

GEODÆTISK INSTITUT

Proviantgården · Copenhagen · Denmark

Bulletin of the seismological station

N O R D

 $\varphi = 81^{\circ}36' N.$ $\lambda = 16^{\circ}41' W.$ $h = 35$ m.

Lithologic foundation: calcareous greywacke

Instruments.

Willmore. $Z.$ $T_p = 1$ sec, $T_g = 1/4$ sec. No attenuation.Strobach. N and $E.$ $T = 6$ sec, $\nu = 15:1,$ $V_0 = 500.$ (Belongs to Geophysikalisches Institut, Hamburg.)

Seismological Readings. Distant quakes.

Phases are indicated by the symbols used in ISS. Times are given in GMT. Positions of epicenters are those given by BCIS. The periods given are periods of full oscillations. For Z trace amplitudes are given. C means compression, D dilatation. $+$ means movement towards N or E respectively.

Seismological Readings. Local shocks.

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

Nord 1961

January		January	
1 <i>eP·Z</i>	13 ^h 35 ^m 32 ^s	9 <i>iP·Z</i>	11 ^h 17 ^m 48 ^s D
<i>e(S)·Z</i>	37 30	<i>e·Z</i>	21 59
1 <i>ePKP·Z'</i>	20 41 51	9 <i>iP·Z</i>	19 35 46 C
$\Delta = 146^\circ$.	South of Australia.	$\Delta = 67^\circ$.	Leeward Islands.
2 <i>ePKP·Z</i>	10 30 14	10 <i>iP·Z</i>	10 32 07 C
$\Delta = 111^\circ$.	$h = 150$ km. Santa Cruz Islands.	<i>i·Z</i>	32 27
3 <i>e·Z</i>	9 33 54	10 <i>iP·Z</i>	14 31 01 C
4 <i>eP·Z</i>	12 15 54	<i>iPP·Z</i>	32 28 D
<i>e·Z</i>	16 05	<i>iS·NE</i>	38 00
$\Delta = 72^\circ$.	Mexico.	<i>L·N</i>	46,5
5 <i>e·Z</i>	6 14 37	$\Delta = 49^\circ$.	Kurile Islands.
5 <i>iP·Z</i>	14 14 55	11 <i>eP·Z</i>	12 08 17
<i>eS·N</i>	22 00	<i>LQ·E</i>	22
<i>eSS·E</i>	25 33	<i>LR·N</i>	26
<i>L·NE</i>	29	$\Delta = 46^\circ$.	Aleutian Islands.
$\Delta = 47^\circ$.	Aleutian Islands.	14 <i>iP·Z</i>	16 29 11 C
5 <i>eP·Z</i>	15 18 55	14 <i>iP·Z</i>	16 47 01 D
$\Delta = 53^\circ$.	Kurile Islands.	$\Delta = 44^\circ$.	Aleutian Islands.
5 <i>eP·Z</i>	16 07 44	16 <i>iP·Z</i>	7 30 29 C
$\Delta = 101^\circ$.	New Guinea.	<i>i·ZNE</i>	30 33
5 <i>e·Z</i>	16 23 44	<i>iS·NE</i>	38 55
5 <i>ePKP·Z</i>	18 33 22	<i>L·NE</i>	50
$\Delta = 119^\circ$.	$h = 100$ km. Loyalty Islands.	$\Delta = 62^\circ$.	$h = 150$ km. Japan.
5 <i>e·Z</i>	21 51 05	16 <i>iP·Z</i>	11 29 56 C
6 <i>eP·Z</i>	1 30 07	$\Delta = 62^\circ$.	$h = 150$ km. Japan.
$\Delta = 56^\circ$.	Japan.	16 <i>iP·Z</i>	12 22 45 C
6 <i>eP·Z</i>	6 30 02	<i>iS·NE</i>	31 09 N:-, E:-
$\Delta = 47^\circ$.	Aleutian Islands.	<i>L·E</i>	40
6 <i>eP·Z</i>	7 14 06	<i>L·N</i>	44
$\Delta = 45^\circ$.	Kamchatka.	$\Delta = 62^\circ$.	$h = 100$ km. Japan.
6 <i>eP·Z</i>	11 00 05	16 <i>eP·Z</i>	13 19 29 D
$\Delta = 74^\circ$.	Mexico.	$\Delta = 62^\circ$.	$h = 150$ km. Japan.
6 <i>e·Z</i>	15 28 22	16 <i>iP·Z</i>	14 14 14 D
7 <i>iP·Z</i>	10 39 30 C.	$\Delta = 62^\circ$.	$h = 150$ km. Japan.
$\Delta = 48^\circ$.	$h = 100$ km. Dodecanese Islands.	16 <i>e·Z</i>	15 49 28
7 <i>iP·Z</i>	16 01 17 C	16 <i>iP·Z</i>	15 51 29 C
$\Delta = 46^\circ$.	Westcoast of Greece.	<i>eS·NE</i>	59 50 in the timebreak.
9 <i>eP·Z</i>	3 17 32	<i>i·NE</i>	16 00 12
$\Delta = 51^\circ$.	North Atlantic Ocean.	<i>L·E</i>	08
		<i>L·N</i>	12
		$\Delta = 62^\circ$.	$h = 150$ km. Japan.
		16 <i>e·Z</i>	18 46 23
		19 <i>eP·Z</i>	17 31 01

Nord 1961

January		February	
20 <i>eP·Z</i>	17 ^h 16 ^m 49 ^s	4 <i>iP·Z</i>	9 ^h 02 ^m 39 ^s C
<i>e·Z</i>	17 03	<i>ipP·Z</i>	03 11
$\Delta = 40^\circ$.	Kodiak Island.	$\Delta = 69^\circ$.	$h = 150$ km. Burma.
20 <i>eP·Z</i>	21 45 02	4 <i>eP·Z</i>	12 58 05
$\Delta = 40^\circ$.	Kodiak Island.	$\Delta = 48^\circ$.	$h = 150$ km. Kamchatka.
20 <i>eP·Z</i>	22 44 57	4 <i>eP·Z</i>	19 20 40
$\Delta = 60^\circ$.	Japan.	$\Delta = 72^\circ$.	Formosa.
22 <i>ePS·N</i>	3 52 40	5 <i>eP·Z</i>	15 50 33
<i>L·NE</i>	4 19	<i>eS·N</i>	16 00 38
$\Delta = 110^\circ$.	Santa Cruz Islands.	$\Delta = 79^\circ$.	Panama.
23 <i>eP·Z</i>	4 57 52	6 <i>e·Z</i>	11 45 18
$\Delta = 56^\circ$.	Japan.	6 <i>eP·Z</i>	18 24 41
24 <i>eP·Z</i>	23 24 43	<i>iPcP·Z</i>	25 50
$\Delta = 78^\circ$.	$h = 100$ km. Panama.	$\Delta = 54^\circ$.	Kurile Islands.
25 <i>eP·Z</i>	1 07 39	6 <i>iP·Z</i>	21 59 17 C
$\Delta = 99^\circ$.	$h = 150$ km. Sumatra.	<i>iSKS·N</i>	22 09 53
26 <i>iP·Z</i>	1 58 56 D	<i>ePS·N</i>	12 57
$\Delta = 78^\circ$.	Burma.	<i>L·E</i>	29
28 <i>iP·Z</i>	7 26 22 D	$\Delta = 105^\circ$.	Solomon Islands.
$\Delta = 44^\circ$.	Greece.	7 <i>e·Z</i>	3 09 22
28 <i>eP·Z</i>	8 22 29	7 <i>iP·Z</i>	5 26 16 C
$\Delta = 57^\circ$.	California.	$\Delta = 98^\circ$.	Sumatra.
28 <i>i·Z</i>	11 29 10 D	7 <i>eP·Z</i>	21 11 02
29 <i>eP·Z</i>	13 32 17	$\Delta = 55^\circ$.	Kurile Islands.
<i>i·Z</i>	32 20	8 <i>iP·Z</i>	8 16 34 D
<i>e·Z</i>	32 33	<i>epP·Z</i>	18 46
$\Delta = 46^\circ$.	Aleutian Islands.	$\Delta = 95^\circ$.	$h = 600$ km. Brazil/Peru.
30 <i>eP·Z</i>	12 18 59	9 <i>iPKP·Z</i>	2 27 14 C
$\Delta = 31^\circ$.	Alaska.	$\Delta = 126^\circ$.	Kermadec Islands.
31 <i>iP·Z</i>	0 56 18 C	11 <i>e·Z</i>	6 22 54
<i>eS·NE</i>	1 02 31	11 <i>iPKP·Z</i>	21 20 05 C
<i>L·NE</i>	07	<i>ipPKP·Z</i>	20 24
$\Delta = 41^\circ$.	Alaska.	$\Delta = 126^\circ$.	$h = 75$ km. Kermadec Islands.
February		12 <i>iP·Z</i>	22 03 07 C
3 <i>e·Z</i>	2 ^h 35 ^m 36 ^s	<i>eS·N</i>	10 39
3 <i>eP·Z</i>	2 38 54	<i>iScS·E</i>	12 55
$\Delta = 90^\circ$.	Sumatra.	<i>i·E</i>	13 17
3 <i>eP·Z</i>	13 41 56	<i>L·NE</i>	18
$\Delta = 62^\circ$.	$h = 100$ km. Japan.	$\Delta = 54^\circ$.	Kurile Islands.
		12 <i>iP·Z</i>	23 36 00 C
		<i>L·NE</i>	53
		Aftershock.	

February

13	<i>iP</i> · <i>Z</i>	16 ^h 20 ^m 39 ^s	
	$\Delta = 62^\circ$.	Nepal/Tibet.	
13	<i>eP</i> · <i>Z</i>	16 36 48	
	$\Delta = 54^\circ$.	Kurile Islands.	
14	<i>iP</i> · <i>Z</i>	3 31 28	<i>C</i>
	$\Delta = 55^\circ$.	Kurile Islands.	
14	<i>ePKP</i> · <i>Z</i>	6 03 25	
	$\Delta = 128^\circ$.	Chile.	
15	<i>eP</i> · <i>Z</i>	10 54 37	
	<i>eS</i> · <i>N</i>	11 02 17	
	<i>L</i> · <i>E</i>	11	
	$\Delta = 55^\circ$.	Kurile Islands.	
15	<i>eP</i> · <i>Z</i>	11 39 05	
	$\Delta = 62^\circ$.	Tibet.	
16	<i>eP</i> · <i>Z</i>	3 52 42	
	$\Delta = 42^\circ$.	$h = 150$ km. Albania.	
16	<i>eP</i> · <i>Z</i>	15 04 15	
	$\Delta = 55^\circ$.	Kurile Islands.	
17	<i>e</i> · <i>Z</i>	5 40 17	
18	<i>eP</i> · <i>Z</i>	1 13 25	
	$\Delta = 54^\circ$.	Kurile Islands.	
18	<i>eP</i> · <i>Z</i>	17 14 35	<i>D</i>
	$\Delta = 83^\circ$.	Ascension Island.	
18	<i>eP</i> · <i>Z</i>	20 13 33	
	$\Delta = 92^\circ$.	Philippine Islands.	
20	<i>eP</i> · <i>Z</i>	13 12 49	
	$\Delta = 40^\circ$.	Kodiak Island.	
20	<i>iP</i> · <i>Z</i>	13 16 14	
	$\Delta = 85^\circ$.	Galapagos Islands.	
20	<i>eP</i> · <i>Z</i>	22 39 49	
	$\Delta = 88^\circ$.	Ecuador.	
21	<i>iP</i> · <i>Z</i>	3 10 27	<i>D</i>
	$\Delta = 47^\circ$.	Greece.	
22	<i>ePKP</i> · <i>Z</i>	22 12 29	
	$\Delta = 126^\circ$.	Kermadec Islands.	
23	<i>iP</i> · <i>Z</i>	4 26 22	<i>C</i>
	$\Delta = 60^\circ$.	$h = 100$ km. Japan.	
23	<i>iP</i> · <i>Z</i>	10 59 45	<i>D</i>
	<i>iS</i> · <i>Z</i>	11 00 15	
	$T: 0^{\circ}.7.$	$A: 5$ mm	
	$T: 0^{\circ}.5.$	$A: 8$ mm	
	Local.		

