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**KONINKLIJK NEDERLANDS
METEOROLOGISCH INSTITUUT**

SEISMIC RECORDS
AT DE BILT

Volume 44
1956

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K O N I N K L I J K N E D E R L A N D S
M E T E O R O L O G I S C H I N S T I T U U T

Seismic Records
at De Bilt

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P R E F A C E

This seismic Yearbook was composed under the supervision of Dr. J. Veldkamp, director of the Geophysical Section. The records have been reduced by Mr. J. Oldeman, scientific headassistant.

The Director in Chief of
the Royal Netherlands Meteorological Institute,

Ir. C.J. Warners.

De Bilt, December 1960

I N T R O D U C T I O N

SEISMOLOGICAL STATION DE BILT

The geographic coordinates of the seismological station are $52^{\circ}06' .1$ N and $5^{\circ}10' .6$ E. The instruments are placed at a height of 3 m above mean sea-level on a subsoil consisting of sand (pleistocene).

The instruments are:

a set of seismographs (two horizontal and one vertical) with galvanometric recording according to GALITZIN, one astatic horizontal seismograph according to WIECHERT, $M = 200$ kg, two horizontal pendulums according to BOSCH, $M = 25$ kg.

THE GALITZIN SEISMOGRAPHS AT DE BILT. Below are given: the period of the galvanometer T1, the reduced pendulum length l, the distance A1 between the mirror of the galvanometer and the recording paper, and the rough values for the natural period of the undamped pendulum T, of the damping constant μ and of the multiplying factor k for the year 1956.

	NS comp.	EW comp.	Z comp.
Period of galvanometer T1	24.43 sec	24.96 sec	12.0 sec
Reduced length of pendulum l	123 mm	123 mm	406 mm
Distance A1	1380 mm	1380 mm	1380 mm
Period of pendulum T	25 sec	25 sec	12 sec
Damping constant μ	0.0	0.0	0.0
Multiplying factor k	11.0	11.0	175

THE WIECHERT AND BOSCH SEISMOGRAPHS AT DE BILT. The mean values of the natural period of the undamped pendulum T, of the damping ratio ϵ and of the static magnification V for the year 1956 are:

	T	ϵ	V
WIECHERT (NS comp.)	5.0 sec	4	170
" (EW comp.)	5.0 sec	4	170
BOSCH (NS comp.)	18.0 sec	4	20
" (EW comp.)	18.0 sec	4	20

SEISMOLOGICAL STATION HEERLEN

The geographic coordinates of the seismological station are: $50^{\circ}53' .0$ N and $5^{\circ}59' .0$ E.

The instrument, a horizontal seismograph, $M = 450$ kg, is placed at a height of 100 m above mean sea-level on a subsoil consisting of loess.

The mean values of the constants for the year 1956 are:

T	ϵ	V	V max.	T max.
2	3	400	600	2

SEISMOLOGICAL STATION WITTEVEEN

The geographic coordinates of the seismological station are: $52^{\circ}48' .8$ N and $6^{\circ}40' .1$ E.

The instrument, a GRENET vertical seismograph with galvanometric record, is placed at a height of 2 m above mean sea-level on a subsoil consisting of pleistocene sand.

Recording started in April 1951.

The period of the seismograph is 2,3 sec, the period of the galvanometer is 0.8 sec. The maximum amplification is 6500 for a period of about 1 sec.

EXPLANATION OF THE TABLES

The data given in this Yearbook have mostly been obtained from the GALITZIN records. The velocity of the recording paper is 30 mm per minute, allowing a good time-accuracy. Only when the earthquake was extraordinarily severe, so that the GALITZIN records could not be analyzed, the records of the WIECHERT and BOSCH seismographs were used. The velocity of the paper of these seismographs is 10 mm and 15 mm per minute respectively. Whenever the WIECHERT and BOSCH records were used, this has been mentioned in the column "remarks".

In a few cases the data from the seismograph at Heerlen are mentioned. The time is Greenwich mean time.

In the column "direction" + means an upward movement of the soil (compression), - means a downward movement (dilatation). Uncertain data have been given in parentheses. The following symbols were used for the phases.

- P = normal first phase, or first longitudinal tremor.
- pP = P-wave once reflected at the earth's surface near the epicentre.
- PP = P-wave reflected halfway between epicentre and station.
- PPP = P-wave two times reflected at the earth's surface.
- PPPP = P-wave three times reflected.
- S = second phase, arrival of the transversal tremor.
- sS = S-wave reflected at the earth's surface near the epicentre.
- PS = wave changed from longitudinal to transversal oscillation through reflection at the earth's surface.
- PPS = wave twice reflected, having been transversal on one branch of the path.
- SS = S-wave reflected halfway between epicentre and station.
- SSS = S-wave two times reflected at the earth's surface.
- SSSS = S-wave three times reflected at the earth's surface.
- PcP = P-wave reflected at the core boundary.
- ScS = S-wave reflected at the core boundary.
- P' = PKP = wave having penetrated the core.
- S' = SKS = transversal wave, having been longitudinal within the core.
- PKS = alternating wave having penetrated the core.
- pp' = P'-wave reflected near the epicentre.
- ss' = S'-wave reflected near the epicentre.
- SKKS = alternating wave which has been reflected within the core.
- L = long wave or surface waves.
- M = maximum of the surface waves.
- L' = surface waves travelling around the major arc.
- M' = maximum of these wave.
- i = sudden beginning of the phase.
- e = gradual beginning of the phase.
- F = end of discernable movement.
- H = time of the shock at point of origin.
- h = depth of the origin.
- = distance of epicentre.

The indices H, N, E and Z refer to horizontal, north-south, east-west and vertical components of the movement.

The distance of the epicentre and the depth of origin have been calculated by means of curves constructed with the aid of the time tables of Jeffreys and Bullen (1940).

The data given in the column "amplitude" are the maximal amplitudes measured from the medium line. The amplitudes have been calculated by means of the formula:

$$V = \frac{A_1 k T_b}{\pi l} \cdot \frac{1}{\left\{1 + \left(\frac{T_b}{T}\right)^2\right\}^2}$$

In this formula A₁ is the distance between galvanometer mirror and recording paper, k is the multiplying factor, T_b the period of the wave, l the reduced length of the pendulum, T the free period of the undamped seismograph, and V the magnification. The period of the galvanometer is assumed to be equal to the free period of the undamped seismograph.

For the horizontal components of the GALITZIN records the following mean values were used: k = 11,0 and T = 24,5 sec, and for the vertical component k = 17,5 and T = 12,0 sec.

Whenever it was possible the amplitudes and periods of the first P- and S-waves have been given. As the movement of these waves is irregular in general, the accuracy of these data is small. The amplitudes of the maxima of L-waves have been calculated in case of very strong earthquakes.

The amplitudes have been omitted when the oscillations were very irregular.

The seismological bulletins of the following stations were available: Algeria, Alicante, Almeria, Athens, Azores, BCIS (Bureau Central International de Séismologie), Beograd, Bogota, Brisbane, Budapest, Coimbra, Columbia-University (Palisades N.Y. and Bermuda), Djakarta, Dublin, Firenze, Geophysics Division (New Zealand), Granada, Harvard University, Helsinki, Hermanus, Huancayo, Istanbul, Jena, John Carroll University (Cleveland), JSA (Jesuit Seismological Association), Kew, Kiruna, København, Ksara, La Paz, Lisboa, Manila, Melbourne, Paris, Pasadena, Perth, Poona, Praha, Prato, Quetta, Reykjavik, Riverview N.S.W., Roma, Santiago (Chile), Seismographic Stations of the University of California, Seismological Service of Canada, Stuttgart, Tacubaya, Tananarive, Toledo, Tortosa, Trieste, Uppsala, USCGS (United States Coast and Geodetic Survey), Western Samoa, Weston (Mass.), Wien, Zürich.

THE MICROSEISMIC ACTIVITY

The table on page 1 shows the character of the microseismic activity (see also 1915 p. 101 and 1916 p. 101). The numbers 0, 1, 2 and 3 mean:

- 0 = very weak and weak
- 1 = moderate
- 2 = strong
- 3 = very strong

For measuring the microseismic activity the records of the GALITZIN seismograph were used. The table below gives the amplitudes of the oscillations (measured from the medium line) and the corresponding amplitudes of the movement of the surface.

Character	Ampl. record	Ampl. surface
0	0 - 1/2 mm	0 - 1 1/4 "
1	1/2 - 2 "	1 1/4 - 5 "
2	2 - 4 "	5 - 10 "
3	> 4 "	> 10 "

Seismic Records at De Bilt

CHARACTER OF THE MICROSEISMIC MOVEMENT

Date 1956	Jan.	Febr.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	2 3	2 3	2	1	1	1	1	1 2	1	2 1	1	2 3
2	3 1	3	2 3 2	1 0	1	1 2 1	1	2 3 2	1	1	1 2 1	3 2
3	1 2 1	3 2	2 1 0	1	1	1	1	2 1 1	0 1	0 1 2	1	2 1
4	1 2	2 1	1 2 1	1	1	1	1	1 0	0 1 0	2 1	1	1
5	2 3	1	1	1	1 2	1	1 2 1	0	0 1 0	1 2 1	1	1 2
6	3	1	1	1 0	2 1	1	1	0	0 1	1	1 2	2
7	3 2	1	1 0	1	1	1	1	0	1	1	2	2 3 2
8	2 1	1	1	1	1	1 0	1 0	0	1	1	2 3	2 3
9	1 3	1 2 1	1 2	1	1 2	0	0	0	1	1	3	3
10	3	1 2	2	1	2	0 1	0 1	0	1	1 2 1	3	3
11	3 2	2 1	2 1	1	2 3	1 0	1 0	1	1	1	3 2	3
12	2	1	1	1	3 2	0 1 0	1	1	1 2 1	1 2 2	1	3
13	2	1	1	1	2	0 1 0	1	1	1 2 2	1	1	3
14	2	1	1	1	2 3 2	0	1 0	1 2 1	2	1	1	3
15	2	1 2 1	1 2 1	1	2	0 1 0	0	1	2 1	1	1	3
16	2 1 2	1	1	1 0	2	0	0	1 2 1	1	1 2	1	3
17	2	1 0 1	1	0 1	2 1	0 1	0	1 2	1	2	1	3
18	2 3 2	1 0 1	1 2	1	1 0	1 0	0	2 3 2	1	2	1 3	2
19	2	1 0 1	2 1	1	0 1 0	0 1 0	0	2 1	1	2	1 2	2
20	2 3	1	1 2	1	0	0 1 0	0	1 0	1	2	2	2
21	3	1	2 1	1	0 1	0 1	0	0	1	2	2	2
22	3 2	1	1 2 1	1 0	1	1	0	0	1	2	2	2
23	2 3 2	1	1 2 1	0	1	1 0	0 1 0	1	1	2	2 1 2	3
24	2 1	1	1	0	1	0 1	1	1	1	2	1 2	3
25	1 2 1	1	1 0	1	1	1 0	1	1	1	2	2 3	3
26	1 2 1	1	1 0	1	1	0 1 0	1	1	1	2 1	3	3
27	1 2	1 2 1	0 1 0	1	1	0	1	1	1 2	1 2	3	3
28	2	1 2 1	0 1 1	0	1	0 1 0	1	1	2 3 2	2 3 2	3 2	3
29	2 3	1 2	1	0	1	0 1	1 3 2	1	2	2 3 2	1	3
30	3		1 0	1 1	0 1	1	2	1 0 1	2	3 2	1 2	3
31	3 2		1		1		2 1	1 0 1		2 1		3

