

(1)

- JANUARY 1967 -			h. m. s.	Arc.	/R	Remarks.
Date	Station	Phase	G. M. T.	Dist.	C	
1	PRE	iPKP	00 40 07.0	125	D	USCGS H=00 21 06.612.1.S.163. 2.E.Santa Cruz I's h=33 mag 4.9.
1	PRE	iPKP	07 25 03.2	135		USCGS H=07 05 48.6.15.3S.173
	WIN	iPKP	15.0	146		.6W.Tonga I's reg.h=33 mag6.0.
2	WIN	iP	07 05 21.0	79	D	USCGS H=06 53 17.5 25.2S.71.0
	PRE	iP	06 007.0	85		W.Near coast North Chile h= 38. mag.5.0
2	PRE	iPn	09 51 30.2	15		USCGS H=09 47 53.3 10.2 S.
	WIN	iPn	42.5	17		28.5 E. h=33.mag.5.6.
	PIE	iPn	50	19	C	Republic of the Congo.
	KIM	iPn	52(11)	19		
2	PRE	iP	14 00 14.7	61	C	USCGS H=13 50 06.2 30.6 N 50.
	KIM	iP	42	65		4E. Iran.h=33 mag.5.2.
3	WIN	i	11 09 37			
4	PIE	t	00 29 00			
4	PRE	i	06 09 32.5		R	
4	KIM	iP	13 35 50	270km		O.F.State Goldfields.
		iS	36 18			
	PRE	iPn	35 58.7	300km		
		iPi	36 04.0			
		iSm	30.2			
		iSi	35.7			
	WIN	t	41 00			
4	WIN	iPcP	20 28(28.0)	85		
						USCGS H=20.15.55.8. 10.7.N 32 .5W.Near coast of Venezuela, h=74.mag5.5.
4	WIN	iP	22 56 46.5	46	D	USCGS H=20.48.24.4.55.7S 27.3
	PRE	iP	57 11.7	50	D	W.S.Sandwich I's region h=88
5	PIE	e	00 23 03			mag5.5.
5	PRE	iP	00 28 26.2	100		USCGS H=0014 .40.4.48.1 N.
	WIN	iP	54.0	106		102.8E.Mongolia. h=33 mag.6.4.
5	PRE	iP	10 19 52.7	78	C	USCGS H=10.07.58.3.39.4N 72. 9E Kirgiz S.S.R.h=11 magm5.3.
6	PRE	iPKP	00 23 01.8	128		USCGS H=00.04.02.7 41.8N 143. 3E. Hokkaido Japan region.h= 35.mag.5.5.
6	KIM	iPn	13 28 00	250km.		
		iSn	27			
	PRE	iPn	09.7	290km		
		iPi	14.8			
		iSn	40.8			
		iSi	46.3			
	GRH	iPn	50			
	WIN	iPn	56.5			
	PIE	iSi	30(11)			
7	PIE	iP	00 37 55	63		USCGS H=00 27 25.2 48.8S112.7
	GRH	iP	59	63		E. S.E.Indian Rise h=33 mag 4.7
	PRE	iP	38 20.0	67	C	
	KIM	iP	20	67	D	
	WIN	iP	39 16.5	75		
9	PRE	iP	02 05 12.7	61	C	USCGS H=01 55 13.6 27.7N 54.
	WIN	iP	32.5	64	D	5E S.Iran h= 17 mag5.3.
	KIM	iP	41	65	D	
10	PRE	t	01 47 00			
11	PRE	iP	11 31 03.2	65	D	USCGS H=11 20 45.7 34.1N 45.
	WIN	iP	09.5	65	D	7E Iran-Iraq border region.
	PIE	iP	25	66	D	h=34 mag. 5.6
	KIM	iP	29	68		
12	WIN	t	22 37 00			
14	PRE	iPKP2	12 24 21.2	146		USCGS H=12 04 50.7 52.1N 175.
	WIN	iPKP2	29.5	148		4E Rat I's Aleutian I's. h= 41 mag 5.1.
	KIM	iPKP2	33	150	C	
	GRH	iPKP2	46	153	D	
14	GRH	iPPP	14 10 09	13	R	USCGS H=14 06 48 43.4S 39.1
	PIE	iPP	22	15	R	E Prince Edward I's region
	KIM	iP	11 05	18	C	h=33 mag 5.3.
	PRE	iP	16.7	20	D	
	WIN	iP	12 34.5	27		

