



No. 1, 1948:

Latitude: 13° 48' 26" S.
 Longitude: 171° 46' 30" W.
 or 11h.27m. 6s. W.
 Geocentric Direction
 Cosines: a=-9615, b=-1390, c=-2371.
 Altitude: 2 metres.
 Lithological Foundation: Coral sand on volcanic rock.

Instruments:

Horizontal components: Wiechert 1000 kg. astatic pendulum (Bartels)
 Vertical Component: Wiechert 80 kg. vertical pendulum (Spindler and Hoyer)

Tables for computation:

H. Jeffreys and K.E. Bullen, Seismological Tables, 1940.
 H. Jeffreys, Times of Transmission for small distances and focal depth, 1939.
 G.J. Brunner and J.B. Macelwane, The Brunner focal depth-time-distance chart.

Time Service:

The Standard clock, Strasser and Rohde No. 381, is rated daily against radio time signals. A "Synchronome" clock is used to time-mark the records.

All times are entered in Greenwich Mean Time (Universal Time).

January 1948.

4th.	iPNEZ 05h. 24m. 05s.	13th.	iPENZ 17h. 23m. 56s.
	iSNEZ 05h. 24m. 27s.		iSEnz 17h. 24m. 20s.
	Distance=1.7° H = 05h. 23.5m.		Distance=1.8° H = 17h. 23.4m.
	N component thrown out of adjustment.		Horizontal components thrown out of adjustment.
4th.	iPENZ 08h. 58m. 51s.	17th.	EN 02h. 00m. + seismic activity.
	iSEnz 09h. 00m. 35s.	20th.	PoP?NE 09h. 50m. 19s.
	Distance=9.2° H = 08h. 56.6m.		SE 09h. 52m. 07s.
9th.	ePNE 02h. 07m. 23s. ca.		LqEN 09h. 52m. 54s.
	eSNE 02h. 08m. 06s. ca.		LrEN 09h. 55m. 01s.
	Distance=3.6° ca. H = 02h. 06.4m.		Distance=27° ca. H = 09h. 41.5m
9th.	ePEN 08h. 04m. 06s. ca.		Instruments not recording during first phases of earthquake.
	iSEnz 08h. 04m. 23s.	20th.	ePEN 20h. 19m. 06s.
	Distance=1.3° ca. H = 08h. 03.7m.		SEN 20h. 20m. 34s.
10th.	ePNE 05h. 18m. 23s.		Distance=7.7° ca. H = 20h. 17.2m
	eS?NE 05h. 21m. 17s.	21st.	ePEN 14h. 37m. 01s. ca.
	eLq?N 05h. 21m. 36s. ca.		SEN 14h. 37m. 14s.
	eLr?N 05h. 22m. 46s. ca.		Distance=1.0° ca. H = 14h. 36.6m
	Distance=16° ca. H = 05h. 14.6m.		
11th.	EN 10h. 11m. + seismic activity.		

21st. PEN 15h. 06m. 15s. ca. 18th. SEN 15h. 06m. 31s.
Distance=1.2° ca. H = 15h. 05.9m.

22nd. PEN 00h. 20m. 01s. ca. SENZ 00h. 20m. 31s.
Distance=2.4° H = 00h. 19.3m.

22nd. PNE 13h. 57m. 36s. SNEZ 13h. 59m. 12s.
Lr?EN 14h. 00m. 17s.
Distance=8.4° H = 13h. 55.5m.

24th. PNE 17h. 58m. 01s. ePPP?E 18h. 03m. 24s.
eSEN 18h. 07m. 51s. SSS?E 18h. 17m. 15s.
eLqEN 18h. 19m. 31s. eLr?EN 18h. 26m. 01s.
Distance=77° ca. H = 17h. 46.1m.

27th. PEN 01h. 48m. 26s. iSENZ 01h. 49m. 30s.
Distance=5.5° H = 01h. 47.0m.

27th. ePnENZ 12h. 00m. 36s. iP?ENZ 12h. 00m. 44s.
iPg?ENZ 12h. 01m. 03s. iSnEN 12h. 01m. 55s.
S*?ENZ 12h. 02m. 12s.
Distance=6.7° H = 11h. 58.8m.

February 1948.

1st. E 20h. 36m. + seismic activity.

3rd. PEN 00h. 31m. 15s. S?ENZ? 00h. 32m. 07s.
Distance=4.4° H = 00h. 30.1m?
Followed by a long series of L waves.

3rd. PNE 02h. 17m. 38s. iSENZ 02h. 17m. 57s.
Distance=1.4° H = 02h. 17.2m.

3rd. eP?E 11h. 43m. 27s. SE 11h. 44m. 28s.
Distance=5.2° H = 11h. 42.1m.
Followed by a long series of L waves.

4th. eP?E 03h. 02m. 34s. SENZ? 03h. 03m. 36s.
Distance=5.3° H = 03h. 01.2m.

4th. ePNE 05h. 53m. 29s. iSNEZ 05h. 54m. 00s.
Distance=2.5° H = 05h. 52.8m.

5th. iPENZ 05h. 55m. 47s. iSENZ 05h. 56m. 06s.
Distance=1.4° H = 05h. 55.4m.
Felt locally M.M.II.

8th. PN 16h. 40m. 08s. iSNE 16h. 40m. 29s.
Distance=1.6° H = 16h. 39.7m.

8th. iPENZ 20h. 36m. 08s. iSENZ 20h. 36m. 30s.
Distance=1.7° H = 20h. 35.6m.
Felt locally M.M.II.

9th. iE 13h. 18m. 11s. eE 13h. 21m. 10s. eE 13h. 24m. 05s.

10th. eN 10h. 09m. + seismic activity.

10th. iSNE 14h. 40m. 20s. slight local shock.

18th. iPENZ 14h. 00m. 23s. iSENZ 14h. 00m. 45s.
Distance=1.7° H = 13h. 59.9m.

19th. PNE 19h. 51m. 14s. iSNEZ 19h. 51m. 37s.
Distance=1.8° H = 19h. 50.7m.

20th. PNE 06h. 17m. 34s. iSNEZ 06h. 17m. 50s.
Distance=1.2° H = 06h. 17.2m.

20th. SNE 11h. 48m. 15s. slight local shock.

21st. iPEN 07h. 38m. 31s. iSEN 07h. 38m. 53s.
Distance=1.7° H = 07h. 38.0m.

22nd. iPNE 11h. 14m. 16s. iSNE 11h. 15m. 06s.
Distance=4.2° H = 11h. 13.2m.

22nd. PNE 13h. 48m. 47s. SNE 13h. 49m. 08s.
Distance=1.6° H = 13h. 48.3m.

23rd. iPNEZ 03h. 03m. 37s. iSNEZ 03h. 03m. 57s.
Distance=1.5° H = 03h. 03.1m.

25th. iPEZ 07h. 15m. 32s. iSEZ 07h. 15m. 55s.
Distance=1.8° H = 07h. 15.0m.
N component indecipherable.

26th. PNE 05h. 49m. 05s. iSNEZ 05h. 49m. 27s.
Distance=1.7° H = 05h. 48.6m.

27th. iPEN 22h. 23m. 57s. iSEN 22h. 24m. 22s.
Distance=2.0° H = 22h. 23.4m.

March 1948.

1st. iPENZ 01h. 22m. 46s. ePcP?E 01h. 23m. 18s. ePPP?E 01h. 26m. 30s. iSEN 01h. 31m. 06s. eLqN 01h. 37m. ca.
Distance=61° H = 01h. 12.6m.

2nd. iPNEZ 23h. 59m. 58s. 3rd. iSNEZ 00h. 00m. 16s.
Distance=1.4° H = 23h. 59.5m. or 2nd.