Seismic Records at De Bilt

Date 1956	Phase	Time h m s	Direction	Period s	Amplitude μ	Remarks
X Jan. 3	eL (1) F	16 14 16 45				(1) Disturbed by microseisms. Wi: eP 23h 36m 24s. USCGS: 48 $\frac{1}{2}$ ^o N 155 ^o E, H. 15h 40m 55s. Kurile Islands.
X Jan. 3	(2)					(2) Wi: 1P 23h 36m 24s. USCGS: 54 $\frac{1}{2}$ ^o N 163 ^o W, H. 23h 24m 52s. Unimak Island, Alaska.
X Jan. 5	eL (3) F	2 54 3 15				(3) Disturbed by microseisms. BCIS: 41 ^o S 71 $\frac{1}{2}$ ^o W, H. 0h 54m 18s. Argentina-South Chile border.
X Jan. 6	(4)					(4) Wi: 1P 5h 48m 22s. BCIS: 36 ^o N 11 ^o W, H. 5h 43m 37s. USCGS: 36 $\frac{1}{2}$ ^o N 11 ^o W, H. 5h 43m 38s. Off coast of Portugal.
Jan. 6	(5) F	12 25 12 30				(5) Disturbed by microseisms. Wi: eP 12h 19m 57s. BCIS: 40 $\frac{1}{2}$ ^o N 26 ^o E, H. 12h 15m 42s. USCGS: H. 12h 15m 40s. Greece-Turkey border.
X Jan. 6	(6)					(6) Wi: eP 14h 57m 29s. BCIS: 41 $\frac{1}{2}$ ^o N 30 $\frac{1}{2}$ ^o E, H. 14h 52m 08s. Black Sea, near north coast of Turkey.
X Jan. 6	(7)					(7) Wi: 1P 18h 03m 23s. USCGS: 51 ^o N 179 $\frac{1}{2}$ ^o W, H. 17h 51m 32s. Andreanof Islands, Aleutian Islands.
X Jan. 6	(8)					(8) Wi: eP 22h 37m 18s. BCIS and USCGS: 39 ^o N 142 ^o E, H. 22h 22m 03s. Near east coast of Honshu, Japan.
X Jan. 7	(9)					(9) Wi: eP 10h 27m 53s. USCGS: 51 ^o N 179 $\frac{1}{2}$ ^o W, H. 10h 15m 59s. Andreanof Islands, Aleutian Islands.
X Jan. 7	eL (10) F	17 09 17 25				(10) Disturbed by microseisms. Wi: eP 16h 51m 02s. USCGS: 65 $\frac{1}{2}$ ^o N 133 $\frac{1}{2}$ ^o W, 16h 41m 04s. Yukon.
Jan. 8	eP (11) ePP eS eL F	07 24.0 07 27.6 07 34.8 07 52 09 00				(11) Disturbed by microseisms. USCGS: 17 ^o N 99 $\frac{1}{2}$ ^o W, H. 7h 11m 16s. Tacubaya: 16 ^o 47'N 99 ^o 53'W, H. 7h 11m 26s. Guerrero, Mexico.
Jan. 8	1P (12) ez eS ePS eL F	21 07 46 21 11 18 21 19 00 21 20 42 21 34 24.0				(12) Disturbed by microseisms. 3344 Wi: eP 21h 07m 51s; e 21h 08m 08s. BCIS: 19 ^o S 70 ^o 2 W, H. 20h 54m 16s. USCGS: 19 ^o S 70 ^o W, H. 20h 54m 13s. Northern Chile.
Jan. 9	1PKP (13)	12 24 34				(13) Wi: 1PKP 12h 24m 35s; 1 12h 24m 38s; e 12h 26m 05s; 1pPKP 12h 27m 05s. USCGS: 23 ^o S 179 ^o E, H. 12h 05m 23s, h = about 650 km. Fiji Islands region.
Jan. 10	ePKP (14) ePKS eSS eL F	09 13.0 09 16.5 09 36 10 09 55 12.0				(14) Disturbed by microseisms. Wi: ePKP 9h 13m 01s. USCGS: 25 ^o S 176 ^o W, H. 8h 52m 36s. Tonga Islands region.

Seismic Records at De Bilt

Date 1956	Phase	Time h m s	Direction	Period s	Amplitude μ	Remarks
X Jan. 11	eL (15) F	06 50 07 40				(15) Disturbed by microseisms. Wi: eP 6h 22.6m. BCIS: 8 ^o N 94 $\frac{1}{2}$ ^o E, H. 6h 10m 06s. USCGS: 7 $\frac{1}{2}$ ^o N 94 ^o E, H. 6h 10m 03s. Nicobar Islands.
Jan. 12	1Pn (16) 1S eL F	05 48 40 05 50 54 05 51 20 06 10				(16) Disturbed by microseisms. Wi: 1Pn 5h 48m 33s; 1Pg 5h 49m 31s; e 5h 51m 04s; eSg 5h 51m 31s. BCIS: 47 ^o 4 N 19.1 E, H. 5h 46m 08s. USCGS: 47 $\frac{1}{2}$ ^o N 20 ^o E, H. 5h 46m 05s. Northern Hungary.
Jan. 13	eP (17) eS eL F	03 39.0 03 49.5 04 00 05 00				(17) Disturbed by microseisms. Wi: 1P 3h 38m 50s; 1 3h 38m 54s. USCGS: 57 $\frac{1}{2}$ ^o N 163 ^o E, H. 3h 27m 13s. Near east coast of Kamchatka.
Jan. 14	eP (18) e(S) eSS eSSS eL F	14 20.7 14 30 40 14 36 14 40 14 54 15 50				(18) Distributed by microseisms. BCIS: 51 $\frac{1}{2}$ ^o N 173 $\frac{1}{2}$ ^o W, H. 14h 08m 43s. USCGS: 51 $\frac{1}{2}$ ^o N 173 ^o W, H. 14h 08m 41s. Fox Islands, Aleutian Islands.
Jan. 16	1P (19) 1z 1S eSS eSSS eL F	23 50 29 23 50 35 00 01 16 00 06.5 00 10.5 00 17 02 50				(19) Disturbed by microseisms. Wi: eP 23h 50m 35s. USCGS: $\frac{1}{2}$ ^o S 80 $\frac{1}{2}$ ^o W, H. 23h 37m 37s. Near coast of Equador.
Jan. 18	eL (20) F	08 58 09 30				(20) Disturbed by microseisms. USCGS: 24 ^o S 70 ^o W, H. 8h 07m 17s. Northern Chile.
Jan. 23	eL (21) F	04 22 05 00				(21) Disturbed by microseisms. BCIS: 56 $\frac{1}{2}$ ^o N 162 ^o E, H. 3h 47m 28s, h = about 60 km. USCGS: 55 $\frac{1}{2}$ ^o N 162 ^o E, H. 3h 47m 27s, h = about 60 km. Near east coast of Kamchatka.
X Jan. 27	eL (22) F	15 15 16 00				(22) Disturbed by microseisms. USCGS: 26 ^o S 176 ^o W, H. 13h 38m 45s. Tonga Islands region.
Jan. 28	eH (23) eL F	05 10.5 05 18 05 40				(23) Disturbed by microseisms. USCGS: 1 ^o N 27 ^o W, H. 4h 52m 29s. Mid-Atlantic Ridge.
X Jan. 28	eL (24) F	08 40 09 30				(24) Disturbed by microseisms. USCGS: 4 $\frac{1}{2}$ ^o S 151 $\frac{1}{2}$ ^o E, H. 7h 42m 52s, h = about 100 km. New Britain.
X Jan. 29	eL (25) F	23 07 23 30				(25) Disturbed by microseisms. BCIS: 21 ^o N 121 ^o E, H. 22h 20m 56s. USCGS: 21 ^o N 121 ^o E, H. 22h 20m 53s. Off south coast of Formosa.
Jan. 30	eL (26) F	10 00 11 00				(26) Disturbed by microseisms. BCIS: 37 $\frac{1}{2}$ ^o S 177 ^o E, H. 8h 43m 05s. USCGS: 38 $\frac{1}{2}$ ^o S 177 $\frac{1}{2}$ ^o E, H. 8h 43m 01s. Near north coast of North Island, New Zealand.

Seismic Records at De Bilt

Date 1956	Phase	Time	Direction	Period	Amplitude	Remarks
		h m s		s	μ	
* Jan. 31 (27)						(27) W1: 1PKP 9h 35m 27s. BCIS: 31° S $152\frac{1}{2}^{\circ}$ E, H. 9h 17m 14s, h = about 400 km. USCGS: 4° S 152° E, H. 9h 17m 11s, h = about 400 km. New Ireland.
-Feb. 1 (28)	eL F	02 50 03 00				(28) Disturbed by microseisms. W1: 1PKP 1h 52m 35s. USCGS: 20° S 169° E, H. 1h 32m 55s. Loyalty Islands.
-Feb. 1 (29)	eP ePP ePS eL F	13 55 00 13 59 14 14 07 43 14 31 15 00				(29) Disturbed by microseisms. W1: 1PP 13h 59m 09s. USCGS: 19° N $145\frac{1}{2}^{\circ}$ E, H. 13h 41m 44s, h = about 350 km. Marianas Islands.
-Feb. 1 (30)	1P	15 14 11		(+)		(30) W1: eP 15h 14m 15s; 1 15h 14m 17s. BCIS: 39° 2' N 150° 45' E, H. 15h 10m 49s, h = about 215 km. USCGS: $39\frac{1}{2}^{\circ}$ N 16° E, H. 15h 10 m 46s, h = about 200 km. Straits of Messina, Italy.
* Feb. 5 (31)	eL F	21 30 21 50				(31) USCGS: $3\frac{1}{2}^{\circ}$ N 128° E, H. 20h 35m 55s. Molucca Passage.
-Feb. 9 (32)	1P IS eL F	14 45 02 14 55 20 15 10 17 30				(32) Disturbed by microseisms. W1: eP 14h 45m 04s. USCGS: 32° N 116° W, H. 14h 32m 40s. Lower California.
* Feb. 10 (33)	eL F	00 47 01 10				(33) W1: 1P 0h 15m 02s. USCGS: 37° N 142° E, H. 00h 02m 40s, h = about 60 km. Off coast of Honshu, Japan.
-Feb. 12 (34)	1P ePP eSKS eS ePS eSS eSSS eL F	12 02 18 12 05.9 12 12 54 12 13 12 12 14 04 12 19.2 12 23.5 12 34 13 50		(-)		(34) W1: eP 12h 02m 16s. USCGS: 19° N $119\frac{1}{2}^{\circ}$ E, H. 11h 49m 20s. Off north-west coast of Luzon, Phillipine Islands.
-Feb. 12 (35)	eL F	20 25 20 55				(35) USCGS: aftershock of (34), H. 19h 40m 20s.
* Feb. 13 (36)	eL F	04 35 04 50				(36) USCGS: aftershock of (34), H. 3h 44m 45s.
* Feb. 13 (37)	eL F	15 05 15 45				(37) USCGS: aftershock of (34), H. 14h 20m 48s.
* Feb. 13 (38)	eL F	23 35 23 50				(38) USCGS: aftershock of (34), H. 22h 39m 50s.
* Feb. 14 (39)	eL F	09 11 09 30				(39) USCGS: aftershock of (34), H. 8h 21m 03s.
* Feb. 14 (40)	eL F	10 01 10 12				(40) USCGS: 37° N $1\frac{1}{2}^{\circ}$ E, H. 9h 53m 26s, Near coast of Algeria.
* Feb. 14 (41)	eL F	13 18 13 55				(41) USCGS: aftershock of (34), H. 12h 33m 48s.
-Feb. 14 (42)	eS eL F	18 56 20 19 08 20 00				(42) W1: eP 18h 46m 03s. USCGS: aftershock of (32), H. 18h 33m 32s.