Date	Station	Phase	h. m. s. G. m. T.	Arc. Dist	R/ C	Remarks
15	PRE	iPKP2	09 36 05.2	152	C	USCGS H=09 16 17 56.5N 153.2 W. Kodiak I's reg. h=8 mag 4.4
16	PRE	iP	07 23 23.2	84	C	USCGS H=07 11 12.1 24.2S 66.8 W. Salta Prov. Argentina. h=188 mag 5.4.
17	WIN	iP	01 18 20.0	72	C	USCGS H=01 07 54.3 27.4 S 63.3
	KIM	iP	41	76		W. Santiago Del Estero Prov.
	GRH	iP	(44)	76	D	Argentina. h=590 mag. 5.5.
	PRE	iP	19 03.7	80		
	PIE	iP	04	80		
17	PRE	iPKP	12 18 28.2	124	D	USCGS H=11 59 31.5 38.1 N 142. 1E East coast Honshu Japan. h=44 mag. 5.9
	KIM	iPKP	33	128		
	WIN	iPKP	39.0	131		
18	WIN	iPKP2	08 38 11.5	151	C	USCGS H=08 18 22.0 52.2 N 168. 3W Fox I's Aleutian I's. h= 37 mag. 5.7.
18	PRE	iPKP2	11 01 21.7	147	D	USCGS H=10 41 54.0 60.4 N 152. 5W S. Alaska. h=96 mag. 4.4.
	KIM	iPKP2	30	150		
18	PRE	t	13 49 00			
19	PRE	i	12 57 15.0		C	
	KIM	i	16		R	
	WIN	i	34.0			
19	WIN	iPKP2	15 01 19.2	152		USCGS H= 14 41 37 52.4 N 169.
	PRE	iPKP2	21.0	155	D	5W. Fox I's Aleutian I's h= 55 mag. 5.2.
	KIM	t	02 00			
19	KIM	e	17 04 42			
	PRE	i	47.0			
20	PRE	iP	02 11 05.0	100	C	USCGS H=01 57 23.1 48.0 N 102. 9E Mongolia h=33 mag 6.1.
21	WIN	eP	03 07 (27.0)	97		USCGS H=02 54 00.8 49.8 S 114. 8W Easter I's Cordielera h=33 mag 5.3.
21	WIN	iPKP	14 07 08.0	124		USCGS H=13 48 14.1 30.7S 178. 2W. Kermadec I's. h=65 mag 4.9.
22	WIN	iPKP2	10 49 51.0	150	C	USCGS H=10 30 03.0 53.5N 165.
	PRE	iPKP2	51.0	153	C	3W Fox I's Aleutian I's. h= 69 mag. 5.0
22	PRE	iPeP	12 21 15.9	72	C	
	WIN	iPeP	22 07.5	81	C	USCGS H= 12 09 52.3 8.8N 93.7 E. Nicobar I's reg. h=36 mag 4.9.
22	WIN	t	19 21 00			
22	KIM	i	19 30 36		C	
23	WIN	iPP	20 55 14.5	38	R	USCGS H=20 47 56.7 1.6S 15.6W N. Ascension I's. h=33 mag 5.1
	PRE	iP	56 38.0	47	D	
24	PRE	iPKP	03 24 31.0	126		USCGS H= 03 05 39.0 41.4 N. 141.9 E Hokkaido Japan reg. h=69 mag. 5.7.
24	WIN	iP	09 37 09.5	44		USCGS H=09 29 12.3 0.6S 21.0 W Central Mid-Atlantic ridge h= 33 mag. 4.9.
	KIM	iP	38 19	52		
	PRE	iP	30.5	53		
	GRH	iP	57	55		
	PIE	t	39 00			
25	PRE	iP	02 01 27.7	76	D	USCGS H=01 50 19.4 36.6 N 71. 3E Afghanistan-U.S.S.R. border region. h=281 mag. 5.7.
	PIE	iP	39	78	C	
	WIN	iP	50.0	80		
	KIM	iP	51	80		
	GRH	t	02 00			
25	PRE	iPn	03 02 31.9	1280km	D	Probably Mocambique channel.
		iSn	04 25.7			
	WIN	i	(43.0)			
26	PRE	e	02 20 (21.2)			
28	WIN	t	10 18 00			
28	WIN	iPKP2	14 12 40.0	154	C	USCGS H=13 52 58.3 52.4 N 169.5W Fox I's Aleutian I's h= 47.
	KIM	iPKP2	47	154		
	PIE	iPKP2	(54)	154		
	GRH	iPKP2	(54)	154		
28	WIN	iPKP2	14 25 44.9	154		USCGS h=14 05 58.1 52.3 N 169.
	PRE	iPKP2	45.5	154	D	5W Fox I's Aleutian I's h=54 mag 5.0.
	KIM	t	26 00			

January 1967 cont, h. m. s. Arc. R(3)

Date	Station	Phase	G.	M.	T.	Dist.	C
28	PRE	i	14	52	45.0		R
	WIN	t		33	00		
28	WIN	i	14	43	08.5		
	PRE	i			15.0		R
28	PRE	i	14	50	13.5		
	WIN	i			13.5		R
28	PRE	i	15	01	11.0		R
28	PRE	i	15	54	08.5		C
28	WIN	iPKP ₂	16	51	10.0	154	
	PRE	iPKP ₂			11.5	154	D
28	WIN	i	17	39	21.0		C
	PRE	i			22.0		R
28	PRE	i	17	43	22.4		R
	WIN	i			22.5		R
28	KIM	i	17	51	19		R
28	WIN	i	18	01	44.0		C
28	PRE	i	21	01	22.0		C
28	PRE	t	21	23	00		
28	PRE	iPP	22	50	27.5	135	R
29	PRE	i	04	03	51.0		R
29	PRE	i	07	23	28.0		R
	WIN	t		24	00		
29	PRE	i	08	06	31.0		
	WIN	i			53.0		R
	GRH	i		07	23		
29	PRE	i	09	43	29.0		C
29	PRE	i	12	29	54.5		R
30	PRE	i	01	31	28.0		C
	WIN	i			30.5		CC
30	PRE	i	21	17	55.0		C
31	PRE	i	19	10	18.0		R

Remarks.

USCGS H=16 31 21.1 52.3N 169.3W Fox I's Aleutian I's h=50 mag. 5.6.

USCGS H=22 28 01.2 55.0 N 160.2E Kamchatka. h=113 mag 5.1

H.O. Oliver.
Winifred Wagner.

-- FEB 1967

*S. Africa
Feb. 1967*

Geological Survey Office,
Department of Mines,
P.O. Box 401,
Pretoria,
Republic of South Africa.

Seismological Bulletin.

The data herewith give the results from a network of seismographs intended particularly for the study of earthquakes occurring in or near South Africa. This bulletin, however, is prepared regularly and will be sent to interested organizations on request.

<u>Stations</u>	<u>Lat:</u>	<u>Long:</u>	<u>Height</u>	<u>Instrument</u>
Pretoria (PRE)	25°45.2'S	28°11.4'E	1350m.	Vertical S.P.(1.0sec.)seis mometer:Geotech Model 11051 Two horizontal S.P.(1.0sec)seismometers Geotech Model 1101 Vertical L.P.(30sec) Seismometer: Spre -gnether Two horizontal L.P.(30sec) Seismometers Sprengnether Galvanometers for SP System, 0.75sec Galvanometers for LP System, 100.0sec.
			<u>Lithologic Foundation</u>	
			Weathered shale	

Seismological Officer: The Director, Geologic
-al Survey, P.O. Box 401, Pretoria.