Felt locally M.M.II.

3rd. eLNE 09h. 44m. ca. 4th. PEN 12h. 06m. 23s. iSEN 12h. 06m. 57s.
Distance=2.8° H = 12h. 05.6m.

5th. iPNEZ 12h. 36m. 06s. iSNEZ 12h. 36m. 41s.
Distance=2.9° H = 12h. 35.3m.

6th. iPENZ 13h. 48m. 54s. iSENZ 13h. 50m. 26s.
Distance=8.0° H = 13h. 46.9m.

7th. iPENZ 09h. 28m. 14s. iSENZ 09h. 28m. 35s.
Distance=1.6° H = 09h. 27.8m.
Felt locally M.M.II.

7th. iPENZ 10h. 42m. 36s. iSENZ 10h. 43m. 03s.
Distance=2.2° H = 10h. 42.0m.



7th. iPENZ 12h. 27m. 01s. iSENEZ 12h. 27m. 25s. Distance=2.0° H = 12h. 26.4m. Felt locally? M.M.I?	22nd. iPNEZ 21h. 03m. 21s. iSNEZ 21h. 03m. 51s. Distance=2.5° H = 21h. 02.5m.
9th. eP?E 18h. 55m. 45s. eS?E 19h. 02m. 16s. eLq?E 19h. 06m. 14s.ca. Distance=44°? H = 18h. 47.7m? N component not recorded.	24th. ePNE 02h. 50m. 38s.ca. eSNEZ 02h. 53m. 09s.ca. Distance=14° ca.H = 02h. 47.5m.
10th. iS?NEZ 00h. 57m. 47s. Slight local shock.	24th. ePNE 04h. 58m. 00s.ca. eSNEZ 05h. 00m. 44s.ca. Distance=15° ca.H = 04h. 54.5m.
10th. iPNEZ 11h. 29m. 01s. eSNEZ 11h. 32m. 00s.ca. Distance=16° ca.H = 11h. 25.4m.ca.	25th. N 01h. 31m. + seismic activity.
13th. EN 20h. 41m. + seismic activity commenced while records being changed	25th. NE 01h. 50m. + seismic activity.
15th. iPNEZ 12h. 46m. 08s. iSNEZ 12h. 46m. 30s. Distance=1.7° H = 12h. 45.7m.	25th. eNE 04h. 39m. 40s.ca. eLNE 04h. 41m.ca.
16th. iSENEZ 05h. 17m. 53s. Slight local shock.	25th. iPNE 13h. 43m. 48s. iSNEZ 13h. 44m. 03s. Distance=1.2° H = 13h. 43.4m.
16th. eS?NE 17h. 02m. 30s.ca. eLq?NE 17h. 04m. 40s.ca.	26th. iPNEZ 22h. 15m. 53s. Compression from S.W. iSNEZ 22h. 16m. 13s. Distance=1.6° H = 22h. 15.3m. Felt locally M.M.III.
18th. S?EN 23h. 07m. 29s. Slight local shock.	26th. iSNZ 23h. 22m. 48s. Slight local shock.
21st. iPNEZ 19h. 37m. 12s. Compression from S.W. iSNEZ 19h. 37m. 37s. Distance=2.0° H = 19h. 36.6m.	29th. iPEZ 14h. 00m. 15s. iSEZ 14h. 01m. 03s. Distance=4.1° H = 13h. 59.2m.

Bulletins Received:

The receipt of Seismological Bulletins and other information from the following sources is acknowledged with thanks.

Beograd:	July, October 1947.
Brisbane:	November 1947 - January 1948.
Bureau Central de Seismologique Francais:	August - November 1947.
Firenze:	September 1947 - January 1948.
Harvard:	January - June 1947.
Helsinki:	October - December 1947.
Istanbul:	September - December 1947.
Jesuit Seismological Association:	July - December 1947.
Kew:	November - December 1947.
Ksara:	July - December 1947.
Ottawa:	August - November 1947.
Pasadena:	Prelim: Oct.5th 1947-Jan.27th 1948. Bulletin: January - March 1947. Air letters: January 22nd-March 26th 1948.
Perth:	July - September 1947.
Pittsburgh:	January - December 1945.
Reykjavik:	1943.
Rome:	July - December 1947.
Strasbourg:	September 1947 - February 1948.
Stuttgart:	August 1939 - June 1942, January 1947.
Trieste:	May - August 1947.
Uccle:	October 1947.
U.S.C.G.S.:	Earthquakes in U.S.A. for 1945. October - December 1944. Preliminary Epicentres Nos. 78-81/1947 and Nos. 1-34/1948.
Wellington:	November 1947 - January 1948.

Apia, Western Samoa.

V.B. GERARD.

April 14th, 1948:

Acting Director.

Apia Observatory, Western Samoa.

Seismological Bulletin.

April to June, 1948.



International
Seismological
Centre

No. 2, 1948:

Latitude: $13^{\circ} 48' 26''$ S.
Longitude: $171^{\circ} 46' 30''$ W.
or $11h. 27m. 6s. W.$
Geocentric Direction
Cosines: $a=-9615, b=-4390, c=-2371.$
Altitude: 2 metres.
Lithological Foundation: Coral sand on volcanic rock.

Instruments:

Horizontal components: Wiechert 1000 kg. astatic pendulum (Bartels)
Vertical Component: Wiechert 80 kg. vertical pendulum (Spindler and Hoyer)

Tables for computation:

H. Jeffreys and K. E. Bullen, Seismological Tables, 1940.
H. Jeffreys, Times of Transmission for small distances and focal depth, 1939.
G. J. Brunner and J. B. Macelwane, The Brunner focal depth-time-distance chart.

Time Service:

The Standard clock, Strasser and Rohde No. 381, is rated daily against radio time signals. A "Synchronome" clock is used to time-mark the records.

All times are entered in Greenwich Mean Time (Universal Time).

April 1948.

1st.	iPNEZ 01h. 08m. 25s. iSNEZ 01h. 08m. 52s. Distance= 2.2° H = 01h. 07.8m.	8th.	PNE 04h. 16m. 27s. eSEN 04h. 17m. 31s. Distance= 5.5° H = 04h. 15.1m.
2nd.	iSNE 07h. 20m. 16s. slight local shock	10th.	iSNE 17h. 00m. 04s. slight local shock
3rd.	PENZ 07h. 21m. 01s. SENZ 07h. 22m. 06s. Distance= 5.6° H = 07h. 19.6m.	11th.	iPN 04h. 14m. 15s. iSNE 04h. 14m. 36s. Distance= 1.6° H = 04h. 13.8m.
4th.	PENZ 19h. 09m. 01s. eSENZ 19h. 10m. 01s. Distance= 5.2° H = 19h. 07.6m.	11th.	iPNEZ 11h. 21m. 19s. compression from S.W. iS?NEZ 11h. 21m. 44s. Distance= 2.0° ? H = 11h. 20.8s.?
4th.	iPENZ 23h. 09m. 49s. iSENZ 23h. 10m. 10s. Distance= 1.6° H = 23h. 09.3m. Felt locally M.M.II.	12th.	EN 08h. 56m. + seismic activity.
5th.	iPNEZ 10h. 46m. 31s. iSNEZ 10h. 46m. 51s. Distance= 1.6° H = 10h. 46.0m.	12th.	NE 09h. 06m. + seismic activity.
7th.	iPNE 12h. 37m. 05s. iSNE 12h. 37m. 22s. Distance= 1.3° H = 12h. 36.7m.	15th.	EN 05h. 14m. + seismic activity. slight local shock.
7th.	iPNE 13h. 07m. 55s. iSNEZ 13h. 08m. 15s. Distance= 1.6° H = 13h. 07.5m.	17th.	eP?N 16h. 22m. 14s. ca. iSNE 16h. 31m. 38s. eLqNE 16h. 40m. 09s. ca. Distance= 72° ca. H = 16h. 11.2m.
8th.	iPENZ 03h. 01m. 44s. iSENZ 03h. 02m. 05s. Distance= 1.6° H = 03h. 01.3m. Possibly M.M.I locally.	18th.	eNE 12h. 28m. 52s. ca. eNE 12h. 36m. ca. eLNE 12h. 42m. ca.

