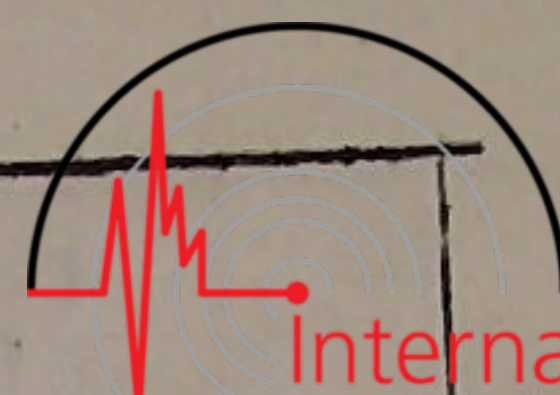


APIA PRELIMINARY SEISMIC BULLETIN.

1956 January:

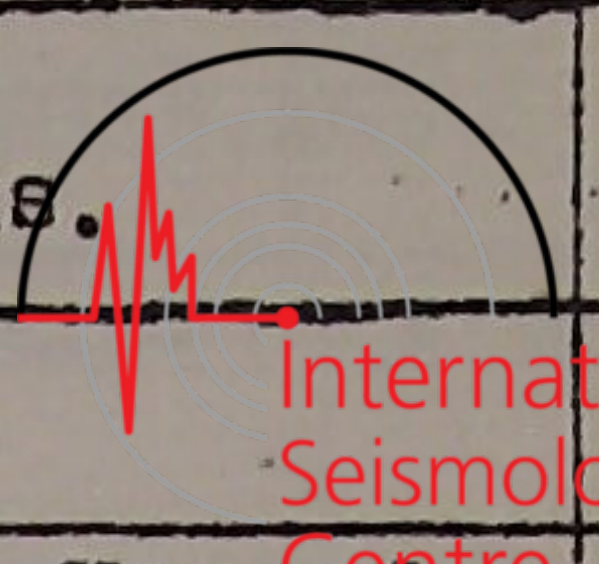


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DATE.	Phase.	Comp.	Time	W/A Trace Amp. mm.	Dist. Degrees.	Remarks.
1.	P S		15 18 51 19 32	6		
1	P S		18 35 56 36 31	5		
1	P S		22 00 42 01 15	12		
1	e(P) e		23 18 18 29	0.8 0.7	58	Timor Is. region (U.S.C.G.S.)
2	eP eS		09 30 25 32 12	0.6 0.8	10	Fiji Is. 21°S 179°W O=09 28 07 h=600km. ±.
2	P S		10 08 21 45	3 16		
4.	P S		13 45 27 45	2 36		
5	eP S		10 57 56 58 36	4.2		
6	P S		07 23 20 42	7 47		Felt Apia MM.2.
7	eP eS e(T) e		00 18 14 54 22 08 17	1½ ½		
8	eL	E	21 40		96	Chile (U.S.C.G.S.)
9	P S		11 45 34 46 16	3		
9	eP i i i S e eScS e		12 08 38 41 44 10 50 53 15 46 19 43 20 29	0.7 1.8 2.0 1.8 4.7 0.4 0.8 0.4	12½	Fiji Is. (U.S.C.G.S.)
10	eP? e(P) e e(S) i eL e(ScS) e		08 55 01 29 56 18 57 51 58 04 58.2 09 08 10 33	0.4 0.8 1.3 1.4 3.0 0.5 1.2	12	Tonga Is. region ((U.S.C.G.S.) Surface waves for 1½hrs.
10	e(P) e(S) e		09 29 36 31 40 34 16	0.5 1.0		
10	(S) e		09 42 05 44 49	0.5 0.5		
10	e(P) e(S)		10 09 25 11 18	0.7		
10	eP eS		10 21 20 23 23	0.5 0.7	12	Tonga Is. region (U.S.C.G.S.)

January 1956 (Cont'd).

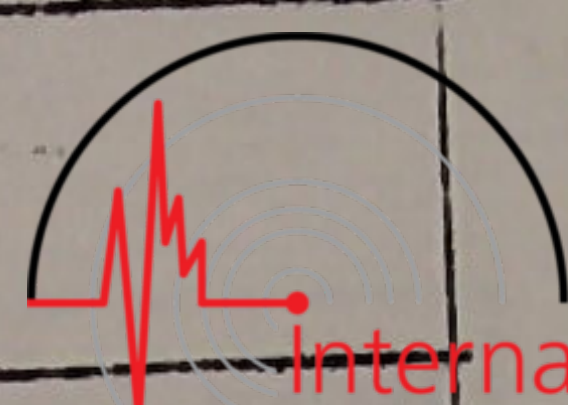
Date.	Phase.	Comp.	Time	W/A Trace. Amp. mm.	Dist. Degrees.	Remarks.
10	eS? e(S)		10 33 44 48	0.5		
10	eP eS		21 21 08 23 16	$\frac{1}{2}$ $\frac{1}{2}$		Probably Tonga-Kermadec region 0=21 18 23
10	eP eS		21 56 58 59 05	0.4 0.8	11 $\frac{1}{2}$	Tonga Is. region. (U.S.C.G.S.)
11	eP S		04 50 07 28	11		Felt Lotofaga
11	e(P) e eS e		10 48 34 49 08 50 47 11 02 14	0.3 0.8 0.5 0.7		Kermadec Is. region. (U.S.C.G.S.)
12	e(P) eS		04 14 08 16 02	0.6		
12	eP? e(P) eS e(L)		06 04 10 19 06 10 08	0.8		
12	eP? e(P) eS e(S) eL		06 13 14 20 15 15 16 48 17	1.1 0.6	10	Tonga Is. region. (U.S.C.G.S.)
12	e(S)		06 25 45	0.7		
13	eL e(L)	NE NE	03 10 03 21			Samoa Is. (U.S.C.G.S.).
13	eS		13 57 43			
14	eP e e eS		03 43 51 44 20 45 49			
14	eP e(S)		07 50 07 51 37			Fiji Is. region. Probably h = 500 km.
14	e(P) e e(S) e? e(T)		22 11 57 12 06 13 16 19 20 41			Tonga Is. region (U.S.C.G.S.)
15	e eS		10 20 24 21 47		12	Tonga Is. region (U.S.C.G.S.) Coda on N&E.
15	eS? e(S)		10 32 17 22			Coda on N. and E.
15	e(P) e(S) eL e	EN NE	18 44 34 46 26 47 57			Tonga Is. (U.S.C.G.S.).
16	eS?		19 12 52			
16	eP? e(P) e e(PP) eSKS e e eL	W WE W E EN E EN EN	23 50 12 51 01 10 53 46 24 01 23 03.0 08.0 19		91	Equador (U.S.C.G.S.)



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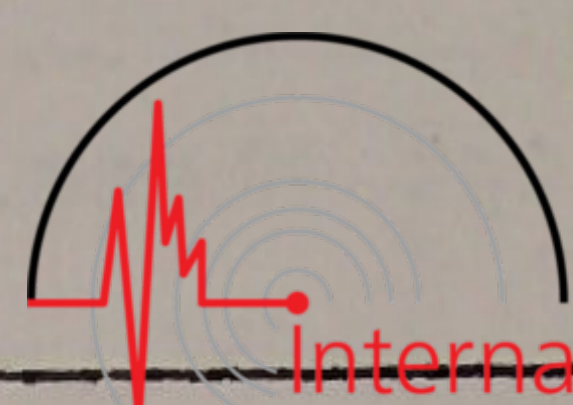
January 1956 (Cont'd).

Date	Phase	Comp.	Time	W/A Trace Amp. mm.	Dist. Degrees.	Remarks.
19	e(P) e(S) eS e e		16 02 36 03 19 25 08 09 24			
20	eL e e	NE W W	10 52 30 54 01 42			
21	p e(S) eS e'		12 25 16 27 05 08 35±		10	Tonga Is. region (U.S.C.G.S.)
22	eP S	EZ NE	00 06 14 32			
25	e		23 16 00			
26	eP e eS? eS eS		10 31 03 10 33 01 11 13	0.1 0.4 0.3 0.3 0.9		
26	eP e e iS i e e		10 40 36 58 41 57 58 42 01 44 00 15	0.4 1.1 1.4 4.2 11 0.4 0.4		Possibly Tonga Is. region.
27	eP? eP e e(S) eS e eL eScS e	ENW	13 41 48 50 42 41 43 53 44 04 11 44.3 54 48 55 12	0.3 0.4 0.4 0.3 0.6 0.7 0.3 0.4	13	Tonga Is. region(U.S.C.G.S) L waves for an hour.
28	eP e eS		04 43 28 44 52 55	0.5		
28	e(P)		09 48 11	0.6		
29	eP eS		03 00 27 01 09	1.8		
29	P? eS		04 38 33 40 46	0.4 0.7		
29	e E e(L) e	W W E N	09 20 28 34 21 18 29 36	0.3 0.5		
30	eP S		01 55 23 57 00	0.3 0.7		
30	eP e		08 36 55 38 41	0.4 0.4	10	Tonga-Fiji region near 22°S 178°W O=08 34 35 h= about 600km.



