

Seismological Bulletin 1958

Uppsala: 59° 51.5' N, 17° 37.6' E

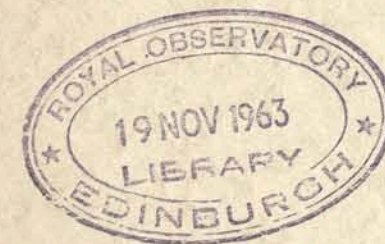
Kiruna: 67° 50.4' N, 20° 25.0' E

Skalstugan: 63° 34.8' N, 12° 16.8' E

Göteborg: 57° 41.9' N, 11° 58.7' E

By

Markus Båth



Published by the Seismological Institute, Uppsala

Seismological Bulletin 1958

Uppsala: 59° 51.5' N, 17° 37.6' E

Kiruna: 67° 50.4' N, 20° 25.0' E

Skalstugan: 63° 34.8' N, 12° 16.8' E

Göteborg: 57° 41.9' N, 11° 58.7' E

By

Markus Båth

Year	1957	1958	1959	1960	1961
Number of earthquakes	100	100	100	100	100
Number of stations	100	100	100	100	100
Number of stations	100	100	100	100	100
Number of stations	100	100	100	100	100

Seismological Bulletin 1958

By

Markus Båth

Uppsala (abbreviated Up in the bulletin)

Location and ground: 59°51.5'N, 17°37.6'E; 14 m above mean sea level; granite.

Instruments: Wiechert 1000 kg pendulum E,N; Benioff variable reluctance E,N,Z (long-period) and E',N',Z' (short-period); Press-Ewing E,N and Sprengnether Z (ultralong-period).

Instrumental constants for 1958:

a) Wiechert

T_0 = seismograph free period,

V = static magnification,

ε = damping ratio,

r = max. deviation due to friction.

Instrument	Date 1958	T_0 sec	V	ε	r mm
Wiechert E	Jan 2	10.6	186	4.3	1.0
	July 12	10.8	187	4.7	1.0
Wiechert N	Jan 2	9.5	185	3.8	1.0
	July 12	9.7	185	4.1	1.1

Concerning the method of determination, see Wiechert (1903).

b) Benioff

T_0 = seismometer free period,

T_g = galvanometer free period,

l_0 = recording distance (from galvanometer lense to record),

$2\sigma_g l_0$ = transference factor, where σ_g = a quantity depending on the electrodynamic properties of the transducer and the galvanometer (Benioff, 1932; Chakrabarty, 1949; Båth, 1959).

V_{\max} = maximum dynamic magnification.

LUND

HÅKAN OHLSSONS BOKTRYCKERI

1 9 6 3

Instrument	Date 1956	T_0 sec	T_g sec	$2\sigma_g l_0$ sec ⁻¹	V_{\max}
Benioff E	Feb 7	1.0	87	2.509×10^4	2000
» N	Feb 7	1.0	85	3.705×10^4	2940
» Z	Feb 7	1.0	89	1.892×10^4	1520
» E'	July 10	1.0	0.7	2.090×10^8	88310
» N'	July 10	1.0	0.7	2.363×10^8	99840
» Z'	July 17	1.0	0.7	1.316×10^8	55580

Damping is critical both for seismometers and galvanometers. The test-weight method for determination of magnification curves for short-period instruments is not very reliable, and a comparison of parallel records of Benioff Z' and Grenet-Coulomb Z' suggests that the last value given above for V_{\max} should be reduced to about 40000 (Báth, 1959). Similar reductions apply to E' and N'.

c) Press-Ewing E,N and Sprengnether Z (ultralong-period). The following constants were determined in January, 1958 (T_0 , T_g) and in March, 1962 (V_{\max}):

Instrument	T_0 sec	T_g sec	V_{\max}
Press-Ewing E	15.0	87	2500
N	15.0	81	2700
Sprengnether Z	15.0	85	2200

The seismometers are overdamped by a factor of 2—3 and the galvanometers are overdamped by a factor of 6.

This installation is on loan from the Lamont Geological Observatory, Columbia University, New York, under IGY arrangements.

In the bulletin only the readings from Benioff E, N, Z, Z' are reported as a rule. Readings from other records are included occasionally as complements to those mentioned, when this seems necessary.

Kiruna (abbreviated Ki)

Location and ground: 67° 50.4'N, 20° 25.0'E; 390 m above mean sea level; porphyry.

Instruments: Grenet-Coulomb Z', Galitzin E, N, Z.

Instrumental constants for 1958:

a) Grenet-Coulomb

In addition to the notation already given, we introduce the following:

k_g = transference factor,

L = reduced pendulum length.

Instrument	Date	T_0 sec	T_g sec	k_g sec ⁻¹	L cm	l_0 cm	V_{\max}
Grenet-Coulomb Z'	Sep 28, 1957	1.4	0.7	13936	12.2	100.6	11150

Damping is critical for seismometer and galvanometer.

Reference is made to Grenet (1946), Galitzin (1914), and Byerly (1942).

b) Galitzin

In addition to the notation above we introduce

μ^2 = seismometer damping (Galitzin, 1914).

Instrument	Date	T_0 sec	T_g sec	μ^2	k_g sec ⁻¹	L cm	l_0 cm	V_{\max}
Galitzin E	Sep 27, 1957	11.8	11.8	+0.11	72.6	16.0	135.6	780
Galitzin N	Sep 28, 1957	12.8	11.9	+0.38	67.2	15.2	136.1	910
Galitzin Z	Sep 27, 1957	9.6	11.6	-0.37	234.2	41.0	135.3	740

Galvanometer damping is critical.

Readings from all Kiruna records are reported in the bulletin.

Skalstugan (abbreviated Sk)

Location and ground: 63° 34.8'N, 12° 16.8'E; 580 m above mean sea level; gneiss.

Instrument: Grenet-Coulomb Z'.

Instrumental constants for 1958:

Instrument	Date	T_0 sec	T_g sec	k_g sec ⁻¹	L cm	l_0 cm	V_{max}
Grenet-Coulomb Z'	Nov 21, 1955	1.4	0.8	~16000	~12	~100	~12000

Seismometer and galvanometer damping is critical.

The constants were checked on October 1, 1957.

Göteborg (abbreviated Gb)

Location and ground: 57° 41.9'N, 11° 58.7'E; 66 m above mean sea level; gneiss.

Instrument: Grenet-Coulomb Z'.

The instrument is operated with the same constants as when it was installed at Uppsala (1951—1957).

Instrument	Date	T_0 sec	T_g sec	k_g sec ⁻¹	L cm	l_0 cm	V_{max}
Grenet-Coulomb Z'	Jan 19, 1952	1.4	0.5	16900	11.8	100	10530

Both seismometer and galvanometer damping is critical (aperiodic).

In connection with an intensive search for a suitable location for a seismograph station in the area of Göteborg (Eng. Gothenburg) in 1956, Professor Nils Ryde, Director of the Physics Department of Chalmers Institute of Technology, offered a space in the basement of his institute. After construction works in the spring of 1958, the station was inaugurated on June 19, 1958. It has been in continuous operation since then.

General remarks

In the presentation of the material we have followed the same principles as introduced in our bulletin for 1956.

All correspondence concerning our stations or records etc should be addressed to the central station: Seismological Institute, Uppsala, Sweden.

For notation of phases, see "Observations séismographiques" for Uppsala or Kiruna 1955. Concerning channel waves, see a review by Båth (1958).

The time used is Greenwich Mean Time (GMT).

C=compression,

D=dilatation.

μ =amplitude in microns, $1\mu=10^{-3}$ mm,

s=period in seconds,

Δ =epicentral distance,

h=depth of hypocenter,

Magn.=magnitude, determined in the old Gutenberg-Richter scale (M) by applying our station corrections (Båth, 1956).

Amplitudes are given only for Uppsala and Kiruna.

In the analysis of the records, use has been made of all available bulletins, especially those from Bureau Central International de Séismologie (BCIS), Strasbourg, and from United States Coast and Geodetic Survey (USCGS), Washington, D.C. The tables and methods of Jeffreys and Bullen (1940), Gutenberg and Richter (1937), Båth (1943 and 1947), Gutenberg (1951) have been used.

In preparing this bulletin the author has in different parts been assisted by Mrs. I. Granath and Mrs. I. Pettersson. Mr. S. Lindell at the Geophysical Observatory at Kiruna was in charge of the daily routine work at the Kiruna seismograph station. Mr. S. Persson and Mr. G. Tidefors were in charge of the daily routine work at Skalstugan and Göteborg respectively. The Swedish Natural Science Research Council has supported the work by giving funds for salaries to my assistants at Uppsala and for the printing of this volume.

References

- Båth M., Sur une méthode pour calculer les tremblements de terre à foyer profond à l'aide des phases d'une seule station séismographique, Kungl. Svenska Vet.-akad:s Handl., 3:e ser., Bd 20, No. 4, 22 pp., 1943.
- Travel times of the principal earthquake waves for Uppsala, Bull. Geol. Inst. Uppsala, Vol. 32, pp. 105—129, 1947.
- The problem of earthquake magnitude determination, Publ. Bur. Centr. Séism. Int., Sér. A, Trav. Sci., Fasc. 19, pp. 5—93, 1956.
- Channel waves, Journ. Geophys. Res., Vol. 63, No. 3, pp. 583—587, 1958.

- Development of instrumental seismology in Sweden in 1949—1958, Geof. pura e appl., Vol. 43, No. 2, pp. 108—130, 1959.
- Benioff H., A new vertical seismograph, Bull. Seism. Soc. Amer., Vol. 22, pp. 155—169, 1932.
- Byerly P., Seismology, Prentice-Hall, New York, 256 pp., 1942.
- Chakrabarty S. K., Response characteristics of electromagnetic seismographs and their dependence on the instrumental constants, Bull. Seism. Soc. Amer., Vol. 39, pp. 205—218, 1949.
- Galitzin B., Vorlesungen über Seismometrie, Teubner, Leipzig u. Berlin, 538 pp., 1914.
- Grenet G., L'étalonnage des séismographes électromagnétiques modernes, Ann. Géophys., Vol. 2, pp. 329—338, 1946.
- Gutenberg B., PKKP, P'P', and the earth's core, Trans. Amer. Geophys. Union, Vol. 32, No. 3, pp. 373—390, 1951.
- Gutenberg B. and Richter C. F., Données relatives à l'étude des tremblements de terre à foyer profond, Publ. Bur. Centr. Séism. Int., Sér. A, Trav. Sci., Fasc. 15, 70 pp., 1937.
- Jeffreys H. and Bullen K. E., Seismological tables, Brit. Ass. for the Advancement of Science, 48 pp., 1940.
- Wiechert E., Theorie der automatischen Seismographen, Abh. d. K. Ges. d. Wiss. zu Göttingen, Math.-Phys. Kl., N.F., Bd II, No. 1, 128 pp., 1903.

Tables

1958				1958			
Jan	1	Sk	ePKP	00	26	47	
»	1	Up	iPKP	10	29	39	
			PKP	μ	s		
			z'	0.1	1.0		
			South of Tonga Islands.				
»	1	Up	iP	15	17	10	
		Ki	iP	15	16	17	
			i	15	16	29	
			P	μ	s		
			z'	0.1	1.0		
		Sk	iP	15	16	49	
			Aleutian Islands.				
»	2	Up	iP	02	13	28	
			i	02	13	37	
			iS	02	17	41	
			P	μ	s		
			N	0.5	4		
			Z	0.9	5		
			z'	0.3	0.5		
			E	0.9	7		
			N	1.8	7		
			z'	0.2	1.2		
			E	1.5	10		
			N	4.8	17		
			Z	6.1	16		
			$\Delta = 2650 \text{ km} = 24^\circ$.				
		Ki	iP	02	14	39	
			i	02	14	41	
			iS	02	19	46	
			P	μ	s		
			z'	0.3	1.0		
			N	0.6	9		
			E	2.5	13		
			N	2.8	16		
			Z	3.5	17		
			$\Delta = 3500 \text{ km} = 31\frac{1}{2}^\circ$.				
		Sk	iP	02	14	07	
			i	02	14	09	
			Off south coast of Greece.				
			Magn. = 5.7 (Up, Ki).				
»	2	Ki	iP	15	52	34C	
			P	μ	s		
			z'	0.1	1.0		
			E	0.4	16		
			N	0.5	18		
			Iran.				
Jan	2	Up	iP	21	23	07	
			M	μ	s		
			N	0.8	17		
			Z	0.7	14		
		Ki	iP	21	22	20	
			M	μ	s		
			E	0.6	15		
			N	0.3	15		
			Z	0.6	16		
			Kurile Islands (h ~ 60 km).				
»	2	Ki	iP	22	21	48	
			Iran.				
»	2	Ki	iP	22	47	23	
			P	μ	s		
			z'	0.5	2.0		
		Sk	iP	22	47	01	
			Northeast of Trinidad.				
»	3	Up	iP	02	07	19C	
			P	μ	s		
			z'	0.1	0.8		
		Ki	iP	02	06	45	
		Sk	iP	02	07	15	
			South of Honshu, Japan.				
»	3	Up	iP	06	33	09D	
			P	μ	s		
			z'	0.2	1.5		
		Ki	iP	06	33	29	
			P	μ	s		
			z'	0.2	1.5		
		Sk	iP	06	32	57	
			North Atlantic Ocean.				
»	3	Up	iP	06	58	39D	
			P	μ	s		
			z'	0.1	1.0		
		Sk	iP	06	58	25	
			North Atlantic Ocean.				
»	3	Up	iP	07	10	50	
			iS	07	17	45	
			P	μ	s		
			E	0.3	5		
			Z	0.4	5		
			E	0.5	7		
			E	0.9	14		
			N	0.8	17		
			Z	1.9	18		

1958
Jan 24 (cont.)

Ki	iPP	04	45	25	
	eSS	04	53	12	
	P	z'	μ 0.5	s 2.0	
	PP	z'	0.2	1.5	
	M	E	3.8	19	
	M	N	1.5	14	
	M	Z	5.5	20	
△ = 4650 km = 42°.					
Sk	iP	04	44	27C	
	i	04	44	32	
Northeast of Lake Baikal, U.S.S.R. Magn. = 6.0 (Up, Ki).					
» 24	Up	iP	06	04	15C
		ePa	06	08	02
		eS	06	12	29
		P	z'	μ 0.9	s 5
		P	z	2.7	8
		P	z'	0.3	1.2
		S	E	2.9	11
		M	E	9.4	18
		M	N	11	18
		M	Z	8.2	17
△ = 6800 km = 61°.					
Ki	iP	06	03	19C	
	i(pP)	06	03	28	
	iS	06	10	48	
		P	z'	μ 1.2	s 9
		P	z	3.2	9
		P	z'	0.4	1.2
		S	E	1.6	8
		S	N	3.0	8
		M	E	14	19
		M	N	12	17
		M	Z	11	18
△ = 5900 km = 53°.					
Sk	iP	06	03	56C	
Near east coast of Kamchatka. Magn. = 6.4 (Up, Ki).					
» 24	Up	iP	06	21	20
		P	z'	μ 0.1	s 1.2
Ki	iP	06	20	24	
	i	06	20	29	
		P	z'	μ 0.2	s 1.4
Near east coast of Kamchatka.					
» 24	Up	iP	18	14	12C
		P	z'	μ 0.4	s 1.3
Ki	iP	18	13	18	
	i	18	13	25	
	eS	18	21	10	
		P	z'	μ 0.4	s 1.6
	S	N	0.3	9	

1958
Jan 24 (cont.)

Ki	M	E	0.8	14	
	M	N	0.5	13	
	M	Z	0.6	14	
△ = 6250 km = 56½°.					
Sk	iP	18	13	53C	
Komandorskie Islands region.					
» 24	Up	iP	23	09	42D
	Ki	iP	23	08	47
	Sk	iP	23	09	23
Aleutian Islands.					
» 24	Up	iP	23	27	32
		ipP	23	27	57
		iPcS	23	32	11
		eS	23	35	32
		P	z'	μ 0.1	s 0.7
△ = 6650 km = 60°.					
Ki	iP	23	26	36	
	ipP	23	27	00	
	eS	23	33	53	
	esS	23	34	30	
		P	z'	μ 0.2	s 1.0
	S	N	0.9	9	
	M	N	0.6	18	
	M	Z	1.3	21	
△ = 5900 km = 53°.					
Sk	iP	23	27	04	
	ipP	23	27	31	
	iPcS	23	31	54	
Kenai Peninsula, Alaska. h = 100 km (Up, Ki, Sk). Magn. = 6.0 (Up, Ki).					
» 25	Up	iPKP	00	11	40
		iSKP	00	14	33
Ki	iPKP	00	11	36	
	iSKP	00	14	07	
		SKP	z'	μ 0.1	s 1.4
Sk	ePKP	00	11	36	
	iSKP	00	14	26	
Fiji Islands (h ~ 550 km).					
» 25	Ki	iP	08	44	51
	Sk	iP	08	45	28
» 25	Up	iP	09	12	25
	Ki	iP	09	10	52
		iS	09	12	08
		eT	09	15	46
		i	09	16	27
		P	z'	μ 0.1	s 0.9
△ = 720 km = 6.5°.					
Sk	iP	09	11	29	
	eS	09	13	11	
△ = 960 km = 8.6°.					
Northeast of Jan Mayen,					

1958
Jan 25 (cont.)

72°N, 5¾°E. Origin time = 09 09 14.																																																																																															
» 25	Ki	eP	21	52	39																																																																																										
Aleutian Islands.																																																																																															
» 26	Up	iP	00	54	54																																																																																										
	Ki	iP	00	54	52																																																																																										
		P	z'	μ 0.1	s 1.0																																																																																										
Sk	iP	00	55	11																																																																																											
	i	00	55	15																																																																																											
Nicobar Islands region.																																																																																															
» 26	Up	iP	06	53	11C																																																																																										
		M	N	μ 1.6	s 18																																																																																										
Ki	iP	06	52	22																																																																																											
		P	z'	μ 0.2	s 1.5																																																																																										
		M	E	2.3	19																																																																																										
		M	N	1.0	17																																																																																										
		M	Z	1.8	17																																																																																										
Sk	eP	06	52	58																																																																																											
Kurile Islands.																																																																																															
» 26	Up	eP	07	39	19																																																																																										
		M	E	μ 1.8	s 22																																																																																										
		M	N	2.0	22																																																																																										
		M	Z	2.6	24																																																																																										
Ki	eP	07	38	29																																																																																											
		M	E	μ 2.2	s 22																																																																																										
		M	N	0.8	17																																																																																										
		M	Z	1.2	17																																																																																										
Sk	iP	07	39	07																																																																																											
Kurile Islands.																																																																																															
» 27	Up	eL	08	45			M	E	μ 1.5	s 22			M	N	2.4	22			M	Z	3.9	22	Ki	eL	08	47			M	E	μ 2.2	s 20			M	N	1.5	19			M	Z	1.9	18	Samoa Islands.					» 28	Up	i(Sg)	12	36	54		Ki	e	12	30	53		Sk	e(Sg)	12	32	56	Local?					» 28	Up	iP	17	21	59C			P	z'	μ 0.2	s 0.8			M	N	0.9	14	Ki	iP	17	22	27
		M	E	μ 1.5	s 22																																																																																										
		M	N	2.4	22																																																																																										
		M	Z	3.9	22																																																																																										
Ki	eL	08	47			M	E	μ 2.2	s 20			M	N	1.5	19			M	Z	1.9	18	Samoa Islands.					» 28	Up	i(Sg)	12	36	54		Ki	e	12	30	53		Sk	e(Sg)	12	32	56	Local?					» 28	Up	iP	17	21	59C			P	z'	μ 0.2	s 0.8			M	N	0.9	14	Ki	iP	17	22	27																							
		M	E	μ 2.2	s 20																																																																																										
		M	N	1.5	19																																																																																										
		M	Z	1.9	18																																																																																										
Samoa Islands.																																																																																															
» 28	Up	i(Sg)	12	36	54																																																																																										
	Ki	e	12	30	53																																																																																										
	Sk	e(Sg)	12	32	56																																																																																										
Local?																																																																																															
» 28	Up	iP	17	21	59C																																																																																										
		P	z'	μ 0.2	s 0.8																																																																																										
		M	N	0.9	14																																																																																										
Ki	iP	17	22	27																																																																																											

1958
Jan 28 (cont.)

	P	z'	μ 0.1	s 1.0	
	M	E	1.5	16	
	M	N	0.9	13	
	M	Z	1.5	14	
Sk	iP	17	22	32	
Iran.					
» 29	Up	iP	00	28	02
		P	z'	μ 0.1	s 1.0
Ki	iP	00	27	24	
Off east coast of Honshu, Japan.					
» 29	Up	iP	17	21	58
West Pakistan.					
» 30	Ki	iPKP	01	45	24
South Island, New Zealand.					
» 30	Up	ePP	06	33	32
		eSKS	06	38	57
		PP	z	μ 1.4	s 8
		SKS	E	0.7	8
		M	E	6.3	20
		M	N	4.5	20
		M	Z	5.2	21
△ ~ 13200 km ~ 119°.					
Ki	ePP	06	32	50	
	eSKS	06	38	52	
	eSKKS	06	39	53	
	ePS	06	42	25	
		SKS	E	μ 0.9	s 11
		M	E	5.4	17
		M	N	3.8	19
		M	Z	8.1	22
△ ~ 12450 km ~ 112°.					
Solomon Islands. Magn. = 6.5 (Up, Ki).					
» 30	Up	iP	19	18	46
		i	19	18	59
Ki	iP	19	19	54C	
	Sk	iP	19	19	25
Dodecanese Islands.					
» 31	Ki	iP	06	33	00
Kurile Islands region.					
» 31	Up	ePKP	06	52	50
		i	06	52	57
Ki	iPKP	06	52	24	
	i	06	52	28	
		PKP	z'	μ 0.1	s 1.0
Sk	iPKP	06	52	37	
	i	06	52	47	
New Zealand.					

1958		1958		1958		1958		1958		
Jan 31	Up iP	12	14	20	Feb 2	Up				
» 31	Up iP	23	30	10	(cont.)	Ki iP	0.1	0.7	58	
	P z'	0.1	1.0			P z'	0.2	1.2	42	
	Ki iP	23	30	00		Sk iP	08	22	42	
	P z'	0.1	1.1			Kurile Islands.				
	Sk iP	23	30	23	» 2	Up iP	21	04	37	
	Sikang Province, China.					Ryukyu Islands (h ~ 200 km).				
Feb 1	Up iP	00	31	44	» 3	Up i(Sg)	11	51	13	
	(Alaska).					Local?				
» 1	Up iP	02	52	07	» 4	Ki eP	08	13	08	
	Ki iP	02	51	13		Sk iP	08	12	52	
	South of Alaska.					Off south coast of Greenland.				
» 1	Up iP	16	23	25	» 4	Sk iP	09	57	54	
	eSKS	16	33	55		Northwestern Greece.				
	eS	16	34	23	» 4	Up iP	19	56	19	
						Ki iP	19	55	26	
							0.2	1.5		
	SKS E	7.5	17			Unimak Island.				
	S N	21	18		» 4	Up iP	23	49	22	
	M E	15	20			Ki eP	23	48	41	
	M N	10	19			Off east coast of Honshu, Japan.				
	M Z	20	20		» 5	Up iP	03	21	22 D	
	$\Delta = 10200 \text{ km} = 92^\circ$.					Ki iP	03	22	06	
	Ki iP	16	23	29		i	03	22	41	
	iSKS	16	34	01		Turkmenia, U.S.S.R.				
	iS	16	34	34	» 5	Up iP	08	19	11	
							0.8	1.5		
	P z'	0.5	2.0			P z'	0.3	1.4		
	SKS E	14	17			M E	2.0	17		
	S N	18	16			M N	1.9	17		
	M E	22	19			M Z	3.5	17		
	M N	16	22			Sk iP	08	18	59	
	M Z	24	20			Kurile Islands.				
	$\Delta = 10350 \text{ km} = 93^\circ$.					» 5	Ki iP	15	56	32
	Sk iP	16	23	12		i	15	56	43	
	Near coast of Ecuador.					Aleutian Islands.				
	Magn. = 6.9 (Up, Ki).					» 6	Up iP	01	53	59 D
» 1	Up iP	18	15	49			0.1	0.9		
						P z'	0.1	0.9		
	M E	5.6	21			Ki iP	01	53	35	
	M N	3.2	18			Sk eP	01	54	02	
	M Z	4.7	22							
	Ki iP	18	15	51						
	Sk eP	18	15	43						
	Ecuador.									
» 1	Up eP	20	58	57						
	Ki iP	20	58	58						
	P z'	0.6	1.9							
	Sk iP	20	58	44 C						
	Ecuador.									
» 2	Up iP	08	22	45						

1958		1958		1958		1958		1958	
Feb 6	Near northeast coast of Formosa.				Feb 7	Sk iP	07	11	47
(cont.)					(cont.)	Ryukyu Islands.			
» 6	Up iP	05	38	38	» 7	Ki iP	15	44	50
	Sk e(P)	05	37	57		Hindu Kush (h ~ 150 km).			
	i	05	38	11	» 7	Up iP	16	08	30
						Sk iP	16	08	26
						Honshu, Japan (h ~ 80 km).			
» 6	Up iPKP	16	19	24	» 7	Up iP	23	33	51 C
	ipPKP	16	20	29		i	23	33	57
						iS	23	42	12
	PKP z'	0.1	0.5						
	pPKP z'	0.2	1.4			P E	0.8	1	
	Ki ePKP	16	19	09		P N	0.2	1	
	Sk iPKP	16	19	17		P Z	1.9	1	
	Kermadec Islands region (h ~ 250 km).					P z'	1.4	0.8	
» 7	Up iP	00	44	45		S E	0.9	5	
	i	00	44	50		M E	5.3	20	
						M N	7.2	20	
						M Z	5.6	20	
						$\Delta = 6900 \text{ km} = 62^\circ$.			
	Ki iP	00	44	46 C		Ki iP	23	33	32
	i	00	44	55		iPcP	23	34	21
						eS	23	41	37
						e	23	49	51
	Sk iP	00	45	00		eLi	23	51	57
	i	00	45	10		eLg1	23	54	41
	Near northeast coast of Sumatra.								
» 7	Up iP	00	53	31		P z'	0.7	1.0	
	Ki eP	00	52	35		S E	0.7	9	
						M E	20	13	
						M N	13	18	
						M Z	21	13	
» 7	Up iPKP	01	30	17		$\Delta = 6550 \text{ km} = 59^\circ$.			
	i	01	30	23		Sk iP	23	34	01 C
						Szechwan Province, China.			
	PKP z'	0.7	0.7			Magn. = 7.0 (Up, Ki).			
	Ki iPKP	01	29	56	» 8	Ki e(P)	08	33	03
						i	08	33	10
						Probably local.			
	PKP z'	0.1	1.0		» 9	Up eP	04	27	53
	Sk iPKP	01	30	12		Ki iP	04	27	53 D
	i(pPKP)	01	31	13					
	Kermadec Islands.					P z'	0.1	1.0	
» 7	Up					Sk eP	04	27	47
						South of Panama.			
	M E	0.8	20		» 9	Up iP	09	41	16
	M N	0.7	20			i(pP)	09	41	27
	M Z	1.0	20						
	Ki iP	04	47	04		P z'	0.2	0.9	
						Ki iP	09	41	12
						i(pP)	09	41	22
	M E	0.6	15			P z'	0.1	1.0	
	M N	0.5	14			Sk iP	09	41	34
	Komandorskie Islands.					i(pP)	09	41	44
» 7	Up iP	07	11	46		India-East Pakistan border.			
	P z'	0.1	0.8						
	Ki iP	07	11	18					
	P z'	0.1	1.0						

1958			
Feb 17	Ki	iP	05 26 14C
(cont.)		ipP	05 27 02
		isP	05 27 20
		iS	05 32 18
		isS	05 33 28
		i	05 35 03
		e	05 35 19
		e(SS)	05 35 24
			μ s
	P	E	2.6 8
	P	Z	4.3 7
	P	Z'	4.9 1.5
	S	E	4.6 11
	S	N	6.1 7
	M	E	13 10
	M	N	9.8 12
	M	Z	34 20
			$\Delta = 4800 \text{ km} = 43^\circ$.
	Sk	iP	05 26 30
			Hindu Kush. $h = 200 \text{ km}$ (Up, Ki).
			Magn. = 6.7 (Up, Ki).
» 17	Up	iP	19 01 38
» 18	Up	iPKP	13 41 08
	Sk	ePKP	13 41 00
			Kermadec Islands.
» 18	Up	iP	19 04 53
			Batan Islands region.
» 18	Up	iP	19 20 15
			μ s
	P	Z'	0.1 1.0
	Ki	iP	19 19 55
			μ s
	P	Z'	0.1 1.0
	M	E	1.2 12
	M	N	0.3 14
	M	Z	1.5 14
			Batan Islands region.
» 18	Up	iP	20 00 46D
		i(PcP)	20 00 57
		eS	20 10 47
			μ s
	P	Z'	0.1 0.8
	S	N	1.3 11
	M	E	3.6 14
	M	N	3.3 17
	M	Z	4.1 15
			$\Delta = 8800 \text{ km} = 79^\circ$.
	Ki	iP	20 00 26
		i	20 00 34
			μ s
	P	Z'	0.1 1.3
	M	E	5.8 12
	M	N	3.1 14
	M	Z	5.8 13
			Batan Islands region.
			Magn. = 5.9 (Up, Ki).