February

23	<i>eP</i> · <i>Z</i>	21 ^h 54 ^m 22 ^s	
	$\Delta = 47^\circ$.	Dodecanese Islands.	
23	<i>eP</i> · <i>Z</i>	22 05 19	
	$\Delta = 46^\circ$.	Turkey.	
24	<i>eP</i> · <i>Z</i>	3 15 27	
	$\Delta = 71^\circ$.	Ryukyu Islands.	
26	<i>ePP</i> · <i>Z</i>	6 09 22	
	$\Delta = 123^\circ$.	Easter Island.	
26	<i>iP</i> · <i>Z</i>	18 21 31	<i>C</i>
	<i>iS</i> · <i>NE</i>	30 17	
	<i>iSKS</i> · <i>N</i>	31 27	
	<i>eSS</i> · <i>NE</i>	34 43	
	<i>L</i> · <i>NE</i>	40	
	$\Delta = 66^\circ$.	Japan.	
27	<i>eP</i> · <i>Z</i>	1 19 36	
	$\Delta = 79^\circ$.	$h = 200$ km. Columbia.	
27	<i>eP</i> · <i>Z</i>	12 25 39	
	<i>eS</i> · <i>Z</i>	27 26	
	$\Delta = 10^\circ$.	Jan Mayen.	
27	<i>eP</i> · <i>Z</i>	13 14 51	
	$\Delta = 45^\circ$.	Aleutian Islands.	
27	<i>eP</i> · <i>Z</i>	21 48 36	
	$\Delta = 48^\circ$.	Aegean Sea.	
27	<i>eP</i> · <i>Z</i>	22 03 07	
	Repetition.		
28	<i>e</i> · <i>Z</i>	2 12 18	
28	<i>e</i> · <i>Z</i>	16 59 15	
	<i>e</i> · <i>Z</i>	17 01 14	
March			
4	<i>iP</i> · <i>Z</i>	22 ^h 36 ^m 07 ^s	<i>C</i>
	$\Delta = 60^\circ$.	Japan.	
7	<i>ePKP</i> · <i>Z</i>	10 29 36	
	<i>iPP</i> · <i>N</i>	31 31	
	<i>L</i> · <i>NE</i>	11 09	
	$\Delta = 126^\circ$.	Kermadec Islands.	
7	<i>ePKP</i> · <i>Z</i>	19 27 46	
	$\Delta = 129^\circ$.	Indian Ocean.	
8	<i>eP</i> · <i>Z</i>	0 26 14	
	$\Delta = 46^\circ$.	Aleutian Islands.	
9	<i>eP</i> · <i>Z</i>	4 10 30	
	$\Delta = 72^\circ$.	Atlantic Ocean.	

March

11	<i>eP</i> · <i>Z</i>	1 ^h 40 ^m 26 ^s	
	$\Delta = 50^\circ$.	Kurile Islands.	
11	<i>eP</i> · <i>Z</i>	8 52 41	
	$\Delta = 75^\circ$.	British Somaliland.	
13	<i>eP</i> · <i>Z</i>	8 15 01	
	<i>L</i> · <i>NE</i>	41	
	$\Delta = 71^\circ$.	Mexico.	
13	<i>e</i> · <i>Z</i>	12 39 54	
13	<i>eP</i> · <i>Z</i>	17 54 47	<i>D</i>
13	<i>eP</i> · <i>Z</i>	18 07 56	
	<i>e(S)</i> · <i>ZE</i>	09 01	
	<i>e(L)</i> · <i>Z</i>	09 27	
13	<i>e(P)</i> · <i>Z</i>	18 13 58	
13	<i>e(P)</i> · <i>Z</i>	18 44 10	
13	<i>eP</i> · <i>Z</i>	19 26 05	
	$\Delta = 50^\circ$.	Crete.	
16	<i>eP</i> · <i>Z</i>	5 06 28	
	$\Delta = 47^\circ$.	Aleutian Islands.	
16	<i>ePP</i> · <i>Z</i>	14 03 54	
	$\Delta = 105^\circ$.	Flores Sea.	
18	<i>ePKP</i> · <i>Z</i>	15 14 40	
	$\Delta = 149^\circ$.	New Zealand.	
19	<i>eP</i> · <i>Z</i>	5 01 41	
	$\Delta = 58^\circ$.	Japan.	
19	<i>iP</i> · <i>Z</i>	8 04 48	<i>C</i>
	$\Delta = 95^\circ$.	$h = 100$ km. Molucca Passage.	
19	<i>iP</i> · <i>Z</i>	9 28 59	<i>C</i>
	$\Delta = 61^\circ$.	$h = 100$ km. Japan.	
20	<i>iP</i> · <i>Z</i>	3 39 42	<i>C</i>
	<i>i(S)</i> · <i>Z</i>	40 47	
	Compare March 13 ^d 18 ^h .		
20	<i>eP</i> · <i>Z</i>	6 08 01	
	$\Delta = 76^\circ$.	$h = 100$ km. Nicaragua.	
20	<i>iP</i> · <i>Z</i>	11 47 15	<i>C</i>
	$\Delta = 52^\circ$.	$h = 350$ km. Sakhalin Island.	
20	<i>iP</i> · <i>Z</i>	14 10 01	<i>C</i>
	$\Delta = 56^\circ$.	$h = 100$ km. India.	
20	<i>iPKP</i> · <i>Z</i>	16 11 37	<i>C</i>
	<i>ePP</i> · <i>Z</i>	12 39	
	$\Delta = 116^\circ$.	$h = 200$ km. Tonga Islands.	

March

22	<i>iP</i> · <i>Z</i>	1 ^h 20 ^m 09 ^s	<i>D</i>
	<i>e(S)</i> · <i>Z</i>	20 38	
22	<i>e</i> · <i>Z</i>	20 24 05	
24	<i>iP</i> · <i>Z</i>	23 07 30	<i>C</i>
	$\Delta = 63^\circ$.	$h = 100$ km. Japan.	
26	<i>eP</i> · <i>Z</i>	1 33 37	
	$\Delta = 76^\circ$.	Philippine Islands.	
26	<i>iP</i> · <i>Z</i>	14 42 16	<i>C</i>
	$\Delta = 91^\circ$.	$h = 150$ km. Philippine Islands.	
26	<i>iP</i> · <i>Z</i>	20 18 20	<i>C</i>
	$\Delta = 42^\circ$.	$h = 200$ km. Alaska.	
26	<i>iP</i> · <i>Z</i>	23 21 56	<i>D</i>
	$\Delta = 62^\circ$.	Tibet.	
27	<i>e</i> · <i>Z</i>	21 09 37	
28	<i>iP</i> · <i>Z</i>	9 49 18	<i>C</i>
	<i>ePP</i> · <i>ZNE</i>	53 16	
	<i>iSKS</i> · <i>E</i>	59 42	
	<i>eS</i> · <i>E</i>	10 00 24	
	$\Delta = 96^\circ$.	$h = 100$ km. Celebes.	
28	<i>iP</i> · <i>Z</i>	12 37 37	<i>C</i>
	<i>iS</i> · <i>N</i>	44 42	
	<i>L</i> · <i>N</i>	52	
	$\Delta = 47^\circ$.	Aleutian Islands.	
28	<i>eP</i> · <i>Z</i>	14 07 25	
	$\Delta = 46^\circ$.	Aleutian Islands.	
28	<i>e</i> · <i>Z</i>	21 19 52	
29	<i>eP</i> · <i>Z</i>	6 54 21	
	$\Delta = 65^\circ$.	$h = 100$ km. Japan.	
31	<i>e</i> · <i>Z</i>	5 31 02	
April			
1	<i>eP</i> · <i>Z</i>	2 ^h 51 ^m 29 ^s	
	$\Delta = 67^\circ$.	$h = 100$ km. Japan.	
1	<i>eP</i> · <i>Z</i>	15 27 28	
	<i>iPf</i> · <i>ZNE</i>	27 32	<i>D</i>
	<i>iS</i> · <i>NE</i>	34 45	
	<i>iScS</i> · <i>NE</i>	37 20	
	$\Delta = 52^\circ$.	Sinkiang Province, China.	
3	<i>e</i> · <i>Z</i>	0 29 54	
3	<i>iP</i> · <i>Z</i>	1 22 14	<i>C</i>
	$\Delta = 79^\circ$.	$h = 200$ km. Columbia.	

April

3	<i>eP·Z</i>	8 ^h 06 ^m 51 ^s	
	$\Delta = 70^\circ$.	Caribbean Sea.	
4	<i>iP·Z</i>	1 27 01 C	
	$\Delta = 52^\circ$.	Sinkiang Province, China.	
4	<i>eP·Z</i>	1 35 11	
		Repetition.	
4	<i>eP·Z</i>	9 55 43	
	$\Delta = 52^\circ$.	Sinkiang main shock.	
5	<i>ePKP·Z</i>	21 49 46	
	$\Delta = 152^\circ$.	Macquarie Islands.	
6	<i>eP·Z</i>	1 42 53	
	$\Delta = 52^\circ$.	Sinkiang Province, China.	
6	<i>eP·Z</i>	4 13 56	
	$\Delta = 53^\circ$.	California.	
6	<i>iP·Z</i>	14 18 40 C	
	$\Delta = 92^\circ$.	Sumatra.	
6	<i>eP·Z</i>	18 22 42	
	$\Delta = 60^\circ$.	$h = 100$ km. Iran.	
6	<i>eP·Z</i>	22 39 35	
	$\Delta = 92^\circ$.	Sumatra.	
7	<i>eP·Z</i>	4 49 59	
	$\Delta = 54^\circ$.	Hindu Kush.	
7	<i>e·Z</i>	6 58 27	
7	<i>eP·Z</i>	10 20 06	
	$\Delta = 94^\circ$.	Sumatra.	
7	<i>iP·Z</i>	21 26 47 C	
	$\Delta = 51^\circ$.	Kirghiz/Tadzlik.	
8	<i>eP·Z</i>	4 34 59	
	$\Delta = 88^\circ$.	Ecuador.	
8	<i>eP·Z</i>	4 59 53	
		Repetition.	
8	<i>eP·Z</i>	9 16 40	
		Repetition.	
8	<i>iPKP·Z</i>	18 18 39	
	$\Delta = 123^\circ$.	Chile.	
8	<i>eP·Z</i>	21 49 00	
	$\Delta = 84^\circ$.	$h = 100$ km. Mariana Islands.	
9	<i>eP·Z</i>	7 33 01	
	$\Delta = 57^\circ$.	California.	

April

9	<i>eP·Z</i>	15 ^h 46 ^m 32 ^s	
	<i>eS·N</i>	55 57	
	<i>eSKS·N</i>	56 37	
	$\Delta = 73^\circ$.	Formosa.	
10	<i>eP·Z</i>	7 08 39	
		Repetition.	
12	<i>iP·Z</i>	22 32 02 C	
	<i>iS·NE</i>	41 27	
	$\Delta = 74^\circ$.	$h = 100$ km. El Salvador.	
13	<i>iP·Z</i>	16 43 46 C	
	$\Delta = 52^\circ$.	Sinkiang Province, China.	
16	<i>eP·Z</i>	11 48 57	
	$\Delta = 45^\circ$.	Kamchatka.	
17	<i>eP·Z</i>	16 32 10	
	$\Delta = 78^\circ$.	Mid Atlantic Ocean.	
19	<i>iP·Z</i>	5 09 27 C	10 mm
	<i>e(S)·Z</i>	09 46	
		Near.	
19	<i>eP·Z</i>	16 21 49 C	
	$\Delta = 54^\circ$.	Kurile Islands.	
19	<i>eP·Z</i>	18 21 54	
	$\Delta = 44^\circ$.	Kamchatka.	
19	<i>iP·Z</i>	20 29 08 C	
	$\Delta = 54^\circ$.	Kurile Islands.	
19	<i>eP·Z</i>	22 17 09	
	$\Delta = 54^\circ$.	Kurile Islands.	
20	<i>iP·Z</i>	14 27 39 C	5 mm
	<i>e(S)·Z</i>	27 59	
		Near.	
21	<i>eP·Z</i>	20 19 37	
	$\Delta = 51^\circ$.	Kurile Islands.	
21	<i>eP·Z</i>	21 35 08	
	<i>ePcP·Z</i>	36 43	
	$\Delta = 47^\circ$.	Aleutian Islands.	
22	<i>eP·Z</i>	19 14 09	
	<i>e·Z</i>	14 29	
	$\Delta = 84^\circ$.	Ecuador.	
23	<i>iP·Z</i>	5 25 41 D	
	$\Delta = 71^\circ$.	$h = 100$ km. Ryukyu Islands.	
23	<i>iP·Z</i>	9 11 00 C	
	<i>eS·NE</i>	18 31	
	<i>iScS·NE</i>	20 52	N: +, E: +.
	<i>L·NE</i>	27.3	
	$\Delta = 54^\circ$.	Kurile Islands.	

