| Tomakomai | | 70.4 | 330 | e 10 22 | + 1 | — | — | — | — |
| Hukuoka | | 70.6 | 316 | i 10 22 _a | 0 | — | — | e 13 0 | PP |
| Sapporo | | 70.9 | 330 | i 10 24 _a | 0 | — | — | e 13 24 | PP |
| Bandung | | 72.5 | 268 | i 10 35 _a | + 2 | i 19 13 | - 1 | e 13 44 | sP |
| Lembang | Z. | 72.5 | 268 | i 10 33 _a | 0 | i 19 14 | 0 | i 13 27 | PP |
| Petropavlovsk | | 73.2 | 346 | i 10 35 | - 2 | — | — | — | — |
| Yuzno-Sakhlinsk | | 73.3 | 334 | i 10 38 | 0 | i 19 26 | + 3 | — | — |
| Djakarta | | 73.5 | 269 | 10 37 | - 2 | i 19 22 | - 3 | e 13 46 | sP |
| Uglegorsk | | 75.2 | 334 | i 10 45 | - 3 | 19 40 | - 3 | — | — |
| Z6-S6 | | 75.5 | 310 | i 10 50 _a | 0 | i 19 48 | + 1 | e 13 21 | PP |
| Vladivostok | | 75.7 | 325 | i 10 53 | + 2 | e 19 54 | + 5 | — | — |
| Klyuchi | | 75.8 | 348 | i 10 51 | - 1 | — | — | — | — |
| San Francisco | E. | 76.4 | 43 | e 10 56 | + 1 | e 19 57 | + 1 | e 11 55 | ? |
| Santa Clara | | 76.5 | 43 | e 10 56 _k | 0 | i 20 3 | + 6 | e 12 56 | pP |
| Berkeley | Z. | 76.6 | 43 | i 10 56 _a | 0 | i 20 1 | + 3 | i 12 57 | pP |
| Lick | Z. | 76.7 | 43 | i 10 57 _a | 0 | e 20 0 | + 1 | i 12 59 | pP |

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|---------------|----|----------|-----|--------|-----------------|-------|------|----|-------|----------|----|-------|--------|
| | | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Ukiah | | 76.7 | 41 | e 10 | 57 | 0 | e 20 | 1 | + 2 | e 12 | 59 | pP | — |
| Hong Kong | E. | 76.9 | 299 | — | — | — | 20 | 3 | + 1 | — | — | — | — |
| Pasadena | | 77.3 | 48 | i 11 | 0 _a | 0 | i 20 | 7 | + 1 | i 13 | 0 | pP | — |
| Barratt | Z. | 77.6 | 50 | i 11 | 2 _a | 0 | e 20 | 12 | + 3 | i 13 | 3 | pP | — |
| Fresno | Z. | 77.6 | 45 | i 11 | 2 _a | 0 | — | — | — | i 12 | 1 | ? | — |
| Woody | | 77.6 | 46 | i 11 | 2 _a | 0 | i 20 | 11 | + 2 | i 13 | 3 | pP | — |
| Nanking | | 77.7 | 310 | i 11 | 3 _a | + 1 | i 20 | 14 | + 4 | e 13 | 48 | PP | — |
| Palomar | Z. | 77.8 | 49 | i 11 | 3 _a | 0 | i 20 | 15 | + 4 | i 13 | 4 | pP | — |
| Riverside | | 77.8 | 48 | i 11 | 3 _a | 0 | e 20 | 14 | + 3 | i 13 | 4 | pP | — |
| Shasta | | 78.1 | 40 | i 11 | 4 _a | 0 | e 20 | 14 | 0 | i 13 | 5 | pP | — |
| Mineral | Z. | 78.4 | 41 | i 11 | 6 | 0 | — | — | — | — | — | — | — |
| Tinemaha | | 78.8 | 45 | i 11 | 8 _a | 0 | i 20 | 3 | -18 | i 13 | 9 | pP | — |
| Reno | Z. | 79.1 | 42 | i 11 | 10 _a | + 1 | i 20 | 0 | -24 | i 13 | 12 | pP | — |
| Corvallis | Z. | 80.0 | 37 | i 11 | 10 | - 4 | e 20 | 33 | - 1 | — | — | — | — |
| Nelson | Z. | 80.4 | 48 | i 11 | 17 _a | + 1 | i 20 | 38 | 0 | i 13 | 20 | pP | — |
| Boulder City | | 80.6 | 48 | i 11 | 18 _a | + 1 | e 20 | 41 | + 1 | i 13 | 22 | pP | — |
| Magadan | | 81.0 | 345 | i 11 | 18 | - 1 | — | — | — | — | — | — | — |
| Tucson | | 81.7 | 52 | i 11 | 24 _a | + 1 | i 20 | 54 | + 3 | i 13 | 28 | pP | — |
| Victoria | | 82.2 | 34 | 11 | 26 _a | + 1 | e 20 | 57 | + 1 | — | — | — | — |
| Seattle | | 82.3 | 35 | i 11 | 27 | + 1 | i 20 | 59 | + 2 | e 40 | 16 | pP'P' | — |
| Sitka | | 82.9 | 22 | i 11 | 28 | - 1 | i 20 | 57 | - 5 | i 13 | 32 | pP | — |
| Guadalajara | | 83.1 | 66 | e 11 | 35? | + 5 | i 21 | 9 | + 5 | — | — | — | — |
| Chihuahua | | 83.9 | 58 | — | — | — | e 21 | 21 | + 9 | — | — | — | — |
| Linfen | | 85.0 | 310 | e 11 | 45? | + 6 | — | — | — | — | — | — | — |
| Taiyuan | | 85.0 | 312 | e 11 | 42 | + 3 | e 21 | 32 | + 9 | — | — | — | — |
| Tatung | | 85.6 | 314 | e 11 | 48 | + 6 | e 21 | 19 | [+ 5] | e 21 | 40 | S | — |
| College | | 85.7 | 13 | i 11 | 42 _a | - 1 | e 21 | 11 | [- 4] | i 13 | 47 | pP | e 33.4 |
| Sian | N. | 86.1 | 308 | 11 | 51 | + 7 | 21 | 43 | +10 | — | — | — | — |
| Tacubaya | | 86.2 | 68 | i 11 | 49 _a | + 4 | e 21 | 21 | [+ 2] | e 21 | 41 | S | — |
| Butte | N. | 87.0 | 40 | i 11 | 49 _k | 0 | i 21 | 43 | + 2 | i 13 | 55 | pP | e 34.3 |
| Puebla | | 87.1 | 69 | — | — | — | e 21 | 51 | + 9 | e 32 | 3 | PKKS | — |
| Hungry Horse | | 87.3 | 37 | i 11 | 49 _a | - 1 | i 15 | 23 | sP | e 13 | 55 | pP | — |
| Oaxaca | | 87.7 | 71 | e 14 | 15 | pP | e 21 | 43 | - 5 | e 22 | 59 | SP | — |
| Bozeman | | 87.8 | 40 | i 11 | 53 _k | + 1 | — | — | — | i 13 | 58 | pP | — |
| Paotow | E. | 88.0 | 314 | e 11 | 55 | + 2 | e 21 | 55 | + 5 | — | — | — | — |
| Vera Cruz | | 89.0 | 70 | — | — | — | e 21 | 41 | [+ 5] | — | — | — | — |
| Boulder | | 89.1 | 47 | i 11 | 59 | 0 | — | — | — | — | — | — | — |
| Lanchow Univ. | | 90.7 | 308 | 12 | 8 | + 2 | 22 | 20 | + 6 | — | — | — | — |
| Rapid City | E. | 92.2 | 44 | e 12 | 14 | + 1 | e 21 | 53 | [- 1] | e 25 | 52 | sS | — |
| Wuwei | | 92.2 | 309 | e 12 | 15 | + 2 | e 21 | 52 | [- 2] | e 22 | 33 | S | — |
| Sining | | 92.4 | 308 | — | — | — | e 21 | 53 | [- 2] | e 22 | 36 | S | — |
| Dallas | | 92.9 | 56 | i 12 | 16 | 0 | i 21 | 58 | [0] | i 22 | 39 | S | — |
| Merida | | 95.3 | 70 | — | — | — | e 22 | 9 | [- 2] | — | — | — | — |
| Fayetteville | | 95.9 | 54 | i 12 | 29 _k | - 1 | e 22 | 13 | [- 1] | i 14 | 34 | pP | — |
| Irkutsk | | 96.2 | 323 | 12 | 30 | - 1 | i 22 | 13 | [- 2] | i 16 | 31 | PP | — |
| Shillong | | 97.0 | 294 | i 12 | 36 | + 1 | e 22 | 18 | [- 2] | e 16 | 41 | PP | — |
| Huancayo | | 98.7 | 106 | — | — | — | i 22 | 33 | [+ 5] | e 27 | 26 | pPS | — |
| Calcutta | E. | 99.3 | 291 | i 16 | 58 | PP | i 23 | 28 | + 1 | i 22 | 29 | SKS | — |
| St. Louis | | 99.7 | 53 | i 12 | 47 | 0 | — | — | — | i 18 | 58 | pPP | — |
| Montezuma | Z. | 100.5 | 118 | e 14 | 58 | pP | — | — | — | i 29 | 4 | PKKP | — |
| Chatra | | 101.5 | 295 | e 12 | 53 | - 2 | — | — | — | — | — | — | — |
| Terre Haute | | 102.0 | 52 | e 17 | 51 | ? | — | — | — | — | — | — | — |
| Chicago | | 102.4 | 50 | e 19 | 2 | pPP | e 22 | 41 | [- 5] | e 23 | 56 | S | e 55.4 |
| Colombo | E. | 103.0 | 273 | e 19 | 15 | pPP | 23 | 58 | 0 | (26 51?) | PS | — | 26.8 |
| La Paz | | 103.5 | 112 | (23 6) | — | SKS | 23 | 6 | [+15] | i 23 | 37 | SKKS | — |
| Chinchina | | 103.9 | 89 | i 17 | 28 | PP | i 22 | 50 | [- 3] | i 16 | 27 | sP | — |
| Madras | E. | 104.4 | 279 | e 17 | 5 | PKP | i 24 | 15 | + 5 | 27 | 43 | sS | — |
| Bogota | | 105.2 | 90 | e 17 | 31 | PP | i 22 | 57 | [- 1] | e 20 | 18 | pPP | — |
| Resolute Bay | | 105.4 | 16 | e 27 | 21 | PS | i 22 | 58 | [- 1] | i 24 | 17 | S | e 48.8 |
| Galerazamba | | 105.8 | 84 | i 27 | 24 | PS | i 32 | 30 | SS | — | — | — | — |
| Kodaikanal | E. | 106.2 | 276 | — | — | — | e 21 | 33 | PKS | — | — | — | — |
| Cleveland | E. | 106.8 | 51 | — | — | — | e 23 | 3 | [- 2] | i 24 | 37 | S | — |
| Hyderabad | N. | 107.1 | 283 | — | — | — | i 24 | 30 | S | i 32 | 2 | SS | — |
| Pittsburgh | | 107.8 | 52 | i 26 | 31 | SP | i 23 | 59 | SKKS | i 24 | 43 | S | — |
| Kirkland Lake | Z. | 108.7 | 44 | e 17 | 26 | [- 1] | — | — | — | e 18 | 5 | PP | — |

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| | Δ ° | Az. ° | P. m. s. | O-C. s. | S. m. s. | O-C. s. | Supp. m. s. | L. m. |
|---------------------|---------------|----------|-------------|------------|-------------|------------|----------------|------------------|
| Dehra Dun | 110.0 | 296 | e 17 34 | [+ 4] | i 25 10 | S | i 18 58 | ? |
| Semipalatinsk | 110.6 | 318 | — | — | e 23 15 | [- 6] | i 24 18 | SKKS |
| Ottawa | 111.4 | 48 | i 17 32k | [0] | 25 15 | S | 20 16 | pPP |
| Poona | N. 111.6 | 283 | — | — | i 25 13 | S | — | — |
| Almata | 112.4 | 310 | 17 34 | [0] | — | — | e 18 30 | PP |
| City College, N.Y. | 112.4 | 53 | e 21 13 | PPP | i 23 27 | [- 1] | — | — |
| Palisades | 112.4 | 52 | e 21 22 | PPP | i 23 27 | [- 1] | i 25 25 | S |
| Bombay | 112.6 | 284 | — | — | i 25 30 | S | e 33 33 | SS |
| Naryn | 113.0 | 308 | i 17 37 | [+ 2] | i 23 29 | [- 2] | i 19 42 | pPKP |
| Shawinigan Falls | 113.6 | 46 | i 17 36 | [- 1] | — | — | — | — |
| Harvard | 114.3 | 51 | i 17 38k | [0] | i 27 43 | SP | i 18 44 | PP |
| Seven Falls | 114.9 | 46 | — | — | e 24 49 | SKKS | — | — |
| Andijan | 115.7 | 307 | i 17 37 | [- 4] | i 23 38 | [- 3] | i 18 43 | PP |
| San Juan | 116.2 | 78 | i 17 42k | [0] | e 18 57 | PP | e 28 15 | PKKP |
| Tashkent | 118.0 | 308 | e 17 42 | [- 3] | i 23 45 | [- 4] | i 25 10 | SKKS |
| Stalinabad | 118.4 | 305 | i 17 47 | [+ 1] | — | — | — | — |
| Bermuda | 119.3 | 62 | i 17 48 | [0] | e 28 22 | SP | e 22 10 | PPP |
| Quetta | 119.5 | 295 | i 17 49 | [+ 1] | i 26 23 | S | e 19 19 | PP |
| Halifax | 120.0 | 48 | i 17 48a | [- 1] | i 26 26 | S | i 20 33 | pPKP |
| Fort de France | 120.1 | 83 | — | — | e 23 54 | [- 2] | — | — |
| Sverdlovsk | 121.5 | 326 | i 17 51 | [- 1] | i 23 59 | [- 2] | i 25 35 | SKKS |
| Tananarive | 121.8 | 233 | i 17 55 | [+ 2] | e 27 56 | sSKS | 20 10 | pPKP |
| Pietermaritzburg z. | 125.2 | 211 | i 18 0k | [+ 1] | — | — | — | — |
| Scoresby Sund | 125.4 | 9 | i 18 1 | [+ 2] | i 21 21 | PKS | i 19 58 | pPKP |
| Ashkabad | 126.6 | 304 | i 18 3 | [+ 1] | — | — | — | — |
| Kimberley | z. 128.5 | 206 | i 18 7k | [+ 2] | — | — | — | — |
| Kiruna | z. 128.5 | 351 | i 18 4 | [- 1] | i 20 34 | SKP | i 17 54 | ? |
| Pretoria | z. 129.4 | 212 | i 18 8k | [+ 1] | — | — | — | — |
| Reykjavik | 131.0 | 13 | i 18 12k | [+ 2] | — | — | i 20 46 | pPKP |
| Moscow | 133.2 | 333 | i 18 13 | [- 1] | i 26 41 | SKKS | i 21 43 | PKS |
| Pulkovo | 133.2 | 340 | i 18 13 | [- 1] | i 26 45 | SKKS | i 20 47 | PP |
| Makhach-Kala | 133.7 | 313 | i 18 17 | [+ 2] | i 21 48 | PKS | — | — |
| Kirovobad | 135.2 | 310 | e 18 18 | [0] | e 21 52 | PKS | e 20 58 | PP |
| Tiflis | 136.0 | 312 | e 18 20 | [0] | — | — | — | — |
| Piatigorsk | 136.4 | 316 | i 18 21 | [+ 1] | i 21 56 | PKS | — | — |
| Upsala | z. 136.4 | 348 | i 18 19 | [- 1] | i 20 59 | SKP | i 18 8 | ? |
| Copenhagen | 141.3 | 350 | i 18 24 | [- 6] | e 21 53 | PKS | i 39 27 | SS |
| Yalta | 141.7 | 321 | i 18 26 | [- 5] | 27 41 | SKKS | i 22 10 | PKS |
| Warsaw | 142.3 | 340 | i 18 28a | [- 4] | e 24 50 | [+ 2] | e 20 38? | pPKP |
| Lwow | 143.2 | 335 | i 18 30 | [- 3] | i 27 47 | SKKS | i 20 32 | pPKP |
| Iasi | 143.6 | 330 | e 18 33 | [- 1] | e 27 51 | SKKS | e 22 11 | PP |
| Hamburg | 143.7 | 351 | i 18 33a | [- 1] | e 22 6 | PKS | e 20 40 | pPKP |
| Rathfarnham C. z. | 144.0 | 8 | i 18 33a | [- 1] | i 29 30 | SKKP | e 25 27 | PPP |
| Bacau | 144.4 | 329 | e 18 35 | [0] | — | — | — | — |
| Focsani | 144.9 | 328 | e 18 40 | [+ 4] | — | — | — | — |
| Raciborz | 145.1 | 341 | e 18 36 | [0] | — | — | — | — |
| Skalnate Pleso | 145.2 | 338 | i 18 38 | [+ 2] | e 24 49 | [- 3] | e 20 52 | pPKP |
| Collnberg | 145.3 | 347 | i 18 26 | [-10] | e 24 46 | [- 6] | e 20 52 | pPKP |
| Ksara | 145.3 | 304 | i 18 38 | [+ 2] | i 33 16 | PS | 20 56 | pPKP |
| De Bilt | 145.7 | 356 | i 18 39a | [+ 2] | i 22 2 | sPKP | i 19 6 | ? |
| Jena | 145.9 | 348 | i 18 38 | [+ 1] | e 25 10 | [+17] | i 20 58 | pPKP |
| Prague | 146.1 | 345 | i 18 37a | [- 1] | i 28 3 | SKKS | i 20 37 | pPKP |
| Bucharest | 146.3 | 327 | e 18 41 | [+ 3] | e 22 19 | PP | e 20 38 | pPKP |
| Campulung | N. 146.3 | 329 | e 18 40 | [+ 2] | — | — | — | — |
| Jerusalem | 146.4 | 301 | i 18 29 | [- 9] | — | — | — | — |
| Kew | 146.4 | 2 | i 18 38 | [0] | e 22 7 | PKS | e 40 15 | SS |
| Cheb | 146.6 | 347 | e 18 41 | [+ 3] | e 24 26 | [-28] | e 20 38 | pPKP |
| Istanbul | 146.8 | 320 | i 18 38 | [- 1] | e 40 21? | SS | e 20 53 | pPKP |
| Budapest | 147.0 | 338 | i 18 43 | [+ 4] | 22 4 | PKS | e 19 9 | ? |
| Ogyalla | 147.0 | 339 | e 18 42 | [+ 3] | e 22 15 | PP | e 21 1 | pPKP |
| Uccle | 147.0 | 356 | i 18 38 | [- 1] | e 25 2 | [+ 8] | e 18 47 | PKP ₂ |
| Timisoara | N. 147.6 | 334 | i 18 47 | [+ 7] | — | — | — | e 48.8 |
| Szeged | 147.7 | 335 | 18 45 | [+ 5] | — | — | 20 35 | pPKP |
| Karlsruhe | 148.3 | 351 | i 18 42a | [+ 1] | — | — | i 18 51 | PKP ₂ |
| Stuttgart | 148.4 | 350 | i 18 41a | [0] | e 21 53 | sPKP | e 20 51 | pPKP |

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
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| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. | |
| Jersey | E. | 148.6 | 4 | e 18 46 | [+ 5] | — | — | e 20 27 | pPKP | — |
| Belgrade | | 148.7 | 334 | e 18 43k | [+ 2] | e 28 19 | SKKS | e 20 55 | pPKP | — |
| Strasbourg | | 148.8 | 352 | i 18 42 | [+ 0] | e 28 8 | SKKS | e 21 1 | pPKP | — |
| Sofia | | 149.0 | 328 | e 18 43 | [+ 1] | i 18 55 | PKP ₂ | e 20 45 | pPKP | — |
| Paris | | 149.0 | 359 | i 18 43 | [+ 1] | e 28 8 | SKKS | e 21 2 | pPKP | — |
| Basle | | 149.9 | 352 | e 18 44a | [+ 1] | — | — | — | — | — |
| Zürich | | 149.9 | 350 | e 18 43a | [+ 0] | e 18 50 | PKP ₂ | e 21 5 | pPKP | — |
| Helwan | Z. | 150.2 | 299 | i 18 44a | [+ 0] | 22 33 | PP | e 20 57 | pPKP | — |
| Besançon | | 150.3 | 354 | i 18 43 | [+ 1] | e 21 47 | sPKP | e 22 24 | PP | — |
| Chur | | 150.3 | 349 | e 18 44a | [+ 0] | — | — | i 18 50 | PKP ₂ | — |
| Triest | | 150.4 | 342 | e 18 45 | [+ 1] | e 28 25 | SKKS | i 19 0 | PKP ₂ | — |
| Neuchatel | | 150.5 | 352 | e 18 46 | [+ 2] | — | — | — | — | — |
| Oropa | | 151.8 | 350 | e 18 54 | [+ 8] | e 22 34 | PP | e 21 12 | pPKP | — |
| Athens | | 151.9 | 320 | i 18 53a | [+ 7] | — | — | i 21 6 | pPKP | — |
| Padova | | 152.0 | 344 | e 18 46 | [+ 0] | e 19 40 | ? | e 20 42 | pPKP | — |
| Pavia | | 152.0 | 348 | i 18 46a | [+ 0] | i 19 7 | PKP ₂ | e 22 37 | PP | — |
| Bologna | | 152.1 | 345 | e 18 49 | [+ 3] | e 21 55 | ? | e 19 8 | PKP ₂ | — |
| Clermont-Ferrand | | 152.1 | 357 | e 18 49 | [+ 3] | e 35 57 | PPS | e 22 44 | PP | — |
| Prato | | 152.8 | 344 | i 18 47 | [+ 0] | e 28 31 | SKKS | — | — | — |
| Rome | | 154.1 | 341 | i 18 54 | [+ 5] | e 28 47 | SKKS | i 19 14 | PKP ₂ | — |
| Coimbra | | 156.1 | 19 | 18 54 | [+ 2] | 25 7 | [+ 1] | 19 25 | PKP ₂ | — |
| Messina | | 156.2 | 331 | i 18 51k | [+ 1] | i 23 6 | PP | e 26 36 | PPP | — |
| Reggio Calabria | | 156.2 | 331 | e 18 30 | [+ 22] | — | — | — | — | — |
| Lisbon | Z. | 157.2 | 22 | i 18 56a | [+ 3] | i 19 30 | PKP ₂ | e 23 11 | PP | — |
| Toledo | | 157.5 | 11 | i 18 56a | [+ 2] | i 21 41 | SKP | i 23 10 | PP | — |
| Alicante | | 159.5 | 4 | 18 45 | [+ 11] | 24 45 | [+ 24] | 36 59 | PPS | — |
| Granada | | 160.2 | 12 | i 18 59k | [+ 2] | 21 54 | SKP | 25 31 | pPP | — |
| Malaga | | 160.4 | 14 | i 18 57 | [+ 0] | 25 29 | [+ 19] | 19 47 | PKP ₂ | — |
| Almeria | | 160.7 | 9 | i 18 57 | [+ 0] | 22 27 | PKS | 19 43 | PKP ₂ | — |
| Algiers Univ. | Z. | 161.1 | 356 | e 18 59 | [+ 1] | e 24 56 | [+ 14] | e 26 47 | sPP | — |
| M'Bour | | 162.1 | 98 | i 19 1 | [+ 2] | e 21 58 | sPKP | e 26 46 | sPP | — |
| Averroes | | 162.7 | 26 | i 20 0 | PKP ₂ | e 23 38 | PP | e 25 42 | pPP | — |
| Tamanrasset | Z. | 173.7 | 323 | i 19 8a | [+ 1] | e 30 33 | SKKS | e 21 28 | pPKP | — |

Sept. 16d. 1h. 24m. Epicentre 22°·6N. 121°·3E.
Seismo. Bull. of the Taiwan Weather Bureau, China, July-Sept., 1954, Vol. 1, No. 3, p. 34.

Sept. 16d. 22h. 18m. Epicentre 36°·2N. 1°·6E.
Repetition of the shock on Sept. 9d. at 1h.
Intensity VII-VIII at Orleansville with further damage; VI-VII at Attafs; VI at Ammi, Maussa, Carnot, Cheran, Montenotte, Renault, Taine, Tinas, Tiaret, etc.
Strasbourg Seismo. Bull. for Sept., 1954, p. 213.

Sept. 17d. 1h. 13m. 14s. Epicentre 4°·4S. 153°·4E. Focus at Base of Superficial Layers.