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January 1956 (Cont'd).



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DATE.	Phase.	Comp.	Time	W/A Trace Amp. mm.	Dist. Degrees.	Remarks.
30	eP e S eL	EN	08 48 36 49 53 55	0.3 0.5	26½	New Zealand (U.S.C.G.S.) L waves for about ½ hr.
30	eP e		10 07 29 46	0.4 0.4		New Zealand (U.S.C.G.S.)
30	P S		19 12 11 14 31	0.9 1.3	13½	Fiji Is. region. 25°S 180° O=19 09 11 h=400 km. ±
31	eP		00 43 39	0.5	20½	New Hebrides (U.S.C.G.S.)
31	eP		09 23 50 24 09 43	0.2 0.4 0.3	37	New Ireland (U.S.C.G.S.)

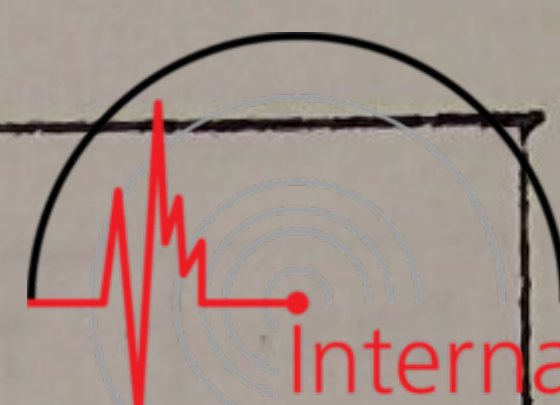
W/A records were missing for the following periods:

13^d 01 12 till 13^d 13 30
21^d 20 52 till 22^d 12 42

N.B. Where there is no entry in the column "Component", the readings are those from the Wood-Anderson E-W seismogram.

APIA PRELIMINARY SEISMIC BULLETIN.

1956 February:



International
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Date.	Phase.	Comp.	Time	W/A Trace Amp. mm.	Dist. Degrees.	Remarks.
1	eP e eS? eL	W WE EW EN	01 37 27 38 41 03 42	0.8 0.2	19	Loyalty Is. (U.S.C.G.S.)
1	eP i iS		05 02 13 32 34	15		
1	eS eSS	NE EN	13 57 35 14 04 03		53	Marianas Is. (U.S.C.G.S.)
2	eP e S		00 50 13 25 43	10		
2	e		20 37 10	0.5		
4	e		07 39 13	0.3		
6	eP? e eS		22 21 46 22 06 23 49	0.6		
7	e(S)		01 03 32	0.3		
7	P S		14 40 11 41 07	0.6 1.8		
9	eP e e(S)		08 01 27 02 23 25	0.7		
9	e(P) eS eL	X NE NEW	14 44 02 53.1 15 05		71	California (U.S.C.G.S.) Weak L waves for $\frac{3}{4}$ hr.
9	e(P) e e(S)		15 57 58 59 10 36	1.4		
9	e(P) e S		21 34 08 38 43	10 $\frac{1}{2}$		Coda for 5 mins.
12	eP e		12 01 07 18		75	Philippines (U.S.C.G.S.)
14	eP? e(S)		06 43 06 44 36	0.4		
14	eP? e(P) e e(S)	X WX	12 47 00 13 33 47	1.5		
15	eP i i eS		01 31 24 28 32 09 11	9.3		
15	eP e e(S)		01 36 53 38 46 48	1.1 Max.		
15	P (S)		08 49 14 50 47	1.0		
15	eP e S e i		18 54 48 55 06 17 57 28 36	0.5 1 $\frac{1}{2}$ 7.2		Coda for 7 mins.

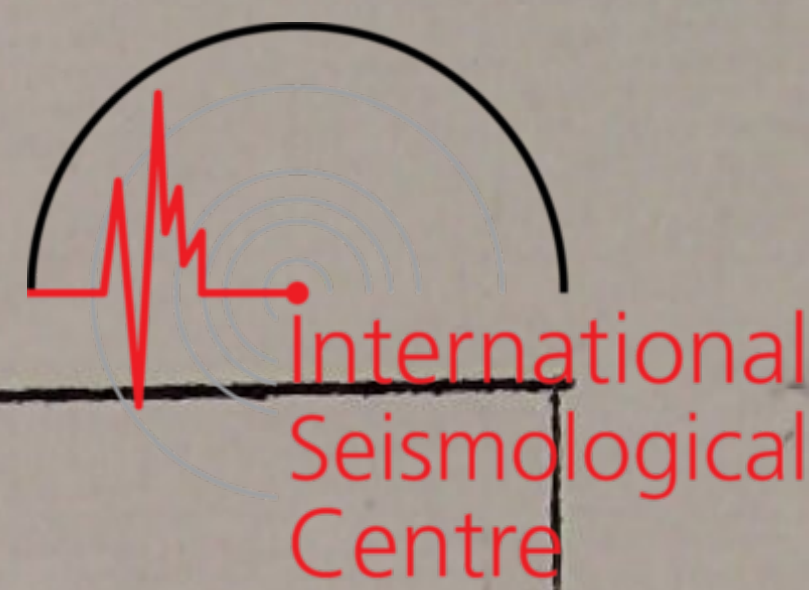
February 1956 (Cont'd).



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Date.	Phase	Comp.	Time	W/A Trace Amp. mm.	Dist. Degrees.	Remarks.
15	eP e(S) S		20 20 38 27 29	1.8		
16	P S		14 10 02 21	11		
16	eP e S		18 17 11 45 47	3.6		
18	eP? e(P) e eS eScS e? e eL	W WX WX WXNE ENX W WE E	07 44 18 20 48 52 25 53 27 55 19 28 08 02	0.8 1.3 0.9 1.2 0.4 0.8	66	Japan (U.S.C.G.S.) Bad weather microseisms. Very weak L waves.
19	eP? e(P) e eS		05 42 43 49 44 25 28	0.9	10	Tonga Is. (U.S.C.G.S.)
19	P e S		07 26 52 27 35 37	1.2		
19	P i e e e(S) e		14 51 17 19 44 53 13 15 18	2.3 0.7 0.5	11½	Fiji Is. region (U.S.C.G.S)
20	P iS		17 15 29 16 06	3.7		
21	e(P) e e(S) e	XW X W X	03 03 46 58 05 17 23	1.1		Fiji Is. region.
21	i(P) e(S)		03 16 05 50	0.7		
21	e	WX	05 14 40	0.5		Fiji Is. (U.S.C.G.S.)
21	P i eS i		05 40 52 41 34 36 41	0.8 2.1		
21	P eS		20 35 20 37 10	0.6 1.4		Fiji Is. region near 22oS 178oW O=20 33 00 h= about 600km.
24	e(PP) e e eScS e	X WXN W WE WE	09 23 55 24 09 28 15 35 12 32	0.4 0.4 0.3 0.4	20	Kermadec Is. region (U.S.C.G.S.)
24	P S		13 21 55 22 28	2 4.5		

February 1956 (Cont'd).



Date.	Phase.	Comp.	Time	W/A Trace Amp. mm.	Dist. Degrees.	Remarks.
25	P S		05 51 24 52 41	0.3 0.5		
29	eP eS		14 08 17 09 19	0.4 1.7		
29	P S		14 35 05 36 42	0.5 1.2		

N.B.