Windhoek (WIN)	22°34'S	17°06'E	<u>Height</u> 1728m.	<u>Instrument</u> : Same as Pretoria.
			<u>Lithologic Foundation</u>	
			Micha Schist	

Seismological Officer: Officer in charge
Weather Office.

Grahamstown (GRH)	33°18.6'S	26°34.5'E	<u>Height</u> 558m	<u>Instrument</u> : Benioff S.P. vertical with short and long period recorders
			<u>Lithologic Foundation</u>	<u>Seismological Officer</u> : Professor of Physics Rhodes University.
			Dwyka Shale	

Pietermaritzburg. (PIE)	29°37.2'S	30°23.8'E	<u>Height</u> 656m.	<u>Instrument</u> : Benioff S.P. vertical
			<u>Lithologic Foundation</u>	<u>Seismological Officer</u> : Professor of Physics Natal University.
			Soft Ecca Shale	

Kimberley (KIM)	28°45.1'S	24°46.8'E	<u>Height</u> 1321m	<u>Instrument</u> : Benioff S.P. Vertical
			<u>Lithologic Foundation</u>	<u>Seismological Officer</u> : Rev. Br. N.G. Alter. Christian Brothers College.
			Dolerite boulders embedded in decayed dolerite.	

Data are occasionally reported herein by courtesy of the Republic Observatory, Johannesburg, which operates a 200kg. Wiechert Horizontal seismograph. This station is called J, and is at 26°10.9'S, 28°04.5'E, height 1806 metres.

All times given are G.M.T.

The supervision of this network and bulletin is at present in the hands of the undersigned, to whom all enquiries should be addressed.

Address
Bernard Price Institute Of Geophysical Research,
University of the Witwatersrand,
Jan Smuts Avenue,
Johannesburg, South Africa.

H.O. Oliver.
Seismological Officer.

February 1967.

Date	Station	Phase	h. m. s. G. M. T.	Arc Dist. /C	Remarks.
1	PRE	i	01 02 14.0	C	
1	WIN	iP	14 56 34.0	83	USCGS H=14 44 07.7 16.7S 72.7W near coast of Peru h=41 mag 4.9.
1	WIN	iPcP	23 57 38.5	76	USCGS H=23 46 09.5 22.0S 66.7W
1	KIM	iP	58 04	80	Juy Juy Prov. Argentina h=210
	PRE	iP	24.0	84	mag 4.7
	GRN	t	59 00		
2	KIM	iPP	06 34 00	45	USCGS H=06 25 49.8 57.9S 25.7
	WIN	iPcP	12.0	46	W.S. Sandwich I's. h=81 mag 5.8.
	PRE	iP	32.0	50	C
2	PRE	t	07 50 00.0		
2	WIN	t	51 00.0		
2	WIN	t	09 14 00.0		
2	PRE	iPKP	16 43 15.0	124	USCGS H=16 24 39.1 41.6 N 139.7
2	WIN	iPKS	18 40 01.0	129	USCGS H= 7E Hokkaido Japan
3	PIE	iP	12 59 16	78	18 18 17.4 4.3 S 153.7E New Ireland reg. h=247 mag 5.0.
	PRE	iP	25.5	81	USCGS H=12 48 09.2 5.6 S 110.5
	KIM	iP	41	83	E Java Sea h= 560 mag 5.4.
	WIN	iP	13 00 16.5	90	
3	WIN	iPcP	23 37 22.0	77	USCGS H=23 25 47.8 21.5S 67.1W
	PRE	iP	38 06.0	85	Chile Bolivia border region
5	PRE	i	03 13 28.2		h= 198 mag 5.1
5	WIN	iPn	10 22 59.0	930km	Barotseland, Katima Mulilo region.
		iSi	25 13.0		
	PRE	iPn	23 09.2	1000km	
		iSi	25 35.5		
5	KIM	t	26 00		
	WIN	i	19 02 16.0		
	KIM	i	03 31		
	PRE	i	44.0		
6	PRE	iPKP2	03 46 03.0	146	USCGS H=03 26 35.4 60.1 N 152.8 W S. Alaska h= 110 mag 4.9
7	PRE	t	06 34 00		
7	WIN	iPKP	08 47 55.0	131	USCGS H=08 28 57.9 13.9 N 144.8E Mariana I's h=138 mag 5.4.
7	WIN	iPKP1	15 12 47.0	148	USCGS H=14 53 13.9 56.7N 157.2W Alaska Peninsula h= 67 mag 5.6
	PRE	iPKP	51.5	150	
	KIM	iPKP	13 (03)	154	
	PIE	iPKP1	04	155	
7	PRE	t	15 44 00		
8	KIM	t	00		
8	WIN	t	15 43 00		
8	PRE	t	15 56 00		
8	PRE	iP	17 29 54.0	82	USCGS H=17 17 45.7 23.2 N 93.9
	WIN	iP	30 32.0	89	E Burma India border h=33 mag 5.1
9	PRE	i	03 25 (03.5)	740 km	
		i	26 49.0		
	WIN	i	58.0		
9	WIN	iP	14 18 44.0	64	Probably Mocambique. USCGS H=14 08 18.7 40.0 N 20.3
	PRE	iP	19 07.0	67	E Greece Albania border h=33 mag 5.6
	KIM	iP	24	70	
9	WIN	iP	15 37 56.0	92	USCGS H=15 24 47.2 2.9N 74.9 W
	KIM	iP	38 26	99	Colombia h= 58 mag 6.3
	PRE	iP	(53.0)	101	
9	PIE	t	23 00 00		
	WIN	t	00		
11	PRE	i	22 58 28.0		
12	KIM	i	10 24 20		
	PRE	i	31.0		
12	PRE	i	11 59 27.0		
	KIM	t	12 00 00		