A = -·8916, B = +·4465, C = -·0762; δ = +12; h = +7;
D = +·448, E = +·894; G = +·065, H = -·034, K = -·997.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|--------------|------|------------|------------|---------|------|---------|------|---------|-----|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. | |
| Nouméa | | 21.8 | 146 | e 4 52a | + 1 | e 8 48 | + 3 | e 9 31 | SS | 10.8 |
| Brisbane | | 22.9 | 181 | i 5 1 | - 1 | i 9 6 | + 1 | — | — | — |
| Riverview | | 29.3 | 184 | i 6 0k | - 2 | i 10 48 | - 3 | i 7 7 | PPP | e 13.6 |
| Manila | | 37.3 | 301 | e 7 12 | + 1 | — | — | — | — | — |
| Baguio | | 38.5 | 303 | i 7 21k | 0 | i 13 21 | + 7 | — | — | — |
| Karapiro | N. | 38.9 | 152 | e 7 25 | + 1 | — | — | — | — | — |
| Tuaiti | N. | 40.4 | 151 | e 7 36 | 0 | — | — | — | — | — |
| Kaimata | N.E. | 41.1 | 160 | e 7 47 | + 5 | — | — | — | — | — |
| Wellington | N. | 41.4 | 156 | e 7 47 | + 2 | — | — | — | — | — |
| Christchurch | N.W. | 42.4 | 159 | e 7 54 | + 1 | — | — | — | — | — |
| Perth | | 44.6 | 228 | i 15 13 | PPS | i 18 1 | SS | i 18 31 | SSS | — |
| Mizusawa | E. | 44.8 | 346 | e 8 31 | + 19 | — | — | e 8 56 | sP | — |
| Bandung | | 45.6 | 265 | e 8 14 | - 5 | i 14 42 | - 16 | e 18 4 | SS | — |
| Lembang | | 45.6 | 265 | i 8 16 | - 3 | i 14 56 | - 2 | e 18 8 | SS | e 23.3 |
| Djakarta | | 46.4 | 266 | e 8 19a | - 6 | e 15 32 | PPS | e 9 58 | PP | — |

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|---------------|----|----------|-----|----------|-------|----------|-------|---------|-------------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Hong Kong | E. | 46.7 | 306 | — | — | e 15 16? | + 2 | — | — |
| Zô-Sè | | 46.9 | 321 | i 8 31 | + 2 | i 15 15 | - 2 | — | — |
| Vladivostok | | 51.2 | 340 | e 9 3 | + 1 | — | — | — | — |
| Honolulu | | 53.9 | 60 | e 9 48 | pP | e 16 54 | 0 | — | e 25.8 |
| Klyuchi | | 60.9 | 5 | i 10 12 | 0 | e 18 25 | - 1 | — | — |
| Lanchow | | 61.4 | 315 | e 10 19 | + 4 | e 18 34 | + 2 | — | — |
| Wuwei | | 63.2 | 317 | e 10 30 | + 3 | e 18 57 | + 2 | — | — |
| Magadan | | 63.8 | 358 | i 10 31 | + 0 | e 19 1 | - 1 | — | — |
| Shillong | z. | 66.7 | 300 | i 10 51 | + 1 | — | — | — | — |
| Irkutsk | | 70.1 | 330 | e 11 10 | - 1 | e 20 18 | 0 | — | — |
| Chatra | | 71.1 | 300 | i 11 18 | + 1 | e 20 30 | 0 | — | — |
| Colombo | E. | 74.3 | 278 | 11 47 | +11 | 21 7 | + 1 | — | 35.2 |
| Hyderabad | N. | 77.1 | 289 | — | — | 21 32 | - 5 | — | — |
| College | | 81.3 | 22 | i 12 13k | - 1 | e 22 12 | - 9 | i 12 38 | pP e 38.3 |
| Poona | | 81.6 | 289 | e 12 18 | + 2 | e 22 21 | - 3 | — | — |
| Semipalatinsk | | 82.8 | 322 | e 12 21 | - 1 | e 22 31 | - 6 | — | — |
| Almata | | 83.3 | 314 | i 12 26 | + 1 | i 22 40 | - 2 | — | — |
| Rybach'e | | 83.6 | 313 | i 12 27 | + 1 | i 22 45 | 0 | — | — |
| Sitka | | 83.6 | 31 | e 12 23 | - 3 | e 22 58 | ScS | e 28 18 | SS e 35.2 |
| Frunse | | 84.9 | 314 | i 12 34 | + 1 | 22 54 | - 4 | i 13 3 | pP |
| Andijan | | 86.1 | 311 | i 12 40 | + 1 | 23 6 | - 3 | 13 10 | pP |
| Berkeley | z. | 88.2 | 52 | e 13 17 | pP | — | — | — | — |
| Santa Clara | E. | 88.4 | 52 | — | — | 23 1 | [-13] | — | e 40.5 |
| Shasta | z. | 88.4 | 49 | e 12 42 | - 8 | — | — | — | — |
| Tashkent | | 88.5 | 312 | i 12 50 | 0 | i 23 34 | + 2 | e 13 19 | pP |
| Lick | z. | 88.6 | 53 | e 12 57 | + 6 | — | — | — | — |
| Stalinabad | | 88.6 | 309 | e 12 51 | 0 | i 23 34 | + 1 | — | — |
| Victoria | | 88.8 | 41 | — | — | e 23 11 | [- 6] | — | — |
| Mineral | z. | 89.0 | 50 | e 12 57 | + 4 | — | — | — | — |
| Quetta | | 89.2 | 300 | i 12 53 | - 1 | e 23 21 | [+ 2] | i 13 18 | pP |
| Seattle | | 89.4 | 42 | i 13 22 | pP | e 23 53 | +13 | e 24 10 | sS |
| Fresno | z. | 90.0 | 53 | e 13 19 | pP | — | — | — | — |
| Reno | z. | 90.3 | 50 | e 13 24 | pP | — | — | — | — |
| Woody | z. | 90.7 | 54 | e 12 59 | - 2 | i 13 35 | sP | i 13 25 | pP |
| Pasadena | | 91.1 | 56 | e 13 3 | 0 | i 13 30 | sP | i 13 20 | pP e 41.4 |
| Riverside | z. | 91.8 | 56 | e 13 5 | - 1 | i 13 32 | sP | i 13 26 | pP |
| Palomar | z. | 92.2 | 57 | e 13 12 | + 4 | — | — | i 13 36 | pP |
| Barratt | z. | 92.3 | 58 | e 13 28 | +20 | — | — | i 13 36 | pP |
| Nelson | z. | 94.0 | 55 | i 13 16 | 0 | i 17 3 | PP | i 13 38 | pP |
| Boulder City | | 94.0 | 54 | e 13 16 | 0 | i 17 5 | PP | i 13 39 | pP |
| Hungry Horse | | 95.0 | 42 | e 13 19 | - 1 | e 17 8 | PP | e 17 33 | pPP e 38.4 |
| Sverdlovsk | | 95.2 | 326 | i 13 20 | - 1 | 24 29 | - 2 | — | — |
| Butte | N. | 96.0 | 44 | e 17 16 | PP | e 23 56 | [- 2] | — | — |
| Ashkabad | | 96.7 | 308 | 13 27 | - 1 | i 24 11 | [+10] | — | — |
| Bozeman | | 97.0 | 45 | e 14 0 | +30 | — | — | e 17 21 | PP |
| Tucson | | 97.2 | 58 | e 13 52 | +22 | e 26 10 | SP | e 18 32 | ? e 38.5 |
| Resolute Bay | | 99.9 | 14 | e 26 42 | PS | e 24 10 | [- 7] | e 31 57 | SS e 47.1 |
| Makhach-Kala | | 104.7 | 313 | — | — | e 24 34 | [- 6] | — | — |
| Kirovobad | | 105.8 | 311 | 18 26 | [+ 7] | 24 42 | [- 3] | 25 57 | S |
| Goris | | 106.0 | 310 | 14 19 | + 9 | 24 44 | [- 2] | 14 39 | pP |
| Tiflis | | 106.8 | 312 | e 14 13 | 0 | e 24 32 | [-17] | — | — |
| Moscow | | 108.0 | 328 | e 18 50 | PP | — | — | — | — |
| Dallas | | 109.0 | 57 | e 19 45 | ? | — | — | — | — |
| Kiruna | | 109.2 | 343 | e 18 44 | PP | — | — | — | e 57.8 |
| Fayetteville | z. | 110.6 | 53 | e 19 20 | PP | — | — | — | — |
| Chicago | | 114.3 | 46 | e 19 16 | PP | e 25 24 | [+ 4] | e 39 24 | SSS e 43.1 |
| Ksara | | 115.3 | 305 | i 18 46 | [+ 8] | — | — | — | — |
| Safed | | 115.8 | 304 | i 18 45 | [+ 6] | — | — | i 19 12 | pP' |
| Pretoria | z. | 119.1 | 237 | e 18 47 | [+ 1] | — | — | — | — |
| Kimberley | z. | 120.7 | 233 | i 18 48k | [- 1] | — | — | — | — |
| Ottawa | | 121.0 | 38 | e 18 51 | [+ 2] | 36 48 | SS | i 19 13 | pP' |
| Collmberg | | 122.9 | 332 | e 18 54 | [+ 1] | — | — | e 19 18 | pP' |
| Prague | | 123.0 | 330 | e 19 22 | pP' | e 19 50 | ? | e 21 0 | ? |
| Jena | z. | 123.8 | 332 | e 18 56 | [+ 1] | e 20 40 | PP | e 19 21 | pP' |
| Philadelphia | | 123.8 | 44 | e 20 53 | PP | e 25 51 | [- 2] | e 32 41 | PKKS e 58.9 |

Continued on next page.

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|------------|------------|----------------------|-------|---------|-------|--------------|--------|
| | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Palisades | 124.2 | 42 | e 20 37 | PP | e 25 53 | [- 1] | e 27 31 SKKS | e 58.1 |
| Harvard | 125.0 | 40 | e 19 22 | pP' | — | — | i 21 47 ? | e 59.3 |
| Stuttgart | 126.4 | 331 | e 19 0 | [0] | — | — | e 19 26 pP' | — |
| Strasbourg | 127.2 | 332 | e 19 3 | [+ 2] | — | — | e 19 33 pP' | — |
| Basle | 128.0 | 331 | e 19 13 | [+10] | — | — | — | — |
| Florence | 128.6 | 325 | e 41 0 | P'PKS | — | — | — | 60.8 |
| Besançon | 129.0 | 332 | e 19 6 | [+ 1] | — | — | e 19 40 pP' | — |
| Rome | 129.0 | 323 | i 22 21 _a | ? | e 29 18 | ? | e 32 12 ? | e 62.0 |
| Messina | 129.1 | 317 | e 22 20 | ? | — | — | — | e 62.5 |
| Paris | 129.4 | 336 | e 19 7 | [+ 2] | e 22 22 | SKP | e 19 34 pP' | e 62.8 |
| Montezuma | z. 130.7 | 125 | e 19 10 | [+ 2] | e 22 27 | SKP | — | — |
| Chinchina | 131.1 | 87 | i 19 8 | [- 1] | i 22 28 | SKP | i 19 36 pP' | — |
| Clermont-Ferrand | 131.4 | 332 | — | — | e 22 32 | SKP | — | — |
| Galerazamba | 131.4 | 80 | 24 16 | PPP | — | — | — | 61.8 |
| Bogota | 132.6 | 88 | e 19 40 | pP' | — | — | i 21 46 PP | — |
| San Juan | 138.9 | 67 | e 19 11 | [-12] | e 22 53 | PKS | i 19 26 pP' | e 66.5 |
| Tamanrasset | z. 144.0 | 303 | i 19 32 _k | [0] | e 26 56 | [+20] | e 23 6 PP | — |
| Fort de France | 144.4 | 71 | e 19 38 | [+ 5] | — | — | — | — |

Sept. 17d. 7h. 33m. 24s. Epicentre 24°·2N. 121°·8E.

Intensity VI at Hwalien and Ilan ; V at Alishan, Taipei, Hsinchu, Hsinkong, and Taitung ;
IV at Taichung, Tawu, Tainan, Penghu, and Tanshui ; II-III at Hengchun. (Taiwan)
Intensity V at Nishiomota-jima ; IV at Inoda ; II-III at Isigakizima.
Seismo. Bull. Cent. Met. Obs., Japan for 1954, September, Tokyo 1954, pp. 46-48.

A = -·4812, B = +·7761, C = +·4076 ; $\delta = +2$; $h = +4$;
D = +·850, E = +·527 ; G = -·215, H = +·346, K = -·913.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------|------------|------------|---------------------|------------------|--------|------------------|------------|-------|
| | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Hwalien | 0.2 | 216 | 0 17 | + 7 | 0 24 | + 8 | — | — |
| Ilan | 0.6 | 359 | i 0 20 _a | + 5 | 0 28 | + 2 | — | — |
| Taipei | 0.9 | 346 | i 0 24 _a | + 4 | 0 38 | + 4 | — | — |
| Hsinchu | 1.0 | 312 | 0 26 _k | + 5 | 0 39 | + 3 | — | — |
| Taichung | 1.0 | 269 | i 0 26 _k | + 5 | 0 40 | + 4 | — | — |
| Alishan | 1.1 | 235 | i 0 16 _k | - 6 | 0 32 | - 4 _g | — | — |
| Hsinkong | 1.1 | 199 | i 0 28 _a | + 6 | 0 42 | + 3 | — | — |
| Taitung | 1.5 | 202 | i 0 43 _a | +13 _g | 1 3 | +13 _g | — | — |
| Tainan | 1.8 | 231 | i 0 38 _a | + 2 _g | 1 3 | + 3 _g | — | — |
| Tawu | 2.0 | 205 | i 0 35 _a | 0 | 1 0 | - 2 | — | — |
| Penghu | 2.1 | 254 | 1 14 | +37 | 1 43 | +39 | — | — |
| Hengchun | 2.3 | 204 | 0 44 | - 2 _g | 1 15 | - 1 _g | — | — |
| Zô-Sô | 6.9 | 356 | 1 44 | - 1 | 3 1 | - 4 | — | — |
| Hong Kong | E. 7.2 | 257 | 1 50 _k | + 1 | — | — | — | — |
| Baguio | 7.8 | 188 | i 1 57 _a | - 1 | i 3 31 | + 3 | — | — |
| Nanking | 8.3 | 342 | i 2 2 _a | - 2 | 3 32 | - 8 | i 2 10 PP | — |
| Tomie | 10.4 | 35 | e 2 40 | + 6 | — | — | — | — |
| Kagosima | 10.7 | 44 | 2 41 _a | + 3 | e 4 38 | - 1 | — | — |
| Nagasaki | N. 11.1 | 38 | e 2 54 | PP | — | — | — | — |
| Unzendake | 11.4 | 39 | e 2 47 | 0 | e 5 0 | + 4 | — | — |
| Miyazaki | 11.5 | 46 | i 2 52 _a | + 4 | 5 10 | +11 | — | — |
| Kumamoto | 11.7 | 40 | 2 50 _k | - 1 | 4 59 | - 5 | e 6 52 ? | — |
| Asosan | 11.9 | 41 | 2 56 | + 2 | — | — | — | — |
| Hukuoka | 12.0 | 37 | i 2 57 _k | + 2 | 15 11 | 0 | i 6 49 ? | — |
| Ituhara | E. 12.0 | 32 | i 2 54 | - 1 | e 5 28 | SS | e 3 20 ? | — |
| Ooita | 12.5 | 42 | e 3 5 | + 3 | e 4 35 | -48 | — | — |
| Simonoseki | 12.6 | 37 | e 3 5 | + 2 | — | — | — | — |
| Simidu | 13.1 | 46 | e 3 15 | + 5 | — | — | — | — |
| Matuyama | N. 13.6 | 42 | e 3 20 | + 3 | e 5 51 | + 1 | e 4 12 ? | e 7.0 |
| Hirosima | 13.8 | 40 | e 3 17 | - 2 | e 5 39 | -15 | — | — |
| Koti | 13.9 | 45 | e 3 16 | - 5 | — | — | e 3 35 PP | — |
| Hamada | 14.0 | 38 | i 3 25 | + 3 | 5 57 | - 2 | e 5 5 ? | — |
| Takamatu | 14.7 | 44 | e 3 24 | - 7 | e 6 10 | - 6 | e 8 47 PcP | — |
| Linfen | 14.8 | 326 | e 3 40 | + 8 | — | — | — | — |
| Tokusima | 14.9 | 46 | e 3 38 _? | + 4 | — | — | — | — |

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1954

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------|----|----------|-----|---------------------|------|---------|------|---------|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Sian | | 15.1 | 315 | e 3 43 | + 7 | 6 33 | + 8 | — | — |
| Sumoto | | 15.3 | 46 | i 3 46 | + 7 | e 7 14 | SSS | — | — |
| Kobe | | 15.7 | 45 | e 3 56 | PP | e 7 27 | SSS | 10 9 | ? |
| Taiyuan | | 15.7 | 332 | 3 47 | + 3 | e 6 41 | + 2 | — | — |
| Osaka | | 15.9 | 46 | e 3 54 | + 7 | — | — | e 4 28 | ? |
| Owase | | 16.0 | 49 | e 3 46 | - 2 | — | — | — | — |
| Toyooka | | 16.0 | 42 | e 3 54 | + 6 | e 8 29 | ? | e 9 4 | ? |
| Nara | | 16.1 | 46 | e 3 46 | - 3 | — | — | — | — |
| Kyoto | | 16.3 | 45 | e 3 53 | + 1 | e 6 39 | -14 | — | — |
| Kameyama | | 16.6 | 47 | e 4 1 | + 5 | e 6 42 | -18 | e 4 11 | PP |
| Hikone | | 16.8 | 45 | e 4 0 | + 2 | — | — | — | — |
| Kwanting | | 16.9 | 344 | e 4 0 | + 1 | e 7 10 | + 3 | — | — |
| Tsuruga | | 16.9 | 44 | e 3 48 | -11 | — | — | — | — |
| Gihu | | 17.2 | 46 | e 3 56 | - 7 | — | — | — | — |
| Hukui | | 17.2 | 43 | e 4 0 | - 3 | — | — | — | — |
| Nagoya | E. | 17.2 | 47 | e 4 8 | + 5 | — | — | — | — |
| Tatung | F. | 17.4 | 338 | e 4 8 | + 2 | — | — | — | — |
| Iida | | 17.9 | 47 | e 4 9 | - 3 | — | — | — | e 9.4 |
| Shizuoka | | 18.0 | 50 | e 4 16 | + 3 | e 7 40 | + 8 | e 4 24 | PP |
| Toyama | | 18.2 | 43 | e 4 28 | PP | — | — | — | e 11.2 |
| Matumoto | | 18.4 | 46 | 4 21 | + 3 | 7 52 | +11 | 4 34 | PP |
| Kohu | E. | 18.5 | 48 | e 4 19 | 0 | — | — | — | e 10.8 |
| Misima | | 18.5 | 50 | e 4 16 | - 3 | e 7 43 | - 1 | e 5 5 | PPP |
| Wazima | | 18.5 | 41 | e 4 19 | 0 | — | — | — | — |
| Hunatu | | 18.6 | 49 | e 4 22 | + 1 | e 8 36 | +50 | — | — |
| Osima | | 18.6 | 51 | e 4 16k | - 5 | — | — | i 4 47 | PPP |
| Matusiro | | 18.8 | 45 | e 4 39 | PP | e 8 10 | SS | — | e 9.7 |
| Nagano | N. | 18.8 | 45 | e 4 28 | + 5 | — | — | — | e 10.4 |
| Oiwake | | 18.9 | 46 | e 4 20 | - 4 | — | — | — | — |
| Mera | | 19.0 | 52 | e 4 27 | + 1 | — | — | — | — |
| Titibu | E. | 19.0 | 48 | e 4 25 | - 1 | — | — | — | — |
| Paotow | N. | 19.1 | 332 | e 4 28 | + 1 | — | — | — | — |
| Yokohama | | 19.1 | 50 | 4 25 | - 2 | — | — | — | — |
| Kumagaya | Z. | 19.3 | 48 | e 4 27 | - 2 | — | — | — | — |
| Maebasi | | 19.3 | 47 | e 4 25 | - 4 | e 7 45 | -17 | e 5 6 | PPP |
| Tokyo | | 19.3 | 49 | e 4 33 | + 4 | e 7 14 | ? | — | — |
| Yinchuan | | 19.4 | 321 | e 4 31 | + 1 | — | — | — | — |
| Lanchow | | 19.5 | 312 | 4 33 | + 2 | — | — | — | — |
| Kakioka | | 19.9 | 49 | e 4 31 | - 5 | — | — | — | — |
| Utunomiya | | 19.9 | 47 | e 4 20 | -16 | e 8 3 | -12 | e 4 59 | PP |
| Niigata | | 20.2 | 43 | e 4 56 | PP | e 8 36 | +15 | e 6 50 | ? |
| Shirakawa | | 20.4 | 46 | e 4 38 | - 3 | e 8 7 | -18 | — | — |
| Inawasiro | | 20.6 | 45 | e 4 40 | - 3 | e 8 22 | - 7 | i 5 4 | PP |
| Onahama | | 20.8 | 48 | e 4 56 | +11 | e 8 3 | -30 | — | — |
| Hokusima | | 21.0 | 45 | e 4 43 | - 3 | e 8 28 | - 9 | — | — |
| Sakata | | 21.2 | 42 | e 4 53 | + 4 | — | — | — | — |
| Sining | | 21.2 | 310 | e 4 50 | + 1 | — | — | — | — |
| Yamagata | | 21.2 | 44 | e 5 11 | PP | — | — | — | — |
| Wuwei | | 21.3 | 315 | 4 53 | + 3 | e 8 46 | + 3 | — | — |
| Sendai | | 21.5 | 45 | e 4 52 | 0 | e 8 48 | + 1 | e 5 16 | PP |
| Akita | | 21.9 | 40 | e 4 54 | - 3 | e 9 53 | SSS | i 5 28 | PP |
| Mizusawa | E. | 22.2 | 43 | 4 58 | - 2 | 8 56 | - 4 | — | — |
| Morioka | | 22.6 | 42 | e 4 56 | - 7 | — | — | — | — |
| Miyako | | 23.0 | 43 | e 5 1 | - 6 | e 9 3 | -11 | e 5 38 | PP |
| Hatinohe | | 23.3 | 41 | e 5 3 | - 7 | — | — | e 5 43 | PP |
| Mori | | 23.8 | 37 | e 5 18 | + 3 | e 10 12 | SS | e 5 40 | PP |
| Sapporo | | 24.8 | 36 | e 5 18 | - 7 | e 10 41 | SS | e 6 6 | PP |
| Obihiro | N. | 25.8 | 38 | e 5 28 | - 6 | — | — | — | e 14.1 |
| Shillong | | 27.1 | 279 | i 5 47 | + 1 | 7 59 | ? | e 5 54 | P |
| Chatra | | 31.3 | 282 | i 6 24 | 0 | i 11 29 | - 2 | 7 32 | PP |
| Djakarta | | 33.5 | 208 | i 6 42 _a | - 1 | e 12 6 | + 1 | e 7 57 | PP |
| Lembang | | 33.7 | 206 | i 6 46 _a | + 1 | e 12 8 | 0 | — | e 14.0 |
| Bandung | | 33.8 | 206 | i 6 42 | - 4 | i 12 5 | - 5 | e 14 16 | SS |
| Dehra Dun | N. | 39.2 | 289 | i 7 30 | - 1 | i 13 53 | +21 | 9 21 | PPP |
| New Delhi | | 40.0 | 286 | e 7 36 | - 2 | i 13 37 | - 7 | 9 36 | PPP |

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|------------------|----|----------|-----|----------------------|-------|-----------|------------------|---------|------------------|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Madras | E. | 40.8 | 262 | i 7 44 | - 1 | e 13 56 | 0 | i 9 43 | PPP | e 17.4 |
| Hyderabad | N. | 40.9 | 269 | i 9 42 | PPP | 13 51 | - 7 | 17 16 | SS | — |
| Colombo | E. | 43.6 | 254 | 7 57 | -11 | 14 35 | - 3 | — | — | 23.0 |
| Poona | | 44.8 | 272 | e 8 16 | - 1 | i 15 18 | PPS | i 18 41 | ? | i 24.8 |
| Bombay | | 45.6 | 273 | e 8 24 | 0 | i 15 1 | - 5 | 10 13 | PP | 22.0 |
| Quetta | | 48.8 | 290 | i 8 48 | - 1 | e 15 49 | - 3 | i 10 44 | PP | — |
| Nouméa | | 63.4 | 133 | i 10 31 _a | - 3 | — | — | i 11 19 | PcP | — |
| Riverview | | 64.1 | 153 | i 10 36 _a | - 2 | e 19 16 | + 2 | e 19 7 | S | — |
| College | | 68.6 | 27 | i 11 2 _k | - 5 | i 20 0 | - 9 | e 20 32 | PS | e 30.9 |
| Kiruna | | 72.0 | 337 | i 11 22 | - 6 | e 20 37? | -12 | i 11 40 | PcP | e 41.2 |
| Ksara | | 73.7 | 300 | e 11 37 | - 1 | 21 44 | ScS | 14 44 | PP | — |
| Safed | | 74.3 | 299 | i 11 45 | + 4 | — | — | — | — | — |
| Jerusalem | | 74.9 | 298 | i 11 43 | - 1 | — | — | i 15 28 | ? | — |
| Upsala | | 76.2 | 330 | i 11 48 | - 4 | — | — | i 12 3 | PcP | e 38.1 |
| Istanbul | | 76.5 | 309 | i 11 50 | - 4 | e 21 30 | - 9 | e 21 55 | SKS | — |
| Sitka | | 76.8 | 33 | e 11 51 | - 4 | i 21 35 | - 7 | i 22 1 | SKS | — |
| Warsaw | | 77.5 | 322 | e 12 13 | PcP | e 22 15 | ScS | — | — | e 40.6 |
| Resolute Bay | | 78.6 | 9 | i 12 0 _a | - 5 | e 21 48 | -14 | — | — | e 37.7 |
| Helwan | z. | 78.7 | 298 | 12 3 | - 3 | e 12 29 | ? | i 12 44 | ? | — |
| Raciborz | z. | 80.0 | 320 | e 12 11 | - 2 | — | — | e 12 28 | PcP | — |
| Prague | | 82.2 | 322 | i 12 22 | - 2 | e 22 19 | -20 | e 15 32 | PP | — |
| Collmberg | z. | 82.4 | 323 | e 12 21 | - 4 | — | — | — | — | — |
| Jena | | 83.4 | 323 | e 12 27 | - 3 | e 12 43 | PcP | e 15 57 | PP | — |
| Tananarive | | 84.0 | 246 | i 12 32 | - 1 | — | — | e 12 47 | PcP | — |
| Taranto | | 84.9 | 312 | — | — | e 24 6 | PS | — | — | — |
| Stuttgart | | 85.8 | 322 | e 12 39 | - 3 | e 12 55 | PcP | e 15 11 | ? | e 42.6 |
| Karlsruhe | z. | 86.1 | 323 | e 12 41 _a | - 3 | — | — | e 16 16 | PP | — |
| Strasbourg | | 86.7 | 323 | e 12 45 | - 2 | — | — | e 13 41 | ? | — |
| Florence | | 87.2 | 317 | i 12 43 | - 6 | e 23 11 | [- 4] | i 23 59 | PS | e 34.8 |
| Messina | | 87.2 | 311 | e 12 44 | - 5 | i 23 20 | [+ 5] | i 29 30 | SS | — |
| Victoria | | 87.2 | 37 | 12 46 | - 3 | — | — | — | — | — |
| Prato | | 87.3 | 317 | e 12 0 | -50 | — | — | — | — | — |
| Rome | z. | 87.4 | 315 | i 12 45 _a | - 5 | — | — | i 16 0 | PP | — |
| Seattle | | 88.3 | 38 | i 12 53 | - 2 | i 23 19 | [- 3] | — | — | — |
| Paris | | 89.4 | 325 | e 13 16 | +16 | — | — | e 16 44 | PP | e 36.6 |
| Corvallis | z. | 89.5 | 40 | e 12 59 | - 1 | — | — | — | — | — |
| Clermont-Ferrand | | 90.9 | 322 | e 13 6 | - 1 | — | — | — | — | — |
| Shasta | z. | 92.2 | 43 | e 13 10 | - 3 | — | — | — | — | — |
| Hungry Horse | | 92.3 | 34 | i 13 11 | - 2 | e 24 7 | - 8 | i 23 37 | SKS | — |
| Mineral | z. | 92.9 | 43 | e 13 13 | - 3 | — | — | — | — | — |
| Berkeley | z. | 93.9 | 46 | e 13 18 | - 3 | — | — | — | — | — |
| Reno | z. | 94.5 | 43 | e 13 20 | - 3 | — | — | — | — | — |
| Butte | N. | 94.6 | 35 | i 13 20 | - 4 | i 24 28 | - 7 | i 23 48 | SKS | e 49.0 |
| Lick | z. | 94.6 | 46 | i 13 21 | - 3 | — | — | — | — | — |
| Woody | z. | 97.4 | 46 | i 13 32 _a | - 5 | i 16 31 | ? | i 17 23 | PP | — |
| Alicante | | 97.6 | 318 | 13 38 | 0 | e 24 14 | [- 1] | 17 37 | PP | 46.4 |
| Salt Lake City | | 98.4 | 38 | e 24 12 | SKS | (e 24 12) | [- 7] | — | — | — |
| Pasadena | z. | 98.8 | 47 | e 13 40 | - 3 | — | — | — | — | — |
| Riverside | z. | 99.4 | 46 | e 13 42 | - 4 | — | — | — | — | — |
| Boulder City | | 99.8 | 43 | i 13 47 | 0 | — | — | i 17 47 | PP | — |
| Nelson | z. | 100.0 | 44 | i 13 46 | - 2 | i 16 54 | ? | i 17 54 | PP | — |
| Palomar | z. | 100.1 | 46 | e 13 50 | + 1 | i 16 36 | ? | i 17 55 | PP | — |
| Barratt | z. | 100.6 | 47 | i 13 50 | - 1 | i 17 51 | ? | i 18 12 | PP | — |
| Tamanrasset | z. | 102.5 | 302 | e 13 46 | -14 | e 18 13 | PP | i 29 58 | PKKP | — |
| Tucson | | 104.7 | 44 | e 14 12 | + 3 | e 27 26 | PS | e 18 23 | PP | e 48.9 |
| Ottawa | | 109.0 | 13 | e 18 51 | PP | — | — | — | — | — |
| Dallas | | 112.4 | 35 | e 19 11 | PP | — | — | — | — | — |
| Palisades | | 113.6 | 13 | e 19 43 | PP | e 28 53 | PS | e 35 43 | SSP | e 56.2 |
| Chinchina | | 146.5 | 33 | i 19 41 | [- 1] | — | — | i 19 55 | PKP ₁ | — |
| Bogota | | 147.5 | 30 | i 19 45 | [+ 2] | i 32 53 | PSKS | — | — | — |
| Huancayo | | 159.8 | 56 | e 20 4 | [+ 3] | — | — | — | — | — |
| La Paz | | 168.0 | 52 | i 20 9 | [+ 1] | i 31 50 | [- 3] | 25 8 | PP | 77.6 |
| Montezuma | z. | 170.2 | 83 | i 20 10 _k | [+ 1] | i 21 26 | PKP ₁ | e 25 14 | PP | — |

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1954

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Sept. 17d. 11h. 3m. 18s. Epicentre 21°·3S. 176°·7W. Depth of focus 0·030.