20th.	iSNE	10h. 43m. 07s.	9th.	PNEZ	08h. 18m. 23s.
	slight	local shock.		SNEZ	08h. 20m. 07s.
21st.	E	15h. 26m. + seismic activity.	11th.	iSNE	08h. 06m. 14s.
21st.	eSKSEN	20h. 47m. 00s. ca.		slight	local shock.
	ePS?E	20h. 50m. 30s. ca.	12th.	ePNE	01h. 08m. 19s.
	eLqN	21h. 06m. ca.		eSNL	01h. 16m. 46s.
	eLrENZ	21h. 12m. ca.		eLNE	01h. 27m. ca.
	Distance=104°	ca. H=20h. 22.2m.		Distance=63°	H = 00h. 57.9m.
22nd.	ePEN	04h. 05m. 00s. ca.	13th.	iPN	01h. 58m. 43s.
	iSNEZ	04h. 03m. 55s.		iSNEZ	01h. 59m. 06s.
	Distance=22°	ca. H=04h. 00.1m.		Distance=1.8°	H = 01h. 58.2m.
22nd.	ePMN	04h. 27m. 10s. ca.	13th.	iPNEZ	14h. 52m. 04s.
	eSNE	04h. 30m. 45s. ca.		Dilatation,	direction uncertain but probably S.W.
	Distance=20°	ca. H=04h. 22.6m.		iSNEZ	14h. 52m. 24s.
22nd.	ePEN	11h. 00m. 34s.		Distance=1.5°	H = 14h. 51.6s.
	iSNEZ	11h. 04m. 14s.		Felt locally	L.V.IV.
	Distance=20°	ca. H = 10h. 56.1m.	13th.	iPNE	15h. 11m. 18s.
22nd.	iSEN	23h. 39m. 19s.		iSNE	15h. 11m. 37s.
	slight	local shock.		Distance=1.4°	H = 15h. 10.9m.
24th.	iSEN	05h. 14m. 11s.	14th.	iPEN	13h. 19m. 29s.
	slight	local shock.		iSEN	13h. 19m. 55s.
25th.	iPNE	12h. 39m. 57s.		Distance=2.1°	H = 13h. 18.9m.
	iSNE	12h. 40m. 43s.	14th.	ePNE	22h. 43m. 00s. ca.
	Distance=3.9°	H = 12h. 38.9m.		SNE	22h. 51m. 50s.
26th.	iPNE	12h. 40m. 00s.		eLqNE	22h. 59m. ca.
	iSNE	12h. 40m. 27s.		Distance=67°	H=22h. 32.2m.
	Distance=2.2°	H = 12h. 39.4m.	17th.	iSNE	08h. 21m. 25s.
28th.	iPEN	12h. 34m. 39s.		slight	local shock.
	iSEN	12h. 34m. 58s.	17th.	iSN	14h. 48m. 33s.
	Distance=1.4°	H = 12h. 34.2m.		slight	local shock.
29th.	ePEN	03h. 17m. 40s. ca.	17th.	●N	18h. 20m. + seismic activity.
	eSEN	03h. 20m. 00s. ca.	18th.	iPNEZ	08h. 20m. 17s.
	Distance=12°	ca. H=03h. 14.8m. ca.		iSNEZ	08h. 20m. 33s.
29th.	eEN	03h. 40m. + seismic activity, local shock.		Distance=1.2°	H = 08h. 19.9m.
				Felt locally	M.M. I-II.
29th.	iSEN	12h. 24m. 54s.	19th.	iPNEZ	06h. 02m. 26s.
	slight	local shock.		iSNEZ	06h. 03m. 10s.
30th.	iPENZ	05h. 51m. 35s.		Distance=3.7°	H = 06h. 01.5m.
	iSEnz	05h. 51m. 58s.	21st.	iPNE	00h. 32m. 10s.
	Distance=1.8°	H = 05h. 51.1m.		iSNE	00h. 32m. 33s.
30th.	iPNEZ	07h. 05m. 14s.		Distance=1.8°	H = 00h. 31.6m.
	iSNEZ	07h. 05m. 34s.	21st.	iPNE	01h. 18m. 58s.
	Distance=1.6°	H = 07h. 04.8m.		iSNE	01h. 19m. 17s.
30th.	iPNEZ	07h. 24m. 59s.		Distance=1.4°	H = 01h. 18.5m.
	iSNEZ	07h. 25m. 18s.	22nd.	eNE	01h. 14m. + seismic activity.
	Distance=1.5°	H = 07h. 24.5m.			
<u>May 1948.</u>					
3rd.	iPNE	03h. 55m. 26s.	22nd.	eNE	19h. 35m. ca. seismic activity.
	iSNE	03h. 55m. 48s.	23rd.	iPENZ	04h. 16m. 52s.
	Distance=1.7°	H = 03h. 54.9m.		iSEnz	04h. 20m. 25s.
3rd.	iPEN	04h. 03m. 42s.		Distance=20°	H=04h. 12.4m.
	iSEnz	04h. 04m. 07s.	24th.	iPNEZ	10h. 37m. 55s.
	Distance=2.0°	H = 04h. 03.1m.		iSNEZ	10h. 38m. 17s.
5th.	iPNE	00h. 06m. 51s.		Distance=1.7°	H = 10h. 37.4m.
	iSNEZ	00h. 07m. 10s.		Probably	M.M. I-II locally.
	Distance=1.5°	H = 00h. 06.4m.	25th.	iPNEZ	00h. 14m. 19s.
5th.	iPNE	02h. 13m. 10s.		Dilatation	from N.W.
	iSNEZ	02h. 13m. 42s.		iSNEZ	00h. 14m. 39s.
	Distance=2.6°	H = 02h. 12.5m.		Distance=1.5°	H = 00h. 13.7m.
6th.	iPNE	08h. 32m. 29s.		Probably	M.M. II locally.
	iSNEZ	08h. 33m. 39s.	25th.	PNE	04h. 00m. 48s.
	Distance=6.0°	H = 08h. 31.0m.		eSNE	04h. 02m. 04s. ca.
8th.	NE	06h. 46m. + seismic activity.		Distance=6.6°	ca. H=03h. 59.1m.



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25th. eN 07h. 33m. ca.
 eLNE 07h. 46m. ca.
 31st. iPNEZ 08h. 26m. 57s.
 ISNEZ 08h. 29m. 26s.
 Distance=13° H = 08h. 23.9m.

20th. iPNE 10h. 02m. 51s.
 ISNE 10h. 03m. 13s.
 Distance=1.7° H=10h. 02.3m.
 20th. iPNE 18h. 12m. 05s.
 ISNEZ 18h. 12m. 49s.
 Distance=3.7° H=18h. 11.1m.

International
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June 1948.

