No. 9 Jan.–June 1960

GEODÆTISK INSTITUT

Proviantgården · Copenhagen · Denmark

Bulletin of the seismological station

NORD

$\varphi = 81°36'$ N. $\lambda = 16°41'$ W. $h = 35$ m.

Lithologic foundation: calcareous greywacke

Instruments.

Willmore. Z. $T_p = 1$ sec, $T_g = {}^1/_4$ sec. No attenuation.

Strobach. N and E. $T = 6$ sec, $\nu = 15{:}1$, $V_0 = 500$. (Belongs to Geophysikalisches Institut, Hamburg.)

Seismological Readings. Distant quakes.

Phases are indicated by the symbols used in ISS. Times are given in GMT. Positions of epicenters are most often due to USCGS. The periods given are periods of full oscillations. For N and E the amplitudes given are single ground amplitudes. For Z trace amplitudes are given. C means compression, D dilatation.

Seismological Readings. Local shocks.

Readings assumed to be P and S are given. Some tremors of not-seismic origin may be included.

January

2 *eP·Z* 5h20m00s
$\Delta = 91°$. Sumatra.

2 *eP·Z* 23 21 26
$\Delta = 90°$. Sumatra.

3 *iP·Z* 11 32 49
$\Delta = 49°$. Sinkiang, China.

3 *iP·Z* 20 27 14 *D*
$\Delta = 44°$. $h = 250$ km. Tyrrhenian Sea.

7 *eP·Z* 23 30 06
$\Delta = 87°$. Nicobar Islands.

9 *eP·Z* 4 07 22
$\Delta = 48°$. Turkey.

9 *iP·Z* 7 33 03 *C*
ipP·Z 34 05
$\Delta = 54°$. $h = 200$ km. Hindu Kush.

12 *eP·Z* 2 04 11
$\Delta = 73°$. Formosa.

13 *eP·ZNE* 15 54 06
i·Z 54 16
ePP·ZNE 58 16
iSKS·NE 16 04 44
eS·NE 05 15
eSS·NE 12 40
$\Delta = 101°$. $h = 200$ km. Peru.

13 *eP·Z* 16 38 15
$\Delta = 47°$. Aleutian Islands.

14 *eP·Z* 2 54 18
$\Delta = 88°$. Sumatra.

14 *iP·Z* 10 36 09 *C*
$\Delta = 62°$. Japan.

15 *ePP·NE* 9 47 59
eSKS·NE 54 38
iS·N 55 31
No Z-record. $\Delta = 100°$. $h = 150$ km. Peru

16 *iP·Z* 20 55 58 *D*
iScP·Z 21 02 08
$\Delta = 34°$. $h = 150$ km. Alaska.

18 *eP·Z* 9 17 50
$\Delta = 92°$. Philippine Islands.

19 *iP·Z* 2 25 26 *C*
i·Z 25 42
$\Delta = 47°$. Kamchatka.

January

23 *eP·Z* 4h54m34s
eSKS·NE 5 05 26
eSS·NE 13.0
$\Delta = 100°$. Ceram Island.

23 *eP·Z* 7 45 06
eSKS·NE 55 30
Repetition.

24 *L·E* 1 02

24 *ePP·NE* 4 41 19
ePS·N 50 54
L·N 5 15
$\Delta = 113°$ Fiji Islands.

25 *L·E* 17 29

26 *eP·Z* 13 14 11
$\Delta = 47°$. Turkey.

28 *eP·Z* 8 58 32
$\Delta = 55°$. Japan.

31 *eP·Z* 5 18 54
eSS·NE 31 55
L·N 41
$\Delta = 64°$. Japan.

February

1 *eP·Z* 14 04 50
$\Delta = 48°$. Kamchatka.

3 *L·NE* 12 06

3 *iP·Z* 12 58 29
$\Delta = 55°$. Japan.

4 *eSKS·NE* 4 11 05
L·NE 35
$\Delta = 103°$. New Ireland.

4 *L·NE* 17 18

8 *iPKP·Z* 13 05 02
$\Delta = 142°$. Drake Strait.

10 *eP·NE* 00 09 54 No Z-record.
iSKS·E 20 19
eS·E 21 15
ePS·E 22 32
L·NE 44
$\Delta = 101°$. Ceram Sea.

February

16 *eP·Z* 13h24m47s
$\Delta = 61°$. North Atlantic Ocean.

18 *iP·Z* 22 34 33
$A = 47°$. Aleutian Islands.

19 *iP·ZNE* 10 45 54 *C*
ipP·ZE 46 42
isP·Z 46 58
e·N 52 21
iS·NE 53 13
isS·NE 54 31
iSS·N 56 53
e·N 58 21
L·NE 11 07
$\Delta = 54°$. $h = 200$ km. Hindu Kush.

21 *eP·Z* 8 22 01
$\Delta = 46°$. Algeria.

22 *eP·Z* 5 19 48
iS·Z 21 38
$\Delta = 11°$. Jan Mayen.

23 *iP·Z* 2 18 52 *C*
e·Z 19 54
e·Z 20 34
$\Delta = 54°$. $h = 200$ km. Hindu Kush.

23 *eP·Z* 7 42 43
$\Delta = 45°$. Greece.

24 *L·NE* 22 27

25 *iP·Z* 8 24 33 *C* 5 mm
i·Z 24 48 10 mm

25 *iP·Z* 13 21 06 *C* 8 mm
i·Z 21 29 17 mm

25 *eP·Z* 19 39 34 2 mm
e·Z 39 52 5 mm

26 *eP·Z* 21 40 28
$\Delta = 71°$. $h = 150$ km. Mexico.

26 *eP·ZNE* 23 37 59
L·NE 56
$\Delta = 47°$. Aleutian Islands.

27 *eP·Z* 8 18 36
Repetition.

29 *iP·Z* 5 35 04 *C*
$\Delta = 82°$. $h = 150$ km. Philippine Islands.

29 *eP·Z* 23 49 22
iS·N 56 41
L·NE 24 06
$\Delta = 51°$. $h = 2$ km. Agadir, Morocco.

March

2 *eP·Z* 0h21m42s
L·NE 51
$\Delta = 71°$. Mexico.

2 *L·NE* 22 11

3 *eP·Z* 14 24 04
$\Delta = 50°$. Sinkiang Province, China.

4 *eP·Z* 2 24 37
$\Delta = 48°$. Aleutian Islands.

4 *iP·Z* 4 03 43
$\Delta = 67°$. $h = 100$ km. Japan.

4 *eP·Z* 16 27 53
$\Delta = 11°$. Jan Mayen.

4 *eP·Z* 21 18 26
$\Delta = 86°$. Nicobar Islands.

5 *iP·Z* 11 35 26
$\Delta = 63°$. Nepal.

5 *eP·Z* 14 02 48
eSKS·NE 13 18
ePS·NE 15 13
eSS·NE 20 13
L·NE 36
$\Delta = 96°$. Halmahera Island.

6 *eP·Z* 4 22 53
L·NE 46
$\Delta = 67°$. Gulf of California.

7 *iP·Z* 5 26 34
$\Delta = 95°$. Celebes.

8 *iPKP·Z* 16 51 52
iSP·Z 17 02 27
iPS·N 02 43
ePPS·N 03 53
eSS·NE 10.3
$\Delta = 115°$. $h = 250$ km. New Hebrides Islands.

10 *eP·Z* 0 08 04
$\Delta = 101°$. $h = 150$ km. Peru.

12 *iP·Z* 12 01 52
$\Delta = 42°$. Yugoslavia.

15 *iP·Z* 9 29 32
$\Delta = 47°$. Aleutian Islands.

18 *iP·Z* 1 26 09
$\Delta = 73°$. $h = 150$ km. Guatemala.

20 *iP·Z* 13 46 46
$\Delta = 59°$. Japan.

March

20 *iP·Z* 17h17m23s
i·Z 17 31 *D*
e·N 19 42
iS·NE 25 25
i·NE 25 53
iScS·N 27 15
eSS·E 29.5
eSSS·NE 31.7
L·NE 33.5
Δ = 59°. Japan.

20 *eP·Z* 23 39 17
Δ = 66°. Mid Atlantic ridge.

21 *eP·Z* 0 44 47
Δ = 59°. Japan.

21 *eP·Z* 7 28 29
Δ = 49°. Crete.

21 *eP·Z* 9 28 19
Δ = 59°. Japan.

22 *eP·Z* 13 30 53
L·NE 56
Δ = 69°. *h* = 150 km. Mexico.

22 *eP·Z* 20 17 31
i·Z 17 32 *C*
eS·Z 17 54

23 *eP·N* 0 33 28 No Z-record.
iS·NE 41 32
L·NE 50
Δ = 59°. Japan.

23 *iP·Z* 22 32 37 *C*
eS·NE 40 46
L·NE 50
Δ = 59°. Japan.

24 *iP·Z* 3 05 42
Δ = 48°. Aleutian Islands.

27 *iP·Z* 20 27 00
L·NE 53
Δ = 71°. Mexico.

28 *iP·Z* 0 25 43 *C*
L·NE 52
Δ = 79°. Panama.

29 *ePKP·Z* 6 49 39
ePP·NE 51.1
eSKS·NE 56 20
ePS·N 7 00 35
eSS·NE 06.3
L·NE 26
Δ = 115°. New Hebrides Islands.

March

30 *eP·Z* 13h01m56s
eS·Z 04 12
L·NE 06
Δ = 12°. South of the station.

31 *iP·Z* 0 51 42
Δ = 80°. *h* = 250 km. Mariana Islands.

31 *eP·Z* 20 06 55
L·NE 29
Δ = 65°. Gulf of California.

April

1 *L·NE* 14 36

5 *eP·Z* 17 29 20
e·Z 29 30
Δ = 17°. North Atlantic Ocean.

12 *eP·Z* 4 31 07
Δ = 47°. Turkey.

12 *eP·Z* 20 49 48
i·Z 49 52 *C*
Δ = 48°. Outher Mongolia.

13 *eP·Z* 12 49 08
L·NE 13 16
Δ = 73°. Guatemala-Mexico border.

15 *iP·Z* 11 48 37 *D*
Δ = 58°. *h* = 150 km. Japan.