April

23	<i>eP·Z</i>	12 ^h 27 ^m 14 ^s	
	$\Delta = 54^\circ$.	$h = 100$ km. Kurile Islands.	
23	<i>iP·Z</i>	17 00 20 D	
	$\Delta = 54^\circ$.	$h = 100$ km. Kurile Islands.	
24	<i>eP·Z</i>	5 01 04	
	$\Delta = 47^\circ$.	Aleutian Islands.	
24	<i>eP·Z</i>	12 36 56 C	
	$\Delta = 54^\circ$.	$h = 100$ km. Kurile Islands.	
24	<i>iP·ZNE</i>	14 10 19 C.	Z: 10 mm
		Near.	
25	<i>iP·Z</i>	1 20 33 C	
	$\Delta = 74^\circ$.	$h = 150$ km. Guatemala.	
25	<i>eP·Z</i>	1 26 58	
	$\Delta = 54^\circ$.	$h = 100$ km. Kurile Islands.	
25	<i>iP·Z</i>	23 51 42 C	
	$\Delta = 69^\circ$.	Ryukyu Islands.	
26	<i>iP·Z</i>	7 48 17 C	
	$\Delta = 54^\circ$.	Kurile Islands.	
26	<i>eP·Z</i>	19 41 52	
	$\Delta = 54^\circ$.	Kurile Islands.	
28	<i>iP·Z</i>	22 12 48	
	<i>i·Z</i>	12 51	10 mm
		Near.	
29	<i>eP·Z</i>	9 28 46 D	
	$\Delta = 53^\circ$.	California.	
29	<i>iP·ZNE</i>	9 31 45 C	
	<i>iS·NE</i>	33 37	
	<i>L·NE</i>	34.4	
	$\Delta = 10^\circ$.	Jan Mayen.	
29	<i>eP·Z</i>	10 54 59	
	$\Delta = 53^\circ$.	Outher Mongolia.	
29	<i>eP·Z</i>	21 52 41	
	<i>e(S)·Z</i>	54 34	
		Jan Mayen aftershock?	
30	<i>ePKP·Z</i>	0 29 55	
	$\Delta = 144^\circ$.	Southern Indian Ocean.	
30	<i>eP·Z</i>	0 56 01	
	<i>iPf·Z</i>	56 02 C	
	<i>eS·Z</i>	57 54	
	$\Delta = 10^\circ$.	Jan Mayen aftershock.	

April

30	<i>eP·Z</i>	7 ^h 39 ^m 59 ^s	
	$\Delta = 30^\circ$.	North Atlantic Ocean.	
30	<i>eP·Z</i>	11 24 36	
	$\Delta = 54^\circ$.	$h = 100$ km. Kurile Islands.	
May			
1	<i>eP·Z</i>	12 ^h 28 ^m 20 ^s	
	$\Delta = 53^\circ$.	California.	
2	<i>eP·Z</i>	3 14 18	
	<i>eS·Z</i>	16 11	
	$\Delta = 10\frac{1}{2}^\circ$.	Jan Mayen.	
2	<i>eP·Z</i>	8 32 49	
	<i>eS·Z</i>	34 42	
		Repetition.	
2	<i>ePKP·Z</i>	23 03 43 C	
	$\Delta = 126^\circ$.	Kermadec Islands.	
3	<i>eP·Z</i>	0 38 32	
	$\Delta = 81^\circ$.	Mid-Atlantic Ocean.	
3	<i>eP·Z</i>	14 14 30 C	
	$\Delta = 71^\circ$.	Mexico.	
4	<i>eP·Z</i>	2 26 (45)	
	$\Delta = 53^\circ$.	California.	
4	<i>eP·Z</i>	7 11 16	
	$\Delta = 65^\circ$.	Atlantic Ocean.	
5	<i>eP·Z</i>	12 32 43	
	<i>eS·Z</i>	34 35	
	$\Delta = 10^\circ$.	East of Jan Mayen (74 N, 2 W, $H = 30^m23^s$).	
6	<i>eP·Z</i>	16 12 47	
	$\Delta = 45^\circ$.	Mediterranean Sea.	
6	<i>eP·Z</i>	19 50 (34)	
	$\Delta = 83^\circ$.	Ascension Island.	
6	<i>eP·Z</i>	22 45 44	
	$\Delta = 90^\circ$.	Philippine Islands.	
7	<i>e(PKP)·Z</i>	0 00 (45)	
	$(\Delta = 150^\circ$.	Macquarie Island.)	
7	<i>eP·Z</i>	2 08 38	
	$\Delta = 74^\circ$.	Atlantic Ocean.	
7	<i>iP·Z</i>	4 46 07 C	
	$\Delta = 104^\circ$.	$h = 100$ km. Japan.	
7	<i>eP·Z</i>	10 35 40	
	$\Delta = 91^\circ$.	$h = 100$ km. Philippine Islands.	

May			
7	<i>eP·Z</i>	12 ^h 24 ^m 40 ^s	
	$\Delta = 62^\circ$.	Japan.	
7	<i>eP·Z</i>	15 14 17	
	<i>eS·Z</i>	16 00	
	$\Delta = 10^\circ$.	Foreshock?	
7	<i>eP·Z</i>	15 43 20	
	<i>eS·Z</i>	45 15	
	$\Delta = 10^\circ$.	Jan Mayen.	
7	<i>eP·Z</i>	17 45 46	
9	<i>eP·Z</i>	21 34 20	
	<i>e(S)·Z</i>	36 12	
	$\Delta = 10^\circ$.	Jan Mayen?	
9	<i>eP·Z</i>	22 00 25	
10	<i>iP·Z</i>	1 57 09	C 5 mm
	<i>i(S)·Z</i>	57 27	
		Near.	
11	<i>ePKP·Z</i>	8 57 18	
	$\Delta = 122^\circ$.	Chile.	
11	<i>e·Z</i>	14 27 40	
13	<i>ePKP·Z</i>	15 10 36	
	<i>ePP·Z</i>	11 46	
	$\Delta = 115^\circ$.	$h = 550$ km. Fiji Islands.	
13	<i>eP·Z</i>	15 58 57	
	$\Delta = 55^\circ$.	Japan.	
13	<i>eP·Z</i>	19 30 29	
	$\Delta = 71^\circ$.	$h = 250$ km. Formosa.	
14	<i>eP·Z</i>	15 11 19	
	<i>L·NE</i>	15	
	$\Delta = 14^\circ$.	Iceland.	
14	<i>eP·Z</i>	15 41 26	
	<i>L·NE</i>	45	
		Repetition.	
14	<i>eP·Z</i>	19 40 45	
	$\Delta = 53^\circ$.	California.	
16	<i>eP·Z</i>	3 40 34	
	$\Delta = 46^\circ$.	Aleutian Islands.	
16	<i>iP·Z</i>	21 56 18	D
	$\Delta = 68^\circ$.	Ryukyu Islands.	
17	<i>eP·NE</i>	19 37 45	No Z-record.
	<i>ePP·N</i>	39 40	
	<i>iS·NE</i>	44 30	
	<i>eSS·E</i>	47 40	
	<i>L·NE</i>	52.5	
	$\Delta = 46\frac{1}{2}^\circ$.	Aleutian Islands.	

May			
18	<i>iP·Z</i>	20 ^h 50 ^m 56 ^s	D
	$\Delta = 92^\circ$.	$h = 100$ km. Philippine Islands.	
19	<i>eP·Z</i>	1 03 29	C
	$\Delta = 93^\circ$.	$h = 100$ km. Philippine Islands.	
19	<i>eP·Z</i>	9 37 14	C
	$\Delta = 76^\circ$.	Nicaragua.	
19	<i>iP·Z</i>	16 48 52	C
	$\Delta = 72^\circ$.	Ryukyu Islands.	
19	<i>iP·Z</i>	21 39 28	D
	$\Delta = 52^\circ$.	Tadzhik S.S.R.	
20	<i>eP·Z</i>	17 49 38	
	$\Delta = 10^\circ$.	Arctic Ocean.	
22	<i>ePKP·Z</i>	17 51 10	
	$\Delta = 121^\circ$.	Tonga Islands.	
23	<i>iP·ZNE</i>	2 53 52	C
	<i>iS·NE</i>	3 00 46	
	$\Delta = 48^\circ$.	Dodecanese Islands.	
23	<i>eP·Z</i>	3 52 09	
	<i>ePP·Z</i>	54 52	
	$\Delta = 77^\circ$.	$h = 150$ km. Costa Rica.	
23	<i>iP·Z</i>	16 56 28	C
	<i>epP·Z</i>	56 59	
	$\Delta = 75^\circ$.	$h = 150$ km. Nicaragua.	
25	<i>eP·Z</i>	13 42 32	
	$\Delta = 50^\circ$.	China.	
26	<i>iP·Z</i>	5 17 42	C
	$\Delta = 72^\circ$.	$h = 100$ km. Guatemala.	
26	<i>eP·Z</i>	22 59 49	C
	$\Delta = 60^\circ$.	Japan.	
27	<i>iP·Z</i>	5 23 57	C
	$\Delta = 53^\circ$.	$h = 100$ km. Hindu Kush.	
27	<i>iP·Z</i>	7 27 45	C
	$\Delta = 57^\circ$.	$h = 150$ km. Japan.	
29	<i>eP·Z</i>	17 03 45	C
	$\Delta = 80^\circ$.	Philippine Islands.	
29	<i>eP·Z</i>	19 52 09	
	$\Delta = 75^\circ$.	Ethiopia.	
30	<i>e·Z</i>	5 57 30	
31	<i>L·NE</i>	14 18	

June			
1	<i>eP·Z</i>	10 ^h 13 ^m 25 ^s	
	$\Delta = 67^\circ$.	Dominican Republic.	
1	<i>eP·Z</i>	23 41 00	
	<i>eS·N</i>	50 49	
	<i>L·NE</i>	24 05	
	$\Delta = 75^\circ$.	Ethiopia.	
2	<i>eP·Z</i>	0 13 27	
		Repetition.	
2	<i>eP·Z</i>	0 20 37	
		Repetition.	
2	<i>iP·Z</i>	5 02 55	D
		Repetition.	
2	<i>eP·Z</i>	5 34 11	
		Repetition.	
2	<i>eP·Z</i>	5 56 35	
		Repetition.	
2	<i>iP·Z</i>	11 07 43	C
	$\Delta = 5^\circ$.	Spitzbergen.	
2	<i>e·Z</i>	20 55 22	
3	<i>iP·Z</i>	1 21 21	D
	$\Delta = 42^\circ$.	Kamchatka.	
3	<i>iP·Z</i>	15 35 01	D
	$\Delta = 76^\circ$.	Ethiopia.	
4	<i>iP·Z</i>	1 17 19	D
4	<i>iP·Z</i>	7 42 55	D
	<i>iPPP·E</i>	46 16	
	$\Delta = 58^\circ$.	Tibet.	
4	<i>iP·Z</i>	7 53 34	D
		Repetition.	
4	<i>eP·Z</i>	14 01 21	D
		Repetition.	
7	<i>iP·Z</i>	14 28 06	C
	$\Delta = 88^\circ$.	Ascencion Island.	
9	<i>eP·Z</i>	4 05 23	C
	<i>iPcP·Z</i>	06 21	
	$\Delta = 56^\circ$.	$h = 100$ km. India.	
9	<i>iP·Z</i>	9 45 16	D
	$\Delta = 47^\circ$.	Caspian Sea.	
9	<i>iP·Z</i>	15 30 36	C
	$\Delta = 88^\circ$.	$h = 100$ km. Sumatra.	