1st. iPNE 19h. 35m. 03s.
 iSENZ 19h. 35m. 37s.
 Distance=2.8° H = 19h. 34.3m.
 4th. iPNE 03h. 14m. 11s.
 ISNE 03h. 14m. 26s.
 Distance=1.2° H = 03h. 13.8m.
 7th. iPNE 06h. 40m. 45s.
 ISNEZ 06h. 41m. 13s.
 Distance=2.3° H = 06h. 40.1m.
 8th. ePZ 10h. 57m. 21s.
 eS?Z 11h. 01m. 07s. ca.
 Horizontal components not recording.
 9th. iPNE 19h. 37m. 23s.
 ISNEZ 19h. 38m. 06s.
 Distance=3.6° H = 19h. 36.4m.
 12th. ePNE 07h. 04m. 00s.
 eSNE 07h. 04m. 50s.
 Distance=4.2° H = 07h. 02.9m.
 12th. ISNE 18h. 51m. 44s.
 slight local shock.
 12th. ISNE 19h. 53m. 13s.
 slight local shock.
 14th. iPNE 15h. 57m. 37s.
 ISNE 15h. 58m. 04s.
 Distance=2.2° H = 15h. 57.0m.
 15th. ISNE 06h. 06m. 20s.
 slight local shock.
 18th. iPENZ 01h. 00m. 26s.
 dilatation from west.
 ePPE 01h. 01m. 34s.
 SE 01h. 05m. 51s.
 eLqEN 01h. 08m. 15s.
 Distance=34° H = 00h. 53.7m.
 18th. ePNE 16h. 49m. 20s.
 SNE 16h. 51m. 00s. ca.
 Distance=8.8° ca. H=16h. 47.2m. ca.
 20th. eNE 09h. 20m. + seismic activity.

21st. ISNE 22h. 32m. 31s.
 slight local shock.
 22nd. ISNE 13h. 33m. 38s.
 slight local shock.
 25th. ISNE 17h. 48m. 14s.
 slight local shock.
 26th. ISNE 01h. 34m. 11s.
 slight local shock.
 26th. iPNE 10h. 07m. 29s.
 ISNE 10h. 08m. 24s.
 Distance=4.7° H=10h. 06.3m.
 26th. ISNE 10h. 45m. 16s.
 slight local shock.
 26th. iPNE 19h. 21m. 00s.
 ISNEZ 19h. 21m. 29s.
 Distance=2.4° H=19h. 20.3m.
 27th. ISNE 11h. 23m. 30s.
 slight local shock.
 28th. eLNE 07h. 43m. ca.
 29th. ePNE 05h. 02m. 02s.
 eSNEZ 05h. 03m. 42s.
 Distance=9.0° H=04h. 59.8m.
 29th. iPNEZ 10h. 29m. 06s.
 compression from S.W.
 ISNEZ 10h. 29m. 24s.
 Horizontal components thrown out of adjustment.
 Distance=1.4° H=10h. 28.7m.
 Felt locally M.M.V.
 29th. iPZ 11h. 51m. 26s.
 ISZ 11h. 51m. 45s.
 Horizontal components not recording.
 Distance=1.4° H=11h. 51.0m.
 Felt locally M.M.I.

Bulletins Received:

The receipt of Seismological Bulletins and other information from the following sources is acknowledged with thanks:

- | | |
|-----------------------------------|---|
| Beograd: | November - December 1947. |
| Brisbane: | February - April 1948. |
| Bucarest: | January - February 1948. |
| Budapest and Kalocsa: | January - March 1948. |
| Cleveland: | September 1947, January-March 1948. |
| Firenze: | November-December 1947, February 1948. |
| Istanbul: | January 1948. |
| Jesuit Seismological Association: | July - August 1943, January - March 1948. |
| Kew: | January - March 1948. |
| La Plata: | July - December 1946. |
| Ottawa: | December 1947, January 1948. |
| Pasadena: | Air letters March 27 - June 18, 1948. |
| Perth: | October 1947, January-March 1948. |
| Riverview: | November - December 1946. |
| Rome: | January - March 1948. |
| Strasbourg: | October 1947 - March 1948. |

APIA
18.2



International
Seismological
Centre

Stuttgart:
Toledo:
Trieste:
Uccle:
U.S.C.G.S.:

January - March 1948.
December 1947, February - March 1948.
November 1947 - February 1948.
November 1947, January - March 1948.
Preliminary Epicenters Nos. 37-55,
1948.

Wellington:

February - April 1948.

Apia, Western Samoa.
June 6th, 1948:

V.B. GERARD.

ACTING DIRECTOR.



No. 3, 1948:

Latitude: 13° 48' 26" S.
 Longitude: 171° 46' 30" W.
 or 11h. 27m. 6s. W.
 Geocentric Direction
 Cosines: a=-9615, b=-1390, c=-2371.
 Altitude: 2 metres.
 Lithological Foundation: Coral sand on volcanic rock.

Instruments:

Horizontal components: Wiechert 1000 kg. astatic pendulum (Bartels)
 Vertical Component: Wiechert 80 kg. vertical pendulum (Spindler and Hoyer)

Tables for computation:

H. Jeffreys and K. E. Bullen, Seismological Tables, 1940.
 H. Jeffreys, Times of Transmission for small distances and focal depth, 1939.
 G. J. Brunner and J. B. Macelwane, The Brunner focal depth-time-distance chart.

Time Service:

The Standard clock, Strasser and Rohde No. 381, is rated daily against radio time signals. A "Synchronome" clock is used to time-mark the records.

All times are entered in Greenwich Mean Time (Universal Time).

July 1948.

1st.	iPNE 12h. 48m. 25s.	12th.	iPNEZ 02h. 43m. 48s.
	iSNEZ 12h. 49m. 28s.		iSNEZ 02h. 44m. 32s.
	Distance=5.4° H=12h. 47.1m.		Distance=3.7° H=02h. 42.9m.
3rd.	iPNEZ 12h. 51m. 49s.	13th.	iSNEZ 01h. 27m. 50s.
	Compression from N.E.?		slight local shock.
	iSNEZ 12h. 53m. 05s.	14th.	iSNE 02h. 20m. 53s.
	Distance=6.6° H=12h. 50.2m.		slight local shock.
5th.	iSNE 02h. 07m. 36s.	14th.	ePE 22h. 37m. 04s. ca.
	slight local shock.		iEN 22h. 37m. 43s.
5th.	iSNE 06h. 19m. 14s.		iSEN 22h. 43m. 32s.
	slight local shock.		eLqEN 22h. 47m. 16s.
5th.	iSNEZ 09h. 04m. 29s.		Distance=44° H=22h. 29.0m.
	slight local shock.	14th.	iSNE 23h. 22m. 48s.
6th.	iPNEZ 06h. 53m. 30s.		slight local shock.
	Compression from S.W.	15th.	eNE 11h. 35m. + seismic activity.
	iSNEZ 06h. 53m. 48s.		
	Distance=1.3° H=06h. 53.1m.	15th.	iSNE 14h. 43m. 29s.
	Felt locally M.M. II-III.		slight local shock.
7th.	iNE 09h. 15m. 42s.	16th.	PNE 12h. 23m. 51s.
	eNE 09h. 17m. 49s.		iSNEZ 12h. 24m. 25s.
8th.	iPNEZ 00h. 24m. 53s.		Distance=2.8° H=12h. 23.1m.
	iSNEZ 00h. 25m. 13s.	16th.	iSNE 18h. 00m. 27s.
	Distance=1.5° H=00h. 24.5m.		slight local shock.
10th.	iPNE 10h. 58m. 10s.	18th.	eLE 22h. 47m. + seismic activity.
	iSNEZ 10h. 58m. 28s.		
	Distance=1.4° H=10h. 57.8m.		