1958			
Feb 18	Up	eL	21 05
			μ s
	M	E	2.9 20
	M	N	2.2 18
	M	Z	3.1 18
			Bismarck Sea.
» 19	Ki	iP	03 30 20
			Tadzhik-Sinkiang border.
» 19	Up	iP	03 47 43
	Ki	iP	03 47 45
			μ s
	P	Z'	0.2 0.8
	Sk	iP	03 48 06
			West Sinkiang, China.
» 19	Up	iP	10 40 48
			μ s
	P	Z'	0.1 0.9
	M	E	2.1 15
	M	N	1.4 16
	Ki	iP	10 40 49
			μ s
	P	Z'	0.6 1.0
	M	E	1.5 15
	M	N	0.7 10
	M	Z	2.1 17
	Sk	iP	10 41 10C
		iPP	10 42 52
			$\Delta = 4950 \text{ km} = 44 \frac{1}{2}^\circ$.
			West Sinkiang, China.
» 19	Ki	iP	14 33 49
			Alaska.
» 19	Up	iP	15 49 18
	Ki	eP	15 49 10
» 19	Up	iP	19 38 53C
		i(1)	19 41 55
		iPP	19 42 51
			μ s
	P	Z'	0.1 0.8
	PP	Z'	0.1 1.0
	M	E	2.5 19
	M	N	5.0 22
	M	Z	4.3 24
			$\Delta = 10800 \text{ km} = 97^\circ$.
	Ki	iP	19 38 51C
		i	19 39 03
			μ s
	P	Z'	1.0 1.3
	M	E	4.2 18
	M	N	4.6 20
	M	Z	7.0 18
	Sk	iP	19 39 06C
		i	19 39 11
		i(1)	19 42 13
			Near south coast of Java.
			Magn. = 6.2 (Up, Ki).

1958			
Feb 19	The phases i(1) possibly belong to a different earthquake.		
(cont.)			
» 19	Ki	iP	19 58 15
	Sk	eP	19 58 27
			Near south coast of Java.
» 20	Up	iP	04 09 45
			μ s
	P	Z'	0.2 1.5
	M	E	1.4 18
	M	N	0.7 14
	M	Z	1.0 15
	Ki	iP	04 09 24C
			μ s
	P	Z'	0.2 1.5
	M	E	1.5 11
	M	N	1.0 14
	M	Z	1.0 14
			Batan Islands region.
» 20	Up	iP	04 17 10
	Ki	eP	04 16 48
			Batan Islands region.
» 20	Up	iP	04 50 37
		i	04 50 45
			μ s
	P	Z'	0.1 0.8
	M	E	1.2 15
	M	N	0.7 14
	M	Z	2.3 15
	Ki	iP	04 50 16
			μ s
	P	Z'	0.1 1.2
	M	E	0.9 13
	M	N	0.8 16
	M	Z	0.8 14
	Sk	eP	04 50 40
			Batan Islands region.
» 20	Up	eP	09 16 47
	Ki	eP	09 16 33
			μ s
	M	E	0.5 14
			Batan Islands region.
» 20	Up	i	12 02 26
		i(Sg)	12 02 30
			μ s
	(Sg)	Z'	0.1 0.5
			Local?
» 20	Up	iP	14 44 30
» 20	Up	iP	21 04 38
	Ki	eP	21 04 11
» 21	Up	iP	12 04 22

1958			
Feb 21	Up	P	μ s
(cont.)		Z'	0.1 0.8
	Ki	iP	12 03 44
	Sk	iP	12 04 16
			Near east coast of Honshu, Japan ($h \sim 100 \text{ km}$).
» 22	Up	iP	11 01 35D
		iS	11 10 43
		iScS	11 11 42
		eP'P'	11 29 34
			μ s
	P	N	3.4 3
	P	Z	7.8 3
	P	Z'	1.7 0.6
	S	E	4.3 6
	S	N	7.7 7
	S	Z	3.6 7
	P'P'	Z'	0.2 1.5
	M	E	8.6 23
	M	N	15 24
	M	Z	23 25
			$\Delta = 7800 \text{ km} = 70^\circ$.
	Ki	iP	11 00 43D
		iPP	11 03 02
		iS	11 09 03
		eP'P'	11 29 56
			μ s
	P	N	3.9 8
	P	Z	8.0 9
	P	Z'	1.4 1.2
	PP	Z	3.4 7
	PP	Z'	1.4 2.5
	S	E	3.5 8
	S	N	6.7 9
	M	E	6.8 17
	M	N	4.9 18
	M	Z	12 22
			$\Delta = 6900 \text{ km} = 62^\circ$.
	Sk	iP	11 01 14D
		iS	11 10 06
		iP'P'	11 29 46
			$\Delta = 7450 \text{ km} = 67^\circ$.
			Aleutian Islands.
			Magn. = 7.2 (Up, Ki).
			Slightly deeper than normal.
» 22	Up	iP	13 33 00D
		ipP	13 33 10
		eP'P'	14 00 59
			μ s
	P	Z'	0.7 0.8
	Ki	iP	13 32 07
			μ s
	P	Z'	0.1 1.0
			Aleutian Islands.
» 22	Up	iP	15 58 47
		ipP	15 58 57

1958				μ	s
Feb 22 (cont.)	Up P z'			0.1	0.7
Aleutian Islands.					
» 22	Up iP			17	16 05
	Ki iP			17	15 12
	Sk iP			17	15 44 D
Aleutian Islands.					
» 22	Up iP			17	30 48
	Ki eP			17	30 24
» 22	Up iP			19	45 22
	Ki iP			19	44 29
Aleutian Islands.					
» 22	Up iP			20	04 19
	Ki eP			20	03 22
Aleutian Islands.					
» 22	Up iP			22	08 57
» 23	Up iP			00	47 01
	i			00	47 11
	i			00	47 19
	Ki iPcP			00	46 50
Aleutian Islands.					
» 23	Up iP			01	33 53
	Ki iP			01	33 01 D
	Sk eP			01	33 32
Aleutian Islands.					
» 23	Up iP			07	10 27
	Ki eP			07	10 19
	i			07	10 55
» 23	Up i			08	29 53
	i(PKP)			08	32 32
	Ki iPP			08	33 20
	Sk iPcP			08	32 09
Argentina (h ~ 600 km).					
» 23	Ki e(S)			09	16 58
	M E			2.1	10
	M N			2.6	12
	M Z			4.2	11
	Sk iP			09	16 02
Novaya Zemlya. Probably nuclear explosion.					

1958				09	23	48 D
Feb 23 (cont.)	Up iP			09	23	48 D
	iS			09	33	10
	P z'			1.1	0.7	
	S E			0.6	2	
	S N			0.6	2	
	S z'			0.1	0.8	
	Ki iP			09	23	15 D
	iS			09	32	10
	P z'			0.8	1.2	
	S N			1.6	6	
	M E			0.6	15	
	M N			0.5	16	
	M Z			0.8	16	
	Sk iP			09	23	45 D
Bonin Islands region (h ~ 400 km). Magn.=6.4 (Up, Ki).						
» 23	Up iP			10	18	26
	i			10	18	35
	P z'			0.2	1.3	
	M E			1.1	15	
	M N			0.6	16	
	M Z			1.2	14	
	Ki eP			10	18	07
	i			10	18	13
	eS			10	27	46
	P z'			0.1	1.3	
	S N			0.3	12	
	M E			1.0	14	
	M N			0.7	18	
	M Z			0.8	12	
	Sk eP			10	18	42
Batan Islands region.						
» 23	Up iP			11	00	16
	iPP			11	03	34
	iSKS			11	10	28
	iS			11	10	32
	e			11	11	04
	P z'			1.0	1.0	
	PP z'			0.3	1.5	
	S N			0.6	6	
	M E			1.2	22	
	M N			1.0	19	
	M Z			2.1	24	
	Ki iP			10	59	45
	e			11	09	33
	iS			11	09	40
	P z			1.4	6	
	P z'			0.9	1.0	
	S E			0.6	5	
	M E			0.6	18	

1958				0.6	16
Feb 23 (cont.)	Ki M N			0.6	16
	Sk iP			11	00 14
	iPP			11	03 28
$\Delta=8800$ km = 79°					
$\Delta=9300$ km = $83\frac{1}{2}^\circ$					
Volcano Islands. Magn.=6.5 (Up, Ki).					
» 23	Up iP			14	26 47
	P z'			0.1	0.6
	Ki iP			14	26 11
	Sk iP			14	26 43
Near south coast of Honshu, Japan.					
» 24	Up iP			12	35 52 C
	iPP			12	37 48
	eS			12	42 55
	e			12	46 55
	eLg1			12	53 12
	eLg2			12	54 18
	eRg			12	56 44
	P z			1.4	5
	P z'			0.4	0.8
	PP E			0.7	5
	PP z			0.9	5
	S E			1.0	8
	S N			0.6	6
	M E			8.5	11
	M N			7.4	14
	M z			14	12
	Ki iP			12	35 27 C
	eS			12	42 08
	P E			0.8	6
	P z			0.8	6
	P z'			1.0	1.0
	S E			1.7	12
	S N			0.7	9
	S z			0.8	8
	M E			14	13
	M N			6.9	11
	M z			13	12
	Sk iP			12	36 01 C
$\Delta=5450$ km = 49°					
Outer Mongolia. Magn.=6.3 (Up, Ki).					
» 24	Up iSg			14	44 17
	Ki eP*			14	41 38
	iSg			14	42 28
	Sg z'			0.1	0.5
	Sk iP			14	41 29 D
	iPg			14	41 37
	iS*			14	42 08
	eSg			14	42 14

1958				0.2	1.0
Feb 24 (cont.)	Sk $\Delta=310$ km = 2.8°			0.2	1.0
	West coast of Norway, $66\frac{1}{4}^\circ$ N 13° E.			0.9	18
	Origin time = 14 40 41.			0.9	20
» 25	Up iP			02	07 42
	P z'			0.2	1.0
	M E			0.9	18
	M N			0.9	20
	M z			1.2	18
	Ki iP			02	06 49
	eS			02	15 11
	P z'			0.1	1.0
	M E			1.7	19
	M N			1.7	18
	M z			1.6	18
	Sk iP			02	07 22 D
Aleutian Islands.					
» 25	Ki iP			07	37 25
	Sk iP			07	37 55
	iPcP			07	38 29
Aleutian Islands.					
» 25	Up iPg			09	19 13
	iSg			09	19 43
	Sg z'			0.1	0.5
	Ki iSg			09	21 27
	Sk iSg			09	20 20
The Baltic Sea, $62\frac{1}{4}^\circ$ N 20° E.					
» 25	Sk eP			09	33 53
	i			09	34 24
» 25	Up e(Sg)			12	41 25
	Sk e(Sg)			12	41 51
Local.					
» 25	Sk e(Sg)			13	02 07
Local?					
» 25	Up iPKP			13	05 09
	PKP z'			0.1	0.6
New Zealand (h ~ 200 km).					
» 25	Up iP			15	08 31
	Ki iP			15	08 32
	P z'			0.1	0.8
	Sk iP			15	08 46
Northern Sumatra.					
» 26	Up iP			00	39 06
	i			00	39 15
» 26	Ki e(Sg)			11	05 34

1958	Mar 3	Ki	M	E	0.8	15
(cont.)			M	N	0.9	18
Komandorskie Islands.						
»	4	Up	iP		01	00 02
»	4	Up	iP		11	37 26
			P	z'	μ 0.2	s 1.0
		Ki	iP		11	38 31
		Sk	iP		11	38 05
Dodecanese Islands.						
»	4	Up	eP		18	00 31
		Ki	eP		18	00 14
		Sk	eP		18	00 30
Ryukyu Islands.						
»	5	Up	iPKP		05	56 26
			PKP	z'	μ 0.1	s 0.8
		Ki	iPKP		05	56 08
		Sk	iPKP		05	56 22
New Zealand (h ~ 260 km).						
»	5	Up	e(P)		20	04 47
		Ki	iP		20	03 39
Aleutian Islands.						
»	6	Up	iP		05	46 22
			P	z'	μ 0.1	s 0.6
		Sk	iP		05	47 03
Near south coast of Greece.						
»	6	Ki	iP		08	20 55
Northwest of Cyprus.						
»	6	Up	iP		12	09 41
		Ki	eP		12	09 23
Near north coast of Mindanao, Philippine Islands.						
»	6	Up	iP		15	58 05
Kurile Islands.						
»	6	Ki	i(P)		21	41 58
			e(Sg)		21	42 20
Local?						
»	7	Up	i(Sg)		06	43 23
		Sk	e(P)		06	41 56
			i(Sg)		06	42 23
Local?						
»	7	Up	iP		07	02 55C
		Ki	iP		07	03 05C
			i		07	03 14
			P	z'	μ 0.6	s 1.0
		Sk	iP		07	03 21C

1958	Mar 7	Sk	iPP	07	05	03
(cont.)			Hindu Kush (h ~ 200 km).			
»	7	Up	iP		08	34 29
			P	z'	μ 0.1	s 1.0
		Sk	iP		08	34 33
Near northeast coast of Mindanao, Philippine Islands.						
»	7	Ki	eP		13	09 44
»	7	Up	iPKP		17	49 54
Tonga Islands.						
»	9	Up	iP		08	18 33
			P	z'	μ 0.1	s 0.5
		Ki	eP		08	17 41
Aleutian Islands.						
»	9	Up	i(PKP)		10	42 13
			iPKP		10	42 19
			PKP	z'	μ 0.6	s 1.2
			M	E	2.1	18
			M	N	2.3	20
			M	Z	3.9	22
		Ki	i(PKP)		10	41 57
			iPKP		10	42 00
			iPKS		10	45 36
			PKP	z'	μ 0.2	s 1.5
			PKS	z'	0.1	1.0
			M	E	3.7	20
			M	N	1.9	20
			M	Z	3.8	22
		Sk	iPKP		10	42 13
Kermadec Islands region (h ~ 60 km). (PKP)-amplitude is very small.						
»	9	Ki	iP		11	36 54C
Halmahera Island region.						
»	10	Up	iP		06	16 03
			P	z'	μ 0.1	s 1.0
		Ki	iP		06	15 20
		Sk	eP		06	15 55
Near east coast of Hokkaido, Japan.						
»	10	Ki	iP		08	08 08
		Sk	iP		08	08 37
Aleutian Islands.						
»	10	Up	iP		17	39 19
			P	z'	μ 0.1	s 0.7

1958	Mar 10	Ki	iP	17	38	49
(cont.)		Sk	iP	17	39	19
Ryukyu Islands.						
»	11	Up	iP		00	37 43C
			ipP		00	38 00
			iPa		00	43 06
			eS		00	47 25
			isS		00	47 54
			iP'P'		01	05 13
			P	z'	μ 2.2	s 0.8
			S	E	57	14
			S	N	45	20
			M	E	140	20
			M	N	180	23
			M	Z	160	20
		Ki	iP		00	37 17C
$\Delta = 8450 \text{ km} = 76^\circ$						
			ipP		00	37 32
			iPP		00	40 03
			iS		00	46 43
			i(P'P')		01	05 39
			P	z'	μ 1.1	s 1.3
			pP	E	6.2	9
			pP	N	1.7	9
			pP	Z	13	9
			pP	z'	2.8	1.0
			PP	E	5.0	10
			PP	Z	6.2	8
			S	E	44	12
			S	N	16	14
			M	E	100	18
			M	N	75	18
			M	Z	93	17
$\Delta = 8100 \text{ km} = 73^\circ$						
		Sk	iP		00	37 45C
			ipP		00	38 04
Ryukyu Islands. h = 60 km (Up, Ki, Sk). Magn. = 7.4 (Up, Ki).						
»	11	Ki	iP		01	14 16
»	11	Ki	e(P)		08	54 49
			i(Sg)		08	54 56
Local?						
»	11	Sk	eP		09	00 14
			i		09	00 20
Guatemala (h ~ 200 km).						
»	11	Up	iP		09	22 50
			P	z'	μ 0.1	s 0.5
		Ki	iP		09	21 58
Aleutian Islands.						
»	11	Up	iPKP		14	18 14

1958	Mar 11	Up	M	E	μ 0.8	s 20
(cont.)			M	N	1.4	20
			M	Z	2.3	22
		Ki	iPKP		14	17 59
			i		14	18 14
			PKP	z'	μ 0.1	s 1.1
			M	E	1.3	22
			M	N	1.1	22
			M	Z	1.5	22
		Sk	iPKP		14	18 10
			i		14	18 20
New Hebrides Islands.						
»	11	Ki	iP		14	27 59
»	11	Up	iP		19	39 12D
Mariana Islands region (h ~ 500 km).						
»	11	Ki	i(P)		22	33 48
»	12	Ki	eP		00	05 38
			eS		00	16 10
			S	E	μ 0.6	s 10
			S	N	0.4	11
		Sk	iP		00	05 39
$\Delta = 9450 \text{ km} = 85^\circ$						
Guerrero, Mexico.						
»	12	Ki	i(Sg)		09	01 41
		Sk	e(Sg)		09	05 19
»	12	Sk	iP		13	03 33
»	12	Up	iP		14	49 35
Mariana Islands.						
»	12	Up	iP		15	10 55
			P	z'	μ 0.1	s 1.0
»	12	Up	iP		18	28 18D
			P	z'	μ 0.2	s 0.6
		Ki	iP		18	27 46D
			P	z'	μ 0.1	s 0.8
		Sk	iP		18	28 15D
			iPP		18	31 25
Bonin Islands region (h ~ 500 km).						
»	14	Up	iP		00	02 08
			iS		00	12 35
			i		00	13 51
			P	z'	μ 0.1	s 1.0
$\Delta = 9550 \text{ km} = 86^\circ$						

1958			
Mar 14	Ki	iP	00 01 51
(cont.)		i	00 01 57
		eS	00 12 11
		iScS	00 12 19
		e	00 13 31
			μ s
		P z'	0.7 2.0
		S N	0.6 11
		M E	4.1 19
		M N	5.7 20
		M z	3.5 18
		$\Delta=9250 \text{ km}=83\frac{1}{2}^\circ$	
	Sk	eP	00 02 17
		i	00 02 27
		Philippine Islands. Magn.=6.1 (Up, Ki).	
» 14	Up	iP	00 20 10
	Ki	eP	00 20 01
	Sk	iP	00 20 25
		Northern Burma.	
» 14	Up	iP	15 09 49C
» 14	Sk	eP	17 12 38
» 15	Up	iP	00 35 57D
			μ s
		P z'	0.1 0.7
		M E	8.2 22
		M N	11 21
		M z	7.8 18
	Ki	iP	00 35 34
		iPcP	00 35 54
		eS	00 45 13
			μ s
		P z'	0.1 1.0
		M E	3.7 20
		M N	3.9 22
		M z	3.0 19
	Sk	iP	00 36 03
		iPcP	00 36 16
		Near east coast of Formosa. Magn.=6.0 (Up, Ki).	
» 15	Ki	ePn	04 52 19
		eSn	04 53 15
		iSg	04 53 37
		$\Delta=510 \text{ km}=4.6^\circ$	
	Sk	eSg	04 56 08
		Kola Peninsula, U.S.S.R., 67.9°N, 32.6°E. Origin time=04 51 07 Solution obtained by combination with readings at Sodankylä, Finland.	
» 15	Up	iP	06 31 40
		i	06 31 46
		i(S)	06 35 05
		iS	06 35 18

1958			
Mar 15	Up		μ s
(cont.)		P z'	0.1 0.6
		S E	0.8 6
		S z'	0.1 1.0
		M E	3.5 19
		M N	4.5 13
		M z	6.9 16
		$\Delta\sim 2200 \text{ km}\sim 20^\circ$	
	Ki	iP	06 32 51
		i	06 32 56
		eS	06 37 41
			μ s
		P z'	0.1 1.2
		S E	0.8 9
		S N	0.3 7
		M E	4.8 20
		M N	2.1 16
		M z	3.2 16
		$\Delta\sim 3100 \text{ km}\sim 28^\circ$	
	Sk	iP	06 32 17
		i	06 32 22
		iS	06 36 28
		$\Delta=2600 \text{ km}=23\frac{1}{2}^\circ$	
		Albania-Greece. Magn.=5.3 (Up, Ki).	
» 15	Ki	iPKP	15 52 58
	Sk	ePKP	15 53 08
		New Hebrides Islands.	
» 15	Up	iP	17 44 58
	Ki	iP	17 44 26
		Off south coast of Honshu, Japan (h~320 km).	
» 15	Sk	ePKP	19 24 54
		New Britain.	
» 16	Ki	iP	02 12 34
		Off south coast of Hokkaido, Japan.	
» 16	Sk	e(P)	06 50 21
» 17	Up	i(P)	00 07 13
		Leyte region, Philippine Islands.	
» 17	Ki	iP	08 32 07
» 17	Up	iP	11 50 30
	Ki	iP	11 50 17
	Sk	iP	11 50 45
» 17	Up	iP	21 19 14
		i	21 19 30
	Ki	iP	21 19 16
		i	21 19 32
		Nicobar Islands region.	
» 18	Up	iP	13 13 09

1958			
Mar 18	Up	iP	14 17 39
» 18	Sk	e(P)	15 32 20
		e(Sg)	15 32 55
		Local?	
» 18	Up	iP	22 31 15
		i	22 31 25
		iS	22 40 22
			μ s
		P z'	0.1 1.0
		S N	0.5 5
		M N	1.2 25
		M z	1.4 26
		$\Delta=7800 \text{ km}=70^\circ$	
	Ki	iP	22 30 22D
		i	22 30 32
		i	22 30 46
		iS	22 38 46
			μ s
		P z	0.4 6
		P z'	0.4 1.1
		S N	0.7 9
		S z	0.4 7
		M E	0.7 20
		M N	0.6 21
		M z	0.8 21
		$\Delta=6900 \text{ km}=62^\circ$	
	Sk	iP	22 30 53
		Aleutian Islands. Magn.=6.2 (Up, Ki). Slightly deeper than normal.	
» 19	Up	eLg1	16 11 18
		iLg2	16 11 35
		i(Lg2)	16 11 44
		i(Rg)	16 12 36
			μ s
		M N	0.4 5
		M z	0.5 6
	Ki	iP	16 08 50
			μ s
		P z'	0.1 1.3
	Sk	iP	16 07 57
		Austria-Yugoslavia border. No P is recorded at Uppsala ($\Delta=14^\circ$) due to the shadow zone.	
» 20	Up	iP	01 49 15
		i	01 49 28
		iS	01 58 24
		iP'P'	02 17 13
			μ s
		P N	3.7 7
		P z	8.4 7
		P z'	1.3 1.0
		S E	5.5 9
		S N	7.0 9
		P'P'	0.2 1.0
		M E	5.3 20

1958			
Mar 20	Up	M	15 26
(cont.)		M z	17 26
		$\Delta=7800 \text{ km}=70^\circ$	
	Ki	iP	01 48 23
		iPP	01 50 42
		i	01 54 50
		iS	01 56 42
		iP'P'	02 17 39
			μ s
		P N	2.3 7
		P z	4.4 8
		P z'	2.0 1.0
		PP N	1.1 8
		PP z	1.9 9
		S E	2.6 8
		S N	7.8 9
		S z	4.7 11
		P'P'	0.2 1.7
		M E	9.0 18
		M N	7.0 22
		M z	12 22
		$\Delta=6900 \text{ km}=62^\circ$	
	Sk	iP	01 48 54D
		iS	01 57 47
		iP'P'	02 17 22
		$\Delta=7450 \text{ km}=67^\circ$	
		Aleutian Islands. Magn.=6.9 (Up, Ki). Slightly deeper than normal.	
» 20	Ki	iP	04 40 14
» 20	Sk	e(P)	06 27 04
		(North Atlantic).	
» 20	Up	iP	08 04 02
		Off southeast coast of Hokkaido, Japan.	
» 20	Ki	iP	13 07 16
	Sk	iP	13 07 34
		Pamir (h~100 km).	
» 20	Sk	eP	14 01 56
		i	14 01 58
» 20	Up	iP	16 44 35
» 21	Sk	eP	06 50 09
» 21	Up	eL	09 06
			μ s
		M E	1.5 13
		M N	1.9 12
		M z	2.7 12
	Ki	eL	09 01
			μ s
		M E	1.2 16
		M N	1.0 15
		M z	2.1 17
		Novaya Zemlya. Nuclear explosion.	