February 1967 cont. h. m. s. Arc. : R (5)

Date	Station	Phase	G	M	T	Dist	/C	Remarks
12	WIN	iP	14	20	21.0	79	D	USCGS H=14 08 12.5 21.7 S 70.1
	KIM	iP			43	83		W near coast N. Chile h=18 mag
	PRE	iP		21	03.0	87	D	5.5.
12	PRE	iPn	15	08	35.7	370km		B.P.I. H=15 07 46. Between Bloemfontein and Brandfort. Orange Free State.
		iPi			(44.5)			
		iSn		09	15.0			
		iSi			28.0			
	PIE	iPn		08	43			
		iSn		09	24			
	GRH	iPn		(08 59)	no time signals.			
13	PRE	iPKP2	10	27	21.5	151		USCGS H=10 07 34.5 52.5 N 169.6 W. Fox I's Aleutian I's h= 51 mag 4.5.
13	WIN	iP	23	27	08.0	89		USCGS H=23 14 19.6 52.7 N 34.1 W North Atlantic Ocean
	PRE	iP			48.0	95		
	KIM	t			28 00			
14	PRE	iP	01	47	58.0	78	C	USCGS H= 01 36 04.7 13.7 N 96.5E Andaman I's reg. h= 27 mag 6.8
	PIE	iP			58	77		
	GRH	t			48 00			
	KIM	iP			20	82	C	
	WIN	iP			44.5	86	C	
14	WIN	i	05	20	42.5			
		i		23	29.0			
14	PRE	iPn	17	43	30.0	1260km		
		iSi			43 35.0			
	WIN	iPn		45	02.0			
		iSi			50 09.0			
	KIM	t			48 00			
14	PRE	t	22	20	00			Probably Aleutian I's.
	WIN	t			25 00			
15	PRE	i	01	57	51.5		R	
	WIN	i			58 005.0			
15	PRE	iPcP	06	09	29.0	79	C	USCGS H=05 57 24.6 20.4 N 94.1E
	WIN	iPcP		10	09.5	86	C	Burma h=10 mag 5.5
15	WIN	t	13	11	00			
15	WIN	iP	16	22	46.5	86		USCGS H=16 11 11.8 9.0 S 71.3 W. Peru Brazil border region h= 597 mag 5.2
	KIM	iP		23	14	91		
	PRE	iP			29.5	95		
	PIE	iP			38	96		
15	WIN	t	13	52	00			
17	KIM	i	10	29	51		R	
	PRE	i			55.0		R	
17	WIN	i			30 08.0			
19	PRE	iPKP2	21	49	30.5	154	C	USCGS H=21 29 42.4 52.4 N 169.5 W Fox I's Aleutian I's. h=48 mag 4.6
19	PIE	iP	22	26	32	79		USCGS H=22 14 35.3 9.2S 113.1 E s. Java h=80 mag 6.2.
	PRE	iP			45.5	82	C	
	KIM	iP			59	84	D	
	WIN	iP		27	38.0	92	C	
19	PRE	iP	23	41	43.0	96		USCGS H=23 28 28.0 0.0 S 124.2E Molucca Sea h= 101 mag 5.7
20	PRE	iPcP	15	30	15.6	75	R	USCGS H= 15 18 39.9 33.7N 75.3 E E. Kashmir h=24 mag 5.7
20	WIN	iP			42.5	80		
22	PRE	t	23	37	00			
23	WIN	i	19	09	17.0		R	
	KIM	i			42		R	
	PRE	i			47.5			
	PIE	i			56			
23	PRE	i	22	44	22.0			
	WIN	t			45 00			
23	PIE	i	22	50	19			
23	PRE	i	22	51	10.5			
	WIN	t			53 00			
25	PRE	iP	11	34	05.5	95		USCGS H= 11 20 47.4 0.0S 123.9 E N. Celebes h= 70 mag 5.8

(6)

February continued. 1 1967

Date	Station	Phase	G. M. T.	Arc Dist.	R/C	Remarks.
25	PRE	iP	11 52 01.0	95		USCGS H= 11 38 46.0 0.1 S 123.9 E. N. Celebes h= 105 mag 5.7.
26	PRE	iPcP	04 10 47.0	86	R	USCGS H= 03 57 57.7 49.8 N 78.1 E E. Kazakh S.S.R. h=0 mag 6.0
27	PIE	i	20 41 08			
	KIM	i	38			
	PRE	i	42 01.5			

H.O. Oliver.

Winifred Wagner.

South Africa
Jan. 1967
Mar.

-- MAR 1967

Geological Survey Office,
Department of Mines,
P.O. Box 401,
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Republic of South Africa.

Seismological Bulletin.

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Pretoria (PRE)	25°45.2'S	28°11.4'E	1350m.	Vertical S.P.(1.0sec.)seis mometer: Geotech Model 1051 Two horizontal S.P.(1.0sec)seismometers Geotech Model 1101 Vertical L.P.(30sec) Seismometer: Spreng -gnether Two horizontal L.P.(30sec) Seismometers Sprengnether Galvanometers for SP System, 0.75sec Galvanometers for LP System, 100.0sec.
			<u>Lithologic Foundation</u> Weathered shale	

Seismological Officer: The Director, Geologic
-al Survey, P.O. Box 401, Pretoria.

Windhoek (WIN)	22°34'S	17°06'E	Height 1728m.	<u>Instrument</u> : Same as Pretoria.
			<u>Lithologic Foundation</u> Micha Schist	

Seismological Officer: Officer in charge
Weather Office.

Grahamstown (GRH)	33°18.6'S	26°34.5'E	Height 558m	<u>Instrument</u> : Benioff S.P. vertical with short and long period recorders
			<u>Lithologic Foundation</u> Dwyka Shale	<u>Seismological Officer</u> : Professor of Physics Rhodes University.