Seismic Records at De Bilt

Date 1956	Phase	Time	Direction	Period	Amplitude	Remarks
		h m s		s	μ	
-Feb. 15 (43)	eS eL F	01 43 30 01 55 02 45				(43) W1: eP 1h 33m 05s. USCGS: aftershock of (32), H. 1h 20m 36s.
-Feb. 15 (44)	eL F	16 10 16 30				(44) USCGS: 28° N 53° W, H. 15h 49m 27s. Southern Iran.
-Feb. 17 (45)	eS eSS eL F	10 19 33 10 26.4 10 37 11 45				(45) USCGS: 47° S 15° W, H. 15h 49m 27s. South Atlantic Ocean.
-Feb. 18 (46)	1P ez IS 1PS IS ISS F	07 46 24 07 53 43 07 56 06 07 57 34 07 58 45 08 02 28 10 10				(46) Change of papers from 7h 47m till 7h 53m. USCGS: 30° N $137\frac{1}{2}^{\circ}$ E, H. 7h 34m 16s, h = about 450 km. South of Honshu, Japan.
-Feb. 19 (47)	1P eS ePS eL F	02 29 11 02 38 37 02 39 30 02 48.5 04 10		(+)		(47) W1: eP 2h 29m 16s. USCGS: 52° N $131\frac{1}{2}^{\circ}$ W, H. 2h 18m 00s. Queen Charlotte Islands.
* Feb. 19 (48)						(48) W1: ePKP 6h 00m 17s. USCGS: 23° S 176° W, H. 5h 40m 22s. Tonga Islands.
* Feb. 20 (49)	eL F	01 35 01 38				(49) BCIS: 45° 0' N $12\frac{1}{2}^{\circ}$ E, H. 1h 29m 29s. Adriatic Sea.
* Feb. 20 (50)	eL F	08 42 09 10				(50) W1: eP 8h 10m 05s. USCGS: 24° N 124° E, H. 7h 57m 38s. Ryukyu Islands.
-Feb. 20 (51)	1P IS eL F	20 36 39 20 40 27 20 41.5 22 00		(+)	$3\frac{1}{2}$ 10	(51) W1: 1P 20h 36m 15s. BCIS: $39\frac{1}{2}^{\circ}$ N $30\frac{1}{2}^{\circ}$ E, H. 20h 31m 37s. USCGS: $39\frac{1}{2}^{\circ}$ N $30\frac{1}{2}^{\circ}$ E, H. 20h 31m 35s. Turkey.
* Feb. 21 (52)						(52) W1: ePKP 20h 51m 37s; 1 20h 51m 42s. USCGS: 22° S 179° W, H. 20h 32m 55s, h = about 650 km. Fiji Islands region.
* Feb. 22 (53)	eL F	00 19 00 30				(53) USCGS: $73\frac{1}{2}^{\circ}$ N 8° E, H. 0h 07m 37s. Arctic Ocean, southwest of Spitzbergen.
-Feb. 22 (54)	1P ePS eL F	10 11 37 10 23 10 38 11 10		(+)		(54) USCGS: 5° S 67° E, H. 9h 56m 24s. Chagos Islands region.
-Feb. 23 (55)	eS eSSS eL F	01 34 53 01 38 01 40 02 20				(55) W1: 1P 1h 28m 55s. BCIS: $31\frac{1}{2}^{\circ}$ N $42\frac{1}{2}^{\circ}$ W, H. 1h 21m 05s. USCGS: 31° N 42° W, H. 1h 21m 03s. North Atlantic Ocean.
* Feb. 24 (56)	eL F	10 42 11 25				(56) USCGS: 32° N $179\frac{1}{2}^{\circ}$ E, H. 9h 19m 01s. Kermadec Islands region.
* Feb. 25 (57)						(57) W1: 1PKP 6h 09m 24s. BCIS: H. 5h 49.7m. Tonga Islands region.
* Feb. 27 (58)						(58) W1: eP 8h 49m 38s. USCGS: 52° N 174° W, H. 8h 37m 58s, h = about 100 km. Andreanof Islands

Seismic Records at De Bilt

Date 1956	Phase	Time h m s	Direction	Period s	Amplitude μ	Remarks
×Feb. 27 (59)						(59) W1: 1PKP 14h 30m 40s. BCIS: South Pacific.
×March 2 (60)						(60) W1: 1P 12h 06m 49s +. USCGS: 63½°N 149½°W, H. 11h 56m 20s. Alaska.
×March 2 (61)						(61) W1: 1P 15h 01m 08s - BCIS and USCGS: 45½°N 149½°E, H. 14h 49m 18s, h = about 100 km. Kurile Islands.
×March 5 (62)						(62) W1: 1P 23h 41m 37s - USCGS: 44½°N 144°E, H. 23h 29m 41s. Off north coast of Hokkaido, Japan.
×March 6 (63)						(63) W1: eP 9h 03m 25s. USCGS: 28°N 52½°E, H. 8h 55m 28s. Southern Iran.
×March 6 (64)						(64) W1: eP 21h 01m 10s. USCGS: after-shock of (63), H. 20h 53m 12s.
×March 9 (65)						(65) W1: eP 15h 41m 05s. USCGS: H. 15h 33m 26s. Southern Iran.
×March 9 (66)						(66) W1: 1P 17h 43m 58s. USCGS: 1°N 80°W, H. 17h 31m 07s. Near coast of Ecuador.
×March 10 (67)						(67) W1: ePKP 4h 01m 51s; 1 4h 01m 54s. USCGS: 17½°S 173°W, H. 3h 42m 10s. Tonga Islands.
×March 10 (68)						(68) W1: ePKP 19h 53m 05s. USCGS: 22½°S 176°W, H. 19h 33m 40s, h = about 200 km. Tonga Islands.
-March 13 (69)	eP eS eSS eL F	13 25.6 13 36.1 13 40 13 50 15 00				(69) W1: eP 13h 25m 50s; ePP 13h 29m 07s. USCGS: 7°N 82°W, H. 13h 13m 10s. Off south coast of Panama.
-March 16 (70)	e F	19 50.0 20 15				(70) W1: 1P 19h 49m 23s. BCIS: 33°3N 35°7E, H. 19h 43m 24s. USCGS: 34°N 36°E, H. 19h 43m 28s. Lebanon.
×March 19 (71)	eL F	18 38 19 10				(71) Disturbed by microseisms. W1: ePKP 17h 55m 01s. USCGS: 6°S 150°E, H. 17h 35m 57s. New Britain.
×March 20 (72)						(72) W1: 1PKP 17h 31m 05s. USCGS: 19°S 178½°W, H. 17h 12m 15s, h = about 500 km. Fiji Islands.
×March 21 (73)	eL F	05 10 05 25				(73) USCGS: 41°N 48½°E, H. 4h 54m 46s. Azerbaijan, SSR.
-March 22 (74)	1P 1PP 1PPP eS 1PPS eL F	06 46 46 06 47 10 06 50 46 06 57 20 06 59 20 07 16 07 30				(74) W1: 1P 6h 46m 51s; 1pP 6h 47m 15s - USCGS: 3½°S 79°W, H. 6h 33m 55s, h = about 100 km. Ecuador.
×March 23 (75)	eL F	06 15 06 38				(75) USCGS: 5°S 107°E, H. 5h 10m 48s. New Britain.

Seismic Reports at De Bilt

Date 1956	Phase	Time h m s	Direction	Period s	Amplitude μ	Remarks
-March 25 (76)	1P eS eL F	23 39 10 23 48.8 00 07 00 45			(+)	(76) W1: 23h 39m 06s +. BCIS: 52°N 159°E, H. 23h 27m 32s. USCGS: 52°N 159°E, H. 23h 27m 31s. Near south-east coast of Kamchatka.
×March 26 (77)						(77) W1: eP 3h 32m 19s. USCGS: after-shock of (76), H. 30h 20m 45s.
×March 26 (78)						(78) W1: eP 3h 36m 09s. USCGS: after-shock of (76), H. 3h 24m 35s.
×March 26 (79)	e eL F	04 30 04 39 05 20				(79) W1: eP 4h 11m 00s; e 4h 11m 12s. USCGS: aftershock of (76), H. 3h 59m 25s.
×March 26 (80)	eH F	23 00 30 23 05				(80) W1: e 22h 55m 00s. BCIS: 39°2 N 21°9 E, H. 22h 51m 00s. Thessaly, Greece.
×March 30 (81)						(81) W1: 1P 12h 27m 09s. BCIS: H. 12h 15m 36s. Near southeast coast of Kamchatka.
×March 30 (82)						(82) W1: eP 18h 55m 59s. BCIS and USCGS: 40°N 144°E, H. 18h 43m 45s. Off coast of northern Honshu, Japan.
×March 30 (83)						(83) W1: 1PKP 22h 35m 24s (-). USCGS: 22°S 176°W, H. 22h 15m 31s. Tonga Islands region.
×March 31 (84)	eL F	02 04 02 30				(84) USCGS: 20°N 64°W, H. 1h 34m 00s. Northeast of Puerto Rico.
×March 31 (85)						(85) W1: e 14h 11.5m; F 14h 13.5m. BCIS: 47°0 N 17°0 E, H. 14h 06m 54s. Hungary.
×April 1 (86)	eL F	12 14 13 00				(86) BCIS: H. 10h 54.0m. South Pacific, about 3000 km off south-west coast of Chile.
×April 1 (87)	eL F	19 55 20 02				(87) BCIS: H. 19h 13.1m. South Atlantic Ocean, 1000 km southwest of St. Helena Island.
-April 2 (88)	1P ePP eS eSS eL F	11 02 58 11 06 23 11 13 42 11 19.8 11 39 13 00				(88) W1: 1P 11h 03m 01s. USCGS: 2°N 97°E, H. 10h 49m 56s. Off west coast of Sumatra.
×April 2 (89)						(89) W1: 1P 11h 15m 01s. USCGS: H. 11h 04m 22s, h = about 100 km. Southern Tibet.
×April 5 (90)						(90) W1: 1P 4h 13m 26s +. USCGS: 53°N 158°E, H. 4h 02m 00s. Near east coast of Kamchatka.
-April 6 (91)	1P 1pP 1PP 1S 1sS eScS	07 19 56 07 20 45 07 21 53 07 26 28 07 27 55 02 29 25			(+)	(91) F during change of papers, after 7h 50m. W1: 1P 7h 19m 48s +. BCIS: 36.5 N 70.5 E, H. 7h 11m 40s, h = about 220 km. USCGS: 36½°N 71°E, H. 7h 11m 34s, h = about 200 km. Hindu Kush.

Seismic Records at De Bilt

Date 1956	Phase	Time	Direction	Period	Amplitude	Remarks
		h m s		s	μ	
- April 7 (92)	ePP ez eSS eL F	18 25 40 18 29 25 18 33 08 18 49 19 24 20 30	✓ ✓ ✓ ✓ ✓			(92) USCGS: 32°S 180°, H. 18h 00m 57s, h = about 350 km. Kermadec Islands.
- April 8 (93)	ez F	13 55 10 13 56	✓			
- April 10 (94)	IS IPPS F	13 39 46 13 41 46 14 50	✓ ✓ ✓			(94) Disturbed by visitors. W1: eP 13h 29m 20s; epP 13h 29m 50s. BCIS: 3°S 102°E, H. 13h 16m 08s, h = about 125 km. USCGS: H. 13h 16m 04s, h = about 150 km. Near south coast of Sumatra.
< April 12 (95)	eL F	05 55 06 20	✓			(95) USCGS: 26°S 70°W, H. 5h 05m 05s. Northern Chile.
< April 12 (96)	eL F	22 55 23 15	✓			(96) W1: eP 22h 41m 38s. BCIS: 37½°N 50½°E, H. 22h 34m 48s. USCGS: 37°N 50°E, H. 22h 34m 44s. Northern Iran.
< April 13 (97)	e F	07 15 07 25	✓			(97) W1: 1 7h 10m 51s; 1 7h 11m 11s; 7h 11m 16s. BCIS: H. 7h 05.9m. About 100 km south of Crete.
< April 16 (98)	e F	14 20 14 38	✓			
- April 18 (99)	eP eS ePS eL F	11 11.8 11 21.9 11 22 11 36 12 40	✓ ✓ ✓ ✓ ✓			(99) BCIS: 52°0 N 178°0 W, H. 11h 00m 18s. USCGS: 52°N 178°W, H. 11h 00m 13s. Andreanof Islands, Aleutian Islands.
< April 19 (100)	e F	18 47.5 18 52	✓			(100) BCIS: 37°2 N 3°7 W, H. 18h 38m 53s. Sierra Elvira, Spain.
- April 21 (101)	e F	02 13 02 22	✓			(101) USCGS: H. 1h 25m 12s. About 100 miles south of Formosa.
- April 22 (102)	eSS eL F	05 19 05 40 06 30	✓ ✓ ✓			(102) W1: 1PKP 4h 59m 56s. BCIS: 5½°S 151°E, H. 4h 40m 56s. USCGS: 6°S 151½°E, H. 4h 40m 53s. New Britain.
- April 22 (103)	1P iz eS eL F	17 33 31 17 33 45 17 43 07 17 59 19 30	✓ ✓ ✓ ✓ ✓			+ (103) W1: 1P 17h 33m 24s +; 1 17h 33m 36s. BCIS: 54°N 161°W, H. 17h 21m 55s. USCGS: 54°N 162°W, H. 17h 21m 53s. South of Alaska Peninsula.
- April 23 (104)	1P eS ePS eL F	03 43 46 03 53 45 03 54 14 04 09 05 30	✓ ✓ ✓ ✓ ✓			(104) W1: 1P 3h 43m 39s +. USCGS: 42½°N 144½°E, H. 3h 31m 40s. Off east coast of Hokkaido, Japan.
- April 23 (105)	ePP eL F	08 45.9 09 20 10 00	✓ ✓ ✓			(105) BCIS: about 47°S 11°W, H. 8h 28.0m. South Atlantic Ocean.
- April 23 (106)	eL F	22 00 22 15	✓ ✓			(106) BCIS: Probably: South Atlantic Ocean.