June			
10	<i>eP·Z</i>	9 ^h 04 ^m 18 ^s	D
	$\Delta = 82^\circ$.	Mexico.	
11	<i>eP·Z</i>	5 20 29	C
	<i>eS·NE</i>	28 33	
	<i>L·NE</i>	38.4	
	$\Delta = 59^\circ$.	Iran.	
11	<i>eP·Z</i>	5 40 15	
		Repetition.	
11	<i>eP·Z</i>	6 01 25	
	$\Delta = 47^\circ$.	Kamchatka.	
11	<i>eP·Z</i>	12 40 26	
	$\Delta = 60^\circ$.	Iran.	
11	<i>iP·Z</i>	12 41 31	C
		Repetition.	
11	<i>eP·Z</i>	14 08 02	C
		Repetition.	
12	<i>ePKP·Z</i>	7 55 04	
	<i>i·Z</i>	55 08	D
	$\Delta = 148^\circ$.	New Zealand.	
12	<i>iP·Z</i>	10 09 48	C
	$\Delta = 73^\circ$.	North Viet-Nam.	
12	<i>e·Z</i>	11 42 54	
13	<i>eP·Z</i>	2 32 46	
	<i>e·Z</i>	33 11	
	$\Delta = 46^\circ$.	Aleutian Islands.	
13	<i>iP·Z</i>	12 34 04	C 2 mm
	<i>e·Z</i>	34 25	
		Near.	
13	<i>iP·Z</i>	17 35 43	C 10 mm
	<i>e·Z</i>	36 03	
		Near.	
13	<i>ePKP·Z</i>	21 56 29	
	$\Delta = 120^\circ$.	$h = 150$ km. Tonga Islands.	
14	<i>eP·Z</i>	0 52 12	
	$\Delta = 69^\circ$.	Burma.	
14	<i>eP·Z</i>	20 44 00	D
	$\Delta = 75^\circ$.	Ethiopia.	
15	<i>e·Z</i>	16 53 51	
15	<i>eP·Z</i>	23 33 55	D
	$\Delta = 53^\circ$.	Kurile Islands.	

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June	June
16 <i>iP</i> ·Z 10 ^b 43 ^m 37 ^s D Δ = 77°. h = 125 km. Colombia.	21 <i>eP</i> ·Z 6 ^b 49 ^m 27 ^s Δ = 60°. Iran.
17 <i>eP</i> ·Z 8 15 47 Δ = 59°. Iran.	21 <i>eP</i> ·Z 16 13 13 Δ = 46°. Turkey.
17 <i>e</i> ·Z 10 45 57 D	21 <i>eP</i> ·Z 20 38 27 <i>eS</i> ·E 45 29 Δ = 48°. Kamchatka.
17 <i>eP</i> ·Z 14 45 16 Δ = 87°. Philippine Islands.	21 <i>eSKS</i> ·E 20 49 09 Δ = 103°. h = 150 km. Java.
17 <i>iP</i> ·Z 15 19 01 C Δ = 74°. h = 150 km. Mexico/Guatemala.	22 <i>iP</i> ·Z 1 03 46 C Δ = 41°. Albania/Yugoslavia.
17 <i>eP</i> ·Z 18 51 18 Δ = 74°. h = 100 km. Guatemala.	23 <i>eP</i> ·Z 9 04 49 <i>eS</i> ·NE 12 00 <i>eSS</i> ·NE 15 30 L·NE 20 Δ = 50°. Oregon.
18 <i>iP</i> ·Z 3 25 23 D Δ = 102°. h = 650 km. Java Sea.	23 <i>eP</i> ·Z 11 15 13 Δ = 63°. h = 150 km. Japan.
18 <i>eP</i> ·Z 6 35 55 Δ = 58°. Tibet.	23 <i>eP</i> ·Z 16 46 29 Δ = 59°. Iran.
18 <i>ePKP</i> ·Z 14 13 36 <i>eSKP</i> ·Z 16 17 C Δ = 130°. h = 450 km. Kermadec Islands.	24 <i>eP</i> ·Z 5 19 24 Δ = 74°. h = 100 km. El Salvador.
18 <i>ePKP</i> ·Z 22 33 11 Δ = 150°. h = 100 km. South Pacific Ocean.	24 <i>eP</i> ·Z 9 48 53 Δ = 90°. h = 150 km. Sumatra.
19 <i>iP</i> ·Z 1 57 50 D Δ = 84°. h = 100 km. Philippine Islands.	25 <i>eP</i> ·Z 2 39 15 Δ = 57½°. Japan.
19 <i>eP</i> ·Z 2 55 54 Δ = 59°. h = 100 km. Japan.	25 <i>eP</i> ·Z 16 58 24 Δ = 77°. Mariana Islands.
19 <i>eP</i> ·Z 7 48 21 Repetition.	26 <i>e</i> ·Z 4 06 49
19 <i>eP</i> ·Z 8 09 35 Δ = 59°. Japan.	26 <i>iP</i> ·Z 14 55 51 C
19 <i>iP</i> ·Z 17 13 40 C <i>ipP</i> ·Z 14 26 D Δ = 53½°. h = 200 km. Hindu Kush.	27 <i>eP</i> ·Z 3 30 09 Δ = 44°. h = 100 km. Unimak Island.
20 <i>eP</i> ·Z 3 33 06 Δ = 75°. Gulf of Aden.	27 <i>eP</i> ·Z 7 14 27 <i>e</i> ·Z 14 32 Δ = 66°. China.
20 <i>eP</i> ·Z 10 00 22 Δ = 71°. Honduras.	27 <i>eP</i> ·Z 8 00 35 <i>ePcP</i> ·Z 02 17 Δ = 44°. h = 300 km. Kamchatka.
21 <i>iP</i> ·Z 4 09 00 D Δ = 72°. h = 100 km. Honduras.	

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June	June
27 <i>e</i> ·Z 8 ^b 09 ^m 26 ^s	29 <i>eP</i> ·Z 14 ^b 10 ^m 57 ^s <i>epP</i> ·Z 11 19 <i>iPcP</i> ·Z 12 34 D Δ = 46°. h = 100 km. Aleutian Islands.
27 <i>e</i> ·Z 13 09 15	29 <i>eP</i> ·Z 22 04 11 <i>e</i> ·Z 04 15 Δ = 11½°. North of Severnaya Zemlya.
27 <i>e</i> ·Z 16 15 37	30 <i>eP</i> ·Z 5 14 09 Δ = 50°. Crete.
28 <i>e</i> ·Z 5 32 02	December 1964 HENRY JENSEN
28 <i>e</i> ·Z 17 02 26	

Nord 1961

Nord 1961

Local shocks.		(P)	(S)
		February	
		12 14 ^h e 42 ^m 43 ^s	
		12 21 e 42 55	
		13 1 e 35 55	
		13 8 e 41 37	
		14 5 e 42 28	
		15 8 e 09 37	e 09 ^m 42 ^s
		16 2 e 09 24	e 10 43
		17 8 i 16 48	i 16 56
		18 4 i 09 59	D e 10 28
		18 15 e 14 30	
		20 0 e 44 50	e 45 10
		20 3 e 28 25	
		20 8 e 23 02	
		20 11 e 00 14	e 00 23
		20 23 i 40 33	e 40 41
		23 10 i 59 45	D i 60 15
		T = 0 ^s .7, A = 5 mm T = 0 ^s .5, A = 8 mm	
		23 17 i 23 22	
		27 23 e 17 56	e 18 16
		28 3 e 00 21	
		March	
		1 1 ^h e 15 ^m 00 ^s	
		2 21 e 21 38	e 21 ^m 47 ^s
		5 15 e 32 39	
		8 3 e 31 08	e 31 13
		10 16 e 26 52	e 27 22
		12 12 i 19 00	D
		18 16 e 51 21	
		22 1 i 20 09	D e 20 38
		23 19 i 01 56	C
		25 16 e 59 27	e 59 47
		26 8 e 09 22	e 09 42
		29 11 e 59 16	e 59 40
		29 14 e 08 09	e 08 24
		30 5 e 32 14	e 32 53
		April	
		1 19 ^h e 27 ^m 43 ^s	
		4 10 e 43 38	
		6 12 e 27 03	e 27 ^m 31 ^s
		7 10 e 50 44	e 51 06
		9 20 e 16 55	
		10 10 e 09 22	
		11 4 e 12 15	e 12 22
		11 6 e 20 20	e 20 41
		11 6 e 30 06	
		12 2 e 11 40	i 11 59
		12 18 e 01 36	
		15 19 e 31 15	
		15 19 e 33 03	
		17 6 i 24 45	C i 24 49
		17 8 i 17 16	C i 17 20
		18 19 e 46 36	e 47 04
		19 5 i 09 27	C e 09 46
		February	
	(P)	(S)	
January			
1	17 ^h i 13 ^m 20 ^s	e 13 ^m 56 ^s	
2	04 e 51 53		
2	19 e 48 14		
4	19 i 19 25	e 19 52	
5	5 e 50 27		
6	0 e 57 01	e 57 06	
6	7 e 26 55	e 27 20	
7	1 e 47 00		
7	6 e 37 27		
8	9 e 50 00	e 50 09	
8	13 e 58 35	e 59 02	
8	20 e 11 35	e 12 20	
9	8 e 50 09	e 50 36	
9	11 e 28 57	e 29 24	
9	19 e 32 29		
9	20 e 47 15		
9	22 e 50 56		
10	10 i 32 07	C! i 32 27	
10	17 e 02 06		
11	17 e 13 10	e 13 37	
13	0 i 37 49	e 38 04	
19	17 e 01 48		
20	17 e 24 59		
21	3 e 29 06		
21	17 i 45 57	i 46 18	
22	1 i 52 54	C	
23	9 i 25 54	C!	
24	1 i 31 22	D! i 31 33	
25	7 e 12 34		
25	12 e 25 58		
25	13 e 55 53		
26	9 i 57 57		
27	8 i 37 13		
27	14 e 07 08	e 07 30	
28	14 e 25 15		
29	18 i 47 48	C	
31	0 e 46 58		
		February	
	(P)	(S)	
1	15 ^h e 13 ^m 10 ^s	e 13 ^m 47 ^s	
2	7 e 56 29	e 56 49	
2	23 e 15 30	e 15 56	
2	23 e 47 40		
8	10 e 45 25	e 45 55	
9	10 e 30 26	e 30 29	
9	15 e 40 35	e 40 45	
10	16 e 40 49	e 41 19	
10	21 e 17 18	e 17 26	
11	0 e 30 32		
11	17 e 42 14		
11	18 e 51 23		
11	23 e 27 23		
12	5 e 34 46		
12	6 e 39 48		

		(P)	(S)
		April	
		20 1 ^h e 34 ^m 10 ^s	e 34 ^m 29 ^s
		20 11 e 27 57	
		20 11 e 28 48	
		20 14 i 27 39	C (e 27 59)
		24 14 i 10 19	C
		25 6 e 44 29	e 44 40
		25 20 e 19 28	
		25 23 e 17 55	e 18 19
		26 10 e 19 28	i 19 30
		28 11 e 58 20	
		28 12 e 41 56	
		28 22 i 12 48	i 12 51
		29 9 e 43 14	
		29 9 e 43 52	
		29 9 e 46 47	
		29 9 e 51 52	
		29 10 e 21 53	
		May	
		1 0 ^h e 58 ^m 53 ^s	e 59 ^m 14 ^s
		1 7 e 30 09	e 30 29
		1 21 i 54 11	C i 54 14
		4 21 e 26 03	e 26 28
		5 10 e 19 25	
		5 11 e 20 08	e 20 32
		5 12 e 15 22	e 15 44
		5 18 e 36 24	e 36 55
		8 2 e 08 19	e 08 39
		8 4 e 24 56	e 25 16
		8 21 e 31 15	e 31 45
		10 1 i 57 09	C e 57 27
		13 5 i 25 12	C i 25 31
		13 9 e 37 25	e 37 57
		15 4 i 48 10	C
		16 7 e 40 48	
		17 1 e 51 47	
		17 9 e 36 41	
		17 10 e 13 38	e 13 55
		18 21 e 32 19	e 32 41
		19 18 e 46 11	e 46 56
		20 3 e 14 10	e 15 01
		20 19 e 42 55	e 44 02
		21 2 e 25 29	
		21 3 e 41 30	e 41 56
		May	
		21 13 ^h e 46 ^m 36 ^s	
		21 18 e 35 59	e 36 ^m 41 ^s
		21 19 e 26 33	
		22 3 e 19 58	
		22 19 e 44 03	
		22 22 e 55 15	
		23 6 e 24 09	e 24 38
		27 10 e 33 02	e 33 21
		27 17 e 33 14	e 33 35
		27 22 e 50 39	
		28 2 e 50 32	e 51 00
		28 10 e 24 36	C e 24 56
		29 11 e 49 36	e 49 56
		30 2 e 09 57	e 10 17
		30 6 e 40 08	e 40 13
		31 1 e 09 14	e 09 35
		June	
		2 14 ^h i 17 ^m 02 ^s	e 17 ^m 23 ^s
		4 14 e 20 45	e 21 09
		4 18 i 45 05	C
		4 23 e 28 42	
		5 11 e 55 37	e 56 01
		5 16 e 44 45	e 45 12
		8 16 e 18 36	e 18 57
		9 12 i 00 13	C
		10 2 e 52 23	e 52 49
		11 3 e 55 30	
		11 20 e 18 50	
		13 0 e 17 07	e 17 27
		13 12 i 34 04	C e 34 25
		13 17 i 35 43	C e 36 03
		14 16 e 20 41	e 21 05
		15 16 e 41 03	e 41 24
		16 4 e 09 41	e 10 14
		17 18 e 01 53	
		18 4 i 00 38	D i 00 40
		20 11 i 18 20	i 18 22
		22 17 e 10 55	D i 11 24
		25 3 e 03 59	i 04 01
		25 16 e 23 17	
		26 2 e 30 12	
		28 11 e 33 47	e 34 08
		30 17 e 06 01	e 06 21