15 *iP·Z* 13 19 15
Δ = 47°. Turkey.

18 *iP·Z* 8 17 34 *D*
Δ = 70°. *h* = 450 km. Bonin Islands.

21 *iP·Z* 11 58 53 *D* trace ampl.: 4 mm.
iS·Z 59 21 trace ampl.: 10 mm.
Δ = 2½°.

24 *iP·Z* 3 35 15 *D*
iPP·ZNE 39 37 *D*
eSP·NE 47 32
ePS·NE 49 13
iPKKP·Z 51 23 *C*
esPS·NE 51 30
Δ = 102°. *h* = 600 km. Java Sea.

24 *iP·Z* 8 17 28 *D* trace ampl.: 5 mm.
iS·Z 17 59 trace ampl.: 12 mm.
Δ = 2½°.

April

24 *iP·Z* 12h24m37s *D*
eS·E 32 47
L·NE 44
Δ = 60°. Southern Iran (Lar).

25 *iP·Z* 9 32 58 *C* trace ampl.: 5 mm.
eS·Z 33 24 trace ampl.: 9 mm.
Δ = 2½°.

25 *eP·Z* 15 01 46
Δ = 41°. Kodiak Island.

28 *eP·Z* 0 57 28
iPP·Z 59 11 *C*
Δ = 45°. Aleutian Islands.

28 *iP·Z* 16 42 13 *C*
Δ = 49°. Dodecanese Islands.

28 *iP·Z* 18 52 46 *D* trace ampl.: 1 mm.
i·Z 52 47 trace ampl.: 3 mm.
e(S)·Z 52 56 trace ampl.: 8 mm.

29 *iP·Z* 19 45 43 *D*
Δ = 97°. Celebes.

30 *iP·Z* 21 26 23 *D* trace ampl.: 3 mm.
iS·Z 26 47 trace ampl.: 7 mm.

May

2 *iP·Z* 1 08 48 *C*
Δ = 49°. Sinkiang province, China.

2 *eP·Z* 12 23 43
Δ = 97°. Celebes.

4 *iP·Z* 10 10 04 *C* trace ampl.: 2 mm.
iS·Z 10 24 trace ampl.: 5 mm.

5 *iP·Z* 11 34 28 *D*
Δ = 47°. Kamchatka.

6 *eP·Z* 12 24 41
Δ = 75°. Mexico.

6 *eP·Z* 18 55 41
Δ = 45°. Kamchatka.

7 *iP·Z* 14 20 59 *C*
Δ = 56°. Japan.

9 *iP·Z* 0 22 05 *C*
e·Z 22 32
Δ = 68°. Deep? Ryukyu Islands.

9 *iP·Z* 16 39 13 *C*
Δ = 75°. Atlantic Ocean.

May

10 *iP·Z* 23h27m49s *C*
Δ = 73°. Mexico.

10 *iP·Z* 23 28 19 *C*
Δ = 63°. *h* = 100 km. Japan.

12 *iP·Z* 22 44 36 *D*
iS·N 54 37
L·N 23 10
Δ = 79°. Panama. No *E*-record.

13 *iP·Z* 16 15 10 *C*
eSS·N 24 7
L·N 28
Δ = 43°. Alaska Peninsula. No *E*-record.

14 *iP·Z* 22 28 14 *C*
Δ = 46°. Kamchatka.

15 *iP·Z* 21 45 13 *C*
Δ = 44°. Alaska Peninsula.

17 *iPn·Z* 9 20 49
ePb·Z 20 59
iPg·Z 21 10
eSn·Z 21 47
Δ = 5°. Svalbard.

18 *eP·Z* 6 46 02
i·Z 46 05
eS·N 54 37
L·E 7 07
Δ = 68°. *h* = 100 km. Ryukyu Islands.

18 *iP·Z* 8 51 12 *C*
Δ = 61°. Persian Gulf.

19 *iP·Z* 2 16 10 *C*
i·Z 16 12
iS·NE 23 40
Δ = 54°. 200 km. Hindu Kush.

20 *eP·Z* 4 24 33
Δ = 61°. Persian Gulf.

20 *iPKP·Z* 11 31 38 *D*
eSKS·N 38.7
L·N 12 12
Δ = 127°. Norfolk Island.

21 *eP·Z* 6 49 38
Δ = 47°. Greece.

21 *iP·Z* 8 29 17 *C*
Δ = 81°. Philippine Islands.

May

21 *ePKP·Z* 10h21m47s
i·Z 21 51
ePP·NE 23 21
eSKKS·N 30.0
ePS·E 33 31
iSS·NE 39 59
L·NE 58
$\Delta = 122°$. Chile.

21 *ePKP·Z* 11 12 49
i·Z 12 52
iPKP·Z 12 40 11
iPKP·Z 13 18 56
iPKP·Z 14 18 13
iPKP·Z 15 27 33
22 *ePKP·Z* 4 05 19
$\Delta = 122°$. 6 aftershocks.

22 *iPKP·Z* 10 49 34 *D*
ePS·N 11 01 06
eSS·N 07 51
L·NE 29
$\Delta = 123°$. Chile.

22 *ePKP·Z* 10 51 39
ePP·NE 53 11
ePS·NE 03 16
eSS·NE 09 46
$\Delta = 123°$. Chile.

22 *ePKP·Z* 12 35 41
$\Delta = 123°$. Aftershock.

22 *ePKP·Z* 19 14 53
ePP·Z 16 31
$\Delta = 123°$. Chile. No *H*-record.

22 *ePKP·Z* 19 29 34
$\Delta = 123°$. Chile. No *H*-record.

22 *ePKP·Z* 19 30 07
$\Delta = 124°$. Chile main shock. No *H*-record.

22 *i·Z* 20 35 49
i·Z 20 50 57
i·Z 21 03 56
i·Z 22 11 16
e·Z 22 26 31
i·Z 22 40 34
Probably 6 aftershocks.

22 *iPKP·Z* 23 23 36 $\Delta = 126°$
iPKP·Z 23 25 59 $\Delta = 126°$
iPKP·Z 23 51 38 $\Delta = 126°$

May

23 *iPKP·Z* 0h15m07s $\Delta = 127°$
ePKP·Z 0 44 41 $\Delta = 123°$
ePKP·Z 1 00 40 $\Delta = 124°$
ePKP·Z 1 53 52 $\Delta = 122°$
ePKP·Z 3 05 35 $\Delta = 127°$
ePKP·Z 3 15 22 $\Delta = 128°$
ePKP·Z 5 32 33 $\Delta = 123°$
10 aftershocks.

23 *ePKP·Z* 7 28 33
eSKP·Z 32 03
$\Delta = 133°$. Chile. No *H*-record.

23 *ePKP·Z* 10 57 05 $\Delta = 129°$
ePKP·Z 14 19 35 $\Delta = 132°$
2 shocks. Chile.

$23^d18^h5 - 24^d18^h5$. No *Z*-record.

24 *ePKP·NE* 15 06 20
ePKS·NE 09 55
L·NE 51
$\Delta = 148$. New Zealand.

24 *ePKP·Z* 20 52 01
i·Z 52 06
$\Delta = 136°$. Chile.

25 *ePKP·Z* 5 03 23
$\Delta = 132°$. Chile.

28 *ePKP·Z* 8 53 42
iPKS·NE 57 11
eSKKS·N 9 02 56
L·NE 35
$\Delta = 131°$. Chile.

25 *iPKP·Z* 13 04 40 *C*
$\Delta = 127°$. Chile.

25 *e·Z* 21 10 58

26 *ePKP·Z* 1 48 09
$\Delta = 126°$. Chile.

26 *eP·Z* 5 18 13
i·Z 18 14 *D*
iS·NE 24 38
eSS·NE 27 48
L·NE 31.8
$\Delta = 44°$. Albania.

26 *iP·Z* 18 17 46
$\Delta = 89°$. Sumatra.

26 *iP·Z* 20 15 58 *C*
$\Delta = 67°$. Assam.

May

27 *ePKP·Z* 23h19m11s $\Delta = 131°$
iPKP·Z 23 39 42 $\Delta = 130°$
28 *iPKP·Z* 6 25 16 $\Delta = 132°$
iPKP·Z 11 03 10 $\Delta = 126°$
ePKP·Z 11 24 33 $\Delta = 123°$
5 shocks. Chile.

28 *iP·Z* 11 43 57
$\Delta = 50°$. Crete.

28 *iPKP·Z* 11 58 42 $\Delta = 129°$
29 *ePKP·Z* 7 58 26 $\Delta = 123°$
ePKP·Z 8 53 16 $\Delta = 123°$
ePKP·Z 21 43 00 $\Delta = 130°$
4 shocks. Chile.

31 *eP·Z* 0 35 21
$\Delta = 73°$. Gulf of Aden.

31 *iPKP·Z* 2 59 01
$\Delta = 125°$. Chile.

31 *iP·Z* 11 13 08
iS·E 21 53
L·E 31
$\Delta = 66°$. Lesser Antilles.

31 *eP·Z* 11 53 04
Aftershock.

31 *iP·Z* 16 38 53
$\Delta = 126°$. Chile.

31 *iP·Z* 21 13 28 *D*
$\Delta = 99°$. $h = 600$ km. Java Sea.

June

1 *ePKP·Z* 5 21 52
ePS·Z 33 22
$\Delta = 123°$. Chile.

1 *iPKP·Z* 14 25 53 $\Delta = 130°$
2 *ePKP·Z* 2 58 09 $\Delta = 125°$
iPKP·Z 6 17 14 $\Delta = 132°$
3 quakes. Chile.

2 *eP·Z* 7 32 02
$\Delta = 55°$. Iran.

2 *eP·Z* 12 52 04
ePeP·Z 53 08
$\Delta = 54°$. Iran.

June

3 *eP·Z* 16h27m40s
$\Delta = 56°$. $h = 100$ km. Japan.

3 *L·NE* 22 10

4 *iP·Z* 2 38 18s *C*
L·N 3 04
$\Delta = 70°$. Mexico.

4 *eP·Z* 8 17 34
$\Delta = 42°$. Azores.

4 *iP·Z C* 9 00 06
$\Delta = 50°$. Crete.