A = -·9310, B = -·0537, C = -·3612; $\delta = +11$; $h = +4$;
D = -·058, E = +·998; G = +·361, H = +·021, K = -·932.

| | | Δ ° | Az. ° | P. | | O-C. s. | S. | | O-C. s. | Supp. | | L. m. | |
|------------------|------|---------------|----------|------|-----------------|------------|------|-----|------------|-------|-----|----------|--------|
| | | | | m. | s. | | m. | s. | | m. | s. | | |
| Apia | | 8·8 | 33 | 2 | 2 | - 2 | e 3 | 36 | - 6 | e 8 | 4 | PcP | — |
| Nouméa | | 15·7 | 263 | i 3 | 34 _a | + 3 | i 6 | 29 | +11 | i 3 | 43 | PP | i 7·6 |
| Onerahi | E. | 16·4 | 206 | 3 | 42? | + 3 | e 6 | 42? | + 8 | e 14 | 42? | ScS | — |
| Auckland | N. | 17·2 | 204 | i 3 | 45 | - 3 | e 6 | 59 | + 9 | e 4 | 52 | sP | — |
| Karapiro | N. | 17·9 | 200 | i 3 | 54 | - 2 | 7 | 8 | + 3 | 15 | 14 | ScS | e 11·0 |
| Tuai | N. | 18·2 | 196 | e 3 | 55 | - 4 | e 7 | 4 | - 7 | e 15 | 18 | ScS | — |
| New Plymouth | E. | 19·4 | 202 | e 4 | 11 | 0 | e 7 | 7 | -26 | — | — | — | — |
| Wellington | | 21·2 | 198 | e 4 | 26 | - 3 | i 8 | 6 | 0 | e 15 | 21 | ScS | — |
| Kaimata | N.E. | 23·4 | 202 | i 4 | 47 | - 3 | i 8 | 43 | - 1 | e 16 | 47 | ? | — |
| Christchurch | | 23·9 | 199 | 4 | 54 | - 1 | e 8 | 51 | - 1 | e 15 | 38 | ScS | — |
| Brisbane | | 28·2 | 251 | i 5 | 32 | - 2 | i 9 | 58 | - 4 | — | — | — | — |
| Riverview | | 31·0 | 239 | i 5 | 59 _a | 0 | i 10 | 46 | 0 | i 16 | 9 | ScS | — |
| Melbourne | E. | 36·9 | 235 | 6 | 48 | - 1 | i 12 | 12 | - 5 | i 8 | 9 | PP | — |
| Macquarie Island | | 37·9 | 203 | e 7 | 5 | + 8 | — | — | — | — | — | — | — |
| Honolulu | | 46·1 | 24 | i 8 | 4 _a | 0 | i 14 | 14 | -17 | e 9 | 1 | pP | e 18·3 |
| Guam | | 51·2 | 309 | i 9 | 13 | +31 | — | — | — | — | — | — | — |
| Perth | | 60·4 | 245 | e 9 | 55 | + 7 | i 17 | 47 | + 4 | i 19 | 22 | sS | — |
| Mera | | 69·5 | 323 | e 10 | 45 | - 1 | — | — | — | — | — | — | — |
| Osima | N. | 69·6 | 322 | e 10 | 47 | 0 | — | — | — | i 11 | 21 | PcP | — |
| Yokohama | | 69·9 | 323 | 10 | 50 | + 2 | — | — | — | — | — | — | — |
| Misima | | 70·1 | 322 | e 10 | 51 | + 1 | i 19 | 42 | + 1 | i 11 | 13 | PcP | — |
| Tokyo | | 70·1 | 323 | e 10 | 50 | 0 | — | — | — | e 15 | 14 | PPP | — |
| Kakioka | E. | 70·2 | 324 | e 10 | 50 | 0 | — | — | — | e 11 | 50 | pP | — |
| Mito | E. | 70·2 | 324 | 10 | 52 | + 2 | — | — | — | — | — | — | — |
| Omaesaki | Z. | 70·2 | 322 | 10 | 50 | 0 | — | — | — | — | — | — | — |
| Shizuoka | | 70·3 | 322 | e 10 | 56 | + 5 | — | — | — | e 13 | 59 | PP | — |
| Onahama | | 70·4 | 325 | e 10 | 51 | - 1 | — | — | — | — | — | — | — |
| Hunatu | | 70·5 | 323 | e 10 | 51 | - 1 | e 19 | 46 | 0 | e 21 | 34 | sS | — |
| Kumagaya | | 70·6 | 324 | 10 | 59 | + 6 | — | — | — | — | — | — | — |
| Titibu | E. | 70·6 | 323 | i 10 | 54 | + 1 | — | — | — | — | — | — | — |
| Kohu | N. | 70·7 | 323 | e 10 | 53 | 0 | — | — | — | — | — | — | — |
| Utunomiya | | 70·7 | 324 | e 10 | 51 | - 2 | e 19 | 42 | - 6 | — | — | — | — |
| Manila | | 70·8 | 295 | i 10 | 55 | + 1 | i 19 | 15 | -34 | — | — | — | — |
| Shirakawa | | 70·9 | 325 | e 10 | 54 | 0 | e 19 | 50 | 0 | e 13 | 51 | PP | — |
| Iida | | 71·0 | 322 | e 10 | 54 | - 1 | e 19 | 34 | -18 | — | — | — | — |
| Maebasi | | 71·0 | 324 | e 10 | 54 | - 1 | e 20 | 28 | +36 | e 11 | 56 | pP | — |
| Hokusima | | 71·2 | 325 | e 10 | 57 | + 1 | e 19 | 56 | + 2 | — | — | — | — |
| Inawasiro | | 71·2 | 325 | e 10 | 55 | - 1 | i 20 | 44 | ScS | i 13 | 55 | PP | — |
| Oiwake | | 71·2 | 323 | e 11 | 2 | + 6 | e 19 | 57 | + 3 | — | — | — | — |
| Kameyama | | 71·4 | 321 | e 10 | 54 | - 4 | e 19 | 10 | -46 | e 11 | 35 | PcP | e 25·3 |
| Sendai | | 71·4 | 326 | e 11 | 3 | + 5 | e 19 | 56 | 0 | e 22 | 33 | ? | — |
| Matumoto | | 71·5 | 323 | 10 | 59 | + 1 | 20 | 1 | + 4 | 13 | 53 | PP | — |
| Gihu | | 71·6 | 321 | e 11 | 10 | +11 | — | — | — | — | — | — | — |
| Matusiro | | 71·6 | 323 | e 11 | 0 | + 1 | e 19 | 58 | 0 | 12 | 25 | pP | e 29·6 |
| Nagano | N. | 71·6 | 323 | i 10 | 59 | 0 | i 20 | 2 | + 4 | i 13 | 5 | ? | — |
| Nara | | 71·6 | 320 | e 11 | 1 | + 2 | — | — | — | — | — | — | — |
| Hikone | | 71·8 | 321 | 11 | 0 | 0 | — | — | — | — | — | — | — |
| Miyako | | 71·8 | 328 | e 10 | 59 | - 1 | — | — | — | — | — | — | — |
| Osaka | | 71·8 | 320 | e 11 | 1 | + 1 | — | — | — | e 12 | 48 | sP | — |
| Kyoto | | 71·9 | 320 | e 11 | 2 | + 2 | e 19 | 24 | -38 | — | — | — | e 29·5 |
| Mizusawa | | 71·9 | 327 | 11 | 2 | + 2 | e 20 | 4 | + 2 | — | — | — | — |
| Baguio | | 72·0 | 296 | i 11 | 0 _k | - 1 | e 20 | 1 | - 2 | — | — | — | — |
| Kobe | | 72·0 | 320 | e 11 | 3 | + 2 | e 20 | 59 | +56 | e 12 | 15 | pP | e 30·0 |
| Niigata | | 72·1 | 325 | e 11 | 4 | + 2 | e 12 | 40 | ? | e 11 | 37 | PcP | — |
| Tsuruga | E. | 72·1 | 321 | e 11 | 4 | + 2 | — | — | — | — | — | — | — |
| Sakata | | 72·4 | 326 | e 11 | 14 | +11 | — | — | — | — | — | — | — |
| Takamatu | | 72·4 | 319 | e 11 | 5 | + 2 | — | — | — | e 13 | 25 | ? | — |
| Miyazaki | | 72·6 | 316 | e 11 | 18 | +13 | — | — | — | — | — | — | — |
| Hatinohe | | 72·7 | 328 | e 11 | 4 | - 1 | e 13 | 47 | ? | e 13 | 53 | PP | — |
| Akita | | 72·8 | 326 | 11 | 6 | 0 | e 20 | 37 | ScS | e 21 | 6 | PS | — |

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|-----------------|------------|------------|------|------------------------------|------|------|----|-------|-------|----|------|--------|
| | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Toyooka | 72.8 | 320 | e 11 | 7 | + 1 | — | — | — | e 12 | 9 | pP | — |
| Kagosima | 72.9 | 315 | e 11 | 6 | 0 | e 20 | 9 | - 4 | 11 | 35 | PcP | — |
| Wazima | 72.9 | 323 | e 11 | 7 | + 1 | e 20 | 16 | + 3 | e 22 | 55 | ? | — |
| Nemuro | 73.0 | 332 | e 11 | 8 | + 1 | i 20 | 19 | + 5 | e 12 | 6 | pP | — |
| Aomori | 73.3 | 328 | 11 | 12 | + 3 | — | — | — | e 14 | 19 | PP | — |
| Kusiro | 73.3 | 331 | i 11 | 10 | + 1 | i 20 | 23 | + 6 | i 12 | 3 | pP | — |
| Ooita | 73.3 | 317 | e 11 | 19 | +10 | — | — | — | e 12 | 48 | sP | — |
| Asosan | 73.4 | 316 | 11 | 10 | + 1 | — | — | — | — | — | — | — |
| Hirosima | 73.5 | 318 | e 11 | 2 | - 8 | — | — | — | — | — | — | — |
| Kumamoto | 73.6 | 316 | e 11 | 10 | 0 | — | — | — | — | — | — | — |
| Kurilsk | 73.6 | 335 | i 11 | 9 | - 1 | i 20 | 21 | 0 | — | — | — | — |
| Obihiro | 73.8 | 330 | e 11 | 14 | + 2 | — | — | — | — | — | — | — |
| Hamada | 74.0 | 318 | e 11 | 14 | + 1 | e 20 | 23 | - 2 | e 12 | 17 | pP | — |
| Kakodate | 74.1 | 328 | i 11 | 7 | - 6 | — | — | — | — | — | — | — |
| Abashiri | 74.2 | 332 | e 11 | 16 | + 2 | e 20 | 34 | + 7 | — | — | — | — |
| Bandung | 74.2 | 269 | e 11 | 9 | - 5 | e 20 | 24 | - 3 | e 12 | 5 | pP | — |
| Lembang | 74.2 | 269 | i 11 | 14 | 0 | i 20 | 30 | + 3 | i 12 | 14 | pP | e 28.7 |
| Tomakomai | 74.2 | 329 | e 11 | 11 | - 3 | — | — | — | — | — | — | — |
| Hukuoka | 74.3 | 316 | e 11 | 16 _a | + 2 | e 20 | 30 | + 1 | i 14 | 5 | PP | — |
| Mori | 74.4 | 328 | i 11 | 18 _k | + 3 | 20 | 35 | + 5 | i 12 | 4 | pP | — |
| Muroran | 74.4 | 329 | e 11 | 14 | - 1 | — | — | — | — | — | — | — |
| Sapporo | 74.8 | 330 | i 11 | 16 _k | - 1 | e 20 | 35 | + 1 | i 12 | 18 | pP | e 31.8 |
| Djakarta | 75.2 | 269 | e 11 | 17 _k | - 3 | e 20 | 34 | - 4 | i 12 | 19 | pP | — |
| Wakkanai | 76.4 | 331 | e 11 | 33 _? | + 7 | — | — | — | — | — | — | — |
| Petropavlovsk | 77.0 | 345 | 11 | 27 | - 3 | e 23 | 54 | ? | — | — | — | — |
| Yuzno-Sakhlinsk | 77.2 | 333 | i 11 | 29 | - 2 | e 21 | 7 | + 7 | — | — | — | — |
| San Francisco | 77.8 | 41 | e 11 | 35 | + 1 | e 21 | 13 | + 7 | — | — | — | — |
| Santa Clara | 77.8 | 42 | e 11 | 35 _a | + 1 | i 21 | 16 | +10 | e 12 | 35 | pP | — |
| Berkeley | 78.0 | 41 | i 11 | 35 _k | 0 | i 21 | 17 | + 8 | e 12 | 37 | pP | — |
| Lick | 78.0 | 42 | i 11 | 36 _k | + 1 | e 20 | 16 | -53 | i 12 | 37 | pP | — |
| Ukiah | 78.2 | 40 | e 11 | 32 | - 4 | e 21 | 6 | - 5 | e 21 | 47 | SP | — |
| Fort Tejon | 78.3 | 45 | e 11 | 37 | 0 | e 21 | 17 | + 5 | i 12 | 17 | pP | — |
| Pasadena | 78.4 | 46 | i 11 | 38 _k | + 1 | e 21 | 14 | + 1 | i 12 | 40 | pP | e 31.6 |
| Barratt | 78.5 | 48 | i 11 | 38 | 0 | e 21 | 25 | +11 | i 12 | 40 | pP | — |
| Ferndale | 78.5 | 38 | — | — | — | i 21 | 26 | +12 | — | — | — | — |
| Arcata | 78.8 | 38 | e 11 | 46 | + 7 | e 21 | 21 | + 4 | — | — | — | — |
| Fresno | 78.8 | 43 | i 11 | 40 _k | + 1 | e 21 | 24 | + 7 | i 12 | 44 | pP | — |
| Palomar | 78.8 | 48 | i 11 | 41 _k | + 2 | e 21 | 28 | +11 | i 12 | 56 | pP | — |
| Riverside | 78.8 | 47 | i 11 | 39 _k | 0 | e 21 | 26 | + 9 | i 12 | 40 | pP | — |
| Woody | 78.8 | 45 | i 11 | 40 _k | + 1 | i 21 | 24 | + 7 | i 12 | 42 | pP | — |
| Ulegorsk | 79.1 | 334 | i 11 | 39 | - 2 | e 21 | 14 | - 6 | — | — | — | — |
| Z6-S6 | 79.1 | 310 | i 11 | 41 _k | 0 | i 21 | 23 | + 3 | i 12 | 41 | pP | — |
| Klyuchi | 79.6 | 348 | e 11 | 42 | - 2 | — | — | — | — | — | — | — |
| Vladivostok | 79.6 | 324 | i 11 | 44 | 0 | e 21 | 26 | + 1 | — | — | — | — |
| Shasta | 79.7 | 39 | i 11 | 45 _k | + 1 | e 21 | 29 | + 3 | e 38 | 35 | P'P' | — |
| Mineral | 79.9 | 40 | i 11 | 46 _k | + 1 | i 38 | 26 | P'P' | i 12 | 49 | pP | — |
| Tinemaha | 80.0 | 44 | e 11 | 47 | + 1 | e 21 | 34 | + 4 | — | — | — | — |
| Hong Kong | 80.1 | 299 | e 11 | 46 _? _k | 0 | e 21 | 31 | 0 | 14 | 55 | PP | — |
| Reno | 80.5 | 41 | e 11 | 48 _k | 0 | e 21 | 40 | + 5 | i 12 | 53 | pP | — |
| Nanking | 81.3 | 309 | i 11 | 53 _k | 0 | 21 | 48 | + 5 | i 12 | 56 | pP | — |
| Manzanillo | 81.4 | 66 | — | — | — | e 21 | 49 | + 5 | — | — | — | — |
| Nelson | 81.5 | 46 | i 11 | 55 _k | + 1 | i 21 | 52 | + 7 | i 12 | 57 | pP | — |
| Boulder City | 81.6 | 46 | i 11 | 56 _k | + 2 | i 21 | 54 | + 8 | i 12 | 57 | pP | — |
| Corvallis | 81.7 | 35 | i 11 | 57 | + 2 | i 21 | 56 | + 9 | — | — | — | — |
| Punta Arenas | 82.2 | 144 | e 17 | 14 | PPP | e 22 | 0 | + 8 | e 24 | 5 | ? | — |
| Tucson | 82.5 | 51 | i 12 | 0 _k | + 1 | e 22 | 0 | + 5 | i 12 | 58 | pP | e 33.8 |
| Guadalajara | 82.9 | 65 | e 12 | 4 | + 3 | 22 | 5 | + 6 | 23 | 48 | sS | — |
| Seattle | 84.2 | 34 | i 12 | 9 | + 2 | 22 | 19 | + 7 | 29 | 50 | PKKP | — |
| Victoria | 84.2 | 32 | 12 | 8 | + 1 | e 22 | 16 | + 4 | e 24 | 7 | PPS | 34.1 |
| Chihuahua | 84.3 | 56 | e 12 | 11 | + 3 | 22 | 17 | + 4 | — | — | — | — |
| Magadan | 84.8 | 344 | i 12 | 8 | - 2 | — | — | — | — | — | — | — |
| Sitka | 85.4 | 21 | i 12 | 12 | - 1 | e 22 | 13 | [- 1] | e 13 | 3 | pP | i 34.6 |
| Tacubaya | 85.9 | 68 | i 12 | 21 _k | + 5 | e 22 | 26 | - 2 | i 22 | 38 | S | — |
| Salt Lake City | 86.2 | 44 | i 12 | 15 _a | - 2 | e 22 | 23 | [+ 4] | i 13 | 6 | pP | e 36.6 |
| Puebla | 86.6 | 68 | — | — | — | e 22 | 30 | - 5 | e 22 | 46 | S | — |

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|--------------------|----|------------|------------|------|-----------------|-------|------|----|-------|-------|----|------|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Oaxaca | | 87.1 | 71 | e 12 | 30 | + 8 | e 22 | 42 | + 2 | e 22 | 30 | SKS | — |
| Kwanting | | 87.8 | 315 | e 12 | 27 | + 2 | — | — | — | — | — | — | — |
| Butte | N. | 88.6 | 39 | i 12 | 27 ^a | - 2 | e 22 | 57 | + 3 | i 13 | 27 | pP | i 35.6 |
| Linfen | | 88.6 | 310 | e 12 | 30 | + 1 | — | — | — | — | — | — | — |
| Taiyuan | | 88.6 | 312 | e 12 | 31 | + 2 | — | — | — | — | — | — | — |
| College | | 88.7 | 12 | i 12 | 28 ^k | - 1 | i 22 | 53 | - 1 | i 13 | 35 | pP | e 35.8 |
| Hungry Horse | | 89.0 | 36 | i 12 | 31 ^k | + 1 | e 22 | 39 | [+ 2] | i 13 | 34 | pP | — |
| Tatung | E. | 89.2 | 314 | e 12 | 37 | + 6 | — | — | — | — | — | — | — |
| Bozeman | | 89.3 | 40 | i 12 | 34 ^a | + 2 | i 23 | 7 | + 7 | i 13 | 39 | pP | e 34.3 |
| Sian | | 89.6 | 307 | e 12 | 43 | +10 | — | — | — | — | — | — | — |
| Santa Lucia | N. | 91.1 | 126 | e 12 | 42 | + 2 | 22 | 51 | [+ 2] | 13 | 38 | pP | — |
| Dallas | | 93.3 | 56 | i 12 | 51 | 0 | i 23 | 15 | [+13] | e 13 | 52 | pP | — |
| Rapid City | E. | 93.4 | 44 | i 12 | 52 | + 1 | i 23 | 4 | [+ 2] | i 13 | 55 | pP | e 40.5 |
| Yinchuan | E. | 93.4 | 310 | e 12 | 57 | + 6 | — | — | — | — | — | — | — |
| Lanchow | N. | 94.2 | 307 | e 12 | 56 | + 2 | — | — | — | — | — | — | — |
| Merida | | 94.8 | 70 | — | — | — | e 23 | 42 | - 6 | 25 | 42 | PS | — |
| Saskatoon | | 95.0 | 36 | e 13 | 1 | + 3 | e 23 | 58 | + 8 | e 25 | 4 | SP | — |
| Antofagasta | N. | 95.5 | 118 | e 12 | 45 | -15 | e 23 | 16 | [+ 3] | e 14 | 2 | pP | 39.9 |
| Huancayo | | 96.0 | 105 | i 13 | 10 | + 7 | i 23 | 24 | [+ 8] | i 14 | 13 | pP | e 40.4 |
| Fayetteville | | 96.5 | 54 | e 13 | 5 | 0 | 23 | 20 | [+ 1] | e 14 | 9 | pP | — |
| Montezuma | z. | 97.3 | 118 | i 13 | 12 ^a | + 3 | e 23 | 10 | [-13] | i 14 | 13 | pP | — |
| La Plata | | 99.4 | 133 | i 29 | 54 | PKKP | — | — | — | — | — | — | 46.9 |
| Balboa Heights | | 99.7 | 84 | — | — | — | e 23 | 32 | [- 2] | — | — | — | — |
| Irkutsk | | 100.1 | 322 | e 13 | 19 | - 2 | 23 | 39 | [+ 3] | e 14 | 21 | pP | — |
| Shillong | | 100.1 | 294 | e 13 | 21 | 0 | i 23 | 36 | [0] | i 17 | 32 | PP | — |
| La Paz | | 100.6 | 112 | i 13 | 30 ^a | + 6 | i 24 | 38 | + 1 | i 14 | 30 | pP | 44.3 |
| Chinchina | | 102.1 | 89 | i 13 | 33 | + 3 | i 23 | 45 | [- 1] | i 14 | 30 | pP | — |
| Calcutta | E. | 102.2 | 290 | e 15 | 20 | ? | i 23 | 50 | [+ 3] | e 17 | 43 | PP | — |
| Terre Haute | | 102.7 | 52 | — | — | — | 23 | 52 | [+ 3] | — | — | — | — |
| Chicago | | 103.2 | 50 | e 13 | 43 | + 8 | i 23 | 56 | [+ 4] | e 17 | 56 | PP | e 44.8 |
| Bogota | | 103.4 | 90 | e 13 | 44 | + 8 | i 23 | 54 | [+ 2] | e 14 | 41 | pP | — |
| Galerazamba | | 104.4 | 84 | e 14 | 42 | +62 | i 24 | 5 | [+ 8] | e 15 | 25 | pP | — |
| Chatra | | 104.5 | 293 | 13 | 43 | + 2 | e 24 | 2 | [+ 5] | i 17 | 56 | PP | — |
| Colombo | E. | 104.9 | 272 | 10 | 32 | ? | — | — | — | — | — | — | — |
| Columbia | | 106.2 | 59 | e 18 | 14 | PP | i 24 | 5 | [0] | i 25 | 28 | S | e 38.0 |
| Madras | E. | 106.7 | 278 | i 18 | 16 | PP | i 24 | 12 | [+ 5] | e 27 | 35 | PS | — |
| Cleveland | | 107.6 | 52 | i 18 | 26 ^k | PP | e 24 | 1 | [-10] | i 25 | 11 | SKKS | — |
| Chapel Hill | | 108.2 | 58 | i 17 | 23 | ? | — | — | — | — | — | — | — |
| Resolute Bay | | 108.2 | 16 | e 13 | 57 | 0 | i 24 | 16 | [+ 2] | i 18 | 28 | PP | e 48.7 |
| Pittsburgh | | 108.5 | 53 | i 18 | 35 | PP | i 24 | 16 | [+ 1] | i 25 | 55 | S | — |
| Hyderabad | | 109.6 | 282 | 18 | 38 | PP | e 25 | 53 | + 1 | e 39 | 44 | P'P' | — |
| Pennsylvania | | 110.1 | 53 | i 18 | 48 | PP | e 24 | 31 | [+ 9] | i 26 | 10 | S | — |
| Washington | z. | 110.4 | 55 | i 18 | 49 | PP | e 25 | 6 | SKKS | e 20 | 7 | pPP | — |
| Philadelphia | | 112.0 | 54 | e 15 | 14 | pP | e 24 | 32 | [+ 3] | e 18 | 58 | PP | e 47.8 |
| Ottawa | | 112.4 | 48 | i 18 | 9 ^k | [0] | 24 | 42 | [+11] | e 18 | 55 | PP | 45.4 |
| City College, N.Y. | | 113.0 | 54 | i 19 | 12 | PP | i 24 | 37 | [+ 4] | — | — | — | — |
| Palisades | | 113.1 | 53 | e 14 | 24 | P | i 24 | 39 | [+ 5] | e 15 | 14 | pP | e 47.2 |
| Dehra Dun | N. | 113.2 | 295 | e 17 | 59 | [-12] | 24 | 45 | [+11] | e 19 | 1 | pP' | — |
| New Delhi | | 113.5 | 293 | e 18 | 9 | [- 2] | e 24 | 34 | [- 1] | e 28 | 20 | SP | — |
| Poona | | 114.1 | 281 | e 18 | 13 | [+ 1] | i 24 | 34 | [- 4] | i 28 | 25 | SP | — |
| Semipalatinsk | | 114.3 | 317 | e 18 | 11 | [- 2] | i 24 | 38 | [0] | e 25 | 56 | SKKS | — |
| Shawinigan Falls | | 114.6 | 47 | e 18 | 13 | [0] | e 28 | 53 | PS | e 19 | 16 | pP' | — |
| Harvard | | 115.0 | 52 | e 18 | 22 | [+ 8] | i 24 | 43 | [+ 2] | e 14 | 39 | P | — |
| Bombay | | 115.1 | 282 | e 16 | 56 | ? | i 24 | 48 | [+ 7] | i 28 | 42 | SP | — |
| San Juan | | 115.1 | 79 | i 18 | 15 ^a | [+ 1] | i 24 | 44 | [+ 3] | e 15 | 32 | pP | e 49.1 |
| Weston | | 115.2 | 52 | i 18 | 15 | [+ 1] | i 24 | 48 | [+ 6] | i 28 | 44 | SP | — |
| Seven Falls | | 116.0 | 47 | e 19 | 26 | PP | 24 | 46 | [+ 1] | 29 | 1 | PS | — |
| Frunse | | 117.7 | 308 | i 18 | 20 | [+ 1] | i 24 | 54 | [+ 3] | i 19 | 39 | PP | — |
| Fort de France | | 118.7 | 84 | i 18 | 24 | [+ 3] | i 25 | 3 | [+ 9] | i 19 | 45 | PP | — |
| Andijan | | 119.2 | 306 | i 18 | 21 | [- 1] | i 24 | 59 | [+ 3] | i 19 | 49 | PP | — |