20th. iSNE 07h. 14m. 35s.
slight local shock.
22nd. iSNE 20h. 04m. 39s.
slight local shock.
23rd. eLNE 12h. 39m. +
seismic activity.
24th. iPNE 02h. 24m. 02s.
iSNEZ 02h. 24m. 23s.
Distance=1.6° H=02h. 23.6m.
24th. iPENZ 14h. 24m. 29s.
Compression from West.
iS?NZ 14h. 25m. 42s.
Deep focus shock.
25th. ePNEZ 00h. 11m. 00s.
iSNEZ 00h. 11m. 31s.
Distance=2.5° H=00h. 10.3m.
25th. iSNE 21h. 21m. 09s.
slight local shock.
29th. PNE 15h. 16m. 48s.
S?NE 15h. 17m. 30s.
30th. iPNE 23h. 37m. 18s.
iSNEZ 23h. 37m. 35s.
Distance=1.3° H=23h. 36.9m.

August 1948.

2nd. iPNEZ 08h. 04m. 57s.
iSNEZ 08h. 05m. 17s.
Distance=1.5° H=08h. 04.5m.
Felt locally M.M.II-III.
2nd. iSNE 12h. 06m. 44s.
slight local shock.
4th. iPNEZ 03h. 11m. 35s.
iSNEZ 03h. 11m. 57s.
Distance=1.7° H=03h. 11.1m.
4th. iPN 10h. 12m. 55s.
iSNEZ 10h. 13m. 13s.
Distance=1.4° H=10h. 12.5m.
6th. iSNEZ 06h. 14m. 57s.
slight local shock.
6th. eS?NE 07h. 55m. 47s.
slight local shock.
7th. eLNE 15h. 10m. +
seismic activity.
11th. iSNE 02h. 55m. 51s.
slight local shock.
15th. iPNEZ 18h. 36m. 15s.
Compression
iSNEZ 18h. 36m. 32s.
Distance=1.3° H=18h. 35.9m.
Possibly M.M.I locally.
16th. iPENZ 03h. 20m. 48s.
dilataion from S.W.
iEN 03h. 20m. 58s.
iSEnz 03h. 21m. 47s.
Probably deep.
18th. iSNE 03h. 09m. 34s.
slight local shock.
20th. NE 21h. 37m. +
seismic activity.
20th. iNEZ 22h. 41m. 10s.
21st. iPN 09h. 10m. 32s.
iSNE 09h. 11m. 04s.
Distance=2.3° H=09h. 09.9m.
22nd. iPENZ 08h. 59m. 19s.
iSEnz 08h. 59m. 28s.
Distance=0.7° H=08h. 59.1m.
23rd. iPEN 03h. 08m. 43s.
iSEnz 03h. 09m. 03s.
Distance=1.5° H=03h. 08.3m.

23rd. iPNEZ 12h. 32m. 29s.
iPGE 12h. 32m. 51s.
iSNEZ 12h. 33m. 22s.
Distance=4.5° H=12h. 31.3m.
N component not recording.
24th. iSNE 10h. 13m. 02s.
slight local shock.
25th. eLNE 06h. 57m. ca.
26th. iPNE 12h. 29m. 36s.
iSNE 12h. 30m. 24s.
Distance=4.1° H=12h. 28.5m.
26th. iPNEZ 14h. 09m. 09s.
iSNEZ 14h. 09m. 59s.
Distance=4.2° H=14h. 08.1m.
27th. iSNEZ 14h. 52m. 35s.
slight local shock.
27th. iSLNZ 16h. 09m. 09s.
slight local shock.
28th. iSNEZ 06h. 35m. 16s.
slight local shock.
28th. iPNEZ 09h. 28m. 43s.
iSNEZ 09h. 29m. 06s.
Distance=1.8° H=09h. 28.2m.
28th. iPNEZ 12h. 26m. 05s.
iSNEZ 12h. 27m. 12s.
Distance=5.8° H=12h. 24.6m.
Felt at Tonga.
29th. iS?NEZ 15h. 58m. 26s.
slight local shock.
29th. iPNEZ 17h. 38m. 15s.
dilataion.
iSNEZ 17h. 38m. 33s.
all components upset
Distance=1.4° H=17h. 37.8m.
Felt locally M.M.IV.
30th. iSNE 00h. 32m. 09s.
slight local shock.

September 1948.

1st. iNE 00h. 27m. 03s.
slight local shock.
1st. iNE 05h. 49m. 05s.
slight local shock.
1st. iNE 09h. 48m. 04s.
slight local shock.
1st. iNE 19h. 21m. 30s.
slight local shock.
1st. iSNE 22h. 57m. 19s.
slight local shock.
2nd. iPNE 17h. 44m. 39s.
iSNEZ 17h. 45m. 05s.
Distance=2.1° H=17h. 44.1m.
2nd. iNE 18h. 53m. 04s.
iNE 18h. 54m. 25s.
slight local shock.
2nd. eN 23h. 55m. ca.
3rd. eLNE 00h. 02m. 30s. ca.
3rd. iSEnz 02h. 12m. 34s.
slight local shock.
4th. iSEnz 23h. 20m. 54s.
slight local shock.
6th. iPNE 06h. 43m. 54s.
iSNE 06h. 44m. 29s.
Distance=2.9° H=06h. 43.1m.
6th. iPEN 08h. 43m. 22s.
iSNE 08h. 44m. 32s.
Distance=6.0° H=08h. 42.9m.