4 *eP·Z* 9 23 53
eS·Z 24 46
$\Delta = 5°$.

4 *eP·Z* 11 13 00
$\Delta = 42°$. Azores.

4 *e·Z* 22 30 07

6 *iP·Z* 1 27 05 *D*
iS·NE 34 33
L·NE 43
$\Delta = 53°$. California.

6 *e(L)·Z* 2 56 35

6 *ePKP·Z* 6 14 55
iPKS·NE 18 19
eSS·N 34 23
L·N 50
L_Q (229°)? *NE* 7 32 $T = 100$ sec.
$\Delta = 131°$. Chile.

7 *iP·Z* 13 05 37 *C*
$\Delta = 46°$. Kamchatka.

8 *eP·Z* 16 28 20
e·Z 28 24
eS·NE 35 14
L·NE 42
$\Delta = 47°$. North Atlantic Ocean.

9 *iP·Z* 17 55 48 *D*
iS·NE 18 02 20
L·N 09
$\Delta = 44°$. Azores.

9 *eP·Z* 23 08 08
$\Delta = 90°$. Sumatra.

10 *e·Z* 7 21 40

June

11 *ePP·N* 15h32m41s
eSKS·NE 39 08
ePS·NE 42 13
L·NE 16 03
$\Delta = 107°$. New Guinea.

11 *ePP·NE* 16 56 23
eSKS·N 17 02 38
L·E 32
Repetition.

13 *ePKP·Z* 6 06 17 $\Delta = 130°$
14 *ePKP·Z* 3 13 20 $\Delta = 128°$
2 shocks. Chile.

14 *e·Z* 11 42 22

15 *i·Z* 15 46 44 *C*

16 *eP·Z* 3 37 15
$\Delta = 86°$. $h = 150$ km. Mariana Islands.

16 *iP·Z* 6 50 41 *D*
$\Delta = 84°$. Philippine Islands.

16 *i·Z* 16 18 14 *D*

16 *e·Z* 17 35 11

17 *iP·Z* 16 44 02 *C*
ePPP·N 46 38
eS·E 50 48
L·NE 58
$\Delta = 47°$. Aleutian Islands.

18 *iP·Z* 2 13 03 *C*
$\Delta = 50°$. Crete.

18 *iP·Z* 23 46 12 *C*
$\Delta = 100°$. Sumatra.

19 *iP·Z* 2 33 37 *D*
i·Z 35 57 *D*
$\Delta = 82°$. Andaman Islands.

19 *eP·Z* 17 28 39
$\Delta = 70°$. Bonin Island.

20 *ePKP·Z* 2 20 05
ePP·NE 21 41
eSKKS·E 28 49
eSKSP·N 31 26
eSS·NE 38 21
L·NE 3 00
$\Delta = 123°$. Chile.

June

20 *ePKP·Z* 13h18m40s
ePP·NE 20 24
eSS·NE 37 14
L·NE 14 01
$\Delta = 124°$. Chile.

21 *iP·Z* 12 56 50 *C*
$\Delta = 94°$. Molucca Passage.

22 *iP·Z* 23 37 16
iPCP·Z 38 53
$\Delta = 46°$. Aleutian Islands.

25 *iP·Z* 14 05 43
$\Delta = 79°$. Colombia.

25 *ePKP·Z* 15 00 54
L·NE 43
$\Delta = 129°$. Kermadec Islands.

25 *i·Z* 20 04 19 *C*

26 *ePKP·Z* 6 36 00
$\Delta = 130°$. Chile.

26 *e·Z* 7 45 25

28 *eP·Z* 21 11 38
$\Delta = 47°$. Mongolia.

29 *ePKP·Z* 2 16 21
L·NE 3.1
$\Delta = 131°$. Chile.

29 *ePKP·Z* 4 48 20
$\Delta = 128°$. Kermadec Islands.

29 *eP·Z* 5 25 10
$\Delta = 68°$. $h = 500$ km. Japan.

29 *eP·Z* 10 29 51
$\Delta = 35°$. Atlantic Ocean.

29 *eP·Z* 17 15 16
L·NE 31
$\Delta = 45°$. Aleutian Islands.

30 *iP·Z* 20 05 37 *D*
ePP·Z 07 06
$\Delta = 37°$. Alaska.

December 1962 HENRY JENSEN

Local shocks.

		(P)	(S)
January			
1	11h	*e* 13m19s	
	11	*e* 32 04	*i* 32m07s
	20	*e* 46 22	
2	0	*i* 04 38	
	10	*e* 42 05	
	14	*e* 50 52	*e* 51 11
	22	*e* 46 04	*e* 46 20
3	0	*i* 48 44	*e* 49 09 !
4	5	*e* 56 15	
	7	*e* 45 16	*e* 45 51
	7	*i* 46 58	
6	8	*e* 58 46	
8	2	*e* 17 40	
	8	*e* 55 05	
9	5	*e* 07 00	*e* 07 22
11	3	*i* 02 40	*i* 03 11
	4	*e* 55 44	*e* 56 15
11	21	*i* 40 14	*e* 40 50
12	2	*e* 24 21	*e* 24 36
	2	*e* 24 54	*e* 25 31
13	16	*e* 55 49	*e* 56 24
14	5	*e* 19 38	*e* 19 49
16	1	*e* 35 05	
	13	*e* 51 57	*i* 52 24
17	22	*e* 10 00	*e* 10 46
20	1	*e* 26 48	
	7	*i* 32 30	
	13	*e* 00 55	*e* 01 13
22	0	*e* 03.3	*e* 04.0
23	16	*e* 42 17	*e* 42 22
25	5	*e* 48 14	
26	3	*e* 19 49	*e* 20 23
26	23	*e* 49 23	*i* 50 06
27	12	*e* 06 47	*e* 07 08
27	23	*i* 58 21	*i* 58 40
28	5	*e* 03 18	
28	14	*e* 49 43	
28	23	*e* 09 06	
29	0	*e* 23 31	
29	1	*e* 21 06	
29	2	*e* 40 49	*e* 41 21
29	14	*e* 55 48	*e* 55 55
30	9	*e* 56 04	
31	2	*e* 29 19	
31	9	*e* 31 09	*e* 31 38
31	10	*e* 17 03	
February			
1	7	*e* 06 52	
2	22	*e* 24 52	*e* 25 17
3	1	*e* 34 43	*e* 35 08
4	3	*e* 02 42	*i* 02 57
4	21	*e* 07 52	
4	22	*e* 30 02	*e* 30 51
5	7	*e* 18 46	

		(P)	(S)
February			
5	9h	*e* 11m15s	*e* 11m48s
6	21	*e* 28 53	
7	19	*i* 13 15 *C*	*e* 13 37
7	20	*i* 30 40	*e* 31 00
11	9	*i* 27 06	*e* 27 22
11	23	*e* 21 53	*e* 22 14
12	8	*e* 25 26	
12	22	*e* 21 33	*i* 21 53
13	21	*e* 31 29	
14	8	*e* 36 11	
16	21	*e* 51 13	*e* 51 37
17	20	*e* 47 56	
18	0	*i* 19 53	*i* 20 32
18	2	*e* 08 45	
19	4	*e* 01 13	
19	16	*e* 14 55	
19	17	*e* 46 10	*e* 46 26
20	23	*e* 21 50	
20	23	*e* 30 42	
22	5	*e* 13 19	
22	12	*e* 14 07	*e* 14 25
22	13	*i* 37 58 *D*	
23	3	*e* 25 00	
23	11	*e* 03 28	*e* 03 55
24	0	*e* 17 42	
24	8	*e* 35 51	
24	8	*e* 38 36	
24	19	*e* 10 52	
25	2	*e* 18.4	*e* 18 54
25	8	*i* 24 33 *C*	*i* 24 48
		Trace ampl.: 5 mm. 10 mm.	
25	13	*i* 21 06 *C*	*i* 21 29
		Trace ampl.: 8 mm. 17 mm.	
25	14	*i* 10 39	
25	14	*e* 47 03	
25	19	*e* 39 34	*e* 39 52
		Trace ampl.: 2 mm. 5 mm	
26	21	*e* 40 28	
27	2	*i* 58 16	
27	4	*e* 29 36	
27	9	*i* 01 28	*e* 01 29
27	17	*e* 58 26	
28	3	*e* 08 25	
28	3	*e* 10 43	
28	8	*e* 39 52	*e* 40 26
28	17	*e* 08 26	
28	19	*e* 17 36	
29	4	*i* 04 27	
29	6	*e* 49 05	*e* 49 30
29	19	*e* 20 26	
March			
3	4	*e* 51 00	
3	11	*e* 03 37	
3	19	*e* 48 40	

		(P)		(S)	
March					
4	3h	*i* 38m12s	D	*e* 38m18s	
4	4	*e* 14 37			
8	10	*e* 02 02			
8	20	*e* 26 40			
9	9	*i* 30 07			
9	21	*e* 57 09			
10	03	*e* 37 41			
10	19	*e* 21 48			
11	13	*i* 14 30			
11	22	*e* 56 55		*e* 57 19	
12	7	*e* 59 33			
12	8	*e* 57 08			
12	16	*e* 01 52			
12	22	*e* 07 36			
13	17	*e* 06 14			
13	23	*e* 43 11			
	Trace ampl.: 5 mm				
14	0	*e* 27 04			
	Trace ampl.: 2 mm				
17	8	*e* 42 34			
17	9	*e* 12 34			
17	9	*e* 14 25			
17	15	*e* 41 46		*e* 42 19	
18	6	*e* 59 36			
18	9	*e* 12 53			
18	14	*e* 46 27			
18	15	*e* 41 04			
19	9	*e* 20 11		*e* 20 39	
19	11	*i* 16 16		*i* 16 18	
20	1	*e* 31 32		*i* 31 56	
20	12	*i* 05 14		*i* 05 32	
22	20	*e* 17 31		*e* 17 54	
25	2	*i* 30 24			
25	14	*e* 23 17			
27	2	*e* 22 43		*e* 23 03	
27	15	*e* 23 07		*e* 23 18	
28	18	*e* 00 33			
28	18	*e* 12 07		*e* 12 27	
29	2	*e* 18 34			
29	2	*e* 30 45			
29	6	*i* 47 09		*i* 47 27	
29	10	*e* 04 10			
30	16	*e* 26 36			
30	16	*e* 32 42			
31	0	*e* 52 23		*e* 53 05	
31	11	*i* 10 53		*e* 11 06	
31	14	*e* 28 09			
April					
1	13	*i* 57 40		*i* 58 06	
1	14	*e* 45 33		*e* 45 51	
5	4	*e* 43 15			
5	14	*e* 41 17		*e* 41 48	
5	18	*i* 16 06		*i* 16 30	
5	19	*i* 00 52		*i* 01 13	

