University of Washington
Dept. of Geology

Seismological Bulletin

1952 – 1968

21 MAY 1968

Seismograph Station
University of Washington
Department of Geology
Seattle, Washington 98105

Preliminary Readings: World-Wide Standard Seismograph Station, Longmire, Washington

January 1968

All locations and magnitude determinations are from U. S. Coast and Geodetic Survey

Latitude: 46° 45.0'N Elevation: 2800 feet
Longitude: 122° 48.6'W Foundation: Volcanic Breccia

T = period. A = peak to peak amplitude for S.P.Z., Magnification 100 K

Date	Phase	Time G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
Jan 3	i P Z	02 31 33.0	0.8	1.0	0 = 02 24 54.1, 51.8N 177.3W Andreanof Isl.	4.6, 39km	3,800km
3	e P Z	04 18 50	1.7	1.2	04 09 34.9, 72.3N, 6.5E Norwegian Sea	5.4, 33km	6,100km
	i Z	19 11.2	1.7	4.7			
	e L Z	04 37.7					
3	i P Z	07 47 24.3	1.3	4.1			
3	i P Z	10 22 31.0	1.1	2.3	0 = 10 18 00.7, 59.7N, 146.8W Gulf of Alaska	4.7, 19km	2,200km
	e S E	26.2					
	e S N	26.3					
	e L Z	10 27.8					
4	i P Z	01 04 10.7R	0.7	26.6			
	e E	09.2					
	e N	09.3					
	e Z	09.5					
	e N	11.4					
	e E	12.3					
	e Z	01 13.0					
5	i P Z	03 39 05.1					
	i S N	39 44.9			Local		
	i S Z	39 15.1					
	i S E	03 39 15.5					
5	i P Z	09 38 07.7	1.1	3.2			
6	i P Z	05 52 45.6					
	i Z	52 52.6			Local		
	i S NE	05 52 54.0					
6	e P Z	08 42 15			MR		
6	i P Z	23 40 05.0C	1.2	2.3	0 = 23 27 21.2, 27.8S, 71.1W Near Coast of N. Chile	5.8, 33km	9,800km
	e S E	50.5					
	e S N	50.6					
	e S Z	50.7					
	e SS E	24 56.7					
	e Z	00 11.3					

Date	Phase	Time G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
8	i P Z	18 25 45.9R	0.7	10.2			
8	i P Z	18 41 24.0R	1.1	4.8			
8	e P Z e Z E e N e Z e E	22 06 20 14.2 14.8 29.3 22 29.5	1.3	4.1			
9	i P Z	11 46 09.3C	0.6	26.7	0 = 11 44 52, 43.7N, 127.6W Off Coast of Oregon	14.4, 33km	550km
11	e P Z	07 47 48	0.6	0.7			
11	i P Z i S ZNE	19 34 19.7 19 34 22.3			Local		
13	i P Z e S E e S N	07 16.3 6.6R 27.2 07 27.3	1.2	20.2	0 = 07 03 39.2, 24.1N, 122.2E Taiwan Region	5.7, 8km	9,800km
13	i P Z e Z e E e N	16 19 25.1R 19.4 29.4 16 31.1	0.9	11.8			
14	i P Z	08 13 08.7	1.0	8.7			
14	i P Z	10 56 24.2C	0.7	2.8	0 = 10 36 37, 23.6S, 33.0E Mozambique	5.1, 33km	16,900km
14	i P Z	11 32 17.1R	0.8	2.8			
14	i P Z	12 43 30.5	0.6	0.7	0 = 12 25 09.7, 7.5S, 127.9E Banda Sea	5.9, 115km	12,100km
14	i P Z	12 47 15.9	1.4	27.2	0 = 12 40 48.5, 52.8N, 171.4W Fox Island	5.6, 44km	3,500km
14	i P Z e S E e S N e L Z e L E	17 49 36.5 54.8 55.0 57.7 17 58.0	1.0	15.6	0 = 17 43 10.0, 52.7N, 171.2W Fox Island	5.5, 34km	3,500km
15	e P Z	01 45 46	0.8	2.2	0 = 01 33 02.7, 37.9N, 13.1E Sicily	5.1, 33km	9,500km
15	e Z	02 13 50	1.0	2.7	0 = 02 01 08.5, 37.9N, 13.1E Sicily	5.4, 33km	9,500km
15	e P Z	15 17 48	0.8	1.0			
17	i P Z	10 21 01.0	0.4	3.3			

Date	Phase	Time G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
18	i P Z	12 15 45.4	1.2	3.3	0 = 12 03 37.4, 14.6S, 178.4W	5.1, 33km	8,900km
	e L ZNE	12 39.7			Fiji Island		
19	e P Z	01 20 49	1.4	2.5			
19	e P Z	06 17 35	1.2	2.1	0 = 06 04 38.2, 9.4S, 158.4E	6.0, 33km	9,800km
	e S E	28.1			Solomon Island		
	e S N	28.4					
	e S Z	28.5					
	e L N	41.3					
	e L Z	45.2					
	e L E	06 45.4					
19	i P Z	18 17 16.7C					
	e E	19.2					
	e Z	19.3					
	e N	19.7					
	e E	19.9					
	e N	20.4					
	e Z	18 20.9					
19	i P Z	20 24 49.2C	0.7	42.7	0 = 20 23 37.9, 43.4N, 126.6W	4.6, 33km	600km
	e N	26.2			Off Coast of Oregon		
	e E	26.4					
	e Z	20 26.5					
20	i P Z	00 30 23.7R	0.6	2.0			
	i Z	30 31.2			Local		
	i E	00 30 31.6					
20	e P Z	02 11 37	1.0	1.6			
	i E	11 51.9					
	i Z	11 52.5					
	i N	02 11 52.9					
20	i P Z	02 31 35.2	0.6	1.7			
20	i P Z	09 22 04.2			Local		
	i S N	22 16.4					
	i S Z	22 16.7					
	i S E	09 22 16.9					
20	i P Z	16 53 51.0	1.7	2.7	0 = 16 41 27.1, 16.2S, 178.1E	5.6, 21km	9,200km
	e S ZE	17 04.2			Fiji Island		
	e S N	04.3					
	e Z	18.4					
	e E	18.8					
	e L N	17 19.1					
20	i P Z	20 18 40.0	1.1	1.2			
20	i P Z	21 34 04.2R	0.7	7.9			
20	e Z	21 47 45	0.7	1.5	0 = 21 21 31.6, 29.9S, 179.5W	5.8, 349km	10,400km
					Kermadec Island		
20	i P Z	21 59 22.2	0.8	2.3			

Date	Phase	Time G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
21	e P Z	00 28 39	---	---			
21	e E	17 7.2					
	e Z	8.2					
	e N	9.7					
	e E	9.9					
	e ZE	15.4					
	e Z	22.5					
	e N	23.3					
	e E	17 24.0					
21	e P Z	22 57 49	0.7	1.0			
21	i P Z	23 52 02.7R	0.7	3.4	0 = 23 44 46.1, 15.6N 92.3W Mexico-Guatemala border	5.0, 166km	4,400km
	i N	52 33.3					
	i Z	52 33.8					
	i pP Z	52 51.0					
	i pP E	52 51.2					
	i pP N	52 52.4					
	e PP Z	53.7					
	e ScP E	57.9					
	e ScP N	68.0					
	e sS E	23 59.0					
	e L ZN	00 01.1					
	e L E	00 01.2					
22	i P Z	17 50 05.7	0.9	3.7			
	e NE	54.8					
	e E	56.3					
	e N	17 58.7					
	e Z	18 00.7					
23	i P Z	16 13 15.3	0.8	1.7	0 = 16 06 50.1, 52.1N, 171.3W Fox Island	5.2, 53km	3,500km
	e S NE	18.4					
	e L NE	20.4					
	e L Z	16 21.2					
23	i P Z	21 39 25.8					
	i S NE	21 39 30.2			Local		
25	i P Z	00 27 02.0	0.6	1.5			
26	e P Z	05 00 02	1.8	1.8	0 = 04 45 41.4, 8.8S, 120.4E Flores Island	5.9, 29km	12,900km
	e P' ZNE	04 22					
	e PP Z	05.8					
	e PS E	14.8					
	e PS Z	15.1					
	e PS N	15.2					
	e L N	32.4					
	e E	34.1					
	e Z	05 34.8					
26	i P Z	12 35 59.1C	1.5	24.3	0 = 12 30 46.3, 24.3N, 111.5W Baja California	5.3, 33km	2,600km
	e E	40.4					
	e S NE	40.5					
	e L N	42.9					
	e L Z	12 43.6					

Date	Phase	Time G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
27	i P Z	08 28 45.4R	0.7	52.2			
	i S N	29 00.9					
	i S E	08 29 02.0					
27	e P Z	14 09 21	1.2	1.6	0 = 13 56 23.8, 23.2N, 121.6E Taiwan	5.2, 53km	9,900km
	e S NE	14 19.8					
28	i P Z	02 00 46.5C	0.8	2.7	0 = 01 50 46.2, 2.8N, 74.9W Colombia	4.9, 68km	6,600km
28	i P Z	12 28 25.6C	0.8	3.2			
29	e P Z	05 14 08	1.0	1.6	0 = 05 00 10.0, 36.3N, 70.4E Hindu Kush	5.5, 225km	10,700km
29	i P Z	10 29 16.6C	1.7	10.4	0 = 10 19 05.6, 43.6N, 146.7E Kurile Island	7.0, 40km	6,800km
	N	35.4					
	e S N	37.5					
	e S E	10 37.6					
29	i P Z	16 52 00.8	0.8	2.0			
	e NE	17 01.2					
29	e P Z	20 57 15.5	2.0	11.6	0 = 20 52 21.3, 56.4N, 153.6W Kodiak Island	5.2, 6km	2,400km
	e S NE	21 01.3					
30	e P Z	00 21 24	0.7	1.1			
30	i P Z	01 22 20.1C	0.8	22.1	0 = 01 21 07.5, 43.5N, 126.5W Off Coast of Oregon	4.1, 22km	500km
30	e P Z	01 58 46	1.3	1.8	0 = 01 48 28.6, 43.3N, 147.7E Kurile Island	5.1, 33km	6,700km
	e S N	02 07.0					
	e G N	02 13.7					
30	e P Z	03 11 0[illegible]	1.00	1.1			
30	i P Z	04 02 06.2R	0.9	25.2			
30	i P Z	04 12 28.0R	0.8	7.4			
30	e P Z	15 21 45	0.6	1.5	0 = 15 20 05.6, 41.0N, 117.4W Nevada	4.5, 18km	700km
30	i P Z	20 24 57.8	0.8	3.4	0 = 20 12 41.7, 22.0S, 68.5W N. Chile	5.3, 118km	9,400km
30	i P ZNE	21 45 09.7C	0.5	9.0	Local		
	i S N	45 15.6					
	i S E	21 45 15.7					
31	i P Z	01 28 54.3	1.2	3.6			
	e Z	01 36.7					

24 JUN 1968

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Latitude: 46° 45.0'N Elevation: 2800 feet
Longitude: 122° 48.6'W Foundation: Volcanic Breccia

T = period. A = peak to peak amplitude for S.P.Z., Magnification 100 K

Date	Phase	Time G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
Feb.1	i P Z	07 59 38.4	1.4	14.9	0=07 58 03.5, 50.0N, 129.8W Vancouver Island	5.4, 14km	650km
	e L E	08 01.4					
1	i P Z	23 26 21.9C	1.2	5.8	0=23 13 47.2, 18.5S, 169.0E New Hebrides	5.1, 228km	10,000km
3	i P Z	05 43 12.4C	1.5	22.3	0-05 36 14.6, 16.7N, 99.4W Near Coast of Guerrero, Mexico	5.7, 9km	4000km
	e S NE	48.8					
	e ZE	53.2					
	e N	05 55.0					
3	e P Z	20 16 12	0.8	0.6			
3	e P Z	21 27 06	1.0	0.9			
4	e P Z	00 54.1					
4	e P Z	08 54 .9			Local		
	e S N	08 55 13					
4	e P Z	11 11 05	1.0	1.6	0=1100 50.1, 43.0N, 147.1E Kurile Island	5.5, 33km	6800km
	e S E	19.2					
	e SZN	19.4					
	e L E	26.2					
	e L N	11 26.3					
4	i P Z	11 39 30.5R	1.6	5.9	0=11 27 24.8, 19.6S, 68.2W Clute, Bolivia Border	5.3, 114km	9100km
4	i P Z	22 36 07.2			Local		
	i E	36 15.6					
	i N	22 36 15.8					
5	e P Z	17 10.4			0=17 08 31, 46.2N, 111.4W Montana	3.8, 5km	800km
5	e P Z	17 53 23					
	e E	17 53 46					

Date	Phase	Time G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
6	i P Z	00 33 21.8			Local		
6	i P Z	00 43 53.7	1.0	1.5	0=00 41 37.2, 38.0N, 118.4W Calif.-Nev. Border	4.6, 17km	1000km
6	e P Z	01 19 50					
6	e P Z	11 32 11.31					
6	e P Z e S N	22 55 21.1 23 01.5			0=22 47 52.4, 10.2N, 103.7W off coast of Mexico	4.8, 53km	4400km
7	i P Z	00 33 54.8			0=00 22 28.6, 21.6N, 142.9E Mariana Island	5.3, 309km	8600km
7	i P Z i S N	08 36 44.6C 08 37.9			0=08 35 29.6, 43.6N, 127.3W off coast of Oregon	5.1, 33km	450km
8	i P Z i S E	01 14 47.5 01 15 13.2					
8	i P Z	23 00 27.3R	1.0	3.5	0=22 50 04.6, 9.15, 71.4W Peru-Brazil border	4.7, 593km	8000km
8	e P Z	23 51 53.4	0.6	1.9			
9	e P Z	05 14 26					
9	e P Z	18 18 55	1.6	1.3	0=18 06 28, 22.6S, 175.1W Tonga Island	5.0, 50km	9400km
9	i P Z	20 55 11.2	0.5	2.0			
9	e P Z e S E	23 36 .4 23 36 17					
10	e P Z	10 09 34	0.9	1.0	0=10 00 05.8, 46.0N, 152.3E Kurile Island	5.7, 87km	6300km
10	e P Z e S E	21 49 29 21 49 44					
11	i P Z e S ZN	20 06 01.3R 20 06 10.6			Local		
11	e P Z e E	21 10 14 21 10 18					
11	i P Z e E e N	05 57 42.0 06 8.2 06 8.5	1.3	3.6			
12	i P Z	10 31 43.0	0.9	2.0	0=10 18 51.9, 38.1N, 17.8E Southern Italy	5.3, 15km	9800km
12	i P Z i S E	19 43 40.2R 19 43 49.3	.1	3.5			
12	i P Z	20 31 14.5	1.0	.8			