- 6th. iPNEZ 11h. 25m. 54s.
iSENEZ 11h. 26m. 21s.
Distance=2.2° H=11h. 25.3m.
Felt locally M.M.III.
- 7th. iPNEZ 04h. 32m. 41s.
compression from S.W.
iSENEZ 04h. 33m. 13s.
Distance=2.6° H=04h. 32.0m.
Felt locally M.M.II.
- 7th. iSENEZ 18h. 07m. 48s.
slight local shock.
- 8th. iPNEZ 15h. 10m. 58s.
Azimuth southerly.
iSENEZ 15h. 12m. 13s.
N component upset. Exact time
of S uncertain. Distance=6.6°
ca. H=15h. 09.3m. ca. Felt
locally M.M.IV. Felt Niue
Island. Slight damage report-
ed in Tonga, probably M.M.VI.
- 8th. iPZ 16h. 49m. ca.
iSZ about 80s. after, exact
times uncertain.
- 8th. iSE 18h. 18m. 42s.
- 8th. iE 18h. 57m. 46s.
- 8th. iPNE 19h. 28m. 02s.
iSENEZ 19h. 29m. 19s.
Distance=6.8° H=19h. 26.4m.
- 8th. iPNE 20h. 01m. 31s.
iSENEZ 20h. 02m. 49s.
Distance=6.9° H=19h. 59.8m.
- 9th. iPNE 05h. 30m. 20s.
iSENEZ 05h. 31m. 35s.
Distance=6.6° H=05h. 28.7m.
- 9th. iNE 06h. 07m. 30s.
- 9th. iPNE 06h. 11m. 03s.
iSENEZ 06h. 12m. 21s.
Distance=6.9° H=06h. 09.4m.
- 9th. iSENEZ 08h. 58m. 39s.
- 9th. eNE 11h. 32m. ca.
- 9th. iNEZ 12h. 26m. 36s.
Probably deep.
- 9th. iPN 14h. 01m. 55s.
iSENEZ 14h. 03m. 12s.
Distance=6.8° H=14h. 00.2m.
- 9th. iPNE 14h. 06m. 28s.
iSENEZ 14h. 07m. 41s.
Distance=6.4° H=14h. 04.9m.
- 9th. ePN 17h. 49m. 25s. ca.
iSENEZ 17h. 50m. 34s.
- 10th. iPNE 01h. 20m. 58s.
iSENEZ 01h. 22m. 14s.
Distance=6.5° H=01h. 19.4m.
- 10th. iSENEZ 12h. 04m. 29s.
- 10th. eEN 14h. 09m. ca. +
seismic activity.
- 10th. iP?EN 23h. 25m. 44s.
e ENZ 23h. 26m. 21s.
- 11th. iP EN 16h. 04m. 42s.
e EN 16h. 05m. 27s.
- 11th. iSEN 20h. 54m. 32s.
slight local shock.
- 12th. iPNEZ 03h. 21m. 36s.
iSENEZ 03h. 22m. 51s.
Distance=6.5° H=03h. 20.0m.
- 12th. iPEN 06h. 26m. 22s.
iSEN 06h. 27m. 49s.
Distance=7.6° H=06h. 24.5m.
- 12th. iNE 13h. 51m. 39s.
- 13th. iPNE 14h. 11m. 34s.
iSENEZ 14h. 12m. 50s.
Distance=6.6° H=14h. 09.9m.
- 14th. iPNEZ 08h. 14m. 37s.
iSENEZ 08h. 15m. 52s.
Distance=6.5° H=08h. 13.0m.
- 14th. iPEN 18h. 04m. 25s.
iSEN 18h. 04m. 47s.
Distance=1.7° H=18h. 03.9m.
- 15th. iPNEZ 14h. 23m. 33s.
iPNEZ 14h. 24m. 53s.
Distance=7.0° H=14h. 21.8m.
- 15th. iNEZ 14h. 57m. 59s.
- 16th. iPNEZ 06h. 50m. 33s.
iSENEZ 06h. 50m. 51s.
Distance=1.4° H=06h. 50.1m.
- 16th. iPNEZ 06h. 54m. 06s.
iSENEZ 06h. 54m. 25s.
Distance=1.4° H=06h. 53.7m.
- 16th. iPNE 20h. 23m. 46s.
iSENEZ 20h. 24m. 07s.
Distance=1.6° H=20h. 23.5m.
- 17th. iPNE 13h. 07m. 58s.
iSENEZ 13h. 08m. 14s.
Distance=1.2° H=13h. 07.6m.
- 17th. iSENEZ 18h. 27m. 28s.
slight local shock.
- 17th. iSENEZ 20h. 52m. 54s.
slight local shock.
- 17th. iEN 21h. 52m. 55s.
- 19th. eP?NE 04h. 47m. 25s.
iS?EN 04h. 48m. 45s.
- 19th. iSENEZ 08h. 33m. 39s.
slight local shock.
- 20th. eLNE 00h. 15m. ca.
- 20th. eP?EN 18h. 55m. 51s.
- 20th. iPNE 21h. 39m. 28s.
iSENEZ 21h. 40m. 05s.
Distance=3.1° H=21h. 38.5m.
- 21st. iPNE 09h. 11m. 41s.
iSENEZ 09h. 12m. 00s.
Distance=1.4° H=09h. 11.3m.
- 21st. iPEN 13h. 47m. 37s.
iSENEZ 13h. 47m. 57s.
Distance=1.5° H=13h. 47.2m.
- 21st. iPNE 14h. 48m. 59s.
iSENEZ 14h. 50m. 17s.
Distance=6.8° H=14h. 47.3m.
- 21st. iPNEZ 23h. 34m. 23s.
iSENEZ 23h. 34m. 43s.
Distance=1.5° H=23h. 33.9m.
- 22nd. eP?NE 02h. 23m. 17s.
iS?EN 02h. 24m. 29s.
- 22nd. i NE 07h. 14m. 19s.
- 22nd. iS?EN 23h. 27m. 26s.
- 23rd. iPNE 01h. 30m. 33s.
iSENEZ 01h. 30m. 47s.
Distance=1.1° H=01h. 30.2m.
- 23rd. NE 08h. 34m.
seismic activity.
- 27th. ePNE 16h. 08m. 42s.
iSENEZ 16h. 10m. 37s.
Distance=10.2° H=16h. 06.2m.
- 29th. iS?NEZ 19h. 56m. 54s.
- 30th. ePNE 02h. 04m. 42s.
iSENEZ 02h. 05m. 50s.
Distance=5.9° H=02h. 03.2m.
- 30th. iSENEZ 12h. 15m. 46s.
slight local shock.

Bulletins Received:

The receipt of Seismological Bulletins and other information from the following sources is acknowledged with thanks:



- Batavia: January - March, 1948.
- Bogota: January - February, 1947.
- Beograd: January - February, April - May, 1948.
- Brisbane: May - July, 1948.
- Budapest and Kalosca: The Maryborough Earthquake of 1947.
- California: April - May, 1948.
- Cleveland: Bulletin of Seismographic Stations April - June, 1941, January - June, 1947.
- De Bilt: November - December, 1947, April - June, 1948.
- Florence: March - June, 1948.
- Granada: March - April, 1948.
- Helwan: April - May, 1948.
- Helsinki: 1940.
- Istanbul: January - March, 1948.
- Jesuit Seismological Association: February - May, 1948.
- Kew: October - December, 1943, April - June, 1948.
- Ottawa: April - June, 1948.
- Pasadena: July - December, 1947 (Appendix B), February - April, 1948.
- Pittsburgh: Air letters: June - September, 1948.
- Prague: Final Bulletin: July - September, 1947.
- Rome: January - December, 1946.
- Strasbourg: 1947.
- Stuttgart: The Propagation of East Alpine Earthquakes in the Bohemian Mass.
- Toledo: April - May, 1948.
- Trieste: April - June, 1948.
- Uccle: April - June, 1948.
- U.S.C.G.S.: April, 1948.
- Wellington: March - April, 1948.
- U.S.C.G.S.: April - July, 1948.
- Wellington: Preliminary Epicentres, Nos. 56-89, 1948.
- Wellington: May - July, 1948.

Apia, Western Samoa.
October 8th, 1948.

V.B. Gerard

Acting Director.



No. 4, 1948:

Latitude: $13^{\circ} 48' 26''$ S.
 Longitude: $171^{\circ} 46' 30''$ W.
 or $11\text{h.}27\text{m.}6\text{s.}W.$
 Geocentric Direction
 Cosines: $a=-9615, b=-1390, c=-2371.$
 Altitude: 2 metres.
 Lithological Foundation: Coral sand on volcanic rock.

Instruments:

Horizontal components: Short period Wood Anderson torsion seismograph.
 Wiechert 1000 kg. astatic pendulum (Bartels)
 Vertical Component: Wiechert 80 kg. vertical pendulum (Spindler and Hoyer)

Note: Wood Anderson seismograph commenced recording on 3rd November.

Tables for computation:

H. Jeffreys and K.E. Bullen, Seismological Tables, 1940.
 H. Jeffreys, Times of Transmission for small distances and focal depth, 1939.
 G.J. Brunner and J.B. Macelwane, The Brunner focal depth-time-distance chart.

Time Service:

The standard clock, Strasser and Rohde No. 381, is rated daily against radio time signals. A "Synchronome" clock is used to time-mark the records.

All times are entered in Greenwich Mean Time (Universal Time).