On February 8th a home-made Wood-Anderson was installed in the N-S direction, with the constants $V = \text{about } 650$
 $T = 0.8 \text{ sec.}$
 $h = 0.140$

The normal Wood-Anderson continues recording in the E-W direction, with the constants $V = \text{about } 1600$
 $T = 0.8 \text{ sec.}$
 $h = 0.5-0.6$

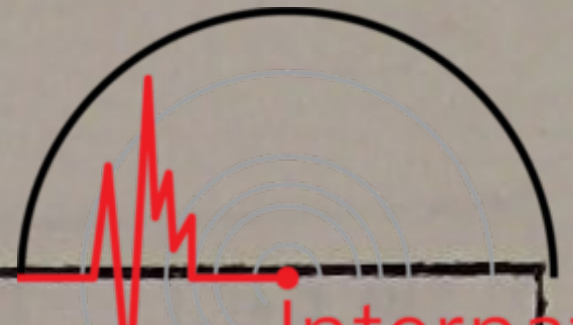
These two components are denoted by the symbols X and W respectively, and record on the same drum at a paper speed of either 30 or 60 m.m./min. The amplitudes given in the column "W/A trace amp." are those of W. Where there is no entry in the column "Component", the readings are those from the Wood-Anderson seismograms. The symbols E, N, and Z, refer to the Wiechert seismograms.

Wood Anderson records were missing for the following periods.

1^d 07 36 to 1^d 19 59
 16^d 19 35 to 17^d 08 31

APIA PRELIMINARY SEISMIC BULLETIN.

1956 MARCH:



International
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Date.	Phase.	Comp.	Time.	W/A Trace Amp. mm.	Dist. Degrees.	Remarks.
1	eS eL	XW NE	02 02 54 03.0	0.3		
3	P eS	XZ NE	00 06 01 23		2.0	Samoa Is. region (U.S.C.G.S.) Felt Apia MM. 4-5
4	eP eS		05 36 50 37 45	1.1		
6	iP S		07 49 06 41	3		iP to N
9	eP eS		23 37 17 38 12	0.9		
10	P S		03 43 08 50	1.6	3.8	Tonga Is. (U.S.C.G.S.)
10	iP S		14 16 00 26	6		iP to S and W.
10	eP e(S)		16 23 09 25 58			
10	P e S eL	NE	19 35 52 37 50 53 39½	0.8	9.5	Tonga Is. (U.S.C.G.S.)
10	P e (S)		22 11 34 12 08 14 19			
12	P eS		02 29 32 30 07	0.6		
12	P S		07 32 29 33 07	2.3		
12	eP eS L	ENZ ENZ	19 51 27 52 05 52±		3.4	Samoa Is. region (U.S.C.G.S.)
15	iP iS e		20 59 21 44 21 01 27	8½		iP to N and W
16	e(P) e(S)		14 14 47 16 50	0.4	10.0	Tonga Is. (U.S.C.G.S.)
16	e(P) e(S)		19 05 17 07 08	0.4		Tonga Is. (U.S.C.G.S.)
17	eP S		11 39 58 43 02	0.4		
17	eP S		20 01 43 02 17	2.1		
19	P S		06 25 53 26 25	2.2		
19	P e S		15 05 06 43 46	1.6		

MARCH 1956 (Cont'd).



International
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Date.	Phase.	Comp.	Time	W/A Trace Amp. mm.	Dist. Degrees.	Remarks
19	P S		15 44 20 55	1.1		
19	eP e		17 43 31 45	0.2	38	New Britain (U.S.C.G.S.)
23	P e iS e		14 57 50 58 20 32 48	1.7 2.2		Tonga Is. (U.S.C.G.S.)
24	eP S		07 43 46 44 19	4.7		
24	P i e S		11 32 14 21 28 47	2.6		
24	P S		21 09 33 10 12	40		Tonga Is. (U.S.C.G.S.)
25	eP S		01 18 58 19 19	3.6		
26	eP e S		00 00 11 16 28	2.0		
26	P e S		00 03 49 05 16 19	1.1	7.8	Fiji Is. (U.S.C.G.S.)
26	P S		10 26 52 28 26	0.5		
26	P S		16 44 48 45 28	0.6		
26	eP iS		23 10 58 11 22	6.4		
28	P S		08 16 14 17 50	0.4	8.8	Tonga Is. (U.S.C.G.S.)
28	P S e		08 25 52 26 15 27 48	1.7		
30	e i		22 15 48 51	0.4		
30	P eS eS e e		22 17 45 19 23 26 27 05 34	0.5 0.5 0.3	9.2	Tonga Is. (U.S.C.G.S.)
31	iP eS		21 47 56 49 27	0.6 0.1		iP to N

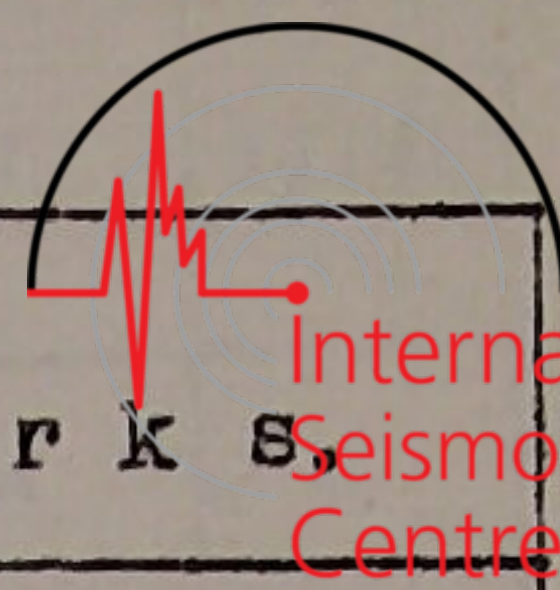
The symbols X and W refer to the N-S and E-W Wood-Anderson seismograms, while N, E, and Z refer to the Wiechert seismograms.

Unless otherwise indicated, the readings are from the Wood-Anderson records.

Wood Anderson records were missing:-
for ^{on 3d} part of 12d and 20d and 25d.

APIA PRELIMINARY SEISMIC BULLETIN.

1956 APRIL:



Date.	Phase.	Comp.	Time	W/A Trace Amp. mm.	Dist. Degrees.	Remarks
3	eP i S		12 20 22 30 21 33	1.0		
3	iP e(S)		13 59 02 14 00 03	0.4		iP to N and E
6	eP		16 32 22	0.3	21	New Hebrides (U.S.C.G.S.)
7	eP eS i e e		18 05 05 08 24 30 10 08 36		19.7	Kermadec Is. (U.S.C.G.S.)
8	eP?		07 51 42			Tonga Is. (U.S.C.G.S.)
8	e(P) e(S)		10 35 34 37 39	0.3	10.8	Tonga Is. (U.S.C.G.S.)
9	iP S		07 23 22 42	15		
9	eP eS		18 09 14 10 46	0.3	7.4	Fiji Is. (U.S.C.G.S.)
13	P S		07 55 46 56 04	5.3		
17	P S		08 30 20 56	4.5		
19	iP S		19 52 42 53 03	7.5		
20	P i iS		14 13 26 14 44 50	1.0	7.6	Tonga Is. 20°S 176°W. O=14 11.6 h=about 150km.
21	P eS		17 14 28 15 57	0.4	8.0	Fiji Is. (U.S.C.G.S.)
22	eP e eS		03 52 08 45 55 09		17.8	Kermadec Is. 30°S 180° O=03 48 18 h=about 300km.
25	eL	NE	08 35½		13.0	Fiji Is. (U.S.C.G.S.)
25	iP iS		18 48 23 56	14½		
26	P S		00 24 57 25 32	3.0		
26	eP e eS eL		07 45 04 18 47 05 47½	0.3		Fiji Is. (U.S.C.G.S.)
28	eP e e(S) e(S)		14 59 02 27 15 02 29 41			Kermadec Is. 33°S 180° O=14 54 26
30	e(P) e(S)		12 39 42 41 56	0.3		

The symbols X and W refer to the N-S and E-W Wood-Anderson seismograms, while N, E, and Z refer to the Wiechert seismograms.

Unless otherwise indicated, the readings are from the Wood-Anderson records.

There were frequent stoppages in the Wood-Anderson recording throughout the month.

APIA PRELIMINARY SEISMIC BULLETIN.