Date	Phase	Time G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
13	e P Z	15 48.5					
13	i P Z i S N	18 52 04.0 18 52 31.7	1.3	2.0	Local		
13	e P Z	20 14 26			Local		
13	e P Z	21 13.0					
14	i P Z	01 42 01.0					
14	e P Z	09 10 33	1.0	1.0			
14	i P Z i N	20 12 38.5 20 12 40.3			Local		
14	i P Z	23 03 45.5	0.5	2.2			
14	i P Z	23 59 51.0			Local		
15	i P Z	02 49 11.7	1.0	2.0	0=02 42 47.3, 52.2N, 171.4W Fox Island	5.3, 61km	3500km
15	e P Z	03 23.8					
15	i P Z	18 29 15.4	0.3	2.2	0=18 27 30, 51.6N, 130.3W Queen Charlotte Island	4.2, 33km	800km
16	i P Z	02 46 40.2	1.0	3.7	0=02 42 32.6, 61.0N, 140.2W Southern Yukon Territory	4.4, 33km	2000km
17	e P Z	03 35.8			0=03 34 31, 47.6N, 114.2W Montana	33km	500km
17	i P Z	08 57 07.8			Local		
19	e P Z	15 04.3					
19	i P Z	18 04 26.2C			0=18 03 10.4, 43.6N, 127.4W off coast of Oregon	4.8, 33km	600km
19	e Z	20 16 31			0=20 14 53, 41.1N, 123.2W N. California	4.5, 33km	600km
19	e P Z	22 58.7	3.0	14.5	0=22 45 41.2, 39.4N, 25.0E Aegean Sea	7.0, 7km	9900km
20	i P Z	01 38 13.8	1.8	1.0			
20	e P Z	02 31.1			0=02 19 49.6, 12.4N, 46.9W N. Atlantic Ridge	5.6, 13km	7900km
20	e P Z e PPZ	05 11.0 05 11.2			0=05 06 11.9, 58.4N, 151.7W Kodiak Island	4.9, 34km	2200km
20	i P Z	09 35 25	1.0	2.0	(MR)		
21	i P Z i Z	06 25 01.8 06 25 02.7R	0.5 0.7	1.0 8.3	0=06 18 21.6, 52.3N, 175.3W Andreanof Island	5.2, 108km	3800km

Date	Phase	Time G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
21	i P Z	06 27 44.0R	0.7	9.7	0=06 21 03.6, 52.3N, 175.3W Andreanof Island	5.3, 107km	3800km
21	i P Z	15 32 36.8R	1.2	13.2			
21	i P Z	19 15 10.8C	0.2	1.5	0=19 08 39.3, 51.4N, 176.1W Andreanof Island	4.7, 99km	3900km
21	e P Z	19 39 21			0=19 32 32.2, 51.7N, 175.9W Andreanof Island	4.8, 54km	
21	e P Z e N	21 14 49C 21 22.8	1.0	2.0	0=21 07 56.9, 51.4N, 176.0W Andreanof Island	5.2, 47km	3900km
22	e P Z	07 49.4					
23	e P Z	17 53 51					
24	e P Z	02 56.0					
24	i P Z	20 35 39.9C	0.7	10.8			
25	i P Z	15 53 17.5R	0.7	1.9	0=15 40 44.8, 36.8N, 5.6E Algeria	4.9, 20km	9400km
25	i P Z e L NE e S N e S E	18 15 12.0C 20.8 23.3 18 23.5	0.6	4.0	0=18 08 19.9, 51.4N, 176.0W Andreanof Island	5.3, 50km	4000km
25	i P Z	20 11 24.2C	1.1	2.0	0=20 00 31.5, 37.6N, 141.4E Near East Coast of Honshu, Japan	5.3, 66km	7700km
26	i P Z	11 03 19.3R	1.1	7.1	0=10 50 16.7, 22.7N, 121.5E Taiwan	6.8, 24km	10,000km
26	e N e E	11 13.3 11 13.5					
27	i P Z	05 31 42.6R	0.7	1.0	0=05 19 00.5, 12.2N, 140.7E West Caroline Island	5.5, 19km	9600km
27	i P Z i E	06 41 24.0C 06 41 28.2	0.7	2.8	0=06 39 53, 50.1N, 129.5W Vancouver Island	4.3, 33km	700km
27	i P Z	22 44 26.6R	0.5	5.0	Local		
28	e P Z e Z N	04 00 31 43.8			Local		
28	i P Z e NE	12 18 56.7C 12 19.0	1.0	31.6	0=12 08 01.5, 32.9N, 137.7E South of Honshu, Japan	5.8, 349km	8200km
29	i P Z	15 16 08.3C	1.1	2.7	0=15 08 01.1, 17.7N, 81.6W Caribbean Sea	4.6, 30km	5000km
29	i P Z e E	15 54 57.5 15 55 02.5	1.0	4.6	0=15 46 18.2, 52.8N, 17[illegible] Kamchatka	[illegible]	[illegible]

Date	Phase	Time G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
29	e P Z	16 11.0					
29	i P Z	17 11 06.0	1.0	2.9			

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Date	Phase	Time G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
Mar. 1	e P Z	08 42 21					
1	e E	11 07.4					
2	i P Z	03 16 06.2R	0.7	4.3	0 = 03 14 44.5, 49.2N, 129.1W	5.1, 33km	600km
	i NE	16 09.0C	0.7	25.0	Vancouver Island		
	e N						
2	i P Z	17 11 04.2C	0.7	2.0	0 = 17 10 22.6, 47.0N, 128.8W	4.2, 37km	600km
	i NE	17 11 45.			Vancouver Island		
3	e P Z	00 03 29					
	e NE	00 03 33.5					
3	i P Z	03 45 34.6R	1.0	2.8	0 = 03 32 57.1, 19.4S, 169.5E	5.0, 221km	10,000km
	e P	03 45 37.			New Hebrides Island		
3	e P Z	05 48.7					
3	e P Z	06 14.9					
3	i P Z	08 35 18.9	1.3	1.2	0 = 08 25 56.5, 3.4N, 84.1W	4.8, 38km	6100km
					off coast of Central America		
3	i P Z	12 22 25					
	i P NE	12 22 27.7					
3	e P Z	22 09.0					
	e Z N	22 22.1					
	e Z	22 24.0					
5	e P Z	00 27 55	0.6	0.7	0 = 00 22 06.9, 53.8N, 163.3W	4.8, 2km	3000km
					Unimak Island		
5	e P Z	00 36 40.0	0.9	1.9	0 = 00 30 57.4, 53.8N, 163.3W	4.9, 33km	3000km
	e S E	41.4			Unimak Island		
	e S N	00 41.7					
5	i P Z	05 24 21.2C	1.2	3.0			

Date	Phase	Time G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
5	i P Z	14 48 37.8	0.6	2.5	0 = 14 36 41.5, 18.1S, 174.7W Tonga Island	5.1, 137km	8600km
5	e E	18 40.7					
	e N	40.8					
	e Z	41.7					
	e N	18 57.2					
6	e P Z	13 15 28.4R	0.7	3.0			
6	i P Z	17 00 21.2	0.9	2.0	0 = 16 51 10.8, 48.3N, 146.3E Sea of Okhotsk	4.8, 463km	6300km
7	i P Z	07 30 45.0C	1.5	2.5	0 = 07 21 06.5, 71.7N, 3.1W San Mayen Island	4.6, 26km	600km
	e S N	07 46.4					
7	e P Z	13 35.5			0 = 13 22 16.6 5.9S, 151.1E New Britain	6.5, 39km	10,200km
7	i P Z	21 52 02.0			Local		
	i S N	21 52 06.4					
9	e P Z	03 47 22					
9	e P Z	15 13 16	1.0	0.7			
10	e P Z	01 36 42					
10	i P Z	03 56 21	0.6	2.5	0 = 03 49 25.0, 52.1N, 177.3W Andreanof Island	5.4, 7km	3900km
	i P NE	03 56 28					
	e L N	04 04.4					
	e L E	04.6					
	e L Z	04 04.9					
10	e Z	06 56.0					
11	i P Z	08 38 21.1R	1.5	14.0	0 = 08 26 32.8, 16.2S, 173.9W Tonga Island	6.0, 112km	8700km
	e P Z	38.3					
	e SKS NE	08 48.1					
11	e P Z	18 32 24			0 = 18 25 13.3, 52.1N, 178.2E Rat Island	5.2, 121km	4200km
	i P Z	18 32 25.2	0.9	2.5			
11	e P Z	20 02 24					
11	i P Z	22 38 19.0	.3	1.4			
	i N	22 38 10.2					
12	e P Z	00 50.7			(MR)		
12	i P Z	09 41 27.2C	1.2	5.8	0 = 09 32 07.4, 13.0N, 72.6W Caribbean Sea	5.3, 11km	5800km
12	e Z	18 35 36					
12	e P Z	21 07.4					
	e E	21 08.1					
13	i P Z	00 04 27.5C	.2	3.5			
	i NE	00 04 31.7					

Date	Phase	Time G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
13	e P Z	01 15.7					
13	e P Z	11 02.3			0 = 10 55 27.9, 51.7N, 176.8W Andreanof Island	4.8, 60km	4100km
13	i P Z	11 07 44.0	.7	3.4	0 = 11 06 33, 43.5N, 126.5W off coast of Oregon	4.0, 33km	500km
13	e P Z	13 20.3					
13	e P Z i E	22 18 53.4 22 18 55.0					
14	e P Z	00 04.7					
14	e P Z	01 22 14					
14	i P Z	02 21 39.0C			0 = 02 08 36.6, 42.3N, 66.5E Central Kozakh, USSR	5.4, 33km	10,100km
14	e P Z	11 12.5					
14	i P Z i E	17 13 08.0 17 13 16.0			Local		
15	i P Z i NE	14 40 06.0C 14 40 17.5					
15	e P Z i NE	15 14 26 15 14 27.0					
17	e P Z	08 55 57			MR		
17	e P Z	12 58 27					
17	e P Z	21 01.0					
18	e Z	07 34 54			0 = 07 23 02.6, 23.2S, 179.8W south of Fiji Island	5.0, 522km	9700km
19	e P Z e PPS NE	01 47 48 01 58.8			0 = 01 35 49.2, 17.4S, 172.8W Tonga Island	5.2, 33km	8800km
19	i P Z	02 29 14.5			0 = 02 19 12.7, 15.1N, 60.5W Leeward Island	5.1, 55km	6600km
19	e P Z	08 13.0					
19	i P Z i N i E	11 36 22.5 36 39.5 11 36 38.5	0.5	1.5			
19	e P Z	19 30 39			0 = 19 17 46.8, 26.4S, 177.4W south of Fiji Island	5.1, 23km	9800km
20	i P Z	06 32 45.0	1.0	1.0	0 = 06 20 30.8, 20.3S, 70.0W near coast of N. Chile	5.1, 47km	9100km

Date	Phase	Time G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
25	e P Z	15 56 54.0					
26	i P' Z	00 59 42.5R	.7	16.5	O = 00 41 56.9, 6.6S, 116.1E Bali Sea	5.9, 520km	12,900km
26	i P Z i E	18 23 42.0			O = 18 22 26.8, 47.7N, 114.4W Montana	4.3, 33km	500km
26	e E	20 25.7					
27	e E	07 18.6	1.0	2.0			
27	i P Z	19 04 28.0					
27	e Z e Z e E	23 05.7 19.0 23 04.1					
28	i P Z e S N	01 15 05.0C 01 21.1	1.2	10.5	O = 01 07 37.6, 15.1N, 92.1W Mexico--Guatemala Border	5.2, 111km	4600km
28	e N e E	13 08.5 13 10.3					
28	i Z	18 01 38.5			Local		
28	i P Z	23 42 20.5					
31	e P Z	17 39 21			O = 17 34 25.8, 59.6N, 153.3W Southern Alaska	4.5, 79km	2500km

Seismograph Station
University of Washington
Department of Geology
Seattle, Washington 98105

4 SEP 1968

Preliminary Readings: World-Wide Standars Seismograph Station, Longmire, Washington

April 1968

All locations and magnitude determinations are from U.S. Coast and Geodetic Survey

Latitude: 46° 45.0'N Elevation: 2800 feet
Longitude: 122° 48.6'W Foundation: Volcanic Breccia

T = period. A = peak to peak amplitude for S.P.Z., Magnification 100 K

Date	Phase	Time G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
Apr.1	i P Z	00 53 54.56	1.0	4.5	0=00 42 04.2, 32.5N, 132.2E	7.5, 33km	8400km
	e P NE	00 53.9			Shikoku, Japan		
1	e P Z	07 25 11			0=07 13 17.6, 32.3N, 132.1E	5.7, 32km	8500km
	e N	07 25 23			Shikoku, Japan		
1	i P Z	16 51 46.8R					
	i E	16 51 48.8					
2	i P Z	00 32 44.0	0.5	4.4			
	i N	00 32 48.0					
2	e Z	09 04.5					
2	e P Z	11 56 56					
3	e P Z	07 25 07					
	i E	07 25 08.5					
3	e P Z	16 32 27			0=16 24 45.7, 51.7N, 174.2W	5.3, 38km	4500km
	e ScSN	16 42.3			Near Isl.		
3	e P Z	21 50 16					
	i E	21 50 40.5					
4	e P Z	09 04 09					
4	e P Z	19 42 06					
5	e P Z	19 36.1			0=19 31 22.7, 56.8N, 151.5W	4.9, 14km	2400km
					Kodiak Isl.		
6	e P Z	03 12 24					
7	i P Z	01 27 07.5					