October 1948:

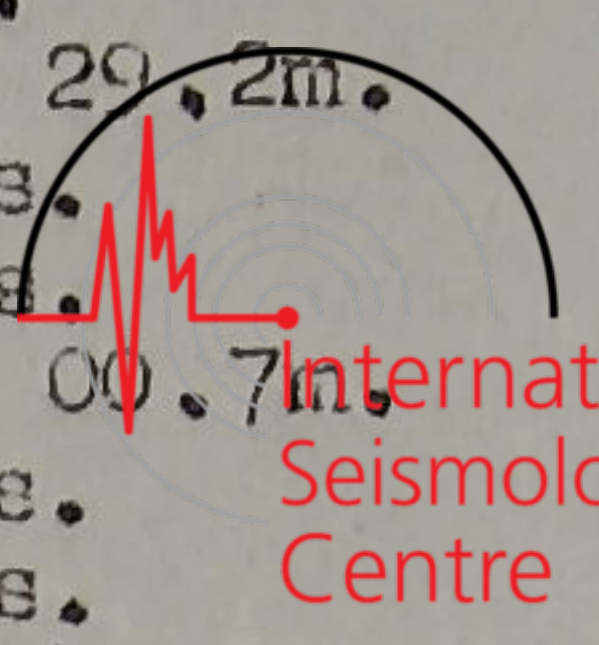
2nd. IS?NE 00h. 52m. 52s. slight local shock.	9th. NE 05h. 11m. + seismic activity.
2nd. ePNE 14h. 25m. 41s. ISNE 14h. 28m. 19s. eL EN 14h. 29m. c.a. Distance= 14° H=14h. 22.4m.	12th. E 02h. 40m. + seismic activity.
2nd. NE 18h. 57m. + seismic activity.	12th. IPEZ 13h. 40m. 14s. compression. eSEZ 13h. 41m. 23s. Distance= 6.0° H=13h. 38.7m. N component not recording.
4th. ISNE 10h. 58m. 24s. slight local shock.	13th. ISNEZ 02h. 00m. 29s. slight local shock.
5th. ISNE 16h. 34m. 57s. slight local shock.	14th. IPNEZ 21h. 45m. 13s. ISNEZ 21h. 47m. 14s. Distance= 11° H=21h. 42.6m.
5th. eLNE 20h. 40m. followed by a long series of L waves.	15th. ISNEZ 06h. 11m. 37s. slight local shock.
6th. ISNE 00h. 06m. 12s. slight local shock.	15th. ISNE 06h. 40m. 39s. slight local shock.
6th. ISNE 21h. 26m. 33s. slight local shock.	15th. ISNEZ 09h. 48m. 22s. slight local shock.
7th. IS?NE 07h. 53m. 36s. slight local shock.	15th. IPN 15h. 03m. 30s. ISNEZ 15h. 04m. 10s. Distance= 3.3° H=15h. 02.6m.
8th. ePNE 06h. 39m. 40s. eS?EN 06h. 40m. 56s.	

16th. eP?EN 02h. 00m. 15s.
 e EN 02h. 03m. c.a.
 18th. iPNEZ 10h. 48m. 28s.
 dilatation from N.W.?
 iSNEZ 10h. 48m. 31s.
 Distance=0.2° H=10h. 48.4m.
 Felt locally M.M.III
 19th. iSNEZ 09h. 24m. 05s.
 slight local shock.
 19th. iSENEZ 20h. 58m. 15s.
 slight local shock.
 20th. iPEN 05h. 51m. 08s.
 iSENEZ 05h. 51m. 26s.
 Distance=1.4° H=05h. 50.7m.
 21st. eLNE 05h. 15m. c.a.
 21st. i NE 06h. 58m. 45s.
 eNEZ 06h. 59m. 46s.
 21st. iPNEZ 11h. 29m. 27s.
 iSNEZ 11h. 29m. 46s.
 Distance=1.4° H=11h. 29.0m.
 21st. NE 14h. 40m. +
 seismic activity.
 21st. iSNEZ 17h. 13m. 56s.
 slight local shock.
 24th. N 17h. 04m. +
 seismic activity.
 25th. eP?NE 08h. 13m. 48s.
 iS?EN 08h. 15m. 05s.
 26th. iSEN 13h. 43m. 29s.
 28th. iPEN 15h. 20m. 57s.
 iSENEZ 15h. 21m. 18s.
 Distance=1.6° H=15h. 20.5m.
 30th. iPNEZ 04h. 56m. 44s.
 iSNEZ 04h. 57m. 05s.
 Distance=1.6° H=04h. 56.3s.

November 1948:

2nd. iSNEZ 17h. 50m. 58s.
 slight local shock.
 3rd. iPENZ 05h. 23m. 18s.
 eSENEZ 05h. 27m. 00s. c.a.
 Distance=20¹/₂° H=05h. 18.7m.
 Wood Anderson recording
 from 22h. on 3rd.
 4th. iPWANEZ 14h. 02m. 33s.
 iSWANEZ 14h. 02m. 53s.
 Distance=1.5° H=14h. 02.1m.
 6th. e WAEN 14h. 13m. c.a.
 + seismic activity.
 7th. iS WA 23h. 12m. 57s.
 slight local shock.
 8th. iPWANEZ 07h. 14m. 55s.
 iSWANEZ 07h. 15m. 07s.
 Distance=0.9° H=07h. 14.6m.
 8th. iS WA 07h. 38m. 24s.
 slight local shock.
 8th. iPWAENZ 17h. 53m. 54s.
 dilatation.
 iSWAENZ 17h. 55m. 46s.
 Distance=9.9° H=17h. 51.5m.
 9th. iS WA 04h. 40m. 43s.
 slight local shock.
 11th. iS WA 01h. 01m. 04s.
 slight local shock.
 12th. iPWA 15h. 38m. 45s.
 iSWANEZ 15h. 38m. 55s.
 Distance=0.7° H=15h. 38.5m.
 12th. iPWANE 17h. 35m. 26s.
 iSWANEZ 17h. 36m. 32s.
 Distance=5.7° H=17h. 34.0m.

12th. ePWAN 22h. 29m. 39s.
 iSWANE 22h. 30m. 00s.
 Distance=1.6° H=22h. 29.2m.
 13th. iPWANEZ 07h. 02m. 07s.
 iSWANEZ 07h. 03m. 12s.
 Distance=5.6° H=07h. 00.7m.
 13th. iPWANEZ 22h. 50m. 14s.
 iSWANEZ 22h. 51m. 22s.
 Distance=5.9° H=22h. 48.8m.
 14th. iSWANE 02h. 41m. 41s.
 slight local shock.
 14th. e ENWA 13h. 54m. 00s. c.a.
 15th. iPWANE 21h. 54m. 19s.
 iSWANEZ 21h. 55m. 01s.
 Distance=3.6° H=21h. 53.4m.
 16th. iS?WAEN 10h. 53m. 06s.
 slight local shock.
 17th. ePWANEZ 15h. 46m. 06s.
 iSWANEZ 15h. 46m. 39s.
 Distance=2.7° H=15h. 44.7m.
 19th. iSNE 14h. 56m. 14s.
 slight local shock. WA not
 recording.
 19th. iPNEZ 17h. 09m. 40s.
 iSNEZ 17h. 09m. 58s.
 Distance=1.4° H=17h. 09.2m.
 Felt locally M.M.I. WA not
 recording.
 19th. iP?NE 21h. 28m. 06s.
 iS?NE 21h. 28m. 55s. WA not
 recording.
 20th. iSWAEN 06h. 55m. 23s.
 slight local shock.
 21st. i WANEZ 19h. 14m. 59s.
 local shock.
 22nd. i WA 01h. 20m. 17s.
 slight local shock.
 22nd. iPWANEZ 16h. 01m. 21s.
 compression.
 iSWANEZ 16h. 01m. 42s.
 Distance=1.6° H=16h. 00.9m.
 23rd. iPWANEZ 10h. 05m. 21s.
 dilatation.
 iSWANEZ 10h. 06m. 06s.
 Distance=3.8° H=10h. 04.4m.
 24th. iPWANE 09h. 39m. 36s.
 iSWANE 09h. 39m. 57s.
 Distance=1.6° H=09h. 39.1m.
 25th. iSWANE 04h. 00m. 30s.
 slight local shock.
 25th. iPWAENZ 14h. 47m. 50s.
 dilatation from S.W.
 iSWALNZ 14h. 48m. 43s.
 Distance=4.5° H=14h. 46.7m.
 Probably felt locally.
 25th. iSWANE 16h. 11m. 55s.
 slight local shock.
 26th. iPWANEZ 03h. 21m. 32s.
 compression.
 iSWANEZ 03h. 21m. 52s.
 Distance=1.5° H=03h. 21.1m.
 26th. iPWAZ 05h. 44m. 37s.
 i WANE 05h. 45m. 06s.
 eSNE 05h. 51m. 08s.
 iSSN 05h. 54m. 05s.
 eLQNE 05h. 54m. 30s. c.a.
 Distance=4.4° H=05h. 36.5m.
 26th. iS WA 06h. 07m. 46s.
 slight local shock.