		(P)		(S)	
April					
8	6h	*e* 09m24s		*i* 09m49s	
8	6	*e* 48 22			
9	0	*e* 00 31		*e* 00 57	
9	9	*i* 26 54		*i* 27 15	
12	3	*e* 35 56		*e* 36 26	
14	5	*i* 14 21	*C*	*i* 14 47	
	Trace ampl.: 3 mm. 8 mm.				
15	4	*e* 45 13		*e* 45 39	
16	0	*e* 16 54		*i* 16 57	
16	5	*i* 24 21		*i* 24 23	
17	9	*e* 13 55		*e* 14 29	
17	9	*e* 51 28		*i* 51 58	
17	12	*e* 34 52			
17	14	*i* 04 44			
17	19	*i* 57 57			
17	19	*i* 58 45			
18	4	*e* 49 52			
18	20	*i* 16 33			
20	5	*i* 43 03			
21	11	*e* 21 07		*e* 21 31	
21	11	*i* 58 53	*D*	*i* 59 21	
	Trace ampl.: 4 mm. 10 mm.				
22	9	*e* 16 53			
22	15	*e* 56 38		*e* 56 57	
23	17	*e* 48 36			
23	22	*e* 46 35		*e* 47 02	
24	3	*e* 04 41			
24	8	*i* 17 28	*D*	*i* 17 59	
	Trace ampl.: 5 mm. 12 mm.				
24	21	*e* 22 48		*e* 23 08	
25	9	*i* 32 58	*C*	*e* 33 24	
	Trace ampl.: 5 mm. 9 mm.				
26	8	*e* 24 29		*e* 24 46	
27	13	*e* 47 52		*e* 48 10	
27	16	*e* 32 20		*e* 32 58	
27	17	*e* 47 58		*e* 48 18	
28	12	*e* 34 54		*e* 35 16	
28	16	*e* 35 38			
28	16	*i* 37 39	*D*		
28	18	*i* 52 46	*D*	*e* 52 56	
	Trace ampl.: 1 mm. 8 mm.				
29	17	*e* 10.2		*e* 10 32	
30	20	*e* 25 49		*e* 26 20	
30	21	*i* 26 23	*D*	*i* 26 47	
	Trace ampl.: 3 mm. 7 mm.				
May					
1	17	*i* 36 25			
	Trace ampl.: 2 mm.				
2	13	*e* 43 20		*e* 43 50	
2	23	*e* 40 21		*e* 40 52	
3	5	*i* 41 56			
3	11	*e* 10 39			

		(P)		(S)	
May					
3	13h	*e* 47m12s		*e* 47m57s	
4	8	*e* 42 38		*e* 42 56	
4	10	*i* 10 04	*C*	*i* 10 24	
	Trace ampl.: 2 mm. 5 mm.				
4	11	*e* 52 18			
4	23	*e* 25 23		*e* 25 46	
5	4	*e* 02 00		*e* 02 21	
5	6	*e* 19 34		*e* 19 57	
5	6	*e* 56 33		*i* 57 13	
5	15	*e* 50 23			
5	19	*e* 33 22			
6	13	*e* 32 23			
7	0	*e* 19 48			
7	12	*e* 51 06		*e* 51 39	
7	22	*e* 18 55		*e* 19 20	
10	17	*i* 53 15	*C*	*e* 53 35	
12	20	*e* 13 55		*e* 14 17	
13	20	*e* 11 30		*e* 11 50	
13	20	*e* 47 48		*e* 48 20	
13	22	*e* 54 24		*e* 54 47	
14	19	*e* 36 25			
15	13	*e* 58 44			
17	0	*e* 07 42			
17	12	*e* 10 21		*e* 10 46	
17	14	*e* 18 02			
18	2	*e* 27 20		*e* 27 50	
18	6	*e* 55 21			
20	17	*i* 35 52	*D*	*i* 36 13	
21	5	*e* 30 11			
23	1	*e* 40 24		*e* 40 52	
25	5	*i* 32 54		*i* 33 31	
	Trace ampl.: 3 mm. 5 mm.				
25	5	*e* 35 50		*e* 36 18	
25	10	*e* 57 37		*e* 57 50	
25	23	*e* 30 26		*e* 30 55	
31	4	*i* 16 54		*i* 17 22	
31	21	*i* 01 14		*i* 01 50	
June					
1	5	*e* 09 03		*e* 09 42	
3	11	*e* 20 52		*e* 21 12	

		(P)		(S)	
June					
3	14h	*e* 13m58s		*e* 14m27s	
4	3	*i* 00 40	*C*	*e* 01 00	
5	4	*e* 55 46		*i*! 56 05	
5	20	*i* 15 33	*C*	*e* 15 47	
8	17	*e* 11 44		*e* 12 11	
10	23	*e* 08 08			
10	23	*e* 30 06		*e* 30 38	
11	4	*e* 45 51			
13	3	*e* 50 58			
13	5	*i* 48 05		*i* 48 25	
14	13	*e* 25 41		*e* 25 51	
14	16	*e* 15 31		*e* 15 50	
14	18	*e* 04 48			
15	3	*i* 48 14			
15	18	*i* 16 17		*i* 16 41	
15	22	*e* 43 30			
16	2	*e* 03 02			
16	20	*e* 56 38			
16	21	*e* 43 44		*e* 44 12	
17	3	*i* 33 03		*i* 33 19	
	Trace ampl.: 3 mm. 12 mm.				
17	7	*e* 57 12		*e* 57 21	
17	7			*e* 58 05	
17	10	*e* 18 10		*e* 18 44	
17	10	*e* 25 43		*e* 26 09	
18	4	*i* 08 12		*i* 08 32	
18	12	*e* 01 40			
19	11	*e* 58 34			
19	12	*e* 01 33			
20	10	*i* 35 33	*C*	*e* 35 49	
20	15	*e* 21 25		*e* 21 45	
24	7	*e* 26 17			
25	4	*e* 00 34			
25	6	*e* 49 07			
27	4	*e* 22 27			
27	7	*i* 45 06		*i* 45 30	
27	13	*e* 04 35		*e* 04 54	
28	10	*i* 33 35	*D*	*i* 33 38	
	Trace ampl.: 3 mm. 13 mm.				
29	16	*e* 14 37			
29	20	*e* 32 40		*e* 33 00	
29	23	*e* 29 29		*e* 29 48	

No. 10 Jul.–Dec. 1960

GEODÆTISK INSTITUT
Proviantgården · Copenhagen · Denmark

Bulletin of the seismological station

NORD

$\varphi = 81°36'$ N. $\lambda = 16°41'$ W. $h = 35$ m.

Lithologic foundation: calcareous greywacke

Instruments.

Willmore. Z. $T_p = 1$ sec, $T_g = {}^1/_4$ sec. No attenuation.

Strobach. N and E. $T = 6$ sec, $\nu = 15{:}1$, $V_0 = 500$. (Belongs to Geophysikalisches Institut, Hamburg.)

Seismological Readings. Distant quakes.

Phases are indicated by the symbols used in ISS. Times are given in GMT. Positions of epicenters are usually those given by USCGS. The periods given are periods of full oscillations. For N and E the amplitudes given are single ground amplitudes. For Z trace amplitudes are given. C means compression, D dilatation.

Seismological Readings. Local shocks.

Distances less than 5°. Some tremors of not-seismic origin may be included.

July

1 *eP·Z* 8h07m03s
Δ = 43°. Komandorskie Islands.

2 *eP·Z* 4 37 57
Δ = 47°. Aleutian Islands.

2 *ePKP·Z* 9 17 17
Δ = 131°. Chile.

2 *ePKP·Z* 12 14 56
ePP·ZNE 17 49

2 *eP·Z* 16 27 19
eS·Z 28 29

3 *eP·Z* 3 27 46
Δ = 46°. Aleutian Islands.

3 *iP·NE* 20 29 28
Δ = 48°. Aleutian Islands.

4 *eP·NE* 4 36 33
Δ = 42°. Queen Charlotte Islands.

4 *L·NE* 13 32.0
Δ = 42°. Queen Charlotte Islands.

5 *eP·Z* 21 27 25
Δ = 93°. *h* = 600 km. Brazil.

6 *iP·ZNE* 5 25 50 *C*
ePcP·Z 27 06
e·Z 27 55
eS·N 33 11
Δ = 54°. *h* = 200 km. Hindu Kush.

7 *eP·Z* 22 46 53
Δ = 52°. Afghanistan.

8 *iP·Z* 13 02 12
Δ = 67°. *h* = 100 km. Japan.

9 *e·Z* 8 22 17
Banda Sea.

9 *iP·Z* 22 50 51
Δ = 43°. Yugoslavia.

10 *eP·ZNE* 00 18 36
eS·NE 29 06
L·NE 55.0
Δ = 94°. *h* = 150 km. Sumatra.

11 *iP·Z* 00 01 34 *D* trace ampl.: 5 mm.
iP·ZNE 02 02 trace ampl.: 12 mm

July

11 *eP·Z* 12h02m46s
e·Z 04 22
Δ = 47°. Aleutian Islands.

11 *e·Z* 12 53 21

12 *e·Z* 10 46 36

12 *e·Z* 17 46 09
e·Z 48 05

13 *iP·Z* 2 39 56 *C*
Δ = 56°. *h* = 120 km. Japan.

13 *e·Z* 5 38 21
e·Z 38 59

13 *ePKP·Z* 8 15 24
Δ = 135°. Bouvet Islands region.

13 *eP·Z* 13 09 05 *D*
Δ = 45°. Greece.

13 *eP·Z* 16 35 05
ipP·Z 35 37 *D*
Δ = 71°. *h* = 150 km. Mexico.