1956 MAY:

Date.	Phase.	Comp.	Time	W/A Trace Amp. mm.	Dist. Degrees.	Remarks
1	eP eS		12 59 53 13 01 39	0.4		Tonga Is. near 23°S 176°W O=12 57.6
1	P S		15 49 10 50 44	0.8		
3	P S		00 04 55 05 25	3.8		
4	P iS		06 40 20 57	3.3		
4	eP eS		14 16 01 17 09		6.0	Tonga Is. (U.S.C.G.S.)
5	iP eS		03 22 58 23 19	35+	2.1	iP to N and E Samoa Is. (U.S.C.G.S.)
5	iP iS		14 37 10 32	14		iP to N and E
16	eP eS		22 12 42 15 02	0.4	13.5	Fiji Is. (U.S.C.G.S.)
17	iP S		14 10 18 35	35		Felt Apia MM.2
18	eP eS i		08 21 30 22 58 23 11	0.5	7.6	Fiji Is. (U.S.C.G.S.)
19	eP		00 26 10	0.2	21	Santa Cruz Is. (U.S.C.G.S.)
19	eP		01 37 14	0.3	32	Solomon Is. (U.S.C.G.S.)
21	P e S		10 12 14 23 36	7		
22	iP S e		03 01 35 54 05 32	14	2.1	iP to S and W Samoa Is. (U.S.C.G.S.) Felt Apia MM 4-5
23	P		16 44 08			Fiji Is. (U.S.C.G.S.)
23	iP S		20 50 13 51 38	20	7.2	iP to N and E Fiji Is. (U.S.C.G.S.)
23	eP		21 19 13	0.5		
23	eP		21 54 09	0.4		Fiji Is. (U.S.C.G.S.)
26	P e S eScS?		20 23 27 24 14 25 04 35 06	8.5	8.4	Fiji Is. (U.S.C.G.S.)
30	P e eS e		15 44 26 46 16 18 20	6.1	11.2	Tonga Is. (U.S.C.G.S.)
31	eP e e(S)		21 04 11 06 04 08	0.7	11½	Fiji Is. region 22°S 180° O=21 01 40 h=about 600km.s

The symbols X and W refer to the N-S and E-W Wood-Anderson seismograms, while N, E, and Z refer to the Wiechert seismograms.

Unless otherwise indicated, the readings are from the Wood-Anderson records.

There were frequent stoppages in the Wood-Anderson recording throughout the month.

APIA PRELIMINARY SEISMIC BULLETIN.

1956 June.



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Date.	Phase.	Comp.	Time	W/A Trace Amp. mm.	Dist. Degrees.	Remarks.
1	iP e S		15 45 49 46 06 10	12 ±		
3	P e e S		00 48 33 44 53 49 34	2½		
9	eL	E	10 50		92	Weak waves for 15 mins. Central Chile(U.S.C.G.S.)
10	P S		01 49 37 50 23	3		
10	P S		03 39 33 50	1.7		
10	eP eS		05 13 08 14 11	0.6		
11	e(P) e(S)		06 13 25 15 39			
12	P S		02 10 02 33	8		
12	P e S eL e(L)	E E	04 57 50 58 13 59 30 05 00½ 08½	0.4		
15	eP eS eL	EW	15 38 27 40 41 42		12	Tonga-Kermadec region. 25°S 177°W O=15 35.6
16	e?		18 17 08			Kermadec Is. (U.S.C.G.S.)
16	eP? e		18 36 50 37 20			Kermadec Is. (U.S.C.G.S.)
16	e?		19 39 04			South of Tonga Is. (USCGS) Record being changed at this time.
17	eP e(S) i(S) e		03 05 47 09 03 07 14 20	0.5	20	Kermadec Is. 32½°S 179°W O=03 01.5 h=about 200km.
20	eP eS e(L) e e(L)	WE	16 30 59 31 51 33 35 56 36.8			Tonga Is. (U.S.C.G.S.)
20	eL	E	23 57			
23	eP S		04 00 18 01 48			O=03 58 22 Possibly Fiji Is. region, and deep.
23	P S		15 03 10 46			
23	eP eS		16 01 20 02 04			

JUNE 1956 (Continued).



Date.	Phase.	Comp.	Time	W/A Trace Amp. mm.	Dist. Degrees.	Remarks.
24	eP? e e?		21 05 24 40 06 48		33½	Solomon Is. (U.S.C.G.S.)
25	eP e eS (e)		03 03 49 05 59 06 04 09 13	0.4		
26	eP		00 04 45	0.3	18½	New Hebrides Is. (USCGS)
26	iP i e eS eS		11 24 14 19 25 00 03 06	3.0 3.0		Union Is. region (U.S.C.G.S.) iP to S and W
26	e(P) eS		16 22 55 24 12	0.3		
26	eP eS		16 25 43 26 35	0.5		
28	eP eL (e)		03 55 49 57.0 04 01 24	0.3	6¼	Fiji Is. (U.S.C.G.S.)
28	P S		14 12 26 13 06	0.7 0.9		
28	P eS		21 04 24 46			
28	eP eS		21 05 46 06 08	8		Aftershock
30	P eS		22 18 38 20 02			
30	P S		22 20 48 21 16	3½		

The symbols X and W refer to the N-S and E-W Wood-Anderson seismograms, while N, E, and Z refer to the Wiechert seismograms. Unless otherwise indicated, the readings are from the Wood-Anderson records.

The Observatory suffered heavy power-cuts during the month.

The larger intervals, during which Wood-Anderson records were missing, are as follows:-

2 ^d	06	20	to	2 ^d	08	30	
3 ^d	05	50	to	3 ^d	08	05	
3 ^d	08	45	to	3 ^d	23	15	
4 ^d	05	46	to	8 ^d	01	23	-no records at all
							during this period.
8 ^d	04	00	to	9 ^d	01	23	
9 ^d	03	52	to	9 ^d	08	15	
13 ^d	07	24	to	13 ^d	13	41	

APIA PRELIMINARY SEISMIC BULLETIN.

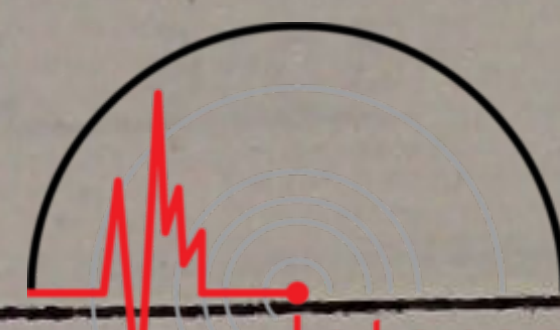
1956 JULY:



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Seismological
Centre

Date.	Phase.	Comp.	Time	W/A Trace Amp. mm.	Period Secs.	Dist. Degs.	Remarks.
1	iP i iS		13 10 56 11 00 43	3		4.0	iP to N
1	e(P) e(PP)		15 28 49 29 53	0.2 0.2	1 1/2-2 6		Followed by vague traces.
2	P S		17 06 22 07 57	3		8.4	
3	P eS		06 29 49 31 02			6.4	
4	P i S		00 41 46 50 43 11	2 4		7 3/4	Fiji Is. (U.S.C.G.S.) P to S?
4	P S		16 13 37 15 47	1 1		12 1/2	Tonga Is. (U.S.C.G.S.)
4	P e S		18 48 09 18 49 39			8.0	
4	eP	X	23 43 22	0.3	2		Loyalty Is. (U.S.C.G.S.)
9	ePKP2 eL	XW X	03 31 40 04 36	0.5	2/3 25	151	Aegean Sea (U.S.C.G.S.)
9	e(PKP2) e	X W	03 44 12 20	0.4 0.4	2/3 2	151	Aegean Sea (U.S.C.G.S.)
9	P iS		06 46 34 48 12			8.7	O=06 44 28 Fiji Is. region h greater than normal.
11	P S		00 41 28 42 09			3.5	
12	iP i i (S) (S)		15 26 50 55 27 30 34 39			4	iP to S and (W) O=15 25.9 Tonga Is. region. Deep.
12	e(L)	XW	17 18 ±		10-8		Vague traces.
13	eP e(S) e		09 55 33 56 45 10 01 54			6	
15	iP i S		00 52 34 53 15 17			3.7	Deep
18	eP e		05 22 50 23 19	0.4	2	19	Loyalty Is. (U.S.C.G.S.)
18	(P) e e eL	X X W X	06 29 18 58 38.0 44	0.4 0.7 0.2 0.2	1/2 1/2-1 10 25	58	Banda Sea (U.S.C.G.S.)
21	P S		12 19 02 50	2		4	
21	eP	X	15 25 26	0.4	2	17 1/4	Loyalty Is (U.S.C.G.S.)
22	P eS		13 09 28 11 08	1/2		9	
22	P eS		19 21 55 22 37	2		3 1/2	

JULY, 1956 (Cont'd).