Continued on next page.

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|---------------------|----------|-----|----------------------|------------------|----------|------------------|---------|------------------|--------|
| | | | m. s. | s. | m. s. | s. | m. s. | m. | |
| Bermuda | 119.2 | 64 | i 18 24 | [+ 2] | i 25 3 | [+ 7] | e 19 49 | PP | — |
| Khorog | 119.6 | 302 | e 18 24 | [+ 1] | i 29 31 | SKSP | — | — | — |
| Halifax | 120.9 | 50 | i 18 25 | [- 1] | i 36 17 | SS | e 19 32 | pP' | — |
| Tananarive | 121.1 | 230 | i 18 26 | [0] | 29 24 | SP | 19 35 | pP' | — |
| Tashkent | 121.5 | 306 | e 18 27 | [0] | i 25 10 | [+ 6] | e 20 4 | PP | — |
| Stalinabad | 121.8 | 303 | i 18 28 | [+ 1] | e 25 7 | [+ 2] | — | — | — |
| Quetta | 122.6 | 293 | i 18 29 | [0] | i 30 2 | PS | i 20 4 | PP | — |
| Pietermaritzburg z. | 123.0 | 208 | i 18 30 _a | [0] | — | — | — | — | — |
| Sverdlovsk | 125.3 | 325 | i 18 34 | [0] | i 25 20 | [+ 4] | e 15 20 | P | — |
| Kimberley z. | 126.1 | 204 | i 19 7 | [+ 31] | — | — | — | — | — |
| Pretoria z. | 127.4 | 208 | i 18 37 | [- 1] | — | — | — | — | — |
| Scoresby Sund | 128.6 | 11 | i 18 42 _k | [+ 1] | e 25 38 | [+ 13] | e 19 52 | pP' | — |
| Ashkabad | 130.0 | 302 | 18 44 | [+ 1] | 22 19 | PKS | i 20 58 | PP | — |
| Kiruna | 132.2 | 351 | i 18 47 | [0] | i 25 38 | [+ 4] | i 19 54 | pP' | — |
| Reykjavik | 134.0 | 15 | i 18 53 _a | [+ 2] | i 22 5 | SKP | i 20 0 | pP' | — |
| Shemakla | 137.1 | 307 | i 18 59 | [+ 3] | — | — | — | — | — |
| Moscow | 137.2 | 332 | 18 55 | [- 2] | 25 51 | [+ 8] | 20 7 | pP' | — |
| Helsinki | 138.2 | 344 | e 18 46 | [- 12] | e 25 50 | [+ 5] | e 21 51 | PP | — |
| Kirovobad | 138.8 | 308 | e 19 5 | [+ 5] | 21 53 | SKP | 22 11 | PP | — |
| Goris | 139.1 | 306 | 18 51 | [- 9] | 22 31 | PKS | i 22 1 | PP | — |
| Tiflis | 139.6 | 310 | 18 56 | [- 5] | — | — | 22 6 | PP | — |
| Upsala | 140.1 | 349 | i 18 54 | [- 8] | e 25 44? | [- 4] | i 22 1 | PP | e 53.7 |
| Erevan | 140.3 | 308 | e 18 56 | [- 6] | — | — | 22 4 | PP | — |
| Leninakan | 140.6 | 309 | 19 6 | [+ 3] | 22 32 | PKS | — | — | — |
| Aberdeen | 143.9 | 5 | i 19 12 | [+ 3] | i 26 12 | [+ 18] | i 22 30 | PP | — |
| Copenhagen z. | 145.0 | 351 | i 19 10 _k | [- 1] | i 19 19 | PKP _a | i 20 14 | pP' | — |
| Edinburgh E. | 145.1 | 6 | — | — | 40 47 | SS | — | — | — |
| Yalta | 145.6 | 320 | 20 12 | pP' | 29 7 | SKKS | 32 48 | SKSP | — |
| Warsaw | 146.2 | 340 | e 19 13 _k | [0] | i 25 50 | [- 7] | e 21 14 | ? | e 42.7 |
| Durham | 146.4 | 5 | i 19 13 | [0] | i 41 17 | SS | i 19 34 | ? | — |
| Lwow | 147.1 | 335 | i 19 13 | [- 1] | e 26 3 | [+ 5] | 20 22 | pP' | — |
| Rathfarnham C. z. | 147.2 | 11 | i 19 13 _k | [- 1] | e 25 51 | [- 8] | i 22 40 | PP | — |
| Hamburg | 147.4 | 353 | i 19 15 _k | [0] | e 33 8 | SP | e 22 42 | PP | — |
| Iasi | 147.5 | 328 | 19 17 | [+ 2] | i 19 28 | ? | e 19 43 | ? | — |
| Bacau N. | 148.3 | 328 | e 19 20 | [+ 4] | — | — | — | — | — |
| Witteveen z. | 148.4 | 356 | e 19 18 _a | [+ 2] | — | — | i 19 21 | PKP _a | — |
| Angra do Heroismo | 148.6 | 50 | e 20 33 | pP' | — | — | — | — | — |
| Ksara | 148.6 | 300 | i 19 17 | [+ 1] | 23 9 | PP | 20 19 | pP' | — |
| Focsani | 148.7 | 327 | e 19 23 | [+ 6] | — | — | e 19 30 | PKP _a | — |
| Raciborz | 148.9 | 341 | e 19 16 | [- 1] | i 19 23 | PKP _a | i 19 58 | ? | — |
| Skalnate Pleso | 149.0 | 338 | i 19 24 | [+ 7] | e 26 4 | [+ 3] | i 20 34 | pP' | — |
| Collmberg | 149.1 | 348 | i 19 18 | [+ 1] | e 29 28 | SKKS | e 20 27 | pP' | e 76.7 |
| De Bilt | 149.2 | 358 | i 19 23 _k | [+ 6] | i 29 31 | SKKS | i 20 27 | pP' | — |
| Safed | 149.2 | 299 | i 19 23 | [+ 6] | — | — | — | — | — |
| Jena | 149.7 | 350 | i 19 19 | [+ 1] | e 26 12 | [+ 10] | i 20 29 | pP' | — |
| Jerusalem | 149.7 | 297 | i 19 19 | [+ 1] | — | — | i 20 23 | pP' | — |
| Kew | 149.7 | 4 | i 19 18 _k | [0] | i 41 56 | SS | i 20 26 | pP' | e 62.1 |
| Prague | 150.0 | 346 | i 19 20 _k | [+ 2] | i 41 56 | SS | i 20 44 | pP' | — |
| Campulung N. | 150.1 | 328 | e 19 22 | [+ 3] | — | — | — | — | — |
| Bucharest | 150.2 | 326 | e 19 27 | [+ 8] | i 21 17 | ? | i 20 33 | pP' | — |
| Uccle | 150.5 | 359 | e 19 21 | [+ 2] | e 33 9 | SKSP | i 20 11 | pP' | — |
| Istanbul | 150.6 | 318 | i 19 19 | [0] | e 26 4 | [+ 1] | e 20 25 | pP' | — |
| Budapest | 150.9 | 338 | 19 23 | [+ 3] | e 29 25 | SKKS | 20 6 | pP' | — |
| Ogyalla | 150.9 | 339 | i 19 23 | [+ 3] | e 26 11 | [+ 8] | i 20 23 | pP' | — |
| Timisoara N. | 151.5 | 333 | i 19 34 | PKP _a | — | — | e 20 51 | ? | — |
| Szeged N. | 151.6 | 335 | 19 22 | [+ 1] | e 22 38 | PP | 20 16 | pP' | — |
| Jersey E. | 151.8 | 8 | e 19 24 | [+ 3] | e 29 27 | SKKS | e 20 46 | sP' | — |
| Karlsruhe | 152.0 | 353 | e 19 21 _k | [0] | e 42 0 | SS | i 20 25 | pP' | — |
| Stuttgart | 152.2 | 352 | i 19 22 _k | [0] | e 29 22 | SKKS | e 20 24 | pP' | e 71.7 |
| Paris | 152.5 | 1 | i 19 23 | [+ 1] | e 26 11 | [+ 6] | i 20 27 | pP' | — |

Continued on next page.

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| | Δ ° | Az. ° | P. m. s. | O-C. s. | S. m. s. | O-C. s. | Supp. m. s. | L. m. |
|------------------|---------------|----------|-------------|------------|-------------|------------------|----------------|------------------|
| Strasbourg | 152.5 | 354 | i 19 23 | [+ 1] | e 29 48 | SKKS | e 20 27 | pP' |
| Belgrade | 152.6 | 333 | i 19 17 | [- 5] | i 29 45 | SKKS | i 23 12 | PP |
| Sofia | 152.8 | 326 | e 19 25? | [+ 2] | i 29 59? | SKKS | i 20 24 | pP' |
| Helwan | 153.4 | 294 | i 19 22k | [- 1] | e 29 48 | SKKS | 23 15 | PP |
| Basle | 153.6 | 353 | e 19 23k | [- 1] | e 28 52 | ? | e 28 20 | PKKP |
| Zürich | 153.6 | 352 | e 19 23 | [- 1] | e 23 8 | PP | e 20 22 | pP' |
| Besançon | 154.0 | 356 | i 19 24 | [0] | e 25 50 | [-17] | e 23 28 | PP |
| Chur | 154.0 | 350 | e 19 24k | [0] | — | — | i 19 36 | PKP ₂ |
| Neuchatel | 154.2 | 354 | e 19 26 | [+ 1] | — | — | — | — |
| Triest | 154.3 | 343 | e 19 32 | [+ 7] | e 29 49 | SKKS | e 20 35 | pP' |
| Salo | 155.0 | 348 | e 19 24k | [- 2] | e 26 33 | [+25] | e 23 37 | PP |
| Oropa | 155.4 | 352 | e 19 29 | [+ 3] | e 30 8 | SKKS | e 23 43 | PP |
| Clermont-Ferrand | 155.6 | 0 | i 19 30 | [+ 4] | i 36 37 | PPS | i 20 44 | pP' |
| Pavia | 155.7 | 350 | e 19 28k | [+ 1] | e 23 33 | PP | e 20 33 | pP' |
| Athens | 155.8 | 318 | i 19 24a | [- 3] | i 19 57 | PKP ₂ | e 20 26 | pP' |
| Padova | 155.8 | 345 | e 19 26 | [- 1] | i 20 0 | PKP ₂ | e 23 14 | PP |
| Bologna | 155.9 | 346 | e 19 28 | [+ 1] | e 30 4 | SKKS | e 20 31 | pP' |
| Prato | 156.5 | 346 | i 19 27 | [- 1] | — | — | i 29 18 | ? |
| Florence | 156.6 | 345 | i 19 26 | [- 2] | e 26 28 | [+18] | i 20 46 | pP' |
| Taranto | 157.5 | 331 | e 23 40 | PP | — | — | e 28 40 | ? |
| Rome | 158.0 | 341 | i 19 31k | [+ 1] | i 26 28 | [+17] | i 20 40 | pP' |
| Coimbra | 158.7 | 25 | 19 27 | [- 3] | i 43 30 | SS | 20 38 | pP' |
| Lisbon | 159.6 | 29 | e 19 33k | [+ 2] | 43 34 | SS | i 20 40 | pP' |
| M'Bour | 159.6 | 106 | i 19 33 | [+ 2] | i 23 56 | PP | i 20 42 | pP' |
| Messina | 160.1 | 331 | e 19 31 | [- 1] | i 24 2 | PP | i 20 42 | pP' |
| Toledo | 160.4 | 17 | i 19 35k | [+ 3] | 43 44 | SS | i 20 44 | pP' |
| Alicante | 162.7 | 10 | 19 27 | [- 7] | 25 58 | [-17] | 20 19 | PKP ₂ |
| Granada | 163.1 | 19 | i 19 38k | [+ 3] | 26 0 | [-16] | 20 29 | pP' |
| Malaga | 163.2 | 22 | i 19 35 | [0] | 26 23 | [+ 7] | i 24 17 | PP |
| Tunis | 163.4 | 340 | e 19 36 | [+ 1] | e 26 15 | [- 1] | e 24 3 | PP |
| Almeria | 163.7 | 17 | i 19 35 | [0] | 26 38 | [+22] | i 24 13 | PP |
| Algiers Univ. | z. 164.6 | 1 | e 19 38a | [+ 2] | e 24 29 | PP | i 20 34 | pP' |
| Averroes | 164.7 | 36 | i 19 37 | [+ 1] | e 22 40 | SKP | e 20 42 | pP' |
| Tamanrasset | z. 177.4 | 306 | i 19 45 | [+ 2] | e 26 29 | [+ 7] | e 20 51 | pP' |

Sept. 17d. 11h. 52m. 4s. Epicentre 42°·8N. 144°·8E. Depth 50-60km.
Intensity VI at Kusiro; IV at Nemuro, Obihiro, and Abashiri; II-III at Urakawa and Sapporo.
Seismo. Bull. Cent. Met. Obs., Japan, for Sept., 1954, Tokyo, 1954, p.p. 22-23, with macro-seismic chart.

Sept. 17d. 14h. 24m. Epicentre 23°·5N. 120°·8E.
Seismo. Bull. of Taiwan Weather Bureau for July-Sept., 1954, Vo. 1, No. 3, Taipei, China, pp. 34-35.

Sept. 17d. 14h. 45m. 23s. Epicentre 29°N. 141°E. Unfelt.
Loc. cit., 11h., pp. 23-24.

Sept. 17d. 16h. 11m. Epicentre 41°·2N. 44°·0E.
Bulletin of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, p. 97.

Sept. 18d. 1h. 7m. Epicentre 39°·9N. 75°·5E.
Bulletin of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, p. 97.

Sept. 18d. 4h. 55m. Epicentre 16°N. 60°W.
Intensity III-IV at Fort de France.
Monthly Bulletin of the B.C.I.S. for Sept., 1954, Strasbourg, 1955, p. 529.

Sept. 18d. 12h. 10m. Epicentre 23°·3N. 120°·7E. Unfelt.
Seismo. Bull. of the Taiwan Weather Bureau for July to Sept., 1954, Vol. I, No. 3, Taipei, 1954, p. 35.

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Sept. 18d. 15h. 31m. 6s. Epicentre 13°·4N. 145°·2E.

A = -·7991, B = +·5554, C = +·2303; δ = +7; h = +6;
D = +·571, E = +·821; G = -·189, H = +·131, K = -·973.

| | Δ ° | Az. ° | P. m. s. | O-C. s. | S. m. s. | O-C. s. | Supp. m. s. | L. m. |
|----------------|---------------|----------|----------------------|------------|-------------|------------|----------------|------------------|
| Takamatu | 23·1 | 338 | e 5 13 | + 5 | — | — | — | — |
| Manila | 23·5 | 276 | i 5 8 | - 4 | e 7 16 | ? | — | — |
| Matusiro | 23·9 | 345 | e 5 44 | PP | e 9 24 | - 6 | — | — |
| Baguio | 24·0 | 281 | i 5 17 _a | 0 | — | — | — | — |
| Zô-Sè | z. 28·2 | 314 | e 6 4 | + 8 | — | — | i 6 51 | PP |
| Nanking | 30·5 | 312 | i 7 25 | PP | e 11 7 | -11 | — | — |
| Hong Kong | E. 30·8 | 292 | e 6 54 | +34 | — | — | — | — |
| Brisbane | 41·4 | 169 | e 6 43 | -67 | i 13 59 | - 6 | — | — |
| Bandung | 42·4 | 245 | e 7 56 | - 2 | — | — | i 8 44 | ? |
| Lembang | z. 42·4 | 245 | i 7 56 _a | - 2 | e 12 58 | ? | i 8 35 | ? |
| Djakarta | 42·8 | 246 | i 8 0 _a | - 1 | e 14 5 | -21 | — | — |
| Riverview | E. 47·3 | 173 | i 15 34 | PS | i 15 26 | - 5 | i 18 43 | SS e 21·4 |
| Shillong | z. 51·4 | 293 | e 9 8 | - 1 | — | — | — | — |
| Tuai | N. 59·9 | 152 | e 10 12 | + 2 | — | — | — | — |
| Kaimata | N.E. 60·6 | 158 | e 10 7 | - 8 | — | — | — | — |
| Wellington | N. 60·9 | 155 | e 10 21 | + 4 | — | — | — | — |
| Madras | E. 63·1 | 279 | — | — | e 18 20 | -42 | — | — |
| Dehra Dun | N. 63·7 | 298 | e 10 51 | +15 | i 19 10 | 0 | — | — |
| College | 68·2 | 25 | e 11 2 | - 2 | i 11 13 | ? | i 11 42 | ? |
| Poona | z. 68·4 | 285 | e 11 6 | 0 | — | — | — | — |
| Victoria | 81·0 | 43 | 12 20 | + 2 | — | — | — | — |
| Corvallis | z. 81·8 | 47 | e 12 27 | + 5 | — | — | — | — |
| Seattle | 81·9 | 44 | e 12 27 | + 4 | i 22 41 | + 5 | e 12 30 | PcP |
| Shasta | z. 83·2 | 50 | e 12 28 | - 1 | — | — | — | — |
| Berkeley | z. 83·9 | 53 | e 12 33 | 0 | — | — | — | — |
| Mineral | z. 83·9 | 50 | e 12 33 | 0 | — | — | — | — |
| Lick | z. 84·5 | 53 | i 12 37 | + 1 | — | — | — | — |
| Resolute Bay | 84·7 | 14 | i 12 35 _k | - 2 | — | — | — | — |
| Reno | z. 85·4 | 51 | e 12 41 | + 1 | — | — | — | — |
| Fresno | z. 86·1 | 53 | e 12 43 | - 1 | — | — | — | — |
| Woody | z. 87·0 | 54 | e 12 46 | - 2 | e 15 36 | ? | i 17 7 | ? |
| Hungry Horse | 87·1 | 41 | i 12 48 | - 1 | e 23 24 | - 4 | — | — |
| Tinemaha | z. 87·2 | 53 | e 12 50 | + 1 | — | — | i 17 8 | ? |
| Pasadena | 88·0 | 56 | e 12 54 | + 1 | i 23 33 | - 3 | i 13 20 | ? |
| Riverside | z. 88·6 | 56 | e 12 58 | + 2 | — | — | e 13 15 | ? |
| Butte | N. 88·8 | 43 | e 12 55 | - 2 | e 23 22 | [- 3] | i 16 41 | PP e 38·1 |
| Palomar | z. 89·2 | 56 | e 12 58 | - 1 | — | — | — | — |
| Barratt | z. 89·6 | 57 | i 13 3 | + 2 | i 13 22 | ? | i 17 22 | ? |
| Kiruna | 89·9 | 342 | i 13 0 | - 2 | e 23 24 | [- 8] | — | e 43·9 |
| Boulder City | 90·1 | 53 | e 13 3 | 0 | i 13 7 | PcP | i 13 25 | ? |
| Nelson | z. 90·2 | 53 | i 13 3 | - 1 | — | — | i 17 24 | ? |
| Salt Lake City | 90·9 | 48 | e 13 8 | + 1 | i 13 11 | PcP | i 13 27 | ? |
| Tucson | 94·4 | 56 | e 28 25 | ? | — | — | — | e 43·3 |
| Boulder | 95·8 | 46 | e 13 33 | + 4 | — | — | — | — |
| Upsala | z. 95·8 | 336 | i 13 31 | + 2 | — | — | — | — |
| Ksara | 98·1 | 307 | e 14 9 | +29 | — | — | e 21 32 | ? |
| Helwan | z. 103·2 | 306 | e 14 2 | - 1 | — | — | — | — |
| Stuttgart | 106·9 | 331 | e 18 37? | PP | e 27 54 | PS | — | — |
| Taranto | 107·9 | 321 | — | — | e 24 4 | [-59] | — | 54·9 |
| Florence | 109·3 | 326 | e 22 32 | ? | — | — | — | 55·9 |
| Rome | 109·9 | 324 | e 22 18? | ? | e 28 49 | PS | — | e 55·3 |
| Messina | 110·3 | 320 | e 23 39 | ? | e 27 42 | ? | — | 54·7 |
| Pretoria | z. 119·9 | 248 | e 20 22 | PP | — | — | — | — |
| Tamanrasset | z. 126·6 | 313 | e 19 7 | [+ 2] | — | — | — | — |
| Chinchina | z. 135·6 | 67 | i 19 22 | [0] | i 22 54 | PKS | — | — |
| San Juan | 135·8 | 45 | e 19 26 | [+ 3] | — | — | e 22 3 | PP |
| Montezuma | z. 146·4 | 111 | e 19 44 | [+ 2] | — | — | — | — |
| La Paz | 147·7 | 100 | e 19 34 | [-10] | 23 10 | PP | i 19 52 | PKP ₁ |

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Sept. 18d. 17h. 9m. Epicentre 23°·5N. 120°·4E. Unfelt.
Loc. cit., 12h., p. 35.

Sept. 18d. 18h. 24m. Epicentre 50°N. 156°E.
Loc. cit., 4h., p. 530.

Sept. 19d. 6h. 14m. Epicentre 25°·6N. 122°·4E. Unfelt.
Seismo. Bull. of the Taiwan Weather Bureau for July-Sept., 1954, Vol. 1, No. 3, Taipei, China, p. 36.

Sept. 19d. 7h. 58m. Epicentre 41°·4N. 44°·3E.
Bull. of the Seismo. Stations of the U.S.S.R. July-Sept., 1954, Moscow, 1955, pp. 97-98.

Sept. 19d. 9h. 26m. Epicentre 41°·2N. 43°·8E.
Loc. cit., 7h., p. 98.

Sept. 19d. 10h. 36m. Epicentre 41°·2N. 43°·8E.
Loc. cit., 7h., p. 98.

Sept. 19d. 18h. 46m. Epicentre 41°·2N. 43°·8E.
Loc. cit., 7h., pp. 98-99.

Sept. 19d. 18h. 47m. Epicentre 32°·6S. 178°·4W. Magnitude 5·9.
Seismo. Observatory Bull. No. E-135, New Zealand Department of Scientific and Industrial Research for 1954, Wellington, N.Z., 1959, p. 19.