Pietermaritzburg. (PIE)	29°37.2'S	30°23.8'E	Height 656m.	<u>Instrument</u> : Benioff S.P. vertical
			<u>Lithologic Foundation</u> Soft Ecca Shale	<u>Seismological Officer</u> : Professor of Physics Natal University.

Kimberley (KIM)	28°45.1'S	24°46.8'E	Height 1321m	<u>Instrument</u> : Benioff S.P. Vertical
			<u>Lithologic Foundation</u> Dolerite boulders embedded in decayed dolerite.	<u>Seismological Officer</u> : Rev. Br. N.G. Alter. Christian Brothers College.

Data are occasionally reported herein by courtesy of the Republic Observatory, Johannesburg, which operates a 200kg. Wiechert Horizontal seismograph. This station is called J, and is at 26°10.9'S, 28°04.5'E, height 1806 metres.

All times given are G.M.T.

The supervision of this network and bulletin is at present in the hands of the undersigned, to whom all enquiries should be addressed.

Address
Bernard Price Institute Of Geophysical Research,
University of the Witwatersrand,
Jan Smuts Avenue,
Johannesburg, South Africa.

H.O. Oliver.
Seismological Officer.

March 1967. h, m, s. Arc. R/ (7)

Date	Station	Phase	G.	M.	T.	Dist.	C	Remarks.
1	PRE	iPKP2	22	36	11.0	149	D	USCGS H=22 13 30.4 51.4N 179.3W Andreevof I's Aleutian I's. h=33 mag 5.3.
3	PRE	i	06	32	23.1		R	
3	PRE	t	20	06	00			
4	WIN	t	06	35	00			
4	PRE	iPKP2	15	19	28.9	152	C	USCGS H=14 59 39.2 52.1N 170.5W Fox I's Aleutian I's h=42 mag 4.3
4	WIN	iP	18	08	23.5	63	D	USCGS H= 17 58 06.4 39.2N 24.6E
	PRE	iP			42.9	66	C	Aegean Sea h=33.
	KIM	iP		09	00	68	D	
	PRE	t		10	00			
	GRH	t			00			
5	WIN	i	11	26	02.0			
6	PRE	iPKP1	11	55	07.5	151	C	USCGS H=11 36 37.0 52.4N 169.6W Fox I's Aleutian I's h=12 mag 3.9. Probably Honshu Japan
7	WIN	t	11	51	00			
7	PRE	t	12	00	00			
9	WIN	i	05	00	37.0		R	
9	PRE	t	21	16	00			
11	PRE	t	03	44	00			Probably Hindu Kush region
11	PRE	t	08	53	00			Probably Santa Cruz I's.
11	PRE	i	13	34	(15.0)			
11	PRE	iPcP	17	09	23.5	84		USCGS H=16 56 48.7 28.4 N 94.4E India-China border region h=7 mag 5.3.
11	PRE	iP	19	42	15.4	47	D	USCGS h=19 33 48 19.6N 39.0 E
12	PRE	t	04	07	00			Red Sea. h= 33 mag 4.9
13	PRE	i	03	33	29.0			
13	PRE	t	15	04	00			Probably Fox I's Aleutian I's.
	WIN	t			00			
13	PRE	i	15	19	07.0		C	
13	WIN	iPcP	13	18	47.0	73	C	USCGS H= 16 06 54.3 40.1S 74.5W off coast S. Chile h= 33 mag 6.0
13	PRE	iP	19	30	45.0	47	C	USCGS H=19 22 15.4 19.7 N 38.9 E
	WIN	iP			50.5	48	C	Red Sea h= 7 mag 5.8
	KIM	iP		31	13	51	C	
14	PRE	iP	07	10	36.0	85	C	USCGS H=06 58 04.6 28.4 N 94.3 E
14	WIN	t	22	11	00			India-China border region. h=24 mag 5.9.
15	PRE	iP	22	11	03.5	50		USCGS H=22 02 10 59.5 S 26.1 W S. Sandwich I's. region. h= 33 mag 5.7.
16	PRE	iP	03	20	05.0	47	C	USCGS H=03 11 59 19.5 N 38.9 E Red Sea h=33 mag 5.4
16	PRE	i	23	27	18.0		C	
17	PRE	t	22	18	00			
18	PRE	i	01	24	14.5			
19	WIN	t	01	21	00			Probably Banda Sea.
	GRH	t		25	00			
19	PRE	iPKP	04	20	46.5	132		USCGS H=04 01 36.7 45.4 N 151.3 E Kurile I's. h=33
	PRE	t		21	00			
19	PRE	i	11	13	23.0			
19	PRE	iPKP1	17	44	50.5	151	D	USCGS H=17 25 10.5 51.9N 180.0 E Rat I's Aleutian I's. h=18 mag 4.9
20	PRE	iPKP	13	50	(42.9)	133		USCGS H=13 31 34.0 45.3 N 151.4 E Kurile I's h=51 mag 5.7
22	WIN	iPcP	21	26	07.0	46	D	USCGS H= 21 17 34 56.1 S 27.6 W S. Sandwich I's reg. h=23 mag 5.4.
	KIM	iPcP		27		46		
	PRE	iP			29.2	50	D	
23	PRE	i	02	55	02.5			
	WIN	i		56	(07.0)			
24	PRE	iP	09	11	40.0	82	C	USCGS H=09 00 19.5 6.0 S 112.3 E Java Sea h= 600 mag 6.0

(8)

March 1967 continued.