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Date.	Phase.	Comp.	Time	W/A Trace Amp. mm.	Period Secs.	Dist. Degrees.	Remarks.
24	iP S e		07 05 28 06 30 11 18	6		5½	Possibly Fiji Is. region. 0=07 04 08 iP to South.
24	P S		11 27 34 28 58	1		7½	
24	P S		15 20 41 22 46	0.7 0.9		11	0=15 18.0 Deep.
26	eP e S e(PcS)		17 52 31 55 08 10 59 18	1		16¼	Kermadec Is. (USCGS).
27	eP e e e(S) e(S) e e		00 14 12 16 36 49 15 10 16 41 20 36	2 8			
27	P S		07 01 49 02 39	5		4.3	
27	eP eS		20 03 29 04 54	1		7.5	
28	eP S		01 47 43 48 18	4		3.0	
28	P S		04 57 24 58 54	½		8.0	
28	eP eS		10 02 48 04 20	½		8.2	

The symbols X and W refer to the N-S and E-W Wood-Anderson seismograms, while N, E, and Z refer to the Wiechert seismograms. Unless otherwise indicated, the readings are from the Wood-Anderson records.

The Wiechert instrument was not recording properly for most of the month.

APIA PRELIMINARY SEISMIC BULLETIN.

1956 AUGUST:



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Date.	Phase.	Comp.	Time	W/A Trace Amp. mm.	Period Secs.	Dist. Degs.	Remarks.
1	P e(S)		17 33 29 47	15+		1 3/4	Samoa Is. (U.S.C.G.S.) Felt Apia M.M.2.
2	eP e(S)		11 32 36 33 50	1			
3	eP S		00 38 54 39 54	4		5.2	
5	eP S e		19 32 19 47 34 55	10		2.4	
5	eP S		21 12 35 13 07	6		2.7	
8	eP S		18 30 16 36	12		1.6	Felt Apia
9	eP i e(S) eS i	VX V	03 06 28 34 08 12 15 19	2 1/2		10	Fiji Is. (U.S.C.G.S.) P down and to South
9	eP e(S)		21 50 02 53 23	0.4 0.4	2-1/2 1/2	18 1/2	Kermadec Is. (USCGS).
9	eP S e		23 01 49 02 38 08 23	10± + 2 1/2			Samoa Is. region (USCGS) P to S and W. Coda for 1/2 hr. Felt Apia (Weakly)
10	P eS		01 02 34 03 22	1 1/2		4.1	Aftershock.
10	P e S		15 26 24 27 48 52	1/2 0.7		7.8	Near 20°S 176°W. Tonga Is. region. O=15 24.6
10	eP e eS e		23 30 47 31 44 47 36 39	4		5.2	
11	eP iS		06 37 47 38 17	1/2 8		2.5	
11	eP i. e(S)		15 49 43 50 12 52 07	1/2 1/2 1/2	2/3	13	
12	eP S e e	V	00 27 21 28 30 33 05 35 41	6 11± 1	2/3 1		Tonga Is. (U.S.C.G.S.) P to N,E, and up.
13	eP e e(S)		03 56 32 59 04 08	1		14	Kermadec Is. region. O=03 53.2
14	P iS e		05 09 10 30 11 24	12±		1.6	P down and to N.
14	eP eS		09 26 03 57			4.7	
14	P e i e eS e	V XW W	23 36 42 48 55 37 08 38 22 40	1 1 1/2 1/2		9	Fiji Is. (U.S.C.G.S.) P down

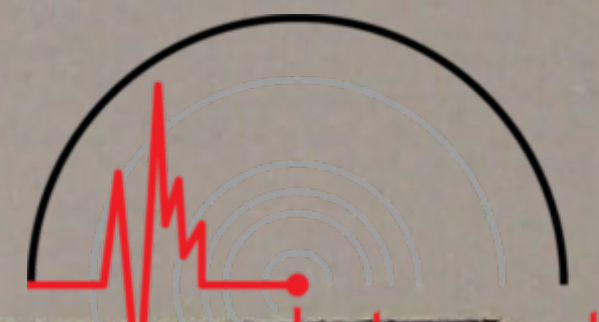
1956 August, (Cont'd).



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Seismological
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Date.	Phase.	Comp.	Time	W/A Trace Amp. mm.	Period Secs.	Dist. Degrs.	Remarks.
15	eP e	X X	05 32 56 33 05	0.3 0.4	2 1	87	Sumatra (U.S.C.G.S.) PH= $\frac{1}{2}$ Mu. 2 sec.
15	eP e(P) epP e? e?	V X V V W	11 01 58 02 08 40 06 24 13 32	0.2 . . . 0.1	$1\frac{1}{2}$ $1\frac{1}{3}$ $1\frac{1}{4}$ 3 2	66	Northern Celebes (U.S.C.G.S.) PV= $\frac{3}{4}$ mu 1.4sec. (P)H= $\frac{3}{4}$ mu 1.3sec.
16	eP S e		09 18 23 19 08 23 12	$\frac{1}{2}$ 1		3.9	
19	eP eS eL		05 20 12 22 18 23	$\frac{1}{2}$ $\frac{1}{2}$	15-10	10 $\frac{1}{4}$	Fiji Is. region (U.S.C.G.S.) Weak Coda for 20mins
19	eP eS		08 50 42 52 00	1 6		7 $\frac{1}{2}$	Tonga Is. (U.S.C.G.S.)
19	P S		15 30 04 31 06			5.4	
20	iP S		20 36 28 50	4 15		1.8	
21	eP i S		02 33 34 34 42 44	1 10 \pm		6.1	
22	eP eS		03 27 32 28 26	2		4.7	
22	eP e	XV X	11 30 37 31 56	0.3	$\frac{1}{2}$		New Hebrides Is. region. O=11 26.3 \pm h deeper than Normal. iP down and to S.
23	iP e S e		14 50 14 28 47 53 34	25 \pm $\frac{1}{2}$	2	2.8	
24	e eS eL	X N NX	04 38 56 47 $\frac{1}{2}$ 58	0.2 \pm	4 15 30	68	Aleutian Is. (USCGS).
24	eP e	V XV	08 32 16 28	0.3	1 1	19 $\frac{1}{2}$	Loyalty Is. (USCGS).
25	iP e e(S)		13 31 45 33 16 22	$\frac{1}{2}$ $\frac{1}{2}$		8.6	Fiji Is. region. O=13 29.6
25	eP? e(P)	X X	22 08 02 05	0.3	1-2	21 $\frac{1}{4}$	Santa Cruz Is. (USCGS) (P)V=2mu. 2 sec. no time-marks on V. (P)V up.
26	P e S		01 40 56 41 12 38	3		3.6	
27	iP S		03 18 06 31	40 \pm		2.1	iP to N and E.
27	eP e S		21 43 16 44 00 02				
28	eP eS		09 51 53 54 01	$\frac{1}{2}$ $\frac{1}{2}$		12 $\frac{1}{2}$	Tonga Is. (U.S.C.G.S.)

1956 AUGUST, (Cont'd).



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Date.	Phase.	Comp.	Time	W/A Trace Amp. mm.	Period Secs.	Dist. Degrs.	Remarks.
29	iP S		02 56 07 26	4 20		1.5	iP to S.
30	eP i eS e		04 08 15 41 46 10 55	2		2.6	

At the beginning of August a home-made short period vertical seismograph began suitable recording, with constants $T_0 = 0.8$ sec, Damping ratio 6:1, and Magnification about 3500. This instrument does not record continuously owing to plastic flow within the spring. Present recording speed is at an uneven 50 mm/min. The installation is temporary only.

The low magnification Wiechert Z ceased recording in June.

The period of the N-S Wood Anderson has been $T_0 = 0.45$ sec. instead of 0.8 sec. owing to a magnetic effect in the copper cylinder. This is rectified in September. Its other constants are Damping Ratio 1.6:1 and Magnification 2200.

The response of the E-W Wood Anderson deteriorated badly during the month due to fouling in the oil dampers. This is rectified in September.

During the period of poor response from W, the amplitudes for local shocks are a judicious compromise between W and X (X being under-damped). Normally, the amplitudes of W only, are quoted. For longer periods X is reliable in itself, and ground motions determined accordingly.