Sept. 19d. 20h. 14m. 30s. Epicentre 38°·2N. 138°·7E. Depth of focus 30km.
Intensity V at Aikawa; IV at Niigata; II-III at Takada, Inawasiro, Maebasi, and Kakioka
Seismo. Bull. Cent. Met. Obs., Japan, Tokyo, 1954, pp. 24-25.

Sept. 20d. 0h. 10m. 8s. Epicentre 54°·0N. 35°·4W.

A = +·4813, B = -·3420, C = +·8071; $\delta = +2$; $h = -7$;
D = -·580, E = -·815; G = +·658, H = -·468, K = -·590.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----|------------|------------|---------|------|---------|------|--------|------------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Reykjavik | z. | 12·3 | 29 | i 2 59 | 0 | — | — | — | — |
| Scoresby Sund | E. | 17·6 | 15 | — | — | e 7 59 | +36 | — | 9·9 |
| Halifax | | 20·5 | 254 | e 4 42 | 0 | — | — | — | e 12·9 |
| Kew | | 21·3 | 82 | e 4 49 | - 1 | — | — | i 5 21 | PPP e 10·4 |
| Seven Falls | | 23·4 | 267 | e 5 11 | 0 | — | — | — | e 13·0 |
| Paris | | 24·0 | 87 | e 5 15 | - 2 | e 8 32 | -60 | — | e 11·4 |
| De Bilt | | 24·2 | 78 | i 5 22 | + 3 | — | — | — | e 11·9 |
| Uccle | | 24·2 | 81 | e 5 18 | - 1 | e 8 25 | -70 | — | e 11·9 |
| Shawinigan Falls | | 24·8 | 268 | i 5 24k | - 1 | — | — | — | — |
| Toledo | | 25·4 | 111 | i 5 28 | - 3 | 9 40 | -16 | — | — |
| Harvard | | 26·4 | 259 | e 5 45 | + 5 | — | — | — | — |
| Ottawa | | 27·1 | 268 | e 5 51k | + 5 | — | — | — | e 14·9 |
| Strasbourg | | 27·2 | 84 | e 5 47 | 0 | e 10 22 | - 3 | — | — |
| Granada | | 27·5 | 115 | 5 57k | + 7 | 10 21 | - 9 | — | 13·1 |
| Alicante | | 28·4 | 109 | e 5 57 | - 1 | e 10 45 | 0 | 7 3 | PP 13·8 |
| Palisades | | 28·7 | 259 | — | — | e 10 27 | -23 | — | e 13·6 |
| Upsala | z. | 28·8 | 57 | i 6 2 | 0 | — | — | — | — |
| Collmberg | | 29·0 | 75 | e 6 3 | - 1 | — | — | — | — |
| Florence | | 31·8 | 89 | e 6 37 | + 9 | e 14 1 | SSS | — | 16·6 |
| Triest | | 32·2 | 84 | e 6 32 | 0 | — | — | e 7 17 | PP — |
| Warsaw | | 33·1 | 70 | e 6 37 | - 3 | e 13 51 | SS | e 7 49 | PP e 17·9 |
| Rome | | 33·6 | 91 | e 6 42 | - 2 | e 12 12 | + 6 | — | e 16·4 |
| Taranto | | 37·3 | 89 | — | — | e 12 52 | -12 | — | e 19·0 |
| Messina | | 37·8 | 94 | e 7 18 | - 2 | e 13 11 | 0 | e 8 45 | PP — |
| Tamanrasset | | 43·7 | 119 | i 8 6k | - 2 | — | — | — | — |

Continued on next page.

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1954

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------|----|------------|------------|--------|------|--------|------|--------|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Fayetteville | | 43.9 | 271 | i 8 9 | - 1 | — | — | i 8 24 | — |
| Hungry Horse | | 47.3 | 297 | e 8 9 | -28 | — | — | — | — |
| Dallas | | 47.7 | 270 | i 8 39 | - 1 | — | — | — | — |
| Butte | N. | 47.9 | 294 | — | — | e 15 6 | -33 | — | e 21.0 |
| College | | 50.7 | 329 | i 9 6 | + 3 | — | — | — | — |
| Helwan | z. | 52.9 | 89 | e 9 19 | - 1 | — | — | — | — |
| Boulder City | | 56.0 | 286 | e 9 49 | + 6 | — | — | — | — |
| Nelson | z. | 56.2 | 286 | e 9 43 | - 1 | — | — | — | — |
| Reno | z. | 56.2 | 292 | e 9 41 | - 3 | — | — | — | — |
| Tucson | | 56.4 | 280 | e 9 45 | 0 | — | — | — | e 27.4 |
| Mineral | z. | 56.6 | 294 | e 9 47 | 0 | — | — | — | — |
| Shasta | z. | 56.8 | 295 | e 9 51 | + 3 | — | — | — | — |
| Tinemaha | z. | 57.1 | 289 | e 9 51 | + 1 | — | — | — | — |
| Fresno | z. | 58.2 | 290 | e 9 59 | + 1 | — | — | — | — |
| Woody | z. | 58.4 | 288 | e 10 0 | 0 | — | — | — | — |
| Lick | z. | 58.8 | 292 | e 10 4 | + 2 | — | — | — | — |
| Mount Wilson | z. | 59.1 | 287 | e 10 6 | + 2 | — | — | — | — |

Sept. 20d. 0h. 39m. 31s. Epicentre $1^{\circ}8S$. $120^{\circ}5E$.

A = -0.5073, B = +0.8612, C = -0.0312; $\delta = -1$; $h = +7$;
D = +0.862, E = +0.508; G = +0.016, H = -0.027, K = -1.000.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------|------|------------|------------|---------------------|------|---------|------|---------|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Bandung | | 13.8 | 248 | i 3 18 | - 1 | i 6 7 | SS | i 3 24 | PP |
| Lembang | | 13.8 | 248 | i 3 20 _a | + 1 | i 5 50 | - 4 | i 3 26 | PP |
| Djakarta | | 14.3 | 252 | i 3 26 _a | 0 | e 6 14 | SS | i 3 32 | PP |
| Manila | | 16.3 | 2 | i 3 56 | + 4 | i 7 0 | + 7 | — | — |
| Baguio | | 18.1 | 0 | i 4 13 _a | - 1 | i 7 40 | + 5 | — | — |
| Hengchun | | 23.7 | 0 | 5 16 | + 2 | 9 34 | + 7 | — | — |
| Tawu | | 24.0 | 1 | 5 20 | + 3 | — | — | — | — |
| Taitung | | 24.4 | 1 | 4 25 | -56 | — | — | — | — |
| Hong Kong | E. | 24.8 | 346 | 5 26 | + 1 | e 9 45? | - 1 | — | — |
| Hsinking | | 24.8 | 2 | e 4 23 | -62 | — | — | — | — |
| Hwaiien | | 25.7 | 2 | e 5 31 | - 2 | — | — | — | — |
| Taichung | | 25.8 | 0 | 5 35 | + 1 | 10 6 | + 4 | — | — |
| Taipei | | 26.7 | 2 | e 5 48 | + 5 | 10 25 | + 8 | — | — |
| Perth | | 30.3 | 188 | — | — | i 13 19 | SSS | — | i 17.7 |
| Zô-Sè | | 32.8 | 1 | 6 34 _k | - 3 | 11 48 | - 6 | 7 41 | PP |
| Nanking | | 33.8 | 357 | 6 45 | - 1 | i 12 6 | - 4 | — | — |
| Linfen | | 38.7 | 348 | e 7 33 | + 6 | — | — | — | — |
| Shillong | | 38.9 | 316 | e 7 26 | - 3 | 13 30 | + 2 | 8 57 | PP |
| Calcutta | | 39.6 | 310 | e 7 39 | + 4 | i 13 45 | + 7 | 16 43 | SS |
| Taiyuan | | 40.1 | 350 | e 7 38 | - 1 | — | — | — | — |
| Brisbane | | 40.2 | 132 | i 7 41 | + 1 | e 13 32 | -16 | — | — |
| Kwanting | | 42.1 | 354 | e 7 55 | 0 | e 13 15 | -61 | — | — |
| Yinchuan | | 42.2 | 343 | e 8 1 | + 5 | — | — | — | — |
| Melbourne | E. | 42.3 | 151 | — | — | e 14 15 | - 4 | — | — |
| Madras | E. | 42.7 | 291 | i 7 59 | - 1 | i 14 25 | + 1 | 9 32 | PcP |
| Riverview | | 42.8 | 141 | i 8 2 _a | + 1 | i 14 29 | + 3 | i 9 40 | PP |
| Wuwei | | 42.9 | 339 | e 8 5 | + 3 | e 14 32 | + 5 | — | e 21.2 |
| Chatra | | 43.0 | 314 | e 8 2 | - 1 | i 14 25 | - 4 | 9 39 | PP |
| Kodaikanal | E. | 44.5 | 286 | e 8 10 | - 5 | — | — | — | 19.8 |
| Mizusawa | E. | 45.0 | 23 | 8 20 | + 1 | e 8 58 | ? | — | — |
| Hyderabad | | 45.7 | 297 | i 8 20 | - 4 | i 15 2 | - 6 | 10 14 | PP |
| Nouméa | | 49.0 | 118 | e 8 49 _k | - 1 | e 10 44 | PP | e 11 47 | PPP |
| Poona | | 50.2 | 296 | i 8 57 | - 3 | e 16 6 | - 5 | 10 49 | PP |
| Bombay | | 51.2 | 296 | i 9 4 | - 3 | i 16 23 | - 2 | 11 4 | PP |
| New Delhi | | 51.4 | 309 | e 8 21 | -48 | i 16 22 | - 6 | 9 41 | PcP |
| Dehra Dun | | 51.6 | 312 | e 9 14 | + 4 | i 16 28 | - 3 | 10 27 | PcP |
| Quetta | | 60.1 | 306 | e 10 6 | - 5 | i 18 19 | - 5 | i 10 54 | PcP |
| Kaimata | N.E. | 60.8 | 139 | e 10 23 | + 7 | — | — | e 10 54 | PcP |
| Karapiro | N. | 61.8 | 133 | e 10 20 | - 3 | — | — | — | — |
| Wellington | | 62.5 | 136 | e 10 24 | - 4 | — | — | — | e 27.5 |

Continued on next page.

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1954

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----|----------|-----|----------------------|--------|----------|--------|---------|------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Tuai | N. | 63.3 | 133 | e 10 29? | - 4 | — | — | — | — |
| Apia | | 67.9 | 104 | e 10 47 | -15 | — | — | e 11 1 | PcP |
| Tananarive | | 73.3 | 251 | 11 31 | - 4 | — | — | i 12 8 | PcP |
| Safed | | 86.8 | 303 | — | — | i 15 3 | ? | i 18 27 | PPP |
| Jerusalem | | 87.0 | 302 | — | — | i 15 3 | ? | i 18 35 | PPP |
| Pietermaritzburg | z. | 89.2 | 241 | i 12 58 _a | - 1 | — | — | — | — |
| Helwan | | 90.2 | 300 | e 13 0 | - 4 | 23 46 | -10 | 16 36 | PP |
| Pretoria | z. | 91.3 | 244 | i 13 7 | - 2 | — | — | — | — |
| Istanbul | | 92.3 | 311 | e 13 9 | - 4 | e 24 6 | - 9 | e 16 41 | PP |
| College | | 92.4 | 25 | e 13 9 | - 5 | — | — | — | — |
| Kimberley | z. | 94.2 | 241 | i 13 19 | - 3 | — | — | — | — |
| Kiruna | | 95.5 | 338 | i 13 25 | - 3 | e 24 36 | - 6 | e 23 51 | SKS |
| Warsaw | | 97.3 | 322 | e 17 38 | PP | e 23 37 | {-58} | e 31 43 | SS |
| Upsala | | 98.1 | 330 | i 13 36 | - 4 | e 31 29? | SS | i 17 40 | PP |
| Taranto | | 101.3 | 311 | — | — | e 22 46 | ? | 35 46 | SSS |
| Copenhagen | | 101.7 | 327 | e 18 11 | PP | e 25 37 | + 2 | e 24 37 | SKS |
| Prague | | 101.7 | 321 | e 17 57 | PP | e 25 3 | {- 4} | i 27 52 | PS |
| Collnberg | | 102.3 | 322 | e 13 57 | - 2 | — | — | e 18 17 | PP |
| Messina | | 102.9 | 309 | e 17 59 | PP | e 24 34 | {- 7} | e 27 1 | PS |
| Jena | | 103.3 | 322 | e 17 23? | ? | e 18 23 | PP | e 17 46 | PKP |
| Hamburg | z. | 103.6 | 325 | e 17 22 | PKP | — | — | e 18 19 | PP |
| Resolute Bay | | 104.3 | 9 | — | — | e 24 40 | {- 7} | e 27 29 | PS |
| Rome | | 104.6 | 313 | e 18 14 | PP | e 24 44 | {- 5} | e 32 54 | SS |
| Stuttgart | | 105.3 | 320 | e 17 29 | PKP | e 27 41 | PS | e 18 31 | PP |
| Strasbourg | | 106.3 | 320 | e 18 39 | PP | e 27 53 | PS | — | — |
| Basle | z. | 106.7 | 319 | e 18 38 _a | PP | — | — | — | — |
| De Bilt | | 106.8 | 324 | — | — | e 28 59 | PPS | e 43 59 | Q |
| Scoresby Sund | | 107.2 | 348 | — | — | e 25 3 | {+ 3} | — | — |
| Ucele | | 107.7 | 323 | e 18 55 | PP | e 25 3 | {+ 1} | e 34 6 | SS |
| Besançon | | 107.8 | 319 | e 18 29 | [0] | — | — | e 18 56 | PP |
| Seattle | | 109.4 | 40 | e 19 47 | PP | e 30 22 | PPS | — | — |
| Paris | | 109.6 | 322 | e 18 31 | {- 1} | e 19 10 | PP | e 21 12 | PPP |
| Kew | | 110.2 | 325 | — | — | e 28 44 | PS | e 45 46 | Q |
| Shasta | z. | 111.5 | 47 | e 17 53 | ? | — | — | — | — |
| Mineral | z. | 112.2 | 47 | e 18 37 | [0] | — | — | — | — |
| Algiers Univ. | z. | 112.9 | 309 | e 19 1 | {+ 22} | — | — | — | — |
| Lick | z. | 113.0 | 50 | e 18 9 | {- 30} | — | — | — | — |
| Tamanrasset | z. | 113.7 | 294 | e 18 11 | {- 29} | e 19 16 | PP | e 29 25 | PKKP |
| Reno | z. | 113.8 | 47 | e 18 42 | {+ 1} | — | — | — | — |
| Hungry Horse | | 114.2 | 37 | e 18 36 | {- 5} | — | — | i 19 37 | PP |
| Fresno | z. | 114.6 | 50 | e 18 46 | {+ 4} | — | — | — | — |
| Alicante | | 115.1 | 312 | 18 40 | {- 3} | 25 29 | {- 3} | 19 45 | PP |
| Woody | z. | 115.6 | 51 | e 18 43 | {- 1} | e 29 16 | PS | i 20 1 | PP |
| Tinemaha | z. | 115.7 | 49 | e 18 47 | {+ 3} | — | — | e 19 57 | PP |
| Butte | N. | 116.2 | 38 | e 18 45 | [0] | e 25 36 | [0] | e 26 48 | SKKS |
| Pasadena | z. | 116.6 | 52 | e 18 47 | {+ 1} | e 29 17 | PS | e 19 53 | PP |
| Almeria | | 117.1 | 311 | 18 45 | {- 2} | 25 55 | {+ 15} | i 19 57 | PP |
| Toledo | | 117.2 | 315 | 19 11 | {+ 24} | e 31 41 | PPS | e 19 52 | PP |
| Bozeman | | 117.3 | 38 | e 18 47 | [0] | — | — | — | — |
| Riverside | z. | 117.3 | 52 | e 18 51 | {+ 4} | — | — | e 19 59 | PP |
| Granada | | 117.8 | 312 | 19 28 | PP | 26 52 | {- 7} | 30 13 | PS |
| Palomar | z. | 117.9 | 53 | i 18 52 | {+ 3} | — | — | e 19 59 | PP |
| Barratt | z. | 118.3 | 54 | e 18 52 | {+ 3} | — | — | e 20 7 | PP |
| Boulder City | | 118.6 | 50 | e 18 51 | {+ 1} | — | — | e 20 7 | PP |
| Nelson | z. | 118.8 | 50 | e 18 49 | {- 1} | e 29 5 | PS | — | — |
| Salt Lake City | | 119.0 | 43 | e 18 50 | {- 1} | — | — | — | — |
| Tucson | | 123.1 | 52 | e 19 2 | {+ 3} | e 30 15 | PS | e 22 57 | PPP |
| Kirkland Lake | z. | 130.6 | 18 | e 19 14 | {+ 1} | — | — | — | — |
| Fayetteville | | 133.2 | 39 | e 19 17 | {- 1} | e 22 44 | SKP | e 21 40 | PP |
| Dallas | | 133.4 | 45 | i 19 6 | {- 12} | e 22 45 | PKS | — | — |
| Ottawa | | 134.3 | 16 | i 19 22 _a | {+ 2} | 26 31 | {+ 1} | 21 55 | PP |
| Halifax | | 137.3 | 4 | e 19 34 | {+ 8} | e 22 53 | PKS | e 34 49 | PPS |
| Morgantown | | 138.0 | 24 | i 19 21 | {- 6} | e 22 59 | PKS | — | — |
| Harvard | | 138.1 | 13 | e 19 28 | {+ 1} | i 34 54 | PPS | i 22 49 | PP |
| Palisades | | 138.9 | 17 | i 19 25 | {- 4} | i 29 7 | {- 7} | i 22 20 | PP |

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1954

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------------|----------|-----|----------------------|--------|---------|--------|---------|-----------------------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| City College, N.Y. | 139.0 | 17 | e 19 34 | [+ 5] | — | — | i 23 13 | ? |
| Washington | z. 139.8 | 21 | e 19 28 | [- 2] | — | — | — | — |
| Columbia | 142.2 | 30 | e 19 38 | [+ 4] | — | — | — | — |
| La Plata | 143.4 | 182 | 22 47 | PP | 29 41 | { 0} | 41 41 | SS |
| Bermuda | 149.2 | 9 | i 19 51 | [+ 5] | — | — | — | e 70.4 76.6 |
| Huancayo | 159.1 | 132 | e 20 4 | [+ 4] | — | — | — | — |
| La Paz | 159.9 | 155 | i 20 23 _a | [+ 22] | 45 18 | SS | i 20 44 | PKP _s |
| Galerazamba | 162.0 | 60 | i 20 11 | [+ 8] | i 31 11 | { -12} | i 23 33 | PKS |
| San Juan | 162.3 | 21 | e 20 4 | [+ 1] | — | — | e 24 40 | PP |
| Bogota | 165.2 | 79 | e 20 13 | [+ 7] | i 31 37 | { - 2} | e 21 11 | PKP _s 68.5 |

Sept. 20d. 2h. 52m. Epicentre 40°·3N. 24°·7E.
Intensity IV at Kastron on Lemnos, Eleutheropolis, and Rhodolivos. Magnitude 5.
Recorded up to 24°.
Seismo. Institute Bull. of National Observatory, Athens, Athens, 1955, p. 100.

Sept. 20d. 10h. 38m. 41s. Epicentre 36°·8N. 141°·5E. Depth of focus 40km.
Intensity II-III at Onahama, Kakioka, Hukushima, and Sendai.
Seismo. Bull. Cent. Met. Obs., Japan, 1954, Sept., Tokyo, 1954, p. 26, with macroseismic chart.

Sept. 21d. 3h. 40m. 26s. Epicentre 8°·1S. 119°·6E. Depth of focus 0·020.
Intensity III-IV at Malawai and surrounding district in Sumbawa (according to Djakarta).

$$A = -\cdot 4891, B = +\cdot 8609, C = -\cdot 1400; \quad \delta = -3; \quad h = +7;$$

$$D = +\cdot 869, E = +\cdot 494; \quad G = +\cdot 069, H = -\cdot 122, K = -\cdot 990.$$

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------|----------|-----|---------------------|-------|---------|------|---------|-----------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Bandung | 12.0 | 275 | e 2 42 | - 5 | 15 19 | SS | e 15 5 | ScS |
| Lembang | 12.0 | 275 | e 2 48 _k | + 1 | 15 7 | + 9 | e 15 10 | ScS |
| Djakarta | 12.9 | 278 | e 2 57 _k | - 1 | e 5 20 | + 1 | e 3 17 | PP |
| Manila | 22.6 | 3 | i 4 51 | + 4 | 18 47 | + 8 | — | — |
| Perth | 24.0 | 188 | — | — | e 8 55 | - 8 | 19 44 | sS 111.6 |
| Baguio | 24.4 | 2 | i 5 7 | + 2 | — | — | — | — |
| Hong Kong | E. 30.7 | 350 | — | — | 10 54 | + 3 | — | — |
| Brisbane | 37.0 | 126 | i 6 58 | + 2 | i 12 29 | 0 | — | — |
| Riverview | 38.7 | 136 | i 7 7 _a | - 3 | i 13 0 | + 6 | i 16 57 | ScS |
| Zô-Sè | 39.0 | 2 | e 7 13 | + 1 | 12 57 | - 2 | — | — |
| Nanking | 40.0 | 359 | i 7 23 _a | + 3 | i 13 13 | - 1 | — | — |
| Shillong | z. 43.0 | 322 | e 7 45 | 0 | — | — | i 8 30 | pP |
| Nouméa | 47.1 | 113 | i 8 19 | + 2 | e 15 0 | + 4 | e 10 11 | PP e 21.8 |
| Matusiro | 47.7 | 20 | e 8 14 | - 8 | e 14 55 | -10 | — | — |
| Quetta | 63.3 | 310 | i 10 13 | - 1 | e 18 25 | - 6 | e 19 46 | ScS |
| Tananarive | 70.5 | 253 | i 11 1 | + 2 | — | — | e 11 41 | pP |
| Pretoria | z. 87.8 | 244 | e 12 32 | 0 | — | — | — | — |
| Ksara | 89.3 | 304 | — | — | e 23 15 | + 2 | e 29 38 | SS |
| College | 98.4 | 26 | e 13 21 | 0 | — | — | — | — |
| Victoria | 113.8 | 40 | 18 20 | [0] | — | — | — | — |
| Tamanrasset | z. 115.3 | 291 | e 18 26 | [+ 4] | — | — | e 19 31 | PP |
| Shasta | z. 116.4 | 48 | e 18 24 | [- 1] | — | — | — | — |
| Mineral | z. 117.0 | 49 | i 18 27 | [+ 1] | — | — | — | — |
| Lick | z. 117.6 | 52 | i 18 29 | [+ 2] | — | — | — | — |
| Reno | z. 118.6 | 49 | e 18 31 | [+ 2] | — | — | — | — |
| Fresno | z. 119.2 | 52 | e 18 32 | [+ 2] | — | — | — | — |
| Hungry Horse | 119.7 | 38 | i 18 32 | [+ 1] | — | — | e 20 42 | pPP |
| Woody | z. 120.2 | 53 | i 18 34 | [+ 2] | — | — | — | — |
| Tinemaha | z. 120.4 | 52 | i 18 34 | [+ 2] | — | — | — | — |
| Pasadena | 121.0 | 55 | i 18 35 | [+ 1] | — | — | — | — |
| Butte | N. 121.6 | 40 | i 18 37 | [+ 2] | — | — | — | — |
| Riverside | z. 121.7 | 55 | i 18 37 | [+ 2] | — | — | i 18 58 | ? |
| Palomar | z. 122.3 | 56 | i 18 38 | [+ 2] | — | — | — | — |
| Barratt | z. 122.6 | 56 | i 18 39 | [+ 2] | — | — | — | — |
| Bozeman | 122.7 | 40 | e 18 37 | [0] | — | — | — | — |

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1954

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----|------------|------------|----------------------|------------------|---------|------|---------|------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Nelson | z. | 123.3 | 52 | i 18 40 | [+ 2] | — | — | — | — |
| Salt Lake City | | 124.0 | 46 | i 18 41 | [+ 2] | — | — | — | — |
| Tucson | | 127.5 | 55 | e 18 48 | [+ 2] | — | — | — | — |
| Kirkland Lake | z. | 136.7 | 19 | e 19 0 | [- 3] | e 22 18 | SKP | — | — |
| Dallas | | 138.3 | 49 | e 18 58 | [- 8] | — | — | i 21 44 | PP |
| Fayetteville | | 138.4 | 43 | i 18 58 | [- 8] | e 22 24 | SKP | i 19 9 | ? |
| Shawinigan Falls | | 140.2 | 13 | e 18 57 | [- 13] | i 22 29 | SKP | — | — |
| Ottawa | | 140.5 | 17 | i 19 4 _a | [- 6] | 22 28 | SKP | i 19 12 | ? |
| Halifax | | 143.5 | 4 | i 19 14 _a | [- 2] | — | — | — | — |
| Morgantown | | 144.0 | 26 | i 19 16 | [0] | — | — | i 20 4 | pPKP |
| Harvard | | 144.3 | 14 | i 19 16 | [- 1] | i 19 26 | ? | i 22 40 | PP |
| Weston | | 144.5 | 14 | i 19 17 _k | [0] | i 23 40 | pPKS | — | — |
| Palisades | | 145.1 | 18 | i 19 19 | [+ 1] | — | — | — | — |
| Washington | z. | 145.9 | 24 | i 19 21 | [+ 1] | — | — | — | — |
| Chapel Hill | | 147.5 | 29 | i 18 10 | ? | — | — | — | — |
| Columbia | | 148.0 | 34 | e 19 25 | [+ 2] | — | — | — | — |
| Montezuma | z. | 148.4 | 165 | e 19 29 | [+ 5] | — | — | — | — |
| San Juan | | 168.4 | 28 | i 20 59 | PKP ₂ | — | — | — | — |

Sept. 21d. 6h. 10m. Epicentre 24°·3N. 120°·7E.
Intensity II-III at Taichung.
Seismo. Bull. of the Taiwan Weather Bureau for July-Sept., 1954, Taipei, p. 36.