Date	Phase	Time G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
7	e P Z	04 47 52			0=04 40 19.3, 51.3N, 176.5E	5.3, 33km	4400km
	e S Z	54.8			Rat Isl.		
	e S N	54.9					
	e S N	04 56.9					
7	e P Z	05 25 03			0=05 16 24.9, 81.5N, 3.9W	5.3, 33km	5200km
					North of Svalbard		
9	i P Z	02 32 24.8	1.0	56.0	0=02 28 58.9, 33N, 117W	6.1, 20	
					Southern California		
9	e P Z	07 36 06					
10	e P Z	08 44 51					
10	i P Z	10 46 17.7	0.9	1.6			
	e NE	10 50.3					
10	e P Z	14 02 37					
10	e P Z	1.8 45 10			0=18 32 09.6, 22.6S, 171.5E	5.1, 60	10,300km
					Loyalty Isl.		
10	i P Z	18 59 20.5	.6	1.3			
10	i P Z	22 15 20.0	0.7	8.0			
11	i PPZ	01 46 13.5			0=01 34 28.9, 18.0N, 145.7E	5.0, 185km	8800km
					Mariana Isl.		
11	e P Z	01 56 38					
11	e P Z	06 02.2					
11	i P Z	06 56 49.7	1.0	6.7	0=06 46 27.4, 42.5N, 131.0E	5.0, 511km	7700km
					E. Russia, N.E. China Border		
11	i P Z	20 00 43.7					
	i NE	20 00 48.8					
11	e P Z	23 47 14					
12	i P Z	00 36 05.3	.4	5.9			
12	i P Z	01 04 40.0	.6	8.7			
12	i P Z	06 03 45.4					
12	e P Z	10 27.2			0=10 26 07, 48.8N, 116.3W	500km, 22	
					W. Idaho		
12	e P Z	18 30 06			0=18 18 56.7, 19.8S, 176.0W	4.2, 168	9100km
					Fiji Isl.		
13	e P Z	01 24 42			0=01 15 32.3, 19.0N, 66.9W	5.1, 51km	5800km
	e N	01 37.3			Puerto Rico		

Date	Phase	Time G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
13	e P Z	07 57 32					
	e N	07 57 45					
13	e PKSZ	18 16 09			0=17 43 07, 22.9S, 171.8E Loyalty Isl.	h=33	10400km
13	i P Z	23 18 34.5	0.5	4.9			
14	e P Z	02 45.4					
14	e P Z	07 16.4					
14	e S E	08 57.7			0=08 37 12.2, 33.4N, 141.4E Off East Coast of Honshu	5.4, 44km	7800km
14	e S E	13 25.6			0=13 05 08.0, 33.4N, 141.4E Off East Coast of Honshu	5.4, 41km	7800km
14	i P Z	21 32 53.5					
15	i P Z	07 58 10.3	.5	3.5			
17	e P Z	09 24 22			0=09 12 04.3, 35.2N, 3.7W Straits of Gibralter	5.0, 16km	9200km
17	e P Z	22 41 27					
18	i P Z	04 46 54.9			0=04 34 40.6, 25.7S, 179.5W S. Fiji Isl.	4.7, 379	9700km
18	e P Z	07 47.0	.8	3.6			
18	i P Z	10 11 185	.8	3.6	0=09 58 53, 25.5S, 177.9W South of Fiji Isl.	5.1, 230km	9700km
18	e P Z	14 07 37	1.0	4.0			
18	i P Z	23 16 48.8	.8	5.0			
	i E	23 17 13.5					
19	i P Z	00 21 05.4	.4	7.5			
	i N	00 21 09.5					
19	e P Z	03 50 50					
19	e P Z	09 23.6					
19	e P Z	23 28 20			0=23 25 43.9, 12.2N, 143.8E S. Mariana Isl.	5.3, 17km	9400km
20	e P Z	00 37 30					
20	i P Z	01 20 18.0	.9	6.0			
20	e P Z	10 49.0	1.2	9.5			

Date	Phase	Time G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
20	i P Z	12 37 02.0	1.2	9.5			
	e Z	37.0					
	e NE	12 46.4					
20	i P Z	17 38 37.5	.5	7.3			
	i E	17 38 46.0					
21	i P Z	08 44 50			0=08 34 03.5, 38.6N, 143.0E East Coast Honshu, Japan	5.3, 42km	7400km
	e NE	08 53.7					
21	i P Z	23 14 04.8	.3	2.9			
22	e P Z	06 43 40					
	i NE	06 43 42.3					
22	e P Z	22 46 34					
	e E	22 46 37					
23	i P Z	02 40 53.9	2.2	67.			
23	i P Z	20 33 54.5			0=20 29 14.5, 58.7N, 150.0W Gulf of Alaska	6.3, 23km	2200km
24	e P Z	14 41 07					
24	e P Z	17 18 49					
25	i P Z	10 00 05.0	013	3.5	0=09 58 27.8, 50.7N, 129.8W Vancouver Isl.	4.4, 33km	800km
	i N	10 00 10.5					
25	e P Z	19 49 51					
25	e P Z	20 09 58					
25	i P Z	20 50 59.0	3.5	0.5			
	i N E	20 51 02.5					
25	e P Z	21 37 27					
26	e P Z	00 54 27					
26	i P Z	10 09 04					
26	i P Z	15 02 32.2	2.0	45.5	0=15 00 00.1, 37.3N, 116.5W Southern Nevada	6.3, 0km	1100km
	i E	15 02 33.4					
26	e P Z	16 37.8					
26	e P Z	17 09 25					
26	i P Z	17 54 23.7					
27	e P Z	01 30 30					
27	e P Z	14 45 25					
27	e P Z	19 15 11					

Date	Phase	Time G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
28	i P Z	04 00 04.0	0.5	18.0			
28	e P Z e E	04 26 17 04 33.6					
28	i P Z	10 11 42.8	1.0	4.3	0=10 03 31.5, 11.8N, 88.8W Off Coast of Central America	4.9, 39km	4900km
28	e P Z	17 17 40					
29	e P Z i N	00 23 27 00 23 29.5			0=00 21 36.6, 39.5N, 122.1W North California	5.0, 15km	880km
29	e P Z	07 33 37					
29	e P Z	14 00 55					
29	e P Z	17 15.7			0=17 01 57.6, 39.2N, 44.3E N.W. Iran - USSR Border	5.3, 34km	10300km
29	i P Z	22 37 08.4	0.7	2.0	0=22 26 54.4, 2.6S, 77.2W Peru-Ecuador Border	4.7, 131km	6800km
30	e P Z	01 51 28.3			0=01 42 58.7, 54.3N, 159.5E East Coast Kamchatka	5.1, 118km	5200km
30	i P Z i N E	02 58 47.4 02 58 52.2	0.5	1.8			

Seismograph Station
University of Washington
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8 OCT 1968

Preliminary Readings: World-Wide Standard Seismograph Station, Longmire, Washington

May 1968

All locations and magnitude determinations are from U. S. Coast and Geodetic Survey

Latitude: 46° 45.0'N Elevation: 2800 feet
Longitude: 122° 48.6'W Foundation: Volcanic Breccia

T = period. A = peak to peak amplitude for S.P.Z., Magnification 100 K

Date	Phase	Time G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
1	e Z	00 04 42.5					
1	e P Z	03 21 54					
1	e P Z e E	05 20.5 05 22.7					
1	i P Z	08 54 33.6					
1	e N E	09 03.4					
1	e P Z	10 51.4					
1	e E	23 50.6					
2	i P Z e E	05 38 31.3 05 45.7	0.6	8.0			
2	e P Z	16 08 51					
2	e P Z	20 02 43					
3	e P Z	05 45 21	1.2	3.0			
3	e P Z	16 34 25					
3	e P Z	20 56.5					
4	e P Z	18 28.0					
4	i P Z	20 03 43.3					
5	e P Z	11 25.6					
6	e P Z	01 19 00					
6	e P Z i N	14 45 24 14 45 25.0					
7	i P Z i N E	09 10 03.8R 09 10 04.0	0.9	17.6			

Date	Phase	G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
7	e P Z	11 55 00			0 = 11 43 31.6, 19.2S, 177.6W Fiji Island	4.9 533km	9300 km
8	e Z	00 08.6					
8	e P Z	01 46 26					
8	e P Z i N	02 40 01 02 40 05.6					
8	e P Z	11 19 01			0 = 11 00 07.4, 58.0S, 157.7E Macquarie Island	5.7 33km	13800 km
8	I P Z i E e Z e N E	12 18 32.0C 12 45 18.0 12 56.3 13 18.5					
8	I P Z	17 11 34.5	0.8	7.0			
8	e P Z	17 15 47					
8	e P Z	17 56 04			0 = 17 54 55, 43.9N, 128.2W Off coast of Oregon	4.3 33km	450 km
8	e P Z	18 34 25					
8	i P Z e N e E	21 54 22.5 21 56.1 56.6	0.7	10.0	0 = 21 53 02.9, 43.9N, 128.2W Off coast of Oregon	4.6 33km	450 km
8	i P Z i E e N	22 18 32.5 18 34.5 22 19.6	06.	2.0	0 = 22 17 13.8, 43.9N, 128.2W Off coast of Oregon	5.0 33km	450 km
8	e P Z	23 10 07					
9	i P Z e N e E	03 04 15.5 05.2 03 05.4	0.5	113.0	0 = 03 03 01.8, 43.4N, 127.0W Off coast of Oregon	5.2 33km	450 km
9	e P Z	07 44 24					
9	i P Z	13 02 48.4	0.8	4.9			
9	e P Z	16 56 50			0 = 16 49 46.1, 17.0N, 93.7W Chiapas, Mexico	4.6 142km	4200 km
9	i P Z i E	18 10 23.5R 18 10 58.8	0.6	5.6			
9	e P Z e E	23 29 15 23 30.1			0 = 23 27 46.5, 41.2N, 125.7W Off coast of N. California	4.7 33km	700 km

Date	Phase	G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
14	e P Z	20 51 55			0 = 20 44 38, 15.4N, 92.8W Mexico - Guatemala Border	4.6 160km	4400 km
15	e P Z	01 14 27					
15	i P Z	03 06 33.1	0.7	10.5			
15	e P Z	08 10 36			0 = 07 51 17.4, 15.9S, 25.9E Zambia	6.1 33km	15,500 km
15	i P Z	10 21 31.2	0.8	2.0			
15	e P Z	15 13 35			0 = 15 00 29.9, 29.8S, 179.0W Kermadec Island	5.1 33km	10,300 km
15	e P Z	20 29 17					
15	e P Z	20 37 19					
15	e P Z	22 59 28					
16	e P Z	00 59 37			0 = 00 48 55.4, 40.8N, 142.2E Off east coast of Honshu	7.9(MS) 7km	7200 km
16	i P Z	06 47 27.0	1.0	0.9	0 = 06 36 51.0, 41.1N, 143.0E Hokkaido, Japan	5.7 33km	7100 km
16	i P Z	07 59 37.5			0 = 07 49 01.5, 41.3N, 142.6E Hokkaido, Japan	5.1 38km	7100 km
16	e P PZ	08 30 36			0 = 08 14 42.3, 10.5S, 164.8E Santa Cruz Island	4.9 31km	9600km
16	e P Z	08 35 33			0 = 08 25 09.2, 3.7S, 76.6W N. Peru	5.4 113km	7100 km
16	e P Z	09 08 50			0 = 08 58 11.1, 41.4N, 142.7E Hokkaido, Japan	5.4 15km	7100 km
16	e P Z	10 49 37	0.6	114.	0 = 10 39 01.6, 41.5N, 142.7E Hokkaido, Japan	7.0 33km	7100 km
16	e P Z	12 20 11			0 = 12 09 31.9, 41.1N, 143.0E Hakkaido, Japan	5.1 24km	7100 km
16	e P Z	12 45 01			0 = 12 34 24.9, 41.7N, 142.6E Hokkaido, Japan	4.9 26km	7100 km
16	e P Z	14 00 06					
16	e P Z	15 31 01			0 = 15 20 25.6, 41.4N, 143.0E Hokkaido, Japan	4.9 33km	7100 km

Date	Phase	Arrival G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
16	e P Z	16 24 20			0 = 16 13 45.1, 39.7N,	5.6 29km	7100 km
	i N E	16 24 29.2			143.6E Off east coast of Honshu		
16	i P Z	17 38 48.0			0 = 17 28 13.0, 41.4N, 143.0E Hokkaido, Japan	5.2 33km	7100 km
16	e P Z	18 53 59			0 = 18 43 21.0, 40.7N, 142.1E Near east coast of Honshu	5.7 59km	7200 km
16	i P Z	19 27 24.0	0.9	3.5	0 = 19 16 47.2, 41.3N, 142.4E Hokkaido, Japan	5.6 42km	7100 km
16	i P Z	19 57 43.2	0.4	4.8	0 = 19 45 23.5, 12.6N, 141.6E South of Mariana Island	5.2 170km	9500 km
16	e P Z	20 32 50			0 = 20 22 14.9, 41.4N, 142.6E Hokkaido, Japan	5.6 39km	7100 km
16	i P Z	22 32 38.6					
16	i P Z	23 15 35.5			0 = 23 04 54.7, 39.8N,	5.8 37km	7200 km
	i N E	15 40.0			143.1E Off east coast of		
	e N	15.7			Honshu		
	eSN	23 24.4					
17	eSP Z	08 10 10			0 = 07 57 18, 22.7S,	5.0 91km	
	eSN	08 20.8			173.0E Loyalty Island		
17	e P Z	10 53 29			0 = 10 42 45.9, 39.6N, 143.4E Off east coast of Honshu	5.3 33km	7200 km
17	e N E	11 02.2					
17	e P Z	13 02 37					
17	e Z	16 13.1					
	e N	16 21.7					
17	e P Z	18 27 53			0 = 18 17 07.3, 39.6N, 143.0E Off east coast of Honshu	5.2 32km	7200 km
18	e P Z	01 21 34					
18	e P Z	11 45 52					
18	i P Z	14 40 39	0.4	4.4			
18	i P Z	15 29 21.3					
18	e P Z	19 37 48					
18	i P Z	23 36 40.8	0.6	3.0			

Date	Phase	Time G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
19	e P Z	04 23 43			0 = 04 12 40.3, 35.6N,	5.1 46km	7600 km
	e N E	04 32.8			141.7E Near east coast of Honshu		
19	iPP Z	17 41 41			0 = 17 25 28.3, 23.0S,	4.4 33km	10,100 km
	i N E	17 41 43.1			173.3E Loyalty Island		
19	e P Z	22 27.4			0 = 22 16 44.8, 40.9N,	5.1 18km	7100 km
	e N	22 36.0			143.2E Off east coast of Honshu		
20	e P Z	03 26 57			0 = 03 16 19.6, 40.0N, 144.0E Off east coast ef Honshu		7100 km
20	e P Z	07 04 12					
20	i P Z	07 19 17.8					
20	i P Z	07 41 14.0					
20	e P Z	10 43 34			0 = 10 34 16.8, 48.8N,	5.4 40km	5900 km
	e S E	10 51.1			154.7E Kurile Island		
20	e P Z	12 02 44			0 = 11 53 55.5, 51.9N, 158.5E Near east coast of Kamchatka	5.3 55km	5400 km
20	e P Z	18 00.6					
20	e P Z	20 18 56.0	0.7	3.0	0 = 20 05 49.1, 30.7S,	7.0(MS) 46km	10,300 km
	e P Z	18.9			178.4W Kermadec Island		
	e N E	20 28.5					
20	e P Z	21 19 36					
21	i P Z	06 21 59.4					
21	e P Z	08 29 54					
	e P Z	29.9					
	e N E	08 37.9					
21	e P Z	15 20 50					
21	e P Z	15 55 07					
21	e P Z	18 07.0					
21	i P Z	23 35 15.0					
	i N E	23 35 20.0					
22	i P Z	11 02 28.0	9.0	1.2			
	e N	11 11.7					
22	e P Z	13 09 13					
	i N	13 09 17.2					
	e Z	13 26.5					
	e N	13 27.5					