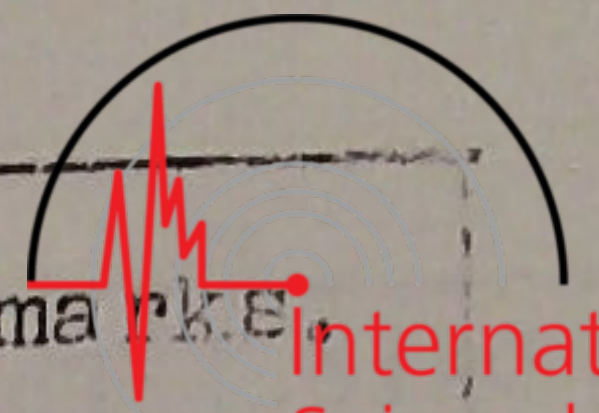
In the column "Component,"

The symbols X and W refer to the N-S and E-W Wood-Anderson seismograms, and V to the short Vertical seismogram, while N and E refer to the Weichert horizontals.

Unless otherwise indicated, the times are from the short period instruments.

APIA PRELIMINARY SEISMIC BULLETIN.

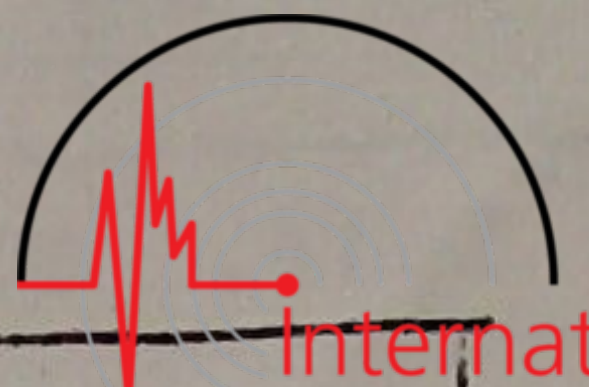
1956 September:-



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Date.	Phase.	Comp.	Time	W/A Trace Amp. mm.	Period Secs.	Dist. Degs.	Remarks
1	eP eS		02 05 20 07 10	1.2 0.8			
2	eP e eS eL eT		00 31 48 32 27 29 33 35 08	1.4			
2	eP eS		09 15 09 52	0.4			
2	P e eS		14 27 14 29 04 08	2		10 $\frac{3}{4}$	Tonga Is. region (U.S.C.G.S).
4	eP iS i		04 23 25 40 24 00	6			
4	P eS		11 58 13 59 48	1 $\frac{1}{2}$		8 $\frac{1}{2}$	Fiji Is. region. Near 180S 179 ⁰ W O= 11 56.2 h= 500km
4	eP S		14 13 17 14 01	12			
4	eP eS		21 32 40 33 24	15			
5	eP S eT		13 28 14 59 32 45	4			
5	eP eS		20 43 53 45 24	$\frac{1}{2}$ $\frac{1}{2}$			
6	iP iS		08 48 19 52				Tonga Is. (USCGS), iP to N and E
7	eP iS e		03 55 46 56 50 53 04 01 40	20		6 $\frac{1}{4}$	Fiji Is. (USCGS).
8	P S		08 37 52 38 08	20			
9	P S		13 47 40 48 01	20 \pm			
9	eP? eP e e(S)		15 22 26 30 24 36 39	$\frac{1}{2}$		12 $\frac{3}{4}$	South of Fiji Is. 24 ⁰ S 180 ⁰ O=15 19.7 h=550km \pm
10	eL		02 30		8		weak waves.
10	eP e e eS G R eT		23 54 42 48 56 45 47 57.3 58.1 24 07 09	$\frac{1}{2}$ 1	16 12	12 $\frac{1}{4}$	Tonga Is. (USCGS). Waves for $\frac{3}{4}$ hr.

1956 September (Continued).



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Date.	Phase.	Comp.	Time	W/A Trace Amp. mm.	Period Secs.	Dist. Degs.	Remarks.
11	e e(S) eL	NE	01 09 37 48 11	$\frac{1}{2}$			Weak Coda.
11	eP e eL		02 34 54 35 30 36.6			$10\frac{1}{4}$	Fiji Is. (U.S.C.G.S.).
11	e(S) e e		03 53 08 54 02 17	$\frac{1}{2}$ $\frac{1}{2}$	4-6		
11	e?	x	08 38 33	0.1	$1\frac{1}{2}$		Fiji Is. (U.S.C.G.S.)
11	eP e e(S)	NE	15 48 24 38 52	$\frac{1}{2}$ $\frac{1}{2}$	2 3 $15\pm$		New Hebrides (USCGS).
11	eP e(S) eS eL	EN	20 43 31 45 07 18 $46\frac{1}{2}$	1			
12	eP S		18 35 41 37 15	$\frac{1}{2}$ $\frac{1}{2}$			Fiji Is. region. O=18 33.7
13	e?		18 48 15	$\frac{1}{2}$	2	$18\frac{3}{4}$	New Hebrides.
14	iP i eS		12 09 45 47 11 19			8	Tonga Is. region. $20\frac{1}{2}^{\circ}\text{S } 177^{\circ}\text{W}$ O=12 07 44 h=550 km \pm iP Down and to South
No W/A records from 15 ^d 21 ^h to 16 ^d 14 ^h							
16	eS	NE	13 29 01			$5\frac{3}{4}$	Tonga Is. (U.S.C.G.S.).
16	eP S		17 10 02 53	1			
19	eP S		07 19 06 56	1			
W/A records absent from 19 ^d 11 12 to 19 ^d 21 31							
20	eP S eT		06 47 19 37 49 00	8			
20	eP S		10 26 51 27 32	2			
21	P S e		04 53 23 52 56 07	2			
21	P eS		07 42 27 43 02	$2\frac{1}{2}$			
21	iP S		21 45 59 46 35	30			P to N and W
22	eP i e i(S)		06 55 49 52 58 57 44	2		$11\frac{1}{2}$	Fiji Is. (U.S.C.G.S.). eP to North

1956 September, (Continued).



Date.	Phase,	Comp.	Time	W/A Trace Amp. mm.	Period Secs.	Dist. Degs.	Remarks.
22	eP eS		07 25 34 27 17	$\frac{1}{2}$ $\frac{1}{2}$			
22	eP eS		22 43 06 49	3			
23	iP S e		05 36 22 42 38 54	25+			iP to East.
24	iP S		06 05 11 29	45+		$2\frac{1}{4}$	Samoa Is. (U.S.C.G.S.). iP to S and W. Felt Apia MM2, and Tuasivi Coda for $\frac{1}{2}$ hr.
24	e e e(S)	x W XWNE	07 06 08 23 08.5	$\frac{1}{2}$ $\frac{1}{2}$	$\frac{2}{3}$ -2 1-1 $\frac{1}{2}$ 23	15	Fiji Is. (U.S.C.G.S.). L waves for 10 mins.
24	eP e S		09 28 54 29 12 14	20+			P to South.
24	eP S		19 07 26 47	15+			
26	eP S		01 25 07 26 40	2			
27	P S		11 57 53 58 51	1 $\frac{1}{2}$			
27	eP i eS eT		13 37 41 54 59 39 21				
27	eP eS e		14 32 36 54 34 17				
29	e? e?		23 31 53 32 19		3	$67\frac{1}{2}$	Japan (U.S.C.G.S.)

On Sept. 14 the constants of the short period instruments were adjusted to:-

	"W"	"X"	"V"
T ₀	0.80	0.75	0.8 sec.
h	0.65	0.21	0.70
V ₀	2100	2300	3500

In the Column "Component", the symbols X and W refer to the N-S and E-W Wood-Anderson seismograms, and V to the short period Vertical seismogram; while N and E refer to the Wiechert horizontals.

APIA PRELIMINARY SEISMIC BULLETIN.