1958
Mar 27 Sk iP 06 45 25
(cont.) Near southeast coast of Kamchatka.

» 27 Up iP 11 05 49
Ki iP 11 04 31

» 27 Up iP 17 23 41
iS 17 26 20

P z' μ s
0.1 0.5

$\Delta = 1550 \text{ km} = 14^\circ$

Sk iP 17 24 38
eS 17 28 12

$\Delta = 2100 \text{ km} = 19^\circ$
Carpathian Mountains.

» 28 Up iP 04 16 58C
ipP 04 17 48
iPP 04 18 34
i(PP) 04 18 44
i 04 19 43

P z' μ s
0.2 0.7

Ki pP z' 0.5 1.0
iP 04 17 (09)
ipP 04 17 (58)
iS 04 23 (13)
eSS 04 26 (27)
eLg1 04 32 (00)

P z' μ s
0.2 1.0

S E 0.5 6
M E 0.7 10
M z 0.6 9

Sk iP 04 17 24C
ipP 04 18 15

Hindu Kush. $h = 240 \text{ km}$ (Up, Ki, Sk).
Magn. = 5.7 (Up, Ki).

» 28 Up iP 12 13 50C
ipP 12 14 32
iPP 12 15 25
isPP 12 16 23
i(S) 12 19 48
isS 12 20 54
e 12 22 24
eSS 12 22 50
i 12 23 04

P E μ s
3.8 1

P N 0.9 1

P z 7.7 1

P z' 3.7 1.0

PP E 1.0 1

(S) N 1.1 5

$\Delta = 4450 \text{ km} = 40^\circ$

Ki iP 12 13 46C
ipP 12 14 27
isP 12 14 47
i(pPP) 12 16 04

1958
Mar 28 Ki esPP 12 16 19
(cont.) i(S) 12 19 48
iSS 12 22 40
i 12 23 04

μ s
2.7 2

P E 1.4 2
P N 3.4 2
P z' 1.4 1.0
(S) E 1.5 8
(S) N 1.3 8

Sk iP 12 14 16C
ipP 12 14 54
iPP 12 15 58

$\Delta = 4800 \text{ km} = 43^\circ$
Hindu Kush. $h = 200 \text{ km}$ (Up, Ki, Sk).
Magn. = 7.3 (Up, Ki).

» 28 Sk eP 15 36 45

» 28 Ki iP 17 27 35

» 28 Up iP 18 58 08C
Honshu, Japan ($h \sim 80 \text{ km}$).

» 28 Up eP 20 31 20
Ki eP 20 30 37
Sk eP 20 31 12
Off south coast of Hokkaido, Japan.

» 29 Up iP 03 05 35

M E μ s
0.5 14

Sk iP 03 06 15
Greece.

» 29 Sk iP 04 49 03
Greece.

» 29 Up iP 07 23 25
Sk iP 07 24 05
Greece.

» 29 Sk iP 09 40 33
Greece.

» 29 Up iP 10 42 42
i 10 43 16
Ki iP 10 42 19

M E μ s
0.5 14

M N 0.5 15

M z 0.6 15

Sk eP 10 42 48
China.

» 30 Ki eP 01 56 41
(Arctic Ocean).

» 30 Up iP 05 11 20

1958
Mar 30 Ki e(Sn) 06 33 58
(Kola Peninsula, U.S.S.R.).

» 30 Up iSg 06 45 50
Ki eSn 06 42 30
iSg 06 42 54
Sk iSg 06 45 20
Kola Peninsula, U.S.S.R.

» 30 Up iPKP 14 23 28
i 14 23 33
Sk iPKP 14 23 22
Kermadec Islands.

» 31 Up iP 03 51 56
Sk iP 03 52 16
Nepal.

» 31 Sk iP 04 10 12
Greece.

» 31 Ki iP 06 06 37
Sk eP 06 06 50

» 31 Up iP 10 43 30

P z' μ s
0.1 0.8

Ki iP 10 43 18

P z' μ s
0.2 1.0

Sk iP 10 43 11
i(pP) 10 43 43
Chiapas, Mexico ($h \sim 100 \text{ km}$).

» 31 Sk i(P) 11 40 31
Seismic?

» 31 Up iP 15 12 34
i 15 12 48
Ki iP 15 11 41

P z' μ s
0.1 1.0

Sk iP 15 12 11
Aleutian Islands.

» 31 Ki iP 15 57 08
Alaska.

» 31 Sk iP 16 28 10

» 31 Up iP 16 51 10

P z' μ s
0.1 1.3

Ki iP 16 52 25
Sk iP 16 51 47
Ionian Sea.

» 31 Up iPKP 21 50 48
Sk iPKP 21 50 43
Kermadec Islands region.

1958
Apr 1 Ki eP 08 43 52

» 1 Up iP 14 18 32
ipP 14 18 49
Ki iP 14 17 52
ipP 14 18 09
Sk iP 14 18 25
ipP 14 18 43
Northern Honshu, Japan.
 $h = 70 \text{ km}$ (Up, Ki, Sk).

» 1 Up i(P) 15 01 44

» 1 Up iP 16 55 38

P z' μ s
0.1 1.0

Aleutian Islands.

» 1 Sk eP 17 27 20
i 17 27 22

» 2 Ki eL 00 46

M E μ s
0.6 15

M N 0.5 17

M z 0.6 14

Philippine Islands.

» 2 Sk iP 15 28 34

» 2 Up iP 15 36 24

» 3 Up iP 02 28 02C
e 02 31 20
eS 02 31 32
e 02 34 16

P N μ s
1.2 5

P z 1.7 5

P z' 0.4 1.0

S N 0.7 5

M E 8.4 13

M N 13 16

M z 15 19

$\Delta = 2050 \text{ km} = 18\frac{1}{2}^\circ$

Ki eP 02 29 23
e 02 29 47
e(S) 02 33 50
e(S) 02 34 12
eLi 02 36 12
eLg2 02 38 19
eRg 02 39 21

P z' μ s
0.2 1.5

(S) N 1.4 18

M E 10 12

M N 11 13

M z 17 13

Sk iP 02 28 47C
i 02 28 56
i 02 36 51
Albania. Magn. = 5.7 (Up, Ki).

1958
Apr 10 (cont.)

Ki M z 2.0 15
Sk iP $\Delta = 7350 \text{ km} = 66^\circ$ 12 01 24C
ipP 12 01 34
iPP 12 03 47
Off east coast of Honshu, Japan.
h=40 km (Up, Ki, Sk).
Magn.=6.0 (Up, Ki).

» 10 Up iP 13 24 06
P z' μ s
0.1 0.5

» 10 Up iPP 13 37 20
PP z' μ s
0.1 1.4
Northern Chile (h~150 km).

» 10 Up

M E μ s
1.1 20
M N 0.9 20
M Z 1.7 20
Ki iP 23 17 14

M E μ s
2.2 22
M N 1.2 19
M Z 2.6 19
Sk eP 23 17 43
Alaska.

» 11 Up iP 01 09 39C
e 01 13 57
iS 01 18 58

P N μ s
0.4 4
P Z 1.0 4
P z' 0.5 1.0
S E 0.8 5
M E 6.9 20
M N 8.3 19
M Z 10.5 20

△=8000 km=72°
Ki iP 01 08 59
iPcP 01 09 31
eS 01 17 42
eScS 01 18 53

P z' μ s
0.3 1.0
S E 2.2 15
S N 0.9 12
M E 20 20
M N 8.9 22
M Z 7.9 20

△=7350 km=66°
Sk iP 01 09 32
Off east coast of Honshu, Japan.
Magn.=6.4 (Up, Ki).

» 11 Sk i(P) 15 09 20
Seismic?

1958
Apr 11

Up iP 16 31 46

» 11 Up iP 17 38 04
iPcP 17 38 31
△=7550 km=68°
Ki iP 17 37 10
Aleutian Islands.

» 11 Up iP 18 05 48
P z' μ s
0.1 1.0

Ki eP 18 04 55
Aleutian Islands.

» 11 Up iP 18 19 50
Ki iP 18 18 56
Aleutian Islands.

» 11 Up iP 23 22 09C
ipP 23 22 27
iS 23 30 51
iScS 23 31 50
iP'P' 23 50 39

P E μ s
1.2 3
P N 2.5 3
P Z 6.4 3
P z' 2.0 0.8
M E 4.3 23
M N 5.6 22
M Z 7.4 21

△=7450 km=67°
Ki iP 23 21 21C
e 23 25 12
iS 23 29 24

P Z μ s
3.3 4
P z' 1.8 1.0
M E 7.6 22
M N 3.5 17
M Z 7.2 20

Kurile Islands. h=60 km (Up).
Magn.=7.1 (Up, Ki).

» 11 Up iP 23 37 51
Ki iP 23 37 36
Molucca Passage.

» 12 Up iP 11 59 38
iPP 12 02 50
iS 12 10 00

S E μ s
1.6 9
S N 4.8 11
M E 4.7 19
M N 7.2 20
M Z 7.8 22

△=9450 km=85°
Ki eP 11 59 14
iS 12 09 10

1958
Apr 12 (cont.)

Ki S E μ s
1.5 11
S N 2.3 11
M E 16 17
M N 8.0 16
M Z 19 17
△=8900 km=80°
Gulf of California.
Magn.=6.5 (Up, Ki).

» 12 Up iP 13 37 19C

P Z μ s
0.8 3
M E 3.2 19
M N 5.2 22
M Z 4.7 18
Ki iP 13 36 53C
i 13 37 06
i 13 37 20

P z' μ s
0.6 1.3
M E 4.6 20
M N 2.4 21
M Z 4.3 19
Sk iP 13 37 21C
Ryukyu Islands.
Magn.=6.3 (Up, Ki).

» 12 Ki iP 14 17 09

» 12 Ki iP 15 35 18
Alaska.

» 13 Ki iP 01 57 08
Alaska.

» 13 Up eLg2 04 34 44

M E μ s
1.1 14
M N 2.3 13
M Z 1.2 14
Ki iP 04 17 06
e 04 27 23

P z' μ s
0.1 1.1
M E 1.5 18
M N 0.5 14
M Z 1.0 12
Sk iP 04 17 39
Outer Mongolia.

» 13 Up iS 09 24 33

S E μ s
1.4 8
M E 2.8 21
M N 1.8 20
M Z 1.7 19
Ki iP 09 15 55
iS 09 22 44

P z' μ s
0.4 1.5

1958
Apr 13 (cont.)

Ki S E 3.5 8
M E 3.3 19
M N 1.5 19
M Z 2.9 20
△=5200 km=47°
Sk iP 09 16 26
i 09 16 39
Alaska.

» 13 Up iP 12 39 41C
ePa 12 43 47
iS 12 48 13

P N μ s
5.7 11
P Z 13 11
P z' 0.9 1.1
S E 6.2 11
S N 5.3 15
S Z 2.2 11
M E 29 24
M N 26 18
M Z 43 19
△=7050 km=63 1/2°
Ki iP 12 38 47C
ePa 12 42 06
iS 12 46 35

P E μ s
0.9 8
P N 1.9 8
P Z 3.3 8
P z' 0.9 1.0
S E 6.4 13
S N 2.3 14
M E 25 16
M N 20 16
M Z 41 17
△=6200 km=56°
Sk iP 12 39 24
Near east coast of Kamchatka.
Magn.=6.7 (Up, Ki).

» 13 Up i(P) 12 48 03

» 13 Up iP 13 10 56
Ki iP 13 10 04
Sk eP 13 10 40
Near east coast of Kamchatka.

» 13 Up iP 14 20 45
(Greece).

» 14 Ki eP 00 44 20

» 14 Up iP 03 00 29C

M E μ s
1.1 20
M N 0.8 18
M Z 1.2 17
Ki iP 02 59 52

P z' μ s
0.2 1.0

1958			
Apr 23	Ki eP	03 36 30	
» 23	Up iP	05 03 40	
	Ki iP	05 02 53	
	ipP	05 03 06	
	P z'	μ 0.2 s 0.9	
	Sk eP	05 03 29	
	epP	05 03 41	
	Kurile Islands. h=50 km (Up, Ki, Sk).		
» 23	Up eP	06 04 40	
	Ki eP	06 04 11	
	Ryukyu Islands.		
» 23	Ki iP	13 58 31	
	Seismic?		
» 23	Ki iP	14 37 20 D	
	P z'	μ 0.1 s 0.8	
» 24	Ki iP	08 07 00	
	Aegean Sea.		
» 24	Ki eP	09 58 03	
	Off north coast of Luzon.		
» 24	Ki iP	13 05 14	
	Central Honshu, Japan.		
» 24	Up eP	18 22 20	
	Pacific Ocean, off south coast of Panama.		
» 24	Ki iP	21 16 24	
» 25	Up iP	06 32 29 D	
	Aleutian Islands.		
» 25	Up iP	08 46 15	
	ipP	08 46 28	
	Ki iP	08 45 21	
	ipP	08 45 34	
	P z'	μ 0.1 s 1.3	
	Aleutian Islands. h=50 km (Up, Ki).		
» 25	Ki iP	15 08 50	
» 25	Sk eP	17 51 27	
	e	17 51 45	
	Crete.		
» 25	Ki i(Sg)	17 57 45	
» 25	Up iP	18 39 47	
	Hindu Kush (h~150 km).		

1958			
Apr 25	Sk e(P)	18 59 58	
	Local?		
» 25	Up iP	19 14 23	
	Ki iP	19 13 31	
	ipP	19 13 43	
	P z'	μ 0.1 s 1.3	
	Aleutian Islands.		
» 26	Up iP	01 20 29	
	ipP	01 20 43	
	Ki iP	01 19 43	
	ipP	01 19 56	
	P z'	μ 0.1 s 1.0	
	Kurile Islands region. h=55 km (Up, Ki).		
» 26	Up iPKP	09 44 52	
	Ki iPKP	09 44 44	
	Sk iPKP	09 44 55	
	New Hebrides Islands.		
» 27	Up iPKP	08 32 15	
	Ki iPKP	08 32 08	
	Tonga Islands region (h~100 km).		
» 27	Up iP	17 28 34 C	
	P z'	μ 0.1 s 0.8	
	Ki iP	17 27 51	
	P z'	μ 0.2 s 1.3	
	Sk iP	17 28 26 C	
	Near east coast of Hokkaido, Japan (h~100 km).		
» 27	Up iP	19 14 49	
	P z'	μ 0.2 s 1.2	
	M E	1.4 18	
	M N	2.5 20	
	M z	3.3 21	
	Ki eP	19 13 54	
	ipP	19 14 07	
	P z'	μ 0.2 s 1.3	
	M E	2.3 17	
	M N	1.8 18	
	M z	3.3 20	
	Sk iP	19 14 25	
	ipP	19 14 41	
	Aleutian Islands. h=60 km (Ki, Sk).		
» 28	Ki iP	03 44 36	
» 28	Up iP	12 01 35	
	iSKS	12 12 05	

1958			
Apr 28	Up iS	12 13 04	
(cont.)	P z	μ 0.5 s 6	
	P z'	0.1 1.0	
	SKS E	2.3 13	
	S E	0.6 6	
	S N	2.3 13	
	M E	5.9 22	
	M N	2.5 19	
	M z	7.0 22	
	$\Delta \sim 11200 \text{ km} \sim 101^\circ$		
	Ki iP	12 01 41	
	ePP	12 05 47	
	iSKS	12 12 17	
	eS	12 13 16	
	ePS	12 14 50	
	P z'	μ 0.1 s 1.0	
	PP z	0.4 7	
	SKS E	1.8 13	
	S N	2.1 13	
	M E	5.9 20	
	M N	3.2 19	
	M z	6.0 20	
	$\Delta \sim 11350 \text{ km} \sim 102^\circ$		
	Sk iP	12 01 24	
	i	12 01 37	
	Peru. Magn.=6.4 (Up, Ki).		
» 28	Ki eP	16 21 19	
	i	16 21 24	
	Local? Seismic?		
» 28	Ki iP	18 20 57	
	Sk eP	18 20 52	
	Caucasus.		
» 28	Ki i(Sg)	21 04 50	
	Sk e	21 07 50	
	Local.		
» 29	Ki iP	05 15 58	
	Sk iP	05 16 31	
	Outer Mongolia.		
» 29	Up iP	13 45 02	
	Ki iP	13 44 07	
	Sk iP	13 44 32	
	Southeastern Alaska.		
» 29	Up iP	15 21 41	
» 29	Up iP	16 21 54	
» 29	Up e(P)	21 51 58	
	i	21 52 19	
» 30	Up iP	08 24 14 C	
	ipP	08 24 54	
	P z'	μ 0.2 s 0.8	

1958			
Apr 30	Ki iP	08 24 23 C	
(cont.)	P z'	μ 0.2 s 1.0	
	Sk iP	08 24 40	
	Hindu Kush, h=200 km (Up).		
» 30	Ki iP	08 29 30	
	i	08 29 35	
	Local? Seismic?		
» 30	Up iP	13 22 04	
» 30	Up iP	13 28 57	
» 30	Up iP	14 04 26	
	i	14 04 30	
	P z'	μ 0.3 s 0.7	
	Ki iP	14 04 03 C	
	P z'	μ 0.1 s 1.0	
	Kansu Province, China.		
» 30	Up iP	14 14 14	
	i	14 14 18	
	i	14 14 23	
	P z	μ 0.8 s 3	
	P z'	0.9 1.5	
	M E	4.7 18	
	M N	5.4 20	
	M z	3.1 18	
	Ki iP	14 15 05	
	i	14 15 09	
	i	14 15 15	
	eS	14 20 42	
	P z'	μ 0.2 s 1.2	
	S N	0.6 10	
	M E	3.7 20	
	M N	4.0 20	
	M z	3.7 21	
	$\Delta = 4000 \text{ km} = 36^\circ$		
	Sk iP	14 14 25	
	Off coast of Portugal. Magn.=5.7 (Up, Ki).		
May 1	Up iPKP	00 48 00 C	
	i	00 48 19	
	iSKP	00 51 05	
	iPKS	00 51 20	
	e	01 00 27	
	PKP z'	μ 0.5 s 1.2	
	SKP z'	0.1 0.6	
	PKS E	0.8 5	
	PKS N	1.1 4	
	M E	1.3 20	
	M N	2.5 21	
	M z	2.8 20	
	Ki iPKP	00 47 48 C	

1958
May 1 Ki i 00 48 15
(cont.) ePP 00 49 20
iPKKP 00 57 47

μ s
PKP z' 0.7 1.0
PP N 0.4 10
PP z 0.7 10
PKKP z' 0.4 1.2
M E 2.2 20
M N 1.4 18
M z 2.2 19

Sk iPKP 00 47 59C
New Hebrides Islands
(h ~ 200 km).

» 1 Up iP 07 24 20
Ki iP 07 24 01
Near west coast of Luzon,
Philippine Islands.

» 1 Up i(PP) 09 49 32
(Celebes).

» 1 Up iP 12 45 14
i 12 45 19

μ s
P z' 0.2 0.8
Ki iP 12 44 43

μ s
P z' 0.3 1.0

Sk iP 12 45 10
Volcano Islands (h ~ 400 km).

» 1 Up iP 21 19 54
i 21 24 08
i 21 27 49
Ki iP 21 21 14

μ s
M E 1.7 15
M N 0.6 16

Sk iP 21 20 38
Albania.

» 2 Up iP 03 56 20
Ki i(P) 03 56 19
Sk eP 03 56 39
(Tibet).

» 2 Up i(Sg) 14 29 48
Sk e 14 29 56
e(Sg) 14 30 15
Local.

» 2 Up iP 21 27 56

μ s
P z' 0.1 0.6
Ki iP 21 28 30
Sk eP 21 28 29
Southern Iran.

» 3 Up iP 06 56 42

1958
May 3 Ki iP 07 19 38
Atlantic Ocean.

» 3 Up iP 08 12 35

μ s
M E 1.3 20
M N 1.4 17
M z 1.6 18
Ki iP 08 13 16
e(S) 08 23 41

μ s
M E 2.0 21
M N 0.8 19
M z 1.8 18

Atlantic Ocean.

» 3 Up iP 20 23 30
iS 20 27 45

μ s
P z' 0.2 0.5
S E 0.6 4
S N 0.7 4
M E 2.1 16
M N 4.5 15
M z 5.9 15

△ = 2650 km = 24°

Ki iP 20 24 42

μ s
P z' 0.3 1.7
M E 2.4 17
M N 2.0 19
M z 3.0 19

Sk iP 20 24 09
Near south coast of Greece.

» 4 Up iP 10 55 22
Ki iP 10 54 37
Sk iP 10 55 09
Near south coast of Honshu, Japan.

» 4 Up i 11 04 25
Ki eP 10 58 05
French Alps.

» 4 Up iPKP 20 19 33
Fiji Islands region
(h ~ 550 km).

» 5 Up iP 05 27 39
e 05 33 18

μ s
P z' 0.1 1.0
M E 3.2 20
M N 4.7 20
M z 1.7 16

Ki iP 05 28 25C
e 05 36 02

μ s
P z' 0.1 1.0
M E 4.5 18

1958
May 5 Ki M N 2.5 18
(cont.) M z 2.2 16
Sk iP 05 28 17
i 05 28 27
Iran-Iraq border.
Magn. = 5.5 (Up, Ki).

» 5 Up iP 06 42 51 D
ipP 06 43 05
iS 06 51 52
i 06 52 32

μ s
P N 0.4 2
P z 0.8 2
P z' 0.7 1.2
pP z' 1.3 1.6
M E 1.0 19
M N 1.0 22

△ = 7700 km = 69 1/2°

Ki iP 06 43 37 D
i 06 43 47
ipP 06 43 51
eSKS 06 53 43

μ s
P z 0.4 4
P z' 0.8 1.0
pP z' 1.0 1.5
M E 0.9 16
M N 0.6 17
M z 1.2 17

Sk iP 06 43 16 D
ipP 06 43 30
Congo. h = 60 km (Up, Ki, Sk).
Magn. = 6.4 (Up, Ki).
This shock is probably very suitable
for a fault-plane determination (extremely
clear P phases).

» 5 Ki iP 13 42 55
iPeP 13 43 38
Sk iP 13 43 25
Aleutian Islands (h ~ 60 km).

» 5 Up iPg 14 09 10
iSn 14 09 40
iSg 14 10 02

μ s
Sg z' 0.1 0.5

△ = 460 km = 4.1°

Ki eSg 14 13 17
△ = 1110 km = 10.0°

Sk e(Pg) 14 09 12
eSg 14 10 22
△ = 520 km = 4.7°
South coast of Norway 59°N
10°E. Origin time = 14 07 47

» 6 Up iP 00 03 46
M N 1.0 22

1958
May 6 Ki eP 00 02 55
(cont.) eS 00 10 33

μ s
M E 0.8 21
M N 0.8 23
M z 1.7 26

△ = 6000 km = 54°

Sk iP 00 03 20 D
Near coast of southeastern Alaska.

» 6 Up iP 04 21 09
eS 04 25 33
eLg2 04 29 15

μ s
M E 1.4 12
M N 1.6 18
M z 1.4 14

△ = 2650 km = 24°

Ki iP 04 21 44
e 04 27 20
e 04 27 38

μ s
M E 1.5 18
M N 0.6 13
M z 1.0 12

Sk eP 04 21 56
i 04 27 53
Caucasus.

» 6 Up eP 10 03 46
Ki iP 10 04 21
Sk iP 10 04 18

» 6 Up

μ s
M E 0.8 20
M N 1.0 22
M z 1.4 20

Ki iP 14 13 01
Aleutian Islands.

» 6 Sk iP 14 30 17 D
North Atlantic Ocean.

» 6 Sk i(P) 14 40 06
Local? Seismic?

» 7 Up

μ s
M E 1.4 21
M N 0.7 20
M z 1.7 20

Ki iP 07 36 51

μ s
M E 0.6 14
M N 0.5 19
M z 0.7 15

Sk iP 07 36 22
North Atlantic Ocean.