Date	Station	Phase	h. G.	m. M.	s. T.	Arc Dist.	R/C	Remarks.
24	GRN	iP	09	11	48	83	D	USCGS H= as on page 7.
	KIM	iP			55	85	D	
	WIN	iP		12	30.0	92	C	
24	PRE	iP	11	57	34.0	82	C	USCGS H=11 46 13.9 6.0 S 112.3 E
	KIM	iP			49	85		Java Sea h= 600 mag 5.3
	WIN	iP		58	24.0	92	C	
25	PRE	iP	12	30	34.5	84	D	USCGS H=12 18 23.9 23.1 S 66.4 W
26	PRE	i	20	42	55.0	8	R	Juy Juy Prov. Argentine h=202
26	PRE	i	20	59	21.3	6	C	mag 4.8
27	WIN	i	08	21	15.4			
27	WIN	iP	08	38	09.0	86	C	USCGS H=08 26 34.5 8.9S 71.3 W.
27	WIN	i	08	40	18.0	8	C	Western Brazil h= 60 mag 5.3
27	PRE	i	20	02	10.5			
28	PRE	t	00	04	00			Probably Aegean Sea.
	WIN	t			07 00			
	KIM	t			10 00			
28	WIN	t		14	00 00			
29	PRE	t		05	53 00			
29	PRE	i	09	39	22.5	8	C	
30	PRE	iP	02	20	25.0	83	C	USCGS H=02 08 00.4 11.0 S 115.5E
	KIM	iP			37	85	D	S. of Bali I's. h= 33 mag 6.0
	WIN	iP		21	16.5	93		
30	WIN	i	14	12	005.0			
		i		15	02.0			
31	WIN	iPKP ₂	02	32	08.4	152		USCGS H=02 12 17.8 52.1 N 169.7
	PRE	iPKP ₂			08.6	153		W. Fox I's Aleutian I's. h= 28 mag 4.8.

 H.O. Oliver.
 Winifred Wagner.

-- APR 1967

S. Africa
Apr 1967

Geological Survey Office,
Department of Mines,
P.O. Box 401,
Pretoria,
Republic of South Africa.

Seismological Bulletin.

The data herewith give the results from a network of seismographs intended particularly for the study of earthquakes occurring in or near South Africa. This bulletin, however, is prepared regularly and will be sent to interested organizations on request.

<u>Stations</u>	<u>Lat:</u>	<u>Long:</u>	<u>Height</u>	<u>Instrument</u>
Pretertia (PRE)	25°45.2'S	28°11.4'E	1350m.	Vertical S.P.(1.0sec.)seis mometer:Geotech Model 11051 Two horizontal S.P.(1.0sec)seismometers Geotech Model 1101 Vertical L.P.(30sec) Seismometer: Spre -gnether Two horizontal L.P.(30sec) Seismometers Sprengnether Galvanometers for SP System,0.75sec Galvanometers for LP System, 100.0sec.
			<u>Lithologic Foundation</u> Weathered shale	

Seismological Officer: The Director, Geologic
-al Survey, P.O. Box 401, Pretoria.

Windhoek (WIN)	22°34'S	17°06'E	Height 1728m.	<u>Instrument</u> : Same as Pretoria.
			<u>Lithologic Foundation</u> Micha Schist	

Seismological Officer: Officer in charge
Weather Office.

Grahamstown (GRH)	33°18.6'S	26°34.5'E	Height 558m	<u>Instrument</u> : Benioff S.P. vertical with short and long period recorders
			<u>Lithologic Foundation</u> Dwyka Shale	<u>Seismological Officer</u> : Professor of Physics Rhodes University.

Pietermaritzburg. (PIE)	29°37.2'S	30°23.8'E	Height 656m.	<u>Instrument</u> : Benioff S.P. vertical
			<u>Lithologic Foundation</u> Soft Ecca Shale	<u>Seismological Officer</u> : Professor of Physics Natal University.

Kimberley (KIM)	28°45.1'S	24°46.8'E	Height 1321m	<u>Instrument</u> : Benioff S.P. Vertical
			<u>Lithologic Foundation</u> Dolerite boulders embedded in decayed dolerite.	<u>Seismological Officer</u> : Rev. Br. N.G. Alter. Christian Brothers College.

Data are occasionally reported herein by courtesy of the Republic Observatory, Johannesburg, which operates a 200kg. Wiechert Horizontal seismograph. This station is called J, and is at 26°10.9'S, 28°04.5'E, height 1806 metres.

All times given are G.M.T.

The supervision of this network and bulletin is at present in the hands of the undersign-
-ed, to whom all enquiries should be addressed.

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University of the Witwatersrand,
Jan Smuts Avenue,
Johannesburg, South Africa.

H.O. Oliver.
Seismological Officer.