14 *eP·Z* 22 20 26
Δ = 53°. Hindu Kush.

16 *e(P)·Z* 20 47.8
e(S)·Z 49 11

18 *eP·Z* 1 06 34
Δ = 86°. *h* = 150 km. Nicobar Islands.

18 *e·Z* 11 49 34

18 *e(P)·Z* 13 57 47
e(S)·Z 59 14

19 *e·Z* 0 51 53

19 *eP·Z* 1 33 39
e·Z 34 42

19 *e(P)·Z* 3 10 10
e·Z 12 24
e·Z 13 46

19 *eP·Z* 4 32 29
Δ = 93°. Off Peru.

19 *eP·Z* 16 15 13
Δ = 68°. *h* = 200 km. Mexico.

19 *eP·Z* 18 42 01
Δ = 85°. *h* = 100 km. Mariana Islands.

July

20 *e·Z* 0h21m24s

20 *e·Z* 0 27 32

20 *e·Z* 3 11 54

20 *eP·Z* 9 27 15
Δ = 46°. Greece.

20 *eP·ZNE* 9 39 32
eS·NE 46 41
L· 57.0
Δ = 49°. Kurile Islands.

20 *e·Z* 13 04 49

20 *e·Z* 18 33 46

20 *ePKP·Z* 21 17 54
Δ = 118°. *h* = 200 km. New Hebrides.

22 *eP·Z* 3 06 37

22 *iP·Z* 15 10 05
e·Z 11 04

23 *eP·Z* 1 20 55
21 16

25 *eP·ZNE* 3 49 09
eS·NE 55 35
L·NE 63.7
Δ = 44°. Kamchatka.

25 *iP·ZNE* 11 20 10
e·NE 25 27
eS·NE 26 36
eSS·NE 29 53
Δ = 45°. *h* = 100 km. Kamchatka.

26 *eP·Z* 4 05 45
Δ = 58°. Japan.

26 *eP·Z* 12 44 35
Δ = 45°. Turkey.

27 *ePKP·Z* 10 24 02
ePKS·NE 27 26
L·NE 76
Δ = 130°. *h* = 150 km. Chile.

28 *e·Z* 0 57 19

28 *e·Z* 15 23 53

28 *e·Z* 20 13 25
e·Z 14 11

July

29 *ePKP·Z* 00h42m57s
ePP·ZNE 44 12
Δ = 118°. Loyalty Islands.

29 *eP·Z* 09 41 37
e·Z 45 55;
Δ = 82°. Venezuela.

29 *eP·Z* 10 53 34
Δ = 66°. India.

29 *eP·Z* 14 43 33
L·NE 68.0

29 *eP·ZNE* 17 41 27
e·ZNE 41 30
eS·NE 49 24
L·NE 57
Δ = 58°. Japan.

30 *e·Z* 20 10 31

31 *e·Z* 02 11 16

31 *eSKS·NE* 3 20.7
ePS·NE 23 20
e·NE 29.1
L·NE 46.8
Δ = 104°. *h* = 100 km. New Britain.

31 *L·NE* 7 56.8
Δ = 104°. *h* = 100 km. New Britain.

31 *ePKP·Z* 15 14 00
Δ = 129°. *h* = 100 km. Chile.

August

1 *eP·Z* 2 30 49
Δ = 59°. *h* = 110 km. Iran.

1 *e·Z* 8 17 08

1 *e·Z* 9 46 33

2 *e·Z* 4 06 12
e·Z 06 30

2 *e·Z* 8 18 20

2 *i·Z* 14 14 09

2 *eP·ZNE* 20 51 56 trace ampl.: 3 mm
iS·ZNE 52 15 trace ampl.: 3 mm
L·ZNE 53 21 *T* = 10 sec.
Δ = 3½°. Arctic Ocean.

August

2 *e·Z* 20h58m19s

3 *e·Z* 3 29 01

4 *e·Z* 3 52 44

4 *eP·ZNE* 7 43 20
ePPP·N 45 48
iS·NE 50 10
L·ZNE 57.1
Δ = 47°. Aleutian Islands.

4 *ePKP·Z* 11 34 46
Δ = 124°. Chile.

4 *eP·Z* 14 13 58
Δ = 47°. Aleutian Islands.

4 *eP·Z* 21 31 05
Δ = 56°. *h* = 100 km. Japan.

5 *e·Z* 3 35 29

5 *L·NE* 22 57

6 *ePKP·Z* 15 08 48
Δ = 128°. Chile.

6 *e·Z* 20 30 37

6 *e·Z* 23 16 05

7 *e·Z* 8 26 30

8 *eP·Z* 20 45 03
Δ = 49°. Greece.

9 *eP·Z* 0 57 57

9 *eP·Z* 7 48 43
eS·NE 56 20
Δ = 53°. California.

9 *eP·Z* 13 20 50

9 *eL·NE* 17 45
Δ = 123°. Tonga Islands.

10 *e·Z* 0 58 57

11 *e·Z* 2 45 13
e·Z 45 49

11 *iP·Z* 5 03 15

11 *e·Z* 11 05 42

11 *e·Z* 11 20 55

August

11 *e·Z* 20h59m24s

12 *iP·Z* 13 22 47 *C*
Δ = 62°. Japan.

12 *e·Z* 20 15 49

13 *iP·ZNE* 7 20 53 *C*
Δ = 58°. Japan.

13 *ePKP·Z* 14 33 51
ePP·Z 35 40
L·NE 75
Δ = 125°. Chile.

14 *eP·Z* 22 46 32
Δ = 54°. Hindu Kush.

15 *e·Z* 2 42 49

16 *e·Z* 5 12 00

16 *e·Z* 19 57 26
57 52
58 13

17 *e·Z* 22 15 52

18 *e·Z* 1 26 38
27 04

18 *eP·Z* 4 39 33 trace ampl.: 2 mm
e(S)·Z 39 54 trace ampl.: 4 mm

18 *eP·Z* 20 56 24
Δ = 54°. Kurile Islands.

19 *eP·Z* 12 52 21
Δ = 71°. *h* = 430 km. Bonin Islands.

21 *iP·Z* 13 02 23 *D*
Δ = 92°. *h* = 200 km. Philippines.

25 *eP·Z* 17 50 16
Δ = 45°. Aleutian Islands.

27 *eP·Z* 10 26 08
ePPP·Z 28 40
Δ = 50°. Crete.

27 *e·Z* 18 24 39

28 *eP·Z* 13 26 02 trace ampl.: 1 mm
e(S)·Z 26 27 trace ampl.: 4 mm

28 *eP·Z* 21 57 47 trace ampl.: 2 mm
e(S)·Z 58 12 trace ampl.: 5 mm

August

28 *eP·Z* 23h48m44s trace ampl.: 5 mm
e(S)·Z 49 30 trace ampl.: 1 mm

29 *e·Z* 11 51 17

September

1 *iP·ZNE* 15 44 55 *C*
Δ = 41°. Alaska.

2 *L·E* 22 23
Δ = 46°. Aleutian Islands.

3 *ePKP·Z* 21 00 45
Δ = 145°. South of Australia.

3 *eP·Z* 23 55 46
Δ = 54°. Kurile Islands.

5 *e(P)·Z* 2 51 44
e·Z 53 26

5 *e·Z* 11 59 09

6 *eP·Z* 15 34 12
Δ = 57°. Japan.

6 *eP·Z* 21 29 42
Δ = 24°. Canadian Arctic.

7 *e·Z* 5 38 20

7 *e·Z* 13 17 39
17 46

7 *i·Z* 23 07 27

7 *eP·Z* 23 10 38 trace ampl.: 1 mm
e(S)·Z 11 02 trace ampl.: 4 mm

8 *eP·Z* 11 20 41
Δ = 91°. Philippines.

9 *eP·Z* 16 21 48
e·Z 22 08
eS·Z 23 30
Δ = 11°. Jan Mayen region.

9 *e·Z* 20 07 00
e·Z 08 47
Repetition.

10 *eP·Z* 0 28 00
Δ = 49°. Crete.

10 *eP·Z* 10 57 01
Δ = 92°. Celebes.

September

12 *e·Z* 7h55.3m
e·Z 55 38

12 *iP·Z* 12 28 16 *C*
Δ = 70°. Ryukyu Islands.

13 *eP·Z* 3 19 45
Δ = 71°. *h* = 440 km. Bonin Islands.

14 *eP·Z* 0 46 32
Δ = 79°. Philippines.

14 *e·Z* 4 00 00

14 *e·Z* 13 51 01

15 *e·Z* 18 08 56

16 *eP·Z* 1 36 43
Δ = 48°. Turkey.

16 *eP·Z* 1 48 01
Δ = 51°. Tadzhik, USSR.

17 *eP·Z* 8 01 38
Δ = 49°. Kurile Islands. Foreshock.

17 *eP·Z* 8 14 17
Δ = 49°. Kurile Islands.

19 *eP·Z* 3 51 (43)
ePcP·Z 51 49
eS·NE 61 53
M·NE 92.1 T = 15 sec.
Δ = 80°. Philippines.

19 *eP·Z* 19 13 27
e·Z 13 30
e·Z 13 35
eS·NE 23 24
L·NE 34.5
Δ = 79°. Colombia-Panama border.

21 *eP·Z* 0 21 26
eS·Z 24 28
ePcP·Z 26 30
Δ = 16°. Iceland.

21 *eP·Z* 10 46 38
Δ = 45°. Aleutian Islands.

21 *eP·Z* 16 19 08 *D*
Δ = 70°. East China Sea.

21 *eP·Z* 23 14 35
Δ = 56°. Iran.

September

22 *eP·Z* 9h18m23s
e·ZNE 27 44
Δ = 88°. Congo.

22 *eP·Z* 22 55 26
Δ = 46°. Aleutian Islands.

25 *e·Z* 3 07 53

25 *eP·Z* 17 42 14
Δ = 77°. Mariana Islands.

26 *eP·Z* 11 47 00
Δ = 64°. Japan.

26 *eP·Z* 15 21 50
Δ = 46°. Aleutian Islands.

27 *ePKP·Z* 2 32 55
Δ = 131°. Chile.