Date	Phase	Time G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
22	e P Z	16 59 14					
22	e P Z	19 40 10			0 = 19 29 25.7, 40.2N,	5.3 40km	7300 km
	eSN E	19 48.9			142.3E Near east coast of Honshu		
22	i P Z	23 10 37.6					
	i N	23 10 40.2					
23	e P Z	06 04 22					
23	e P Z	17 38.4					
	e E	17 42.9					
23	e P Z	18 56 12					
24	e P Z	07 21 32					
	i E	07 21 53.6					
24	e P Z	14 17 01					
	e N E	14 25.7					
24	i P Z	16 01 28.4	0.9	12.5			
24	e P Z	16 46 18					
	i E	16 46 20.5					
24	e P Z	21 43 20					
24	e P Z	21 45 12			0 = 21 37 11.2, 54.2N, 169.3E Komandersky Island	5.3 5km	4800 km
25	e P Z	09 52 20					
25	e P Z	12 03 41			0 = 11 52 57.4, 40.1N,	5.2 37km	7300 km
	eSZ NE	12 12.7			143.1E Off east coast of Honshu		
25	e P Z	14 29 39			0 = 14 18 52, 38.9N, 143.0E Off east coast of Honshu	5.1 30km	7200 km
25	i P Z	22 18 08.8					
	i E	22 18 10.9					
26	e P Z	14 40 06					
26	e P Z	15 37.7					
26	e P Z	17 52 22			0 = 17 41 40.1, 40.1N, 142.3E Near east coast of Honshu		7300 km
27	e P Z	06 56 08					

Date	Phase	Time G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
28	e P Z	09 19 38			0 = 09 06 29.9, 30.9S, 177.8W Kermadec Island	5.5 33km	10,300 km
28	e N	09 30.2					
	e N	09 30.8					
28	i P Z	09 32 45.2	0.6	20.6			
28	e P Z	12 57 02			0 = 12 55 44.7, 42.3N, 119.8W Oregon	4.4 33km	400 km
28	e P Z	13 40 50			0 = 13 27 18.7, 2.9S, 139.3E Near N. coast of West New Guinea	6.1 65km	10,900 km
	e P Z	13 40.8					
28	e P Z	22 38.1			0 = 22 29 56.8, 52.2N, 172.8E Near Isl.	6.1 15km	4600 km
	e N E	22 44.0					
29	e P Z	04 37 46					
29	i P Z	17 34 29.5	0.9	2.0	0 = 17 21 52.9, 18.6S, 169.0E New Hebrides Island	5.1 214km	9900 km
30	i P Z	00 37 16.0	0.5	2.5	0 = 00 35 59.8, 42.3N, 119.8W Oregon	5.1 24km	400 km
30	e P Z	05 33 44			0 = 05 23 48.9, 44.7N, 150.3E Kurile Island	5.5 49km	6400 km
	e N	05 41.7					
30	e P Z	08 23 48					
30	e P Z	17 53 41			0 = 17 40 24.4, 35.5N, 28.0E Eastern Mediterranean Sea	5.3 21km	10,300 km
30	e P Z	19 55 33			0 = 19 42 25.1, 31.0S, 177.6W Kermadec Island	5.5 42km	10,300 km
	e P Z	19 55.7					
	eSKS ME	20 06.1					
21	e P Z	00 48 46					
31	e P Z	01 51 42					
31	i P Z	09 00 29.2					
	i N	09 00 30.3					

Seismograph Station
University of Washington
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Seattle, Washington 98105

Preliminary Readings: World-Wide Standard Seismograph Station, Longmire, Washington

June 1968

All locations and magnitude determinations are from U. S. Coast and Geodetic Survey

Latitude: 46° 45.0'N Elevation: 2800 feet
Longitude: 122° 48.6'W Foundation: Volcanic Breccia

T = period. A = peak to peak amplitude for S.P.Z., Magnification 100 K

Date	Phase	Time G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
1	e E	10 51.2					
1	e P Z	15 31 02			0 = 15 29 31, 44.3N, 129.9W off Coast of Oregon	3.8 33km	600km
2	e P Z	02 20 45					
2	e P Z	04 13 20					
2	e P Z	05 55 40					
3	e P Z	13 28 55			0 = 13 27 39.7, 42.2N, 119.8W Oregon	5.0 20km	600km
3	i P Z i N E	16 27 18.2 16 27 30.3	4.5	0.5			
3	i P Z i N	16 50 46.5 16 50 59.4	0.3	5.5	0 = 16 48 56, 40.3N, 127.1W off Coast of N. California	4.8 15km	800km
4	i P Z	02 35 32.0					
4	i P Z	03 52 05.6					
4	i P Z	06 23 33.3			0 = 06 22 19.0, 42.2N, 119.8W Oregon	4.3 33km	700km
4	e P Z i E	06 57 28 06 57 32.1					
4	i P Z	09 03 23.8					
4	e P Z	10 59 39			0 = 10 58 22.8, 42.8N, 119.9W Oregon	4.2 33km	700km

Date	Phase	Time G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
5	i P Z i N	02 28 43.4 02 28 55.1					
5	i P Z	04 53 13.5			0 = 04 51 56.8, 42.3N, 119.9W Oregon	4.7 21km	700km
5	i P Z	21 59 42.1	0.6	4.0			
7	e P Z e PP N	12 12.0 12 16.7			0 = 11 57 29.4, 1.8S, 120.1E Celebes	5.9 20km	12,300km
7	i P Z i E	22 49 14.3 22 49 16.8	0.5	3.5			
8	i P Z	00 49 54.0	1.0	10.0	0 = 00 41 29.0, 87.0N, 51.3E North of Franz Josef Land	5.3 33km	5100km
8	e P Z e S NE	05 40.0 05 48.3			0 = 05 29 46.5, 43.4N, 147.1E Kurile Island	5.3 43km	6700km
8	i P Z	21 05 22.6			0 = 20 54 45.2, 41.5N, 142.3E Hokkaido	5.2 30km	7100km
8	e P Z	23 44 01					
9	e P Z	02 10 03					
9	e P Z	06 41 10					
9	e P Z	09 29 25			0 = 09 17 31.7, 24.1S, 178.5E South of Fiji Island	5.1 580km	9900km
9	e P Z	10 29 12			0 = 10 21 35.9, 14.6N, 92.0W Near Coast of Chiapas, Mexico	5.0 60km	4500km
9	e P Z	15 16 40					
10	e P Z	18 06 54					
10	e P Z	18 39 38					
11	i P Z	06 00 14.0	0.5	4.5	0 = 05 52 33.5, 13.9N, 88.8W El Salvador	5.3 199km	4800km
12	e P Z	01 47 37	0.5	1.5	0 = 01 46 22.4, 42.1N, 119.9W Oregon	4.3 33km	500km
12	i P Z i N e S N	13 52 34.5 52 41.2 14 01 13	1.2	6.0	0 = 13 41 50.7, 39.5N, 142.7E Near East Coast of Honshu	6.0 44km	7200km

Date	Phase	Time G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
12	e P Z	18 02 47			0 = 17 52 01.2, 39.1N, 142.9E Near East Coast of Honshu	5.5 30km	7300km
12	i P Z	22 08 25.6	0.5	3.0			
13	e P Z	00 15 49			0 = 00 05 00.7, 39.5N, 143.0E Off East Coast of Honshu	5.3 24km	7200km
13	e P Z	06 19 49					
13	e P Z e N	07 43.2 07 51.3			0 = 07 33 50.5, 0.3S, 91.5W Galapagos Island	5.3 33km	6100km
13	e P Z	08 53 11			0 = 08 51 29, 51.5N, 129.8W Queen Charlotte Island	4.1 33km	800km
13	e P Z	11 29 58					
13	e Z e N	15 54.2 16 02.1			0 = 15 44 52.6, 0.5S, 91.4W Galapagos Island	4.8 33km	6100km
13	i P Z	21 21 20.5					
14	e Z e N	04 18.6 04 26.7			0 = 04 09 08, 0.2N, 91.6W Galapagos Island	4.6 33km	6100km
14	e P Z e N	10 49.4 10 58.5			0 = 10 39 59.1, 0.4S, 91.8W Galapagos Island	4.7 33km	6100km
14	e P Z	12 03 24	1.2	11.0	0 = 11 52 39.7, 39.3N, 142.8E Near East Coast of Honshu	5.4 37km	7300km
14	e P Z	12 27 05			0 = 12 17 27.7, 45.2N, 153.5E Kurile Island	5.5 41km	6200km
14	e P Z e N	16 33.2 16 41.1			0 = 16 23 44.7, 0.2S, 91.4W Galapagos Island	4.9 33km	6100km
14	e P Z e N	22 37.1 22 45.1			0 = 22 27 43.8, 0.3S, 91.2W Galapagos Island	5.2 21km	6100km
15	e P Z	03 42 04			0 = 03 31 18.3, 39.3N, 142.8E Near East Coast of Honshu	5.4 25km	7300km
15	e Z e N	04 37.4 04 41.0					

Date	Phase	Time G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
17	e P Z	12 03 35			0 = 11 53 00.4, 41.0N,	5.7 48km	7100km
	e Z	03.7			143.0E Hokkaido, Japan		
	e S N	12 12.2					
17	e P Z	17 46 21			0 = 17 36 59.8, 0.4S,	5.1 33km	6000km
					91.5W Galapagos Island		
17	e P Z	18 22 19			0 = 18 09 34.1, 12.3S,	5.5 33km	9600km
					166.7E Santa Cruz Island		
17	e P Z	19 08 16			0 = 18 57 27.5, 38.7N,	4.9 17km	7300km
	e E	19 17.0			143.6E Off East Coast of Honshu		
17	e Z	22 15.1			0 = 22 05 41.6, 0.4S,	4.6 33km	5900km
	e N	22 22.1			91.1W Galapagos Island		
18	e Z	00 18.1			0 = 00 08 46.4, 0.2S,	4.8 33km	6200km
	e N	00 26.1			91.2W Galapagos Island		
18	e Z	02 28.2					
	e N	02 40.1					
18	e P Z	02 57 47					
18	e Z	04 02.5					
	e N	04 10.4					
18	i P Z	05 39 32.5	0.5	4.5	0 = 05 27 33.0, 45.7N,	4.7 5km	8600km
	i N	05 39 34.2			8.1E Northern Italy		
18	e P Z	07 22.4			0 = 07 12 59.1, 0.4S,	4.8 33km	6100km
	e S N	07 30.3			91.8W Galapagos Island		
18	e P Z	10 39.7			0 = 10 30 14.1, 0.4S,	4.7 33km	6100km
	e N	10 42.6			91.7W Galapagos Island		
18	e P Z	12 37.1			0 = 12 27 35.5, 0.5S,	4.7 33km	6100km
	e N	12 45.0			91.4W Galapagos Island		
18	e P Z	16 26.7			0 = 16 17 17.6, 0.3S,	4.9 33km	6100km
	e N	16 34.7			91.2W Galapagos Island		
18	e Z	21 58.3					
	e N	22 06.3					
18	i P Z	22 21 01.5					
18	i P Z	23 20 12.0					
19	i P Z	05 18 20.9			0 = 05 05 57.3, 50.0N,	5.5 0km	9000km
					79.1E Eastern Kazakh SSR		

Date	Phase	Time G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
19	i P Z	05 51 57.2	0.8	9.5			
19	i P Z i N E	08 24 16.5 08 24 55.0	1.1	12.0	0 = 08 13 35.0, 5.6S, 77.2W Northern Peru	6.4 28km	7200km
19	e P Z	09 16 29					
19	e P Z	22 06 24					
20	i P Z	02 49 18.8	1.1	12.0			
20	e P Z	05 26 15					
20	e P Z	08 21 52			0 = 08 11 10.5, 5.8S, 77.3W Northern Peru	5.3 33km	7200km
20	e Z e N	16 17.5 16 26.5					
20	e P Z	23 05 09					
21	e P Z	00 36 50.5	1.2	5.5	0 = 00 26 07.8, 5.7S, 77.3W Northern Peru	5.6 22km	7000km
21	e P Z	01 47 18					
21	e P Z e N	05 56 46 06 04.8			0 = 05 47 22.8, 0.4S, 91.8W Galapagos Island	4.7 33km	5900km
21	e P Z	20 34 41			0 = 20 33 28, 42.2N, 119.7W Oregon	4.3 23km	500km
21	e P Z e E	22 15 30 22 15 39.0					
21	e P Z	22 54 57					
22	e P Z e S N	01 23 11 01 31.9			0 = 01 12 30.9, 40.3N, 143.7E Off East Coast of Honshu	5.6 15km	7100km
22	e P Z	09 41 07			0 = 09 39 53.5, 42.2N, 119.8W Oregon	4.3 33km	500km
22	e P Z	13 11 21					
22	e P Z	20 50 35					
22	e P Z	21 59 21					
23	e P Z	03 52 39					
23	e P Z e S N	16 58 34 17 02.7			0 = 16 53 50.2, 56.7N, 152.4W Kodiak Island	4.9 33km	2400km
24	e P Z	16 11 26			0 = 16 09 22.6, 37.0N, 121.7W Central Californi	12km	900km

Date	Phase	Time G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
24	e P Z	19 20 03					
24	e P Z	20 50 14					
25	e Z	11 27 33					
25	i P Z	13 01 40.3	0.3	1.5			
25	e P Z	23 44 12			0 = 23 33 18.0, 39.6N, 143.4E Off East Coast of Honshu	5.3 16km	7400km
26	i P Z	00 47 01.6					
26	i P Z i E	00 57 13.4 00 57 14.1	0.2	4.6			
26	e P Z e N e N	01 44 04 44 09 01 46.0			0 = 10 42 19.5, 40.1N, 124.4W Near Coast of N. California	5.5 10km	700km
26	e P Z	04 36 44			0 = 04 35 24, 42.2N, 125.9W Off Coast of Oregon	4.1 33km	500km
26	e P Z e E	09 13.7 09 14.4					
26	e P Z e N	10 49 22 10 49 27			0 = 10 47 46.0, 40.2N, 124.4W Near Coast of N. California	5.1 33km	650km
26	i P Z e SP E	15 53 27.6 16 05.1			0 = 15 40 31.1, 22.2S, 171.4E Loyalty Island	5.6 90km	10,200km
27	e P Z e E	01 03 28 01 03 29					
27	i P Z i N	20 28 36.0 20 28 41.5	0.4	3.0			
28	i P Z	12 24 34.5	1.0	20.7			
29	i P Z	12 29 34.8	0.9	4.3			
30	e P Z e PPS NE	09 47 56 09 58.1			0 = 09 35 29.4, 13.0N, 145.2E Mariana Island	5.2 38km	9000km
30	e P Z e E e N	20 27 49 20 27 52 20 33.1					