GEODÆTISK INSTITUT
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Bulletin of the seismological station

N O R D $\varphi = 81^{\circ}36' \text{ N.} \quad \lambda = 16^{\circ}41' \text{ W.} \quad h = 35 \text{ m.}$

Lithologic foundation: calcareous greywacke

Instruments.Willmore. Z. $T_p = 1 \text{ sec.}$ $T_g = 1/4 \text{ sec.}$ No attenuation.Strobach. N and E. $T = 6 \text{ sec.}$ $\nu = 15:1,$ $V_0 = 500.$ (Belongs to Geophysikalisches Institut, Hamburg.)**Seismological Readings. Distant quakes.**

Phases are indicated by the symbols used in ISS. Times are given in GMT. Positions of epicenters are those given by BCIS. The periods given are periods of full oscillations. For Z trace amplitudes are given. C means compression, D dilatation. + means movement towards N or E respectively.

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

July

2	<i>eP·Z</i>	02 ^b 16 ^m 37 ^s	$\Delta = 54^\circ$, $h = 100$ km. Japan.
2	<i>e·Z</i>	04 11 16	
3	<i>e·Z</i>	07 18 31	
4	<i>iP·Z</i>	06 22 43	$\Delta = 80^\circ$, $h = 145$ km. Mariana Islands.
4	<i>e·Z</i>	19 22 37	
4	<i>i·Z</i>	19 54 48	
5	<i>iP·Z</i>	02 32 56	$\Delta = 68^\circ$, $h = 33$ km. Ryukyu Islands.
5	<i>iP·Z</i>	05 13 27	$\Delta = 69^\circ$, $h = 60$ km. Lesser Antilles.
5	<i>iP·Z</i>	06 43 35 C.	$\Delta = 52^\circ$, $h = 44$ km. China.
6	<i>iP·Z</i>	16 21 15	$\Delta = 88^\circ$, $h = 19$ km. Region of Ascension Islands.
6	<i>iPKP·Z</i>	22 28 14	
	<i>e·Z</i>	42 20	
	<i>e·Z</i>	46 35	
	<i>L·E</i>	60	
	<i>L·N</i>	65	
			$\Delta = 119^\circ$, $h = 27$ km. Loyalty Islands.
7	<i>eP·Z</i>	08 14 03	$\Delta = 52^\circ$, $h = 90$ km. Kurile Islands.
7	<i>L·NE</i>	14 02 —	$\Delta = 104^\circ$, $h = 57$ km. New Britain.
7	<i>iP·Z</i>	15 53 08	
	<i>i·Z</i>	53 30	
			$\Delta = \text{ab. } 120^\circ$. SW of Tristan da Cunha Islands.
8	<i>eS·Z</i>	07 58 24	very weak onset. $\Delta = 7^\circ$. North of Jan Mayen Island.
9	<i>eP·Z</i>	06 44 06	$\Delta = 72^\circ$, $h = 46$ km. Honduras.
9	<i>e·Z</i>	09 46 33	
9	<i>e·Z</i>	17 18 00	
10	<i>eP·Z</i>	13 05 31	$\Delta = 72^\circ$, $h = 33$ km. Mexico.
11	<i>eP·N</i>	09 44 16	$\Delta = 84^\circ$, $h = 163$ km. Nicobar Islands Region.

July

12	<i>eP·Z</i>	05 ^b 07 ^m 26 ^s	
	<i>eS·Z</i>	09 20	Jan Mayen Region.
12	<i>e·Z</i>	23 52 16	
13	<i>eP·Z</i>	21 56 05	
	<i>ePcP·Z</i>	56 20	$\Delta = 73^\circ$, $h = 33$ km. Taiwan.
13	<i>e·Z</i>	22 26 05	
			$\Delta = 123^\circ$, $h = 468$ km. Kermadec Islands Region.
14	<i>iP·Z</i>	00 18 48 D.	
			$\Delta = 81^\circ$, $h = 168$ km. Phillipine Islands.
14	<i>e·Z</i>	15 56 15	
15	<i>iP·Z</i>	00 30 12 C.	
			$\Delta = 83^\circ$, $h = 70$ km. Phillipine Islands.
17	<i>iP·Z</i>	01 12 30 C.	
	<i>ePP·Z</i>	15 11	
			$\Delta = 72^\circ$, $h = 40$ km. Mexico.
17	<i>eP·Z</i>	16 30 36	
			$\Delta = 63^\circ$, $h = 51$ km. Japan.
18	<i>iP·ZNE</i>	14 14 33	
	<i>iS·NE</i>	23 30	
	<i>L·NE</i>	36 —	
			$\Delta = 68^\circ$, $h = 21$ km. Ryukyu Islands.
18	<i>e·Z</i>	14 42 49	
	<i>i·Z</i>	44 58	
18	<i>eP·Z</i>	15 27 11	
			$\Delta = 68^\circ$, $h = 100$ km. Ryukyu Islands.
19	<i>eP·Z</i>	12 09 42	
			$\Delta = 68^\circ$, $h = 31$ km. Ryukyu Islands.
19	<i>e·Z</i>	23 09 16	
			$\Delta = 45^\circ$, $h = 37$ km. Ionian Sea.
20	<i>iP·Z</i>	02 25 50	
	<i>iPcP·Z</i>	26 05	
			$\Delta = 82^\circ$. Andaman Islands.
20	<i>iP·Z</i>	08 55 40	
			$\Delta = 71^\circ$, $h = 33$ km. Mexico.
20	<i>iP·Z</i>	09 13 37 D.	
			$\Delta = 67^\circ$, $h = 33$ km. Ryukyu Islands.
20	<i>e·Z</i>	13 25 40	
	<i>e·Z</i>	25 47	
			Seismic?

July

21	<i>i·Z</i>	04 ^b 38 ^m 14 ^s	
	<i>i·Z</i>	38 17	
23	<i>eP·Z</i>	14 50 32	$\Delta = 86^\circ$, $h = 33$ km. Pacific Ocean.
23	<i>ePKP·ZNE</i>	22 09 49	
	<i>ePP·ZNE</i>	11 04	
	<i>L·NE</i>	41 —	
			$\Delta = 117^\circ$, $h = 44$ km. New Hebrides.
23	<i>ePKP·Z</i>	22 20 25	$\Delta = 117^\circ$, $h = 37$ km. New Hebrides.
24	<i>eP·Z</i>	09 01 27	$\Delta = 97^\circ$, $h = 104$ km. Region north of Celebes.
25	<i>iP·Z</i>	03 00 29 D.	
			$\Delta = 94^\circ$, $h = 593$ km. West Brazil.
25	<i>iP·Z</i>	18 50 50	
	<i>iPP·Z</i>	52 52	
			$\Delta = 56^\circ$, $h = 280$ km. Japan Sea.
27	<i>e·Z</i>	02 46 48	
	<i>i·Z</i>	46 58	
	<i>i·Z</i>	46 07	
28	<i>eP·Z</i>	00 45 16	
	<i>iPcP·Z</i>	45 37	
			$\Delta = 70^\circ$, $h = 149$ km. Ryukyu Islands.
28	<i>eP·ZNE</i>	01 18 05	
	<i>ipP·Z</i>	18 18	
	<i>iSKS·NE</i>	29 19	
			$\Delta = 88^\circ$, $h = 136$ km. Ecuador.
28	<i>eP·Z</i>	15 29 09	
	<i>ePcP·Z</i>	30 45	
			$\Delta = 55^\circ$, $h = 34$ km. Japan.
30	<i>e·Z</i>	11 26 58	
31	<i>e·Z</i>	18 26 35	
	<i>e·Z</i>	27 19	
August			
1	<i>e·Z</i>	10 40 46	
2	<i>e·Z</i>	01 36 49	
2	<i>e·Z</i>	04 25 18	
			Seismic?
2	<i>e·Z</i>	10 34 14	
	<i>i·Z</i>	34 40	
2	<i>iP·Z</i>	12 21 21	$\Delta = 54^\circ$, $h = 38$ km. Kurile Islands Region.

August

2	<i>eP·Z</i>	14 ^b 40 ^m 54 ^s	$\Delta = 47^\circ$, $h = 50$ km. Near Kamchatka.
3	<i>iP·Z</i>	03 18 41' D.	$\Delta = 66^\circ$, $h = 132$ km. Puerto Rico.
4	<i>i·Z</i>	05 15 15 C.	
4	<i>iP·Z</i>	23 02 08	
	<i>iPcP·Z</i>	03 30	
			$\Delta = 53^\circ$, $h = 45$ km. Kurile Islands.
5	<i>eP·Z</i>	02 33 14	$\Delta = 35^\circ$, $h = 53$ km. Alaska.
8	<i>eP·Z</i>	05 44 50	$\Delta = 47^\circ$, $h = 57$ km. Aleutian Islands.
8	<i>iP·ZNE</i>	12 26 50	
			$\Delta = 47^\circ$, $h = 33$ km. Aleutian Islands.
11	<i>eP·Z</i>	11 17 52	$\Delta = 96^\circ$, $h = 143$ km. Celebes.
11	<i>e·Z</i>	12 55 00	
11	<i>iP·ZNE</i>	16 01 02 C.	
	<i>iPcP·Z</i>	02 02	
	<i>eS·NE</i>	08 36	
	<i>eScS·NE</i>	10 49	
	<i>ePKPPKP·Z</i>	16 30 58	$T = 3$ sec.
			$\Delta = 55^\circ$, $h = 50$ km. Japan.
11	<i>eP·Z</i>	23 21 20	$\Delta = 56^\circ$, $h = 95$ km. Japan.
11	<i>eP·Z</i>	23 43 19	
	<i>iPcP·Z</i>	44 22	
			$\Delta = 55^\circ$, $h = 50$ km. Japan.
13	<i>e·Z</i>	04 46 06	
13	<i>e·Z</i>	11 59 47	
13	<i>e·Z</i>	12 02 39	
13	<i>iP·Z</i>	13 47 29	$\Delta = 69^\circ$, $h = 158$ km. Lesser Antilles.
14	<i>e·Z</i>	01 58 10	
	<i>i·Z</i>	58 23	
14	<i>e·Z</i>	02 11 53	
14	<i>e·Z</i>	08 14 21	
14	<i>i·Z</i>	11 57 58	
	<i>e·Z</i>	59 54	