27 *e·Z* 12 42 35

27 *eP·Z* 18 48 11
Δ = 83°. Mariana Islands.

28 *eP·Z* 5 39 50
Δ = 61°. China.

28 *e·Z* 7 36 15

29 *e·Z* 0 45 13
e·NE 47 51

29 *eP·Z* 10 12 23 trace ampl.: 2 mm
e(S)·ZNE 12 48 trace ampl.: 8 mm

29 *eP·Z* 11 30 11
e·ZNE 30 14
eS·NE 39 36
Δ = 77°. *h* = 470 km. Mariana Islands.

30 *eP·Z* 6 43 22
eS·NE 50.1
eScS·NE 53.4
Δ = 45°. Western Canada.

October

1 *eP·Z* 3 11 58
Δ = 70°. Birma.

1 *iP·Z* 5 39 20
Δ = 49°. Crete.

October

1 *eP·ZNE* 16h19m21s
e·Z 20 56
ePPP·ZNE 21 52
L·N 33.3
Δ = 47°. Aleutian Islands.

3 *eP·Z* 0 59 18
Δ = 60°. Pakistan.

3 *e·Z* 2 43 39

3 *e·Z* 13 32.1
e·Z 32 34

3 *e·Z* 20 08 35

4 *e·Z* 6 40 46

6 *eP·ZNE* 20 00 49
eS·N 05.2
Δ = 24°. North Atlantic Ocean.

7 *eP·Z* 3 20 41
e·Z 23 00
Δ = 24°. North Atlantic Ocean.

7 *eSKS·NE* 15 43 11
Δ = 105°. Banda Sea.

8 *iP·Z* 2 03 11 *C*
ePP·Z 05 51
Δ = 72°. Mexico.

8 *iP·ZNE* 6 01 55
epP·Z 03 55
e·Z 05 45
iS·NE 09 07
e·Z 09 09
e·Z 31.0
Δ = 57°. *h* = 610 km. Japan.

8 *e·Z* 19 23 43

11 *eP·Z* 8 14 42
L·Z 30.4
Δ = 52°. Colorado.

13 *eP·Z* 2 28 35
Δ = 39°. Rumania.

13 *eP·Z* 15 00 39
e·ZNE 00 43
eS·NE 07 10
MR·N 19.0 *T* = 20 sec.
Δ = 44°. Kamchatka.

14 *eP·Z* 20 47 47

October

14 *eP·Z* 21h27m34s
e·E 27 54
ePP·Z 29 12
e·Z 32 59 *T* = 2 sec.
eSS·NE 37.4
M·N 49.1 *T* = 15 sec.
Δ = 47°. Aleutian Islands.

14 *eP·Z* 23 01 20
Δ = 27°. North Atlantic Ocean.

16 *e·Z* 9 46 12

17 *eP·Z* 15 57 47 *D*
Δ = 81°. Columbia.

17 *eP·Z* 16 08 22
Δ = 81°. Columbia.

17 *eP·Z* 19 11 20
Δ = 51°. North Atlantic Ocean.

17 *eP·Z* 21 27 45

17 *eP·Z* 22 26 56
e·Z 28 31

18 *eP·Z* 0 30 06
e·Z 31 45
Δ = 46°. Aleutian Islands.

18 *e·Z* 15 18 04
e·Z 18 14

19 *eP·Z* 5 14 22
North Atlantic Ocean.

20 *e·Z* 6 24 17

20 *eP·Z* 12 47 58

21 *iP·Z* 2 12 36 *C*
Δ = 86°. Nicobar Islands.

23 *eP·Z* 6 41 24
Δ = 51°. North Atlantic Ocean.

24 *eP·Z* 0 18 14
e·Z 18 16 *C*

24 *eP·Z* 10 38 28

27 *iP·Z* 5 52 09 trace ampl.: 2 mm
i·Z 52 35 trace ampl.: 5 mm

27 *eP·Z* 11 03 37 *T* = ½ sec.
Δ = 80°. Philippines.

October

27 *eP·Z* 12h48m01s
i·Z(N) 48 03 trace ampl.: 9 mm
iS·Z(NE) 49 53 trace ampl.: 8 mm
i·NE 49 57
Δ = 10°. Jan Mayen Region.

27 *eP·Z* 14 41 01
Δ = 10°. Arctic Ocean.

27 *eP·Z* 15 41 46 trace ampl.: 7 mm
iS·Z 43 40 trace ampl.: 3 mm
Δ = 10°. Jan Mayen Region.

27 *e·Z* 22 56 59

28 *eP·Z(N)* 4 21 09 *C.* trace ampl.: 24 mm
i·NE 21 11
iS·Z 22 53 trace ampl.: 26 mm
e·NE 23 00
M·E 29.1 *T* = 10 sec.
Δ = 10°. Jan Mayen Region.

28 *eP·Z* 4 51 33
e·Z 53 20

28 *eP·Z* 5 29 37
eS·Z 31 30
Δ = 10°. Jan Mayen Region

28 *iP·Z(NE)* 7 49 04 *D* trace ampl.: 14 mm
iS·Z(NE) 50 54 trace ampl.: 19 mm

28 *e·Z* 12 54 59
e·Z 56 45

28 *iP·Z* 13 26 36
i·N 26 37
i·E 26 39
e·Z 31 53
i·NE 33 14
Δ = 47°. *h* = 100 km. Kamchatka.

28 *e·Z* 22 38 43

28 *eP·Z* 22 39 50
e·NE 48.4
L·NE 60.3
Δ = 63°. *h* = 100 km. Japan.

29 *eP·Z* 4 27 52
Δ = 68°. Mid-Atlantic Ridge.

29 *e·Z* 18 34 38

30 *e·Z* 6 51 36

30 *e·Z* 21 51 48

October

31 $eP \cdot Z$ 21h01m59s $T = 1/2$ sec.
$\Delta = 74°$. Bonin Islands.

November

1 $ePKP \cdot Z$ 9 04 52 D
$e \cdot Z$ 06 19
$ePS \cdot NE$ 16 28
$L \cdot N$ 54.6
$\Delta = 123°$. Chile.

1 $eP \cdot Z$ 19 14 52
$ePcP \cdot Z$ 16 15
$\Delta = 48°$. $h = 160$ km. Kamchatka.

1 $e \cdot Z$ 22 02 36

1 $e \cdot Z$ 23 54 01

2 $e \cdot Z$ 7 09 44

2 $e \cdot Z$ 7 58 54

2 $e \cdot Z$ 9 06 36

2 $eP \cdot Z$ 16 42 56
$\Delta = 70°$. $h = 120$ km. Pakistan-Burma border.

2 $e \cdot Z$ 17 32 –
$e \cdot Z$ 34 17
$e \cdot Z$ 44 37

3 $e \cdot Z$ 23 52 56
$e \cdot Z$ 54 48

4 $e \cdot Z$ 2 36 57

4 $e \cdot Z$ 2 57 47

4 $e \cdot Z$ 7 52 39

4 $e \cdot Z$ 13 01 27

4 $e \cdot Z$ 20 14 08

5 $e \cdot Z$ 9 47 02

5 $iP \cdot Z$ 20 29 02 C
$e \cdot Z$ 29 25
$e \cdot Z$ 30 09
$\Delta = 44°$. Greece.

6 $e \cdot Z$ 2 30 58

November

6 $i \cdot ZN$ 4h46m37s C
$eS \cdot N$ 53 13
$e \cdot N$ 56 48
$\Delta = 45°$. Kamchatka.

6 $eP \cdot Z$ 22 18 21
$ePP \cdot Z$ 19 57
$L \cdot NE$ 33.5
$\Delta = 45°$. Aleutian Islands.

7 $eP \cdot Z$ 13 33 48
$\Delta = 66°$. Japan.

8 $eP \cdot Z$ 0 29 28
$\Delta = 53°$. China-Mongolia border.

8 $eP \cdot Z$ 4 37 46
$\Delta = 55°$. North Atlantic Ocean.

8 $eP \cdot Z$ 23 11 15

9 $ePKP \cdot Z$ 3 37 23
$ePKS \cdot ZNE$ 40 30
$\Delta = 142°$. Sandwish Islands.

9 $eP \cdot Z$ 10 54 00
$L \cdot NE$ 79.5
$\Delta = 61°$. China.

9 $iP \cdot Z$ 12 37 14 C trace ampl.: 4 mm
$e(S) \cdot NE$ 37 36 trace ampl.: 7 mm

10 $eP \cdot Z$ 2 04 06
$e \cdot Z$ 04 57
$\Delta = 54°$. $h = 190$ km. Hindu Kush.

10 $eP \cdot Z$ 5 40 38
$\Delta = 52°$. North Atlantic Ocean.

10 $eP \cdot Z$ 14 58 33
$ePP \cdot Z$ 62 40
$\Delta = 100°$. New Guinea.

11 $eP \cdot Z$ 5 39 40
$\Delta = 45°$. Greece.

11 $eP \cdot Z$ 13 53 21
$\Delta = 44°$. Kamchatka.

13 $eP \cdot Z$ 6 50 26
$e \cdot Z$ 50 39
$\Delta = 95°$. Moluccas.

13 $eP \cdot ZNE$ 9 29 00
$e \cdot NE$ 35 33
$\Delta = 47°$. Aleutian Islands.

November

13 $eP \cdot Z$ 12h34m00s
$\Delta = 47°$. Aleutian Islands.

13 $e \cdot Z$ 13 32 54

13 $eP \cdot Z$ 13 36 34
$\Delta = 46°$. Aleutian Islands.

13 $e \cdot Z$ 14 52 09

13 $eP \cdot Z$ 17 27 40
$\Delta = 46°$. Aleutian Islands.

14 $eP \cdot Z$ 20 10 58
$\Delta = 73°$. $h = 110$ km. Mexico.

15 $eP \cdot Z$ 9 17 04
$\Delta = 70°$. $h = 100$ km. Burma-India border.

15 $e \cdot Z$ 19 19 47

16 $e \cdot Z$ 2 07 55

16 $iP \cdot Z$ 23 09 20 C

17 $e \cdot Z$ 4 28 34
$e \cdot Z$ 30 12

17 $e \cdot Z$ 7 42 25

17 $eP \cdot Z$ 19 55 08
$ePP \cdot Z$ 56 45
$\Delta = 46°$. Aleutian Islands.