Seismograph Station
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5 DEC 1968

Preliminary Readings: World-Wide Standard Seismograph Station, Longmire, Washington

~~October~~ July 1968

All locations and magnitude determinations are from U.S. Coast and Geodetic Survey

Latitude: 46° 45.0'N Elevation: 2800 feet
Longitude: 122° 48.6'W Foundation: Volcanic Breccia

T = period. A = peak to peak amplitude for S.P.Z., Magnification 100 K

Date	Phase	Time G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
July 1	i P Z	04 14 36.8	0.9	10.8	0=04 02 01.7, 47.9N, 48.0E	5.5, 33km	9400km
	e E	04 14 38			Western Kazah SSR		
1	i P Z	10 56 19.6			0=10 45 11.9, 36.0N, 139.3E	5.9, 67km	7800km
					Honshu, Japan		
2	i P Z	03 51 31.2	0.5	5.6	0=03 44 48.9, 17.6N, 100.3W	5.9, 41km	3900km
	i N E	03 51 34.7			Guerrero, Mexico		
	e S N	03 57.0					
2	i P Z	21 46 29.3	0.4	3.6			
	i E	21 46 34.6					
5	i P Z	00 48 21.5	1.9	10.0	0=00 45 17.2, 34.1N, 119.7W	6km	1200km
					Southern California		
5	i P Z	11 39 03.0	0.6	1.8			
	i E	11 39 05.0					
6	i P Z	14 04 19.3			0=14 02 42.0, 41.0N, 117.4W	5.1, 33km	800km
	i N	14 04 20.5			Nevada		
6	e P Z	17 41 18					
7	e P Z	01 15 13			0=01 10 29.5, 61.3N, 147.3W	4.8, 14km	2300km
					Southern Alaska		
7	e P Z	14 36 01			0=14 23 33.6, 22.2S, 175.1W	5.3, 33km	9400km
					Tonga Isl. Region		
7	e P Z	17 55 23					
7	e P Z	23 13 07					
	e N E	23 19.4					
7	i P Z	23 58 51.0	1.0	4.0	0=23 48 08.2, 5.8S, 77.1W	5.5, 27km	7300km
					Northern Peru		
8	e P Z	12 21 07			0=12 09 28.4, 22.2S, 179.8W	4.9, 622km	9600km
					S. of Fiji Islands		

Date	Phase	Time G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
8	e P Z	21 36 19			0=21 24 48.3 28.8N, 142.5E Bonin Island	5.3, 33km	8400km
9	e P Z	02 08 12					
9	e P Z	18 15 43					
10	e P Z	00 53 40					
10	e P Z	11 36 50			0=11 16 44.6 36.8S 78.5E Mid Indian Rise	5.7, 33km	18,400km
10	i P Z i N	14 06 02.8 14 06 20.2					
10	i P Z	19 01 38.5	0.4	5.0	Local		
10	i P Z i N	20 05 11.8 20 05 13.5			Local		
12	e P Z e S N	00 55 20 01 04.1			0=00 44 36.5 39.5N, 143.2E Off East Coast of Honshu	6.0, 28km	7500km
12	e P Z	04 07 11			0=03 56 27.5 39.5N, 143.2E Off East Coast of Honshu	5.5, 26km	7500km
12	i P Z i N	16 30 13.4 16 30 16.2	0.3	7.6	Local		
12	e P Z	19 55 25					
13	i P Z	06 30 32.5			0=06 29 06.5 44.7N, 129.5W Off Coast of Oregon	4.2, 33km	500km.
13	e P Z	07 13 35					
13	i P Z	10 34 57.5			0=10 33 34 44.6N, 129.2W Off Coast of Oregon	4.0, 33km	600km
13	e P Z	12 49 24					
13	e P Z	16 41 19			0=16 39 53 44.5N, 129.4W Off Coast of Oregon	3.9, 33km	600km
13	e P Z	20 52 43			0=20 51 30 44.3N, 127.9W Off Coast of Oregon	4.3, 33km	500km
14	e P Z	03 49 50					
14	e P Z	03 54 04					
14	e P Z	12 25 29					
14	e P Z	18 34 31			0=18 33 05 44.7N, 129.5W Off Coast of Oregon	4.1, 33km	500km
15	i P Z	04 23 47.6					
15	i P Z i N	08 59 17.5 08 59 25.2			Local		

Date	Phase	Time G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
15	e P Z	21 54 38					
16	i P Z	01 48 51.3	0.5	3.0	0=01 47 22 50.6N, 129.4W Vancouver Island Region	4.8, 33km	600km
16	e S N	13 18.3			0=13 06 48 18.4N, 106.5W Off Coast Jalisco, Mex.	4.1, 33km	2500km
16	e N	18 09.3					
17	i P Z	06 31 56.0	0.6	3.6	0=06 23 11.1 10.4N, 83.4W Costa Rica	5.1, 19km	5400km
17	e P Z	22 29 37					
18	e P Z	00 23 48					
18	i P Z	04 28 17.8	0.4	25	Local		
19	i P Z	02 17 32.8					
19	e Z	05 16.1					
19	i P Z i E	10 54 20.5 10 54 22.0			Local		
19	i P Z i N	19 00 10.0 19 00 26.2	0.4	2.6	Local		
19	i P Z i N	19 28 37.8 19 28 52.8	0.2	2.2	Local		
19	i P Z i N	22 55 40.2 22 55 45.0	0.8	6.9	Local		
19	e P Z	23 18 45					
20	e P Z	09 25 41					
20	e P Z	12 12 24					
20	eP'P'Z	21 59 33			0=21 22 03 57.9S, 24.5W S. Sandwich Islands	4.9, 33km	15,000km
21	e P Z	00 31 16			0=00 23 40.4 14.4N, 93.1W Near Chiapis, Mexico	5.0, 37km	4500km
21	e P Z e PPP N	06 05.3 06 16.2			0=05 52 10.4 3.2S, 150.7E New Ireland Region	5.3, 5km	10,100km
21	e P Z	21 11 23					
22	e P Z	00 24 29			0=00 13 53.0 42.3N, 142.3E Hokkaido, Japan Reg.	4.7, 31km	7100km
22	i P Z	02 46 43.3					
22	e P Z	03 24 18					

Date	Phase	Time G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
22	e P Z	05 28 57					
22	e P Z	08 34 18					
22	i P Z	18 11 33.7					
22	e P Z	18 47 43					
22	e P Z	20 30 49					
22	e P Z	23 44 38					
23	i P Z	04 19 14.5					
23	i P Z	07 03 06.2					
23	i P Z	18 34 08.2					
23	e P Z	23 13 18			0=23 02 35.5 40.3N, 143.3W Off Honshu, Japan	5.2, 14km	7200km
24	e P Z	04 13 02.0					
24	e P Z	16 58 48					
24	e P Z	18 49 38					
24	i P Z	20 32 41			0=20 20 55.8 15.4S, 173.2W Tonga Islands	5.3, 84km	8400km
24	e P Z	22 41 58			0=22 31 40.4 2.6S, 77.8W Peru-Ecuador Border	4.9, 79km	7100km
25	e P Z	00 02 02					
25	e P Z	01 55 02					
25	e P Z	06 53 49					
25	i P Z	07 36 13.0	2.6	15.0	0=07 23 07.8 30.8S, 178.4W Kermadec Isl. Region	6.4, 60km	10,200km
25	i P Z	09 25 49					
25	i P Z	11 00 36					
25	i P Z	17 57 04					
25	i P Z	20 31 01.2					
25	e P Z	23 43 55					
26	i P Z	02 06 21.6					
26	e P Z	06 41 38			0=06 33 59.6 14.4N, 93.0W Near Chiapis, Mexico	5.9, 14km	4400km

Date	Phase	Time G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distance
26	e P Z	08 55 04					
26	i P Z	19 55 33.3	0.2	2.0			
27	i P Z	00 04 55					
27	e P Z	02 18 07					
27	i P Z	08 59 33.2					
27	e P Z	11 04 14					
27	i P Z	13 59 01.6					
27	e P Z	18 19 55					
27	e P Z	19 04 20					
28	e P Z	08 40 33					
28	e P Z	11 10 53			0=10 58 25.7 22.5S, 174.7W Tonga Islands Region	5.0, 33km	9300km
28	i P Z	17 40 52.0					
28	i P Z	17 48 20.0					
28	i P Z e Z e Z	21 18 24.9 20 12 20 45	0.5	4.7	0=21 16 51.6 50.5N, 129.5W Vancouver Island Region	4.0, 33km	600km
29	i P Z	10 01 31.1	0.8	3.2			
29	e P Z	11 24 28			0=11 11 59.5 22.5S 175.0W Tonga Islands Region	5.6, 33km	9400km
29	e P Z	13 47 14					
29	e P Z	13 58 39					
30	e P Z e E e Z e E e NE e Z e N e ZE	00 06 03 16.7 18.9 19.1 24.8 25.3 35.0 00 37.6					
30	i P ZNE i ZNE	17 57 04.7 17 57 07.2		0.4	Local		
30	e P Z i S ZNE e PPS N e Z	20 49 19 20 58.0 21 09.5 21 10.4	1.0	1.0	0=20 38 42.0 6.9S, 80.5W Coast of N. Peru	5.8, 37km	7200km

Date	Phase	Time G.C.T.	T.	A.	Location and origin time	Magnitude and depth	Distanc
31	i P ZNE	01 01 04.5 C		2.1	Local		
		01 01 20.5					
31	i P ZNE	07 13 48.8C	0.7	31.6	O=07 12 35 43.7N, 127.1W	4.2, 33km	540km
	i S N	07 14 47.5			Off Coast of Oregon		
	i NE	48.6					
	i N	49.2					
	i Z	50.4					

Seismograph Station
University of Washington
Department of Geology
Seattle, Washington 98105

5 DEC 1968

Preliminary Readings: World-Wide Standard Seismograph Station, Longmire, Washington

August 1968

All locations and magnitude determinations are from U.S. Coast and Geodetic Survey

Latitude: 46° 45.0'N
Longitude: 122° 48.6'W
Elevation: 2800 feet
Foundation: Volcanic Breccia

T = period. A = peak to peak amplitude for S.P.A., Magnification 100 K

Date	Phase	Corr. Time		T.	A.	Remarks	Magnitude and Depth
Aug 1	i P Z	00 26 55.6	C	1.4	5.6	0=00 14 16.0 26.6S, 177.5W	5.6, 123km
	e SKSZNE	37.2				S. of Fiji Is.	
	sSS E	50.2					
	sSS N	51.3					
	E	54.1					
	e Z N	00 54.5					
1	e P Z	20 32 45		1.3	3.6	0=20 19 21.9 16.5N, 122.2E	5.9, 36km
	e SKS NE	20 43 2				Luzon, Philippine Is.	
2	i P Z	14 13 43.3	C	1.7	71.5	0=14 06 43.9 16.6N, 97.7W	6.3, 40km
	i Z	19.9				Oaxaca, Mexico	
	E	14 20.3					
4	i P ZNE	02 33 07.0	R			Local	
	i ZNE	02 33 08.2					
4	e P Z	11 55 01				0=11 41 24.8 6.6N, 126.8E	5.7, 107km
	e SP ZNE	12 05.4				Mindanao, Phil. Is.	
	e ZNE	07.8					
	e NE	26.8					
	e Z	12 27.1					
5	e P Z	00 17 23					
	e N	00 41.0					
	e Z	01 09.1					
5	e P Z	08 42 40				Local (MR)	
5	i P Z	16 28 50.7	R	1.3	17.1		
	i Z NE	16 38.6					
6	i P Z	21 47 34.5	C			Local	
7	e P Z	08 10 33				0=08 00 13.4 43.1N, 144.6E	5.6, 54km
	e Z E	08 29.4				Hokkaido, Japan Region	
7	e P Z	19 36 36				Local (MR)	

Date	Phase	Corr. Time	T.	A.	Remarks	Magnitude and Depth
7	i P Z	19 59 23.9 C			Local	
	i Z	19 59 26.8				
8	e P Z	05 06 11			0=04 55 10.0 36.4N, 141.4E	5.4, 41km
	e ZNE	15.2			Near E. Coast, Honshu, Japan	
	e ZNE	05 22.9				
9	e P Z	03 19 09				
	e ZNE	28.4				
	e E	37.5				
	e ZNE	03 41.4				
10	e P Z	02 21 03			0=02 07 04.3 1.4N, 126.2E	6.3, 33km
	i Z	21 11.4 C			Molucca Passage	
	e N	31.8				
	e N	02 49.8				
11	i P Z	02 53 26.2 R			0=02 41 52.8 15.2S, 74.0W	5.6, 91km
	e ZNE	03 02.8			Near Coast of Peru	
	e E	07.8				
	e N	08.4				
	e E	13.9				
	e Z	18.1				
	e Z	03 23.2				
11	i P Z	12 44 26.0 C	0.7	35.5	0=12 37 28.1 52.1N, 179.9W	5.5, 159km
	e S NE	50.0			Andreanof Islands	
	e G ZNE	53.0				
11	e P Z	19 45 05				
	e Z	20 14.8				
	e ZNE	19.1				
	e E	25.3				
	e ZN	28.0				
	e NE	43.7				
	e ZE	20 49.3				
11	e P Z	23 46 37			Local (MR)	
12	i P Z	18 45 29.2 eR	0.6	5.0		
	e Z	50.0				
	e NE	18 52.7				
12	i P Z	20 42 24.8 C	1.0	2.1	0=20 31 52.8 41.4N, 142.6E	5.2, 68km
					Hokkaido, Japan Region	
13	e P Z	01 45 31				
	e N	46.9				
	e Z	01 47.1				
13	e Ly Z	03 41.2			0=02 52 51.9 2.0N, 126.3E	5.8, 33km
	e Ly NE	03 41.5			Molucca Passage	
13	e P Z	07 41 47				
	i Z	07 42 10.9 R				