Seismic Records at De Bilt

Date 1956	Phase	Time	Direction	Period	Amplitude	Remarks
		h m s		s	μ	
- April 25 (107)	e F	08 11 08 17	✓ ✓			(107) BCIS: 39°2 N 22°2 E, H. 8h 01m 00s. Thessaly, Greece.
- April 25 (108)	ePKP ez eSS eL F	08 49 43 08 53 39 09 11 09 40 10 40	✓ ✓ ✓ ✓ ✓			(108) USCGS: 17°S 175°E, H. 8h 29m 58s. Fiji Islands.
< April 26 (109)	e F	03 05 03 08	✓ ✓			(109) USCGS: 44°09'N 11°18.7 E, H. 3h 00m 03s. Northern Italy.
< April 26 (110)	eL F	08 50 09 20	✓ ✓			(110) USCGS: 16½°S 174°E, H. 7h 41m 52s. Fiji Islands.
< April 26 (111)	eL F	12 25 12 40	✓ ✓			(111) W1: 1P 11h 50m 53s; 1 11h 51m 07s. USCGS: 37°N 140°E, H. 11h 38m 42s, h = about 100 km. Central Honshu, Japan.
< April 26 (112)	eL F	15 35 15 45	✓ ✓			(112) USCGS: 51°N 143°E, H. 14h 52m 19s. Northern Sakhalin Island.
< April 26 (113)			✓			(113) W1: 1P 17h 10m 51s -. USCGS: H. 16h 59m 05s. Northern Kurile Islands.
< April 28 (114)	eL F	07 40 07 50	✓ ✓			(114) BCIS: 13½°N 145°E, H. 6h 35m 36s, h = about 60 km. Marianas Islands.
< May 1 (115)			✓			(115) W1: ePKP 13h 17m 17s. USCGS: 12h 57m 48s. Tonga Islands.
< May 4 (116)			✓			(116) W1: ePKP 14h 34m 05s. USCGS: 19°S 175°W, H. 14h 14m 20s. Tonga Islands.
< May 5 (117)	eL F	04 35 04 55	✓ ✓			(117) W1: ePKP 3h 41m 55s. USCGS: 15½°S 173°W, H. 3h 22m 27s, h = about 100 km. Samoa Islands region.
< May 5 (118)			✓			(118) W1: e(P) 20h 46m 49s. BCIS: 37°N 28½°E, H. 20h 41m 57s. Gulf of Kos, Turkey.
< May 6 (119)	eL F	21 35 22 10	✓ ✓			(119) W1: 1P 21h 08m 51s; 1 21h 08m 54s. USCGS: 54½°N 162½°W, H. 20h 57m 16s. Unimak Island region, Alaska.
< May 6 (120)			✓			(120) W1: 1P 22h 14m 25s. USCGS: 45½°N 150½°E, H. 22h 02m 27s. Kurile Islands.
< May 7 (121)	eL F	11 50 13 30	✓ ✓			(121) USCGS: 46½°S 96°E, H. 10h 58m 12s. South Indian Ocean.
< May 8 (122)			✓			(122) W1: 1PKP 7h 33m 42s +. USCGS: H. 7h 14.1m. Fiji Islands region.
< May 8 (123)			✓			(123) W1: 1PKP 13h 06m 21s. USCGS: H. 12h 47m 18s, h = about 400 km. Fiji Islands region.
< May 8 (124)			✓			(124) W1: eP 20h 57m 57s. BCIS: 28°0 N 52°8 E, H. 20h 50m 04s. Iran.

Seismic Records at De Bilt

Date 1956	Phase	Time	Direction	Period	Amplitude	Remarks
		h m s		s	μ	
May 13 (125)	eSS eL F	08 12.0 08 18 08 45				(125) Disturbed by microseisms. W1: eP 7h 59m 38s. USCGS: 30°N 70°E, H. 7h 50m 33s. Central Pakistan.
May 15 (126)	eP eS eL F	18 38.5 18 42 18 44.5 18 55				(126) Disturbed by microseisms. W1: eP 18h 38m 31s. BCIS: 37°7'N 20°9'E, H. 18h 34m 14s. USCGS: 37½°N 21°E, H. 18h 34m 15s. Near west coast of Greece.
May 15 (127)	iP eS eL F	23 01 13 23 04 47 23 07.0 23 20				(127) Disturbed by microseisms. BCIS: 38°0'N 20°8'E, H. 22h 56m 56s. USCGS: 38°N 22°E, H. 22h 56m 55s. Southern Greece.
May 17 (128)						(128) W1: eP 6h 13m 40s. USCGS: 16½°S 72°W, H. 5h 59m 57s, h = about 60 km. Near coast of Southern Peru.
May 18 (129)						(129) W1: iPKP 8h 38m 10s. USCGS: 17°S 179°W, H. 8h 19m 35s, h = about 600 km. Fiji Islands.
May 18 (130)	ez eL F	22 12 40 22 17.5 22 35				(130) BCIS: 39½°N 23½°E, H. 22h 08m 30s. USCGS: H. 22h 08m 25s. Near east coast of Greece.
May 19 (131)	eL	01 27				(131) F in next shock. USCGS: 11½°S 166½°E, H. 0h 21m 13s. Santa Cruz Island.
May 19 (132)	ePKP ePP eL F	01 49 50 01 51 50 02 30 03 45				(132) W1: iPKP 1h 49m 47s; i 1h 49m 59s. USCGS: 7°S 156°E, H. 1h 30m 36s. Solomon Islands.
May 19 (133)	ePP eSKS eL F	20 20.5 20 27.0 20 50 23 30				(133) BCIS: 41°S 42°E, H. 20h 02m 13s. USCGS: 40°S 43°E, H. 20h 02m 15s. Indian Ocean.
May 22 (134)	ePKP ePP eN eSS eL F	03 20 38 03 24.0 03 34 14 03 42.5 04 10 05 30				(134) W1: ePKP 3h 20m 45s. USCGS: 15½°S 173°W, H. 3h 01m 03s. Samoa Islands.
May 22 (135)	ePP ez eN eL	13 55 53 13 56 10 14 02 10 14 36				(135) W1: iPKP 13h 54m 15s, ePP 15h 56m 05s. USCGS: 4°S 152½°E, H. 13h 36m 12s, h = about 550 km. New Ireland.
May 23 (136)	eL F	06 47 06 52				(136) Alger: 36°4'N 7°3'E, H. 6h 37.9m. Algeria.
May 23 (137)						(137) W1: iPKP 17h 00m 42s. USCGS: H. 16h 41m 15s. Fiji Islands.
May 23 (138)	iPKP ipPKP iPP ipPP F	21 07 13 21 08 55 21 10 18 21 11 50 00 30		6	25	(138) W1: iPKP 21h 07m 11s +; iPP 21h 10m 16s. BCIS: 15½°S 178½°W, H. 20h 48m 28s, h = about 400 km. USCGS: 15½°S 179°W, H. 20h 48m 30s, h = about 450 km. Fiji Islands.
May 25 (139)						(139) W1: iP 1h 03m 34.5s. USCGS: 1°N 97½°E, H. 0h 50m 33s. Near coast of Sumatra.

Seismic Records at De Bilt

Date 1956	Phase	Time	Direction	Period	Amplitude	Remarks
		h m s		s	μ	
May 26 (140)	e F	18 45.0 18 55				(140) W1: e 18h 45.5m. BCIS: 43°9'N 11°3'E, H. 18h 39m 59s. Etruscan Apennines.
May 26 (141)	ePKP epPKP eSPKP e eSS F	20 39 52 20 42 19 20 43 34 20 54 20 21 01 40 22 20				(141) W1: iPKP 20h 39m 57s; i 20h 42m 42s. USCGS: 19°S 178½°W, H. 20h 21m 14s, h = about 550 km. Fiji Islands.
May 28 (142)	ePP eL F	13 42 10 14 20 14 30				(142) USCGS: 1°N 121½°E, H. 13h 23m 17s, h = about 100 km. Northern Celebes.
May 30 (143)						(143) W1: ePKP 16h 01m 08s; e 16h 01m 12s. USCGS: 23°S 178½°W, H. 15h 41m 57s, h = about 350 km. Tonga Islands region.
May 31 (144)						(144) W1: iPKP 21h 20m 23s. USCGS: H. 21h 00m 50s, h = about 60 km. Fiji Islands.
June 1 (145)	eL F	10 55 11 10				(145) BCIS: 63°9'N 22°1'W, H. 10h 46m 17s. USCGS: 64°N 22°W, H. 10h 46m 20s. Iceland.
June 1 (146)	eL F	23 00 23 05				
June 3 (147)	eP eS eL F	05 27 34 05 34 12 05 46 06 05				(147) W1: eP 5h 27m 33s. BCIS: 80°N 118°W, H. 5h 19m 22s. USCGS: 79½°N 118½°W, 5h 19m 23s. Arctic Ocean.
June 3 (148)	eL F	20 25 20 37				(148) USCGS: 31°S 178½°W, H. 18h 52m 20s. Kermadec Islands.
June 4 (149)	eP eS eL F	07 21.2 07 31.1 07 48 09 00				(149) W1: eP 7h 21m 09s; i 7h 21m 18s. BCIS: 52½°N 170½°W, H. 7h 09m 20s. USCGS: 52°N 170½°W, H. 7h 09m 18s. Fox Islands, Aleutian Islands.
June 4 (150)	eL F	13 05 14 25				(150) Disturbed by microseisms. BCIS: 32½°S 178°W, H. 12h 05m 53s. USCGS: 31°S 178°W, H. 12h 05m 55s. Kermadec Islands.
June 5 (151)	eL F	07 10 08 00				(151) USCGS: 51°S 112½°W, H. 5h 59m 41s. Pacific Ocean.
June 8 (152)	eP ePP eL F	04 15.9 04 17 50 04 31 04 55				(152) W1: eP 4h 15m 52s. USCGS: foreshock of (155), H. 4h 07m 26s.
June 8 (153)	eL F	14 45 15 10				(153) USCGS: 30°S 70°W, H. 13h 53m 09s, h = about 150 km. Argentina-Chile border.
June 9 (154)	eP ePP ez eSKS ePS eSS eL F	10 22 42 10 26.3 10 26 56 10 33.2 10 36 16 10 42 24 10 50 13 30				(154) USCGS: 30½°S 70½°W, H. 10h 08m 32s, h = about 150 km. Central Chile.