August

14	<i>i</i> -Z	12 ^b 13 ^m 07 ^s	2 mm.
	<i>e</i> -Z	13 41	5 mm.
	Near.		
14	<i>eP</i> -Z	22 15 44	
	$\Delta = 66^\circ$	$h = 20$ km.	Japan.
15	<i>e</i> -Z	07 04 48	
15	<i>e</i> -Z	09 36 19	
15	<i>iP</i> -Z	19 14 35	
	$\Delta = 65^\circ$	$h = 39$ km.	Japan.
19	<i>eP</i> -Z	02 52 30	
	$\Delta = 55^\circ$	$h = 32$ km.	Japan.
19	<i>e</i> -Z	04 34 16	
19	<i>iP</i> -ZNE	05 22 12	D.
	<i>iSKS</i> -NE	31 50	N: +, E: -.
	$\Delta = 96^\circ$	$h = 649$ km.	Peru-Brasil frontier.
19	<i>iP</i> -Z	05 43 51	C.
	<i>iPP</i> -Z	45 39	
	<i>iPPP</i> -Z	47 09	
	$\Delta = 61^\circ$	$h = 17$ km.	Japan.
19	<i>iP</i> -Z	08 17 37	
	$\Delta = 61^\circ$	$h = 25$ km.	Japan.
19	<i>eP</i> -Z	15 03 12	
	$\Delta = 67^\circ$	$h = 100$ km.	Mona Passage.
19	<i>eP</i> -Z	20 39 22	
	$\Delta = 91^\circ$	$h = 25$ km.	Near Sumatra.
20	<i>ePKP</i> -Z	05 21 54	
	$\Delta = 116^\circ$	$h = 592$ km.	Fiji Islands.
21	<i>e</i> -Z	08 07 42	
21	<i>iP</i> -Z	17 10 22	C.
	$\Delta = 57^\circ$	$h = 40$ km.	Japan.
23	<i>eP</i> -Z	04 21 41	
	<i>iPcP</i> -Z	22 56	
	$\Delta = 51^\circ$	$h = 25$ km.	Tadzhik.
23	<i>e</i> -Z	17 52 18	
24	<i>e</i> -Z	23 26 28	
25	<i>eP</i> -Z	07 07 38	
	$\Delta = 44^\circ$	$h = 36$ km.	Alaska.
27	<i>e</i> -Z	02 47 40	

August

27	<i>iP</i> -Z	16 ^b 31 ^m 14 ^s	C.
	<i>ePcP</i> -Z	32 43	
	$\Delta = 52^\circ$	$h = 45$ km.	Kurile Islands.
27	<i>eP</i> -Z	16 59 55	C.
	$\Delta = 80^\circ$	$h = 38$ km.	Mariana Islands.
27	<i>e</i> -Z	21 05 22	
	$\Delta = 52^\circ$	$h = 51$ km.	Kurile Islands.
27	<i>eP</i> -Z	22 17 24	
	$\Delta = 48^\circ$	$h = 33$ km.	Crete.
28	<i>i</i> -ZE	17 42 22	
	<i>i</i> -E	43 59	T = 6 sec.
	$\Delta = \text{ab. } 6^\circ$		
29	<i>e</i> -Z	06 03 35	
29	<i>e</i> -Z	12 40 17	
29	<i>e</i> -Z	14 06 35	
29	<i>i</i> -Z	14 56 13	D.
29	<i>eP</i> -Z	14 59 34	
	$\Delta = 46^\circ$	$h = 41$ km.	Aleutian Islands.
30	<i>eP</i> -Z	02 33 49	
	$\Delta = 44^\circ$	$h = 67$ km.	Aleutian Islands.
31	<i>iP</i> -ZNE	02 01 00	D.
	<i>iPP</i> -Z	04 57	
	$\Delta = 95^\circ$	$h = 626$ km.	Peru-Brasil border.
31	<i>eP</i> -ZNE	02 09 27	
	<i>iSKS</i> -NE	19 08	N: +, E: -.
	$\Delta = 95^\circ$	$h = 629$ km.	Peru-Brasil border.
31	<i>e</i> -Z	18 04 23	
31	<i>e</i> -Z	18 45 50	
September			
1	<i>iPKP</i> -Z	00 28 44	D.
	<i>ePP</i> -Z	31 55	
	$\Delta = 141^\circ$	$h = 131$ km.	Sandwich Islands.
1	<i>iP</i> -Z	04 54 22	D.
	$\Delta = 72^\circ$	$h = 155$ km.	Mexico.
1	<i>iP</i> -ZE	19 02 12	D.
	<i>eS</i> -E	11 51	
	$\Delta = 74^\circ$	$h = 37$ km.	The sea off Guatemala.
2	<i>iP</i> -Z	00 34 28	C.
	<i>ePcP</i> -Z	36 05	
	$\Delta = 46^\circ$	$h = 39$ km.	Aleutian Islands.

September

2	<i>e</i> -Z	03 ^b 59 ^m 05 ^s	
	<i>i</i> -Z	59 12	
4	<i>iP</i> -Z	09 57 40	
	$\Delta = 47^\circ$	$h = 40$ km.	Aleutian Islands.
5	<i>iP</i> -ZE	02 38 17	D.
	$\Delta = 3^\circ$	$h = 33$ km.	Spitsbergen.
5	<i>eP</i> -Z	06 22 00	
	$\Delta = 52^\circ$	$h = 104$ km.	Tadzhik (USSR).
5	<i>eP</i> -Z	11 41 41	
	<i>ePPP</i> -Z	43 21	
	$\Delta = 37^\circ$	$h = 43$ km.	Alaska.
8	<i>e</i> -Z	11 45 33	
	<i>e</i> -Z	48 31	
	<i>i</i> -NE	49 17	
	<i>i</i> -E	12 06 34	
9	<i>e</i> -Z	09 18 40	
11	<i>iP</i> -Z	02 55 17	C.
	$\Delta = 47^\circ$	$h = 60$ km.	Aleutian Islands.
11	<i>iP</i> -Z	22 26 20	C.
	$\Delta = 74^\circ$	$h = 134$ km.	Near coast of Venezuela.
12	<i>e</i> -Z	23 28 35	
13	<i>ePKP</i> -Z	21 38 19	
	$\Delta = 126^\circ$	$h = 40$ km.	Off Chile.
14	<i>iP</i> -Z	08 12 28	C.
	$\Delta = 53^\circ$		Iran-Iraq frontier.
14	<i>iP</i> -Z	22 00 48	
	$\Delta = 61^\circ$	$h = 55$ km.	Near coast of Hondu.
15	<i>iP</i> -Z	01 55 02	C.
	<i>ePcP</i> -Z	56 22	
	$\Delta = 50^\circ$	$h = 36$ km.	Cyprus.
16	<i>e</i> -Z	10 25 27	
	<i>e</i> -E	26 05	
16	<i>iP</i> -Z	12 20 17	
	$\Delta = 69^\circ$	$h = 430$ km.	Off Hondu, Japan.
16	<i>iP</i> -Z	13 42 37	
	$\Delta = 68^\circ$	$h = 19$ km.	Mid-Atlantic Ridge.
16	<i>eP</i> -Z	17 26 21	C.
	$\Delta = 47^\circ$	$h = 49$ km.	Near coast of Kamchatka.
17	<i>iP</i> -Z	08 53 19	
	$\Delta = 73^\circ$	$h = 53$ km.	Near coast of Taiwan.

September

18	<i>iP</i> -Z	05 ^b 17 ^m 20 ^s	
	$\Delta = 49^\circ$	$h = 39$ km.	Crete.
18	<i>iP</i> -Z	11 09 27	D.
	$\Delta = 46^\circ$	$h = 55$ km.	Caspian Sea.
19	<i>eP</i> -Z	06 22 20	
	$\Delta = 83^\circ$	$h = 61$ km.	Mariana Islands.
19	<i>iP</i> -Z	09 58 26	
	<i>L</i> -E	10 25.9	
	$\Delta = 80^\circ$	$h = 33$ km.	Off Panama.
19	<i>eP</i> -Z	15 19 15	trace ampl.: 9,8 mm.
	<i>iS</i> -Z	19 59	trace ampl.: 15,0 mm.
19	<i>ePKP</i> -Z	21 54 06	
	$\Delta = 141^\circ$	$h = 33$ km.	Sandwich Islands.
21	<i>e</i> -Z	01 35 12	
22	<i>e</i> -Z	05 02 39	
22	<i>e</i> -Z	21 31 54	
23	<i>e</i> -Z	09 56 25	
24	<i>iP</i> -Z	06 50 06	D. trace ampl.: 1.0 mm.
	<i>i</i> -Z	50 21	
	<i>e(S)</i> -Z	50 34	trace ampl.: 7.6 mm.
24	<i>iP</i> -Z	19 15 48	D.
	$\Delta = 71^\circ$	$h = 55$ km.	Mexico.
24	<i>eP</i> -Z	21 51 30	
	$\Delta = 65^\circ$	$h = 50$ km.	Off Hondu, Japan.
25	<i>eP</i> -Z	02 34 07	
	$\Delta = 36^\circ$	$h = 125$ km.	Alaska.
25	<i>eP</i> -Z	05 40 46	
	$\Delta = 77^\circ$	$h = 33$ km.	Hawaiian Islands.
25	<i>iP</i> -Z	21 14 14	C.
	<i>iS</i> -Z	15 31	
	$\Delta = 8^\circ$	$h = 33$ km.	Spitsbergen.
26	<i>e</i> -Z	12 49 06	
27	<i>e</i> -Z	07 02 12	
27	<i>eP</i> -Z	11 29 07	
	$\Delta = 45^\circ$	$h = 27$ km.	Aleutian Islands.
27	<i>ePKP</i> -Z	12 26 53	
	$\Delta = 141^\circ$	$h = 33$ km.	Sandwich Islands.
27	<i>eP</i> -Z	19 29 06	
	$\Delta = 45^\circ$	$h = 42$ km.	Aleutian Islands.

September		October	
27 <i>eP·Z</i>	19 ^h 35 ^m 21 ^s $\Delta = 45^\circ$, $h = 22$ km. Aleutian Islands.	9 <i>eP·Z</i>	06 ^h 59 ^m 57 ^s $\Delta = 54^\circ$, $h = 33$ km. Tsinghai Province (China).
27 <i>iP·Z</i>	21 18 10 $\Delta = 70^\circ$, $h = 160$ km. China Sea.	10 <i>e·Z</i>	05 54 04
28 <i>iP·Z</i>	01 37 28 $\Delta = 98^\circ$, $h = 100$ km. Sumatra.	10 <i>e·Z</i>	13 54 28
28 <i>iP·Z</i>	03 35 29 $\Delta = 68^\circ$, $h = 41$ km. Off Hondu, Japan.	11 <i>e·Z</i>	05 02 47
28 <i>eP·Z</i>	05 09 46 $\Delta = 54^\circ$, $h = 204$ km. Hindu Kush.	11 <i>iP·Z</i>	07 11 25 $\Delta = 39^\circ$, $h = 42$ km. Kodiak Island.
28 <i>iP·Z</i>	22 46 34 $\Delta = 61^\circ$, $h = 41$ km. Near Persian Coast.	11 <i>iP·Z</i>	07 47 50 $\Delta = 42^\circ$, $h = 0$ km. Kazakhstan (USSR).
29 <i>eP·Z</i>	08 32 51 $\Delta = 46^\circ$, $h = 33$ km. Aleutian Islands.	11 <i>i·Z</i>	08 32 20
29 <i>iP·Z</i>	08 57 24 C. <i>i·Z</i> 57 46 $\Delta = 80^\circ$, $h = 60$ km. Andaman Islands.	12 <i>iP·Z</i>	03 55 44 C. $\Delta = 91^\circ$, $h = 104$ km. Talaud Islands.
29 <i>eP·Z</i>	17 00 04 $\Delta = 55^\circ$, $h = 45$ km. Japan.	13 <i>eP·Z</i>	02 34 44 $\Delta = 91^\circ$, $h = 241$ km. Off Mindanao (Phillippines).
29 <i>eP·Z</i>	19 19 27 $\Delta = 96^\circ$, $h = 110$ km. Celebes.	13 <i>ePKP·Z</i>	05 18 09 <i>e·Z</i> 21 41 $\Delta = 137^\circ$, $h = 33$ km. Sandwich Group.
		13 <i>ePKP·Z</i>	11 06 08 $\Delta = 141^\circ$, $h = 33$ km. Sandwich Group.
		15 <i>e·Z</i>	13 09 34
		16 <i>e·Z</i>	03 58 02
		17 <i>e·Z</i>	10 38 41
		17 <i>e·Z</i>	12 01 06
		17 <i>e·Z</i>	13 30 16
		17 <i>e·Z</i>	17 13 38
		18 <i>e·Z</i>	01 49 11
		18 <i>eP·Z</i>	10 52 18 $\Delta = 44^\circ$, $h = 33$ km. Aleutian Islands.
		18 <i>iPKP·Z</i>	17 10 47 D. $\Delta = 121^\circ$, $h = 33$ km. Near coast of Chile.
		19 <i>e·Z</i>	09 03 09
		19 <i>e·Z</i>	09 51 27
		19 <i>eP·Z</i>	11 06 03 $\Delta = 55^\circ$, $h = 230$ km. Japan Sea.
		19 <i>ePKP·Z</i>	11 37 57 $\Delta = 121^\circ$, $h = 149$ km. Argentina.