1958			
May 12 (cont.)	Up	iPP	17 04 47
		iSKS	17 11 36
		ipS	17 11 59
			μ s
	P	z'	0.4 0.7
	PP	z'	0.1 1.0
	SKS	E	0.5 3
	SKS	N	0.3 3
	M	E	0.8 21
	M	N	0.6 22
	Ki	iP	17 01 16
		ipP	17 01 57
		e(SeS)	17 10 30
			μ s
	P	z'	0.4 1.0
	M	E	1.5 23
	M	N	1.4 22
	M	Z	1.2 20
	Sk	iP	17 01 47 D
		iPP	17 04 39
			South of Honshu, Japan. h=160 km (Ki). Magn.=6.2 (Up, Ki).
» 12	Ki	ePP	18 47 16
			μ s
		PP	0.1 1.0
			Marshall Islands region. Nuclear explosion.
» 12	Up	iP	21 25 48
			Peru (h~150 km).
» 12	Up	iP	22 26 56
	Ki	eP	22 26 04
			Aleutian Islands.
» 13	Ki	iP	11 26 00
			Alaska.
» 13	Up	iP	16 18 11
	Ki	eSg	16 18 16
			Near Kola Peninsula.
» 14	Ki	eL	04 52
			μ s
	M	E	0.7 20
	M	N	0.4 20
	M	Z	0.7 20
			New Ireland.
» 14	Up	i(P)	07 51 38
» 14	Sk	eP	10 21 49
» 14	Up	iP	12 47 15
		i	12 47 23
			μ s
		P	0.1 1.0
	Ki	iP	12 47 15
		i	12 47 22

1958			
May 14 (cont.)	Ki		μ s
		P	0.4 2.0
	Sk	i(P)	12 47 42
			Andaman Islands region.
» 14	Sk	eP	16 45 45
» 15	Up	iPKP	00 09 50
			South of Fiji Islands.
» 15	Up	iP	04 35 53
		iPcP	04 36 19
			μ s
		P	0.1 0.5
			$\Delta=7550 \text{ km}=68^\circ$
	Ki	iP	04 35 01
		iPcP	04 35 45
			μ s
		M	0.4 18
		M	0.3 18
		M	0.9 19
			$\Delta=6800 \text{ km}=61^\circ$
	Sk	iP	04 35 31
		iPcP	04 36 04
			$\Delta=7200 \text{ km}=65^\circ$
			Aleutian Islands.
» 15	Up	i(PKP)	05 00 15
		i	05 00 23
	Ki	iPKP	05 00 08
			Tonga Islands region.
» 15	Up	iP	06 47 23
» 15	Up	e(SS)	14 55 20
		e	14 58 27
			μ s
		M	0.9 22
		M	0.4 11
			Ki
			μ s
		M	0.3 15
		M	0.3 12
		M	0.3 12
	Sk	eP	14 51 42
		i	14 51 50
			Greece.
» 15	Up	iP	15 34 41 D
	Sk	iP	15 35 25
» 15	Up		μ s
		M	1.2 26
	Ki	eP	18 58 29
		i	18 58 36
		e	19 08 51
			μ s
		M	0.8 19
		M	0.6 17
		M	1.2 20

1958			
May 16	Up	iP	02 15 10
	Ki	iP	02 14 16
		iPcP	02 15 02
			$\Delta=6650 \text{ km}=60^\circ$
	Sk	eP	02 14 47
			Aleutian Islands.
» 16	Up	iP	09 24 21
		eS	09 28 47
			μ s
		M	1.0 16
		M	1.8 20
		M	1.4 16
			$\Delta=2700 \text{ km}=24\frac{1}{2}^\circ$
	Ki	iP	09 25 06
		e	09 30 19
		eLg1	09 34 38
			μ s
		M	1.5 12
		M	1.0 13
		M	1.0 11
	Sk	eP	09 24 37
			Caucasus.
» 16	Up	iP	13 59 00
		i	13 59 07
» 16	Ki	iP	16 30 52
» 16	Up	iP	18 25 22
		i	18 25 32
			μ s
		M	0.5 12
		M	0.4 10
		M	0.6 12
	Ki	iP	18 25 11
		i	18 25 20
	Sk	iP	18 25 38
			Sinkiang Province, China.
» 16	Ki	iP	18 41 15
			(Turkey).
» 16	Ki	e(P)	21 32 08
» 17	Up	iP	05 31 30
			μ s
		M	1.2 18
		M	0.3 16
	Ki	iP	05 32 40
		i	05 32 43
			μ s
		P	0.1 1.1
	Sk	eP	05 32 00
			Libya.
» 17	Up	eL	07 48
			μ s
		M	2.2 19
		M	1.8 20
		M	3.5 20

1958			
May 17 (cont.)	Ki	eL	07 47
			μ s
		M	2.0 19
		M	1.0 19
		M	2.6 19
			New Britain region.
» 17	Up	iP	08 36 52
	Ki	iP	08 36 52
			μ s
		P	0.1 1.0
	Sk	iP	08 37 05 D
			Near south coast of Sumatra.
» 17	Up	iP	15 49 25
			μ s
		P	0.1 0.8
		M	1.1 20
		M	0.8 22
	Ki	iP	15 48 31
		eS	15 56 42
			μ s
		S	0.2 8
		M	0.6 16
		M	0.8 21
		M	0.8 18
			$\Delta=6700 \text{ km}=60\frac{1}{2}^\circ$
	Sk	eP	15 49 05
			Aleutian Islands.
» 17	Ki	eP	16 53 54
		e	17 03 23
			μ s
		M	0.5 20
		M	0.6 20
		M	0.7 20
			Andaman Islands region.
» 17	Sk	iP	21 03 37
			Greece.
» 18	Up	ePKP	02 52 07
		ePP	02 54 05
		iPKS	02 55 18
			μ s
		PP	1.9 16
		PKS	0.9 9
		PKS	1.1 9
		M	5.6 22
		M	8.0 22
		M	10 22
			$\Delta \sim 14200 \text{ km} \sim 128^\circ$
	Ki	iPKP	02 51 47
		ePP	02 53 23
			μ s
		PP	0.5 16
		PP	1.3 16
		M	3.7 18
		M	2.6 22
		M	5.3 18

1958			
May 18 (cont.)	Ki	$\Delta \sim 13450 \text{ km} \sim 121^\circ$	
	Sk	iPKP	02 51 58
		New Hebrides Islands.	
		Magn.=6.3 (Up, Ki).	
» 18	Up	ePP	12 42 28
		ePKS	12 43 43
			μ s
		M E	2.9 22
		M N	2.8 21
		M Z	4.8 21
	Ki	ePKP	12 40 15
		ePP	12 41 49
			μ s
		PP Z	1.2 13
		M E	1.7 19
		M N	1.7 20
		M Z	4.5 20
	Sk	iPKP	12 40 27
		New Hebrides Islands.	
		Magn.=6.2 (Up, Ki).	
» 18	Up	iP	14 28 26
» 19	Up	eL	01 07
			μ s
		M E	1.1 20
		M N	1.0 18
		M Z	1.2 22
	Ki	eL	01 06
			μ s
		M E	0.9 18
		M N	0.5 18
		M Z	1.2 20
		New Hebrides Islands.	
» 19	Up	iP	02 27 02
	Ki	iP	02 26 36
		i	02 26 40
			μ s
		P z'	0.1 1.0
		M E	0.4 10
		M Z	0.7 12
	Sk	iP	02 27 09 D
		Outer Mongolia.	
» 19	Up	iP	03 07 32
	Sk	iP	03 08 01
» 19	Ki	i(P)	16 26 52
		i	16 27 38
		i(Sg)	16 27 54
		Local.	
» 19	Sk	eP	18 23 19
		Ionian Islands.	
» 19	Up	e(Pn)	23 17 10
		iPg	23 17 29
		iSn	23 18 17
		i	23 18 25

1958			
May 19 (cont.)	Up	i	23 18 29
		iS*	23 18 39
		iSg	23 18 44
			μ s
		Sg N	0.4 1
		Sg z'	0.2 0.5
		$\Delta = 660 \text{ km} = 5.9^\circ$	
	Ki	iSn	23 19 10
		iSg	23 20 13
		$\Delta \sim 920 \text{ km} \sim 8.3^\circ$	
	Sk	ePg	23 16 32
		i	23 16 38
		iSn	23 16 57
		i	23 17 08
		iSg	23 17 10
		$\Delta = 320 \text{ km} = 2.9^\circ$	
		West coast of Norway in the vicinity of Ålesund, 62.4°N, 6.7°E. Origin time=23 15 35.	
» 20	Up	i(P)	00 17 23
» 20	Up	iPKP	06 03 20
			μ s
		PKP z'	0.1 0.6
	Ki	iSKP	06 05 54
		South of Fiji Islands (h ~ 550 km).	
» 20	Up	iP	19 24 49
	Ki	iP	19 24 38
» 20	Up	iP	19 33 39
		i	19 33 49
» 21	Ki	iP	04 56 56
		Near south coast of Formosa (h ~ 100 km).	
» 21	Up	iP	10 17 50
			μ s
		P z'	0.1 0.8
	Ki		
			μ s
		M E	0.8 14
	Sk	iP	10 18 38
		Turkey	
» 21	Up	iSg	16 20 36
	Sk	e	16 21 55
		iSg	16 22 23
		Gulf of Finland, 60°N 26°E. Origin time=16 18 21	
» 22	Up	iP	06 05 08
» 22	Up	iSg	06 40 15
	Sk	eSg	06 41 57
		Gulf of Finland, 60°N 26°E. Origin time=06 37 58.	

1958			
May 22	Up	iP	11 44 02
		i	11 44 14
			μ s
		P z'	0.2 0.9
	Ki	iP	11 43 08
	Sk	eP	11 43 41
		Aleutian Islands.	
» 22	Up	eL	15 59
			μ s
		M E	3.2 20
		M N	1.8 20
		M Z	4.0 19
	Ki	eL	15 57
			μ s
		M E	1.2 18
		M N	1.6 17
		M Z	3.6 20
		New Britain region.	
» 22	Up	iP	22 20 57
		i	22 21 16
	Ki	iP	22 20 04
	Sk	eP	22 20 38
		Aleutian Islands.	
» 23	Ki	e(P)	04 10 29
		Alaska.	
» 23	Up	iP	20 56 46
		i	20 57 09
	Ki	eP	20 57 26
		Caucasus.	
» 23	Up	iP	23 52 07
		i	23 52 18
	Ki	iP	23 51 39
		Mariana Islands region.	
» 24	Ki	iP	02 00 22
» 24	Ki	iPKP	07 49 44
		Southwest of Tasmania.	
» 24	Up	iP	10 53 03
	Ki	iP	10 52 35 D
» 24	Ki	e(P)	11 02 12
		i	11 02 18
			μ s
		i z'	0.3 1.0
		Seismic?	
» 24	Ki	iP	16 47 29
		New Guinea.	
» 24	Up	iP	20 17 37 D
	Ki	iP	20 17 30
	Sk	iP	20 17 50
		(Assam).	

1958			
May 24	Ki	eP	22 25 43
		Gulf of Aden.	
» 24	Ki	iP	22 35 25
		Gulf of Aden.	
» 24	Up	iP	23 16 29
	Ki	iP	23 15 51
			μ s
		M E	0.3 19
		M N	0.5 18
		M Z	0.8 18
		Off Cape Mendocino, California.	
» 25	Up	iP	00 02 42 C
			μ s
		M E	1.5 23
		M N	2.2 24
		M Z	1.7 24
	Ki	iP	00 03 33
		ePa	00 07 03
		eS	00 11 39
			μ s
		P z'	0.1 1.5
		M E	1.3 18
		M N	0.9 15
		M Z	1.6 16
		$\Delta = 6500 \text{ km} = 58 \frac{1}{2}^\circ$	
	Sk	iP	00 03 15
		Gulf of Aden.	
» 25	Up	iP	00 46 28 D
		i	00 47 38
			μ s
		P z'	0.2 0.7
		M E	1.3 20
		M N	1.5 17
		M Z	2.3 17
	Ki	iP	00 45 35
			μ s
		M E	1.5 19
		M N	1.0 17
		M Z	1.8 18
	Sk	iP	00 46 08
		Aleutian Islands.	
» 25	Up	iP	01 36 48
		i	01 37 04
» 25	Up	iP	03 02 56
			μ s
		M N	0.6 18
	Ki	iP	03 03 41
		ePa	03 07 10
		eS	03 11 45
			μ s
		P z'	0.1 1.2
		M E	0.6 14
		M N	0.5 14
		M Z	0.7 15

1958
May 25 (cont.)

Sk $\Delta \sim 6500 \text{ km} \sim 58 \frac{1}{2}^\circ$
Gulf of Aden.

» 25 Up iP 08 14 46

» 25 Up iP 10 17 18

» 25 Up iP 15 05 34
eP'P' 15 33 45

P z' 0.4 0.8
M E 1.1 20
M N 1.4 18
M z 1.8 17

$\Delta = 7650 \text{ km} = 69^\circ$

Ki iP 15 04 41
iPeP 15 05 27

P z' 0.1 1.0
PeP z' 0.1 1.1
M E 0.9 18
M N 1.0 17
M z 1.4 17

Sk iP 15 05 15
i 15 05 29
iPeP 15 05 47

Aleutian Islands.

» 25 Up iP 17 52 21

P z' 0.6 1.5
M E 1.1 20
M N 0.7 20
M z 0.8 16

Ki iP 17 51 50
e 18 19 14

P z' 0.2 1.6
M E 0.7 17
M N 0.6 15
M z 0.8 16

Sk iP 17 52 21

Near west coast of Kyushu, Japan.

» 25 Up iP 21 25 04
eSKS 21 35 36
eS 21 36 16
ePS 21 37 41

SKS E 0.6 4
S N 3.6 20
M E 6.5 24
M N 3.2 22
M z 6.2 22

Ki iP 21 25 08
i 21 25 19
ePP 21 29 01
iSKS 21 35 43
eS 21 36 24

1958
May 25 (cont.)

Ki ePKKP 21 42 06

P z 0.8 14
P z' 0.2 1.5
SKS E 1.0 7
S N 2.0 20
M E 3.1 19
M N 1.6 20
M z 4.1 22

Sk iP 21 24 53
ePKKP 21 42 04
i 21 42 15

Ecuador-Peru border region
(h ~ 100 km).
Magn. = 6.3 (Up, Ki).

» 26 Up iP 09 03 06
Ki iP 09 03 09
Sk iP 09 02 55

Ecuador-Peru border.

» 26 Up iP 11 07 25C
ipP 11 07 58
eS 11 16 11
isS 11 17 06
iP'P' 11 35 44
i 11 36 19

P z' 0.1 0.5

Ki iP 11 06 32
ipP 11 07 06
eS 11 14 28
esS 11 15 22
iP'P' 11 36 09

P z' 0.2 0.9
pP z' 0.4 1.2
S E 0.4 9
S N 0.3 9
M E 0.5 17
M N 0.5 18
M z 0.3 16

Sk iP 11 07 03
ipP 11 07 36
iP'P' 11 35 56

Aleutian Islands.
h = 140 km (Up, Ki, Sk).
Magn. = 5.8 (Up, Ki).

» 26 Up iP 11 56 37

» 26 Ki iP 14 31 32

Arctic Ocean.

» 26 Ki iPKP 16 36 14
Fiji Islands (h ~ 600 km).

» 27 Up iP 04 46 42

1958
May 27 Up

iP 18 32 43C
ipP 18 33 11
iS 18 36 45
i 18 37 08
i 18 39 44
iScS 18 43 27

P z' 0.8 0.5
pP z' 0.6 0.5
S E 0.9 7
S N 1.2 4
S z' 0.2 0.9
M E 1.2 13

Ki iP 18 33 50
iS 18 38 42
i(ScP) 18 40 06
i 18 41 35

P z' 0.4 0.8
S E 0.4 8
M E 0.5 11

Sk iP 18 33 23C
iS 18 37 55

Dodecanese Islands.
h = 140 km (Up).

» 28 Up eL 00 25

M E 1.4 26
M N 0.9 21
M z 1.3 25

North coast of New Guinea.

» 28 Up iP 00 29 04
i 00 29 29
Ki iP 00 29 03
Sk iP 00 29 20C

Nicobar Islands region.

» 29 Ki iP 02 42 50
e(S) 02 44 04
eT 02 48 43

M E 0.6 16
M N 0.3 12
M z 0.6 16

Sk eP 02 43 13
iS 02 44 53

East of Jan Mayen, near
72°N 7°E.

» 29 Up iP 03 23 30
iPP 03 25 05

P z' 0.1 0.6

Ki iP 03 23 36

1958
May 29 (cont.)

Ki i 03 23 41

P z' 0.1 1.0

Sk iP 03 23 55C
iPP 03 25 37

$\Delta = 4900 \text{ km} = 44^\circ$
Tadzhik, U.S.S.R.

» 29 Up iP 05 32 59D

P z' 0.3 0.5

Ki iP 05 32 27D
iPP 05 35 19

P z' 0.4 0.9
PP z' 0.1 1.1

Sk iP 05 32 55D
iPP 05 36 03

Bonin Islands region
(h ~ 450 km).

» 29 Ki iP 07 11 54
Sk iP 07 11 50

Oaxaca, Mexico.

» 29 Sk iP 08 48 12

Greece.

» 30 Up iP 01 17 41

P z' 0.1 0.7

Ki iP 01 17 50C

P z' 0.1 1.0

Sk iP 01 18 07
iPP 01 19 47

Hindu Kush.

» 30 Ki iP 03 21 53C

Yugoslavia.

» 30 Up iP 05 21 36
Ki iP 05 22 20
i 05 22 23

P z' 0.1 1.0
M E 0.7 15
M N 0.5 15

Caucasus.

» 30 Up eP 13 40 41
i 13 40 49
i 13 40 59
iS 13 45 09

$\Delta \sim 2850 \text{ km} \sim 25 \frac{1}{2}^\circ$

Ki eP 13 41 49

M E 0.9 20
M N 0.5 18

Sk eP 13 41 20

Near south coast of Crete.

1958			
May 30	Up	eP	15 12 52
» 30	Up	iP	16 23 17C
		ipP	16 23 42
		e	16 32 22
		eS	16 32 44
			μ s
		P	z' 0.1 1.0
		S	N 0.2 5
		M	E 0.7 25
		M	N 0.8 22
		$\Delta \sim 8450 \text{ km} \sim 76^\circ$	
Ki	iP		16 22 53C
	ipP		16 23 17
	esP		16 23 27
	eS		16 32 02
			μ s
		P	z' 0.2 1.0
		S	E 0.3 9
		S	N 0.3 9
		M	E 0.5 16
		M	N 0.3 10
Sk	iP		16 23 21
	ipP		16 23 45
	isP		16 24 12
			Near north coast of Formosa.
			h=100 km (Up, Ki, Sk).
			Magn.=5.8 (Up, Ki).
» 30	Up	iP	18 15 49C
		i	18 15 54
		iS	18 24 50
		e(ScS)	18 25 41
		iScS	18 25 51
		eP'P'	18 44 12
			μ s
		P	z 0.7 2
		P	z' 0.4 0.7
		S	E 1.0 13
		S	N 1.1 11
		M	E 3.4 23
		M	N 4.8 18
		M	z 3.1 18
		$\Delta = 7550 \text{ km} = 68^\circ$	
Ki	iP		18 14 55
	i		18 15 01
	e(Pa)		18 19 01
	iS		18 23 12
	iP'P'		18 44 36
			μ s
		P	N 0.5 10
		P	z 0.9 10
		P	z' 1.1 1.0
		S	E 1.0 12
		S	N 0.6 10
		M	E 4.8 18
		M	N 2.9 19
		M	z 2.8 19
		$\Delta = 6650 \text{ km} = 60^\circ$	
Sk	iP		18 15 26
	i		18 15 31

1958			
May 30	Sk	eP'P'	18 44 20
(cont.)		Aleutian Islands.	
		Magn.=6.0 (Up, Ki).	
» 30	Up	eP	19 20 07
	Ki	iP	19 19 15
			μ s
		P	z' 0.1 1.0
	Sk	iP	19 19 45
			Aleutian Islands.
» 30	Up	iP	19 40 34
	Ki	iP	19 39 41
	Sk	iP	19 40 11
			Aleutian Islands.
» 30	Up	i(PKP)	21 39 12
	Ki	ePKP	21 39 04
	Sk	iPKP	21 39 14
			Fiji Islands region.
» 30	Up	iP	23 19 19
			Southern Kurile Islands.
» 31	Up	iP	02 56 17
	Ki	iP	02 55 23C
			μ s
		P	z' 0.1 1.0
	Sk	iP	02 55 54
			Aleutian Islands.
» 31	Up	iP	03 55 30
		i	03 55 37
		eS	03 59 55
			μ s
		P	z' 0.1 1.0
		S	E 0.2 4
		S	N 0.3 5
		M	E 3.2 20
		M	N 3.9 20
		M	z 2.3 15
		$\Delta \sim 2800 \text{ km} \sim 25^\circ$	
Ki	iP		03 56 13
			μ s
		P	z' 0.1 1.0
		M	E 3.0 14
		M	N 2.1 15
Sk	eP		03 56 29
			Caucasus. Magn.=5.2 (Up, Ki).
» 31	Up	iP	09 36 42
		i	09 36 49
			μ s
		M	E 1.1 20
		M	N 1.8 20
		M	z 0.8 15
Ki	iP		09 37 24
			μ s
		M	E 1.0 14
		M	N 0.7 14
Sk	e(P)		09 37 46
			Caucasus.

1958			
May 31	Up	iP	10 34 44
	Ki	iP	10 35 18
			μ s
		M	E 0.3 15
		M	N 0.3 15
» 31	Up	iPKP	14 32 55D
	Ki	ePKP	14 32 36
	Sk	iPKP	14 32 49
			South of Kermadec Islands.
» 31	Up	iPKP	19 51 42
		i(PKP)	19 51 50
		ePP	19 53 57
		i(PP)	19 54 04
		iPKS	19 55 09
		iScSP	20 04 09
			μ s
		PKP	z' 1.3 2.0
		PP	E 1.8 14
		PP	N 2.2 14
		PP	z 5.7 14
		PKS	E 2.6 5
		PKS	N 3.7 5
		PKS	z' 0.4 1.7
		M	E 31 22
		M	N 30 22
		M	z 36 22
		$\Delta \sim 14450 \text{ km} \sim 130^\circ$	
Ki	iPKP		19 51 30
	i(PKP)		19 51 38
	ePP		19 53 08
	i		19 53 23
	iScSP		20 03 11
	i		20 04 44
			μ s
		PKP	z' 0.9 1.5
		PP	E 0.7 8
		PP	N 1.4 8
		M	E 26 19
		M	N 24 22
		$\Delta \sim 13650 \text{ km} \sim 123^\circ$	
Sk	iPKP		19 51 40
	i(PKP)		19 51 51
	ePKKS		20 04 42
			$\Delta \sim 14450 \text{ km} \sim 130^\circ$
			New Hebrides Islands.
			Magn.=7.1 (Up, Ki).
June 1	Up	iP	03 58 23
» 1	Up	iP	04 10 38
			μ s
		P	z' 0.1 0.5
Ki	iP		04 09 45
			μ s
		P	z' 0.1 1.0
		M	E 0.6 25
		M	N 0.2 15
Sk	iP		04 10 21
			Near east coast of Kamchatka.

1958			
June 1	Up	iP	18 31 20
			μ s
		P	z' 0.1 0.9
		M	N 0.6 22
		M	z 0.4 22
	Ki	iP	18 30 25
		i	18 30 31
			μ s
		P	z' 0.2 1.3
	Sk	iP	18 30 50C
			Alaska.
» 1	Up	iP	23 08 33
	Ki	iP	23 07 47
			(Okhotsk Sea).
» 2	Ki	iP	06 17 28
	Sk	eP	06 17 22
			Iran.
» 2	Up	iP	07 50 25
	Ki	iP	07 50 27
» 2	Up	iP	12 33 46
» 3	Up	iP	02 00 39
		i	02 02 04
			μ s
		P	z' 0.1 0.9
	Ki	iP	01 59 46
			Aleutian Islands.
» 3	Up		μ s
		M	E 0.8 16
		M	N 0.5 15
		M	z 1.4 16
	Ki		μ s
		M	E 0.3 12
		M	N 0.5 18
	Sk	iP	08 58 10
			West Pakistan.
» 3	Up	ePKP	19 51 04
		iPP	19 53 20
		iPKS	19 54 28
		e	20 03 22
			μ s
		PKP	z 0.8 9
		PP	z 1.1 9
		PKS	E 1.2 6
		PKS	N 1.9 6
		PKS	z 1.0 6
		PKS	z' 0.1 1.2
		M	E 3.2 24
		M	N 4.8 23
		M	z 3.5 22
		$\Delta \sim 14450 \text{ km} \sim 130^\circ$	
Ki	iPKP		19 50 51
	iPP		19 52 30

1958
June 3 Ki
(cont.)

PKP	z'	μ	s
PP	E	0.1	1.5
PP	N	0.3	8
M	E	0.6	8
M	E	2.8	21
M	N	2.5	21
△ ~ 13650 km ~ 123°			
Sk	iPKP	19	51 02
	iPKS	19	54 27
△ ~ 14450 km ~ 130°			
New Hebrides Islands.			
Magn. = 6.4 (Up, Ki).			

» 4 Up

iP		14	40 49C
eS		14	49 37
iScS		14	50 46

P	z	μ	s
P	z'	1.0	5
S	E	0.1	0.8
S	N	1.0	15
M	E	1.3	15
M	E	5.3	17
M	N	6.1	18
M	Z	5.9	17

Ki

△ = 7500 km = 67 1/2°			
iP		14	39 56
eS		14	48 07
e		14	48 24

P	N	μ	s
P	z'	0.9	16
P	z'	0.1	0.8
S	E	1.1	13
M	E	6.0	16
M	N	5.8	18

Sk

△ = 6650 km = 60°			
iP		14	40 26
iPcP		14	41 04

Aleutian Islands.
Magn. = 5.9 (Up, Ki).

» 5 Up

iP		13	34 46
i		13	34 52
i(S)		13	38 46

P	z'	μ	s
M	E	0.3	0.7
M	E	3.4	25
M	N	1.1	14
M	Z	1.4	14

Ki

iP		13	35 59
eLg1		13	46 08

M	E	μ	s
M	N	0.9	13
M	N	0.6	13

Sk

iP		13	35 24
----	--	----	-------

Off west coast of Greece
(h ~ 100 km).

» 5 Up i(P)

i(P)		14	12 16
i		14	12 22

Seismic?

1958
June 6 Up

iPKP		00	27 37
e(PKP)		00	27 38
i		00	27 45
Sk	iPKP	00	27 55
New Britain region.			