Date	Phase	Corr. Time		T.	A.	Remarks	Magnitude and Depth
13	e P Z	10 43 22				Local (MR)	
14	i P Z	08 45 11.6	C	1.2	11.4	0=08 38 48.4 18.5N, 102.8W	5.4, 72km
	e S NE	50.5				Michoacan, Mexico	
	e S Z	50.7					
	e ZN	52.9					
	e E	08 53.2					
14	e P Z	22 28 50				0=22 14 19.4 0.2N, 119.8E	6.0, 23km
	ePP ZNE	33.2				Northern Celeres	
	eSKSZNE	22 39.4					
15	i P Z	07 03 00.5	RC			0=06 50 38.7 23.85S, 143.3N	5.5, 188km
	esP ZNE	03.7				S. of Fiji Islands	
	i S NE	13.2					
	e S Z	13.2					
	eSS E	19.1					
	e G NE	07 25.6					
15	i P Z	18 40 13.7					
	e E	19 01 38					
	e Z	19 01 48					
16	i P Z	10 50 04.9		1.2	2.5	0=10 39 16.8 38.5N, 143.3E	5.6, 22km
	e S ZNE	10 58 52				Off E. Coast, Honshu, Japan	
16	i P Z	11 45 47.6					
16	i P Z	18 32 54.0	+	0.8	12.8	0=18 25 55.1 16.7N, 97.7W	5.4, 46km
	e S NE	38 37				Oaxaca, Mexico	
	e ZE	41 19					
	eLyZNE	18 48 46					
16	e P Z	21 31 06				0=21 24 38.1 18.4N, 102.9W	4.9, 25km
	e SN	36 28				Michoacan, Mexico	
	e L Z	21 45 26					
17	e P Z	04 14 38				0=04 00 36.3 1.4N, 126.3E	5.7, 33km
	e PPE	18 54				Molucca Passage	
	e PSE	27 42					
	e PSN	27 50					
	e Z	28 10					
	e L E	48 57					
	e L Z	49 08					
18	e P Z	16 53 19				Local (MR)	
18	e Z	18 21 10					
18	e P Z	18 50 30		1.1	59.0		
	i Z	18 53 34					
	e N	19 00 38					
	e N	04 08					
	e Z	04 15					
	e E	10 43					
	e N	13 11					
	e Z	19 13 17					

Date	Phase	Corr. Time		T.	A.	Remarks	Magnitude and Depth
19	e P Z	15 54 13		1.0	2.5		
19	i P Z	23 12 08.6	+				
	i Z	23 12 11.3					
20	e P Z	07 55 30					
20	i P Z	11 29 42.2				0=11 16 59.3 5.6N, 146.9E	5.6, 33km
	e S Z	40 12				Caroline Isl. Region	
	ePPSE	41 17					
	e L Z	11 56 19					
20	i P Z	20 17 10.9	-	0.8	9.0	0=20 15 52.0 44.1N, 128.4W	4.4, 33km
						Off Coast of Oregon	
20	e P Z	23 47 33				Local (MR)	
21	e P Z	18 10 02				0=17 56 48.0 30.9S, 179.1W	5.3, 33km
	eSKS NE	20 30				Kermadec Islands	
	e G N	34 57					
	e LyZNE	18 38 56					
22	i P Z	14 07 59.9	-				
	e ZNE	14 17					
	e NE	14 17 30					
22	i P ZNE	16 01 33.0	+			Local	
	i E	16 01 34.0					
	i N	16 01 34.3					
	i Z	16 01 34.2					
22	i P Z	16 32 22.7		0.7	4.0		
23	e P Z	03 49 14					
	e ZNE	04 14 34					
23	i P ZNE	18 54 32.3	+			Local	
	i ZNE	18 54 35.1					
23	i P Z	22 48 36.3	-	1.0	29.8		
	i Z	22 50 34					
	e N	22 58 12					
23	i P Z	23 30 00.0				Local	
	i S ZNE	23 30 01.9					
24	e L E	13 09 12				0=12 21 28.7 56.2S, 143.5W	5.5, 33km
						South Pacific Cordillera	
24	e L Z	19 03 00				0=18 29 58.9 22.2S, 138.8W	5.0, 0km
						Tusmoto Arch. Region	
25	e P Z	01 56 25				Local (MR)	
25	e P Z	09 17 11					
	e N	09 27 42					
	e NE	09 33 10					

Date	Phase	Corr. Time	T.	A.	Remarks	Magnitude and Depth
25	i P Z	11 27 57.1 +	0.7	8.0		
25	e P Z	13 04 43				
25	e P Z	18 50 04				
26	e P Z	09 38 21				
26	i P Z	16 29 21.8				
26	i P Z	19 17 00.5				
27	e P Z i Z	01 13 41 01 13 43.3				
27	e P Z i Z	01 19 26 01 19 29.5				
27	i P Z	14 13 18.4	1.1	4.0		
27	i P Z	20 12 38.6				
28	e P Z e S E e L NE	12 03 12 13 38 27 58			0=11 50 30.4 20.0S, 176.3E South of Fiji Islands	5.7, 36km
28	e P Z e PPSN e Z	20 55 43 21 06 20 26 20	1.2	4.0	0=20 42 16.7 15.6N, 122.0E Philippine Islands Region	5.7, 15km
29	i P Z e S N	09 58 48.3 10 00 05	0.9	6.8	0=09 57 29.9 44.0N, 128.0W Off Coast of Oregon	4.1, 33km
29	i P Z e S N	10 02 02.0+ 10 03 15	0.8	10.0	0=10 00 44.7 44.0N, 127.9E Off Coast of Oregon	4.3, 25km
29	e P Z	22 47 33	1.0	21.8		
31	e P Z	21 47 18	0.8	2.1		

2 JUN 1969

UNIVERSITY OF WASHINGTON
SEISMOGRAPH STATION

MONTHLY REPORT

SEPTEMBER 1968

LON- LONGMIRE
LATITUDE- 46 45.0 N ELEVATION- 2800 FT.
LONGITUDE- 122 48.6 W FOUNDATION- VOLCANIC BRECCIA

SEA- SEATTLE
LATITUDE- 47 39.3 N ELEVATION- 2800 FT.
LONGITUDE- 122 18.5 W FOUNDATION- COMPACT GLACIAL TILL

TUM- TUMWATER
LATITUDE- 47 00.9 N ELEVATION- 275 FT.
LONGITUDE- 122 54.5W FOUNDATION- BASALT

EPICENTRAL LOCATIONS FROM U. S. C. G. S. PRELIMINARY EPICENTER CARDS

DAY	STA		P OR PKP H	M	S	T SEC	A MM	Q	S OR SKS M	S	OTHER PHASES M	S		
1	LON	E	07	41	15	0.9	1.1	-2.0	54	14	45	08	06.0	6809
1	SEA	E	07	41	16									6809
2	LON	E	01	04	32									M6809
2	LON	E	07	12	26									M6809
2	LON	E	08	32	46				43	20				M6809
2	LON	E	09	25	35									L6809
2	LON	E	20	06	27									6809
3	LON	E	07	12	26									6809
3	SEPTEMBR		08	19	52.2	TURKEY, 25 KILLED					41.8N	32.3E	H= 5KM M=5.7	6809
3	LON	E	08	32	46				43	20				6809
3	LON	E	09	25	35									L6809
3	SEPTEMBR		15	37	00.2	NORTH ATLANTIC OCEAN					20.6N	62.2W	H= 33KM M=5.5	6809
3	LON	E	15	46	26				54	05				6809
5	SEPTEMBR		04	05	57.4	EASTERN KAZAKH SSR					49.8N	78.1E	H= 0KM M=5.5	6809
5	LON	I	04	18	22.3+	0.8	6.4	-1.2						6809
5	LON	I	13	19	09.4+									L6809
5	LON	E	18	38	3				38	48.3	38	44.5	38 55.7	R6809
5	LON	I	22	05	35.8+				05	37.6				6809
6	LON	E	01	22	36				22	41.0				L6809
6	SEPTEMBR		07	49	42.0	NEAR COAST N. PERU					5.8S	80.3W	H= 66KM M=5.3	6809
6	LON	I	08	00	09.9+	0.8	4.6	-1.3						6809
6	SEPTEMBR		12	16	30.8	WASHINGTON FELT IN SEA.					48.0N	122.7W	H= 38KM M=3.9	6809
6	*U OF W		12	16	32.7	7MI SE DABOB, WASH.MM=V					47.6N	122.8W	H= 40KM M=4.3	68 9
6	SEA	I	12	16	43.1				16	50				F6809
6	TUM	I	12	16	47.3				16	59.7				6809

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 6 LON      I 12 16 54.3+                            17 11                            F6809
 6 SEPTEMBR 14 00 00.1 SOUTHERN NEVADA, NOGGIN   37.1N 116.0W H=   KM M=5.6 6809
 6 LON      I 14 02 36.8- 1.2   9.9  -0.9  05 40        06 49                          6809
 6 TUM      I 14 02 47.9+                            06 06                             6809
 6 SEA      I 14 02 55                               06 15        06 50                6809
 6 LON      I 15 18 34.7+ 0.6   4.0  -1.3                                              6809
 6 LON      I 16 12 46.1+                            12 47.7                           6809
 6 SEPTEMBR 19 22 47.8 KYUSHU, JAPAN MAG95.4,PAL 31.0N 131.9E H= 39KM M=5.7 6809
 6 LON      I 19 34 45.1- 1.0   4.7  -1.3  44 36                                       6809
 7 LON      E 11 21 51                                                                 6809
 7 LON      E 19 06 03                                                                M6809
 7 LON      E 19 57 25                                                                M6809
 7 LON      I 22 30 39.4                             30 40.5                          L6809
 8 SEPTEMBR 15 12 23.8 NEAR N. COAST NEW GUINEA   3.7S 143.0E H= 29KM M=6.0 6809
 8 SEA      E 15 25 51                                                                 6809
 8 TUM      E 15 25 51                                                                 6809
 8 LON        15 NO P                                          38 28                   6809
 8 LON      I 16 28 03.8+ 1.4   4.1  -1.2                                              6809
 8 LON      I 19 10 34.4- 0.6  68.4  -0.1                                             F6809
 8 SEPTEMBR 18 59 59.3 TUAMOTU ARCH. REGION      21.8S 139.2W H=  0KM M=4.7 6809
 9 LON      I 00 46 11.8-                            55 11        48 42.2              6809
 9 SEPTEMBR 02 20 57.9 EASTERN SIBERIA           66.1N 142.1E H= 33KM M=5.1 6809
 9 LON      E 02 29 56                                                                 6809
 9 SEPTEMBR 04 54 46.0 KENAI PEN. ALASKA         59.0N 149.2W H= 17KM M=5.2 6809
 9 LON      E 04 59 23                               03 11                             6809
 9 LON      I 17 52 34.3+                            52 35.6                          L6809
10 LON      I 00 18 11.8- 0.5   8.4                  11 19.1                           6809
10 LON      E 02 04 31    0.7   1.4                                                    6809
10 SEPTEMBR 21 23 48.0 MARIANA ISLANDS           18.6N 145.8E H=126KM M=5.3 6809
10 LON      I 21 35 35.6-                                                              6809
10 SEPTEMBR 23 13 47.0 NEAR COAST CHIAPAS, MEX.  14.3N  92.9W H= 72KM M=5.0 6809
10 LON      E 23 21 19                               27 36                             6809
11 LON      E 18 40 10                               58 38        08 26                6809
11 SEPTEMBR 21 47 21.9 TAIWAN REGION             24.0N 122.3E H= 42KM M=5.0 6809
11 LON      E 22 00 13    1.0   3.1                                                    6809
12 SEPTEMBR 13 36 27.5 OFF E. COAST HONSHU, JAP. 39.7N 143.6E H= 12KM M=5.2 6809
12 LON      E 13 47 11                                                                 6809
12 TUM      I 22 55 38.1-                                                              6809
12 LON      I 22 55 40.0- 1.4  44.0                  05 24                             6809
12 SEA      I 22 55 45.5-                                                              6809
12 LON      E 23 13 36                                                                M6809
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13 SEPTEMBR 07 30 43.6 NEAR COAST CHIAPAS,MEX.    15.1N  93.9W H= 34KM M=5.1 6809
13  LON   I 07 38 10.1+ 0.8   5.0        44 18        52 30                    6809

13  TUM   E 07 43 27                                                          6809
13  SEA     07 NO P                      54 30                                 6809
14  LON   I 01 45 11.5+ 1.0   4.7                                             6809
14  LON   I 07 44 06.8+                 03 11                                 6809
14  LON   E 14 07 01    2.0   4.2        16 10                                 6809

15 SEPTEMBR 11 27 36.5 OFF COAST OF OREGON        44.0N 125.3W H=    KM M=3.9 6809
15  LON   E 11 28 34    0.8   4.0                                             6809

15  TUM   I 16 04 43.7+                                                       6809
15  LON   I 16 04 52.5-                                                       6809

16 SEPTEMBR 13 55 36.1 NEW BRITAIN REGION          6.1S 148.7E H= 59KM M=5.8 6809
16  LON   E 14 08 51                 19 32                                   6809

16  LON   E 17 16.6                  16 54.0      1656.3                    R6809
16  LON   E 17 53.9                  54 19.2      54 28.8                   R6809

17 SEPTEMBR 08 36 56.3 OFF COAST OREGON        44.2N 128.3W H= 33KM M=4.0 6809
17  LON   I 08 38 15.6- 0.7   4.3  -1.4                                       6809

17  LON   I 14 02 36.9+ 0.9   2.4  -1.6                                       6809
17  LON     15 NO P                  23 30                                   6809
17  LON     18 NO P                  25 20                                   6809

18 SEPTEMBR 11 43 45.6 NEW HEBRIDES ISLANDS       18.2S 167.1E H= 33KM M=5.7 6809
18  LON   I 11 53 01.5+ 0.9   4.0  -1.4                                       6809

18  LON   I 11 56 46.6- 1.4  12.3  -0.8                                       6809
18  LON   I 17 46 28.3+              46 30.8                                 L6809
18  LON   E 18 47 26                          47 52.3                         6809
18  LON   E 19 57.9                           58 18.3                        R6809
19  LON   E 03 52 11                                                          6809

20 SEPTEMBR 06 00 03.5 NEAR COAST OF VENEZUALA    10.7N  62.7W H=107KM M=6.2 6809
20  LON   I 06 10 08.1+              13 58        18 21        25 13          6809
20  TUM   I 06 10 12.7+                                                       6809
20  SEA   I 06 10 13.6                 18 35                                  6809