October		October	
20 <i>eP·Z</i>	08 ^h 10 ^m 47 ^s $\Delta = 15^\circ$, $h = 0$ km. Novaya Zemlya. Explosion.	30 <i>eP·ZE</i>	08 ^h 37 ^m 10 ^s <i>L·NE</i> 42.9 <i>M·NE</i> 45.0 $\Delta = 15^\circ$, $h = 0$ km. Novaya Zemlya. Explosion.
20 <i>e·Z</i>	14 02 41	30 <i>iP·Z</i>	16 05 10 $\Delta = 48^\circ$. Aleutian Islands.
21 <i>e·Z</i>	17 46 05	30 <i>eP·Z</i>	21 26 42 $\Delta = 69^\circ$, $h = 31$ km. Off Hondu, Japan.
22 <i>e·Z</i>	15 08 03	30 <i>e·Z</i>	22 32 40
23 <i>iPKP·Z</i>	00 28 03 $\Delta = 142^\circ$, $h = 33$ km. Sandwich Group.	31 <i>iP·Z</i>	01 52 21 C. $\Delta = 47^\circ$, $h = 35$ km. Aleutian Islands.
23 <i>e·Z</i>	02 29 42	31 <i>i·Z</i>	06 42 48 C trace ampl.: 31 mm. <i>e·N</i> 42 51 Near.
23 <i>eP·Z</i>	08 34.9 <i>L·E</i> 38 47 $\Delta = 15^\circ$, $h = 0$ km. Novaya Zemlya. Explosion.	31 <i>eP·Z</i>	08 33 07 <i>L·NE</i> 40 34 T = 15 sec. $\Delta = 16^\circ$, $h = 0$ km. Novaya Zemlya. Explosion.
23 <i>iP·Z</i>	10 35 07 $\Delta = 19^\circ$, $h = 0$ km. Novaya Zemlya. Explosion.		
23 <i>iP·Z</i>	14 52 49 C. <i>e·Z</i> 56 36 <i>eSKS·E</i> 15 03 13 $\Delta = 93^\circ$, $h = 20$ km. Molucca Passage.	November	
23 <i>iP·Z</i>	15 05 44 C. $\Delta = 93^\circ$, $h = 33$ km. Molucca Passage.	2 <i>eP·Z</i>	23 43 50 $\Delta = 43^\circ$, $h = 33$ km. Peninsula of Alaska.
25 <i>e·Z</i>	16 35 48 $\Delta = 73^\circ$, $h = 114$ km. Gulf of Aden.	3 <i>i(P)·Z</i>	22 46 20 $\Delta = 19^\circ$. North Atlantic.
26 <i>eP·Z</i>	15 40 21 <i>L·N</i> 16 25.6 <i>L·E</i> 26.5 $\Delta = 94^\circ$, $h = 34$ km. Off Sumatra.	4 <i>L·E</i>	07 31.6
26 <i>eP·Z</i>	17 33 33 $\Delta = 72^\circ$, $h = 91$ km. State of Guerrero.	<i>M·E</i>	32.0 T = 15 sec.
26 <i>eP·Z</i>	19 41 50 $\Delta = 94^\circ$, $h = 62$ km. Off Sumatra.	$\Delta = 16^\circ$, $h = 0$ km. Novaya Zemlya, nuclear explosion.	
26 <i>eP·Z</i>	22 08 01 $\Delta = 79^\circ$, $h = 154$ km. Colombia.	5 <i>eP·Z</i>	10 45 42 $\Delta = 53^\circ$, $h = 142$ km. Kurile Islands.
27 <i>e·Z</i>	07 49 08	6 <i>ePKP·Z</i>	00 16 05 $\Delta = 148^\circ$, $h = 35$ km. Auckland Islands Region.
28 <i>iP·Z</i>	10 55 57 $\Delta = 53^\circ$, $h = 52$ km. Iran.	6 <i>iP·Z</i>	08 09 49 C. $\Delta = 67^\circ$, $h = 37$ km. Bhutan.
28 <i>eP·Z</i>	22 53 37 $\Delta = 42^\circ$, $h = 33$ km. Baikal Lake, USSR.	6 <i>e·Z</i>	20 17 05
29 <i>eS·NE</i>	09 30 36 $\Delta = 45^\circ$, $h = 16$ km. Region of Vancouver Island.	12 <i>iP·Z</i>	02 27 44 D. $\Delta = 83^\circ$, $h = 39$ km. Congo.
30 <i>eP·Z</i>	02 25 33 $\Delta = 51^\circ$, $h = 36$ km. Off Oregon.	12 <i>e·Z</i>	05 32 37
		12 <i>e·Z</i>	15 04 44 trace ampl.: 2 mm. <i>i·Z</i> 05 13 trace ampl.: 5 mm. Near.
		13 <i>eP·Z</i>	14 14 49 C. <i>iS·Z</i> 16 40 $\Delta = 10^\circ$. Jan Mayen Region.

November	
13 <i>e(P)·Z</i>	14 ^h 22 ^m 17 ^s
<i>e(S)·Z</i>	24 04
13 <i>e(P)·Z</i>	17 48 06
<i>e(S)·Z</i>	49 55
14 <i>L·N</i>	05 20 16
$\Delta = 79^\circ$, $h = 29$ km. Off Panama.	
15 <i>eP·ZN</i>	07 26 40 C.
<i>iScS·N</i>	36 30
<i>L·N</i>	40.5
$\Delta = 55^\circ$, $h = 43$ km. Japan.	
16 <i>e·Z</i>	16 08 36
17 <i>eP·Z</i>	16 25 53
<i>e(S)·Z</i>	27 39
18 <i>iP·Z</i>	22 21 16
<i>iPP·Z</i>	23 57
$\Delta = 73^\circ$, $h = 38$ km. Taiwan.	
19 <i>iP·Z</i>	23 35 05 D.
<i>ipP·Z</i>	35 52
$\Delta = 96^\circ$, $h = 157$ km. Region of Celebes.	
20 <i>e·Z</i>	17 11 20
20 <i>eP·Z</i>	18 07 19
$\Delta = 52^\circ$, $h = 34$ km. Mid-Atlantic Ridge.	
20 <i>i·Z</i>	23 17 59 C.
<i>e·Z</i>	18 19
Japan?	
21 <i>e·Z</i>	15 53 52
<i>i·Z</i>	54 15
23 <i>e·Z</i>	11 48 29
25 <i>e·Z</i>	12 09 02
25 <i>e·Z</i>	16 07 04 C.
25 <i>iP·Z</i>	20 30 06 C.
$\Delta = 62^\circ$, $h = 45$ km. Japan.	
26 <i>e·Z</i>	03 32 30
27 <i>eP·Z</i>	06 07 53
$\Delta = 67^\circ$, $h = 25$ km. Japan.	
27 <i>eP·Z</i>	17 24 08
$\Delta = 97^\circ$, $h = 33$ km. Region of Halmahera.	
28 <i>iP·Z</i>	10 24 19
$\Delta = 55^\circ$, $h = 31$ km. Coast of India-Pakistan.	

December	
1 <i>eP·Z</i>	21 ^h 23 ^m 56 ^s
<i>ipP·Z</i>	24 49
$\Delta = 70^\circ$, $h = 206$ km. China Sea.	
2 <i>e·Z</i>	19 54 21
3 <i>i·Z</i>	05 50 42 C.
3 <i>eP·Z</i>	08 51 36
$\Delta = 72^\circ$, $h = 140$ km. Taiwan.	
3 <i>eP·Z</i>	18 40 13
$\Delta = 46^\circ$, $h = 44$ km. Armenian SSR.	
3 <i>iP·Z</i>	20 03 53 D.
$\Delta = 54^\circ$, $h = 386$ km. Japan Sea.	
4 <i>iP·Z</i>	03 50 25
$\Delta = 42^\circ$, $h = 62$ km. Alaska.	
4 <i>eP·Z</i>	12 48 20
<i>L·N</i>	13 11
<i>L·E</i>	12.2
<i>M·E</i>	14.5
$\Delta = 60^\circ$, $h = 45$ km. Tsinghai Province, China.	
4 <i>eP·Z</i>	17 40 14
<i>eS·Z</i>	42 11
$\Delta = 11^\circ$. Jan Mayen Island.	
4 <i>e·Z</i>	20 47 37
5 <i>ePKP·Z</i>	13 20 44
<i>ePKP·E</i>	20 55
$\Delta = 148^\circ$, $h = 33$ km. Tasmania.	
6 <i>iP·Z</i>	06 00 44 C.
$\Delta = 79^\circ$, $h = 35$ km. Andaman Islands.	
6 <i>eP·ZNE</i>	16 48 22
<i>M·NE</i>	17 10.2
$\Delta = 49^\circ$, $h = 60$ km. Kurile Islands.	
9 <i>eP·Z</i>	02 23 02 C.
$\Delta = 41^\circ$, $h = 31$ km. Kodiak Island.	
9 <i>e·Z</i>	10 52 40
9 <i>ePKP·Z</i>	11 37 12
$\Delta = 129^\circ$, $h = 34$ km. Near coast of Chile.	
9 <i>ePKP·Z</i>	20 07 25
$\Delta = 119^\circ$, $h = 620$ km. Region of Fiji Islands.	
10 <i>eP·Z</i>	08 47 54
$\Delta = 49^\circ$, $h = 17$ km. Crete Island.	
12 <i>e·Z</i>	01 44 58

December	
12 <i>eP·Z</i>	23 ^h 15 ^m 44 ^s
$\Delta = 55^\circ$, $h = 65$ km. Japan.	
13 <i>eP·Z</i>	08 51 59
$\Delta = 71^\circ$, $h = 55$ km. Ryukyu Islands.	
15 <i>e·Z</i>	03 22 46
15 <i>eP·Z</i>	22 11 56
$\Delta = 49^\circ$, $h = 33$ km. Crete Island.	
16 <i>eP·Z</i>	13 48 51
$\Delta = 47^\circ$, $h = 62$ km. Off Kamchatka.	
17 <i>ePKP·Z</i>	22 32 22
$\Delta = 152^\circ$, $h = 45$ km. Tasmania.	
18 <i>e·Z</i>	03 00 27
20 <i>iP·ZNE</i>	13 37 31
<i>ipP·Z</i>	38 08 D.
<i>iS·NE</i>	47 26
<i>isS·NE</i>	48 36
$\Delta = 81^\circ$, $h = 176$ km. Colombia.	
20 <i>i·Z</i>	13 56 04 C.
24 <i>e·Z</i>	00 00 02
24 <i>eP·Z</i>	07 00 12
$\Delta = 55^\circ$, $h = 125$ km. Japan.	
24 <i>eP·Z</i>	7 23 47
$\Delta = 62^\circ$, $h = 33$ km. Nepal.	
24 <i>eP·Z</i>	20 30 07
$\Delta = 9^\circ$, $h = 33$ km. Off Spitzbergen.	
25 <i>eP·Z</i>	11 29 54
$\Delta = 67^\circ$, $h = 33$ km. Bhutan.	
25 <i>eP·Z</i>	21 59 59
$\Delta = 52^\circ$, $h = 130$ km. Sinkiang Province, China.	
27 <i>e·Z</i>	16 58 57
$\Delta = 83^\circ$, $h = 37$ km. N of Ascension Island.	
28 <i>e·Z</i>	05 14 46
<i>i·Z</i>	14 51
29 <i>eP·Z</i>	15 04 50
$\Delta = 74^\circ$, $h = 45$ km. Mexico-Guatemala frontier.	
29 <i>e·Z</i>	20 31 04
30 <i>eP·ZN</i>	00 47 48
<i>i·E</i>	47 58
<i>iS·E</i>	54 38
<i>i·N</i>	54 44
$\Delta = 46^\circ$, $h = 56$ km. Aleutian Islands.	