Sept. 21d. 6h. 34m. Epicentre 38°·4N. 69°·5E.
Bull. of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, p. 99.

Sept. 21d. 9h. 41m. Epicentre 14°·25N. 145°·75E.
Monthly Bull. of the B.C.I.S. for Sept., 1954, Strasbourg, 1955, p. 535.

Sept. 21d. 14h. 55m. 7s. Epicentre 40°·9N. 143°·4E. Depth of focus 40km. Unfelt.
Seismo. Bull. Cent. Met. Obs., Japan, for Sept., 1954, Tokyo, 1954, pp. 26-27.

Sept. 22d. 6h. 19m. Epicentre 34°·25S. 180°. Magnitude 5.6.
Seismo. Observatory Bull. New Zealand Department of Scientific and Industrial Research for No. E-135, 1954, Wellington, N.Z., 1959, p. 19.

Sept. 22d. 10h. 47m. Epicentre 41°·3N. 44°·0E.
Bull. of the Seismo. Stations of the U.S.S.R. July-Sept., 1954, Moscow, 1955, p. 99.

Sept. 22d. 16h. 27m. Epicentre 41°·1N. 43°·6E.
Loc. cit., 10h., p. 99.

Sept. 22d. 16h. 27m. 43s. Epicentre 36°·5N. 140°·7E. Depth of focus 40km.
Intensity IV at Kakioka and Mito; II-III at Utunomiya, Kashiwa, and Shirakawa.
Seismo. Bull. Cent. Met. Obs., Japan, for Sept., 1954, Tokyo, 1954, p. 28, with macro-seismic chart.

Sept. 23d. 1h. 17m. Epicentre 41°·2N. 47°·0E.
Bull. of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, p. 99.

Sept. 23d. 2h. 13m. Epicentre 41°·2N. 47°·0E.
Loc. cit., 1h., pp. 99-100.

Sept. 13d. 9h. 16m. Epicentre 41°·2N. 47°·0E.
Loc. cit., 1h., p. 100.

Sept. 23d. 13h. 1m. Epicentre 41°·1N. 43°·7E.
Loc. cit., 1h., p. 100.

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Sept. 23d. 21h. 43m. 35s. Epicentre 49°·0N. 156°·2E.

Seismo. Bull. Cent. Met. Obs. Japan for September, 1954, Tokyo, 1954, pp. 50-52.

A = -·6026, B = +·2658, C = +·7525; δ = +3; h = -5;
D = +·404, E = +·915; G = -·688, H = +·304, K = -·659.

| | | Δ ° | Az. ° | P. | | O - C. s. | S. | | O - C. | | Supp. | | L. m. |
|-----------------|----|---------------|----------|-----|----------------|--------------|-----|----|--------|-----|-------|----------|----------|
| | | | | m. | s. | | m. | s. | m. | s. | m. | s. | |
| Petropavlovsk | | 4·3 | 20 | i 1 | 8 | 0 | i 1 | 59 | - 1 | — | — | — | |
| Kurilsk | | 6·8 | 240 | i 1 | 44 | 0 | — | — | — | — | — | — | |
| Klyuchi | | 7·9 | 19 | e 1 | 59 | 0 | e 3 | 33 | + 3 | — | — | — | |
| Nemuro | | 9·3 | 236 | e 2 | 4 | -13 | e 4 | 9 | + 4 | — | — | e 4·8 | |
| Uglegorsk | | 9·3 | 276 | i 2 | 22 | + 5 | i 4 | 16 | +11 | — | — | — | |
| Yuzno-Sakhlinsk | | 9·3 | 263 | i 2 | 20 | + 3 | e 4 | 13 | + 8 | — | — | — | |
| Abashiri | | 9·6 | 243 | e 2 | 24 | + 3 | e 4 | 38 | +26 | — | — | 5·9 | |
| Wakkanai | E. | 10·5 | 256 | e 2 | 41 | + 6 | e 4 | 51 | +16 | — | — | i 6·2 | |
| Obihiro | N. | 10·9 | 241 | e 2 | 40 | 0 | — | — | — | — | — | — | |
| Magadan | | 11·0 | 345 | i 2 | 44 | + 2 | 4 | 58 | +11 | — | — | — | |
| Urakawa | E. | 11·6 | 239 | e 2 | 48 | - 2 | e 5 | 4 | + 3 | e 3 | 27 | ? e 5·6 | |
| Sapporo | | 11·9 | 246 | e 2 | 54 | 0 | e 5 | 23 | +14 | e 3 | 1 | PP e 7·6 | |
| Tomakomai | | 12·1 | 243 | e 3 | 13 | +16 | e 5 | 38 | +24 | — | — | — | |
| Muroran | | 12·6 | 244 | e 3 | 1 | - 2 | — | — | — | — | — | e 7·5 | |
| Suttsu | | 12·8 | 247 | e 3 | 1 | - 5 | — | — | — | — | — | e 7·4 | |
| Mori | | 13·0 | 244 | 3 | 5 | - 4 | 5 | 39 | + 4 | e 3 | 17 | PP 7·1 | |
| Hatinohe | | 13·4 | 236 | e 3 | 22 | + 8 | e 6 | 23 | +38 | — | — | e 7·0 | |
| Aomori | | 13·6 | 239 | e 3 | 18 | + 1 | e 6 | 26 | +36 | e 4 | 1 | ? — | |
| Miyako | | 13·8 | 233 | e 2 | 45? | -34 | — | — | — | — | — | 6·6 | |
| Morioka | | 14·2 | 235 | e 3 | 27 | + 3 | e 5 | 51 | -13 | — | — | e 6·7 | |
| Mizusawa | E. | 14·6 | 233 | 3 | 27 | - 3 | e 6 | 46 | +33 | — | — | — | |
| Akita | | 14·8 | 237 | e 3 | 32 | 0 | 6 | 50 | +32 | — | — | 8·2 | |
| Isinomaki | | 15·1 | 231 | e 3 | 37 | + 1 | — | — | — | — | — | — | |
| Sendai | | 15·4 | 232 | e 3 | 44 | + 4 | e 6 | 42 | +10 | — | — | e 8·2 | |
| Sakata | | 15·5 | 236 | e 3 | 48 | + 6 | — | — | — | — | — | — | |
| Yamagata | | 15·7 | 233 | e 3 | 42 | - 2 | — | — | — | — | — | e 8·6 | |
| Hokusima | | 16·0 | 231 | e 3 | 45 | - 3 | 7 | 20 | SSS | — | — | 8·5 | |
| Inawasiro | | 16·3 | 232 | e 3 | 50 | - 2 | e 6 | 43 | -10 | — | — | e 9·4 | |
| Onahama | | 16·4 | 229 | e 3 | 55 | - 2 | e 7 | 13 | +17 | — | — | e 8·7 | |
| Niigata | | 16·6 | 235 | i 4 | 0 _a | + 4 | e 7 | 7 | + 7 | e 4 | 54 | ? e 8·4 | |
| Shirakawa | | 16·6 | 230 | e 3 | 55 | - 1 | 7 | 8 | + 8 | e 4 | 16 | PP — | |
| Aikawa | | 17·0 | 236 | e 4 | 4 | + 3 | e 7 | 13 | + 3 | — | — | 8·6 | |
| Mito | E. | 17·1 | 228 | 4 | 1 | - 1 | e 7 | 14 | + 2 | — | — | — | |
| Utunomiya | | 17·2 | 230 | e 4 | 0 | - 3 | e 5 | 58 | ? | — | — | e 8·2 | |
| Kakioka | E. | 17·3 | 229 | e 4 | 0 | - 4 | 7 | 0 | -16 | — | — | — | |
| Takada | | 17·7 | 234 | i 4 | 13 | + 3 | i 7 | 33 | + 7 | — | — | — | |
| Kashiwa | | 17·8 | 228 | e 4 | 9 | - 2 | e 7 | 13 | -15 | — | — | — | |
| Kumagaya | | 17·8 | 230 | 4 | 11 | 0 | e 8 | 1 | SSS | — | — | — | |
| Maebasi | | 17·8 | 231 | e 4 | 9 | - 2 | e 7 | 36 | + 8 | — | — | e 12·9 | |
| Vladivostok | | 17·8 | 260 | i 4 | 11 | 0 | i 7 | 30 | + 2 | — | — | — | |
| Nagano | N. | 18·0 | 234 | i 4 | 18 | + 5 | i 7 | 41 | + 9 | 4 | 47 | PPP 10·2 | |
| Tokyo | | 18·0 | 228 | e 4 | 13 | 0 | i 7 | 39 | + 7 | i 4 | 20 | PP e 9·4 | |
| Matusiro | | 18·1 | 233 | i 4 | 12 | - 2 | e 7 | 44 | + 9 | 5 | 29 | ? 9·0 | |
| Oiwake | | 18·1 | 232 | e 4 | 15 | + 1 | e 7 | 48 | +13 | e 5 | 31 | ? — | |
| Titibu | | 18·1 | 230 | i 4 | 13 | - 1 | e 7 | 52 | +17 | — | — | — | |
| Wazima | | 18·2 | 238 | e 4 | 19 | + 3 | e 7 | 43 | + 6 | e 4 | 27 | PP e 9·4 | |
| Yokohama | | 18·2 | 228 | 4 | 17 | + 1 | — | — | — | e 8 | 20 | SS e 9·0 | |
| Matumoto | | 18·5 | 233 | e 4 | 18 | - 1 | e 7 | 51 | + 7 | — | — | e 10·4 | |
| Toyama | | 18·5 | 236 | e 4 | 15 | - 4 | — | — | — | — | — | e 9·6 | |
| Hunatu | | 18·6 | 230 | e 4 | 20 | - 1 | e 7 | 56 | +10 | — | — | e 10·0 | |
| Kohu | | 18·6 | 231 | e 4 | 20 | - 1 | e 7 | 50 | + 4 | — | — | e 9·8 | |
| Mera | | 18·6 | 227 | 4 | 23k | + 2 | 7 | 51 | + 5 | — | — | 10·1 | |
| Misima | | 18·8 | 229 | i 4 | 25k | + 2 | 8 | 9 | +19 | e 4 | 39 | PP e 9·3 | |
| Osima | | 18·9 | 228 | e 4 | 25k | + 1 | e 7 | 59 | + 6 | i 4 | 39 | PP e 9·2 | |
| Takayama | | 18·9 | 234 | e 4 | 52 | PP | — | — | — | — | — | — | |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|---------------|----|------------|------------|---------|------|---------|------|---------|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Iida | | 19.1 | 232 | e 4 28 | + 1 | — | — | — | e 10.1 |
| Shizuoka | | 19.2 | 230 | e 4 27 | - 1 | e 7 53 | - 6 | — | e 10.2 |
| Hukui | | 19.5 | 236 | e 4 30 | - 1 | — | — | — | — |
| Omaezaki | | 19.6 | 230 | 4 35k | + 3 | e 8 13 | + 5 | e 5 22 | PP |
| Gihu | | 19.7 | 234 | e 4 34 | 0 | — | — | — | e 13.1 |
| Nagoya | E. | 19.8 | 233 | e 4 33 | - 2 | e 8 18 | + 5 | — | e 10.8 |
| Tsuruga | | 19.9 | 236 | e 4 35 | - 1 | e 8 17 | + 2 | — | — |
| Hikone | | 20.1 | 234 | 4 38 | 0 | e 8 46 | SS | — | e 11.3 |
| Kameyama | | 20.3 | 233 | i 4 38 | - 2 | i 8 32 | + 9 | e 5 54 | PPP |
| Tu | | 20.4 | 233 | e 4 7 | -34 | — | — | — | — |
| Kyoto | | 20.6 | 235 | e 4 43 | 0 | e 8 37 | + 8 | — | e 10.3 |
| Toyooka | | 20.7 | 237 | e 4 42 | - 2 | e 8 38 | + 7 | — | 11.2 |
| Nara | | 20.8 | 234 | e 4 46 | + 1 | e 8 42 | + 9 | — | e 11.8 |
| Osaka | | 21.0 | 235 | e 4 46 | - 1 | e 9 4 | +27 | — | e 11.5 |
| Kobe | | 21.1 | 235 | e 4 49 | + 1 | e 8 46 | + 7 | — | e 10.5 |
| Owase | | 21.1 | 232 | e 4 46 | - 2 | e 8 43 | + 4 | — | e 11.0 |
| Sumoto | | 21.5 | 235 | i 4 53a | + 1 | e 8 51 | + 4 | — | e 10.9 |
| Wakayama | | 21.5 | 234 | e 4 51 | - 1 | e 8 46 | - 1 | — | e 11.8 |
| Yonago | | 21.6 | 240 | e 4 55 | + 1 | e 8 59 | +10 | — | e 12.3 |
| Tokusima | | 21.9 | 235 | 4 58a | + 1 | e 9 5 | +11 | — | — |
| Takamatu | | 22.0 | 236 | i 4 57a | - 1 | i 9 4 | + 8 | — | e 11.1 |
| Hamada | | 22.7 | 241 | i 5 24a | +20 | 9 34 | +25 | — | e 12.4 |
| Muroto | | 22.8 | 234 | e 5 5 | 0 | — | — | — | — |
| Hirosima | | 22.9 | 239 | e 5 8 | + 2 | e 9 15 | + 2 | e 5 59 | PP |
| Koti | | 22.9 | 236 | e 5 7 | + 1 | e 9 16 | + 3 | e 6 4 | PP |
| Matnyama | N. | 23.1 | 238 | e 5 9 | + 1 | e 9 21 | + 5 | e 6 6 | PP |
| Simidu | | 23.8 | 236 | i 5 17a | + 2 | 9 36 | + 8 | — | 12.4 |
| Ooita | | 24.2 | 238 | e 5 20 | + 1 | e 9 39 | + 4 | — | e 12.8 |
| Hukuoka | | 24.6 | 241 | i 5 25a | + 2 | i 9 50 | + 8 | e 6 30 | PP |
| Asosan | | 24.7 | 239 | 5 25 | + 1 | e 9 48 | + 4 | — | e 16.7 |
| Ituhara | | 24.8 | 244 | 5 26 | + 1 | e 9 47 | + 1 | — | — |
| Kumamoto | | 25.0 | 239 | e 5 26 | - 1 | — | — | — | 13.4 |
| Miyazaki | | 25.3 | 237 | e 5 35 | + 5 | e 10 9 | +15 | — | e 13.0 |
| Unzendake | | 25.3 | 240 | e 5 50 | +20 | — | — | — | — |
| Kagosima | | 26.0 | 238 | e 5 38 | + 2 | — | — | e 6 38 | PP |
| Tatung | | 31.5 | 270 | e 6 27 | + 1 | — | — | — | — |
| Zô-Sô | | 31.9 | 249 | 6 29a | 0 | 11 38 | - 2 | — | — |
| Irkutsk | | 32.5 | 296 | 6 34 | 0 | — | — | — | — |
| Nanking | | 32.7 | 253 | i 6 36a | 0 | 11 53 | + 1 | — | — |
| College | | 33.1 | 40 | i 6 38 | - 2 | i 11 52 | - 7 | i 6 52 | pP |
| Sian | E. | 37.7 | 265 | e 7 25 | + 6 | — | — | — | — |
| Lanchow | N. | 40.0 | 271 | e 7 39 | + 1 | — | — | — | — |
| Sining | | 41.0 | 273 | e 7 49 | + 3 | — | — | — | — |
| Baguio | | 43.5 | 234 | i 8 11 | + 4 | e 14 33 | - 3 | — | — |
| Manila | | 44.8 | 232 | e 8 10 | - 7 | — | — | — | — |
| Honolulu | | 45.5 | 111 | e 8 41 | +18 | e 14 58 | - 7 | e 10 49 | PPP |
| Semipalatinsk | | 47.1 | 302 | i 8 35 | 0 | — | — | — | e 19.4 |
| Resolute Bay | | 48.0 | 20 | e 8 44a | + 1 | i 15 39 | - 2 | e 10 37 | PP |
| Seattle | | 51.6 | 58 | 9 12 | + 2 | e 16 25 | - 6 | e 13 49 | ? |
| Almata | | 52.9 | 296 | i 9 20 | 0 | — | — | — | 27.4 |
| Sverdlovsk | | 53.6 | 317 | i 9 25 | 0 | — | — | — | — |
| Frunse | | 54.5 | 297 | i 9 31 | - 1 | — | — | — | — |
| Shillong | | 54.5 | 269 | i 9 30 | - 2 | i 17 13 | + 3 | 10 29 | PcP |
| Shasta | Z. | 55.7 | 66 | e 9 40 | 0 | — | — | — | 25.8 |
| Hungry Horse | | 55.8 | 54 | e 9 40 | - 1 | e 17 26 | - 2 | e 11 34 | PP |
| Ukiah | | 56.1 | 68 | — | — | e 17 32 | 0 | — | e 23.7 |
| Mineral | Z. | 56.4 | 65 | e 9 42 | - 3 | — | — | — | — |
| Chatra | E. | 56.8 | 274 | e 9 48 | 0 | e 17 47 | + 6 | 10 44 | PcP |
| Andijan | | 57.1 | 296 | e 9 50 | 0 | — | — | — | 27.0 |
| Saskatoon | | 57.2 | 47 | — | — | e 17 47 | + 1 | — | 32.4 |
| Berkeley | | 57.5 | 68 | e 9 59 | + 6 | e 17 52 | + 2 | — | — |
| Reno | Z. | 57.9 | 65 | e 9 57 | + 1 | — | — | — | — |
| Santa Clara | E. | 58.0 | 68 | — | — | e 17 57 | 0 | e 24 53 | Q |
| Lick | Z. | 58.2 | 68 | e 9 58 | 0 | — | — | — | — |
| Tashkent | | 58.6 | 298 | i 9 59 | - 2 | — | — | — | — |