» 6 Up

iP		03	38 14
----	--	----	-------

» 6 Up

iP		09	24 16
i		09	24 24
i		09	24 34
ePP		09	27 47
eSKS		09	34 40
eS		09	35 00

P	z	μ	s
P	z'	0.6	5
PP	z'	0.2	0.9
PP	z'	0.2	1.5
S	N	7.2	20
M	E	13	21
M	N	11	24
M	Z	15	21

Ki

△ = 9900 km = 89°			
iP		09	24 13
i		09	24 36
ePP		09	27 47
iSKS		09	34 36
e		09	34 47
iS		09	34 56

P	z'	μ	s
PP	z'	0.4	1.7
PP	E	0.6	8
PP	z'	0.4	2.0
SKS	E	1.0	8
S	N	7.1	20
M	E	12	16
M	N	7.2	17

Sk

△ = 9900 km = 89°			
iP		09	23 57
i		09	24 02

Off coast of Costa Rica.
Magn. = 6.5 (Up, Ki).

» 6 Up

iP		19	28 37
ePP		19	32 13
eSKS		19	39 11
eS		19	39 32

S	N	μ	s
M	E	1.7	14
M	E	2.6	22
M	N	2.1	23
M	Z	3.7	23

Ki

△ = 10100 km = 91°			
e(P)		19	28 41
eSKS		19	39 05
iS		19	39 28

SKS	E	μ	s
S	N	1.0	13
M	E	1.0	10
M	E	3.0	23
M	N	2.9	23

1958
June 6 Ki M z 2.6 23
(cont.)

Sk	iP		19	28 20
South of Costa Rica.				
Magn. = 6.0 (Up, Ki).				

» 6 Up

M	E	μ	s
M	N	0.5	20
M	N	0.7	25
M	Z	1.2	23

Ki

eSKS		23	07 30
eS		23	07 38

S	N	μ	s
M	E	0.3	11
M	E	0.7	18
M	N	0.6	18
M	Z	0.8	16

Sk

i(P)		22	56 58
------	--	----	-------

Off coast of Costa Rica.

» 7 Sk

iP		06	51 11
----	--	----	-------

Southern Aegean Sea.

» 7 Ki

iP		09	25 55
----	--	----	-------

Near southwest coast of Sumatra.

» 7 Up

iPKP		13	15 00
------	--	----	-------

Ki

PKP	z'	μ	s
iPKP		13	14 53

PKP	z'	μ	s
M	E	0.1	1.0
M	E	0.5	20
M	N	0.4	20

Sk

iPKP		13	14 59
------	--	----	-------

South of Tasmania.

» 7 Ki

iP		19	43 23
----	--	----	-------

Sk

iP		19	43 44
----	--	----	-------

» 8 Up

eP		00	49 47
eS		00	58 35
eP'P'		01	18 06

P	z'	μ	s
S	N	0.1	0.5
M	E	0.5	15
M	E	2.4	25
M	N	1.4	19
M	Z	1.2	18

Ki

△ = 7450 km = 67°			
iP		00	48 56
ePa		00	52 39
eS		00	57 02
iP'P'		01	18 31

S	E	μ	s
S	N	0.3	9
M	E	1.5	18
M	N	1.5	18
M	Z	1.8	18

1958
June 8 Ki △ = 6650 km = 60°
(cont.)

Sk	iP		00	49 25
Aleutian Islands.				
Magn. = 5.6 (Up, Ki).				

» 8 Up

iP		00	58 20C
----	--	----	--------

P	z'	μ	s
Ki	iP	0.1	0.7
i(S)		01	08 04

(S)	E	μ	s
Sk	iP	0.7	10
i		00	58 39
i		00	58 50

Nicobar Islands region.

» 8 Up

iP		16	44 27
----	--	----	-------

» 8 Up

iP		21	20 12
eS		21	28 50

S	N	μ	s
M	E	0.3	8
M	N	1.3	20
M	N	0.8	18
M	Z	1.7	20

Ki

△ ~ 7300 km ~ 65 1/2°			
eP		21	20 41
eS		21	29 58

M	E	μ	s
M	E	0.7	16
M	N	0.4	15
M	Z	0.6	18

Sk

△ ~ 7900 km ~ 71°			
iP		21	20 09

Atlantic Ocean.

» 9 Up

iP		16	10 05
----	--	----	-------

P	z'	μ	s
M	N	0.1	0.8
M	N	0.5	19

Ki

iP		16	09 12
----	--	----	-------

P	z'	μ	s
M	E	0.1	1.0
M	E	0.4	15
M	N	0.3	16
M	Z	0.5	17

Sk

iP		16	09 41 D
iPcP		16	10 18

Aleutian Islands.

» 9 Up

i(P)		18	50 54
------	--	----	-------

Ki

eP		18	52 02
----	--	----	-------

Sk

iP		18	51 36
----	--	----	-------

Rumania.

» 10 Up

M	N	μ	s
M	N	0.4	16
M	Z	0.6	17

Ki

iP		00	20 35
----	--	----	-------

1958
June 15 and Sk 10—11 sec earlier than PKP
(cont.) proper, are of very small amplitude.

» 15 Up e(P) 15 25 04
Ki e(P) 15 25 48
Sk e(P) 15 25 18
These phases belong possibly to the
preceding shock.

» 15 Ki iP 16 17 09
Aleutian Islands.

» 15 Up eL 18 16
M E μ s
M N 0.8 20
M Z 1.1 23
Ki eL 18 14
M E μ s
M N 0.9 20
M Z 0.5 18
M Z 1.2 20
Near north coast of New Guinea.

» 15 Up iP 18 36 15
P z' μ s
Sk eP 18 37 41
0.1 1.5

» 16 Up eSKP 01 32 25
Ki iPKP 01 29 00
Sk iPKP 01 29 11
New Hebrides Islands
(h ~ 100 km).

» 16 Up iP 02 05 58
Ki iP 02 07 05
Sk iP 02 06 36
Near south coast of Crete.

» 16 Ki iPKP 07 32 37
Sk ePKP 07 32 57
New Hebrides Islands.

» 16 Up
M E μ s
M N 0.9 21
M Z 1.4 20
Ki ePKP 08 32 10
M E μ s
M N 1.1 22
M Z 0.9 22
M Z 1.2 20
Fiji Islands region.

» 16 Ki iP 09 21 46
Sk iP 09 22 03

1958
June 16 Ki eP 10 00 21

» 16 Up iPKP 19 10 59
Ki iSKP 19 13 46
Ki iSKP 19 13 23
SKP z' μ s
Sk iSKP 19 13 39
0.1 1.5
Fiji Islands region.
Probably deep.

» 17 Up iP 00 37 58
Ki iP 00 37 16
Sk iP 00 37 50
Off west coast of Hokkaido, Japan.

» 17 Up iP 15 19 47
i 15 20 08
P z' μ s
Sk iP 15 19 45
0.1 1.0
Bonin Islands region.

» 17 Up iP 17 01 35C
i 17 02 23
iPP 17 02 33
P z' μ s
Ki 0.1 0.7
M E 0.3 10
M Z 0.5 11
Sk iP 17 02 11
i 17 03 44
Iran.

» 17 Up iP 19 19 12C
ipP 19 19 34
iPP 19 22 27
iS 19 29 27
P z' μ s
PP z' 0.2 1.2
M E 1.2 19
M N 1.9 21
M Z 2.1 24
 $\Delta \sim 9350 \text{ km} \sim 84^\circ$
Ki iP 19 18 41
eS 19 28 35
S E μ s
M E 0.3 8
M E 1.8 20
M Z 2.1 20
 $\Delta = 8650 \text{ km} = 78^\circ$
Sk iP 19 19 09C
iPP 19 22 21
Volcano Islands. h = 90 km (Up).
Magn. = 6.6 (Up).

» 17 Up iP 20 40 55
Seismic?

1958
June 18 Up iP 01 19 01
i 01 19 06
iS 01 22 14
i(S) 01 22 24
P N μ s
P z' 0.5 3
S E 0.3 1.2
S N 2.0 10
S N 1.7 10
(S) z' 1.1 2.6
M E 6.2 15
M N 2.0 15
M z 2.0 17
 $\Delta = 1900 \text{ km} = 17^\circ$
Ki eP 01 18 15
iS 01 20 57
P E μ s
S E 0.8 8
M E 3.0 14
M E 6.0 16
 $\Delta \sim 1500 \text{ km} \sim 13 \frac{1}{2}^\circ$
Sk iP 01 18 05
Off north coast of Iceland.
Magn. = 5.5 (Up).
At Uppsala the S wave appears to
consist of a long-period wave, starting
with the time given for S, with a
superimposed short-period wave, start-
ing about 10 sec later, (S). The long-
period wave is possibly a surface wave
(see Båth and Vogel, Geofisica pura e
applicata, Vol. 39, pp. 35—54, 1958).

» 18 Up eP 02 27 26
i 02 27 33
eS 02 30 35
S E μ s
S N 0.6 10
M E 0.4 10
M E 1.6 15
M N 0.5 15
M z 1.3 24
 $\Delta = 1900 \text{ km} = 17^\circ$
Ki eP 02 26 42
eS 02 29 24
P E μ s
P z' 0.3 9
M E 2.0 17
 $\Delta \sim 1500 \text{ km} \sim 13 \frac{1}{2}^\circ$
Sk iP 02 26 34
Iceland.

» 18 Sk eP 02 57 39
Iceland.

» 18 Up iP 04 38 04C
iS 04 41 11
i(S) 04 41 23
S E μ s
S E 0.5 7

1958
June 18 S N 0.2 3
(cont.) M E 1.9 15
M N 0.8 15
M z 1.5 17
 $\Delta = 1900 \text{ km} = 17^\circ$
Sk iP 04 37 06
Iceland.

» 18 Sk eP 06 53 15
i 06 53 21
Off south coast of Mexico.

» 18 Ki e(P) 11 38 36
i 11 38 53
i(Sg) 11 39 04
Local.

» 18 Ki eP 13 51 43

» 18 Up iSg 14 09 19
iPg $\Delta = 710 \text{ km} = 6.4^\circ$ 14 06 54
iSg 14 07 39
Sk iPg $\Delta = 380 \text{ km} = 3.4^\circ$ 14 06 37
iSg 14 07 10
 $\Delta = 280 \text{ km} = 2.5^\circ$
West coast of Norway, 66°N, 13°E.
Origin time = 14 05 47

» 18 Ki iP 19 47 35
Off north coast of Iceland.

» 19 Ki iP 04 13 30
Sk iP 04 13 23
Mexico-Guatemala border
(h ~ 100 km).

» 19 Up iP 05 28 46
ePa 05 33 05
eS 05 37 16
P z μ s
P z' 0.6 7
S N 0.1 0.8
M E 0.9 11
M E 10 21
M N 21 23
M z 24 23
 $\Delta = 7300 \text{ km} = 65 \frac{1}{2}^\circ$
Ki eP 05 27 53
i 05 27 55
i 05 29 18
ePa 05 31 33
eS 05 35 48
P z μ s
S E 0.8 9
M E 1.2 16
M E 7.4 23

1958

July 23 (cont.) Sk iP 10 39 19
 Gb iP 10 39 40
 South of Honshu, Japan.
 Magn.=6.3 (Up, Ki).

» 23 Up iP 12 35 45
 i 12 36 01
 Ki iP 12 35 10
 Bonin Islands.

» 23 Up e 13 43 32
 M N 1.2 22
 Ki eP 13 29 06
 M E 0.5 19
 M N 0.5 16
 M Z 0.8 18
 Sk eP 13 29 13
 i 13 29 34

» 24 Ki e 02 45 54
 iSg 02 46 34
 Sk ePn 02 44 57
 iSg 02 45 51
 Off the central part of the
 Norwegian coast, 66½°N 9½°E.
 Origin time=02 44 09.

» 24 Up iP 13 19 05
 i 13 19 24
 P Z' 0.1 1.0
 M E 0.4 17
 M N 0.6 18
 M Z 0.9 18
 Ki iP 13 18 12
 P Z' 0.4 1.4
 M E 0.8 17
 M N 0.8 19
 M Z 1.1 19
 Sk iP 13 18 43D
 Gb iP 13 19 25
 Aleutian Islands.

» 24 Up iP 23 06 40
 Rumania (h ~ 150 km).

» 25 Ki iP 03 37 35

» 25 Ki e(P) 06 49 43
 Sk e(P) 06 48 48
 i 06 49 03

» 26 Up
 M E 1.2 19
 M N 1.1 20
 M Z 1.8 21
 Ki iPKS 06 35 56

1958

July 26 (cont.) Ki M E 2.0 19
 M N 1.5 19
 M Z 1.9 20
 South Indian Ocean.

» 26 Gb iP 11 17 02

» 26 Up iP 16 00 09
 i 16 00 14
 Ki iP 16 00 50
 Gb iP 16 00 17
 Iran.

» 26 Up iP 17 49 53
 i 17 50 02
 epP 17 52 01
 ePP 17 54 15
 ipPP 17 56 05
 iPPP 17 56 40
 iSKS 17 59 31
 iS 18 00 40
 iPS 18 03 27
 iS 18 04 30
 i(sPS) 18 05 55
 i 18 16 18
 i 18 20 12
 P Z 4.4 5
 P Z' 0.4 0.5
 PP E 7.8 6
 PP Z 12 6
 SKS E 16 6
 SKS N 2.5 4
 S N 13 8
 M E 66 22
 M N 25 20
 M Z 32 21
 Ki iP 17 50 05
 i 17 50 13
 ipP 17 52 17
 i 17 52 49
 e 17 53 58
 iPP 17 54 24
 i 17 54 59
 i 17 55 52
 iSKS 17 59 42
 iS 18 01 01
 iPKKP 18 06 18
 iP'P' 18 14 20
 P E 2.1 5
 P Z 3.7 5
 P Z' 4.5 2.2
 PP E 6.9 6
 PP Z 9.8 7
 PP Z' 6.6 2.4
 SKS E 18 10
 S N 20 8
 PKKP Z' 0.6 1.5

1958

July 26 (cont.) Ki P'P' z' 0.2 1.3
 M E 24 18
 M N 13 21
 M Z 11 16
 Δ=11450 km=103°

Sk iP 17 49 46
 i 17 49 55
 iSKS 17 59 25
 iPKKP 18 06 25
 eP'P' 18 14 23
 i 18 17 04
 e 18 20 17
 Gb iP 17 49 36
 i 17 49 46
 ipP 17 51 45
 iPP 17 53 49
 i 18 14 17
 iP'P' 18 14 36
 Δ~11000 km~99°

Peru-Bolivia border.
 h=610 km (Up, Ki, Gb).
 Magn.=7.7 (Up, Ki).
 This earthquake would deserve a
 thorough study of phases and travel
 times.

» 26 Up iP 18 32 06
 i 18 32 17
 Ki i(P) 18 32 06
 i 18 32 28
 Sk e(P) 18 31 49
 i 18 32 10

» 27 Up iPKP 00 40 48
 i 00 40 53
 Ki ePKP 00 40 29
 i 00 40 41
 Sk ePKP 00 40 41
 i 00 40 50
 Gb iPKP 00 40 54
 Fiji Islands region
 (h ~ 600 km).

» 27 Up iP 02 25 28
 Ki iP 02 24 34
 Aleutian Islands.

» 27 Up eP 03 32 50
 Ki iP 03 32 05
 M E 1.2 18
 M N 1.0 19
 Kurile Islands.

» 27 Up iP 14 02 14
 Ki iP 14 02 37

» 27 Up iP 14 55 15
 i 14 55 35
 Ki iP 14 56 18
 i 14 56 29

1958

July 27 (cont.) Sk iP 14 55 54
 i 14 56 07
 West of Cyprus.

» 27 Up iP 17 20 47
 Ki iP 17 21 12
 M N 0.5 17

» 27 Ki iP 17 32 53
 e 17 34 12
 M E 0.8 19
 M N 0.6 20
 M Z 0.7 20
 Sk iPP 17 36 56
 Southern Indian Ocean.

» 27 Up iP 18 36 24
 M N 0.8 19
 Ki iP 18 36 26
 P Z' 0.2 2.0
 M E 0.5 19
 M N 0.4 13
 M Z 0.3 15
 Sk iP 18 35 58D
 i 18 36 38
 North Atlantic Ocean.

» 27 Up iP 20 01 38
 Ki iP 20 00 45

» 28 Ki i(P) 08 13 02
 i 08 13 31

» 28 Ki iP 09 18 36

» 28 Ki i(P) 13 32 04
 iSg 13 32 30
 Sg Z' 0.2 0.4
 Sk eSg 13 34 50
 Local.

» 28 Gb iP 13 52 14

» 28 Up i(P) 14 42 57

» 28 Ki eP 16 00 30
 Sk iP 16 00 00
 North Atlantic Ocean.

» 28 Up eP 16 03 18
 iS 16 08 05
 eSS 16 09 21
 M E 1.4 21
 M N 0.7 20
 M Z 1.2 22

1958 Aug 8 Up iP 12 59 33C; Aug 8 Up iS 13 05 31; Aug 8 Up e 13 08 19; Aug 8 Up e 13 08 49; Aug 8 Ki iP 12 59 42C; Aug 8 Ki iP 13 02 25; Aug 8 Ki eS 13 05 48; Aug 8 Ki eSS 13 09 14; Aug 8 Sk iP 12 59 59C; Aug 8 Gb iP 12 59 54; Aug 8 Up iPn 14 46 59; Aug 8 Up iSg 14 47 39; Aug 8 Sk eSg 14 49 59; Aug 8 Up iPn 15 11 39; Aug 8 Up i 15 12 07; Aug 8 Up eSg 15 12 21; Aug 8 Ki eSg 15 16 26; Aug 8 Sk eSg 15 14 50; Aug 8 Up iPn 16 00 08; Aug 8 Up iSg 16 00 54; Aug 8 Ki eSg 16 04 44; Aug 8 Sk eSg 16 03 15; Aug 8 Up iPn 16 29 18; Aug 8 Up iSg 16 30 02; Aug 8 Sk e(Sg) 16 32 12; Aug 8 e 16 32 38; Aug 8 Up iP 20 42 07; Aug 8 Up iS 20 46 03; Aug 8 Ki iP 20 43 19

1958 Aug 8 Ki (cont.) M E 0.8 15; M N 0.3 15; Sk iP 20 42 33; Aug 9 Ki iPKP 02 30 57; Aug 9 Up iP 07 34 45; Aug 9 Ki iP 07 34 46; Aug 9 Sk eP 07 34 59; Aug 9 Up iP 09 38 22; Aug 9 Ki iP 09 39 48; Aug 9 Gb iP 10 13 38; Aug 9 Up e 13 16 28; Aug 9 Ki iP 13 43 55; Aug 9 Sk iP 13 44 30; Aug 9 Up iP 19 49 35; Aug 9 Ki iP 19 48 42; Aug 9 Ki iP 21 45 03

1958 Aug 10 Ki eL 03 51; Aug 10 Gb iP 08 43 43; Aug 10 Sk iP 12 42 24; Aug 10 Up eL 18 57; Aug 10 Ki eL 18 57; Aug 10 Up i(P) 20 00 35; Aug 10 Ki iP 23 53 28; Aug 10 Sk iP 23 54 09; Aug 10 Ki iP 23 54 43; Aug 11 Ki iPKP 08 12 17; Aug 11 Sk iPKP 08 12 27; Aug 11 Sk iPKS 08 15 48; Aug 11 Sk eP 09 24 00; Aug 11 Gb iP 10 21 05C; Aug 11 Up i(Sg) 14 07 27; Aug 11 Sk e(Sg) 14 09 26; Aug 11 Up i(Sg) 14 11 55; Aug 11 Sk i(Sg) 14 13 51; Aug 11 Up iPn 16 08 52; Aug 11 Sk iSn 16 10 27; Aug 11 Sk iSg 16 11 24

1958 Aug 11 Up (cont.) Sg z' 0.1 0.5; Sk i 16 11 24; Gb e(Sn) 16 10 03; Aug 11 Up eP 20 23 09; Aug 11 Up iP 20 23 20; Aug 11 Up iP 20 39 19; Aug 11 Up i 20 39 26; Aug 11 Up eS 20 50 03; Aug 11 Ki iP 20 39 18C; Aug 11 Up iP 20 23 37; Aug 11 Up iP 20 50 00; Aug 11 Up iPKP2 22 36 01; Aug 11 Ki ePKP 22 35 26; Aug 12 Up iP 08 27 03; Aug 12 Ki iP 08 26 09; Aug 12 Up iP 12 32 59; Aug 12 Ki eP 12 32 59; Aug 12 Up eP 12 49 09; Aug 12 Sk eP 12 49 30

1958									
Aug 14 (cont.) Ki $\Delta = 6700 \text{ km} = 60\frac{1}{2}^\circ$									
Sk iP 15 05 52C									
iPcP 15 06 25									
iPcS 15 10 29									
$\Delta = 7200 \text{ km} = 65^\circ$									
Gb eP 15 06 28									
i 15 06 30									
Aleutian Islands.									
Magn. = 6.4 (Up, Ki).									
» 14 Up iP 15 13 29									
» 14 Up iP 15 29 13									
Ki iP 15 28 19									
Sk iP 15 28 51									
Aleutian Islands.									
» 14 Up iP 15 32 51C									
P z' μ σ									
Ki iP 15 33 33C									
i 15 34 51									
P z' μ σ									
Sk iP 15 33 29C									
Gb iP 15 33 02									
Iran.									
» 14 Up eP 16 43 34									
i 16 44 00									
» 14 Up iP 22 58 06									
» 14 Up iP ipP 23 34 51									
ipP 23 35 14									
i 23 35 23									
P z' μ σ									
Ki iP 23 35 13									
iS 23 41 55									
eSS 23 45 20									
S N μ σ									
M E 0.3 8									
M N 0.5 20									
M N 0.5 18									
M Z 0.5 20									
Sk iP 23 35 20									
ipP 23 35 45									
Gb iP 23 35 07									
ipP 23 35 30									
Pakistan. h = 110 km (Up, Sk, Gb).									
15 Up eL 03 25									
M E μ σ									
M N 0.6 23									
M N 0.6 21									
M Z 1.2 22									
Ki eL 03 25									
M E μ σ									
M E 1.1 27									

1958									
Aug 15 (cont.) Ki M N 0.6 20									
New Britain.									
M z 0.8 21									
» 15 Ki iP 04 30 22									
Iran.									
» 15 Up iP 06 33 08									
ipP 06 33 53									
P z' μ σ									
Ki iP 06 33 11C									
P z' μ σ									
Sk iP 06 32 55									
ipP 06 33 41									
Gb iP 06 32 54									
Colombia. h = 180 km (Up, Sk).									
» 15 Ki iP 09 45 17									
Sk eP 09 46 06									
» 15 Ki iP 13 30 18									
Sk eP 13 30 49									
Southern Alaska.									
» 15 Up iP 16 09 20C									
Ki eP 16 09 22									
M E μ σ									
M N 0.3 18									
M N 0.4 20									
Sk iP 16 09 41									
Western Nepal.									
» 15 Up iP 20 06 06C									
ePa 20 10 23									
iS 20 14 26									
iP'P' 20 34 52									
P N μ σ									
P Z 2.2 4									
P Z' 4.3 4									
P Z' 0.4 0.5									
S E 2.6 6									
S N 23 30									
M E 73 30									
M N 43 24									
M Z 49 27									
Ki $\Delta \sim 7000 \text{ km} \sim 63^\circ$									
iP 20 05 12C									
iS 20 12 51									
i! 20 13 24									
iP'P' 20 35 14									
P N μ σ									
P Z 3.1 7									
P Z' 0.7 1.1									
S E 1.3 8									
S N 26 27									
M E 16 18									
M N 18 20									
M Z 24 20									

1958									
Aug 15 (cont.) Ki $\Delta \sim 6100 \text{ km} \sim 55^\circ$									
Sk iP 20 05 49C									
i 20 06 21									
iS 20 14 15									
iP'P' 20 35 06									
$\Delta \sim 6800 \text{ km} \sim 61^\circ$									
Gb iP 20 06 29C									
Near east coast of Kamchatka									
(h ~ 60 km).									
Magn. = 6.8 (Up, Ki).									
» 15 Up iP 22 42 30C									
i 22 42 46									
ePP 22 46 31									
iSKS 22 52 48									
i! 22 55 00									
P z' μ σ									
PP E 1.1 4									
PP Z 1.4 4									
SKS E 6.6 5									
SKS N 1.8 5									
M E 53 26									
M N 130 27									
M Z 41 21									
Ki $\Delta \sim 10900 \text{ km} \sim 98^\circ$									
iP 22 42 16C									
i 22 42 30									
iPP 22 46 09									
ipPP 22 46 46									
iSKS 22 52 31									
i! 22 53 52									
isS 22 54 31									
iP'P' 23 07 44									
P z' μ σ									
P Z 1.6 8									
P Z' 0.7 1.5									
PP E 5.4 17									
PP Z 2.9 6									
SKS E 11 9									
SKS N 3.1 4									
P'P' z' 0.3 2.0									
M E 58 24									
M N 67 23									
M Z 36 20									
Sk $\Delta \sim 10450 \text{ km} \sim 94^\circ$									
iP 22 42 37C									
i 22 42 53									
iPP 22 46 41									
iPKKP 22 59 15									
Gb iP 22 42 48									
i 22 42 57									
i 22 45 30									
iPP 22 46 58									
Celebes (h ~ 200 km).									
Magn. = 6.8 (Up, Ki).									
» 16 Up ePKP 11 33 18									
M N μ σ									
M Z 0.9 21									
M Z 1.5 21									