20  LON   E 18 42 04                  05 19                                   6809
20  LON   E 23 22 24                                                          6809
21  TUM   E 13 16 28                                                          6809
21  SEA   E 13 16 30                  24 58        06 32                      6809
21  LON   E 13 16 31    0.6   9.5  -0.9  25 07        36 10                   6809
22  TUM   I 03 53 34.2                                                        6809
22  LON   I 03 53 44.5+                55 08                                  6809
22  LON   I 22 05 19.4-                                                       6809

24 SEPTEMBR 03 34 48.5 OFF E. COAST HONSHU, JAP. 40.2N 143.7E H= 22KM M=5.1 68 9
24  LON   E 03 45.4                                                          6809


24 SEPTEMBR 04 46 03.6 OFF E. COAST HONSHU, JAP. 40.3N 143.6E H= 26KM M=5.0 6809
24  LON   E 04 56 45                                                          6809
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24 LON E 06 26 52 M6809
24 LON I 17 07 30.4- 1.0 1.6 -1.8 6809
24 LON I 20 46 33.7+ 46 36.9 L6809
25 LON E 07 NO P 48 52 31 50 54 40 6809
25 LON E 09 35 43 6809

25 SEPTEMBR 10 38 38.4 MEXICO-GUATEMALA BORDER 15.6N 92.6W H=138KM M=5.7 6809
25 LON I 10 45 56.1+ 1.5 39.4 -0.2 51 56 55 09 6809
25 TUM I 10 46 02.5+ 46 09 56 06 6809
25 SEA I 10 46 05.0 59 42 6809

25 SEPTEMBR 17 58 53.7 ANDREANOF ISLANDS, ALEUT. 51.1N 179.2W H= 22KM M=4.8 6809
25 LON E 18 06 05 6809

25 *U OF W 20 09 34.9 LOFALL, WASH. MM=IV 47.8N 122.7W H= 30KM M=2.2 6809
25 TUM I 20 09 47.8 09 57.7 6809
25 LON I 20 09 56.0= 10 10.9 F6809

26 LON I 02 51 22.6- 0.7 3.8 -1.4 6809
26 LON I 14 49 48.0 0.7 26.5 -0.6 59 51 6809
26 LON E 18 00 58 15 56 36 30 6809
26 SEA E 18 NO P 26 28 6809
27 LON E 04 16 45 23 28 17 33 6809
27 LON E 16 54 15 05 20 6809
27 LON E 19 20 11 30 35 32 53 6809
27 SEA E 19 NO P 53 32 6809
28 LON I 14 04 54.1- 0.9 22.3 -0.6 14 16 6809
28 TUM I 14 04 59.3- 6809
28 SEA E 14 05 02 6809
28 LON E 19 12 20 6809
29 LON E 03 32 02 6809

29 SEPTEMBR 03 42 57.5 EASTERN KAZAKH SSR 49.8N 78.2E H= 0KM M=5.8 6809
29 LON I 03 55 22.6+ 0.8 18.0 -0.7 6809

29 LON 22 NO P 38.0 6809
30 LON E 12 32 22 32 25.5 6809
30 LON E 20 40 44 6809

UNIVERSITY OF WASHINGTON
SEISMOGRAPH STATION

MONTHLY REPORT

OCTOBER, 1968

LON- LONGMIRE
LATITUDE- 46 45.0 N — ELEVATION= 2800 FT.
LONGITUDE- 122 48.6 W — FOUNDATION= VOLCANIC BRECCIA

SEA- SEATTLE
LATITUDE- 47 39.3 N — ELEVATION= 2800 FT.
LONGITUDE- 122 18.5 W — FOUNDATION= COMPACT GLACIAL TILL

TUM- TUMWATER
LATITUDE- 47 00.9 N — ELEVATION= 275 FT.
LONGITUDE- 122 54.5W — FOUNDATION= BASALT

EPICENTRAL LOCATIONS FROM U. S. C. G. S. PRELIMINARY EPICENTER CARDS

DAY	STA		P OR PKP H M S	SEC	A MM	Q	S OR SKS M S	OTHER PHASES M S		
1	LON	E	22 55 02					55 24.9		6810
1	LON	I	23 51 29.4+				51 32.3			L6810
2	OCTOBER		02 45 58.1 GUATEMALA					14.2N 91.0W H= 95KM M=4.5		6810
2	LON	I	02 53 37.1-	1.0	4.0	-1.4				6810
2	LON	E	22 00 29							M6810
3	LON	I	00 06 42.3+							6810
3	LON	I	01 58 22.1-							6810
3	LON	E	06 18 34				21.0			6810
3	LON	E	11 15 20				20 47			6810
3	LON	E	19 58 06							6810
4	OCTOBER		00 40 02.2 HOKKAIDO JAPAN REGION					41.7N 142.8E H= 54KM M=5.0		6810
4	LON	E	00 50 35							6810
4	LON	I	06 23 34.3+	0.9	9.0	-1.0	26 08	42 56	58 12	6810
4	LON	I	17 13 05.4+				13 15.2			L6810
5	LON	I	23 18 41.2-				18 44.0			L6810
6	OCTOBER		05 15 11.5 TONGA ISLANDS					15.0S 175.5W H= 33KM M=5.3		6810
6	LON	E	05 27 08				32 03			6810
6	LON	E	08 58 55				09 03	21 14		6810
6	TUM	E	08 58 58							6810
6	TUM	E	17 54 22							6810
6	LON	I	19 35 07.8-	0.3	5.0	-0.7	35 14.9			L6810
6	LON	E	19 51 43	0.9	2.7	-1.6				6810
7	LON	E	07 51 18				51 35.8			6810
7	TUM	I	07 51 13.2+							6810
7	OCTOBER		19 20 20.3 BONIN ISLANDS REGION					26.3N 140.6E H=516KM M=6.1		6810
7	LON	I	19 31 11.4-	1.0	121.6	0.1	40 23.8			6810
7	SEA	I	19 31 32.4-				40 16.3			6810

7 TUM I 19 31 12.3= 40 13 6810
7 SEA E 20 59 12 6810
7 LON I 21 59 35.8+ 0.9 15.3 -0.8 6810

7 OCTOBER 20 49 01.3 HOKKAIDO, JAPAN REGION 42.0N 142.4E H= 32KM M=5.7 6810
8 LON I 01 01 47.4- 1.0 3.0 -1.5 6810

8 LON E 08 03 17 1.8 5.5 -0.9 14 17 E. N27 20 6810
8 TUM E 08 03 20 6810
8 SEA I 08 03 18.5+ E E03 31 6810
8 LON E 15 05 53 - 6810
8 TUM E 15 05 57 6810
8 LON E 15 47 36 M6810
8 TUM E 19 07 00 6810
8 LON E 20 43 10 M6810
9 LON E 02 30 10 6810
9 LON E 03 00 38 M6810

9 OCTOBER 03 38 39.9 SAMOA ISLANDS REGION 14.7S 175.5W H= 11KM M=5.2 6810
9 LON E 03 50 38 00 35 E. N10 20 6810

9 OCTOBER 11 45 51.6 OFF COAST OAXACA, MEXICO 14.8N 96.7W H= 9KM M=5.1 6810
9 LON I 11 53 13.1- 02 05 6810

9 LON I 13 44 33.0- 44 56.3 6810
9 TUM I 13 44 31.8 44 54 6810

9 OCTOBER 17 10 37.2 TONGA ISLANDS 15.0S 175.5W H= 33KM M=5.0 6810
9 LON E 17 22 35 42 40 6810

9 LON I 17 46 25.0+ 46 27.9 L6810
9 TUM E 22 29 02 6810
10 LON E 05 41 15 6810
10 LON E 17 41 10 6810
11 LON E 00 43 03 M6810
11 LON I 02 44 20.2= 0.6 17.5 44 41 6810
11 TUM I 02 44 19.7 44 41.9 6810
11 LON E 06 19 18 19 39.6 19 40.6 6810
11 LON E 11 52 23 E N52 50 6810
12 LON E 09 08 40 I Z08 51.9 R6810
12 TUM I 19 29 09.3 6810
12 LON I 19 29 11.5= 6810
12 LON I 19 51 55.3= 55 58.2 L6810

13 OCTOBER 04 02 14.2 OAXACA, MEXICO 16.5N 97.9W H= 64KM M=4.8 6810
13 LON E 04 09 13 38 46 E. N42 35 6810

13 LON E 18 25 11 6810
14 LON E 03 18 10 E Z20 36 E N52 26 6810
14 SEA E 03 18 07 21 44 E. N07 30 6810
14 LON I 04 46 24.6- 46 47.7 L6810
14 LON E 05 19 31 38 27 M6810
15 LON E 00 14 07 6810
16 LON E 01 34 27 6810
16 LON I 17 39 38.9 6810
17 LON E 07 05 13 6810
17 LON E 07 12 17 M6810

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18  LON    E 19 37 56                                                          6810
19  LON    I 16 36 36.0- 0.8    4.6  -1.3                                     6810
19  TUM    E 17 40 45                                                          6810
20  LON    E 07 21 15                                                          6810
22  LON    E 07 55 12                                                          6810
22  LON    E 09 01 02                        02 54       E08 43*      N11 50*  6810
22  LON    I 16 19 09.8+                     19 10.9                          L6810
23  LON    E 02 34 46                              I   Z35 07.8 E   Z54 00*  6810
23  LON    I 20 42 10.0+                                                       6810
23  LON    I 20 56 40.7+                                                       6810

23 OCTOBER  21 04 41.3 NEAR N. COAST NEW GUINEA    3.3S 143.3E H= 12KM M=6.1 6810
23  LON    E 21 18 01                        28 40   I   Z18 14.0     48 10*  6810
23  TUM    E 21 18 07                        22 58   E  Z 26 24               6810
23  LON    I 21 26 17.6- 0.9    1.4  -1.8                                     6810
24  LON    I 01 41 49.0- 0.8    6.0  -1.1                                     6810
24  LON    E 16 11 54                        16 35   E   Z33 05*              6810

24 OCTOBER  17 34 31.3 SAN JUAN PROV. ARGENTINA    30.3S  68.2W H= 35KM M=5.0 6810
24  LON    E 17 47 31                              I   Z47 44.1             6810
24  LON    E 20 45 06                                                          6810
25  LON    E 01 27 57                                                          6810
25  LON    E 05 56 20                                                          6810
25  LON    E 06 47 50                        47 55.1                          L6810

25 OCTOBER  11 38 14.7 RAT ISLANDS, ALEUTIAN ISL   50.6N 177.4E H= 23KM M=5.1 6810
25  LON    I 11 45 43.8+ 0.5    0.6  -2.1      I   Z45 45.4                  6810

26 OCTOBER  15 56 27.1 HOKKAIDO, JAPAN REGION      42.9N 145.2E H= 41KM M=5.1 6810
26  LON    E 16 06 46                                                          6810

26  LON    E 16 47 11                                                          6810
27  LON    E 00 34 41                                                          6810
27  LON    E 14 41 55                                                          6810

28 OCTOBER  23 32 28.7 SANTA CRUZ ISLANDS          12.5S 166.5E H= [illegible]M M=5.9 6810
28  LON    I 23 45 09.7- 1.2    6.3  -1.1  55 42*  E  N 08 10*                6810

27  TUM    E 23 55 35                                                          6810

29 OCTOBER  04 06 04.1 SOUTH OF HONSHU, JAPAN      31.2N 141.6E H= 17KM M=5.7 6810
29  LON    I 04 17 29.6+                                                       6810

29  LON    I 07 32 39.4+ 1.0   10.4  -1.0                                     6810
29  LON    I 19 51 28.3+                     51 42.6                          6810
29  TUM    I 19 51 19.5                                                        6810

29 OCTOBER  22 16 15.6 ALASKA                      65.4N 150.1W H=  7KM M=6.0 6810
29  LON    E 22 21 34                        25 46*                           6810
29  TUM    E 22 21 30                        28 35   E  Z 24 23               6810

30  LON    E 00 31 03     0.9   3.8  -1.4  35 29*                           6810
30  LON    I 09 27 31.9- 1.0    6.7  -1.2  32 28*  E  NE49 41*               6810
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MONTHLY REPORT

NOVEMBER, 1968

LON- LONGMIRE
LATITUDE- 46 45.0 N ELEVATION= 2800 FT.
LONGITUDE- 122 48.6 W FOUNDATION= VOLCANIC BRECCIA

SEA- SEATTLE
LATITUDE- 47 39.3 N ELEVATION= 2800 FT.
LONGITUDE- 122 18.5 W FOUNDATION= COMPACT GLACIAL TILL

TUM- TUMWATER
LATITUDE- 47 00.9 N ELEVATION= 275 FT.
LONGITUDE- 122 54.5W FOUNDATION= BASALT

EPICENTRAL LOCATIONS FROM U. S. C. G. S. PRELIMINARY EPICENTER CARDS

DAY	STA		P OR PKP H	M	S	T SEC	A MM	Q	S OR SKS M	S	OTHER PHASES M	S	
1	LON	I	02	16	52 -				16	54			L6811
1	NOVEMBER		03	55	50.3	OFF COAST OF JALISCO, MEX			18.2N	105.7W	H= 33KM	M=4.7	6811
1	LON	E	04	02	10				07	24*			6811
1	NOVEMBER		10	24	59.0	BRITISH COLUMBIA			51.0N	124.2W	H= 33KM	M=4.5	6811
1	LON	I	10	26	06 =				26	55*	27	11	6811
1	SEA	I	10	25	53.1				26	34			6811
1	TUM	I	10	25	59.4+				26	44			6811
2	TUM	E	23	05	38								6812
4	LON	I	09	19	12 -	1.3	39.0	-0.3	28	40*			6811
4	SEA	I	09	19	14.7=								6811
4	TUM	I	09	19	10.3=								6811
4	LON	E	09	50	11				50	37			6811
4	LON	E	15	17	36								6811
4	LON	I	20	28	18.3-				28	20.4	I Z 28	22.8	L6811
6	LON	I	20	07	23.6-								6811
6	TUM	I	20	07	16.1+				07	24.1			6811
6	LON		20	NO	P				42	30*			6811
7	NOVEMBER		10	02	05.3	NOVAYA ZEMLYA			73.4N	54.9E	H= 0KM	M=6.0	6811
7	TUM	I	10	12	15.3+								6811
7	LON	E	10	15	18 +								6811
7	LON	E	21	30	11				I	Z 30	48.2		M6811
8	NOVEMBER		18	27	26.7	FIJIISLANDS REGION			19.5S	179.2W	H=670KM	M=5.2	6811
8	LON	I	18	38	49.0+	0.8	6.0	-1.2					6811
8	LON	E	21	22	45								6811