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|------------------|----------|-----|------|-----------------|------|------|-----|------|-------|-----|------|--------|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Calcutta | 58.9 | 269 | i 10 | 4 _a | + 1 | i 18 | 12 | + 4 | 19 | 50 | ScS | — |
| Kiruna | 58.9 | 342 | i 10 | 0 _a | - 3 | e 18 | 13 | + 5 | i 10 | 55 | PcP | e 29.4 |
| Bozeman | 59.0 | 55 | e 10 | 5 | + 1 | e 18 | 11 | + 1 | e 39 | 45 | P'P' | e 25.8 |
| Fresno | z. 59.7 | 68 | e 10 | 8 | - 1 | — | — | — | — | — | — | — |
| Tinemaha | z. 60.5 | 66 | e 10 | 13 | - 1 | — | — | — | i 10 | 32 | PcP | — |
| Stalinabad | 60.7 | 296 | i 10 | 13 | - 2 | e 18 | 34 | + 2 | — | — | — | — |
| Scoresby Sund | 60.8 | 359 | i 10 | 16 _a | 0 | e 18 | 38 | + 5 | i 18 | 48 | PS | 29.4 |
| Woody | z. 61.0 | 68 | e 10 | 15 | - 3 | — | — | — | e 39 | 41 | P'P' | — |
| Salt Lake City | 61.8 | 60 | i 10 | 24 | + 1 | e 18 | 50 | + 4 | e 20 | 24 | eScS | e 22.9 |
| New Delhi | 62.1 | 282 | e 10 | 24 | - 1 | e 18 | 51 | + 2 | e 11 | 0 | PcP | 29.0 |
| Pasadena | 62.4 | 69 | e 10 | 26 | - 1 | e 18 | 55 | + 2 | — | — | — | i 27.0 |
| Pulkovo | 63.0 | 333 | i 10 | 30 | - 1 | — | — | — | — | — | — | — |
| Riverside | z. 63.0 | 68 | e 10 | 30 | - 1 | — | — | — | e 39 | 33 | P'P' | — |
| Boulder City | 63.2 | 65 | e 10 | 32 | 0 | — | — | — | i 10 | 51 | PcP | — |
| Nelson | z. 63.4 | 66 | e 10 | 33 | - 1 | — | — | — | i 10 | 51 | PcP | — |
| Moscow | 63.8 | 326 | 10 | 44 | + 8 | — | — | — | — | — | — | — |
| Palomar | z. 63.8 | 69 | i 10 | 36 | 0 | — | — | — | — | — | — | — |
| Helsinki | 64.2 | 335 | e 10 | 39 | 0 | e 19 | 22 | + 6 | — | — | — | — |
| Rapid City | E. 64.2 | 52 | e 10 | 33 | - 6 | i 19 | 17 | + 1 | — | — | — | e 26.6 |
| Barratt | z. 64.4 | 69 | i 10 | 39 | - 1 | — | — | — | i 11 | 19 | PcP | — |
| Upsala | 66.4 | 339 | i 10 | 52 _a | - 1 | e 19 | 39 | - 4 | e 23 | 57 | SS | e 31.4 |
| Reykjavik | z. 67.2 | 359 | e 10 | 37 | -21 | — | — | — | — | — | — | — |
| Quetta | 67.4 | 290 | i 10 | 59 | 0 | e 20 | 1 | + 6 | i 25 | 3 | SS | — |
| Tucson | 68.2 | 66 | e 11 | 11 | + 7 | e 20 | 0 | - 4 | e 21 | 30 | ? | e 30.6 |
| Hyderabad | 69.1 | 273 | i 11 | 10 | 0 | i 20 | 26 | +11 | 13 | 38 | PP | 34.2 |
| Djakarta | 69.8 | 234 | e 11 | 10 | - 4 | e 20 | 22 | - 1 | e 13 | 26 | PP | — |
| Lembang | z. 69.9 | 232 | e 11 | 11 _a | - 4 | e 20 | 22 | - 2 | e 13 | 12 | PP | — |
| Bandung | N. 70.0 | 232 | e 11 | 58 | ? | e 20 | 31 | + 5 | e 19 | 46 | ? | — |
| Madras | E. 71.2 | 268 | i 11 | 23 | 0 | i 20 | 47 | + 7 | 11 | 35 | PcP | — |
| Poona | 71.3 | 277 | i 11 | 26 | + 3 | i 20 | 55 | +14 | 11 | 44 | PcP | 34.2 |
| Copenhagen | 71.4 | 339 | i 11 | 24 | 0 | e 20 | 46 | + 4 | 26 | 1 | ? | 36.4 |
| Kirovobad | 71.4 | 311 | 11 | 24 | 0 | — | — | — | — | — | — | — |
| Tiflis | 71.4 | 313 | i 11 | 26 | + 2 | e 20 | 46 | + 4 | — | — | — | — |
| Nouméa | 71.6 | 170 | e 11 | 26 _a | + 1 | e 20 | 47 | + 3 | e 14 | 6 | PP | 36.4 |
| Bombay | 71.7 | 278 | i 11 | 26 | 0 | i 20 | 48 | + 3 | 14 | 9 | PP | — |
| Kirkland Lake | z. 71.7 | 36 | e 11 | 25 | - 1 | — | — | — | — | — | — | — |
| Warsaw | 72.2 | 333 | i 11 | 29 _a | 0 | e 20 | 49 | - 2 | e 11 | 47 | PcP | e 36.4 |
| Aberdeen | E. 72.7 | 348 | i 11 | 58 | +26 | i 21 | 28 | +31 | i 25 | 51 | SS | e 39.0 |
| Erevan | 72.7 | 312 | i 11 | 32 | 0 | 21 | 1 | + 4 | — | — | — | — |
| Chicago | 73.6 | 44 | e 11 | 36 | - 1 | e 20 | 59 | - 8 | e 14 | 48 | PP | e 29.7 |
| Hamburg | 73.9 | 340 | i 11 | 40 _k | + 1 | e 21 | 16 | + 6 | — | — | — | e 38.9 |
| Yalta | 74.0 | 321 | 11 | 39 | 0 | — | — | — | — | — | — | — |
| Iasi | 74.4 | 326 | e 11 | 41 | - 1 | — | — | — | e 11 | 53 | PcP | — |
| Fayetteville | 74.8 | 52 | i 11 | 42 | - 2 | e 20 | 51 | -29 | e 11 | 54 | PcP | — |
| Durham | E. 74.9 | 347 | e 15 | 42 | PP | — | — | — | — | — | — | — |
| Raciborz | 74.9 | 334 | i 11 | 46 | + 2 | — | — | — | 12 | 4 | PcP | e 40.4 |
| Kodaikanal | E. 75.0 | 268 | e 11 | 46 | + 1 | e 22 | 1 | PS | — | — | — | — |
| Skalnate Pleso | 75.1 | 332 | i 11 | 57 | +11 | e 21 | 27 | + 3 | e 12 | 17 | PcP | 34.4 |
| Collmberg | 75.3 | 337 | i 11 | 46 | - 1 | e 21 | 25 | - 1 | i 11 | 58 | PcP | e 36.4 |
| Witteveen | z. 75.3 | 342 | i 11 | 48 | + 1 | — | — | — | — | — | — | — |
| Terre Haute | 75.5 | 46 | e 15 | 5 | PP | e 26 | 55 | SS | — | — | — | — |
| Ottawa | 75.6 | 35 | i 11 | 47 _k | - 1 | 21 | 25 | - 4 | i 11 | 59 | PcP | — |
| Shawinigan Falls | 75.7 | 32 | e 11 | 49 | 0 | — | — | — | e 12 | 3 | PcP | — |
| Focsani | E. 75.8 | 326 | e 11 | 55 | + 5 | — | — | — | — | — | — | — |
| Dallas | 75.9 | 56 | i 11 | 50 | 0 | i 21 | 31 | - 1 | — | — | — | — |
| Jena | 76.0 | 338 | e 11 | 50 | - 1 | e 21 | 34? | 0 | e 14 | 38? | PP | e 37.4 |
| Prague | 76.0 | 336 | i 11 | 51 _a | 0 | i 21 | 33 | - 1 | i 12 | 4 | PcP | e 38.9 |
| Seven Falls | 76.0 | 31 | — | — | — | e 21 | 33 | - 1 | — | — | — | — |
| Brisbane | 76.2 | 183 | i 11 | 52 | 0 | — | — | — | — | — | — | — |
| De Bilt | 76.3 | 342 | i 11 | 53 _a | + 1 | e 21 | 40 | + 3 | e 14 | 45 | PP | e 34.4 |
| Cheb | 76.5 | 337 | e 11 | 50 | - 4 | e 21 | 47 | + 8 | e 14 | 37 | PP | e 39.8 |
| Buffalo (Larkin) | 76.6 | 38 | i 11 | 54 | 0 | — | — | — | — | — | — | — |
| Cleveland | 76.6 | 41 | i 11 | 55 _k | + 1 | i 21 | 38 | - 2 | — | — | — | — |
| Campulung | 76.9 | 327 | e 11 | 58 | + 2 | — | — | — | — | — | — | — |
| Ogyalla | 76.9 | 332 | e 11 | 58 | + 2 | e 21 | 45 | + 2 | e 14 | 41 | PP | e 34.4 |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|--------------------|----|------------|------------|----------------------|-------|---------|-------|---------|------|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. | |
| Budapest | E. | 77.0 | 332 | 11 58 | + 2 | 22 0 | +15 | 12 8 | PcP | e 41.6 |
| Rathfarnham Castle | | 77.0 | 349 | i 11 55 | - 1 | e 21 31 | -14 | i 12 11 | PcP | e 49.4 |
| Cincinnati | | 77.2 | 44 | i 11 57 | 0 | — | — | — | — | — |
| Bucharest | | 77.3 | 326 | e 11 58 | 0 | e 21 31 | -17 | e 22 32 | PS | — |
| Szeged | | 77.7 | 330 | 12 3 | + 3 | 21 46 | - 6 | 16 48 | PPP | e 43.9 |
| Uccle | | 77.7 | 342 | e 12 0 | 0 | e 21 54 | + 2 | e 14 57 | PP | e 34.4 |
| Timisoara | N. | 77.8 | 330 | i 12 4 | + 3 | e 22 15 | PS | e 14 59 | PP | — |
| Kew | | 77.9 | 345 | e 12 2 _a | + 1 | i 21 58 | + 4 | e 26 37 | SS | e 49.4 |
| Karlsruhe | Z. | 78.5 | 339 | e 12 6 _a | + 2 | — | — | — | — | — |
| Stuttgart | | 78.6 | 338 | i 12 6 _a | + 1 | e 21 57 | - 5 | i 12 18 | PcP | e 37.4 |
| Pennsylvania | | 78.7 | 39 | i 12 9 | + 3 | e 22 1 | - 2 | — | — | — |
| Morgantown | | 78.8 | 41 | i 12 6 | 0 | — | — | — | — | — |
| Istanbul | | 79.0 | 322 | i 12 7 | 0 | e 22 14 | + 8 | e 12 27 | pP | 42.4 |
| Strasbourg | | 79.1 | 339 | i 12 9 | + 1 | e 22 7 | 0 | e 22 48 | PS | e 39.9 |
| Harvard | | 79.7 | 34 | i 12 11 | 0 | i 22 11 | - 2 | — | — | e 41.8 |
| Sofia | | 79.8 | 327 | e 12 11 | - 1 | e 22 25 | +11 | — | — | e 45.2 |
| Weston | | 79.9 | 34 | e 12 12 _a | 0 | e 22 13 | - 3 | i 12 25 | PcP | — |
| Paris | | 80.0 | 343 | i 12 15 | + 2 | i 22 20 | + 3 | i 12 28 | PcP | e 39.4 |
| Zürich | | 80.0 | 338 | e 12 13 _a | 0 | e 22 11 | - 6 | e 12 23 | PcP | — |
| Basle | | 80.1 | 339 | e 12 14 _a | + 1 | — | — | — | — | e 44.8 |
| Palisades | | 80.1 | 36 | i 12 10 | - 3 | i 22 14 | - 4 | e 26 58 | SS | e 44.8 |
| Chur | | 80.2 | 338 | e 12 14 | 0 | — | — | — | — | e 42.4 |
| City College, N.Y. | | 80.2 | 36 | — | — | e 21 36 | -43 | e 26 58 | SS | — |
| Triest | | 80.2 | 334 | e 12 14 | 0 | e 22 20 | + 1 | e 14 50 | PP | — |
| Halifax | | 80.5 | 28 | i 12 15 _a | 0 | i 22 19 | - 3 | i 30 43 | SSS | e 43.4 |
| Philadelphia | | 80.5 | 38 | e 12 12 | - 3 | e 22 19 | - 3 | e 27 31 | SS | e 34.0 |
| Washington | Z. | 80.6 | 39 | e 11 44 | -32 | — | — | — | — | e 43.3 |
| Besançon | | 80.7 | 340 | i 12 17 | + 1 | — | — | e 12 30 | PcP | — |
| Neuchatel | | 80.7 | 339 | e 12 16 | 0 | — | — | — | — | — |
| Salo | | 81.2 | 336 | e 12 19 | 0 | e 23 9 | PS | e 15 10 | PP | — |
| Oropa | | 81.8 | 338 | e 12 23 | + 1 | e 23 55 | PS | e 18 43 | ? | — |
| Padova | | 81.8 | 335 | e 12 17 | - 5 | e 13 13 | ? | e 14 3 | ? | — |
| Pavia | | 81.9 | 337 | i 12 25 _a | + 2 | e 21 48 | ? | e 23 47 | PS | e 45.6 |
| Bologna | | 82.0 | 335 | e 12 26 _a | + 3 | e 22 53 | +16 | e 23 29 | PS | — |
| Ksara | | 82.0 | 314 | i 12 24 | + 1 | 22 54 | +17 | 15 33 | PP | — |
| Florence | | 82.6 | 335 | e 12 23 | - 3 | i 22 57 | +14 | e 32 11 | SSS | 39.6 |
| Prato | | 82.6 | 335 | e 12 22 | - 4 | e 22 39 | - 4 | — | — | — |
| Riverview | | 82.6 | 184 | e 12 27 | + 1 | i 22 45 | + 2 | i 23 0 | ScS | e 34.2 |
| Clermont-Ferrand | | 82.8 | 341 | e 12 29 | + 2 | e 22 56 | +11 | e 24 10 | PPS | 38.4 |
| Safed | | 82.8 | 313 | i 12 21 | - 6 | — | — | i 12 57 | ? | — |
| Columbia | | 82.9 | 45 | e 12 29 | + 1 | e 22 44 | - 2 | e 27 42 | SS | e 33.9 |
| Athens | | 83.7 | 324 | i 12 32 _a | 0 | e 23 15 | PS | e 24 19 | PPS | — |
| Taranto | | 83.8 | 330 | e 12 28 | - 4 | e 23 8 | +13 | e 28 8 | SS | e 43.6 |
| Jerusalem | | 84.0 | 313 | i 12 24 | - 9 | e 22 45 | -12 | — | — | — |
| Rome | | 84.0 | 334 | i 12 35 _a | + 2 | i 23 5 | + 8 | i 15 51 | PP | — |
| Messina | | 86.4 | 330 | i 12 44 | - 1 | i 23 17 | - 4 | i 15 47 | PP | — |
| Melbourne | E. | 87.0 | 189 | — | — | e 23 27 | 0 | — | — | — |
| Barcelona | | 87.1 | 341 | e 12 2 | -47 | e 23 40 | +12 | — | — | e 47.4 |
| Helwan | | 87.4 | 314 | i 12 51 _a | + 1 | e 23 37 | + 7 | 16 16 | PP | — |
| Tunis | | 89.4 | 333 | e 13 7 | + 7 | e 23 35 | [+ 6] | e 25 37 | PPS | e 44.4 |
| Toledo | | 89.8 | 345 | i 13 2 | 0 | e 23 42 | (+ 1) | 16 33 | PP | 42.6 |
| Coimbra | | 90.2 | 348 | — | — | 24 0 | + 4 | 23 38 | SKS | — |
| Alicante | | 90.6 | 342 | i 13 6 | + 1 | e 24 1 | + 1 | 16 44 | PP | 43.1 |
| Bermuda | | 91.2 | 34 | — | — | e 24 9 | + 4 | — | — | e 44.1 |
| Algiers Univ. | Z. | 91.4 | 339 | e 13 9 | 0 | e 25 44 | PPS | e 16 48 | PP | — |
| Granada | | 92.4 | 344 | i 13 13 _k | - 1 | 23 49 | [+ 2] | 16 22 | PP | 46.7 |
| Almeria | | 92.5 | 343 | e 13 13 | - 1 | e 24 9 | - 8 | 16 51 | PP | 48.3 |
| Tamanrasset | Z. | 103.9 | 332 | e 14 14 | + 8 | e 17 37 | PP | e 30 2 | PKKP | — |
| Bogota | | 111.0 | 55 | e 19 36 | PP | e 29 40 | PPS | e 21 23 | PPP | — |
| Tananarive | | 116.2 | 271 | e 20 0 | PP | — | — | — | — | — |
| M'Bour | | 116.6 | 353 | e 20 11 | PP | — | — | — | — | 66.4 |
| Huancayo | | 123.8 | 67 | — | — | e 26 43 | [+41] | e 27 28 | SKKS | — |
| La Paz | | 131.6 | 64 | e 19 31 | [+16] | i 23 5 | PKS | 22 5 | PP | 65.8 |
| Pretoria | Z. | 133.7 | 281 | e 19 13 | [- 6] | — | — | i 19 20 | PKP, | — |
| Pietermaritzburg | Z. | 134.9 | 275 | e 19 17 | [- 4] | — | — | — | — | — |
| Kimberley | Z. | 138.0 | 280 | i 19 26 | [- 1] | — | — | — | — | — |

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Sept. 25d. 7h. 5m. Epicentre 17°N. 100°W. (U.S.C.G.S. and B.C.I.S.).
Epicentre 16°4'N. 101°2'W. (Tacubaya). Magnitude 5.1.
Monthly Bull. of the B.C.I.S. for September, 1954, Strasbourg, 1955, p. 539.

Sept. 25d. 11h. 14m. 3s. Epicentre 49°7S. 137°8E.

A = -4810, B = +4362, C = -7605; $\delta = -1$; $h = -5$;
D = +672, E = +741; G = +563, H = -511, K = -649.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|----------------|------|----------|-----|----------------------|------------------|------------|------------------|---------|------------------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Macquarie Is. | | 13.8 | 118 | e 3 26 | + 7 | (e 4 57?) | -57 | — | e 5.0 |
| Riverview | | 18.7 | 38 | i 4 22 _a | 0 | e 7 58 | +10 | i 4 32 | PP |
| Kaimata | N.E. | 24.2 | 86 | e 5 20 | + 1 | — | — | — | — |
| Perth | | 24.2 | 309 | i 12 27 | PcS | i 10 25 | SS | i 16 22 | ScS |
| Christchurch | | 24.5 | 89 | e 4 57? | -25 | (e 8 57?) | -43 | — | e 9.0 |
| Wellington | | 27.0 | 86 | — | — | (e 9 57?) | -25 | — | e 10.0 |
| Karapiro | N. | 29.4 | 82 | e 6 6 | - 1 | (e 11 57?) | SS | — | e 12.0 |
| Auckland | N. | 29.5 | 78 | — | — | (e 10 57?) | - 5 | — | e 11.0 |
| Nouméa | | 35.4 | 50 | e 6 54 | - 6 | e 13 9 | PcS | e 7 31 | ? |
| Lembang | | 49.7 | 320 | e 9 3 | + 7 | e 15 44 | -20 | i 10 38 | PP |
| Colombo | E. | 75.4 | 300 | 20 16? | ? | — | — | — | 34.8 |
| Kimberley | Z. | 81.9 | 235 | i 12 16 | - 7 | — | — | — | — |
| Pretoria | Z. | 82.4 | 239 | e 12 21 | - 4 | — | — | — | — |
| Shillong | Z. | 85.3 | 320 | i 12 44 | + 4 | — | — | — | — |
| Poona | Z. | 88.3 | 301 | i 12 57 | + 2 | — | — | — | — |
| La Plata | | 94.6 | 168 | — | — | 33 45 | PKKS | — | 39.6 |
| Montezuma | Z. | 104.2 | 156 | e 17 11 | ? | — | — | — | — |
| Ksara | | 122.2 | 286 | e 19 41 | ? | 30 1 | PS | 22 53 | PPP |
| Pasadena | Z. | 123.7 | 76 | e 19 9 | [+ 9] | — | — | — | e 64.0 |
| Palomar | Z. | 124.0 | 77 | e 18 57 | [- 3] | — | — | — | — |
| Woody | Z. | 124.3 | 74 | e 18 56 | [- 5] | — | — | — | — |
| Nelson | Z. | 126.8 | 76 | e 19 1 | [- 5] | — | — | i 19 11 | ? |
| Boulder City | | 127.0 | 76 | e 19 1 | [- 5] | — | — | — | — |
| College | | 127.8 | 31 | e 19 5 | [- 3] | — | — | — | — |
| Salt Lake City | | 131.8 | 73 | e 19 10 | [- 5] | e 22 38 | PKS | — | — |
| Butte | N. | 134.2 | 66 | e 19 17 | [- 3] | — | — | — | — |
| Hungry Horse | | 134.6 | 63 | e 19 13 | [- 8] | e 22 33 | PKS | e 18 54 | ? |
| Fayetteville | | 140.3 | 90 | i 19 24 | [- 7] | — | — | — | — |
| Prague | | 144.3 | 294 | i 19 38 _k | [0] | i 29 27 | {-19} | i 19 47 | PKP ₂ |
| Kiruna | | 144.8 | 324 | i 19 35 | [- 4] | — | — | i 20 27 | ? |
| Algiers Univ. | Z. | 145.1 | 266 | e 19 35 | [- 4] | — | — | e 21 49 | ? |
| Upsala | Z. | 145.2 | 310 | i 19 39 | [- 1] | — | — | i 20 17 | ? |
| Collmberg | | 145.5 | 294 | e 19 39 | [- 1] | — | — | — | — |
| Jena | Z. | 146.3 | 294 | e 19 39 | [- 2] | — | — | — | — |
| Zürich | Z. | 146.8 | 286 | e 19 37 | [- 5] | — | — | — | — |
| Resolute Bay | | 146.9 | 23 | e 19 40 _k | [- 2] | e 47 51 | SSS | — | e 70.0 |
| Stuttgart | Z. | 147.0 | 290 | e 19 44 | [+ 1] | — | — | — | — |
| Basle | | 147.5 | 286 | e 20 1 | [+18] | — | — | e 20 47 | ? |
| Strasbourg | | 147.8 | 289 | e 19 45 | [+ 1] | e 19 51 | PKP ₂ | e 20 8 | ? |
| Besançon | | 148.4 | 285 | e 19 49 | [+ 4] | e 20 9 | ? | e 20 23 | ? |
| Almeria | | 148.7 | 262 | 20 11 | PKP ₂ | — | — | — | 75.0 |
| Granada | | 149.7 | 262 | 20 10 _a | PKP ₂ | — | — | 23 48 | PP |
| Malaga | | 149.9 | 261 | i 19 49 | [+ 2] | — | — | — | 70.0 |
| Paris | | 151.1 | 287 | e 20 5 | PKP ₂ | — | — | — | e 80.0 |
| Kirkland Lake | Z. | 155.2 | 79 | e 20 13 | PKP ₂ | — | — | — | — |
| Bermuda | | 155.9 | 129 | — | — | e 49 39 | SSS | — | e 73.8 |

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Sept. 27d. 16h. 38m. 23s. Epicentre 42°·5N. 142°·5E. Depth of focus 0·005.

Intensity V at Urakawa, Obihiro, and Tomakomai; IV at Kusiro, Sapporo, Muroran, Hakodate, Iwamisawa, Mori, Hatinohe, Aomori, Kutchan, and Otaru; II-III at Nemuro, Miyako, Morioka, and Mizusawa. Epicentre 42°·4N. 142°·6E. Depth of focus 70-80km. Seismo. Bull. Cent. Met. Obs., Japan, for Sept., 1954, Tokyo, 1954, pp. 29-31, with macroseismic chart.

A = -·5867, B = +·4502, C = +·6731; δ = -4; h = -3;
D = +·609, E = +·793; G = -·534, H = +·410, K = -·740.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | | L. |
|-----------|----|----------|-----|---------------------|------|---------|------|--------|----|-------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. | s. | m. |
| Urakawa | | 0·4 | 143 | i 0 10k | - 2 | i 0 18 | - 4 | — | — | — |
| Obihiro | | 0·7 | 49 | i 0 14k | - 1 | i 0 25 | - 2 | — | — | — |
| Tomakomai | | 0·7 | 264 | i 0 16 | + 1 | i 0 28 | + 1 | — | — | — |
| Sapporo | | 1·0 | 305 | i 0 19 _a | 0 | i 0 34 | + 1 | — | — | — |
| Muroran | | 1·1 | 264 | i 0 20 | 0 | i 0 34 | - 2 | — | — | — |
| Asahigawa | | 1·3 | 356 | i 0 22 _a | - 1 | e 0 43 | + 3 | — | — | — |
| Hakodate | | 1·4 | 244 | i 0 24 | 0 | i 0 42 | - 1 | — | — | — |
| Mori | | 1·5 | 257 | i 0 26 | 0 | i 0 45 | 0 | — | — | — |
| Suttsu | | 1·7 | 282 | i 0 36 | + 8 | i 0 57 | + 7 | — | — | — |
| Abashiri | | 2·0 | 39 | 0 32 _a | 0 | i 0 56 | - 1 | — | — | — |
| Aomori | | 2·1 | 219 | i 0 35k | + 1 | i 1 1 | + 2 | — | — | — |
| Hatinohe | | 2·1 | 201 | i 0 32k | - 2 | i 0 59 | 0 | — | — | — |
| Nemuro | | 2·4 | 68 | i 0 35k | - 3 | i 1 0 | - 7 | — | — | — |
| Miyako | Z. | 2·8 | 188 | e 0 42 | - 2 | i 1 18 | + 1 | — | — | — |
| Morioka | | 2·9 | 200 | i 0 46 _a | + 1 | i 1 21 | + 2 | — | — | — |
| Wakkanai | E. | 3·0 | 349 | — | — | e 1 30? | + 8 | — | — | — |
| Akita | | 3·3 | 214 | i 0 52 | + 1 | 1 31 | + 2 | — | — | — |
| Mizusawa | F. | 3·5 | 198 | 0 55 | + 1 | 1 32 | - 2 | — | — | — |
| Isinomaki | | 4·1 | 193 | e 1 5 | + 3 | 1 46 | - 3 | — | — | — |
| Sakata | | 4·1 | 211 | 1 7 | + 5 | 2 3 | +14 | — | — | — |
| Sendai | | 4·4 | 197 | e 1 4 | - 2 | e 1 52 | - 5 | e 1 21 | ? | — |
| Yamagata | | 4·5 | 202 | e 1 8 | + 1 | 2 1 | + 2 | — | — | — |
| Hokusima | | 5·0 | 199 | e 1 13 | - 1 | e 2 11 | - 1 | — | — | — |
| Inawasiro | | 5·2 | 201 | 1 18 | + 1 | i 2 18 | + 1 | i 1 42 | ? | — |
| Niigata | | 5·2 | 211 | e 1 19 | + 2 | i 2 15 | - 2 | e 2 19 | ? | — |
| Aikawa | | 5·5 | 218 | 1 20 | - 1 | 2 22 | - 2 | — | — | — |
| Onahama | | 5·6 | 193 | e 1 23 | 0 | e 2 29 | + 2 | e 2 6 | ? | — |
| Shirakawa | | 5·6 | 199 | e 1 23 | 0 | 2 25 | - 2 | — | — | — |
| Utunomiya | | 6·2 | 200 | e 1 29 | - 2 | e 2 40 | - 1 | — | — | — |
| Mito | N. | 6·3 | 195 | e 1 30 | - 2 | 2 38 | - 6 | — | — | — |
| Takada | | 6·3 | 213 | e 1 34 | + 2 | e 2 47 | + 3 | — | — | — |
| Kakioka | E. | 6·5 | 197 | e 1 33 | - 2 | 2 54 | + 5 | — | — | — |
| Maebasi | | 6·6 | 205 | e 1 36 | - 1 | e 2 57 | + 6 | e 1 41 | ? | — |
| Wazima | | 6·6 | 222 | e 1 39 | + 2 | e 2 56 | + 5 | e 1 44 | ? | — |
| Kumagaya | | 6·7 | 202 | e 1 42 | + 4 | e 2 52 | - 2 | — | — | — |
| Nagano | | 6·7 | 211 | e 1 40 | + 2 | i 3 15 | +21 | i 2 26 | ? | — |
| Matusiro | | 6·8 | 211 | i 1 38k | - 1 | i 2 53 | - 3 | 2 11 | ? | — |
| Oiwake | | 6·8 | 208 | e 1 44 | + 5 | e 3 3 | + 7 | — | — | — |
| Tyosi | N. | 6·8 | 191 | 1 40 | + 1 | 2 51 | - 5 | — | — | — |
| Kashiwa | | 6·9 | 197 | e 1 42 | + 1 | e 2 54 | - 5 | — | — | — |
| Titibu | E. | 7·0 | 203 | e 1 45 | + 3 | e 3 10 | + 9 | — | — | — |
| Toyama | | 7·0 | 217 | e 1 42 | 0 | — | — | — | — | — |
| Tokyo | | 7·1 | 198 | e 1 45 | + 1 | 2 59 | - 5 | i 3 35 | ? | — |
| Matumoto | | 7·2 | 211 | 1 45 | 0 | 3 20 | +14 | — | — | — |
| Kanazawa | | 7·4 | 219 | — | — | e 2 54 | -17 | — | — | — |
| Kohu | | 7·4 | 206 | e 1 50 | + 2 | e 3 2 | - 9 | e 2 36 | ? | — |
| Yokohama | | 7·4 | 198 | 1 49 | + 1 | e 3 9 | - 2 | — | — | — |
| Hunatu | | 7·5 | 204 | e 1 50 | + 1 | e 3 14 | 0 | e 3 34 | ? | — |
| Takayama | N. | 7·5 | 215 | e 1 43 | - 6 | — | — | — | — | — |
| Iida | | 7·8 | 209 | e 2 31 | +38 | i 4 7 | +46 | — | — | — |
| Misima | | 7·8 | 202 | e 1 55 | + 2 | e 3 22 | + 1 | — | — | — |
| Mera | | 7·8 | 196 | e 1 52 | - 1 | 3 14 | - 7 | — | — | 3·8 |
| Hukui | | 8·0 | 219 | e 1 57 | + 1 | — | — | — | — | — |
| Osima | | 8·0 | 199 | e 1 52 | - 4 | i 3 21 | - 5 | — | — | e 4·0 |
| Shizuoka | | 8·1 | 204 | 2 3 | + 6 | e 3 27 | - 1 | — | — | — |

Continued on next page.