APRIL 1967		h. m. s.			Arc. (°) / R	C	Remarks
Date	Station	Phase	G.	M.	T.		
1	PRE	t	06	14	00		Probably Kurile Islands
1	PRE	iPKP	12	42	43.7	132	D 12.23.35.5 45.7 N 151.8E Kutile Is.
	KIM	t		43	00		h=40 mag.5.9 USCGS H
	WIN	t			00		
1	PRE	i	23	55	45.7		R
2	PRE	t	22	51	00		
3	PRE	iPKP ₂	15	53	41.4	153	USCGSH=15 33 53.8 52.4N 169.6W Fox Is. Aleutian Is. h=46 mag.4.4
5	PRE	iPKP	02	53	07.4	124	D USCGS H=02.34.11.1 20.0N 147.1E Mariana Is. region h=50 mag. 5.9
5	PRE	i	03	06	51.4		
5	PRE	i	14	00	07.4		C
	KIM	t			00		
6	PRE	iPKP	12	40	56.0	124	USCGS H=12 21 57.0 20.1N 147.2E Mariana Is. region h=22 mag.5.7
	WIN	t		41	00		
6	WIN	e	12	42	31.5		
6	PRE	iP	13	07	18.5	61	USCGS H=12 57 14.0 30.1N 50.9E Iran h=10 mag.5.4
	KIM	iP			44	65	
7	PRE	iPcP	18	44	01.0	50	R USCGS H=18 33 31.3 37.4N 36.2E Turkey h=39 mag.5.0
	WIN	t			00		
9	WIN	i	09	19	31.5		
10	WIN	i	15	25	16.0		R
10	PRE	iPKP ₂	20	17	09.9	149	USCGS H=19 57 34.4 58.6N 154.3W Alaska Peninsula h=86 mag.5.5
	KIM	iPKP ₂			(11)	155	
10	WIN	iP	21	08	11.5	90	D USCGS H=20 55 21.0 19.3N 63.6W Lee-ward Is. h=33 mag.4.8
10	WIN	i	22	11	52.0		C
11	PRE	i	03	21	07.0		R
12	PRE	iPcP	05	03	04	73	USCGS H=04 51 40.2 5.3N 96.5E North Sumatra h=55 mag.6.1
	PRE	iPcP			08.0	74	R
12	WIN	iP			59.9	83	D
12	PRE	i	05	29	35.0	74	R
12	WIN	iPn	10	23	20.5	530km	D S.W.A. Angola Border region
		iP ₁			34.0		
		iSn			24(15.0)		
		iSi			31.0		
	KIM	iPn			(12)		
		iSi			26(10)		
	PRE	iPn	29	45	0	1280km	Mag.5 1/2
		iSn			31 41.0		
		iSi			52 53.0		
12	WIN	i	14	17	28.5		C
12	WIN	t	14	59	00		
12	WIN	t	15	04	00		
12	WIN	t	15	09	00		
12	PRE	i	19	45	15.0	50	USCGS H=19 28 55 14.4 N 56.7E Arabian sea h= 33 mag. 4.7
	WIN	i		46	07.5		
12	WIN	iP	21	34	08.1	78	D USCGS H=21 22 09.3 35.5 S 73.3 W off coast Central Chile h=12 mag.5.3
	PRE	iP			41.0		
13	WIN	iPKP ₂	14	46	37.5	149	D USCGS H=14 26 49.5 7.0 S 151.0 W Line Is. region h=33 mag. 4.7
13	PRE	iPn	18	13	27	130km	B.P.I. H= 18 13 07 29.45S 29 E Underberg region Natal Lesotho border mag.4.2
		iSn			(41)		
	PRE	iPn	14	07	5	440km	
		iSn			50.0		
		iSi			15 07.5		
	KIM	iSn	14	47		440km	
		iSi			15 06		
	GRH	iPn			14(19)		
	WIN	iPn			15 16.0		
19	WIN	iP	02	53	48.0		C
		iS			57 20.0		
19	PRE	i	07	25	56.9		
	KIM	t			00		
19	KIM	t	13	29	00		
20	PRE	iPn	02	53	09.0	1020km	Unimwe region Rhodesia
		iSn			54 42.5		
		iSi			55 35.0		
	KIM	iPn	53	51		1440km	
		iSn			56 01		
		iSi			57 12		
	PRE	iSn			40		



April 1967 continued.

Date	Station	Phase	G. M. T. Arc.	R/	Remarks
			h. m. s. Dist.	C	
22	PRE	i	13 16 07.6	C	
	KIM	i	28	C	
	WIN	i	59.0	R	
23	KIM	i	09 49 49		
23	KIM	i	20 31 27		
24	PRE	i	16 46 03.0	R	
24	PRE	iP	16 41 55.5	50 D	USCGS H= 16 33 13.6 56.3S 26.9W S. Sandwich IS. h=118 mag.5.1
24	PRE	t	20 47 00		
25	WIN	iPcP	10 47 54.0	76 R	USCGS H= 10 36 14.3 32.9S 69.0 W
	PRE	iPcP	48 32.0	77	Mendoza Prov. Argentina h= 39 mag. 4.7
26	PRE	i	13 22 05.5		
	KIM	t	00		
27	PRE	i	10 34 24.0		
27	PRE	t	16 25 00		
27	PRE	i	23 38 (29.0)		
28	KIM	i	04 15 10	C	
28	PRE	i	16 25 35.5		
29	PRE	t	24 25 00		
29	PRE	iPKP2	04 15 01.4	148 D	USCGS H=03 55 20.8 51.4 N 178.3
	WIN	iPKP2	05.0	151 D	W Andreanof Is. Aleutian Is. h=
	PIE	t	16 00		50 mag.6.0
29	KIM	i	07 26 42		
29	PRE	iPKP2	12 45 13.0	148 D	USCGS H=12 25 32.7 51.5 N 178.
	WIN	iPKP2	16.0	153	2 W Andreanof Is. Aleutian Is.
	PIE	iPKP2	23	157	h=51 mag.5.3
	KIM	iPKP2	23	157	
30	WIN	i	07 36 005.0	C	
	PRE	i	40.5	C	

H.O. OLIVER
Winifred Wagner

-- MAY 1967

South Africa



From the ISC collection scanned by SISMOS

Geological Survey Office,
Department of Mines,
P.O. Box 401,
Pretoria,
Republic of South Africa.

P/6

Seismological Bulletin.

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<u>Stations</u>	<u>Lat:</u>	<u>Long:</u>			
Pretoria (PRE)	25°45.2'S	28°11.4'E	<u>Height</u> 1350m.	<u>Instrument</u> Vertical S.P.(1.0sec.)seis mometer: Geotech Model 11051	
			<u>Lithologic</u> <u>Foundation</u>	Two horizontal S.P.(1.0sec)seismometers Geotech Model 1101	
			Weathered shale	Vertical L.P.(30sec) Seismometer: Spreng- nether	
				Two horizontal L.P.(30sec) Seismometers Sprengnether	
				Galvanometers for SP System, 0.75sec	
				Galvanometers for LP System, 100.0sec.	

Seismological Officer: The Director, Geologic-
al Survey, P.O. Box 401, Pretoria.