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9 NOVEMBER 17 01 41.1 SOUTHERN ILLINOIS                    38.0N  88.5W H= 19KM M=5.3 6811
9  LON    I 17 07 33.2+ 1.0  11.3  -0.9  11 50*  I  N 16 35*                          6811

9  SEA    E 17 06 33                          15 40                                  6811
9  TUM    E 17 07 30                          15 40                                  6811
9  LON      21 NO P                           13 12*  E  Z 17.4 *                    6811
10 LON    E 17 30 09                                                                  6811
11 LON    I 02 08 00.4+ 0.7  11.2  -0.9                                               6811

11 NOVEMBER 03 11 06.8 MEX-GUATEMALA BORDER REG.     15.0N  92.8W H= 80KM M=5.1 6811
11 LON    E 03 18 34  = 0.8   5.0  -1.3                                             6811

11 NOVEMBER 08 53 52.0 ALASKA PENINSULA              57.3N 155.3W H= 59KM M=5.3 6811
11 LON    E 08 58 55                                                                6811

11 NOVEMBER 14 41 15.9 OFF E.COAST HONSHU, JAP.      40.1N 143.0E H= 35KM M=5.5 6811
11 LON    I 14 51 56.1=                       00 40*                              6811

11 LON    E 17 10 32                                                                6811
11 LON    E 17 22 44                                                                6811

12 NOVEMBER 00 44 12.8 RYUKYU ISLANDS                27.5N 128.4E H= 48KM M=5.8 6811
12 LON    I 00 56 33.3+ 1.0   8.6  -1.1  06 50*                                    6811
12 TUM    I 00 56 29.5                                                              6811

12 LON    I 04 01 53.6+                                                             6811
12 TUM    I 04 01 46.3                                                              6811

12 NOVEMBER 08 57 27.1 HOKKAIDO, JAPAN REGION        41.2N 143.9E H= 17KM M=5.3 6811
12 LON    I 09 08 01.4-                                                             6811

12 LON    I 09 50 49.8+ 0.8   9.0  -2.0  51 10.6                                    6811
13 LON    E 16 52 28                          01 06*                                6811
13 LON    I 19 15 38.5- 0.6  21.5  -0.6  15 47.4                                   F6811
13 TUM    I 21 15 41.8                        15 53.3                               6811

14 NOVEMBER 23 08 54.4 LOYALTY ISLANDS REGION        21.5S 170.1E H=103KM M=5.4 6811
14 LON    E 23 22 14                          50 18*                                6811

15 NOVEMBER 00 07 09.7 GULF OF ALASKA                58.3N 150.4W H= 26KM M=5.1 6811
15 LON    I 00 11 50.1+                       15 46*                                6811

15 LON    E 10 40 21                                                                6811
15 LON    I 23 52 21.3+                                                             6811
16 LON    I 00 33 43.8                        33 50.5                               6811

16 NOVEMBER 03 27 39.6 SOUTHERN PACIFIC OCEAN        35.8S 102.2W H= 33KM M=4.8 6811
16 LON    E 03 40 09                          03 35                                 6811

16 NOVEMBER 07 45 51.7 FIJI ISLANDS REGION           16.6S 175.9E H= 66KM M=5.6 6811
16 LON    E 07 58 17                          08 48*  E  N 23 34*                   6811

17 NOVEMBER 00 16 08.5 VENEZUALA                      9.6N  72.6W H= 72KM M=5.7 6811
17 LON    I 00 25 29.3+ 0.9  28.7  -0.5  33 05*                                    6811
17 TUM    I 00 25 33.9                                I  Z 30 15.7                  6811

17 LON      08 NO P                           08 36*  E  N 14 16   E  Z 27.2       6811
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17 NOVEMBER 21 11 34.7 VANCOUVER ISLAND REGION    49.0N 128.9W H= 10KM M=4.4 6811
17  LON    I 21 12 54.4-                  13 53                              6811

19  LON    I 13 50 02.5-                                                     6811
19  LON    I 15 21 53.0-                                                     6811

20 NOVEMBER 08 24 48.2 VANCOUVER ISLAND REGION    50.6N 129.6W H= 33KM M=4.2 6812
20  LON    I 08 26 22.0+                                                     6811

20  LON    E 08 49 55                                                        M6811
21  LON    I 14 43 44.1- 1.1   5.4  -1.2                                    6811
22  LON    I 12 00 43.7+                                                     6811

22 NOVEMBER 15 44 05.0 SOUTH OF FIJI ISLANDS      23.6S 180.0W H=516KM M=5.3 6811
22  LON    I 15 55 58.5+                                                     6811

24 NOVEMBER 21 20 59.9 NEAR E. COAST HONSHU,JAP.  40.3N 142.3E H= 51KM M=5.9 6811
24  LON    I 21 31 40.3+                  40 23   E  Z 49 26*               6811
24  TUM    I 21 31 35.4+                                                     6811


25 NOVEMBER 18 37 58.8 MEXICO-GUATEMALA BORDER    15.9N  92.4W H=105KM M=4.6 6811
25  LON    I 18 45 19.4- 0.8   5.3  -1.3  01 19   E  N 17 30   E  Z 22.0     6811

26  LON    E 00 22 37                                                        6811
28  SEA    E 10 30 41                     30 46                              6811
28  TUM    I 10 30 51.1-                  31 02.9                            6811
28  SEA    E 10 43 42                     58 27                              6811
28  TUM    E 10 43 36                     58 18                              6811

30 NOVEMBER 14 40 08.8 WASHINGTON                 46.5N 122.4W H= 13KM M=4.3 6812
30  SEA    I 14 40 30.8                   40 49.8                            6811
30  TUM    I 14 40 20.8-                  40 29.7                            F6811
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MONTHLY REPORT

DECEMBER, 1968

LON- LONGMIRE
LATITUDE- 46 45.0 N ELEVATION= 2800 FT.
LONGITUDE- 122 48.6 W FOUNDATION= VOLCANIC BRECCIA

SEA- SEATTLE
LATITUDE- 47 39.3 N ELEVATION= 2800 FT.
LONGITUDE- 122 18.5 W FOUNDATION= COMPACT GLACIAL TILL

TUM- TUMWATER
LATITUDE- 47 00.9 N ELEVATION= 275 FT.
LONGITUDE- 122 54.5W FOUNDATION= BASALT

EPICENTRAL LOCATIONS FROM U. S. C. G. S. PRELIMINARY EPICENTER CARDS

DAY	STA		P OR PKP H M S	T SEC	A MM	Q	S OR SKS M S	OTHER PHASES M S		
2	TUM	E	19 10 13							6812
4	LON	I	21 44 41.6-					I Z 44 57.0		6812
4	LON	E	22 05 45							6812
4	TUM	E	22 44 43							6812
5	LON	I	03 02 30.0							6812
5	TUM	I	04 02 20.0+							6812
5	LON	E	05 14 02							6812
5	LON	E	07 32 34							6812
5	LON	E	08 40 22							6812
5	DECEMBER		09 44 11.0 ICELAND REGION					63.9N 21.7W H= 5KM M=5.5		6812
5	LON	E	09 53.5				00 55*	E N 10 05*		6812
5	SEA		10 NO P				11 15*			6812
7	DECEMBER		04 57 49.0 NEAR N. COAST NEW GUINEA					3.4S 145.9E H= 15KM M=5.3		6812
7	LON	E	05 11 22				21 13*	E N 36 25*	E E 40 43*	6812
7	LON	I	16 06 19.9+				06 37			F6812
7	SEA	E	16 06 08				19.6			6812
7	TUM	I	16 06 11.1+				06 14.1			F6812
7	LON	E	21 43 30							6812
7	TUM	I	21 48 22.4				49 02			6812
7	DECEMBER		21 35 44.8 NEW HEBRIDES ISLANDS					20.7S 169.4E H= 61KM M=5.6		6812
7	LON	E	21 48 45				59 36*	E ZNE17.0 *		6812
9	LON	E	11 25 00							6812
10	LON	E	14 02 04					E Z 02 17		6812
10	LON	E	14 35 57							6812
10	TUM	I	15 56 28.6+							6812
10	LON	E	18 21 22							6812
11	TUM	I	03 03 48.6-							6812

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11 DECEMBER 12 51 06.0 NEAR COAST N. CALIFORNIA   41.0N 124.1W H= 33KM M=4.4 6812
11  LON   I 12 52 34.2+                                                      6812

                                                                            6812
11  LON   E 18 09 42                                                       6812
11  LON   E 18 40 20                          E  Z 40 24

11 DECEMBER 21 34 07.5 SOUTH OF FIJI ISLANDS  23.9S 176.1W H= 95KM M=5.4 6812
11  LON   E 21 46 38                  08 10*                              6812

12 DECEMBER 07 19 44.8 FIJI ISLANDS REGION    16.0S 177.8W H=431KM M=5.5 6812
12  LON   I 07 31 09.6-                40 41*  I  Z 31 12.3 E  N 46 09*   6812
12  TUM   I 07 31 07.3-                        I  Z 31 10.5               6812

15 DECEMBER 02 14 17.5 RAT ISLANDS            51.6N 175.8E H= 33KM M=5.7 6812
15  LON   E 02 21 52                  27 56*  E  N 31 56*  E  E 32 05    6812
15  TUM   E 02 21 42                                                      6812

15 DECEMBER 02 28 32.4 RAT ISLANDS            51.7N 175.8E H= 33KM M=5.4 6812
15  LON   E 02 36 10                                                      6812
8
15  TUM   I 09 12 43.1+                                                  6812

15 DECEMBER 09 12 05.9 OFF COAST OF OREGON    45.8N 127.0W H= 33KM M=4.3 6812
15  LON   I 09 13 03.8= 0.4  23.0  -0.3                                   6812

16 DECEMBER 03 07 24.1 SOUTH OF PANAMA         7.1N  82.2W H= 16KM M=5.3 6812
16  LON   I 03 16 35.1= 0.9   8.3  -1.1  30 10*                          6812

16  LON   I 07 14 50.3+ 1.1   8.4  -1.1                                   6812

16 DECEMBER 10 46 46.6 NEW HEBRIDES ISLANDS   18.0S 168.1E H= 49KM M=5.1 6812
16  LON   E 10 59 45                  23 31*                              6812

16  LON   E 23 23 05                                                      6812
16  TUM   E 23 23 15                                                      6812
16  LON   E 23 38 43                                                      6812
17  LON   I 08 43 35.3=              43 43.0                              6812
17  TUM   E 08 43 42                 43 53.0                              6812

17 DECEMBER 12 02 15.0 SOUTHERN ALASKA        60.2N 152.8W H= 86KM M=5.9 6812
17  LON   I 12 07 10.0= 2.0  69.7   0.2  11 06*     13.1 *                6812
17  SEA   I 12 07 02.7-               11 14                              6812
17  TUM   I 12 07 03.9-               07 24                              6812

18  LON   I 09 28 37.3-                                                   6812
18  TUM   E 09 28 47                                                      6812

18 DECEMBER 13 09 54.6 OFF COAST OF OREGON    45.8N 127.1W H= 33KM M=4.6 6812
18  LON   I 13 10 52.5= 0.5  24.2  -0.5  11 39*                          6812
18  TUM   E 13 10 44  +               11 22                              6812

18  LON   I 17 12 21.0                          E  Z 12 23                6812
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18 DECEMBER 20 03 43.9 FIJI ISLANDS REGION          19.9S 177.6W H=367KM M=5.5 6812
18  LON    I 20 15 31.2= 0.7  12.0  -0.9                                        6812
18  TUM    I 20 15 29.6-                                                       6812

19  LON    E 05 31 08                                                          6812

19 DECEMBER 15 15 55.7 NEAR E. COAST KAMCHATKA      53.3N 160.1E H= 33KM M=5.4 6812
19  LON    E 15 24 37                    31 33*  E  N 36 50*                  6812

19  LON    I 16 32 32.1+                 34 59                               E6812
19  SEA    I 16 32 48.5+                         E  N 36 08*                  E6812
19  TUM    I 16 32 39.4+                         E  N 35 26                   E6812
19  LON    E 22 26 01                                                          6812
20  LON    I 01 06 29.4                  06 57                                 6812
21  LON    I 00 16 59.0-                                                       6812
21  TUM    E 00 17 20                                                          6812
21  LON    I 04 30 37.5+                 30 49                                 L6812
21  TUM    I 04 30 29.3-                 30 35                                 6812
21  LON    E 09 02 51                    19 48                                 6812

21 DECEMBER 19 56 42.0 OFF COAST OF OREGON          43.1N 126.2W H= 33KM M=4.6 6812
21  LON    I 19 57 54.0+ 0.7  66.3  -0.2  58 45                               6812
21  TUM    E 19 57 43                    58 42                                 6812

22  LON    E 01 53 26                                                          6812
22  LON    E 16 19 36                                                          6812
22  TUM    I 16 49 27.8-                                                       6812
22  TUM    I 23 20 30.0-                                                       6812
23  LON    I 12 40 57.9+                                                       6812
23  TUM    I 12 40 43.2                          E  Z 41 51                    6812
24  LON      13 NO P                     06.5                                  6812

25 DECEMBER 03 56 39.2 HOKKAIDO JAPAN REGION        41.7N 142.8E H= 36KM M=5.3 6812
25  LON    E 04 07 13                                                          6812

25  LON    E 08 08 20                                                          6812
25  LON    E 09 07 21                                                          6812

25 DECEMBER 09 42 45.8 OFF COAST OF OREGON          43.5N 126.7W H= 47KM M=4.4 6812
25  LON    I 09 43 58.1+                                                       6812
25  TUM    I 09 43 43.4-                         E  Z 44 52                    6812

25  LON    E 23 48 28                                                          6812
26  LON    E 01 26 16                            I  Z 26 19.3                  6812
26  LON    E 03 31 58                            I  Z 32 19.0                 M6812
26  TUM    I 12 42 28.1                                                        6812
27  LON    E 06 31 45                                                          6812
28  TUM    E 22 11 17                                                          6812

29 DECEMBER 17 36 29.9 NEAR COAST CHIAPAS,MEX.      14.5N  92.4W H= 60KM M=5.4 6812
29  LON    I 17 44 05.4= 0.8  18.0  -0.7  50 10*  E  E 53 32*                  6812
29  TUM    E 17 44 13                                                          6812

29  TUM    E 18 08 25                                                          6812

30 DECEMBER 07 03 11.7 KODIAK ISLAND REGION         57.6N 151.4W H= 34KM M=5.4 6812
30  LON    I 07 07 53.3+ 1.0  11.4  -0.9  11 48*                              6812
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30 DECEMBER 10 27 09.7 SVALBARD REGION 76.2N 7.5EH= 23KM M=5.0 6812
30 LON E 10 36 27 44 02* E Z 51 50* 6812