17 $ePKP \cdot Z$ 21 42 21
$\Delta = 147°$. South Pacific Ocean.

18 $e \cdot Z$ 6 02 11

18 $iP \cdot Z$ 6 12 24
$\Delta = 50°$. Mediterranean Sea.

18 $iP \cdot Z$ 7 00 06 trace ampl.: 1 mm
$i \cdot Z$ 00 07 trace ampl.: 8 mm
$i(S) \cdot Z$ 00 29 trace ampl.: 13 mm

18 $e \cdot Z$ 7 24 44

18 $eP \cdot Z$ 11 44 38 trace ampl.: 2 mm
$e(S) \cdot Z$ 44 56 trace ampl.: 2 mm
$e \cdot Z$ 45 01 trace ampl.: 5 mm

18 $eP \cdot Z$ 20 50 24

19 $e \cdot Z$ 21 26 34

19 $e \cdot Z$ 21 45 58

November

20 $e \cdot Z$ 1h08m03s

20 $e \cdot Z$ 1 36 15

20 $eP \cdot Z$ 22 15 10
$e \cdot Z$ 17 57
$eSKS \cdot NE$ 25 50
$\Delta = 93°$. Peru.

22 $eP \cdot Z$ 3 14 38
$\Delta = 74°$. Atlantic Ocean.

22 $ePKP \cdot Z$ 6 40 40
$ePP \cdot Z$ 42 22
$\Delta = 122°$. Indian Ocean.

22 $eP \cdot Z$ 7 17 36
$\Delta = 46°$. Kamchatka.

22 $ePKP \cdot Z$ 12 47 49
$ePP \cdot Z$ 49 35
$\Delta = 125°$. $h = 110$ km. Chile.

23 $ePP \cdot Z$ 14 32 45
$e \cdot Z$ 41 18
$eSS \cdot N$ 49.9 $T = 32$ sec.
$L \cdot N$ 69
$\Delta = 122°$. Tonga Islands.

23 $eP \cdot Z$ 17 05 10
$\Delta = 92°$. Philippines.

23 $eP \cdot Z$ 20 12 02 trace ampl.: 3 mm
$i(S) \cdot ZE$ 21 31 trace ampl.: 9 mm.

24 $eP \cdot Z$ 5 04 05
$\Delta = 103°$. New Britain.

24 $ePKP \cdot ZNE$ 7 11 36
$e \cdot NE$ 21 17
$e \cdot Z$ 21 36
$e \cdot Z$ 24 15
$eSS \cdot NE$ 30.0
$eG \cdot NE$ 44.0
$L \cdot NE$ 48.4
$\Delta = 123°$. Tonga Islands.

25 $eP \cdot Z$ 22 04 07
$ePcP \cdot Z$ 04 43
$e \cdot Z$ 05 17
$ePS \cdot ZNE$ 12 11
$\Delta = 60°$. $h = 100$ km. Japan.

26 $eP \cdot Z$ 7 47 11
$\Delta = 61°$. Japan.

26 $e \cdot Z$ 11 58 53
$e \cdot Z$ 59 13

November

26	$e \cdot Z$	$14^h18^m52^s$	
27	$e \cdot Z$	11 35 33	
27	$eP \cdot Z$	15 26 40	
	$\Delta = 55°$. Japan.		
28	$eP \cdot Z$	5 21 28	
	$ePcP \cdot Z$	22 54	
	$\Delta = 48°$. Turkey.		
28	$ePP \cdot Z$	5 38 05	
	$e \cdot Z$	38 21	
	$\Delta = 22°$. Baffin Bay.		
29	$ePKP \cdot Z$	9 51 04	
	$\Delta = 130°$. Chile.		
29	$eP \cdot Z$	14 18 03	
	$ePcP \cdot Z$	18 25	
	$\Delta = 70°$. Ryukyu Islands.		
29	$eP \cdot Z$	18 31 47	
30	$e \cdot Z$	6 40 55	

December

1	$eP \cdot Z$	20 58 01	
	$ePP \cdot Z$	59 40	
	$eScS \cdot NE$	68 03	
	$L \cdot NE$	73.7	$T = 20$ sec.
	$Lg \cdot NE$	74 16	$T = 6$–10 sec. reverse dispersion.
	$\Delta = 45°$. Vancouver Island.		
2	$e \cdot NE$	9 45 02	
	$L \cdot NE$	57	
3	$eP \cdot Z$	4 33 24	
	$\Delta = 52°$. Outer Mongolia.		
3	$eP \cdot Z$	7 15 59	
	$e \cdot Z$	16 46	
	$\Delta = 46°$. Aleutian Islands.		
3	$eP \cdot Z$	18 05 36	
	$\Delta = 52°$. Outer Mongolia.		
3	$eP \cdot Z$	20 25 47	
	$\Delta = 21°$. Lapter Sea.		
4	$e \cdot Z$	8 08 34	
	$e \cdot Z$	08 43	
4	$e \cdot Z$	21 54 30	

December

5	$eP \cdot Z$	$8^h47^m53^s$	
	$\Delta = 52°$. Outer Mongolia.		
5	$e \cdot Z$	11 45 16	
5	$e \cdot Z$	17 28 52	
5	$eP \cdot Z$	17 57 50	
	$\Delta = 44°$. Kamchatka.		
5	$eP \cdot Z$	18 15 36	
	$\Delta = 44°$. Kamchatka.		
5	$eP \cdot Z$	21 30 12	
	$\Delta = 46°$. Gibraltar.		
6	$eP \cdot Z$	3 44 36	
	$\Delta = 52°$. Outer Mongolia.		
6	$eP \cdot Z$	4 08 56	
	$\Delta = 52°$. Outer Mongolia.		
6	$eP \cdot Z$	9 08 08	
	$ePcP \cdot Z$	08 20	
	$e \cdot Z$	14 4	
	$\Delta = 78°$. Panama.		
6	$eP \cdot Z$	18 32 10	
	$\Delta = 82°$. Philippine Islands.		
6	$e \cdot Z$	21 59 21	
	$e \cdot Z$	59 39	
7	$eP \cdot Z$	7 49 19	
9	$eP \cdot Z$	21 27 20	
	$\Delta = 110°$. Jan Mayen.		
10	$eP \cdot Z$	14 08 10	
	$\Delta = 95°$. $h = 300$ km. Celebes Sea.		
11	$eP \cdot Z$	3 31 31	
	$\Delta = 95°$. Molucca Passage.		
11	$eP \cdot Z$	10 16 02	
	$e(S) \cdot Z$	17 13	
11	$eP \cdot Z$	13 23 31	
	$e(S) \cdot Z$	24 42	
11	$eP \cdot Z$	13 47 46	
	$e(S) \cdot Z$	48 57	
11	$eP \cdot Z$	13 50 23	
	$e(S) \cdot Z$	51 34	

December

11	$e \cdot Z$	$14^h06^m25^s$	
11	$e \cdot Z$	14 30 49	
11	$e \cdot Z$	17 45 07	
11	$eP \cdot Z$	20 43 01	
	$e(S) \cdot Z$	44 12	
12	$e \cdot Z$	5 01 20	
12	$e \cdot Z$	15 24 59	
13	$ePKP \cdot NE$	7 56.5	
	$e \cdot N$	58 19	
	$L \cdot NE$	8 40	
	$\Delta = 149°$. Macquarie Islands.		
15	$eP \cdot Z$	00 04 38	
	$i \cdot Z$	04 41	C
	$eSKS \cdot NE$	15 08	
	$\Delta = 94°$. Molucca Passage.		
15	$eP \cdot Z$	15 48 09	
	$e(S) \cdot Z$	49 20	
15	$e \cdot Z$	2 51 57	
		52 45	
16	$eP \cdot Z$	1 28 31	
	$\Delta = 47°$. Aleutian Islands.		
17	$eP \cdot Z$	16 53 51	
	$\Delta = 50°$. Kurile Islands.		
19	$eP \cdot Z$	7 02 08	
	$\Delta = 74°$. Atlantic Ocean.		
19	$eP \cdot Z$	10 12 09	
	$\Delta = 74°$. Atlantic Ocean.		

December

21	$eP \cdot Z$	$14^h46^m42^s$	D
	$ePP \cdot Z$	48 10	
	$ePcP \cdot Z$	49 10	
	$eS \cdot Z$	52 42	
	$\Delta = 35°$. Alaska.		
21	$e \cdot Z$	22 01 53	
22	$eP \cdot Z$	3 14 49	
	$ePcP \cdot Z$	14 57	
	$ePP \cdot Z$	18 01	
22	$e \cdot Z$	14 36 13	
23	$eP \cdot Z$	19 42 50	
	$\Delta = 81°$. Phillippines.		
25	$eP \cdot Z$	20 35 40	
	$\Delta = 44°$. Kamchatka.		
26	$e \cdot Z$	1 13 18	
26	$eP \cdot Z$	1 55 12	
	$\Delta = 64°$. $h = 110$ km. Japan.		
26	$ePKP \cdot Z$	4 51 44	
	$\Delta = 139°$. Sandwich Islands.		
27	$e \cdot Z$	19 14 05	
28	$eP \cdot Z$	5 48 25	
	$\Delta = 49°$. Greece.		
29	$ePKP \cdot Z$	10 55 46	
	$\Delta = 131°$. Chile.		
29	$eP \cdot Z$	18 28 16	
	$\Delta = 48°$. Crete.		
31	$ePKP \cdot Z$	18 27 12	
	$\Delta = 129°$. Chile.		

Local shocks.