December	
30 <i>iP·Z</i>	07 ^h 17 ^m 37 ^s C.
$\Delta = 52^\circ$, $h = 35$ km. Sinkiang Province, China.	
30 <i>eP·Z</i>	23 31 07
$\Delta = 67^\circ$, $h = 32$ km. Atlantic Ocean.	
Local shocks.	
July	(P) (S)
1 13 ^h	<i>i</i> 09 ^m 12 ^s <i>e</i> 09 ^m 32 ^s
2 23	<i>e</i> 41 31 <i>i</i> 41 33
3 7	<i>i</i> 31 17 <i>i</i> 31 19
	7 <i>e</i> 38 42 <i>e</i> 39 03
5 6	<i>e</i> 54 09
	12 <i>e</i> 38 40
6 23	<i>e</i> 02 51
7 0	<i>i</i> 16 50
	8 <i>i</i> 23 39 <i>i</i> 23 42
8 15	<i>e</i> 00 09
9 13	<i>i</i> 21 39
	20 <i>i</i> 37 28 <i>i</i> 37 32
10 1	<i>e</i> 32 10
16 22	<i>e</i> 56 39 <i>i</i> 56 59
19 0	<i>i</i> 39 37
	4 <i>i</i> 02 16
21 1	<i>i</i> 16 44
	1 <i>i</i> 20 51
	19 <i>i</i> 30 46 <i>i</i> 31 14
22 1	<i>e</i> 40 08
24 1	<i>e</i> 31 19 <i>i</i> 31 40
25 0	<i>e</i> 42 26 <i>i</i> 42 51
	21 <i>e</i> 57 52 <i>i</i> 58 20
26 8	<i>i</i> 38 41 <i>i</i> 39 09
28 17	<i>e</i> 45 48
29 10	<i>e</i> 29 13 <i>e</i> 29 36
	19 <i>e</i> 42 54 <i>i</i> 42 57
30 4	<i>i</i> 54 39 <i>e</i> 55 13
August	
2 0	<i>i</i> 32 28 <i>i</i> 32 48
3	<i>i</i> 38 59
	21 <i>e</i> 05 50 <i>i</i> 06 11
3 2	<i>e</i> 48 53 <i>i</i> 49 12
4 10	<i>e</i> 23 47
	18 <i>i</i> 53 07
5 18	<i>e</i> 06 50
	18 <i>i</i> 10 13
6 13	<i>i</i> 39 43 <i>i</i> 40 03
8 15	<i>i</i> 24 04 <i>e</i> 24 36
9 1	<i>i</i> 49 46 <i>i</i> 50 11
	Trace ampl.: 4.2 mm.
10 7	<i>e</i> 36 27 <i>e</i> 36 53
11 6	<i>e</i> 09 14 <i>e</i> 09 34
13 13	<i>e</i> 26 32
14 3	<i>e</i> 07 45 <i>i</i> 08 20
	5 <i>e</i> 05 45 <i>i</i> 06 21
	5 <i>e</i> 19 28 <i>e</i> 20 04
	7 <i>e</i> 27 16 <i>e</i> 27 47
	9 <i>e</i> 16 42 <i>e</i> 17 15

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August			September		
(P)	(S)		(P)	(S)	
12 ^h	<i>i</i> 13 ^m 07 ^s	<i>e</i> 13 ^m 41 ^s Trace ampl.: 9.4 mm.	13	10 ^h <i>e</i> 03 ^m 04 ^s	<i>e</i> 03 ^m 29 ^s
14	<i>e</i> 04 32	<i>e</i> 04 57	11	<i>e</i> 10 22	<i>i</i> 10 45
20	<i>e</i> 07 43	<i>e</i> 08 16	19	<i>e</i> 08 45	
15	1 <i>i</i> 02 19	<i>i</i> 02 38	14	8 <i>e</i> 15 35	<i>i</i> 16 01
15	8 <i>e</i> 22 08	<i>e</i> 22 27	12	<i>e</i> 11 49	
11	<i>i</i> 03 56	<i>e</i> 04 31	15	22 <i>e</i> 37 15	
16	5 <i>e</i> 07 19		16	3 <i>e</i> 11 27	
14	<i>e</i> 09 57	<i>i</i> 10 17	6	<i>e</i> 32 34	
15	<i>i</i> 27 49	<i>i</i> 28 08	7	<i>e</i> 10 29	
17	12 <i>i</i> 01 59		11	<i>e</i> 07 42	
18	<i>i</i> 27 57		20	<i>e</i> 47 54	
18	5 <i>e</i> 07 00		17	3 <i>e</i> 01 05	
19	1 48 23		18	16 <i>e</i> 52 31	
13	<i>e</i> 59 15		19	2 <i>e</i> 31 29	<i>e</i> 31 50
16	<i>e</i> 03 35		7	<i>e</i> 58 44	
23	<i>i</i> 42 17	<i>i</i> 42 38	13	<i>e</i> 45 30	
20	11 <i>e</i> 08 43		15	<i>e</i> 19 15	<i>i</i> 19 59 Trace ampl.: 9.8 mm, 15 mm.
19	<i>i</i> 19 01	Trace ampl.: 11.2 mm.	21	<i>e</i> 39 10	<i>i</i> 39 31
22	5 <i>i</i> 40 42		20	6 <i>e</i> 17 23	
23	<i>i</i> 15 26	<i>i</i> 15 58 Trace ampl.: 13.2 mm.	15	<i>e</i> 58 58	<i>e</i> 59 40
23	10 <i>i</i> 34 23		21	0 <i>i</i> 24 58	
25	1 <i>e</i> 15 42		17	<i>i</i> 34 18	<i>e</i> 34 59
26	7 <i>e</i> 45 54		24	6 <i>i</i> 50 06	<i>e</i> 50 34 Trace ampl.: 1 mm, 7.6 mm.
7	<i>e</i> 55 01		26	0 <i>e</i> 14 49	
28	17 <i>i</i> 42 22	<i>i</i> 43 59 Trace ampl.: 7.6 mm.	3	<i>e</i> 59 34	
29	5 <i>e</i> 48 26		20	<i>i</i> 30 00	<i>i</i> 30 49
12	<i>i</i> 43 38		27	5 <i>e</i> 24 14	
16	<i>e</i> 04 06		29	2 <i>i</i> 42 06	
30	1 <i>i</i> 05 29	<i>i</i> 05 57	5	<i>e</i> 36 14	
8	<i>e</i> 00 40		30	23 <i>e</i> 54 05	<i>i</i> 54 33
11	<i>e</i> 43 21				
31	7 <i>e</i> 22 13		October		
9	<i>i</i> 18 14		1	17 <i>e</i> 07 14	
19	<i>e</i> 21 22		2	23 <i>e</i> 26 18	
			3	21 <i>e</i> 47 34	
September			23	<i>e</i> 40 33	
1	2 <i>e</i> 06 57		4	1 <i>e</i> 15 11	
5	<i>e</i> 14 41		10	<i>e</i> 07 07	
5	<i>e</i> 51 59		14	<i>e</i> 20 16	
23	<i>e</i> 18 25		5	2 <i>e</i> 13 20	<i>e</i> 13 48
3	11 <i>e</i> 38 17		6	6 <i>i</i> 17 04	
4	4 <i>i</i> 41 37	<i>i</i> 41 57	14	<i>e</i> 36 12	
15	<i>e</i> 48 03	<i>i</i> 48 29	8	1 <i>e</i> 34 58	<i>e</i> 35 29
5	0 <i>e</i> 26 17	<i>e</i> 26 45	22	<i>e</i> 03 48	
2	<i>i</i> 38 17	Trace ampl.: 38 mm.	23	<i>i</i> 11 43	Trace disappeared.
6	<i>e</i> 11 32		9	0 <i>i</i> 07 07	
12	<i>e</i> 08 38	<i>i</i> 08 59	23	<i>e</i> 03 02	
8	7 <i>e</i> 46 52		10	5 <i>e</i> 38 05	
10	<i>e</i> 52 00		16	<i>e</i> 42 56	<i>e</i> 43 18
9	0 <i>e</i> 05 58		11	4 <i>i</i> 17 59	
5	<i>e</i> 04 32		8	<i>e</i> 03 40	
6	<i>e</i> 49 27	<i>e</i> 50 38	12	15 <i>e</i> 05 16	
20	<i>i</i> 54 45		22	<i>e</i> 14 39	
11	1 <i>e</i> 01 47		13	2 <i>i</i> 19 17	
8	<i>e</i> 40 30		7	<i>e</i> 48 50	
16	<i>e</i> 48 49		8	<i>e</i> 25 37	
13	8 <i>i</i> 27 25	<i>i</i> 27 50	9	<i>e</i> 10 43	<i>e</i> 11 08
9	<i>e</i> 18 48		18	<i>e</i> 54 21	

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October			November		
(P)	(S)		(P)	(S)	
14	7 ^h <i>e</i> 29 ^m 25 ^s		7	1 ^h <i>i</i> 06 ^m 10 ^s	<i>i</i> 06 ^m 30 ^s
14	<i>e</i> 28 15	<i>e</i> 28 ^m 46 ^s	9	<i>i</i> 17 05	
16	2 <i>e</i> 31 51		8	0 <i>e</i> 03 58	
17	9 <i>e</i> 45 39		9	8 <i>i</i> 42 03	<i>i</i> 42 24
9	<i>e</i> 50 29		11	8 <i>e</i> 29 00	
17	<i>e</i> 33 25		12	15 <i>e</i> 04 44	<i>i</i> 05 13 Trace ampl.: 2 mm, 5 mm.
22	<i>i</i> 33 22	<i>i</i> 33 42	23	<i>e</i> 23 27	
18	10 <i>e</i> 59 23	<i>e</i> 59 37	21	15 <i>e</i> 10 40	<i>e</i> 11 11
19	4 <i>i</i> 36 32		22	8 <i>e</i> 20 07	
5	<i>e</i> 10 04		23	10 <i>i</i> 11 01	<i>i</i> 11 32
8	<i>e</i> 06 49	<i>e</i> 07 17	24	2 <i>e</i> 09 58	
8	<i>e</i> 37 07		9	<i>e</i> 09 07	<i>e</i> 09 37
20	7 <i>i</i> 23 39	<i>i</i> 24 16	21	<i>e</i> 18 11	
13	<i>e</i> 47 45	<i>e</i> 48 05	25	5 <i>e</i> 10 14	<i>i</i> 10 19
20	<i>e</i> 15 45	<i>e</i> 16 13	27	19 <i>e</i> 45 33	
22	12 <i>e</i> 53 24	<i>e</i> 54 02	28	9 <i>e</i> 55 00	
23	0 <i>i</i> 42 30	<i>i</i> 42 50			
1	<i>e</i> 41 03		December (P)	(S)	
6	<i>e</i> 12 19	<i>e</i> 12 59	1	2 <i>i</i> 18 12	
13	<i>e</i> 04 14	<i>i</i> 04 40	2	16 <i>e</i> 52 25	
24	7	<i>e</i> 34 32	5	11 <i>e</i> 38 10	
14	<i>e</i> 57 53	<i>e</i> 58 31	8	5 <i>i</i> 57 11	
17	<i>e</i> 07 30		20	<i>e</i> 16 29	
21	<i>e</i> 49 53	<i>e</i> 50 17	22	<i>i</i> 19 49	
25	0 <i>i</i> 15 35		11	17 <i>i</i> 01 40	
4	<i>i</i> 39 11	<i>i</i> 39 31	16	9 <i>e</i> 29 14	<i>e</i> 29 42
9	<i>e</i> 40 46	<i>i</i> 41 28	17	7 <i>e</i> 20 27	
20	<i>e</i> 34 53	<i>e</i> 35 24	8	<i>i</i> 29 42	
26	6 <i>e</i> 20 24		18	6 <i>e</i> 04 26	<i>e</i> 04 44
27	3 <i>e</i> 40 39		20	9 <i>e</i> 15 19	<i>e</i> 15 39
30	3 <i>i</i> 08 44		22	4 <i>i</i> 08 29	<i>e</i> 08 49
3	<i>i</i> 18 30		23	23 <i>i</i> 10 02	
31	6 <i>i</i> 42 48	Trace ampl.: 31 mm.	25	0 <i>e</i> 30 50	
21	<i>i</i> 46 15	<i>e</i> 46 35	9	<i>e</i> 54 35	
			14	<i>e</i> 54 07	
November			19	<i>e</i> 04 17	<i>e</i> 04 21
1	10 <i>e</i> 49 19	<i>e</i> 49 35	26	1 <i>e</i> 52 13	
22		<i>e</i> 04 31	9	<i>e</i> 14 41	
2	4 <i>e</i> 29 49		27	20 <i>i</i> 09 25	
4	<i>e</i> 36 40		29	0 <i>e</i> 22 00	
18	<i>i</i> 25 11	<i>e</i> 25 31	20	<i>e</i> 00 57	
18	<i>i</i> 37 58		30	20 <i>e</i> 26 54	
3	21 <i>e</i> 25 48		31	20 <i>e</i> 36 26	<i>e</i> 36 55
5	0 <i>e</i> 17 17	<i>i</i> 17 54			