1958									
Aug 16 (cont.) Ki e(PP) 11 35 41									
(cont.)									
(PP) z μ σ									
M E 0.3 7									
M N 0.7 19									
M N 0.7 20									
M Z 1.2 20									
Gb iPKP 11 33 28									
Tonga Islands region.									
» 16 Up iP 13 28 55									
eS 13 37 58									
iP'P' 13 57 04									
P z' μ σ									
S N 0.2 0.5									
M E 0.3 8									
M E 2.4 18									
M N 3.6 20									
M Z 4.4 21									
Ki $\Delta = 7600 \text{ km} = 68\frac{1}{2}^\circ$									
iP 13 28 04									
iPcP 13 28 48									
iP'P' 13 57 30									
PcP z' μ σ									
M E 0.1 1.0									
M N 3.3 18									
M N 1.8 18									
M Z 2.9 18									
Sk $\Delta = 6700 \text{ km} = 60\frac{1}{2}^\circ$									
iP 13 28 36									
iPcP 13 29 09									
eP'P' 13 57 10									
$\Delta = 7300 \text{ km} = 65\frac{1}{2}^\circ$									
Gb iP 13 29 13									
Aleutian Islands.									
Magn. = 5.8 (Up, Ki).									
» 16 Up iP 13 35 24									
Ki iP 13 35 08									
P z' μ σ									
Sk iP 13 35 29									
» 16 Up iP 17 15 44									
i 17 21 43									
M E μ σ									
M N 1.0 19									
M Z 0.5 18									
M Z 1.7 20									
Ki iP 17 16 25									
eSS 17 24 33									
M E μ σ									
M N 0.5 13									
M N 0.5 17									
M Z 0.9 15									
Sk eP 17 16 22									
Iran.									
» 16 Up i(P) 18 05 51									
e 18 06 15									
Sk iP 18 05 47C									

1958			
Aug 28	Up	iP	18 26 48
	Ki	iP	18 25 55
			μ s
			0.1 0.8
	Sk	iP	18 26 25
		iPcP	18 26 59
	Gb	iP	18 27 05
	Aleutian Islands.		
» 28	Up	iSn	23 14 55
		i	23 15 27
		iSg	23 15 31
			$\Delta \sim 690 \text{ km} \sim 6.2^\circ$
	Ki	iPg	23 12 42
		iSg	23 13 05
			μ s
			0.4 0.5
	Sk	Sg	$\Delta = 200 \text{ km} = 1.8^\circ$
		eP*	23 13 21
		iSg	23 14 31
			$\Delta = 490 \text{ km} = 4.4^\circ$
	Västerbotten, Sweden, 66.1°N 21.0°E. Origin time = 23 12 05. Felt.		
» 29	Up	i(P)	11 10 57
	Local? Seismic?		
» 29	Up		
			μ s
	M	E	0.8 20
	M	N	1.0 19
	M	Z	1.9 22
	Ki	ePKP	12 43 20
			μ s
			0.7 17
	M	N	0.7 18
	M	Z	1.6 21
	Sk	iPKP	12 43 33
	New Hebrides Islands.		
» 29	Ki	iPKP	13 10 54
	Sk	iPKP	13 11 04
	New Hebrides Islands.		
» 29	Up	iSn	15 18 45
		i	15 18 54
		iS*	15 19 18
		iSg	15 19 36
			μ s
			0.1 0.5
	Ki	ePn	15 18 08
		e(S*)	15 20 50
			$\Delta = 1300 \text{ km} = 11.7^\circ$
	Sk	iPn	15 16 57
		i	15 18 18
		i	15 18 34
		iSg	15 18 46
			$\Delta = 720 \text{ km} = 6.5^\circ$
	Gb	eP*	15 16 51
1958			
Aug 29	Gb	eSg	15 18 22
(cont.)			$\Delta = 640 \text{ km} = 5.8^\circ$
	North Sea, 59.7°N, 1.6°E. Origin time = 15 15 09.		
» 29	Up	iP	16 49 30
	Ki	e(P)	16 50 22
» 29	Up	iP	17 36 08
» 29	Up	iP	18 26 20
» 29	Up	iP	18 30 41
	Ki	iP	18 30 33
» 30	Up	iP	07 40 43
		iS	07 44 46
			$\Delta = 2500 \text{ km} = 22\frac{1}{2}^\circ$
	Ki	iP	07 41 56
			μ s
			0.5 11
	M	N	0.9 12
	M	Z	1.3 12
	Sk	iP	07 41 22
	Gb	iP	07 40 28
	Ionian Sea.		
» 30	Up	iP	13 53 31
	Ki	iP	13 52 47
	Sk	iP	13 53 10
» 30	Up	iP	14 02 33
» 30	Up	iP	18 50 50
		i	18 51 11
			μ s
			2.2 19
	M	N	1.5 17
	M	Z	2.0 19
	Ki	iP	18 50 26
			μ s
			2.4 20
	M	N	2.1 20
	M	Z	4.3 20
	Sk	iP	18 50 30
	Gb	eP	18 50 43
	Gulf of California.		
» 30	Up	iP	23 40 14
	Ki	iP	23 39 21
	Sk	iP	23 39 57
	Gb	iP	23 40 35
	Southeast coast of Kamchatka.		
» 31	Up	iP	02 07 48
	Ki	iP	02 06 56
	Off southeast coast of Kamchatka.		
» 31	Up	iP	02 08 30
	Ki	iP	02 07 37

1958			
Aug 31	Off southeast coast of Kamchatka.		
(cont.)			
» 31	Up	iP	02 49 04
	Ki	iP	02 48 23C
	Sk	iP	02 48 57
	Sea of Japan.		
» 31	Ki	eP	03 22 27
		e	03 23 26
	Sk	eP	03 23 29
» 31	Ki	iP	03 28 39
	Off southeast coast of Kamchatka.		
» 31	Ki	eP	06 47 30
	Off southeast coast of Kamchatka.		
» 31	Up	iP	09 26 22D
		i(PP)	09 28 09
	Ki	iP	09 26 46
		i	09 27 10
	Sk	iP	09 26 53
		i	09 27 16
	Gb	iP	09 26 39
	Pakistan-Iran border.		
» 31	Up	iP	15 34 26
	Ki	iP	15 33 29C
	Sk	iP	15 33 56
	Gb	eP	15 34 35
	Central Alaska.		
» 31	Up	iP	20 20 15
		i	20 21 21
	Ki	eP	20 19 24
		i	20 20 29
» 31	Up	iP	23 09 59C
		iS	23 17 49
		iScS	23 19 47
			μ s
	P	N	0.3 3
	P	Z	0.7 3
	P	Z'	0.2 1.5
	S	E	1.2 8
	S	N	1.2 10
	M	E	1.1 21
	M	N	1.3 20
	M	Z	1.4 20
			$\Delta = 6200 \text{ km} = 56^\circ$
	Ki	iP	23 09 02C
		iS	23 16 06
		eSa	23 19 59
			μ s
	P	N	0.8 5
	P	Z	1.1 5
	P	Z'	0.4 1.3
	S	E	2.2 8
1958			
Aug 31	Ki	S	N 1.1 8
(cont.)			Z 1.0 9
			E 1.5 20
			N 1.9 21
			Z 4.9 24
			$\Delta = 5450 \text{ km} = 49^\circ$
	Sk	iP	23 09 29C
	Gb	iP	23 10 10C
	Central Alaska. Magn. = 6.2 (Up, Ki).		
» 31	Up	ePKP	23 46 39
	Ki	ePKP	23 46 36
	Gb	iPKP	23 46 51
	Tonga Islands region.		
Sep 1	Up	iPKP	01 16 43
			μ s
			0.7 19
	Ki		
			μ s
			0.5 19
	M	N	0.6 20
	M	Z	0.7 20
	Gb	iPKP	01 16 54
	Tonga Islands region.		
» 1	Ki	iP	03 28 45
	Sk	iP	03 29 12
» 1	Up	iP	08 45 03
		iPP	08 46 51
	Ki	iP	08 45 29
	Sk	iP	08 45 35
		i	08 45 58
	Gb	iP	08 45 19
	Western Baluchistan.		
» 1	Sk	eP	14 25 41
» 1	Up	iP	15 30 33
	Ki	iP	15 29 51
	Off southeast coast of Hokkaido, Japan.		
» 1	Up	iP	15 40 01
		ipP	15 41 28
			μ s
			0.1 0.6
	Ki	iP	15 39 24D
		ipP	15 40 49
		iS	15 47 29
			μ s
			0.4 7
	M	N	0.4 15
	M	N	0.3 14
	Sk	iP	15 39 57D
		i	15 43 54
	Gb	iP	15 40 19
	Sea of Japan. h = 340 km (Up, Ki).		

Table of seismic events for 1958 on page 102, including stations Gb, Up, Ki, Sk and various wave types (iP, eP, iS, etc.) with associated magnitudes and arrival times.

Table of seismic events for 1958 on page 102, including stations Up, Ki, Sk, Gb and various wave types (eP, iPKP, iS, etc.) with associated magnitudes and arrival times.

Table of seismic events for 1958 on page 103, including stations Up, Ki, Sk, Gb and various wave types (iP, eP, iS, etc.) with associated magnitudes and arrival times.

Table of seismic events for 1958 on page 103, including stations Up, Ki, Gb and various wave types (M, N, Z, etc.) with associated magnitudes and arrival times.

1958
Sep 18 Up (cont.)

isP		21	01	21	
iPP		21	02	13	
eSS		21	09	20	
e		21	09	54	
		μ	s		
P	z'	0.2	0.5		
PP	E	0.4	3		
		$\Delta=4800$ km	$=43^\circ$		
Ki	iP	21	00	41	
	iPP	21	02	32	
Sk	iP	21	00	57C	
	ipP	21	01	31	
	isP	21	01	48	
Gb	iP	21	00	51C	
	ipP	21	01	25	
	ePP	21	02	36	
		$\Delta=5000$ km	$=45^\circ$		
		Hindu Kush. $h=170$ km (Up, Sk, Gb). Magn.=6.1 (Up).			
» 19	Up	iP	08	26	10
	Ki	iP	08	25	53
		μ	s		
	P	z'	0.1	1.1	
	Sk	eP	08	26	17
		Molucca Passage.			
» 19	Up	iP	17	29	38
	Ki	iP	17	28	45
		μ	s		
	P	z'	0.1	1.0	
	Sk	iP	17	29	16
		Aleutian Islands.			
» 20	Up	iP	05	28	45
		μ	s		
	P	z'	0.1	1.2	
	Ki	iP	05	28	32
		μ	s		
	P	z'	0.1	1.0	
	Sk	iP	05	28	56
		North Vietnam.			
» 20	Up	iP	09	17	21
	Ki	iP	09	17	44
	Sk	iP	09	17	50
		Near coast of Baluchistan.			
» 20	Up	iP	10	44	34
	Ki	iP	10	44	55
		μ	s		
	M	E	1.1	22	
	M	N	1.7	22	
	M	Z			
	Gb	iP	10	44	16
		Atlantic Ocean.			
» 20	Up	iPKP	17	28	13
		μ	s		
	M	E	3.2	24	
	M	N	3.6	22	
	M	Z	4.6	19	

1958
Sep 20 (cont.)

Ki	iPKP	17	28	02	
		μ	s		
	M	E	6.0	20	
	M	N	4.8	23	
	M	Z	7.0	23	
Sk	ePKP	17	28	11	
	Solomon Islands. Magn.=6.3 (Up, Ki).				
» 20	Up	iPKP	17	38	34
	Ki	ePKP2	17	38	54
	South of Fiji Islands.				
» 21	Up	iP	05	56	36C
		i	05	56	53
		μ	s		
	P	z'	0.2	1.0	
	M	E	1.1	17	
	M	N	0.8	18	
	M	Z	1.6	18	
Ki	iP	05	55	56C	
	i	05	56	14	
		μ	s		
	P	z'	0.1	1.0	
	M	E	0.8	17	
	M	N	0.5	17	
	M	Z	1.4	18	
Sk	iP	05	56	30	
Gb	iP	05	56	59	
	Honshu, Japan.				
» 21	Ki	iP	07	44	44
	Molucca Passage.				
» 21	Up	iP	16	24	49
	Ki	iP	16	25	32
	Sk	eP	16	25	32
	Western Iran.				
» 21	Ki	iP	22	37	16
» 22	Up	i(P)	07	12	45
	Off north coast of Java ($h \sim 600$ km).				
» 22	Up	iP	08	48	57D
		iS	08	58	29
		μ	s		
	P	z'	0.4	0.8	
Ki	iP	08	48	24	
		μ	s		
	P	z'	0.4	0.8	
Sk	iP	08	48	54	
	iPP	08	51	59	
Gb	iP	08	49	16	
	Bonin Islands ($h \sim 500$ km).				
» 22	Up	iPKP1	19	25	31C
		i	19	25	37
		iPKP2	19	25	48
		ePKS	19	29	03

1958
Sep 22 (cont.)

Up		μ	s		
PKP1	z	2.1	6		
PKP1	z'	0.6	0.9		
M	E	2.8	21		
M	N	5.3	23		
M	Z	6.1	23		
		$\Delta \sim 16800$ km	$\sim 151^\circ$		
Ki	iPKP	19	25	17C	
	i	19	25	40	
	iSKKS	19	35	21	
	iSS	19	47	22	
		μ	s		
	PKP	N	0.7	6	
	PKP	Z	3.2	7	
	PKP	Z'	1.5	1.2	
	M	E	4.5	22	
	M	N	1.3	20	
	M	Z	5.8	22	
		$\Delta \sim 16000$ km	$\sim 144^\circ$		
Sk	iPKP	19	25	28	
Gb	ePKP1	19	25	35	
	i	19	25	43	
	iPKP2	19	25	53	
	i	19	26	31	
	Kermadec Islands region. Magn.=6.4 (Up, Ki).				
» 22	Up	iP	20	19	45
	Ki	iP	20	19	04C
	Sk	iP	20	19	39
		iPP	20	22	05
	Gb	iP	20	20	14
	Hokkaido, Japan.				
» 23	Up	iP	04	01	57
	Northern California.				
» 23	Gb	iPg	12	17	10
		iSg	12	17	15
		$\Delta=44$ km	$=0.4^\circ$		
	Off west coast of Sweden (see next shock). Explosion.				
» 23	Up	i	12	51	50
		iSg	12	51	54
		$\Delta=440$ km	$=4.0^\circ$		
Sk	iSg	12	52	54	
		$\Delta=640$ km	$=5.8^\circ$		
Gb	iPg	12	49	52	
	iSg	12	49	59	
		$\Delta=56$ km	$=0.5^\circ$		
	Northern Kattegatt, off west coast of Sweden, 57.9°N, 11.1°E. Origin time=12 49 45. Explosion.				
» 23	Gb	iPg	13	56	59
		iSg	13	57	04
		$\Delta=44$ km	$=0.4^\circ$		
	Off west coast of Sweden (see preced- ing shock). Explosion.				

1958
Sep 23

Sk	iP	15	01	11	
» 23	Sk	iPKP	16	39	58
	Kermadec Islands region.				
» 24	Up	eP	03	54	20
		i	03	54	30
		i	03	54	51
		i	04	02	54
		μ	s		
	M	E	1.6	18	
	M	N	2.6	21	
	M	Z	3.1	20	
Ki	iP	03	53	34	
	i	03	53	48	
	eS	04	01	10	
	e	04	01	32	
		μ	s		
	P	z'	0.2	1.8	
	S	E	0.9	9	
	S	N	1.3	8	
	M	E	2.3	19	
	M	N	4.0	21	
	M	Z	4.3	20	
		$\Delta=5950$ km	$=53\frac{1}{2}^\circ$		
Sk	iP	03	53	51	
Gb	eP	03	54	36	
	Gulf of Alaska. Magn.=5.8 (Up, Ki).				
» 25	Up	iP	07	01	24C
		μ	s		
	P	z'	0.6	0.6	
Ki	iP	07	01	33C	
	iPP	07	03	13	
		μ	s		
	P	z'	0.5	1.0	
Sk	iP	07	01	49C	
	iPP	07	03	31	
	Hindu Kush ($h \sim 200$ km).				
» 25	Up	iP	07	30	54
		i	07	31	01
		iS	07	39	47
		μ	s		
	P	z'	1.5	1.4	
	S	E	6.2	15	
	S	N	6.6	15	
	M	E	27	23	
	M	N	15	21	
	M	Z	41	23	
		$\Delta=7450$ km	$=67^\circ$		
Ki	iP	07	31	22	
	i	07	31	24	
	i	07	31	30	
	eS	07	40	42	
	ePS	07	41	11	
		μ	s		
	P	E	0.9	8	
	P	N	0.3	8	
	P	Z	2.9	7	

1958
Sep 25 (cont.)
Ki P z'
1.1 1.7
S E 3.3 15
S N 3.4 15
M E 22 20
M N 5.7 20
M Z 20 21
$\Delta=8000\text{ km}=72^\circ$
Sk iP 07 30 59
Atlantic Ocean.
Magn.=6.7 (Up, Ki).
» 25 Up i(P) 09 17 57
» 25 Up iPKP2 15 35 37
Ki ePKP 15 35 08
Sk iPKP 15 35 29
i 15 35 42
Kermadec Islands region.
» 25 Up iP 16 44 12
i 16 44 48
» 25 Up iPKP2 21 15 54
Ki ePKP 21 15 19
Sk ePKP 21 15 45
Kermadec Islands region.
» 25 Up iPKP 23 00 33C
Sk ePKP 23 00 24
» 26 Up iP 18 21 39
P z' μ s
0.1 1.0
Ki iP 18 20 47
Sk eP 18 21 19
Aleutian Islands.
» 26 Ki iP 18 37 05
» 26 Up iP 23 56 38
Ki iP 23 57 49
» 27 Up iP 07 49 43
Ki iP 07 49 37
i 07 49 57
Off south coast of Java.
» 27 Ki iP 10 45 02
M E μ s
0.2 12
M N 0.4 13
M Z 0.6 18
Sk eP 10 44 38
iS 10 47 04
$\Delta=1450\text{ km}=13^\circ$
Near north coast of Iceland.
» 27 Up iP 12 48 39
M N μ s
0.8 19
M Z 0.9 18

1958
Sep 27 (cont.)
Ki iP 12 47 59
M E μ s
1.5 18
M N 0.5 17
M Z 1.8 18
Sk iP 12 48 31
i 12 48 43
Near east coast of Honshu,
Japan.
» 27 Up iPKP 14 14 01
Ki iPKP 14 13 53
Sk iPKP 14 14 03
Samoa Islands region.
» 28 Up iP 08 58 20
i 08 58 21
» 28 Up iP 12 43 32
Sk iP 12 44 08
» 28 Up iP 17 53 05
Ki i(P) 17 53 11
Northern Afghanistan.
» 28 Up iP 21 05 09
i 21 05 37
Honshu, Japan.
» 28 Up i(P) 23 58 28
» 29 Up
M E μ s
0.7 14
M N 1.0 18
M Z 1.1 16
Ki eP 14 27 48
i 14 28 06
M E μ s
1.5 18
M N 1.0 17
M Z 1.9 16
Off northeast coast of Honshu, Japan.
» 29 Up iP 15 09 16
» 30 Up eP 02 55 40
i 02 55 46
Sk eP 02 56 19
» 30 Up eL 07 58
M E μ s
1.1 14
M N 1.8 20
M Z 2.8 11
Ki eL 07 57
M E μ s
0.9 10
M N 1.2 11
M Z 1.9 11

1958
Sep 30 (cont.)
Off west coast of Novaya Zemlya.
Nuclear explosion.
» 30 Up iS 08 51 19
i 08 51 38
i(Lg1) 08 52 27
iLg1 08 52 34
M E μ s
1.2 9
Ki iP 08 50 16
M E μ s
1.3 10
Sk iP 08 49 20
i(Lg1) 08 54 17
iLg2 08 54 31
Gb i(Lg1) 08 50 58
iLg2 08 51 27
The valley of the river Inn,
Austrian Alps.
» 30 Up iP 09 59 33
M E μ s
1.1 11
M N 2.0 14
M Z 3.2 17
Ki iP 09 58 04
iS 10 00 24
P z' μ s
0.1 1.4
S z' 0.1 1.0
M E 1.8 18
M N 1.7 20
M Z 3.5 18
$\Delta=1380\text{ km}=12.4^\circ$
Sk iP 09 59 13
Gb iP 10 00 09
Off west coast of Novaya Zemlya,
74.0°N, 51.8°E.
Origin time=09 55 03.
Nuclear explosion.
» 30 Sk eP 20 39 48
i 20 40 05
Oct 1 Up iP 05 33 12
Ki iP 05 32 53
P z' μ s
0.1 1.0
Sk eP 05 33 24
Off north coast of Luzon,
Philippine Islands.
» 1 Up ePKP 09 49 42
M E μ s
2.5 19
M N 4.0 23
M Z 3.3 19
Ki ePKP 09 49 35
M E μ s
2.5 19
M N 1.5 18

1958
Oct 1 (cont.)
Ki M z 3.2 19
Antarctic Ocean.
Magn.=6.2 (Up, Ki).
» 1 Up iP 12 13 24
Ki iP 12 13 09
P z' μ s
0.1 1.0
Celebes Sea.
» 1 Up iP 16 47 01
i 16 47 21
Ki iP 16 45 46
iS 16 47 24
eT 16 52 42
P z' μ s
0.2 1.3
M E 1.5 18
M N 1.0 15
M Z 1.9 16
$\Delta=940\text{ km}=8.5^\circ$
Sk iP 16 45 59
iS 16 47 44
iT 16 52 54
$\Delta=1010\text{ km}=9.1^\circ$
Gb iP 16 47 13
i 16 47 21
East of Jan Mayen, 71.7°N, 0°
Origin time=16 43 42.
» 1 Up iP 17 58 16
i 17 58 28
P z' μ s
0.1 1.0
Ki iP 17 57 23
P z' μ s
0.1 0.8
Sk iP 17 57 53
Gb iP 17 58 30
i 17 58 43
Aleutian Islands.
» 1 Up e(P) 18 26 30
» 2 Ki iPKP 04 44 37
Sandwich Islands region.
» 2 Ki e(P) 08 03 51
e 08 05 58
i(S) 08 06 12
$\Delta=1380\text{ km}=12.4^\circ$
Off west coast of Novaya Zemlya.
Origin time=08 00 50.
Nuclear explosion.
» 2 Up
M N μ s
0.8 16
M Z 1.5 17
Ki iP 14 32 04
eT 14 39 29

1958	Oct 9	Ki	eP	01 08 20
	» 9	Up	iPKP iSKKS eSKSP	11 39 11 11 47 32 11 50 33
			μ s SKKS N 0.8 6 SKSP N 1.7 13 M E 1.6 20 M N 2.7 19 M Z 3.5 20	
			$\Delta \sim 13450 \text{ km} \sim 121^\circ$	
	Ki	iPKP iPKS e iSS i(PKPPKS)		11 39 25 11 42 41 11 48 19 11 58 43 12 01 21
			μ s PKP z' 0.2 1.1 PKS z 1.9 16 PKS z' 0.1 1.5 M E 1.5 18 M N 1.8 18 M Z 2.3 18	
			$\Delta \sim 14350 \text{ km} \sim 129^\circ$	
	Sk	ePKP		11 39 18
			Sandwich Islands region. Magn.=6.2 (Up, Ki).	
	» 9	Up	iP i Ki iP Sk iP	13 37 12 13 37 24 13 38 18 13 37 51
			Crete.	
	» 10	Up	iP	01 03 20
		Sk	iP	01 04 00
			Ionian Sea.	
	» 10	Ki	iP	04 18 39C
			Celebes Sea.	
	» 10	Up	iP	08 40 48C
			μ s P z' 0.4 0.5 M N 4.0 22 M Z 4.9 23	
	Ki	iP		08 39 54C
			μ s P z' 0.6 1.0	
	Sk	iP		08 40 32
	Gb	iP		08 41 11C
			Near east coast of Kamchatka (h ~ 100 km).	
	» 10	Up	iP	09 26 39
			μ s P z' 0.1 0.5	
	Ki	iP		09 26 32
	Sk	iP		09 26 55
			Tibet-India border.	

1958	Oct 10	Up	iP	11 48 50
		Ki	eP	11 48 32
			Off south coast of Mindanao.	
	» 10	Up	iP	21 16 51
		Ki	iP	21 15 59
			Aleutian Islands.	
	» 11	Up	iP	00 50 55C
			μ s P z' 0.1 0.7	
	Ki	iP		00 49 59C
		i		00 50 05
			μ s P z' 0.1 0.7	
	Sk	iP		00 50 23
			Yukon.	
	» 11	Up	iP	02 11 08C
			μ s P z' 0.2 0.5	
	Ki	iP		02 10 14C
		iPcP		02 11 14
			μ s P z' 0.1 1.0	
	Sk	iP		02 10 50
		iPcP		02 11 35
	Gb	iP		02 11 26
			Near east coast of Kamchatka.	
	» 11	Up	iP	09 18 01
		i		09 18 12
	Ki	iP		09 17 17
	Sk	iP		09 17 52
			Near east coast of Hokkaido, Japan.	
	» 11	Up	iPKP	22 00 06
			Kermadec Islands.	
	» 12	Up	iP	07 58 06
			μ s M E 1.4 11 M N 3.4 11 M Z 3.9 11	
	Ki	eP		07 56 37
		eS		07 58 45
			μ s M E 1.5 9 M N 1.7 12 M Z 2.6 10	
	Sk	iP		07 57 44
			Off west coast of Novaya Zemlya, 74.0°N, 51.8°E. Origin time=07 53 43. Nuclear explosion.	
	» 12	Ki	e(P)	09 46 15
		e		09 47 35
	Sk	iP		09 46 36

1958	Oct 12	Ki	iP	09 50 55
		i		09 51 30
	» 12	Up	iPKP	10 25 13D
			South of Fiji Islands.	
	» 12	Up	iP	11 26 47
			Aleutian Islands.	
	» 12	Up	iP	12 59 09
	» 12	iP		15 30 00D
	Up	ipP		15 31 05
		e		15 41 01
			μ s P z' 0.7 0.8 M E 2.5 19 M N 1.9 18 M Z 2.2 18	
	Ki	iP		15 29 33D
		ipP		15 30 37
		esS		15 40 01
		e		15 40 13
			μ s P z' 0.5 1.3 M E 1.4 15 M N 1.4 20 M Z 1.6 18	
	Sk	iP		15 30 02
	Gb	iP		15 30 21D
		ipP		15 31 23
			East China Sea. h=260 km (Up, Ki, Gb).	
	» 13	Ki	iPKP	05 45 48
		Sk	iPKP	05 45 59
			Northwest of Fiji Islands.	
	» 13	Up	iP	08 15 27C
		Sk	iP	08 15 43
	» 13	Up	iP	08 35 07
		Ki	iP	08 35 05
		Sk	iP	08 35 31
			Kirghiz, U.S.S.R.	
	» 13	Up	iP	09 05 42C
			μ s P z' 0.3 1.2 M E 1.4 8 M N 1.7 13 M Z 1.4 8	
	Ki	iP		09 05 41C
		i		09 19 03
			μ s P z' 0.2 1.0 M E 1.5 9 M N 2.5 6 M Z 1.6 8	
	Sk	iP		09 06 05C
	Gb	iP		09 06 07

1958	Oct 13	Kirghiz, U.S.S.R.		
	(cont.)	Magn.=6.0 (Up, Ki).		
	» 13	Up	iP	10 19 21
			μ s M N 1.1 18	
	Ki	eP		10 19 34
			μ s M N 0.6 10	
	Sk	iP		10 19 49
			U.S.S.R.-Afghanistan border.	
	» 13	Up	i(P)	13 44 50
	» 14	Up	iP	09 16 59
			μ s P z' 0.1 0.5	
	Ki	iP		09 16 05
	Sk	iP		09 16 41
	Gb	iP		09 17 41C
			Near east coast of Kamchatka.	
	» 14	Up	iP	14 51 09
		Gb	e(P)	14 52 11
	» 14	Up	iP	21 16 15C
			μ s P z' 0.1 0.6	
	Ki	iP		21 15 40C
			μ s P z' 0.1 0.7	
	Sk	iP		21 16 11C
	Gb	iP		21 16 38
			Near south coast of Honshu, Japan (h ~ 350 km).	
	» 15	Up		
			μ s M E 2.0 11 M N 3.8 11 M Z 3.9 11	
	Ki	eP		07 54 15
		iS		07 56 35
			μ s S z' 0.1 1.3 M E 1.7 9 M N 1.3 10 M Z 2.1 10	
			$\Delta = 1380 \text{ km} = 12.4^\circ$	
	Sk	iP		07 55 15
			Off west coast of Novaya Zemlya. Origin time=07 51 14. Nuclear explosion.	
	» 15	Up	iPKP	11 51 17
		Sk	iPKP	11 51 12
		Gb	iPKP	11 51 26C
			Kermadec Islands.	