Seismic Records at De Bilt

Date 1956	Phase	Time			Direction	Period s	Amplitude μ	Remarks
		h	m	s				
June 9 (155)	1P 1PeP 1PP eS eL F	23	22	23 48 08 17 35 00	+	6	40	(155) W1: 1P 23h 22m 16s. BCIS: 35°3'N 67°5'E, H. 23h 13m 52s. USCGS: 35½°N 67½°E, H. 23h 13m 51s. Afghanistan.
× June 10 (156)	eL F	14	15	14 30				(156) BCIS: 47°1'N 14°6'E, H. 13h 48m 42s. Styria, Austria.
× June 11 (157)	eL F	01	25	01 35				(157) BCIS: 34°5'N 26°5'E, H. 1h 11m 25s. USCGS: H. 1h 11m 24s. Near south coast of Crete.
× June 11 (158)	eL F	03	22	03 35				(158) USCGS: aftershock of (155), H. 2h 57m 15s.
June 11 (159)	1P eS eL F	08	27	07 19 32 00				(159) W1: eP 8h 27.3m; 1 8h 27m 25s. BCIS: 52½°N 31½°W, H. 8h 22m 06s. USCGS: 52°N 31½°W, H. 8h 22m 09s. North Atlantic Ocean.
× June 11 (160)	eL F	23	21	23 30				(160) BCIS: 51½°N 88½°E, H. 22h 54m 48s, USCGS: 50½°N 89°E, H. 22h 54m 48s. Southern Siberia.
× June 12 (161)	eL F	03	47	04 00				(161) BCIS: 24½°N 91½°E, H. 3h 12m 25s. USCGS: H. 3h 12m 28s. Assam.
> June 12 (162)	eL F	09	50	10 20				(162) USCGS: 9°S 110°W, H. 8h 54m 02s. Eastern Pacific Ocean.
× June 14 (163)								(163) W1: 1P 12h 24m 19s. BCIS: 45°N 150½°E, H. 12h 12m 20s. USCGS: 45°N 145½°E, H. 12h 12m 19s. Kurile Islands.
June 15 (164)	ePKP eL F	15	55.3	17 00 17 25				(164) W1: ePKP 15h 55m 27s. BCIS: 25°S 178°W, H. 15h 35m 55s, h = about 200 km. USCGS: H. 15h 35m 47s, h = about 200 km. About 300 miles south of Tonga Islands.
June 16 (165)	eP ePP eS eL F	06	32	10 36 40 03 00				(165) W1: eP 6h 32m 05s; e 6h 32m 16s. USCGS: 28½°N 131½°E, H. 6h 19m 22s. Ryukyu Islands.
× June 16 (166)								(166) W1: ePKP 19h 55.9m. BCIS: 26°S 176½°W, H. 19h 36m 02s. USCGS: H. 19h 36m 01s. 300 miles south of Tonga Islands.
× June 19 (167)	eL F	01	15	01 45				(167) BCIS: about 5°S 103°E, H. 0h 19.0m. USCGS: H. 0h 19m 08s. South of Sumatra.
× June 20 (168)	eL F	16	50.4	16 52				(168) BCIS: 18°S 174°W, H. 16h 29m 44s. USCGS: H. 16h 29m 42s. Tonga Islands.
× June 20 (169)	eL F	22	42	22 53				(169) BCIS: H. 22h 31.2m. North Atlantic Ocean.
× June 22 (170)	e F	01	00	01 05				(170) BCIS: about 38½°N 33½°E. Central Anatolia.

Seismic Records at De Bilt

Date 1956	Phase	Time			Direction	Period s	Amplitude μ	Remarks
		h	m	s				
June 23 (171)	1P ePP 1S ePS eL F	02	29	21 00 42 12 49 30	+			(171) W1: 1 2h 29m (21s) +. BCIS: 56½°N 163½°E, H. 2h 18m 03s. USCGS: 56½°N 163½°E, H. 2h 18m 02s. Near east coast of Kamchatka.
× June 23 (172)	eL F	00	35	01 00				(172) W1: ePKP 23h 38m 46s. USCGS: 21°S 174°E, H. 23h 18m 57s. Loyalty Islands region.
< June 24 (173)	eL F	13	40	14 30				(173) BCIS: 40°S 36°E, H. 12h 55.0m. H. 12h 55m 02s. Indian Ocean, about 400 miles north of Prince Edward Island.
< June 24 (174)	eL F	22	00	23 05				(174) BCIS: 7°S 155°E, H. 20h 58m 42s. USCGS: 20h 58m 36s. Solomon Islands.
× June 26 (175)	eL F	01	58	02 05				(175) W1: eP 1h 54m 16s. BCIS: H. 1h 50m 08s. Alger: 36°0'N 8°1'E, H. 1h 50.2m. Algeria-Tunisia border.
× June 26 (176)	eL F	06	37	06 45				(176) BCIS: 39°5'N 22°2'E, H. 6h 27m 40s. Thessaly, Greece.
× June 27 (177)	eL F	19	43	20 05				(177) BCIS: 23½°N 120½°E, H. 18h 57m 33s. USCGS: 23°N 121°E, H. 18h 57m 33s. Southern Formosa.
× June 28 (178)	eL F	17	49.4	18 00				(178) BCIS: 44°1'N 18°6'E, H. 17h 42m 31s. Yugoslavia.
June 28 (179)	eP eS eL F	23	10	19 45 35 30				(179) USCGS: 48½°N 129½°W, H. 22h 58m 50s. Off coast of Vancouver Island, British Columbia.
< June 29 (180)	eL F	03	05	04 00				(180) USCGS: 26°N 122°E, H. 2h 22m 00s. USCGS: 24°N 122½°E, H. 2h 21m 52s. Off coast of Formosa.
× June 29 (181)	eL F	18	33	18 55				(181) USCGS: 14°N 121°E, H. 17h 43m 26s. Near southwest coast of Luzon, Philippine Islands.
June 30 (182)	eP eS eL F	01	54	(42) 01 58.0 02 00 02 20				(182) W1: eP 1h 54m 26s. BCIS: 43½°N 29°E, H. 1h 50m 26s, USCGS: 44°N 29°E, H. 1h 50m 20s. Black Sea, near coast of Romania.
July 3 (183)	1P 1pP eS esS F	23	34	35 48 41.2 42.5 05	+			(183) W1: 1P 23h 34m 28s. BCIS: 36°5'N 70°5'E, H. 23h 26m 19s, h = about 220 km. USCGS: 36½°N 71°E, H. 23h 26m 17s, h = about 250 km. Hindu Kush.
July 4 (184)	1PKP	00	58	46				(184) W1: 1PKP 0h 58m 46s. USCGS: 18°S 178½°W, H. 0h 39m 55s, h = about 450 km. Fiji Islands region.
July 4 (185)	eL F	04	09	05 00				(185) W1: ePKP 3h 23m 23s. USCGS: 7°S 155½°E, H. 3h 04m 14s. Solomon Islands.
July 4 (186)								(186) W1: 4h 01m 58s. USCGS: after-shock of (185), H. 3h 42m 50s.

Seismic Records at De Bilt

Date 1956	Phase	Time			Direction	Period s	Amplitude μ	Remarks
		h	m	s				
* July 6 (187)	eL F	03	05				(187) USCGS: 42½°N 126°W, H. 2h 22m 00s. Off coast of Oregon, U.S.A.	
* July 7 (188)	e F	10	54				(188) BCIS: 37½°N 56¼°E, H. 10h 30m 34s. Iran.	
* July 8 (189)	e F	10	49				(189) BCIS: 42°3' N 21°4' E, H. 10h 40.7m. Yugoslavia.	
* July 8 (190)	eS eL F	13	14.7				(190) BCIS: foreshock of (191), H. 13h 05m 22s.	
- July 9 (191)	1P 1S eL F	03	16	29			(191) W1: 1P 3h 16m 26s +; 1 3h 16m 31s -; 1S 3h 20m 36s. BCIS: 36.9°N 26°E, H. 3h 11m 38s. USCGS: 37°N 26°E, H. 3h 11m 39s. Aegean Sea.	
* July 9 (192)							(192) W1: eP 4h 38m 10s. BCIS: aftershock of (191), H. 4h 33m 21s. USCGS: H. 4h 33m 22s.	
* July 9 (193)							(193) W1: eP 6h 23m 55s. BCIS: aftershock of (191), H. 6h 19m 07s. USCGS: H. 6h 19m 07s.	
* July 9 (194)							(194) W1: eP 6h 27m 34s. BCIS: aftershock of (191), H. 6h 22m 49s. USCGS: H. 6h 22m 49s.	
* July 9 (195)							(195) W1: 1(PKP) 7h 03m 11s. BCIS: Fiji Islands region. Deep focus.	
* July 9 (196)							(196) W1: eP 7h 41m 17s. BCIS: aftershock of (191), H. 7h 36m 27s.	
* July 9 (197)							(197) W1: eP 9h 49m 55s. BCIS: aftershock of (191), H. 9h 45m 06s.	
- July 9 (198)	1P 1z eS eH eSS eL F	10	07	05			(198) W1: 1P 10h 07m 11s -; 1 10h 07m 30s +, USCGS: 20°N 73°W, H. 9h 56m 13s, h = about 100 km. Near coast of Haiti.	
* July 9 (199)							(199) W1: eP 11h 35m 40s. BCIS: aftershock of (191), H. 11h 30m 48s.	
* July 9 (200)	eS eL	20	19	17			(200) F in next shock. W1: eP 20h 15m 15s. BCIS: aftershock of (191), H. 20h 10m 24s. USCGS: H. 20h 10m 25s.	
* July 9 (201)	eS F	20	22	49			(201) W1: eP 20h 18m 34s. BCIS: aftershock of (191), H. 20h 13m 53s. USCGS: H. 20h 13m 56s.	
* July 9 (202)	eS eL	21	37	35			(202) W1: 21h 33m 33s. BCIS: aftershock of (191), H. 21h 28m 41s. USCGS: H. 21h 28m 42s.	
- July 10 (203)	eP eS ePcP eL F	03	06	15			(203) W1: eP 3h 06m 13s. BCIS: aftershock of (191), H. 3h 01m 25s. USCGS: H. 3h 01m 27s.	

Seismic Records at De Bilt

Date 1956	Phase	Time			Direction	Period s	Amplitude μ	Remarks
		h	m	s				
- July 12 (204)	e F	15	43				(204) W1: 1P 15h 12m 38s; epP 15h 13m 01s. USCGS: 23°N 94½°E, H. 15h 01m 26s, h = about 100 km. Central Burma.	
- July 12 (205)	e F	18	20				(205) BCIS: 58°S 143°W, H. 16h 55.9m. South Pacific Ocean.	
* July 14 (206)	eS eL F	19	09.9				(206) BCIS: 40¼°W 31°E, H. 19h 01m 04s. Turkey.	
- July 16 (207)	1P eS eSS eL F	15	18	40			(207) W1: eP 15h 18m 38s. BCIS: 22¼°N 96°E, H. 15h 07m 13s, h = about 100 km. USCGS: 22°N 95½°E, H. 15h 07m 10s, h = about 100 km. Central Burma.	
- July 17 (208)	eP epP ePP 1pPP eSKS 1PPF e(S) 1PS eSPP eH eH eSS F	07	48	10			(208) W1: eP 7h 48m 07s; epP 7h 49m 50s; 1PKP 7h 51m 58s; epPP 7h 54m 32s; ePS 8h 01m 44s; 1SPP 8h 02 55s. USCGS: 7°S 126½°E, H. 7h 34m 07s, h = about 450 km. Banda Sea.	
* July 18 (209)							(209) W1: ePKP 0h 46m 32s. USCGS: 5°S 151°E, H. 0h 27m 27s. New Britain.	
- July 18 (210)	eP ePKP ePP ePPP ePS ePPS F	06	34	11			(210) W1: eP 6h 34m 10s; 1 6h 34m 15s; ePKP 6h 38 00s; ePP 6h 38m 58s; epPP 6h 39m 41s; e 6h 48m 14s. BCIS: 5°S 130°E, H. 6h 19m 33s. USCGS: H. 6h 19m 15s. Banda Sea.	
- July 19 (211)	eP eS eL F	20	54	10			(211) W1: eP 20h 54m 06s. USCGS: 15°N 120½°E, H. 20h 40m 54s. Near west coast of Luzon, Philippine Islands.	
- July 19 (212)	eP eS eL F	23	38	50			(212) W1: 1P 23h 38m 54s. USCGS: 9½°W 84½°W, H. 23h 26m 25s. Near coast of Costa Rica.	
- July 21 (213)	eP eS eL F	00	18	27			(213) W1: eP 0h 18m 33s. BCIS: ½°N 25°W, H. 0h 08m 30s. USCGS: 1°N 26°W, H. 0h 08m 31s. Mid-Atlantic Ocean.	
- July 21 (214)	1P ePcP ePP ePPP 1S eL F	15	42	13			(214) W1: 1P 15h 42m 08s. BCIS: 23.3°N 69°8' E, H. 15h 32m 28s. USCGS: 23°N 70°E, H. 15h 32m 25s.	