			(P)	(S)
July				
1	21h	e	25m49s	
2	2	e	40 29	
	12	e	53 13	
3	12	e	25 54	
	13	e	03 18	e 03m49s
7	0	e	50 43	
9	10	e	12 21	e 12 40
	22	e	31 12	e 31 36
11	0	i	01 34 D	i 02 02
	Trace ampl.: 5 mm. 12 mm.			
	13	e	13 29	
	21	e	36 16	
12	9	e	08 08	e 08 31
13	8	e	36 07	e 36 51
14	0	e	39 47	
	10	e	40 11	
	19	e	09.6	i 09 57
	20	e	44.9	e 45 08
	21	e	16.5	i 17 00
	21	e	37 16	
15	0	e	54 51	e 55 18
16	11	e	39 43	e 40 26
	19	i	13 36	e 13 42
	19	e	42 24	e 42 37
17	5	e	42 59	
18	11	e	49 34	
	13	e	34.6	i 34 50
18	15	e	21.2	i 21 33
	4	e	43 52	
	7	e	04 41	
	18	e	31 31	e 31 49
20	1	i	07 59	i 08 19
	15	e	55 23	e 55 46
22	11	e	13 36	e 13 55
	15	i	10 05	e 11 04
23	1	e	20 55	e 21 16
	16	i	00 55	
25	20	e	28.0	i 28 13
	21	e	28.3	i 28 42
	21	e	50.1	i 50 25
27	14	e	21 51	
	15	e	09.4	i 09 58
	15	e	22 29	
	15	e	37 17	
	16	e	24 52	
	16	e	52.2	
	17	e	15.4	
	17	e	31 43	
	20	e	14 53	
	20	e	53.2	
28	0	e	49 09	
29	7	e	18 56	
	19	e	44 52	e 45 47
	19	e	53.7	e 54 05
	21	e	05.4	e 05 41

			(P)	(S)
August				
1	6h	e	23m42s	e 24m02s
2	16	e	17.1	e 17 41
	20	e	51 56	e 52 15
	20	e	58 19	
4	9	e	17 02	
	14	e	41 39	e 41 59
	16	e	55 17	e 55 37
6	11	e	45 10	
	21	e	15 27	
8	18	e	38 57	e 39 21
9	2	e	38 57	
	5	e	34 58	e 35 18
	8	e	48 59	e 49 29
	19	e	34 58	
	23	e	16 08	
10	7	e	23 52	e 24 12
	23	e	38 15	
12	1	e	43 21	e 43 38
	8	e	20 25	
13	4	e	06 37	
	11	e	40 13	e 40 34
14	21	e	22 29	e 22 49
	21	e	24 23	e 24 43
	repetition?			
16	0	e	44 57	e 45 19
	20	i	38 25	
18	4	e	39 33	e 39 54
	trace ampl.: 2 mm. 4 mm.			
	6	e	28 45	
20	15	e	35.9	e 36 32
	23	e	31 31	e 31 59
23	9	e	52.2	
26	11	e	26.9	
28	13	e	26 02	e 26 27
	trace ampl.: 1 mm. 4 mm.			
	21	e	57 47	e 58 12
	trace ampl.: 2 mm. 5 mm.			
	23	e	48 44	e 49 30
	trace ampl.: 5 mm. 1 mm.			
29	2	e	18 07	e 18 33
	3	e	30 45	e 31 10
	8	e	47 33	e 47 52
	22	e	44 55	e 45 20
30	10	e	39 56	e 40 21
	21	e	22 59	
31	20	e	55 21	e 55 26
September				
4	6	e	50 45	
	8	e	22 09	e 22 47
5	7	e	33 55	e 34 43
6	2	e	40.8	e 41 15

			(P)	(S)
September				
	2h	e	49m16s	e 49m43s
7	23	e	10 38	e 11 02
	trace ampl.: 1 mm. 4 mm.			
8	1	e	32 36	e 33 00
	7	e	52 44	e 53 08
	8	e	22 25	e 22 50
8	20	e	57 56	e 58 33
9	11	e	01 26	e 01 52
11	11	e	50 38	
12	1	e	38 47	e 39 16
	13	e	38 45	e 39 09
13	19	e	19 47	e 20 13
14	3	e	38 37	e 38 51
	3	e	39 02	e 39 15
14	11	e	04 46	e 05 11
15	5	e	11 31	
16	7	e	30 50	e 31 14
	13	e	11 58	
	19	e	46.2	e 46 41
	19	e	48 00	e 48 26
	20	e	02 33	e 02 59
	22	e	51 34	
17	4	e	51 42	e 52 07
	8	e	46 35	e 46 41
19	13	e	36.1	e 36 40
		e	37.7	e 38 05
	19	e	03 50	
20	1	e	00 20	e 00 44
21	12	e	26 37	
	23	e	23 52	e 24 13
22	1	e	09 04	e 09 29
	17	e	37 41	
23	16	e	56 30	e 56 51
24	4	e	35 14	e 35 33
27	0	i	05 15	e 05 35
28	2	i	03 28	i 03 29
	7	e	36 15	
29	0	e	45 13	e 47 51
	10	e	12 23	e 12 48
	trace ampl.: 2 mm. 8 mm.			
	10	e	55 57	
	14	e	27 21	
	23	e	45 23	
30	12	i	41 56	e 42 16
October				
1	12	e	08 35	e 08 58
	19	e	35 27	
	20	e	30 47	
2	21	e	49 48	e 50 08
3	2	e	52 16	
	13	e	32.1	e 32 34
	23	e	44 48	e 45 12

			(P)	(S)
October				
4	2h	i	29m24s	e 29m43s
5	0	e	03 47	
	0	e	46 50	e 47 33
5	7	e	30 17	e 30 44
6	18	e	40 16	e 40 57
7	4	e	32 02	
8	5	e	10 25	
10	2	e	09.5	e 10 16
	20	e	47 50	
11	21	i	15 18	e 15 44
12	6	e	51 42	e 52 07
	10	e	45 06	
	12	e	22 37	e 23 02
15	21	e	07.1	e 08 09
16	7	e	23 50	e 24 13
	9	e	46 12	
17	0	e	32 20	e 32 56
	11	e	58 11	e 58 31
	13	e	41 34	
	19	e	57 14	e 57 35
18	1	e	29 31	e 29 52
	15	e	07 07	
19	11	e	24 16	e 24 44
19	14	i	21 19	e 21 22
	17	e	11 33	
		e	39 54	e 40 22
19	20	e	52 48	
20	13	e	09 36	e 10 41
22	16	e	01 34	
23	6	e	34 27	
24	0	e	23 21	e 23 32
	6	e	42 32	e 43 07
	13	e	19 09	e 19 11
	19	e	44 09	e 44 43
25	5	i	48 01	e 48 33
	16	e	35 45	
	17	e	51 52	e 52 16
26	9	e	32 43	e 33 03
	9	e	45 51	e 46 35
27	2	e	38 49	
	5	i	52 09	i 52 35
	Trace ampl.: 2 mm. 5 mm.			
	12	e	59 28	
	20	e	31 30	e 32 06
28	2	e	39 55	
	4	e	40 33	e 42 22
	5	e	13 45	
	22	i	14 08	i 14 10
29	8	e	02 22	e 02 47
	14	e	38 00	e 38 42
30	7	e	09 16	
	8	e	01 58	
	11	e	49 04	
31	1	e	42 45	
	15	e	19 09	
	23	e	39 01	

		(P)	(S)
November			
1	4h	e 22.7m	e 23 34
2	20	i 26 37	e 26 58
	20	e 33 40	e 34 03
3	15	e 48 17	
	19	e 28 47	
6	5	e 24 31	e 25 01
	7	i 04 22	e 04 44
7	13	i 54 21	e 54 42
	16	e 35 18	e 35 38
9	12	i 37 14 C	e 37 36
	Trace ampl.: 4 mm. 7 mm.		
10	19	e 13 57	e 14 17
11	19	e 22 00	e 22 47
12	10	e 36 55	e 37 17
13	6	e 59 50	
	11	e 16 57	
	22	e 35 55	
14	17	e 18 14	e 18 33
17	9	e 31 33	
	21	e 49 13	
18	0	e 54 43	e 55 16
	7	i 00 06	e 00 29
	Trace ampl.: 1 mm. 13 mm.		
	11	e 44 38	e 45 01
	Trace ampl.: 2 mm. 5 mm.		
	20	e 50 24	
19	7	e 12 54	
	21	e 45 58	
20	1	e 08 03	
22	6	e 51 48	e 52 13
	10	e 32 04	e 32 28
23	20	e 12 02	i 12 31
	Trace ampl.: 3 mm. 9 mm.		
	21	e 57 02	
24	2	e 23 49	
	17	e 33 21	
	22	e 58 57	e 59 20
25	4	e 56 45	e 57 07
26	11	e 58 53	e 59 13
27	5	e 05 40	
	5	e 13 45	
	6	e 12 58	
	6	e 26 08	e 26 29
	10	e 29 21	e 29 50
	16	e 06 47	
28	20	e 26 18	e 26 41
29	6	e 20 35	e 20 55

		(P)	(S)
December			
1	21h	e 58m55s	e 59m45s
1	23	e 22 48	e 23 14
2	2	e 07 13	e 07 40
2	9	i 23 15	i 23 40
	trace ampl.: 2 mm. 4 mm.		
3	5	e 39 17	e 39 42
3	14	e 08 46	e 09 08
	trace ampl.: 1 mm. 5 mm.		
3	21	e 35 53	e 36 10
4	3	e 36 39	
4	6	e 17 41	e 18 10
7	13	e 04 55	e 05 39
8	5	e 25 15	e 25 43
11	10	e 08 15	
12	11	e 14 24	e 15 01
13	20	e 52 49	e 53 10
14	7	e 10 30	
14	7	e 43 49	
14	19	e 24 19	
15	7	e 21 28	
15	7	e 36 07	
15	11	e 52 12	
15	20	e 19 00	
16	2	e 13 34	e 13 54
16	16	e 00 46	
17	2	e 13 03	
20	22	e 59.2	
21	9	e 49 47	e 50 06
21	10	e 41 34	e 42 01
22	20	e 27 16	
23	3	e 04 59	e 05 19
25	5	e 02 00	
26	13	e 35 34	e 36 03
26	15	e 53 53	e 54 20
27	1	e 16 41	e 17 01
27	17	i 09 05	e 09 24
27	17	e 13 04	
28	5	e 10 09	e 10 35
30	3	e 47 54	
30	7	e 56 18	
30	19	e 51 01	e 51 25
31	0	e 15 08	
31	4	e 42 18	e 42 28
31	15	e 36 02	
31	17	e 01 42	e 02 01
31	17	e 31 23	e 31 47

August 1964.

ERIK HJORTENBERG