1958					
Nov 8	Up	M	N	7.9	16
(cont.)		M	Z	11	17
		$\Delta = 7200 \text{ km} = 65^\circ$			
	Ki	iP		09 32	40C
		e(S)		09 40	24
		P	N	1.3	5
		P	Z	2.1	5
		P	Z'	2.3	1.1
		S	N	0.6	10
		M	E	5.5	21
		M	N	4.1	20
		M	Z	4.8	20
		$\Delta = 6350 \text{ km} = 57^\circ$			
	Sk	iP		09 33	16
		i		09 33	29
	Gb	iP		09 33	53
	Off southeast coast of Kamchatka.				
	Magn. = 6.8 (Up, Ki).				
»	8	Up	iP	09 43	39
		Ki	iP	09 42	46
	Kurile Islands.				
»	8	Up	iP	10 56	10D
»	8	Up	iP	11 13	11
»	8	Up	iP	11 27	44
		i		11 27	57
		Ki	eP	11 26	56
	Kurile Islands.				
»	8	Up	iP	12 19	36
		iPeP		12 20	01
		P	Z'	0.3	0.5
		Ki	iP	12 18	50
		P	Z'	0.2	1.0
		Sk	iP	12 19	26C
		Gb	iP	12 19	57C
	Kurile Islands.				
»	8	Up	iP	13 06	45
		P	Z'	0.1	0.6
		Ki	eP	13 05	59
		Sk	iP	13 06	34
	Kurile Islands.				
»	8	Up	iP	13 27	45
		Ki	iP	13 26	59
	Kurile Islands.				
»	8	Up	iP	13 36	24
		P	Z'	0.1	0.5
		Ki	iP	13 35	38
	Kurile Islands.				

1958					
Nov 8	Ki	iP		14 53	48
»	8	Ki	iP	14 56	06
	Kamchatka region.				
»	8	Up	iP	17 17	07
		P	Z'	0.1	0.8
		Ki	iP	17 17	16C
		Sk	iP	17 17	32
		Gb	eP	17 17	27
	Hindu Kush (h ~ 220 km).				
»	8	Ki	eP	17 27	15
	Aleutian Islands.				
»	8	Up	iP	18 51	03
		Ki	iP	18 50	11
	Off southeast coast of Kamchatka.				
»	8	Up	iP	19 48	19
		P	Z'	0.1	0.6
		M	N	1.1	20
		Ki	iP	19 48	21C
		P	Z'	0.1	0.9
		M	E	0.9	18
		M	N	0.6	18
		M	Z	0.8	16
		Sk	iP	19 48	36
	Andaman Islands.				
»	8	Up	iP	22 58	33
	Kurile Islands.				
»	9	Up	iP	00 13	58
		Ki			
		M	E	1.2	18
		M	N	0.7	18
		M	Z	0.8	14
	Kurile Islands.				
»	9	Ki	iP	00 35	36
»	9	Up	iP	02 00	56
		i		02 01	07
	Kurile Islands.				
»	9	Up	iP	03 25	54
		Ki	iP	03 25	09
		M	E	1.1	16
		M	N	0.4	15
		M	Z	0.9	15
		Sk	eP	03 25	44
		i		03 25	54
		Gb	iP	03 26	15
	Kurile Islands.				

1958					
Nov 9	Up	iP		08 16	10C
		P	Z'	0.2	0.9
		Ki	iP	08 15	17C
		P	Z'	0.1	0.9
		M	N	0.6	17
		Gb	iP	08 16	34
	Kamchatka.				
»	9	Up	i(P)	09 38	05
»	9	Up	i(P)	09 40	03
»	9	Up	iP	10 28	37
		Ki	iP	10 27	50
	Kurile Islands.				
»	9	Up	iP	10 30	14
	Kurile Islands.				
»	9	Ki	i(P)	11 31	31
»	9	Up	iP	14 44	24
		Ki	eP	14 43	37
	Kurile Islands.				
»	9	Up	iP	15 51	25
	Kurile Islands.				
»	9	Up	iP	18 04	01
		M	N	0.7	20
		Ki	iP	18 03	12
		M	E	2.1	18
		M	N	1.0	20
		Sk	eP	18 03	53
		i		18 04	27
		Gb	iP	18 04	24
	Kurile Islands.				
»	9	Up	iP	21 15	54
		Ki			
		M	E	0.5	16
		M	Z	0.6	16
	Kurile Islands.				
»	10	Up	iP	00 59	57C
	Kurile Islands.				
»	10	Gb	i(P)	10 45	24
		i		10 47	05
»	10	Up	eL	12 07	
		M	E	1.3	20
		M	N	0.8	21
		M	Z	1.7	20
		Ki	eL	12 04	

1958					
Nov 10	Ki			μ	s
(cont.)		M	E	1.5	20
		M	N	1.2	23
		M	Z	1.7	22
	Pacific Ocean.				
»	11	Up	iP	04 42	33
	Italy				
»	11	Up	eL	12 03	
		M	E	0.7	19
		M	N	0.7	19
		M	Z	1.1	21
		Ki	eL	12 01	
		M	E	0.9	16
		M	N	0.5	16
		M	Z	0.9	16
	Off coast of Colima, Mexico.				
»	11	Ki	i(PP)	13 22	09
	(South of Tonga Islands).				
»	11	Up	iP	13 56	45
	Kurile Islands.				
»	11	Up	iP	17 58	59
	Southwest of Chagos Islands.				
»	11	Up	iP	18 03	38D
	Kurile Islands.				
»	11	Up	iP	19 45	37
»	11	Up	iP	22 03	27
	Kurile Islands.				
»	11	Up	eP	23 10	42
		iPP		23 10	56
		iS		23 13	25
		Ki	eP	23 12	10
		eS		23 16	15
		i		23 17	32
		$\Delta = 1650 \text{ km} = 15^\circ$			
		$\Delta = 2500 \text{ km} = 22\frac{1}{2}^\circ$			
	Carpathians.				
»	12	Ki	iP	04 10	13
	Off north coast of Luzon.				
»	12	Ki	e(P)	05 17	47
		i		05 18	21
»	12	Ki	iP	06 21	31
		Sk	iP	06 21	13
	Venezuela.				
»	12	Up	iPKP	10 58	27
		Ki	iPKP	10 58	16
	Solomon Islands (h ~ 100 km).				

1958

Nov 12	Up	iP	17	55	19
	Kurile Islands.				
» 12	Up	iPKP	18	34	04
	Sk	iPKP	18	33	56C
	Kermadec Islands.				
» 12	Up	iP	19	27	32
		i	19	27	44
	Ki	iP	19	26	46
	Kurile Islands.				
» 12	Up	iP	20	34	33C
		iS	20	43	28
		i	20	43	42
		iScS	20	44	21
		iP'P'	21	02	45
			μ	s	
		P	1.5	3	
		P	3.6	3	
		P	0.4	0.5	
		S	16	18	
		S	27	17	
		S	17	18	
		P'P'	2.1	2.5	
		M	170	20	
		M	220	20	
		M	230	20	
			$\Delta = 7600 \text{ km} = 68\frac{1}{2}^\circ$		
	Ki	iP	20	33	47
		iS	20	42	01
		iP'P'	21	02	59
		i	21	03	21
			μ	s	
		P	2.0	13	
		P	2.5	10	
		P	6.4	10	
		P	1.6	1.8	
		S	13	16	
		S	19	16	
		S	16	16	
		P'P'	2.0	2.5	
		M	200	19	
		M	150	19	
		M	210	17	
			$\Delta \sim 6800 \text{ km} \sim 61^\circ$		
	Sk	iP	20	34	22
		i	20	36	34
		iP'P'	21	02	51
	Gb	iP	20	34	53
	Kurile Islands. Magn. = 7.0 (Up, Ki). Within error limits of magnitude determination this is another confirmation of the law $M - M^1 = 1.2$ (found by M. Bâth), where M = magnitude of main shock, M^1 = magnitude of largest aftershock. In this case $M - M^1 = 1.0$, using the magnitude				

1958

Nov 12 determinations of Uppsala and Kiruna, and = 1.25, using the magnitudes of Pasadena.

» 12	Up	iP	21	34	25
	Kurile Islands.				
» 12	Up	iP	23	10	40
	Ki	iP	23	09	53
	Kurile Islands.				
» 12	Up	iP	23	27	21
		i	23	27	28
» 12	Up	iP	23	43	06
	Kurile Islands.				
» 13	Up	iP	01	18	05
	Kurile Islands.				
» 13	Up	iP	03	07	33
			μ	s	
		P	0.1	0.5	
		M	2.2	17	
		M	2.6	18	
		M	4.1	16	
	Ki	iP	03	06	50
			μ	s	
		P	0.1	1.3	
		M	2.9	15	
		M	1.7	17	
		M	2.9	18	
	Sk	iP	03	07	24
	Gb	iP	03	07	54
	Kurile Islands. Magn. = 5.8 (Up, Ki).				
» 13	Up	iP	04	15	43
		iS	04	24	39
		iScS	04	25	35
			μ	s	
		P	0.1	0.5	
		M	4.0	20	
		M	5.4	20	
		M	7.0	20	
			$\Delta = 7600 \text{ km} = 68\frac{1}{2}^\circ$		
	Ki	iP	04	14	55
			μ	s	
		P	0.1	1.0	
		M	4.8	18	
		M	2.8	18	
		M	5.8	18	
	Sk	iP	04	15	32C
		iPcP	04	16	01
		i	04	17	49
	Gb	iP	04	16	04
	Kurile Islands. Magn. = 5.9 (Up, Ki).				

1958

Nov 13	Up		μ	s	
	M	E	1.9	18	
	M	N	2.0	15	
	Ki	iP	06	09	46
			μ	s	
	M	E	1.6	18	
	M	N	1.2	15	
	Off west coast of Hokkaido, Japan.				
» 13	Up	iP	06	25	52
	Kurile Islands.				
» 13	Up	i(P)	07	28	44
» 13	Ki	iP	09	18	43
	Sk	eP	09	18	22
	Gb	eP	09	18	19
	Venezuela.				
» 13	Up	iP	10	05	00
	Kurile Islands.				
» 13	Ki	iP	10	41	38C
	Sk	iP	10	41	43
		iS	10	43	39
	Jan Mayen region.				
» 13	Up	iP	11	07	06
	Kurile Islands.				
» 13	Up	iP	16	28	10D
		i	16	28	31
			μ	s	
		P	0.1	0.7	
	Ki	iP	16	28	12
		i	16	28	18
	Sk	iP	16	28	26
		i	16	28	49
	Gb	iP	16	28	24
	Nicobar Islands.				
» 13	Up	iP	23	28	34
		i	23	28	44
	Ki	eP	23	29	06
	Arabian Sea.				
» 13	Up	iP	23	58	37
	Sk	iP	23	58	32
	Honshu, Japan.				
» 14	Up	i(Sg)	04	25	40
	Local?				
» 14	Up	iP	05	45	58
			μ	s	
		P	0.1	0.8	
		M	2.2	17	
		M	2.4	18	
		M	3.5	20	
	Ki	iP	05	45	12

1958

Nov 14	Ki	i	05	45	25
(cont.)			μ	s	
	P	z'	0.1	1.2	
	M	E	2.4	18	
	M	N	1.5	18	
	M	z	3.2	17	
	Sk	iP	05	45	48
	Gb	iP	05	46	21D
		i	05	47	02
	Kurile Islands. Magn. = 5.7 (Up, Ki).				
» 14	Ki	iP	05	59	14
	Sk	iP	05	58	49
		i	05	59	05
	Guatemala (h ~ 150 km).				
» 14	Up	iP	14	02	40
		i	14	03	17
		iS	14	14	29
			μ	s	
		M	2.1	20	
		M	3.4	21	
		M	3.1	20	
	Ki	iP	14	02	24C
		iSKS	14	12	52
		iS	14	13	57
			μ	s	
		P	0.2	1.0	
		M	3.8	21	
		M	1.6	18	
		M	3.8	20	
	Sk	iP	14	02	47
	Gb	iP	14	02	55
	Banda Sea. Magn. = 6.2 (Up, Ki).				
» 14	Up	iP	14	07	11
	Ki	iP	14	06	39
			μ	s	
		P	0.2	1.5	
	Sk	iP	14	06	53
		i	14	07	21
	Gb	i(P)	14	07	33
» 14	Ki	iP	15	34	47C
	Sk	iP	15	34	41
	Nicaragua (h ~ 100 km).				
» 14	Up	iP	20	29	58
» 15	Up	iP	00	26	56
	Kurile Islands.				
» 15	Up	iP	05	47	39D
		iS	05	51	37
			μ	s	
		P	0.2	0.6	
		S	0.9	2	
		S	1.0	2	
		S	0.4	1.3	

1958
Nov 14 (cont.) Up Ki $\Delta = 2450 \text{ km} = 22^\circ$

iP		05	48	53
i		05	49	11
P		μ	s	
M	z'	0.2	1.3	
Sk	E	0.8	9	
Sk	iP	05	48	19
Gb	iP	05	47	23 D
Greece.				
» 15 Gb	e(Pg)	08	11	10
	iSg	08	11	17
Local blast?				
» 15 Up	iP	09	11	51
	eS	09	20	42
		μ	s	
	P	0.3	0.5	
	M	E	2.5	21
	M	N	3.5	24
	M	Z	3.1	20
Ki	iP	09	11	06
	iS	09	19	21
	i!	09	21	21
		μ	s	
	P	0.8	0.7	
	S	E	1.1	10
	M	E	3.5	20
	M	N	2.3	20
	M	Z	2.4	20
Sk	iP	09	11	41
Gb	iP	09	12	10
Kurile Islands.				
Deeper than normal.				
Magn.=6.8 (Up, Ki).				
» 15 Up	iP	09	21	41
Gb	iP	09	22	01
Kurile Islands.				
» 15 Up	iP	10	04	00
Kurile Islands.				
» 15 Up	iP	23	31	25
	i	23	31	34
Kurile Islands.				
» 16 Up	iP	04	58	36
	i	04	58	50
Gb	i(P)	04	59	10
Kurile Islands.				
» 16 Up	iP	05	02	41
Kurile Islands.				
» 16 Up	iP	05	51	52
Kurile Islands.				
» 16 Up	iP	06	26	35 C
	i(pP)	06	26	48

1958
Nov 16 (cont.) Up

P		μ	s	
Gb	iP	06	26	56
	i(pP)	06	27	09
Kurile Islands.				
» 16 Gb	iPKP	18	21	54
Loyalty Islands.				
» 16 Up	iP	20	33	23
		μ	s	
	P	0.1	1.0	
Outer Mongolia-China border.				
» 16 Up	iP	21	23	28
Gb	iP	21	23	48
Kurile Islands.				
» 16 Up	iP	21	57	22
Ki	iP	21	56	51
Gb	iP	21	57	38
Bonin Islands (h ~ 500 km).				
» 17 Up	iP	15	45	30
	i(pP)	15	45	43
		μ	s	
	P	0.1	0.6	
Gb	iP	15	45	51
	i(pP)	15	46	03
Kurile Islands.				
» 17 Ki	iP	16	29	20
Samar, Philippine Islands.				
» 18 Up	iP	07	56	24
		μ	s	
	P	0.2	0.8	
Ki	iP	07	55	31
Gb	iP	07	56	39
Aleutian Islands.				
» 18 Up	iP	07	57	11
		μ	s	
	P	0.3	0.9	
Ki	iP	07	56	19
Gb	iP	07	57	27
Aleutian Islands.				
» 18 Up	iP	08	06	00
Aleutian Islands.				
» 18 Up	iP	08	07	35
		μ	s	
	P	0.1	0.8	
Ki	iP	08	06	42
Gb	iP	08	07	50
Aleutian Islands.				
» 18 Up	iP	08	10	51
		μ	s	
	P	0.1	0.7	

1958
Nov 18 (cont.) Gb iP

08	11	06	
Aleutian Islands.			
» 18 Up	iP	18	44 10
	i	18	44 22
		μ	s
	P	0.1	0.7
Ki	iP	18	43 23
		μ	s
	P	0.1	1.0
Sk	iP	18	43 59
Gb	iP	18	44 30
Kurile Islands.			
» 19 Ki	iPKP	01	52 40
Argentina (h ~ 600 km).			
» 19 Up	iP	03	20 02
Kurile Islands.			
» 19 Up	iPKP	04	13 40
	i	05	13 46
		μ	s
	PKP	0.3	0.6
Ki	iPKP	04	13 19
Sk	iPKP	04	13 35
Gb	iPKP	04	13 51
	i	04	14 04
Kermadec Islands.			
» 19 Up	iP	05	30 01
Ki	iP	05	29 14
Sk	eP	05	29 50
Gb	iP	05	30 23
Kurile Islands.			
» 19 Up	iP	05	36 14
Ki	iP	05	35 23 D
» 19 Up	iP	09	34 53
	i(pP)	09	35 08
		μ	s
	P	0.3	0.6
M	E	4.0	20
M	N	3.2	18
M	Z	3.1	18
Ki	iP	09	34 07
	i(pP)	09	34 23
	iPP	09	36 21
		μ	s
	P	0.3	1.4
M	E	4.5	19
M	N	3.0	20
M	Z	6.1	17
Sk	iP	09	34 43 C
	i(pP)	09	34 56
Gb	iP	09	35 16
	i	09	36 06
Kurile Islands.			
» 19 Up	iP	12	45 53
Kurile Islands.			

1958
Nov 19 Up iP

14	51	59	
» 19 Up	iP	15	12 16 D
	i(pP)	15	12 35
	iPcP	15	13 03
		μ	s
	P	0.1	0.5
Ki	iP	15	11 20
	i(pP)	15	11 39
	iPcP	15	12 33
		μ	s
	P	0.3	1.0
Sk	iP	15	11 48 D
	iPcP	15	12 47
Gb	iP	15	12 27 D
	i(pP)	15	12 47
	iPcP	15	13 09
Near Kenai Island, Alaska			
(h ~ 60 km).			
» 19 Up	iP	18	49 04 D
Ki	iP	18	48 37
Sk	iP	18	49 18
» 20 Up	eSn	00	12 12
	i	00	12 52
	iSg	00	12 54
		μ	s
	Sg	0.1	0.5
	$\Delta = 620 \text{ km} = 5.6^\circ$		
Ki	eLg1	00	14 15
	$\Delta = 950 \text{ km} = 8.6^\circ$		
Sk	ePn	00	10 42
	iLg1	00	11 35
	iSg	00	11 39
	iRg	00	11 53
	$\Delta = 380 \text{ km} = 3.4^\circ$		
Gb	eSn	00	11 57
	iLg1	00	12 10
	iSg	00	12 14
	$\Delta = 500 \text{ km} = 4.5^\circ$		
Norway, 61.4°N, 7.0°E.			
Origin time = 00 09 47			
» 20 Up	iP	05	47 12 C
		μ	s
	P	0.4	2
	P	Z	0.7 2
	P	Z'	0.6 0.9
	M	E	3.5 19
	M	N	3.6 20
	M	Z	5.9 17
Ki	iP	05	46 19 C
		μ	s
	P	0.5	1.0
	M	E	4.3 16
	M	N	3.4 15
	M	Z	5.5 16
Sk	iP	05	46 56
Gb	iP	05	47 30
	i	05	47 39

1958				
Nov 20	Near east coast of Kamchatka.			
(cont.)	Magn.=6.5 (Up, Ki).			
» 20	Up	iP	05 48	53C
			μ s	
			0.4 1.0	
	Ki	iP	05 48	01C
			μ s	
			0.2 1.0	
	Sk	iP	05 48	37
	Gb	iP	05 49	12C
Near east coast of Kamchatka.				
» 20	Up	iP	06 42	32 D
	Gb	iP	06 42	49
Kurile Islands.				
» 20	Up	iP	06 45	39
			μ s	
			0.1 0.8	
	Gb	iP	06 45	56
Kurile Islands.				
» 20	Up	iP	14 29	04
		i	14 30	00
			μ s	
			2.4 20	
	M	E	2.4	18
	M	N	2.4	18
	M	Z	3.4	18
	Ki	iP	14 28	14
			μ s	
			2.4 18	
	M	E	1.7	17
	M	N	1.7	17
	M	Z	1.7	16
	Gb	iP	14 29	23 D
Kurile Islands.				
» 20	Ki	iP	15 58	08
» 20	Up	iP	17 52	19
		i	17 52	28
	Gb	iP	17 52	39
Kurile Islands.				
» 20	Up	iP	23 14	41
Aleutian Islands.				
» 21	Up	iP	01 51	47C
			μ s	
			0.1 0.5	
	Ki	iP	01 51	00
	Sk	iP	01 51	37
	Gb	iP	01 52	09
Okhotsk Sea (h ~ 400 km).				
» 21	Up	iP	05 07	24C
			μ s	
			0.1 0.6	
	Ki	iP	05 07	33C
			μ s	
			0.1 0.6	

1958				
Nov 21	Sk	iP	05 07	49
(cont.)	Gb	iP	05 07	45
Hindu Kush (h ~ 200 km).				
» 21	Up	iP	07 15	03
	Gb	iP	07 15	12
» 21	Up	iP	07 20	46C
» 21	Up	iP	15 09	00
Kurile Islands.				
» 22	Up			
		M	E	μ s
		M	N	1.2 22
		M	Z	2.4 26
	Ki	iP	00 18	10
			μ s	
			1.4 20	
	M	E	2.2	18
	M	N	1.3	16
	M	Z	2.7	18
South of Java.				
» 22	Up	iP	02 31	37
» 22	Ki	iP	20 59	40
			μ s	
			0.1 1.0	
	Sk	eP	20 59	46
		iS	21 01	36
Jan Mayen region.				
» 23	Up	iPKP	03 07	58
	Sk	iPKP	03 07	48
	Gb	iPKP	03 08	00
Chatham Islands region.				
» 23	Ki	iP	11 25	57
		i	11 26	19
» 23	Up	iP	12 08	23
Near coast of Honshu, Japan.				
» 23	Up	iP	13 12	24
		i	13 12	30
	Ki	iP	13 13	29
	Sk	iP	13 13	05
	Gb	eP	13 12	19
		iPP	13 12	40
Turkey				
» 23	Up	iP	13 53	35
Kurile Islands.				
» 23	Up	iP	20 25	24 D
		i	20 25	28
			μ s	
			0.1 0.5	
	Ki	iP	20 25	21
	Sk	iP	20 25	43

1958				
Nov 23	Gb	iP	20 25	46
(cont.)	Tibet.			
» 23	Up	iP	20 30	43
» 23	Up	iP	22 30	29
		iPcP	22 30	56
			μ s	
			0.1 0.7	
	Ki	iP	22 29	37 D
	Sk	iP	22 30	07
	Gb	iP	22 30	44
Aleutian Islands.				
» 23	Up	iP	23 48	36
		i	23 49	02
			μ s	
			0.1 0.7	
	Ki	iP	23 47	43
	Sk	iP	23 48	14
	Gb	iP	23 48	51
Aleutian Islands.				
» 24	Up	iPKP	07 08	19
	Ki	iPKP	07 08	31
			μ s	
			0.2 1.5	
Drake Passage.				
» 24	Up	iP	07 25	49 D
» 24	Up	iP	14 21	51
» 24	Up	iP	17 55	32
	Ki	iP	17 55	14
	Sk	iP	17 55	35
Near east coast of Mindanao.				
» 24	Up	iP	20 37	07
Kurile Islands.				
» 24	Ki	e(P)	22 37	59
		e	22 38	17
Leeward Islands.				
» 25	Up	iP	04 10	00
	Ki	iP	04 10	01
	Sk	eP	04 10	23
Nepal.				
» 25	Up	iP	09 24	37C
			μ s	
			0.1 0.9	
	Ki	iP	09 23	49
			μ s	
			0.1 1.0	
	Sk	iP	09 24	21
Near east coast of Honshu, Japan.				