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26th. iPWANE 09h. 51m. 57s.
iSWANEZ 09h. 52m. 17s.
Distance=1.5° H=09h. 51.5m.

28th. iSWANE 18h. 14m. 52s.
slight local shock.

28th. iPWANEZ 23h. 45m. 57s.
iSWANEZ 23h. 46m. 21s.
Distance=1.9° H=23h. 45.4m.

29th. iPWANE 00h. 04m. 07s.
iSWANEZ 00h. 04m. 29s.
Distance=1.7° H=00h. 03.6m.

29th. iPWANE 00h. 51m. 17s.
iSWANEZ 00h. 51m. 35s.
Distance=1.4° H=00h. 50.9m.

29th. iSWANE 04h. 12m. 51s.
slight local shock.

15th. iPWANE 04h. 42m. 34s.
iSWANEZ 04h. 42m. 53s.
Distance=1.4° H=04h. 42.1s.

15th. iPWANE 05h. 29m. 41s.
iSWANEZ 05h. 29m. 58s.
Distance=1.3° H=05h. 29.3m.

15th. iSWANE 05h. 40m. 28s.
slight local shock.

15th. iSWANEZ 13h. 14m. 09s.
slight local shock.

16th. iPWANEZ 07h. 20m. 00s.
iSNEWA 07h. 21m. 11s.
eLQNEWAZ 07h. 21m. 15s. c.a.
Distance=6.1° H=07h. 18.5m.

18th. eNE 14h. 19m. c.a.

18th. iPWANEZ 22h. 39m. 06s.
iSWANEZ 22h. 39m. 40s.
Distance=2.8° H=22h. 38.4m.



December 1948:

1st. iPWANEZ 04h. 41m. 09s.
iSWANEZ 04h. 41m. 32s.
Distance=1.8° H=04h. 40.6m.

1st. iPWA 04h. 48m. 21s. c.a.

1st. iS?WA 05h. 42m. 45s.
slight local shock.

2nd. iSWANE 09h. 41m. 31s.
slight local shock.

2nd. iWANE 11h. 47m. 45s.

2nd. iPWANEZ 13h. 01m. 11s.
iSWANEZ 13h. 01m. 26s.
Distance=1.2° H=13h. 00.8m.

3rd. iPWANEZ 11h. 54m. 35s.
iSWANEZ 11h. 55m. 07s.
Distance=2.6° H=11h. 53.9m.

4th. iPWA 00h. 53m. 07s. c.a.
iSWANEZ 00h. 53m. 24s.
Followed by a long series of L waves. Possibly two super-imposed earthquakes.

5th. eL EN 06h. 42m. c.a.

6th. e E 12h. 19m. c.a.
+ seismic activity.

7th. iSWANEZ 13h. 56m. 35s.
slight local shock.

7th. iPWANEZ 17h. 32m. 37s.
iSWANEZ 17h. 32m. 57s.
Distance=1.5° H=17h. 32.2m.

7th. iSWANEZ 17h. 36m. 28s.
slight local shock.

10th. iPWA 08h. 56m. 47s.
iSWANE 08h. 57m. 07s.
Distance=1.5° H=08h. 56.3m.

10th. eWA 13h. 16m. 15s. c.a.

11th. iSWANE 03h. 30m. 16s.
slight local shock.

12th. iPWA 23h. 41m. 15s.
iSWANE 23h. 41m. 43s.
Distance=2.3° H=23h. 40.5m.

15th. iPWANE 04h. 14m. 12s.
iSWANEZ 04h. 14m. 31s.
Distance=1.4° H=04h. 13.8m.

15th. iSWANE 04h. 19m. 13s.
slight local shock.

15th. iPWA 04h. 26m. 27s.
iSWANE 04h. 26m. 46s.
Distance=1.4° H=04h. 26.0m.

21st. iPWANE 14h. 41m. 33s.
iSWANEZ 14h. 41m. 53s.
Distance=1.5° H=14h. 41.1m.

22nd. iPWANE 15h. 49m. 41s.
iSWANEZ 15h. 50m. 01s.
Distance=1.5° H=15h. 49.3m.

23rd. iEN 07h. 18m. 10s.
eL NEWA 07h. 19m. c.a.

24th. iSWANEZ 11h. 59m. 27s.
slight local shock.

24th. iSWANE 17h. 16m. 16s.
slight local shock.

25th. iPWA 04h. 34m. 35s.
iSWA 04h. 35m. 19s.
Distance=3.7° H=04h. 33.6m.

26th. iPWA 08h. 47m. 37s.
iWA 08h. 47m. 40s.
iSWA 08h. 49m. 05s.
Distance=7.7° H=08h. 45.7m.

28th. iPWANE 03h. 06m. 17s.
iSWANE 03h. 06m. 37s.
Distance=1.5° H=03h. 05.8m.

29th. eNE 06h. 04m. 17s.
iE 06h. 11m. 29s.
eLNEWA 06h. 31m. 30s. c.a.

29th. iPWANEZ 10h. 51m. 53s.
compression.
iSWANEZ 10h. 52m. 12s.
Distance=1.4° H=10h. 51.5m.
Felt locally M.M.III

29th. iSWANE 11h. 59m. 47s.
slight local shock.

30th. iPWA 02h. 16m. 40s.
iSWANE 02h. 17m. 03s.
Distance=1.8° H=02h. 16.2m.

31st. iSWA 02h. 04m. 32s.
slight local shock.

31st. iSWA 03h. 18m. 14s.
slight local shock.

31st. iSWA 18h. 57m. 50s.
slight local shock.

Bulletins Received:

The receipt of Seismological Bulletins and other information from the following sources is acknowledged with thanks:



Batavia:	April - June, 1948.
Beograd:	March, July, August, 1948.
Brisbane:	September - October, 1948.
Budapest and Kalosca:	June - September, 1948.
Cleveland:	July - August, 1948.
De Bilt:	July - August, 1948.
Firenze:	May, July, August, 1948.
Granada:	June, 1948.
Helsinki:	April - June, 1948.
Istanbul:	June, 1948.
Jesuit Seismological Association:	July - September, 1948.
	St. Louis: January - August, 1944. July - September, 1948.
	May - June (supp) 1948.
	Cape Girardeau July - October, 1947.
	July - August, 1948.
Kew:	January - June, 1948.
Ksara:	December, 1941 - January, 1942.
La Plata:	May - June, 1948.
Ottawa:	The Grand Banks Earthquakes of November 18th, 1929.
	Air letters: September - December, 1948. Preliminary: May - August, 1948. Earthquake studies in Southern California, 1947. Deep Focus Earthquakes in the Mediterranean Region. The Dominquez Hills California Earthquake of June 18, 1947.
	April - June, 1948.
	June - August, 1948.
	May - August, 1948.
	May - June, 1948.
	Preliminary Epicentres, Nos. 81-112, 1948. January, February, March, 1945.
Perth:	August - September, 1948.
Rome:	Earthquakes in New Zealand during the year 1946.
Toledo:	
Trieste:	
U.S.C.G.S.:	
Wellington:	

Apia, Western Samoa.
January 6th, 1949.

V.B. Gerard.

Acting Director.