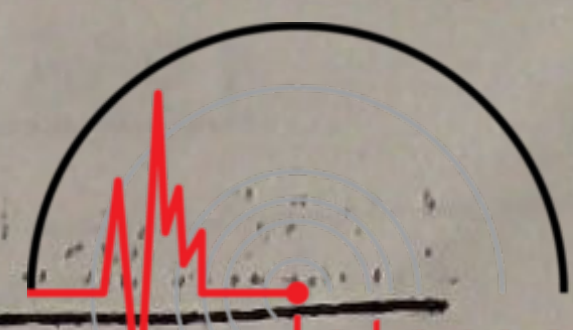
1956 October:-



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Date.	Phase.	Comp.	Time	W/A Trace Amp. mm.	Period Secs.	Dist. Degs.	Remarks.
1	eP e e e(S) e		12 01 06 42 03 34 46 04 09	$\frac{1}{2}$ 1			
1	eP e e(S)		15 16 10 38 17 33	0.4 0.4	2		Fiji Is. (U.S.C.G.S.)
3	iP iS i e		10 50 31 50 51 00 52 36	6			P up
3	eP		16 29 08	0.5	2/3		P down.
5	e(P)		21 47 54	0.4	1	20	New Hebrides (U.S.C.G.S.)
6	eP S		17 02 58 04 30	0.5 0.4		$7\frac{3}{4}$	Fiji Is. $17\frac{1}{2}^{\circ}$ S 179° W O=17. 01 '00 h=500km \pm
No W/A records from 6d 19 47 to 7d 1940.							
7	e. e. e	N E NE	08 27 01 07 40		3 2 3	$\bar{2}$ $\bar{2}$ $\bar{2}$	
7	P e		21 32 30 43	0.6 0.6	2 $1\frac{1}{2}$	$20\frac{1}{2}$	New Hebrides (U.S.C.G.S.) P to W and S.
8	eP e e eS eL eT		14 57 27 33 58 31 41 59 15 04 08	0.5 3.3		$6\frac{1}{4}$	Tonga Is. (U.S.C.G.S.) P to South. Coda for over an hour.
9	eP e e eS eL e(T)		06 21 13 18 22 18 26 23 27 47	0.1 1.5		6	Tonga Is. (U.S.C.G.S.) Coda for an hour.
11	eP e ePcS eS eScS e eL	XN EW NX	02 35 30 41 40 33 44 16 45 12 52 37 55		$\frac{3}{4}$ 6 14-8 10 \pm 35-18	68	Kerile Is. (U.S.C.G.S.)
11	(P) e i e(PcP) e e(PP)	V V X	16 59 58 17 00 02 06 27 50 02 30	$\frac{1}{2}$ 0.8 0.4	1 $1\frac{1}{2}$ $1\frac{1}{2}$ -2	68	(P) up. California (U.S.C.G.S.)
11	e eL	NEW NEWX	17 17.1 20		20 10		Weak waves for 10 mins.
15	eP eS		01 12 15 58	9			

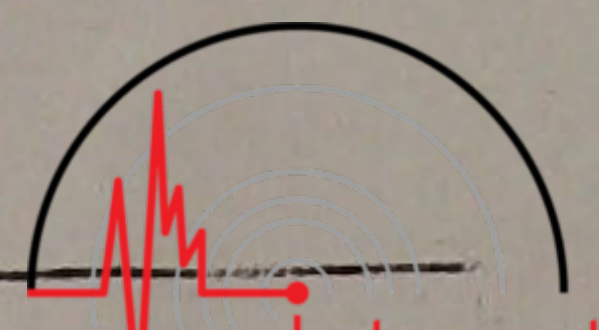
- 2 -
1956 October, (Continued).



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Centre

Date.	Phase.	Comp.	Time	W/A Trace Amp. mm.	Period Secs.	Dist. Degs.	Remarks.
15	P S		17 00 25 56	11			
Very heavy power cuts from 15d 20 34 until about 21d.							
19	P i e e(S) e		12 02 57 04 43 47 51 09 47	0.8 1.0 2		10	Fiji Is. (U.S.C.G.S.) P to N, E, and Up.
19	e(P) e(Lq) (P)	WX V	14 15 09 30.1 14 15 ±	0.6	$\frac{1}{2}$ 10 $1\frac{1}{2}$	57	South Pacific Ocean? (U.S.C.G.S.) No time marks on V (P)V = $\frac{3}{4}$ μ $1\frac{1}{2}$ sec. Coda for $\frac{1}{4}$ hr.
19	iP S e		17 21 58 22 34 27 18	1.7 14			P to N, (E) and Up.
21	e(P)		07 43 26	0.5	$\frac{1}{2}$		
21	eP i S		10 03 25 04 15 17	0.7 4.6			
21	P eS		10 40 33 41 30	2			
23	P S		10 03 21 04 29	0.7 1.7		$5\frac{1}{2}$	Tonga Is. (U.S.C.G.S.) P to S and W. Coda for $\frac{1}{2}$ hr.
24	e(P) e eL	WE W	14 55 04 56 05 15 22.2	0.3 0.3	4 2 28	88	Nicaragua (U.S.C.G.S.)
25	eP e(S) e eL		19 05 21 06 23 37 07			5 10	Tonga Is. (U.S.C.G.S.)
26	e(P) e eL		02 50 02 34 53 17	0.4 0.3 0.1		$12\frac{1}{4}^{\circ}$ 12	Fiji Is. (U.S.C.G.S.)
26	eP e eS e		08 58 38 09 00 12 14 08 42	1.0 4 $\frac{1}{2}$		$9\frac{1}{4}$	Fiji Is. (U.S.C.G.S.)
26	e(P) e e(S) eL	VX WX	22 55 07 12 37 59 09 60 $\frac{1}{2}$	0.7 0.7 0.8	$2\frac{1}{2}$ 3 7	$20\frac{1}{2}$	New Hebrides (U.S.C.G.S.)
27	P eS eL eT		00 32 32 33 40 34 $\frac{1}{2}$ 39 22	1			P to South

1956 October, (Continued).



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Date.	Phase.	Comp.	Time	W/A Trace Amp. mm.	Period Secs.	Dist. Degs.	Remarks.
28	eP e eS		02 58 36 03 00 45 53	0.3 0.7		13	South of Fiji Is. Near 25°S 179°W O=02 55.7 h=400km±
28	eP e eS		03 33 14 36 45 51	0.2 1.7	$\frac{1}{2}$	19½	Kermadec Is. (U.S.C.G.S.) P to South and Down.
28	eP eS eL		06 43 49 44 30 46	3		3½	Tonga Is.
28	iP eS		11 33 21 49	11			P to N and E
29	eP e eS		14 20 12 21 42 22 05	1 2		10½	Fiji Is. region. 22°S 179°W O=14 17.8 h=600km ±
30	eP e eS		22 36 07 37 43 47	0.7 4.0			Fiji Is. (U.S.C.G.S.).
31	P e S		02 36 59 38 41 43	1 1.3			Fiji Is. (U.S.C.G.S.).
31	eP e eS		11 56 16 47 57 06	1.2 7			Samoa Is. region. O=11 55.2

In the Column "Component", the symbols X and W refer to the N-S and E-W Wood-Anderson seismograms, and V to the short period Vertical seismogram; while N and E refer to the Wiechert horizontals.

APIA PRELIMINARY SEISMIC BULLETIN.



1956 November:-

Date.	Phase.	Comp.	Time	W/A Trace Amp. mm.	Period Secs.	Dist. Degs.	Remarks.
3	eP eS		16 54 57 56 33	1.1			
3	eP e S		18 04 56 07 10 15	0.9		13	Fiji (U.S.C.G.S.).
3	P e(S) e		23 44 28 46 42 47 00	0.5 1.0			
4	eP e(S)		00 39 22 41 29	0.3			
4	eP e S e eT		07 07 50 08 37 09 20 13 17 15 37	1.4 16 1 0.7	$\frac{1}{4}$ 1	8	Tonga Is. (U.S.C.G.S.) P to S and W. Coda for $\frac{3}{4}$ hr.
4	eP eS		08 37 46 39 16	0.4 0.5			
6	P eS e		00 05 18 06 44 13 45	0.5 2.0			Tonga Is. (U.S.C.G.S.).
6	P S		14 47 38 48 39	2.9			
7	P eS		03 08 44 10 13	1.3		7 $\frac{1}{2}$	Fiji Is. (U.S.C.G.S.).
8	e(P) eS		02 16 12 17 34	0.4			
8	iP i e eS		03 48 45 49 08 51 01 06	1.3 1.8 0.8		13 $\frac{1}{2}$	Fiji Is. (U.S.C.G.S.). P to S and W.
8	iP S		06 52 15 53 38	7		7 $\frac{1}{4}$	Fiji Is. (U.S.C.G.S.) P to N and E.
8	e(P) e(S)		13 23 49 25 00	0.4 0.4	2		
9	(P) e e		13 18 29 20 06 22 38	0.4 0.4 0.4	2 2 2	83	Mexico (U.S.C.G.S.). (P) to North.
9	eP? i(P) e S		17 59 44 48 18 02 21 26	0.1 3.9 2.4		15	Kermadec Is. (U.S.C.G.S.) i(P) to N and E.
9	eP eS		22 40 27 42 35	0.5			
10	P eS eT		09 48 39 49 27 52 27	0.4 0.7			
10	eP eS		23 02 33 04 02	0.6			