1958				
Nov 26	Up	iP	00 17	47
	Ki	iP	00 18	12
Georgia, U.S.S.R.				
» 26	Gb	i(P)	08 04	14
» 26	Up	i(P)	08 38	18
» 26	Up	iP	11 05	08
			μ s	
			0.1 0.9	
	P	Z'		
	Ki	iP	11 05	33
	Sk	iP	11 05	34
Indian Ocean.				
» 26	Ki	i	12 22	43
		eSg	12 23	17
	Sk	eSg	12 24	10
» 26	Ki	e	12 33	44
		eSg	12 34	17
	Sk	iSg	12 35	14
» 26	Ki	e	12 36	19
		iSg	12 36	54
	Sk	eSg	12 37	46
» 26	Ki	e	12 40	36
		eSg	12 41	10
	Sk	e	12 40	57
		iSg	12 42	03
» 26	Ki	e	12 58	47
		iSg	12 59	23
	Sk	e	12 59	09
		eSg	13 00	15
» 26	Up			
			μ s	
			0.9 14	
	M	E	0.5	15
	M	N	1.2	14
	M	Z	2.2	11
	Ki	iP	22 11	04
			μ s	
			1.2 14	
	M	E	0.7	13
	M	N	0.6	12
	M	Z	0.6	12
(Arctic Ocean.)				
» 28	Up	iP	00 54	14
» 28	Up	e(P)	02 31	18
	Ki	iP	02 28	37
» 28	Up	i(P)	07 29	17
» 28	Up	iP	08 02	08
» 28	Up	iP	21 02	04
» 29	Up	iP	03 45	55C
	Ki	eP	03 45	06

1958 Nov 29	Gb	iP	03	46	17
(cont.)		Kurile Islands.			
» 29	Up	iPKP	05	06	18C
		PKP	μ	s	
	Sk	iPKP	05	06	10
	Gb	iPKP	05	06	28
		Kermadec Islands region.			
» 29	Gb	i(P)	08	34	54
» 29	Gb	i(P)	10	06	33
» 29	Up	iP	11	37	47
		P	μ	s	
		P	0.1	0.5	
» 29	Up	iP	11	45	09
		i	11	46	38
» 29	Ki	iP	13	01	42
» 30	Up	iP	01	44	41
		iPP	01	47	33
		P	μ	s	
		P	0.4	0.9	
		PP	0.1	1.1	
		M	E	2.5	16
		M	N	3.2	18
		M	z	3.7	18
	Ki	iP	01	44	04D
		iPP	01	46	41
		P	μ	s	
		P	0.5	1.0	
		PP	0.4	1.8	
		M	E	4.1	17
		M	N	2.7	17
		M	z	3.1	15
	Sk	iP	01	44	36
		iPP	01	47	26
	Gb	iP	01	45	01
		i	01	45	24
		South of Honshu, Japan.			
		Magn.=6.5 (Up, Ki).			
» 30	Up	iP	02	07	28
		i	02	07	42
	Ki	iP	02	06	52
		South of Honshu, Japan.			
» 30	Up	i(Sg)	03	25	51
	Ki	e(Sg)	03	26	08
	Sk	e(Sg)	03	25	02
		Local?			
» 30	Up	iP	09	48	37
		P	μ	s	
		P	0.1	0.8	
	Ki	iP	09	48	14
		Outer Mongolia.			

1958 Dec 1	Up	eL	03	58	
		M	μ	s	
		M	0.7	17	
		M	N	0.8	18
		M	z	1.6	18
	Ki	eL	04	00	
		M	μ	s	
		M	0.5	15	
		California-Mexico border.			
» 2	Up	iP	01	23	30C
		i	01	23	42
		P	μ	s	
		P	0.1	0.9	
	Ki	iP	01	22	44
		P	μ	s	
		P	0.2	1.0	
		M	E	0.3	15
		M	N	0.5	17
		M	z	0.7	17
	Sk	iP	01	23	20D
	Gb	iP	01	23	51
		i	01	24	03
		Kurile Islands.			
» 2	Ki	e(P)	09	22	39
		i	09	22	44
		(Southern Iran).			
» 2	Ki	iP	20	27	10
		Near south coast of Honshu, Japan.			
» 2	Up	iP	23	11	32C
		P	μ	s	
		P	0.1	0.5	
	Ki	eP	23	12	43
	Sk	iP	23	12	12
	Gb	iP	23	11	19
		Greece.			
» 3	Up	iP	00	43	25C
		P	μ	s	
		P	0.1	0.5	
	Ki	iP	00	44	39
	Sk	iP	00	44	05
	Gb	iP	00	43	14
		Greece.			
» 3	Up	iP	02	33	23
		i	02	33	36
	Ki	iP	02	33	22
	Sk	iP	02	33	42
		Nepal.			
» 3	Up	iP	08	21	24
» 3	Up	iP	09	41	50D
		P	μ	s	
		P	0.1	0.5	
	Ki	iP	09	41	17

1958 Dec 3	Ki	P	μ	s	
(cont.)	Sk	iP	09	41	47C
		South of Honshu, Japan (h~400 km).			
» 3	Up	iP	10	00	38
		i	10	00	44
		eS	10	10	36
		P	μ	s	
		P	0.1	0.8	
		S	E	0.5	6
		M	E	3.9	16
		M	N	2.4	17
		M	z	5.0	16
		$\Delta=8900$ km=80°			
	Ki	iP	10	00	18
		iS	10	09	59
		P	μ	s	
		P	0.3	1.0	
		S	E	1.0	12
		S	N	0.3	10
		M	E	2.6	19
		M	N	2.1	18
		M	z	1.5	13
		$\Delta=8500$ km=76½°			
	Sk	iP	10	00	37
		Near north coast of Luzon. Magn.=6.0 (Up, Ki).			
» 3	Up	iP	10	12	53
		Kurile Islands.			
» 3	Up	iP	16	12	08C
		P	μ	s	
		P	0.2	0.5	
	Ki	iP	16	11	37C
		P	μ	s	
		P	0.3	0.8	
	Sk	iP	16	12	06C
	Gb	iP	16	12	28C
		South of Honshu, Japan (h~550 km).			
» 3	Up	iP	21	41	47
		Hindu Kush (h~220 km).			
» 4	Ki	iP	10	35	49
		Gulf of Aden.			
» 4	Ki	eP	19	55	11
» 4	Ki	iP	21	14	22
» 5	Up	iP	06	33	52
» 5	Up	i(P)	14	11	33
» 5	Ki	eP	18	38	45
» 6	Up	eP	09	46	41
		i	09	46	53

1958 Dec 6	Up	P	μ	s	
(cont.)	Ki	iP	09	46	45
	Sk	iP	09	46	31C
	Gb	iP	09	46	29
		South of Panama.			
» 6	Ki	iP	15	35	15
		Near north coast of Iceland.			
» 7	Up	iP	00	16	45
	Ki	iP	00	15	50
		P	μ	s	
		P	0.1	1.0	
		Komandorskie Islands region.			
» 7	Up	iP	01	21	21D
	Ki	iP	01	20	59
		P	μ	s	
		P	0.2	1.3	
		Off south coast of Formosa.			
» 7	Ki	iP	01	55	32
		P	μ	s	
		P	0.1	1.1	
		Off south coast of Formosa.			
» 7	Up	eP	02	59	21
	Ki	iP	02	59	04
	Sk	iP	02	59	25
		Talaud Islands.			
» 7	Ki	i(P)	09	03	06
		South of Formosa.			
» 7	Up	iP	09	51	01
» 7	Up		μ	s	
		M	E	1.2	19
		M	N	1.1	17
	Ki	iS	18	21	22
		M	μ	s	
		M	E	1.8	18
		M	N	1.0	19
		M	z	1.3	19
		Off coast of Mexico.			
» 7	Gb	iP	22	07	11D
» 7	Up	iP	22	36	51
» 8	Up	iPKP	03	29	03D
	Ki	iPKP	03	28	49C
		PKP	μ	s	
		PKP	0.1	0.6	
	Sk	iPKP	03	29	00
		New Hebrides Islands (h~200 km).			

Up = Uppsala, Ki = Kiruna

1958

Dec 8 Up iP 07 26 40
 i 07 26 51
 i 07 27 02

 μ s
 0.1 0.5

 P z' 07 26 26
 Sk iP 07 26 52
 China.

» 8 Up iP 11 53 19
 Ki iP 11 52 34
 Kurile Islands.

» 8 Up iP 12 19 27

 μ s
 0.2 0.7

 P z' 1.5 19
 M E 2.6 21
 M N 3.1 18
 M z 12 18 41
 Ki iP 12 18 41

 M E μ s
 M N 2.0 17
 M z 1.7 20
 M z 1.9 18

 Sk iP 12 19 17
 Gb iP 12 19 49D
 Kurile Islands.
 Magn.=6.0 (Up, Ki).

» 8 Ki i(Sg) 16 07 23
 Northern Finland.

» 9 Ki iP 09 00 55
 North coast of Rhodes Island.

» 9 Up iSn 15 26 59
 iS* 15 27 11
 iSg 15 27 24

 μ s
 0.1 0.5

 Sg z' Δ=530 km=4.8°
 Sk e(Sg) 15 29 19
 Gb ePg 15 25 44
 iSg 15 26 26
 Δ=330 km=3.0°
 South Baltic, 55.3°N 15.3°E.
 Origin time=15 24 45.

» 9 Up i(Sn) 15 44 07
 iSg 15 44 40
 Gb eSg 15 43 43
 South Baltic, 55.3°N 15.3°E.
 Origin time =15 42 01.

» 9 Up M E μ s
 M N 1.7 16
 M z 1.6 15
 Ki iP 2.8 16
 20 48 08
 Dodecanese Islands.

1958

Dec 10 Up iP 03 51 18C
 iPP 03 53 00
 i 04 00 01
 i 04 02 00

 μ s
 0.5 1.0

 Ki P z' 03 51 27C
 i 03 51 36

 μ s
 0.8 1.2

 P z' 0.4 13
 Sk iP M N 03 51 44C
 iPP 03 53 29
 Gb iP 03 51 38C
 iPP 03 53 26

Hindu Kush (h ~ 150 km).
 Magn.=6.5 (Up, Ki).

» 10 Up iPKP 07 22 17
 i 07 22 25
 i 07 22 38
 iPP 07 26 05
 i' 07 32 30

 μ s
 0.6 0.7

 PKP z' 2.2 3
 PP z 2.5 19
 M E 1.9 18
 M N 8.1 25
 Ki iPKP 07 22 06
 i 07 22 32
 ipPKP 07 23 22
 iPP 07 25 32

 μ s
 2.7 6

 PKP E 3.5 6
 PKP N 19 6
 PKP z' 3.0 0.8
 PP N 1.7 7
 PP z 3.9 7
 M E 4.5 21
 M N 2.3 19
 M z 3.3 20

 Sk iPKP 07 22 16
 i 07 22 22
 iPKP2 07 22 31
 Gb iPKP 07 22 22
 i 07 22 33
 iPKP2 07 22 55

Off North Island, New Zealand
 (h ~ 300 km).
 Magn.=6.9 (Up, Ki).

» 10 Up iP 14 52 02D
 Ki iP 14 51 45

 μ s
 0.1 1.0

 P z' 14 52 06
 Sk iP 14 52 06
 Off south coast of Mindanao
 (h ~ 200 km).

Sk = Skalstugan, Gb = Göteborg

1958

Dec 10 Up i(P) 22 02 12

 μ s
 2.8 18

 M E 3.2 20
 M N 2.6 19
 Ki iP 22 01 40
 eS 22 11 50
 e 22 15 53

 μ s
 0.4 11

 S N 2.5 19
 M E 2.3 18
 M N 1.9 16
 M z

△=9050 km=81 1/2°
 Gulf of California.
 Magn.=5.9 (Up, Ki).

» 11 Up iP 06 10 23
 Gb iP 06 10 47
 Kurile Islands.

» 11 Ki eP 15 44 54
 South of Honshu, Japan.

» 11 Ki iP 18 49 41
 i 18 49 45

 μ s
 1.0 19

 M E 0.7 18
 M N

 South of Honshu, Japan.

» 13 Up iP 01 27 36
 Aleutian Islands.

» 13 Up iPKP 09 26 27
 Ki iPKP 09 26 42

 μ s
 0.2 1.0

 PKP z' Sandwich Islands region.

» 13 Up iP 14 39 38
 i 14 39 51
 Ki iP 14 38 54
 Kurile Islands.

» 14 Up eL 08 28

 μ s
 1.4 18

 M E 2.6 19
 M z 08 18

 Ki eL μ s
 M E 1.6 21
 M N 1.0 19
 M z 1.7 22

 South Pacific Ocean.

» 14 Up iP 18 04 47
 Off south coast of Honshu,
 Japan (h ~ 100 km).

1958

Dec 15 Up iP 11 57 28C
 i(pP) 11 57 41

 μ s
 0.1 0.6

 P z' 1.2 18
 M E 0.8 17
 M N 11 56 42
 Ki iP μ s
 P z' 0.2 1.0
 M E 1.4 17
 M N 1.0 17
 M z 0.8 16
 Sk iP 11 57 17
 Kurile Islands (h ~ 60 km).

» 15 Up iPKP 13 00 17
 i 13 00 22

 μ s
 0.3 0.9

 PKP z' 13 00 00
 Ki ePKP 13 00 11C
 Sk iPKP 13 00 25
 Gb iPKP 13 00 25
 Kermadec Islands.

» 16 Up iP 02 43 29
 Ki eP 02 42 44
 Kurile Islands.

» 16 Up iPKP 03 38 05
 South of Fiji Islands.

» 16 Up i(P) 10 14 12
 i 10 14 22
 iSg 10 14 26

 μ s
 0.3 0.5

 Sg z' Local. Seismic?

» 16 Up i 14 57 49
 iSg 14 57 53

 μ s
 0.4 0.6

 Sg z' Local. Seismic?

» 16 Ki iP 21 46 47
 South of Panay Island,
 Philippine Islands.

» 17 Up iP 02 36 41C
 Ki iP 02 35 48

 μ s
 0.1 1.0

 P z' 02 36 13
 Sk eP 02 36 29
 i 02 37 00
 Gb iP 02 37 00
 Off coast of Alaska Peninsula.

» 17 Up iP 08 05 02

» 17 Up iP 08 14 39

1958
Dec 17 Up iP 09 08 14C

P z' μ s 0.1 0.7

Ki iP 09 07 40

Sk iP 09 08 11

iPP 09 11 02

Gb iP 09 08 37

South of Honshu, Japan (h ~ 400 km).

» 17 Up i 09 58 55

iSg 09 59 00

Sg z' μ s 0.3 0.5

Local. Seismic?

» 17 Up i(P) 14 07 50

i 14 08 00

iSg 14 08 04

Sg z' μ s 0.2 0.5

Local. Seismic?

» 17 Up iP 15 45 59

M E μ s 2.4 18

M N 3.4 19

M z 7.2 16

Ki eP 15 45 29

M E μ s 2.6 15

M N 1.7 14

M z 2.0 14

Ryukyu Islands, Magn.=5.8 (Up, Ki).

» 17 Ki e(P) 22 14 47

» 18 Ki iPKP 01 58 32

Sk iPKP 01 58 41

Loyalty Islands region (h ~ 100 km).

» 18 Up iP 07 38 30

P z' μ s 0.1 0.5

Ki iP 07 38 11C

Sk iP 07 38 35

Gb iP 07 38 49

Near north coast of Luzon, Philippine Islands.

» 18 Up iP 07 41 11

P z' μ s 0.1 0.5

Ki iP 07 41 46

Sk iP 07 41 44

Gb iP 07 41 23

Near south coast of Iran.

» 18 Up iP 08 32 28

i 08 33 27

1958
Dec 18 Ki eP 08 31 50

(cont.) Sk iP 08 30 56

i 08 34 25

» 18 Up i(P) 10 29 45

i 10 29 55

iSg 10 29 59

Sg z' μ s 0.4 0.5

Local. Seismic?

» 18 Up iP 23 12 11

Ki iP 23 13 18

Sk eP 23 12 54

Near south coast of Turkey

» 19 Up iPn 00 52 07

iP* 00 52 18

i 00 52 58

iSn 00 53 20

iS* 00 53 38

iSg 00 53 52

P* z' μ s 0.1 0.5

Sn z' 0.4 0.7

Sg E 3.2 1

Sg N 1.3 1

Sg z 2.6 1

Sg z' 2.4 0.8

$\Delta=680$ km= 6.1°

Ki iPn 00 51 19

iPg 00 51 27

iSg 00 52 09

i 00 52 26

Pg z' μ s 0.7 0.6

Sg z' 1.6 0.5

($\Delta=320$ km= 2.9°).

Sk iPn 00 51 12 D

iSg 00 51 46

$\Delta=240$ km= 2.2°

Gb iPn 00 52 33

iSn 00 54 07

i 00 54 51

iSg 00 54 55

$\Delta=890$ km= 8.0°

Sweden-Norway border region, 65.8° N 14.4° E. Origin time=00 50 32. Felt.

» 19 Up iP 03 32 38

eS 03 36 54

S N μ s 1.0 7

M N 0.9 17

M z 1.7 14

$\Delta=2650$ km= 24°

Ki iP 03 33 41

eLg1 03 43 40

1958
Dec 19 Ki M E μ s 0.7 15

(cont.) M N 0.6 16

M z 0.8 16

Gb iP 03 32 36

Western Turkey

» 19 Up iPn 07 57 56

i 07 58 15

i 07 58 47

iSn 07 59 08

iS* 07 59 25

iSg 07 59 42

Sn z' μ s 0.2 0.5

Sg E 2.2 1

Sg N 0.8 1

Sg z 1.3 1

Sg z' 0.6 0.5

$\Delta=680$ km= 6.1°

Ki ePn 07 57 08

iP* 07 57 14

iS* 07 57 52

eSg 07 58 00

P* z' μ s 0.3 0.7

S* z' 0.4 0.7

Sg z' 0.9 0.6

($\Delta=320$ km= 2.9°).

Sk iPn 07 57 00 D

iSg 07 57 35

$\Delta=240$ km= 2.2°

Gb iPn 07 58 26

iP* 07 58 44

iSn 07 59 55

iS* 08 00 22

iSg 08 00 44

$\Delta=890$ km= 8.0°

Sweden-Norway border region, 65.8° N 14.4° E. Origin time=07 56 22. Felt.

» 19 Up i(P) 09 51 04

i(Sg) 09 51 21

Sk e(Sg) 09 52 59

Local.

» 19 Ki i(P) 10 32 37

Sk e(P) 10 31 44

» 19 Up eL 12 06

M E μ s 1.5 23

M z 2.0 23

Southern Peru (h ~ 100 km).

» 19 Up iP 18 47 28

P z' μ s 0.3 1.0

M E 1.5 17

1958
Dec 19 Up M N 1.0 18

(cont.) M z 2.5 18

Ki iP 18 46 35

M E μ s 1.4 17

M N 1.1 16

M z 1.2 17

Gb iP 18 47 43 D

Aleutian Islands.

» 20 Up iP 19 16 29

» 20 Up iP 19 32 26

P z' μ s 0.1 0.8

M E 9.1 16

M N 5.3 17

M z 14 16

Ki iP 19 31 57

M E μ s 7.0 15

M N 3.4 14

M z 4.5 15

Sk iP 19 32 26

Ryukyu Islands region. Magn.=6.1 (Up, Ki).

» 21 Up iP 04 26 03

Ki iP 04 26 40

Sk eP 04 26 37

Near south coast of Iran.

» 21 Up iP 05 54 04C

i 05 54 16

eS 06 00 03

i 06 02 30

i! 06 03 58

iLi 06 05 38

iLg1 06 07 24

P E μ s 1.2 5

P z 2.8 5

P z' 0.7 1.0

S N 2.4 6

M E 45 11

M N 92 12

M z 55 11

$\Delta=4450$ km= 40°

Ki iP 05 53 53

i 05 53 56

iS 05 59 50

iSS 06 02 41

i 06 03 47

iLg1 06 07 06

P z' μ s 0.5 0.7

S E 3.3 13

S N 2.8 10

M E 47 13

M N 30 10

M z 41 12

1958				
Dec 21	Ki	$\Delta = 4350 \text{ km} = 39^\circ$		
(cont.)	Sk	iP	05 54 21	
		i	06 04 49	
	Gb	iP	05 54 31	
Western Sinkiang Province, China. Magn. = 6.4 (Up, Ki). The channel waves are very clear.				
» 21	Up	iP	10 17 03	
» 22	Ki	i(P)	02 49 54	
	Sk	iP	02 50 27	
Central Alaska.				
» 22	Ki	iP	03 22 38	
	Sk	iP	03 22 10	
East of Crete.				
» 22	Up	iP	08 14 36	
» 22	Up	iPKP	08 15 30	
Tonga Islands region.				
» 22	Up	iPKP	19 40 47	
	Sk	ePKP	19 40 39	
Kermadec Islands region.				
» 23	Sk	eP	06 40 20	
	Gb	iP	06 40 14	
Near west coast of Colombia.				
» 23	Sk	iP	07 15 27	
Aleutian Islands.				
» 23	Ki	i(P)	19 05 16	
» 23	Up	iPKP	19 35 56	
	Sk	iPKP	19 35 52	
Kermadec Islands region.				
» 23	Up	ePKP	19 54 47	
	Sk	iPKP	19 54 44	
Kermadec Islands region.				
» 23	Ki	iPg	21 51 56	
		iSg	21 52 05	
		i(Rg)	21 52 07	
		(Rg) z'	μ 1.5 s 1.5	
	Sk	iSg	21 54 20	
$\Delta = 80 \text{ km} = 0.7^\circ$				
$\Delta = 540 \text{ km} = 4.9^\circ$				
Possibly explosion at Gällivare, Sweden. Origin time = 21 51 41.				
» 24	Up	iP	05 14 41	
	Ki	iP	05 14 48	
	Sk	iP	05 15 06	
Hindu Kush.				

1958				
Dec 24	Up	eP	07 22 43	
			μ 1.0 s 16	
		M E	1.4 16	
		M N	2.3 17	
	Gb	iP	07 22 37	
Off south coast of Turkey				
» 25	Up	ePP	08 25 18	
		eSKSP	08 35 04	
			μ 0.7 s 7	
		PP z	2.2 21	
		M E	4.2 23	
		M N	4.3 24	
		M z		
			$\Delta \sim 12800 \text{ km} \sim 115^\circ$	
	Ki	ePP	08 24 40	
			μ 0.7 s 10	
		PP z	3.7 20	
		M E	1.5 19	
		M N	3.2 19	
		M z		
			$\Delta \sim 12200 \text{ km} \sim 110^\circ$	
	Sk	iPKP	08 24 17	
	Gb	ePKP	08 24 22	
		i	08 24 37	
New Britain (h ~ 60 km). Magn. = 6.3 (Up, Ki).				
» 25	Up	iP	09 22 53	
		iPeP	09 23 20	
			μ 0.1 s 0.6	
	Sk	iP	09 22 31	
	Gb	iP	09 23 09	
Aleutian Islands.				
» 25	Up	iP	18 41 10 D	
	Sk	iP	18 41 45 D	
Near south coast of Iran.				
» 26	Up	iPKP	06 09 26	
	Sk	ePKP	06 09 17	
	Gb	iPKP	06 09 33 C	
South of Fiji Islands (h ~ 600 km).				
» 27	Ki	iP	11 10 23	
» 28	Ki	iP	05 25 36	
	Sk	iP	05 25 22 C	
	Gb	iP	05 25 18	
Northwestern Venezuela.				
» 28	Up	iP	05 43 40 C	
		iPP	05 45 38	
		iS	05 50 52	
			μ 0.8 s 1	
		P E	1.7 1	
		P z	0.9 0.6	
		P z'		

1958				
Dec 28	Up	PP	z	0.7 4
(cont.)		M	E	11 15
		M	N	6.9 14
		M	z	14 15
				$\Delta = 5650 \text{ km} = 51^\circ$
	Ki	iP		05 43 44 C
		iS		05 51 00
		eSS		05 54 58
			μ 1.1 s 4	
		P E	1.4 5	
		P z	1.4 1.2	
		P z'	1.5 11	
		S E	1.6 14	
		S N	6.2 14	
		M E	7.7 11	
		M N	5.9 11	
		M z		
			$\Delta = 5700 \text{ km} = 51 \frac{1}{2}^\circ$	
	Sk	iP	05 44 02 C	
	Gb	iP	05 44 01 C	
		iPP	05 46 01	
Nepal-India border. Magn. = 6.9 (Up, Ki).				
» 28	Up	iP	08 35 14	
	Ki	eP	08 35 17	
Nepal-India border.				
» 28	Up	iP	11 50 39	
		iS	11 53 29	
			μ 1.4 s 18	
		M E	0.8 15	
		M N	1.0 15	
		M z		
			$\Delta = 1700 \text{ km} = 15 \frac{1}{2}^\circ$	
	Ki	iP	11 49 30	
		i	11 49 37	
			μ 0.3 s 0.6	
		P z'	1.2 16	
		M E	0.9 16	
		M N		
	Sk	iP	11 49 35	
		i	11 49 37	
		iS	11 51 33	
			$\Delta = 1200 \text{ km} = 11^\circ$	
	Gb	eP	11 50 44	
Jan Mayen.				

1958				
Dec 29	Up	iP	22 50 52	
		i(pP)	22 51 28	
			μ 0.1 s 0.6	
	Ki	iP	22 50 52	
		i(pP)	22 51 31	
Northern Sumatra.				
» 30	Up	iP	10 32 24	
Aleutian Islands.				
» 30	Ki	iP	16 25 34	
Southeast of Rhodes Island.				
» 31	Up	eP	00 47 40	
» 31	Up	iPKP	02 04 35	
			μ 0.1 s 0.7	
	Ki	PKP z'	02 04 23	
		i	02 04 27	
	Sk	iPKP	02 04 29	
	Gb	iPKP	02 04 45 D	
Tonga Islands region (h ~ 400 km).				
» 31	Up	iP	03 54 17 C	
			μ 0.3 s 0.7	
	Ki	iP	03 54 21	
			μ 0.3 s 1.0	
	Sk	iP	03 54 40	
	Gb	iP	03 54 39 C	
Northern India.				
» 31	Up	iP	04 00 07 D	
» 31	Up	iP	07 57 22	
» 31	Up	iP	10 41 42	
		i	10 41 55	
	Ki	iP	10 40 54	
	Sk	eP	10 41 35	
		i	10 41 46	
Kurile Islands (h ~ 100 km).				
» 31	Ki	iP	19 25 03	