Seismic Records at De Bilt

Date 1956	Phase	Time	Direction	Period	Amplitude	Remarks
		h m s		s	μ	
- July 22 (215)	eP eS eL F	03 33 50 03 38.0 03 40.5 04 00				(215) BCIS: aftershock of (191), H. 3h 28m 59s.
- July 23 (216)	ePP eSS eL F	19 46.7 20 04.0 20 18 22 00				(216) USCGS: 24°S 112°W, H. 19h 25m 58s. Easter Island region.
* July 24 (217)	eL F	19 53 20 20				(217) USCGS: 1°N 126½°E, H. 18h 56m 32s. Molucca Passage.
* July 28 (218)	e F	00 40 01 00				(218) Tacubaya: 14°26'N 94°29'W, H. 23h 53m 31s. Gulf of Tehuantepec, Mexico.
* July 30 (219)	eL F	05 50 06 05				(219) Disturbed by microseisms. BCIS: aftershock of (191), H. 5h 41m 00s. USCGS: H. 5h 41m 01s.
* July 30 (220)	e F	09 20 10 00				(220) BCIS: aftershock of (191), H. 9h 14m 57s. USCGS: H. 9h 15m 00s.
* July 30 (221)	e F	10 48 11 00				(221) BCIS: aftershock of (191), H. 10h 39m 57s. USCGS: 10h 39m 56s.
* Aug. 3 (222)	eL F	18 30 18 50				(222) BCIS: H. 17h 37m 42s. South Atlantic, Sandwich Islands.
- Aug. 4 (223)	(epPKP) ePS eH eL F	10 09 10 19 10 31 10 50 12 15			40	(223) BCIS: 5°2' S 152°0' E, H. 9h 48m 48s, h = about 60 km. USCGS: 5°S 153°E, H. 9h 48m 45s, h = about 60 km. New Britain.
* Aug. 5 (224)	eL F	09 50 10 20				(224) BCIS: 41°N 144°E, H. 9h 09m 05s. USCGS: H. 9h 09m 12s. Off east coast of Hokkaido, Japan.
* Aug. 6 (225)	eL F	18 10 18 21				(225) BCIS: 27°N 126½°E, H. 17h 22m 46s. USCGS: 26½°N 127°E, H. 17h 22m 45s. Ryukyu Islands.
* Aug. 8 (226)	e F	23 25 23 55				(226) BCIS: 31½°N 67°E, H. 23h 02 13s. USCGS: 32°N 67°E, H. 23h 02m 10s. Southern Afghanistan.
* Aug. 9 (227)	eL F	03 49 04 00				(227) W1: 1PKP 3h 23m 04s; 1 3h 23m 09s. USCGS: 18½° 179°E, H. 3h 04m 16s, h = about 50 km. Fiji Islands.
- Aug. 9 (228)	1PKP 1pPKP eSS F	23 19 50 23 21 03 23 41.5 01 00				(228) W1: 1PKP 23h 19m 47s; 1pPKP 23h 21m 02s; 1PP 23h 23m 05s. USCGS: 15°S 176°W, H. 23h 00m 42s, h = about 250 km. Samoa Islands region.
* Aug. 12 (229)						(229) W1: 1PKP 0h 45m 05s (+); 1pPKP 0h 46m 05s (-). USCGS: 19°S 176°W, H. 0h 25m 42s, h = about 200 km. Tonga Islands.
- Aug. 12 (230)	eP eS eSS eL F	17 12 14 17 22 36 17 28 19 17 40 18 30				(230) BCIS: 34½°N 138½°E, H. 16h 59m 39s, h = about 60 km. USCGS: 34°N 138°E, H. 16h 59m 33s. Near south coast of Honshu, Japan.

Seismic Records at De Bilt

Date 1956	Phase	Time	Direction	Period	Amplitude	Remarks
		h m s		s	μ	
- Aug. 14 (231)	ePP ePS ePPS eSS eL F	03 08 46 03 18 00 03 18 49 03 23.5 03 40 05 20				(231) BCIS: about 53°S 22°E, H. 2h 50.2m. USCGS: H. 2h 50m 30s. South Indian Ocean, Prince Edward Islands region.
- Aug. 15 (232)	1SKS IS eL F	05 43 31 05 44 11 06 05 06 50				(232) BCIS: 0°0' lat. 101½°E, H. 5h 21m 38s, h = about 300 km. USCGS: 0° 101½°E, H. 5h 20m 37s, h = about 300 km. Sumatra.
- Aug. 15 (233)	ePP epPP ePS eL	11 09 52 11 10 33 11 17 19 11 40				(233) F 1n next shock. BCIS: 0°0' lat. 123°0' E, H. 10h 51m 16s, h = about 100 km. USCGS: ½°S 124°E, H. 10h 51m 19s, h = about 150 km. Celebes.
* Aug. 15 (234)	eL F	12 08.5 12 30				(234) W1: ePn 12h 05m 43s; ePg 12h 06m 58s; eSg 12h 09m 33s. BCIS: 43.1°N 15°9'E, H. 12h 02m 54s. Near coast of Yugoslavia.
- Aug. 15 (235)	1P eS eL F	13 24 17 13 34 09 13 48 15 00	-			(235) W1: 13h 24m 12s -. USCGS: 46°N 151°E, H. 13h 12m 10s. Kurile Islands.
* Aug. 16 (236)	e eL F	00 47 00 49.5 01 10				(236) BCIS: 36°0' N 21½°E, H. 0h 38m 31s. USCGS: H. 0h 38m 30s. About 100 miles off south coast of Greece.
* Aug. 16 (237)	eL F	02 18 02 30				(237) W1: eP 2h 14m 05s. BCIS: 36½°N 8½°W, H. 2h 09m 39s. USCGS: 37°N 8½°W, H. 2h 09m 39s. Near southwest coast of Portugal.
- Aug. 17 (238)	ez F	01 33 02 30				(238) BCIS: 54½°N 36°W, H. 1h 23m 07s. USCGS: 54°N 35°W, H. 1h 23m 10s. North Atlantic Ocean.
* Aug. 20 (239)	eL F	06 10 07 00				(239) BCIS: 7°0' N 79½°W, H. 5h 33m 48s. USCGS: 7½°N 80°W, H. 5h 33m 47s. Near south coast of Panama.
* Aug. 22 (240)	eL F	20 15 20 35				(240) W1: eP 19h 51m 15s. BCIS: 28°N 95°E, H. 19h 40m 13s. USCGS: H. 19h 40m 15s. Northern Assam.
- Aug. 23 (241)	1P iz epP IS eH eL F	14 01 43 14 04 50 14 05 24 14 12 06 14 13 50 14 35 16 00	+			(241) W1: eP 14h 01m 47s. USCGS: 15°S 68°W, H. 13h 48m 30s, h = about 100 km. Bolivia.
- Aug. 24 (242)	1P 1PP iz eS ePS eSS eSSS eL F	04 39 18 04 42 10 04 44 00 04 48 57 04 49 44 04 54 22 04 57 50 05 04 07 00				(242) W1: 1P 4h 39m 14s. BCIS: 53°0' N 172°5' E, H. 4h 27m 31s. USCGS: 53°N 172½°E, H. 4h 27m 33s. Near Islands, Aleutian Islands.

Seismic Records at De Bilt

Date 1956	Phase	Time			Direction	Period s	Amplitude μ	Remarks
		h	m	s				
- Aug. 30 (243)	eP ePP eS eL F	04	36	00			(243) W1: eP 4h 35m 58s. BCIS: 54½°N 164½°W, H. 4h 24m 33s. USCGS: 54°N 164°W, H. 4h 24m 24s. Unimak Islands, Aleutian Islands.	
x Aug. 30 (244)	eL F	06	33				(244) USCGS: 41°N 128½°W, H. 5h 24m 52s. Off coast of Northern California.	
x Aug. 30 (245)	eL F	18	23				(245) BCIS: 54½°N 35½°W, H. 18h 11m 40s. North Atlantic Ocean.	
x Sept. 3 (246)	e e F	18	49.4				(246) BCIS: 36°4' N 22°4' E, H. 18h 40m 57s. USCGS: H. 18h 41m 00s. Near south coast of Greece.	
x Sept. 5 (247)	e F	14	18.0				(247) BCIS: H. 14h 11.8m. 200 km north-west of Belgrad.	
- Sept. 6 (248)	eP eS eL F	11	52	12			(248) BCIS: 35½°N 25½°E, H. 11h 46m 37s. USCGS: H. 11h 46m 35s. Dodecanese Islands, Greece.	
- Sept. 6 (249)	eS eL F	13	08.0				(249) BCIS: 35½°N 25½°E, H. 12h 58m 41s. USCGS: 37°N 26½°E, H. 12h 58m 45s. Dodecanese Islands, Greece.	
- Sept. 7 (250)	ePKP	04	13	33			(250) W1: 1PKP 4h 13m 31s; 1pPKP 4h 14m 36s. USCGS: 18°S 176½°W, H. 5h 54m 18s, h = about 250 km. Fiji Islands region.	
- Sept. 8 (251)	eP eS eL F	18	13	37			(251) USCGS: 76½°N 7°E, H. 18h 08m 10s. Arctic Ocean, west of Spitsbergen.	
x Sept. 9 (252)	eL F	18	30				(252) USCGS: 3°N 129°E, H. 17h 35m 13s, h = about 150 km. Halmahera.	
x Sept. 10 (253)	eL F	03	25					
- Sept. 11 (254)	ePKP ePP eSS eL F	00	11	40			(254) W1: ePKP1 0h 11m 46s; ePKP2 0h 12m 10s. BCIS: 25½°S 175½°W, H. 23h 51m 46s. USCGS: H. 23h 51m 44s. Tonga Islands region.	
- Sept. 11 (255)	ePKP ePP eSS eSSS eL F	02	52	08			(255) W1: 1PKP 2h 52m 09s. BCIS: 16½°S 178½°E, H. 2h 32m 30s. USCGS: 16½°S 178°E, H. 2h 32m 28s. Fiji Islands.	
- Sept. 11 (256)	e F	07	47				(256) BCIS: H. 7h 34.7m. Crete Island region.	
- Sept. 11 (257)	eP eS eL F	10	07	00			(257) USCGS: 14°N 91°W, H. 9h 54m 40s, h = about 100 km. Guatemala.	

Seismic Records at De Bilt

Date 1956	Phase	Time			Direction	Period s	Amplitude μ	Remarks
		h	m	s				
- Sept. 11 (258)	eP ePP eS eL F	21	15	44			(258) USCGS: 49½° 155°E, H. 21h 03m 56s. Northern Kurile Islands.	
x Sept. 13 (259)	e F	14	55.5				(259) BCIS: 45½°N 17½°E. Yugoslavia.	
- Sept. 16 (260)	1P ePP 1S eScS eSS eL F	08	46	08			(260) W1: eP 8h 46m 03s. BCIS: 34½°N 69½°E, h. 8h 37m 22s. USCGS: 34°N 69½°E, H. 8h 37m 22s. Pakistan-Afghanistan border.	
x Sept. 16 (261)	e F	14	50				(261) W1: 1PKP 13h 45m 45s. USCGS: 19°S 174½°W, H. 13h 26m 30s, h = about 200 km. Tonga Islands.	
x Sept. 16 (262)	eL F	14	50				(262) Disturbed by microseisms. USCGS: aftershock of (260), H. 14h 23m 22s.	
x Sept. 16 (263)	eS eL F	18	16.5				(263) BCIS: 36½°N 26½°E, H. 18h 07m 38s. USCGS: 36½°N 26°E, H. 18h 07m 38s. Aegean Sea.	
- Sept. 19 (264)	1P eS eH eL F	23	59	00			(264) W1: 1P 23h 58m 52s. USCGS: 23½°N 94½°E, H. 23h 47m 44s, h = about 150 km. Western Burma.	
- Sept. 20 (265)	e F	03	54				(265) BCIS: 23½°S 69½°W, H. 3h 02m 32s. USCGS: H. 3h 02m 50s. Near coast of Northern Chile.	
- Sept. 20 (266)	eP eS eL F	20	17	51			(266) W1: 1P 20h 17m 45s. USCGS: foreshock of (267), H. 20h 06m 09s.	
- Sept. 20 (267)	1P 1pP eS eL	22	03	39			(267) W1: 1P 22h 03m 35s. F in next shock. Disturbed by microseisms. USCGS: 51½°N 159½°E, H. 21h 52m 01s. Near south coast of Kamchatka.	
- Sept. 20 (268)	ez eH eL F	23	13	36			(268) W1: eP 23h 13m 32s. Disturbed by microseisms. BCIS: 1°S 24°W, H. 23h 03m 05s. Mid-Atlantic Crust.	
- Sept. 21 (269)	ePP	19	28.8				(269) W1: 1P 19h 24m 45s; 1PP 19h 28m 59s. USCGS: 26½°S 63°W, H. 19h 11m 59s. Santiago del Estero, Argentina.	
x Sept. 21 (270)	e F	23	07	42			(270) W1: 1P 23h 07m 42s +. USCGS: 46°N 151½°E, H. 22h 55m 46s. Kurile Islands.	
x Sept. 21 (271)	e F	7	12	04			(271) W1: 1PKP 7h 12m 04s -. USCGS: 22½°S 179½°W, H. 6h 53m 20s, h = about 650 km. Fiji Islands region.	