1956 November, (Continued).



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Date.	Phase.	Comp.	Time	W/A Trace Amp. mm.	Period Secs.	Dist. Degs.	Remarks:
11	iP e(S)		03 15 48 17 25	3.0 0.5			Fiji Is. (U.S.C.G.S.). P to S and W.
12	eP eS		05 06 10 58	0.8			
12	eP e eS		12 37 56 39 07 11	0.4 0.8			
13	e(P) e(S) e(L)	XW N W	07 44 43 47 34 51 1/2	0.4	2 20 10	15 1/2	Loyalty Is. (U.S.C.G.S.)
13	eP		08 40 11	0.3	2		Loyalty Is. (U.S.C.G.S.)
13	eP S		15 19 31 21 22	0.2 0.4			
16	pP e e	VW W V	08 57 24 47 58 05	0.3 0.3	2 2 1	49 1/2	New Guinea (U.S.C.G.S.) pP Down.
16	eP		16 20 30	0.3	1	18	New Hebrides (USCGS).
17	iP eS		16 35 30 59	2			
18	P eS e		03 26 40 27 46 33 18	0.5			
18	eP i e e e(S) e e	XVW X V	09 50 02 07 52 15 18 25 37 44	0.5 0.4		13 3/4	Kermadec Is. (USCGS). eP to North.
18	eP e e e eS e eL eL eT	VX W XV VX W VX	18 19 35 44 20 17 22 02 06 16 23 24 32 36	1/2 0.5	12 10	13 3/4	Kermadec Is. (U.S.C.G.S.)
22	eP e eL	X	15 39 25 40 00 25	0.5 0.5	14	6 1/4	Fiji - Samoa region. 15 1/2°S 178°W. O=15 37 50
24	eP eS eL eT		20 45 15 47 39 48.0 58 28	0.3 0.6	15	12 3/4	Tonga Is. (U.S.C.G.S.)
25	eP S eT		07 22 47 23 36 27 32	1 1/2 12			Tonga Is. (U.S.C.G.S.)

1956 November, (Continued).



Date.	Phase.	Comp.	Time	W/A Trace Amp. mm.	Period Secs.	Dist. Degs.	Remarks.
25	eP S e		12 03 22 47 05 49	4½			
25	iP eS i		14 46 56 47 29 49 40	1.1 1.4			Probably Tonga Is. region O=14 46.2
25	e(P) e		18 12 13 43	0.5 0.4	2½ 2	19½	New Hebrides (USCGS). (P) to S and W.
25	eP e e e(S)		23 04 07 37 05 38 06 56	0.8 0.7			
26	e(P)		06 23 18	½	½		
26	eP e eS		09 46 39 49 23 30	0.4 0.4	1 ½		
26	eP eS		11 47 52 50 36	0.4			
26	eP		12 18 55	0.4			
26	eP e eS e	EW	23 34 14 35 37 57 38 22	0.7 0.5	1½ 3±	20	Loyalty Is. (U.S.C.G.S.) P to N and E. Coda for 20 mins.
27	e e	X W	00 56 28 45	½	3 2	20	Loyalty Is. (U.S.C.G.S.)
27	e	X	13 23 52	0.7	3	19½	Loyalty Is. (U.S.C.G.S.)
28	eP e(S)		03 50 01 52 49	0.5 0.7	½ ½		
29	eP eS eT		10 34 42 35 16 37 50	2			
29	P iS		16 48 36 49 40	3			
30	eP eS eT		16 53 11 54 23 17 00 09	2.0		7¼	Tonga Is. region. O=16 51.6

A report was received from the Master of the M.V. "John Williams VI" regarding a disturbance at sea, at Lat. 14° 17'S and Long. 173° 00'W on November 3d 02h 45m G.M.T. The report is accurate and non-presumptive, and could indicate possible volcanic activity, although the evidence is not conclusive.

In the Column "Component", the symbols X and W refer to the N-S and E-W Wood-Anderson seismograms, and V to the sport period Vertical seismogram; while N and E refer to the Wiechert horizontals.

APIA PRELIMINARY SEISMIC BULLETIN.

1956 DECEMBER:



Date.	Phase.	Comp.	Time	W/A Trace Amp. mm.	Period Secs.	Dist. Degr.	Remarks.
1	eP		07 48 28	0.3	2/3	20	Loyalty Is. (U.S.C.G.S)
2	eP e eS iT		16 34 27 38 35 03 37 50	2.3			Coda for 1/2 hr.
4	eP e eS		06 48 52 51 41 45	0.4 0.4	2/3		
4	iP e(S)		13 21 43 22 02	30±			Samoa Is. (U.S.C.G.S.) Felt Apia MM.3 iP to N and E.
5	eP eS eT		12 09 23 10 57 12 46	1.0 0.5			
5	eP eS eT		12 27 49 28 27 31 09	0.8			
5	eP e e(S)		16 52 16 35 49				
Wood Anderson records absent from 6d 03 34 till 14d 11 28.							
7	eS	EN	19 56 31				Local shock
9	S	NE	12 11 19				Local shock.
14	P S		13 04 50 05 19	8			
14	eP? eP		17 03 50 52	0.8	1/2		
14	eP e e(S)		19 27 36 29 06 15	0.5 1.0		9	Tonga Is. region. near 22°S 176°W O=19 25.5 h=100km ±
15	iP e e e	WX W X X	17 29 01 20 30 40 41 54	2 2 0.7 0.6	1 1 1/2 1 1/2 2 1/2	20	New Hebrides (USCGS). iP to East.
16	eP S		07 18 25 50	8			
16	e(P) eS		22 10 45 13 44	0.4 0.2	1/2		Kermadec Is. (USCGS).
17	P S		06 07 38 58	3 1/2 24			
19	iP S eT		09 15 13 46 18 15	0.7 3.2			iP to N and E
20	eP e e(S) e eL eT		11 03 07 23 05 32 44 06 15 30	0.6 0.9 0.5 0.8	1/2-1 1/2 1 1/2 1 1/2 3/4 14	13 3/4	Kermadec Is. (USCGS). eP to N?

December 1956 (Continued).



Date.	Phase.	Comp.	Time	W/A Trace Amp. mm.	Period Secs.	Dist. Degs.	Remarks.
20	iP S		17 58 34 54	22			
21	eP eS		11 03 21 04 06	1.2			
21	eP e iS		11 50 55 51 52 54	3.3			
22	eP eS		22 42 09 45 02	0.5 0.7	2/3 1/2	16 1/2	Kermadec Is. (USCGS).
25	P i eS e e		04 31 38 32 54 57 36 46 37 31	1.6 1 1/2 8			Tonga Is. (U.S.C.G.S.)
25	iP S		11 31 08 29	22			Felt on South Coast MM.2 iP to N and E.
26	e eL		07 51 21 57	0.4	15	21	Santa Cruz Is. (USCGS)
27	eP e e(S)		00 16 32 35 18 18	1 35 50+		10 1/3	Tonga Is. (U.S.C.G.S.) P to N? and E? Coda for an hour.
27	eP e(S) S eT		01 28 31 55 58 30 41				
27	eP eS		14 11 20 12 56	0.8			Tonga Is. region. O=14 09.3
27	P eS		15 19 34 20 25	1.6			
28	eP		14 30 12	0.5	3/4		
28	e(P) e eS eL		14 30 48 54 35 32 36	0.5 0.6 0.5	2 1/2 3/4 18	30 1/3	New Zealand (USCGS).
28	e		14 56 25	0.4	2/3		
28	e(S) e(T)		16 29 44 32 23	0.4 0.4	1/2 1/2		
28	eP eS eT		21 13 12 14 00 16 54	0.7		4	Tonga Is. region. 16°S 175°W O=21 12.2
29	eP e S e		05 11 18 38 58 14 46	0.8			
29	eP eS		19 29 46 31 42	0.6 0.9		11 1/2	Fiji Is. region. 23°S 179°W O=19 27.3 h = 600 km ±

December 1956 (Continued).



Date.	Phase.	Comp.	Time	W/A Trace Amp. mm.	Period Secs.	Dist. Degs.	Remarks.
29	eP e e eS eT		20 24 18 30 25 50 53 32 37	0.5 1.6		8½	Tonga Is. 21½°S 176°W O=20 22.3 Coda for an hour.
30	eP eS		15 53 27 54 59	0.2 0.5			

In the column "Component", the symbols X and W refer to the N-S and E-W Wood-Anderson seismograms, while N and E refer to the Wiechert horizontals.