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1954

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|---------------|----|--------------|--------------|------|-----------------|-------|------|----------|------|-------|----|-----------|
| | | ^c | ^o | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Gihu | | 8.3 | 214 | e 2 | 1 | + 1 | — | — | — | — | — | — |
| Nagoya | | 8.4 | 212 | e 2 | 1 | - 1 | e 3 | 41 | + 5 | — | — | e 4.1 |
| Tsuruga | | 8.4 | 218 | e 2 | 4 | + 2 | — | — | — | — | — | — |
| Ibukisan | N. | 8.5 | 216 | e 2 | 2 | - 1 | — | — | — | — | — | — |
| Omaesaki | | 8.5 | 204 | e 2 | 17 | +14 | 3 | 57 | +19 | — | — | — |
| Hikone | | 8.7 | 216 | 2 | 5 | - 1 | — | — | — | — | — | — |
| Kameyama | | 8.9 | 214 | 2 | 11 | + 3 | 3 | 53 | + 5 | — | — | — |
| Kyoto | | 9.1 | 218 | e 2 | 12 | + 1 | e 4 | 8 | +15 | — | — | — |
| Toyooka | | 9.1 | 223 | e 2 | 11 | 0 | e 3 | 53 | 0 | — | — | — |
| Nara | | 9.4 | 216 | 2 | 14 | - 1 | — | — | — | e 2 | 39 | ? e 4.8 |
| Osaka | | 9.5 | 217 | e 2 | 18 | + 1 | e 4 | 35 | +32 | e 2 | 55 | ? e 5.3 |
| Kobe | | 9.6 | 219 | e 2 | 21 | + 3 | e 4 | 18 | +13 | — | — | — |
| Sumoto | | 10.0 | 219 | 2 | 24 | + 1 | e 4 | 46 | +31 | — | — | — |
| Tokusima | | 10.4 | 219 | e 2 | 29 | 0 | — | — | — | — | — | — |
| Takamatu | | 10.5 | 222 | e 2 | 29 | - 1 | e 4 | 34 | + 7 | — | — | — |
| Hamada | | 11.1 | 231 | e 2 | 41 | + 3 | — | — | — | e 2 | 4 | ? — |
| Hirosima | | 11.3 | 227 | e 2 | 40 | - 1 | — | — | — | — | — | — |
| Muroto | | 11.3 | 218 | e 2 | 40 | - 1 | — | — | — | — | — | — |
| Koti | | 11.4 | 221 | e 2 | 39 | - 3 | e 5 | 30 | +41 | — | — | 6.3 |
| Matuyama | | 11.5 | 225 | e 2 | 48 | + 4 | e 5 | 18 | +27 | e 3 | 24 | ? e 5.9 |
| Ooita | | 12.6 | 226 | e 2 | 57 | - 1 | e 6 | 12 | +54 | — | — | — |
| Hukuoka | | 13.0 | 231 | e 3 | 3k | - 1 | e 5 | 35 | + 8 | — | — | — |
| Saga | E. | 13.3 | 230 | 2 | 49 | -19 | — | — | — | i 3 | 33 | ? — |
| Kumamoto | | 13.4 | 228 | 3 | 9 | 0 | — | — | — | e 3 | 42 | ? — |
| Kagosima | | 14.4 | 225 | e 3 | 43 | PP | — | — | — | — | — | — |
| Manila | | 33.4 | 220 | e 6 | 34 | 0 | — | — | — | — | — | — |
| College | | 44.1 | 35 | i 8 | 1 | - 3 | — | — | — | 19 | 9 | ? — |
| Shillong | Z. | 44.5 | 264 | i 8 | 6 | - 1 | — | — | — | — | — | — |
| Chatra | Z. | 47.3 | 269 | i 8 | 30 | + 1 | — | — | — | — | — | — |
| Dehra Dun | N. | 52.1 | 279 | 8 | 5 | -61 | — | — | — | — | — | — |
| Resolute Bay | | 57.2 | 16 | e 9 | 39k | - 4 | — | — | — | — | — | e 32.5 |
| Lembang | Z. | 58.4 | 222 | e 10 | 1 | +10 | — | — | — | — | — | — |
| Quetta | | 60.2 | 285 | i 10 | 2 | - 2 | i 18 | 12 | + 1 | i 10 | 23 | pP e 33.3 |
| Kiruna | | 61.8 | 339 | i 10 | 11 | - 3 | — | — | — | — | — | e 33.6 |
| Poona | Z. | 62.1 | 270 | e 10 | 16 | 0 | — | — | — | — | — | — |
| Shasta | Z. | 67.2 | 55 | e 10 | 49 | 0 | — | — | — | — | — | — |
| Hungry Horse | | 67.3 | 45 | i 10 | 49 | - 1 | i 39 | 12 | P'P' | i 39 | 33 | pP'P' |
| Mineral | Z. | 67.9 | 55 | e 10 | 53 | - 1 | — | — | — | — | — | — |
| Upsala | Z. | 68.5 | 334 | i 10 | 55 | - 3 | i 13 | 21 | PP | i 11 | 18 | pP |
| Reno | Z. | 69.5 | 55 | e 11 | 4 | 0 | — | — | — | — | — | — |
| Butte | N. | 69.6 | 46 | i 11 | 3 | - 1 | e 11 | 41 | ? | e 11 | 14 | pP |
| Lick | Z. | 69.8 | 58 | i 11 | 5 | 0 | — | — | — | — | — | — |
| Bozeman | | 70.6 | 46 | e 11 | 9 | - 1 | — | — | — | — | — | — |
| Fresno | Z. | 71.3 | 57 | e 11 | 14 | - 1 | — | — | — | — | — | — |
| Tinemaha | Z. | 72.0 | 56 | e 11 | 20 | + 1 | — | — | — | — | — | — |
| Woody | Z. | 72.5 | 58 | i 11 | 21 | - 1 | i 11 | 47 | sP | i 11 | 37 | pP |
| Iasi | | 73.8 | 320 | e 11 | 29 | 0 | — | — | — | e 11 | 37 | ? — |
| Mount Wilson | Z. | 74.0 | 58 | e 11 | 29 | - 1 | — | — | — | — | — | — |
| Nelson | Z. | 75.0 | 55 | i 11 | 36 | 0 | e 12 | 25 | ? | i 12 | 1 | pP |
| Palomar | Z. | 75.3 | 58 | e 11 | 47 | + 9 | — | — | — | — | — | — |
| Riverview | | 76.3 | 173 | i 12 | 0 | +16 | i 21 | 36 | +14 | — | — | — |
| Collmberg | | 76.8 | 330 | e 11 | 45 | - 1 | — | — | — | — | — | — |
| Prague | N. | 77.3 | 329 | e 11 | 53 | + 4 | i 12 | 20 | sP | i 12 | 13 | pP |
| Boulder | | 77.5 | 47 | e 11 | 51 | + 1 | — | — | — | — | — | — |
| Jena | | 77.6 | 331 | e 11 | 51? | 0 | e 12 | 22 | sP | — | — | — |
| Tucson | | 79.8 | 56 | e 12 | 3 | 0 | — | — | — | e 12 | 28 | pP |
| Stuttgart | | 80.3 | 331 | e 12 | 4 | - 1 | — | — | — | — | — | — |
| Kirkland Lake | Z. | 82.3 | 27 | e 12 | 23 | + 7 | — | — | — | — | — | — |
| Paris | | 82.6 | 335 | — | — | — | e 34 | 43 sPKKS | — | — | — | e 46.6 |
| Rome | N. | 84.7 | 325 | — | — | — | e 22 | 35 | -14 | e 27 | 37 | SS |
| Ottawa | | 86.1 | 26 | e 12 | 33 _a | - 2 | — | — | — | — | — | — |
| Morgantown | | 89.7 | 31 | i 12 | 56 | + 4 | — | — | — | i 13 | 10 | pP |
| Harvard | | 90.0 | 24 | e 12 | 54 | 0 | — | — | — | — | — | — |
| Weston | | 90.2 | 24 | i 12 | 55 _a | 0 | — | — | — | i 13 | 9 | pP |
| Tamanrasset | Z. | 103.9 | 320 | e 18 | 7 | PP | — | — | — | — | — | — |
| La Paz | | 143.2 | 55 | 19 | 47 | pPKP | — | — | — | — | — | — |
| Montezuma | Z. | 147.3 | 63 | e 19 | 39 | [+ 5] | — | — | — | — | — | — |

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1954

590

Sept. 27d. 17h. 18m. 22s. Epicentre 42°·5N. 142°·6E. Depth of focus 70-80km.
Intensity IV at Obihiro; II-III at Urakawa, Tomakomai, Sapporo, Muroran, Kusiro, Mori, Hatinohe, Aomori, Nemuro, Miyako, Iwamizawa, and Otaru.
Loc. cit., 16h., pp. 31-33, with macroseismic chart.

Sept. 27d. 23h. 43m. Epicentre 23°·3N. 120°·4E. Depth of focus 40km.
Intensity II-III at Hsinkong and Tainan.
Seismo. Bull. of the Taiwan Weather Bureau, Vol. 1, No. 3 for July-Sept., 1954, Taipei, pp. 36-37.

Sept. 28d. 0h. 24m. 59s. Epicentre 52°·2N. 159°·8E.

A = -·5776, B = +·2125, C = +·7882; $\delta = +4$; $h = -6$;
D = +·345, E = +·938; G = -·740, H = +·272, K = -·615.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|----------------|----|----------|-----|----------------------|------|----------|------|---------|------------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Mizusawa | | 18·4 | 232 | e 3 51 | -27 | e 4 25 | P | — | — |
| College | | 29·2 | 44 | e 6 3 | -2 | e 10 52 | -6 | e 8 23 | PcP e 11·8 |
| Zô-Sô | | 35·1 | 248 | e 7 1 | +4 | — | — | — | — |
| Resolute Bay | | 44·2 | 22 | e 8 3 | -9 | e 14 43 | -3 | e 18 5 | SS e 22·1 |
| Hong Kong | E. | 45·8 | 247 | — | — | e 15 33? | +24 | — | — |
| Manila | | 48·6 | 234 | e 8 48 | +1 | — | — | — | — |
| Hungry Horse | | 52·1 | 58 | e 9 12 | -2 | — | — | e 9 20 | ? |
| Shasta | Z. | 52·4 | 70 | e 9 20 | +4 | — | — | — | — |
| Mineral | Z. | 53·1 | 70 | e 9 26 | +5 | — | — | — | — |
| Berkeley | Z. | 54·3 | 72 | e 9 37 | +7 | — | — | — | — |
| Butte | N. | 54·4 | 59 | e 9 17 | -14 | — | — | e 10 41 | PcP |
| Reno | Z. | 54·6 | 69 | e 10 32 | PcP | — | — | — | — |
| Lick | Z. | 55·0 | 72 | e 9 42 | +7 | — | — | — | — |
| Bozeman | | 55·4 | 58 | e 9 44 | +6 | — | — | — | — |
| Fresno | Z. | 56·5 | 72 | e 9 45 | -1 | — | — | — | — |
| Kiruna | | 56·5 | 343 | i 9 46 _a | 0 | — | — | — | — |
| Shillong | | 56·8 | 270 | i 9 48 | 0 | e 17 42 | +1 | i 16 5 | ? e 31·0 |
| Tinemaha | Z. | 57·2 | 70 | e 9 51 | 0 | — | — | — | — |
| Woody | Z. | 57·8 | 72 | i 9 54 | -1 | — | — | i 10 1 | ? |
| Salt Lake City | | 58·3 | 63 | e 9 58 | -1 | — | — | i 10 6 | ? |
| Chatra | | 58·8 | 274 | i 10 4 | +2 | — | — | — | — |
| Mount Wilson | Z. | 59·3 | 73 | e 10 5 | -1 | — | — | e 10 13 | ? e 34·3 |
| Boulder City | | 60·0 | 69 | e 10 10 | -1 | — | — | i 10 17 | ? |
| Nelson | Z. | 60·1 | 69 | i 10 11 | 0 | — | — | i 10 18 | ? |
| Palomar | Z. | 60·6 | 73 | e 10 13 | -2 | — | — | i 10 21 | ? |
| Barratt | Z. | 61·2 | 73 | i 10 26 | +7 | — | — | i 10 37 | ? |
| Boulder | | 62·4 | 60 | e 10 33 | +6 | — | — | — | — |
| Upsala | | 64·2 | 340 | i 10 39 | 0 | e 19 29 | +13 | i 10 53 | ? e 36·0 |
| Tucson | | 64·9 | 69 | e 10 50 | +7 | — | — | — | — |
| Fayetteville | | 71·1 | 55 | i 11 20 | -2 | — | — | e 11 27 | ? |
| Hamburg | Z. | 71·6 | 342 | i 11 28 | +3 | — | — | — | — |
| Ottawa | | 71·7 | 38 | e 11 23 _k | -3 | — | — | — | — |
| Cleveland | | 72·7 | 44 | i 11 30 _a | -2 | i 20 52 | -5 | — | — |
| Iasi | | 72·9 | 328 | e 11 31 | -2 | — | — | e 11 39 | ? |
| Collmberg | | 73·1 | 339 | e 11 35 | +1 | e 21 16 | +15 | — | e 45·5 |
| Poona | | 73·1 | 278 | e 11 28 | -6 | — | — | e 32 2 | Q i 39·6 |
| Lembang | Z. | 73·6 | 235 | i 13 47 _a | PP | — | — | e 16 8 | PPP |
| Jena | | 73·8 | 340 | e 11 38 | 0 | — | — | e 11 55 | PcP |
| De Bilt | | 73·9 | 344 | e 12 1? | +22 | — | — | — | e 37·0 |
| Prague | | 74·0 | 338 | i 11 43 | +4 | e 21 28 | +17 | e 11 53 | PcP e 38·4 |
| Morgantown | | 74·9 | 44 | i 11 46 | +2 | — | — | — | — |
| Budapest | | 75·2 | 334 | e 11 49 | +3 | e 19 43 | ? | e 11 57 | PcP e 48·3 |
| Harvard | | 75·8 | 36 | i 11 48 | -2 | — | — | — | e 44·5 |
| Weston | | 76·0 | 36 | i 11 49 _a | -2 | — | — | — | — |
| Palisades | | 76·2 | 39 | i 11 50 | -2 | e 21 31 | -5 | e 26 17 | SS e 39·8 |
| Stuttgart | | 76·3 | 340 | e 11 53 | +1 | — | — | — | e 41·0 |
| Philadelphia | | 76·6 | 40 | — | — | e 21 27 | -13 | — | e 37·8 |
| Strasbourg | | 76·8 | 341 | e 11 55 | 0 | — | — | — | e 42·0 |
| Belgrade | | 77·2 | 332 | — | — | e 22 7 | +20 | — | e 39·2 |
| Paris | | 77·5 | 345 | i 12 0 | +1 | — | — | e 12 9 | PcP e 47·0 |

Continued on next page.

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1954

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| | Δ ° | Az. ° | P. m. s. | | O-C. s. | S. m. s. | | O-C. s. | Supp. m. s. | | L. m. | |
|-------------|---------------|----------|-------------|----|------------|-------------|----|------------|----------------|----|----------|--------|
| Istanbul | 77.7 | 324 | e 12 | 1 | + 1 | e 22 | 6 | +14 | — | — | e 45.0 | |
| Triest | 78.2 | 336 | e 9 | 51 | ? | e 20 | 46 | -71 | e 14 | 27 | PP | e 44.0 |
| Besançon | 78.4 | 342 | i 12 | 6 | + 2 | e 14 | 6 | PP | e 12 | 15 | PcP | — |
| Florence | 80.6 | 337 | e 12 | 3 | -13 | e 22 | 42 | +19 | e 15 | 18 | PP | 42.0 |
| Ksara | 81.3 | 316 | i 12 | 21 | + 1 | e 23 | 19 | PS | — | — | — | — |
| Rome | 82.1 | 336 | i 12 | 22 | - 2 | e 22 | 32 | - 6 | — | — | — | — |
| Taranto | 82.1 | 332 | e 13 | 5 | +41 | e 24 | 1? | ? | — | — | — | — |
| Messina | 84.7 | 332 | — | — | — | e 23 | 19 | +15 | — | — | — | 46.0 |
| Helwan | 86.7 | 317 | e 12 | 58 | +11 | e 23 | 25 | + 1 | — | — | — | — |
| Bermuda | 87.2 | 36 | — | — | — | e 23 | 29 | + 1 | e 29 | 21 | SS | e 35.5 |
| Granada | 89.8 | 347 | — | — | — | 24 | 1 | + 8 | 29 | 59 | SS | 45.9 |
| San Juan | 99.2 | 44 | i 26 | 34 | PS | — | — | — | — | — | — | — |
| Tamanrasset | z. 102.0 | 336 | e 17 | 56 | PP | — | — | — | — | — | — | — |

Sept. 28d. 3h. 19m. 1s. Epicentre 35°·8N. 140°·0E. Depth of focus 80km.
Intensity II-III at Ajiro, Kakioka, Kashiwa, and Tokyo.
Seismo. Bull. Cent. Met. Obs., Japan, 1954, Sept., Tokyo, 1954, pp. 33-34, with macroseismic chart.

Sept. 28d. 3h. 32m. 49s. Epicentre 36°·6N. 139°·4E.
Intensity IV at Kakioka; II-III at Maebasi, Utunomiya, Mito, Kashiwa, Kumagaya, Matusiro, and Tokyo.
Loc. cit., 3h. 19m., pp. 34-35, with macroseismic chart.

Sept. 28d. 12h. 53m. 6s. Epicentre 15°·9S. 172°·6W.

A = -.9542, B = -.1239, C = -.2722; δ = -6; h = +6;
D = -.129, E = +.992; G = +.270, H = +.035, K = -.962.

| | Δ ° | Az. ° | P. m. s. | | O-C. s. | S. m. s. | | O-C. s. | Supp. m. s. | | L. m. | |
|--------------|---------------|----------|-------------|----------------|------------|-------------|----|------------|----------------|----|----------------|--------|
| Apia | 2.2 | 21 | e 0 | 35 | - 3 | e 1 | 6 | 0 | e 0 | 48 | P _s | — |
| Nouméa | 20.8 | 249 | i 4 | 42 | - 3 | e 8 | 40 | + 7 | i 5 | 2 | PP | — |
| Onerahi | E. 23.0 | 208 | e 5 | 3 | - 4 | e 9 | 6 | - 8 | e 5 | 22 | PP | — |
| Auckland | N. 23.7 | 206 | e 5 | 12 | - 2 | e 9 | 29 | + 2 | — | — | — | — |
| Tuai | N. 24.5 | 200 | e 5 | 26 | + 4 | e 9 | 43 | + 3 | — | — | — | — |
| Brisbane | 33.9 | 244 | i 6 | 46 | - 1 | — | — | — | e 7 | 51 | PP | — |
| Riverview | 37.2 | 234 | i 7 | 30k | +15 | e 13 | 16 | +14 | i 8 | 55 | PP | e 18.1 |
| Honolulu | 39.6 | 22 | e 7 | 33 | - 2 | e 13 | 36 | - 2 | — | — | — | e 16.7 |
| Melbourne | E. 43.2 | 231 | — | — | — | e 18 | 10 | SS | — | — | — | — |
| Berkeley | z. 71.3 | 40 | e 11 | 23 | 0 | — | — | — | — | — | — | — |
| Lick | z. 71.4 | 41 | e 11 | 23 | - 1 | — | — | — | — | — | — | — |
| Pasadena | 71.8 | 45 | e 11 | 26 | 0 | — | — | — | e 11 | 47 | PcP | e 32.2 |
| Barratt | z. 72.0 | 47 | e 11 | 30 | + 2 | — | — | — | — | — | — | — |
| Fresno | z. 72.2 | 42 | e 11 | 28 | - 1 | — | — | — | — | — | — | — |
| Woody | z. 72.2 | 44 | i 11 | 29 | 0 | — | — | — | i 11 | 57 | PcP | — |
| Manila | 72.3 | 291 | e 11 | 28 | - 1 | — | — | — | — | — | — | — |
| Palomar | z. 72.3 | 47 | i 11 | 30 | + 1 | — | — | — | — | — | — | — |
| Shasta | z. 73.0 | 38 | e 11 | 2 | -31 | — | — | — | — | — | — | — |
| Baguio | 73.3 | 293 | i 11 | 38 | + 3 | — | — | — | — | — | — | — |
| Mineral | z. 73.3 | 38 | e 11 | 34 | - 1 | — | — | — | — | — | — | — |
| Tinemaha | z. 73.4 | 43 | e 11 | 36 | 0 | — | — | — | — | — | — | — |
| Reno | z. 73.9 | 40 | e 11 | 40 | + 1 | — | — | — | — | — | — | — |
| Nelson | z. 74.9 | 46 | i 11 | 44 | 0 | — | — | — | i 12 | 1 | PcP | — |
| Boulder City | 75.1 | 45 | i 11 | 45 | - 1 | — | — | — | i 12 | 12 | PcP | — |
| Tucson | 76.0 | 50 | e 11 | 50 | - 1 | e 22 | 8 | PS | e 15 | 16 | PP | e 33.4 |
| Victoria | 77.6 | 31 | 11 | 59 | - 1 | — | — | — | — | — | — | — |
| Bandung | 78.3 | 266 | e 12 | 4 | + 1 | e 22 | 2 | + 3 | e 12 | 15 | PcP | — |
| Lembang | 78.4 | 266 | i 12 | 3 _a | - 1 | e 22 | 4 | + 4 | e 15 | 1 | PP | — |
| Zô-Sè | 78.9 | 307 | e 12 | 7 | 0 | 22 | 9 | + 4 | — | — | — | — |
| Djakarta | 79.3 | 267 | e 12 | 8 | - 1 | e 22 | 14 | + 5 | e 15 | 17 | PP | — |

Continued on next page.

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1954

592

| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|----------------|------------|------------|------|-----------------|-------|------|-----|--------|-------|-----|------------------|--------|
| | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Salt Lake City | 79.6 | 42 | e 12 | 11 | + 1 | e 22 | 15 | + 3 | i 12 | 20 | PcP | e 33.8 |
| Hong Kong | 81.1 | 296 | e 12 | 2 | -16 | 22 | 46 | +18 | — | — | — | — |
| Nanking | 81.1 | 307 | e 12 | 21 | + 3 | 22 | 39 | +11 | — | — | — | — |
| Butte | 82.0 | 38 | e 12 | 22 | - 1 | i 22 | 37 | 0 | e 15 | 59 | PP | e 34.8 |
| Hungry Horse | 82.4 | 35 | e 12 | 23 | - 2 | — | — | — | i 13 | 0 | ? | — |
| Bozeman | 82.7 | 38 | e 12 | 27 | 0 | — | — | — | — | — | — | — |
| College | 82.7 | 10 | i 12 | 25 | - 2 | e 22 | 43 | - 1 | e 23 | 48 | PPS | e 35.4 |
| Boulder | 83.6 | 46 | i 12 | 32 | + 1 | — | — | — | — | — | — | — |
| Dallas | 87.0 | 55 | i 12 | 50 | + 2 | i 23 | 31 | + 4 | — | — | — | — |
| Tatung | 88.4 | 312 | e 13 | 3 | + 8 | — | — | — | — | — | — | — |
| Fayetteville | 90.2 | 52 | i 13 | 4 | 0 | e 23 | 48 | - 8 | e 16 | 37 | PP | — |
| Huancayo | 93.6 | 104 | — | — | — | e 23 | 59 | [+ 6] | e 24 | 42 | S | e 48.2 |
| Chicago | 96.8 | 49 | — | — | — | e 24 | 8 | [- 3] | — | — | — | e 44.3 |
| La Paz | 98.8 | 110 | 17 | 46 | PP | i 24 | 25 | [+ 4] | i 32 | 2 | SS | 49.4 |
| Shillong | 101.6 | 293 | — | — | — | e 24 | 10 | [- 25] | e 25 | 17 | S | — |
| Resolute Bay | 102.0 | 15 | — | — | — | e 25 | 41 | + 4 | e 45 | 11 | Q | e 53.8 |
| Philadelphia | 105.6 | 52 | e 27 | 50 | PS | e 24 | 57 | [+ 4] | e 26 | 9 | S | e 47.7 |
| Palisades | 106.7 | 51 | — | — | — | e 25 | 1 | [+ 3] | e 26 | 24 | S | e 51.1 |
| Quetta | 124.0 | 296 | e 19 | 6 | [+ 5] | e 26 | 10 | [+ 7] | i 27 | 50 | SKKS | — |
| Collmberg | 144.4 | 354 | e 19 | 36 | [- 2] | — | — | — | — | — | — | — |
| Jena | 144.9 | 355 | e 19 | 37 | [- 2] | e 23 | 1 | PP | — | — | — | — |
| Uccle | 145.1 | 3 | e 19 | 37 | [- 2] | e 41 | 55 | SS | e 19 | 53 | PKP ₂ | e 80.9 |
| Prague | 145.4 | 352 | i 19 | 40 | [0] | e 23 | 30 | PKS | i 19 | 58 | PKP ₂ | — |
| Paris | 146.9 | 6 | e 19 | 44 | [+ 2] | — | — | — | e 19 | 58 | PKP ₂ | e 79.9 |
| Karlsruhe | 147.0 | 359 | e 19 | 45 _a | [+ 2] | — | — | — | e 20 | 20 | PKP ₂ | — |
| Stuttgart | 147.2 | 358 | e 19 | 44 | [+ 1] | — | — | — | e 20 | 4 | PKP ₂ | — |
| Strasbourg | 147.4 | 0 | e 19 | 46 | [+ 3] | — | — | — | e 19 | 58 | PKP ₂ | — |
| Basle | 148.4 | 0 | e 19 | 53 | [+ 8] | — | — | — | — | — | — | — |
| Zürich | 148.6 | 358 | e 19 | 47 | [+ 2] | — | — | — | — | — | — | — |
| Besançon | 148.7 | 2 | e 19 | 50 | [+ 5] | — | — | — | e 20 | 1 | PKP ₂ | — |
| Istanbul | 148.7 | 328 | e 19 | 45 | [0] | 22 | 54 | PP | e 26 | 53 | PPP | — |
| Ksara | 148.8 | 310 | 19 | 48 | [+ 3] | 23 | 29? | PP | e 27 | 10 | PPP | — |
| Jerusalem | 150.2 | 307 | i 19 | 39 | [- 9] | — | — | — | i 21 | 37 | ? | — |
| Florence | 152.0 | 354 | i 19 | 47 | [- 3] | — | — | — | — | — | — | — |
| Rome | 153.7 | 351 | e 20 | 0 | [+ 7] | e 29 | 14? | ? | — | — | — | — |
| Helwan | 154.0 | 306 | e 20 | 2 | [+ 9] | e 23 | 54 | PP | e 20 | 16 | PKP ₂ | — |
| Toledo | 154.1 | 20 | 20 | 5 | [+12] | — | — | — | — | — | — | 95.9 |
| Granada | 156.6 | 23 | 20 | 9 _a | [+12] | 30 | 33 | {-22} | 24 | 8 | PP | 82.3 |
| Messina | 156.6 | 344 | e 20 | 27 | [+30] | e 30 | 17 | {-38} | e 44 | 54? | SS | — |
| Malaga | 156.7 | 25 | i 20 | 4 | [+ 7] | 27 | 20 | [+19] | 20 | 30 | PKP ₂ | 92.4 |
| Algiers Univ. | 158.8 | 10 | e 20 | 1 | [+ 2] | e 24 | 19 | PP | e 20 | 54 | PKP ₂ | — |
| Tamanrasset | 172.9 | 14 | e 20 | 11 | [0] | e 25 | 27 | PP | e 21 | 35 | PKP ₂ | — |

Sept. 29d. 19h. 2m. Epicentre 40°·1N. 45°·0E.

Bull. of the Seismo. Stations of the U.S.S.R. for July-Sept., 1954, Moscow, 1955, p. 101.

Sept. 30d. 4h. 22m. Epicentre 23°·7N. 121°·8E. Unfelt

Seismo. Bull. of Taiwan Weather Bureau for July-Sept., 1954, Vol. 1, No. 3, Taiwan, China, p. 37.

Sept. 30d. 8h. 3m. Epicentre 23°·5N. 120°·2E. Depth of focus 20km.

Loc. cit., 4h., p. 37.

Sept. 30d. 16h. 42m. 12s. Epicentre 33°·3N. 134°·7E. Depth of focus 20km.

Intensity II-III at Muroto, Wakayama, and Sumoto.

Seismo. Bull. Cent. Met. Obs., Japan, for 1954, Oct., Tokyo, 1955, pp. 9-11, with macro-seismic chart.

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained as part of a global earthquake relocation project (Villaseñor et al., 1997) initiated with funding from the US National Science Foundation through grant EAR-9725140 and collected by SGA [Storia Geofisica Ambiente](#) (Bologna) on behalf of the [Istituto Nazionale di Geofisica e Vulcanologia](#) (Rome), in the frame of [Euroseismos](#) project.

A digital hypocenter file of the ISS (Villaseñor and Engdahl, 2005) can be obtained from the USGS web site: <http://earthquake.usgs.gov/scitech/iss/>

These data are considered public domain and may be freely distributed or copied for non-profit purposes provided the previous references are quoted.

Villaseñor, A., and E.R. Engdahl, *A digital hypocenter catalog for the International Seismological Summary*, Seism. Res. Lett., vol. 76, no. 5, pp. 554-559, 2005.

Villaseñor, A., E.A. Bergman, T.M. Boyd, E.R. Engdahl, D.W. Frazier, M.M. Harden, J.L. Orth, R.L. Parkes, and K.M. Shedlock, *Toward a comprehensive catalog of global historical seismicity*, Eos Trans. AGU, vol. 78, no. 50, pp. 581, 583, 588, 1997.