Seismic Records at De Bilt

Date 1956	Phase	Time	Direction	Period	Amplitude	Remarks
		h m s		s	μ	
× Sept. 22 (272)	eL F	16 19 16 35				(272) W1: eP 16h 02m 40s. BCIS: 39°N 69°E, H. 15h 54m 27s. USCGS: 28°N 69°E, H. 15h 54m 21s. Tadzhik, S.S.R.
× Sept. 24 (273)	eL	07 15				(273) F in next shock. USCGS: 15½°S 173½°W, H. 6h 04m 37s. Samoa Islands.
- Sept. 24 (274)	ePKP eL F	07 22 08 12 09 00		07		(274) W1: ePKP 7h 22m 07s. USCGS: 22°S 175°E, H. 7h 02m 13s. Fiji Islands region.
- Sept. 24 (275)	iP eS eSS eL F	10 29 10 36 10 40.2 10 45 11 30				(275) W1: eP 10h 29m 19s. Aftershock of (260). BCIS: 34½°N 69½°E, H. 10h 20m 38s. USCGS: 34°N 69½°E, H. 10h 20m 38s. Pakistan-Afghanistan border.
× Sept. 26 (276)	eL F	05 50 06 20				(276) USCGS: 30½°N 142°E, H. 5h 04m 01s. Off south coast of Honshu, Japan.
× Sept. 26 (277)						(277) W1: iP 13h 58m 27s. USCGS: 52°N 176°E, H. 13h 46m 52s, h = about 100 km. Rat Islands, Aleutian Islands.
× Sept. 29 (278)	eL F	09 48 11 00				(278) Disturbed by microseisms. No records from 9h 20m till 9h 47m. W1: eP 9h 16m 10s. BCIS: 7°N 94½°E, H. 9h 03m 39s. USCGS: 7½°N 94½°E, H. 9h 03m 37s. Nicobar Islands.
× Sept. 29 (279)	eL F	22 03 22 30				(279) Disturbed by microseisms. W1: eP 21h 33m 07s. USCGS: 37½°N 141°E, H. 21h 20m 52s. Honshu, Japan.
× Sept. 29 (280)	eL F	23 20 23 30				(280) Disturbed by microseisms. BCIS: 3°N 128½°E, H. 22h 22m 46s, h = about 60 km. USCGS: 3°N 128°E, H. 22h 22m 48s, h = about 60 km. Off north coast of Halmahera.
× Sept. 30 (281)	eL F	00 00 00 30				(281) W1: iP 23h 33m 15s +. USCGS: 35°S 140°E, H. 23h 20m 52s, h = about 60 km. Central Honshu, Japan.
- Oct. 2 (282)	eP eS eL F	15 07 15 17 15 37 16 10				(282) Disturbed by microseisms. W1: iP 15h 07m 50s. USCGS: 53°N 159°E, 14h 56m 26s, h = about 60 km. Near southeast coast of Kamchatka.
× Oct. 7 (283)	eL F	22 43 23 00				(283) USCGS: 13°S 167°E, H. 21h 27m 50s, h = about 100 km. New Hebrides Islands.
- Oct. 8 (284)	ePKP eSS eH eL F	15 15 15 38 15 57 16 15 17 30		34 20		(284) W1: ePKP 15h 15.6m. USCGS: 20°S 174°W, H. 14h 55m 49s. Tonga Islands.
- Oct. 9 (285)	ePKP eL F	06 39.2 07 45 08 30				(285) USCGS: 19½°S 174°W, H. 6h 19m 27s. Tonga Islands.
× Oct. 10 (286)	eL F	16 04 16 15				(286) USCGS: 28½°N 78°E, H. 15h 31m 34s. Northern India.

Seismic Records at De Bilt

Date 1956	Phase	Time	Direction	Period	Amplitude	Remarks
		h m s		s	μ	
- Oct. 11 (287)	iP iPP iP iS iS eSSS eL F	02 36 25 02 39 23 02 39 51 02 46 07 02 46 36 02 54 20 02 59 06 00	+	6	45	(287) W1: iP 2h 36m 19s. He: iP 2h 36m 38s. BCIS: 46°N 150°E, H. 2h 24m 36s, h = about 100 km. USCGS: 46°N 150½°E, H. 2h 24m 33s, h = about 100 km. Kurile Islands.
- Oct. 11 (288)	eP eS eSS eL F	17 09 57 17 10 53 17 16.0 17 24 18 30				(288) W1: iP 17h 00m 56s. USCGS: 40½°N 126½°W, H. 16h 48m 46s. Off Cape Mendocino, California.
- Oct. 12 (289)	eP ePP eS eN eL F	02 51 12 02 55.0 02 01 50 03 02.5 03 19 04 20				(289) Disturbed by microseisms. USCGS: 15½°S 75°W, H. 2h 37m 45s, h = about 60 km. Near west coast of central Peru.
- Oct. 12 (290)	eS eL F	12 45 13 00 13 45				(290) Disturbed by microseisms. W1: iP 12h 34m 50s; 1 12h 35m 02s. USCGS: 42½°N 144½°N, H. 12h 22m 46s. Near east coast of Hokkaido, Japan.
× Oct. 13 (291)	eL F	19 55 20 15				(291) USCGS: 5°S 149½°E, H. 18h 54m 06s, h = about 150 km. New Britain.
× Oct. 14 (292)	eL F	21 50 22 00				(292) W1: eP 21h 17m 52s. USCGS: 38°N 141½°E, H. 21h 05m 36s, h = about 60 km. Off east coast of Honshu, Japan.
× Oct. 18 (293)	eL F	20 50 21 00				(293) BCIS: H. 20h 04.6m. Galapagos Islands region.
- Oct. 19 (294)	ePKP	12 19 20				(294) W1: ePKP ₁ 12h 19m 14s; iPKP ₂ 12h 19m 18s; ePKP ₁ 12h 21m 42s. USCGS: 21°S 179°W, H. 12h 00m 38s, h = about 650 km. Fiji Islands.
- Oct. 19 (295)	eL F	15 20 16 30				(295) Disturbed by microseisms. W1: ePKP 14h 25m 42s. USCGS: 56½°S 122°W, H. 14h 05m 34s. South Pacific Ocean.
- Oct. 19 (296)	eP iS iH eSS eL F	20 59.5 21 09 08 21 10 24 21 14.0 21 28 23 00				(296) Disturbed by microseisms. W1: eP 20h 59m 19s. BCIS: 52½°N 177½°E, H. 20h 47m 32s. USCGS: 52°N 177°E, H. 20h 47m 33s. Rat Islands, Aleutian Islands.
× Oct. 22 (297)	eL F	13 35 15 00				(297) Disturbed by microseisms. USCGS: 9½°S 150°E, H. 12h 35m 10s. Near coast of New Guinea.
- Oct. 23 (298)	ePP ePS eSS eL F	08 58.5 09 07.2 09 28 09 28 10 00				(298) Disturbed by microseisms. W1: eP 8h 54m 50s. BCIS: 13½°N 120½°E, H. 8h 41m 21s, h = about 100 km. USCGS: 13½°N 120½°E, H. 8h 41m 22s, h = about 100 km. Mindoro Island, Philippine Islands.

Seismic Records at De Bilt

Date 1956	Phase	Time			Direction	Period	Amplitude	Remarks
		h	m	s				
Oct. 24 (299)	iP iPP eL F	14	54	33 40		μ	(299) Disturbed by microseisms and visitors. W1: eP 14h 54.7m. BCIS: 11 $\frac{1}{2}$ ^o N 86 $\frac{1}{2}$ ^o W, H. 14h 42m 09s. USCGS: 12 ^o N 87 ^o W, H. 14h 42m 10s. Near coast of Nicaragua.	
Oct. 26 (300)	ePKP epPKP iPP ipPP ePKS ePPP ePS eSS eL F	23	09.9	19 49 16 34 48 23.0 31.1 55 01 30			(300) Disturbed by microseisms. W1: ePKP 23h 09m 55s. USCGS: 14 ^o S 167 ^o E, H. 22h 50m 24s. New Hebrides Islands.	
Oct. 27 (301)	eL F	16	15	30			(301) Disturbed by microseisms. USCGS: 12 ^o N 86 ^o W, H. 15h 33m 08s, h = about 200 km. Near coast of Nicaragua.	
Oct. 28 (302)	ePKP ePS eSS eL F	03	48.6	04 04 13.5 31 40			(302) Disturbed by microseisms. W1: ePKP ₁ 3h 48.7m; ePKP ₂ 3h 49m 19s. BCIS: 33 ^o S 178 $\frac{1}{2}$ ^o W, H. 3h 28m 37s. USCGS: 32 ^o S 179 ^o W, H. 3h 28m 41s. Kermadec Islands.	
Oct. 28 (303)	eL F	11	30	12 30			(303) BCIS: 14 ^o N 123 $\frac{1}{2}$ ^o E, H. 10h 45m 06s. USCGS: 14 ^o N 123 $\frac{1}{2}$ ^o E, H. 10h 45m 06s. Luzon, Philippine Islands.	
Oct. 29 (304)	eL F	07	47	07 35			(304) BCIS: 35 $\frac{1}{2}$ ^o N 26 ^o E, H. 7h 34m 56s. USCGS: H. 7h 34m 57s. Dodecanese Islands.	
Oct. 29 (305)							(305) W1: iPKP 22h 53m 16s. USCGS: 22 ^o S 177 ^o W, H. 22h 33m 49s, h = about 200 km. Tonga Islands region.	
Oct. 30 (306)	eL F	00	20	00 26			(306) W1: eP 0h 15m 20s. BCIS: 66 $\frac{1}{2}$ ^o N 18 ^o W, H. 0h 11m 01s. USCGS: 66 $\frac{1}{2}$ ^o N 17 $\frac{1}{2}$ ^o W, H. 0h 11m 03s. Near coast of Northern Iceland.	
Oct. 31 (307)	iP iPP iS eSS eScS eL F	14	11	56 45 26 28 48 24 30			(307) W1: iP 14h 11m 52s; i 14h 12m 06s; 14h 14m 27s. BCIS: 27 $\frac{1}{2}$ ^o N 54 $\frac{1}{2}$ ^o E, H. 14h 03m 44s. USCGS: 26 $\frac{1}{2}$ ^o N 54 $\frac{1}{2}$ ^o E, H. 14h 03m 38s. Southern Iran.	
Nov. 2 (308)	eH eL eF	16	09.5	14 30			(308) BCIS: 39 ^o 5' N 23 ^o 0' E, H. 16h 04m 33s. USCGS: 39 ^o N 23 ^o E, H. 16h 04m 30s. Near east coast of Greece.	
Nov. 3 (309)							(309) W1: iPKP 18h 21m 04s. USCGS: 24 ^o S 180 ^o , H. 18h 02m 04s, h = about 500 km. South of Fiji Islands.	
Nov. 4 (310)	ePKP ePP eSS eL F	07	25	28 20.4 49 15 20			(310) W1: iPKP 7h 25m 33s. +. USCGS: 22 ^o S 175 ^o W, H. 7h 05m 43s, h = about 60 km. Tonga Islands.	

Seismic Records at De Bilt

Date 1956	Phase	Time			Direction	Period	Amplitude	Remarks
		h	m	s				
Nov. 5 (311)							(311) W1: e 19h 51m. BCIS: 46 ^o 5' N 13 ^o E, H. 19h 45m 25s. Carinthia, Austria.	
Nov. 8 (312)	iPKP	07	09	16			(312) Disturbed by microseisms. W1: iPKP 7h 09m 11s. USCGS: 18 ^o S 178 ^o W, H. 6h 50m-24s, h = about 500 km. Fiji Islands.	
Nov. 9 (313)	iP ipP iS iH eL F	13	18	24 58 28 39 45 30	+	6	(313) Disturbed by microseisms. W1: iP 13h 18m 27s; epP 13h 19m 00s. USCGS: 17 ^o N 94 ^o W, H. 13h 06m 10s, h = about 150 km. Southern Mexico.	
Nov. 10 (314)	eL F	15	28	15 40			(314) Disturbed by microseisms. W1: eP 14h 53m 04s. BCIS: 15 $\frac{1}{2}$ ^o N 120 $\frac{1}{2}$ ^o E, H. 14h 39m 56s. USCGS: 16 ^o N 121 ^o E, H. 14h 39m 56s. Luzon, Philippine Islands.	
Nov. 11 (315)							(315) W1: iP 3h 32m 18s. USCGS: 16 $\frac{1}{2}$ ^o S 179 ^o W, H. 3h 13m 48s, h = about 600 km. Fiji Islands.	
Nov. 11 (316)	eL F	20	00	20 15			(316) Disturbed by microseisms. W1: iP 19h 27m 23s (-). USCGS: 44 ^o N 149 ^o E, H. 19h 15m 20s. Kurile Islands.	
Nov. 12 (317)	eL F	11	15	11 20			(317) BCIS: Probably Mid-Atlantic Ridge.	
Nov. 12 (318)	eL F	11	35	11 40			(318) BCIS: Probably Mid-Atlantic Ridge.	
Nov. 13 (319)	eL F	09	00	09 30			(319) W1: ePKP 8h 00m 53s. USCGS: 21 $\frac{1}{2}$ ^o S 174 ^o E, H. 7h 40m 58s. Loyalty Islands region.	
Nov. 13 (320)	eL F	11	05	12 00			(320) USCGS: 48 $\frac{1}{2}$ ^o S 124 ^o E, H. 9h 55m 30s. Indian Ocean, about 1000 miles south of Australia.	
Nov. 13 (321)	eL F	15	30	16 00			(321) BCIS and USCGS: 15 ^o N 123 ^o E, H. 14h 38m 51s. Near east coast of Luzon.	
Nov. 14 (322)	eP epP ePP eS eSS eL F	01	00	00 27 55 53 40 14 50			(322) W1: iP 0h 59m 52s; ePP 1h 01.6m. USCGS: 36 $\frac{1}{2}$ ^o N 71 ^o E, H. 0h 51m 27s, h = about 150 km. Hindu Kush.	
Nov. 15 (323)	eL F	18	20	18 35			(323) USCGS: 3 ^o S 103 $\frac{1}{2}$ ^o W, H. 17h 27m 55s. Pacific Ocean, about 900 miles west of Galapagos Islands.	
Nov. 16 (324)	eL F	12	25	13 05			(324) USCGS: 8 $\frac{1}{2}$ ^o N 71 ^o W, H. 11h 53m 54s. Northwestern Venezuela.	
Nov. 17 (325)	eL F	08	45.4	08 47				

Seismic Records at De Bilt

Date 1956	Phase	Time			Direction	Period	Amplitude	Remarks
		h	m	s				
Nov. 17 (326)	eP eS eSS eSSS eL F	20	38	28			(326) W1: eP 20h 38m 20s; e 20h 38m 48s. USCGS: 54½°N 134°W, H. 20h 27m 15s. Queen Charlotte Islands region.	
Nov. 18 (327)	eL F	05	45				(327) USCGS: 40°N 76½°E, H. 5h 19m 26s. West Sinkiang Province, China.	
Nov. 18 (328)	eL F	19	42				(328) Disturbed by microseisms. USCGS: 27°S 176°W, H. 18h 16m 25s. Kermadec Islands region.	
Nov. 18 (329)	eL F	22	09				(229) W1: eP 21h 35m 17s. Disturbed by microseisms. BCIS: 28½°N 129½°E, H. 21h 22m 40s. USCGS: H. 21h 22m 38s. Kurile Islands.	
Nov. 19 (330)	eL F	12	55				(330) Disturbed by microseisms. USCGS: 14°N 144°E, H. 12h 02m 26s, h = about 150 km. Marianas Islands.	
Nov. 20 (331)	eL F	23	20				(331) Disturbed by microseisms. BCIS: 39½°N 26°E, H. 23h 20m 52s. USCGS: 39½°N 25½°E, H. 23h 20m 52s. Aegean Sea.	
Nov. 21 (332)	eL F	08	15				(332) Disturbed by microseisms. USCGS: 38°N 142°E, H. 7h 33m 28s, h = about 60 km. Near east coast of Honshu, Japan.	
Nov. 25 (333)	eL F	15	28				(333) Disturbed by microseisms. W1: eP 15h 23.9m. BCIS: 60°N 30°W, H. 15h 19m 03s. North Atlantic Ocean.	
Nov. 27 (334)	eL F	00	45				(334) W1: 1PKP 23h 49m 24s +. BCIS and USCGS: 22°S 169°E, H. 23h 29m 41s. Loyalty Islands.	
Nov. 28 (335)	eS eH eL F	19	48	44			(335) Disturbed by microseisms. USCGS: 49½°N 155°E, H. 19h 27m 11s. Northern Kurile Islands.	
Nov. 29 (336)	eL F	09	55				(336) Disturbed by microseisms. USCGS: 27°N 141°E, H. 9h 15m 20s. Bonin Islands.	
Dec. 1 (337)							(337) W1: ePKP 8h 03m 32s. USCGS: aftershock of (334), H. 7h 43m 51s.	
Dec. 2 (338)							(338) W1: 3h 11m 42s. USCGS: 52½°N 169°W, H. 2h 59m 56s. Fox Islands, Aleutian Islands.	
Dec. 3 (339)	eL F	08	00				(339) Disturbed by microseisms. USCGS: 53°N 169°W, H. 7h 20m 08s. Fox Islands, Aleutian Islands.	
Dec. 4 (340)	eL F	09	33				(340) Disturbed by microseisms. USCGS: 50°N 156°E, H. 8h 44m 28s. Kurile Islands.	
Dec. 4 (341)	eL F	21	45				(341) Disturbed by microseisms. USCGS: 26°N 127°E, H. 20h 59m 52s. Ryukyu Islands.	

Seismic Records at De Bilt

Date 1956	Phase	Time			Direction	Period	Amplitude	Remarks
		h	m	s				
Dec. 4 (342)	e F	23	30				(342) Disturbed by microseisms. BCIS: 15°N 92½°W, H. 23h 01m 32s, h = about 100 km. USCGS: 15°N 92°W, H. 23h 01m 35s, h = about 150 km. Guatemala.	
Dec. 8 (343)	1P eS eL F	16	22	22			(343) Disturbed by microseisms. W1: 1P 16h 22m 17s. BCIS: 51½°N 170°W, H. 16h 10m 26s. USCGS: 51°N 179½°W, H. 16h 10m 27s. Andreanof Islands, Aleutian Islands.	
Dec. 8 (344)							(344) W1: eP 16h 28m 22s; e 16h 28m 25s. BCIS: aftershock of (343), H. 16h 16m 30s.	
Dec. 9 (345)							(345) W1: 1P 1h 32m 17s. BCIS: H. 1h 12.9m. Fiji Islands region.	
Dec. 9 (346)							(346) W1: eP 5h 30m 52s. USCGS: aftershock of (339), H. 5h 19m 06s.	
Dec. 16 (347)							(347) W1: eP 1h 54m 14s. BCIS: 6½°N 77½°W, H. 1h 41m 51s. USCGS: 6½°N 78°W, H. 1h 41m 52s. Near west coast of Colombia.	
Dec. 18 (348)	eP ez eS eL F	02	46				(348) Disturbed by microseisms. W1: eP 2h 45m 04s. USCGS: 25°S 68½°W, H. 2h 31m 00s. Argentina-Chile border.	
Dec. 18 (349)	eL F	18	07				(349) Disturbed by microseisms. W1: eP 17h 59m 13s. BCIS: 31½°N 31°E, H. 17h 53m 02s. Dead Sea region.	
Dec. 18 (350)	eL F	20	15				(350) Disturbed by microseisms. USCGS: 36°S 77°E, H. 19h 20m 06s. South Indian Ocean.	
Dec. 19 (351)							(351) W1: 1P 1h 29m 45s. USCGS: 51½°N 157°E, H. 1h 18m 10s. Southern Kamchatka.	
Dec. 20 (352)							(352) W1: 1 0h 44m 04s.	
Dec. 20 (353)	eL F	12	20				(353) Disturbed by microseisms. W1: ePKP 11h 20.0m. USCGS: 27°S 176°W, H. 10h 59m 56s. Kermadec Islands.	
Dec. 20 (354)							(354) W1: eP 24h 09m 00s. USCGS: 54°N 161½°E, H. 23h 57m 36s. Kamchatka.	
Dec. 21 (355)	eL F	04	06				(355) Disturbed by microseisms. W1: eP 3h 38m 50s. USCGS: 27°N 96½°E, H. 3h 27m 41s. Burma-Pakistan border.	
Dec. 21 (356)	1P eS	09	10	16			(356) No records from 9h 24m till 15h 50m. W1: eP 9h 10m 11s. USCGS: 51°N 131°W, H. 8h 58m 53s. Queen Charlotte Islands.	
Dec. 21 (357)	eL F	20	53				(357) Disturbed by microseisms. W1: eP 20h 22m 45s. USCGS: 34°N 139°E, H. 20h 10m 06s. Off south coast of Honshu, Japan.	

Seismic Records at De Bilt

Date 1956	Phase	Time	Direction	Period	Amplitude	Remarks
		h m s		s	μ	
* Dec. 22 (358)	eL F	23 50 00 50				(358) Disturbed by microseisms. USCGS: $33\frac{1}{2}^{\circ}\text{N}$, 139°E , H. 23h 12m 35s. Aftershock of (357).
* Dec. 23 (359)	eL F	09 25 09 40				(359) Disturbed by microseisms. USCGS: 22°N $144\frac{1}{2}^{\circ}\text{E}$, H. 8h 37m 26s, h = about 100 km. Marianas Islands region.
* Dec. 23 (360)	eL F	18 20 18 35				(360) Disturbed by microseisms. BCIS: $25\frac{1}{2}^{\circ}\text{N}$ 141°E , H. 17h 26m 52s. Vulcano Islands.
* Dec. 25 (361)						(361) W1: eP 3h 03.8s. USCGS: $48\frac{1}{2}^{\circ}\text{N}$ 28°W , H. 2h 58m 48s. North Atlantic Ocean.
* Dec. 25 (362)						(362) W1: ePKP 4h 49m 17s. USCGS: 20°S 176°W , H. 4h 29m 49s. Tonga Islands.
- Dec. 25 (363)	iP eS iPcP eL F	09 38 26 09 42 20 09 42 34 09 44 10 40	+	4	8	(363) Disturbed by microseisms. BCIS: $48\frac{3}{4}^{\circ}\text{N}$ $27\frac{3}{4}^{\circ}\text{W}$, H. 9h 33m 36s. USCGS: $48\frac{1}{2}^{\circ}\text{N}$ 28°W , H. 9h 33m 37s. North Atlantic Ocean.
- Dec. 27 (364)	iPKP eSKKS eSS eL F	00 33 43 00 44 00 56 27 01 25 02 50	+			(364) Disturbed by microseisms. USCGS: 24°S 177°W , H. 0h 14m 15s, h = about 300 km. Tonga Islands region.
- Dec. 27 (365)	eL F	10 20 10 30				(365) Disturbed by microseisms. BCIS: $35\frac{3}{4}^{\circ}\text{N}$ $27\frac{3}{4}^{\circ}\text{E}$, H. 10h 08m 10s. USCGS: 37°N 29°E , H. 10h 08m 15s. Near south coast of Rhodes Island.
* Dec. 28 (366)	eL F	15 45 16 30				(366) Disturbed by microseisms. USCGS: 39°S $177\frac{1}{2}^{\circ}\text{E}$, H. 12h 24m 40s, h = about 150 km. Near coast of North Island, New Zealand.
* Dec. 29 (367)						(367) W1: iPKP 19h 45m 59s. USCGS: 21°S 180° , H. 19h 27m 16s, h = about 600 km. Fiji Islands.
* Dec. 29 (368)						(368) W1: ePKP 20h 42m 03s. USCGS: 21°S $175\frac{1}{2}^{\circ}\text{W}$, H. 20h 22m 12s. Tonga Islands.
* Dec. 30 (369)	eL F	22 40 22 50				(369) Disturbed by microseisms. USCGS: 24°N $94\frac{1}{2}^{\circ}\text{E}$, H. 21h 59m 06s. India-Burma border.