Windhoek (WIN)	22°34'S	17°06'E	<u>Height</u> 1728m.	<u>Instrument</u>	
			<u>Lithologic</u> <u>Foundation</u>		Same as Pretoria.
			Micha Schist	<u>Seismological Officer</u> : Officer in charge Weather Office.	
Grahamstown (GRH)	33°18.6'S	26°34.5'E	<u>Height</u> 558m	<u>Instrument</u>	Benioff S.P. vertical with short and long period recorders
			<u>Lithologic</u> <u>Foundation</u>	<u>Seismological Officer</u> : Professor of Physics Rhodes University.	
			Dwyka Shale		

Pietermaritzburg. (PIE)	29°37.2'S	30°23.8'E	<u>Height</u> 656m.	<u>Instrument</u>	Benioff S.P. vertical
			<u>Lithologic</u> <u>Foundation</u>	<u>Seismological Officer</u> : Professor of Physics Natal University.	
			Soft Ecca Shale		

Kimberley (KIM)	28°45.1'S	24°46.8'E	<u>Height</u> 1321m	<u>Instrument</u>	Benioff S.P. Vertical
			<u>Lithologic</u> <u>Foundation</u>	<u>Seismological Officer</u> : Rev. Br. N.G. Alter. Christian Brothers College.	
			Dolerite boulders embedded in decayed dolerite.		

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Johannesburg, South Africa.

H.O. Oliver.
Seismological Officer.

May 1967		h. m. s.			Arc.	(11-)	Remarks.
Date	Station	Phase	G. M. T.	Dist.	C		
1	PRE	iP	07 19 44.4	67		USCGS H=07 09 00.5 39.7 N 21.3 E Greece h=15 mag 5.6	
	KIM	iP	20 01	70			
3	WIN	t	16 47 00				
	PRE	t	48 00				
4	PRE	iP	05 26 38.0	153	D	USCGS H= 05 09 05 52.6 N 169.1 W Fox I's Aleutian I's h=33 mag.4.1	
4	KIM	iP	08 25 54	45		USCGS H=08 17 32.1 55.7 S.27.9 W S. Sandwich I's. region h=33 mag. 5.8	
	WIN	iP	26 02.5	46			
	PIE	iP	13	48			
	PRE	iP	26.4	50	D		
5	WIN	t	17 36 00			Probably Alaska.	
5	PRE	iP	17 49 56.0	77		USCGS H= 17 38 05.3 8.0 S. 107.2 E Java. h= 33 mag.5.3	
5	WIN	t	23 11 00				
6	KIM	iP	08 39 31	45	C	USCGS H= 08 31 16 55.6 S. 26.3 W S. Sandwich I's. h= 33 mag 5.1	
7	PRE	iPKP	07 00 51.0	151		USCGS H=06 41 05.8 52.2 N 171.9 W Fox I's Aleutian I's. h=42 mag. 4.5	
8	WIN	i	12 56 12.5				
8	WIN	t	14 13 00				
8	PRE	i	23 35 12.9				
9	PRE	iPKP	12 56 23.5	151		USCGS H=12 36 36.8 56.6 N 152.6 W. Kodiak I's h=33 mag. 5.0	
10	PRE	t	17 11 00				
			12 00				
11	PIE	iPeP	15 03 (10)	80		USCGS H=14 50 58.8 39.4 N 73.8 E Tadzhik-Sinkiang border region h= 21 mag 5.6	
	KIM	iPeP	19	83			
11	KIM	i	15 17 38		R		
11	PRE	i	15 02 53.5		C		
	WIN	i	03 18.0		R		
11	WIN	i	15 17 15.0				
	GRH	i	42				
	PRE	i	57.9		C		
12	WIN	iPKP	17 18 22	151	C	USCGS H= 16 58 33.2 52.9 N 167.0 W Fox I's Aleutian I's h= 33 mag 4.9	
	PRE	iPKP	24.0	154			
12	PRE	i	19 13 40.5				
12	PRE	iPKP	22 36 38.6	147	D	USCGS H=22 17 09.6 60.1 N 152.6 W S. Alaska h=93 mag.4.6	
13	WIN	iPKP	05 38 31.5	147	C	USCGS H= 05 18 55.4 53.5 N 152.6 W Kodiak I's h= 33 mag 5.3	
14	WIN	iP	08 50 26.5	79	C	USCGS H=08 38 33.1 20.6 S 68.9 W Chile Bolivia border reg. h= 109 mag. 5.2	
	PRE	iP	51 09.0	86	D		
16	WIN	i	08 22 45.0				
	PRE	i	23 03.0				
	KIM	t	00				
17	PRE	i	04 52 47.0				
17	PRE	iP	17 59 05.0	48	D	USCGS H=17 50 39.6 19.7 N 38.7 E h= 38 mag. 5.3	
	WIN	iP	10.6	49	D		
18	WIN	iP	13 01 52.6	47	D	USCGS H= 12 53 20. 59.2 S 25.4 W S. Sandwich I's region h=33 mag. 5.5	
	PRE	iP	02 10.0	49			
18	KIM	i	15 01 37				
19	WIN	t	12 24 00				
20	PRE	iP	08 59 11.5	78		USCGS H= 08 47 19.8 39.2 N 72.8 E Kirgiz S.S.R. h=38 mag.5.1	
20	PRE	i	13 13 19.5				
20	WIN	i	15 13 02.5				
20	PRE	i	15 19 47.0				
	PIE	i	55				
	WIN	t	20 00				
21	PIE	iP	18 56 25	73		RUSCGS H=18 45 11.7 1.0 S 101.5 E S. Sumatra h 173 mag 6.3	
	PRE	iP	34.0	75	C		
	KIM	iP	53	78	D		
	GRH	iP	53				
	WIN	iP	57 28.5	84	C		
23	PRE	i	07 14 19.5			Probably far North	
	WIN	i	56.5				
	KIM	t	20 00				

(12)

ay 1967 continued.		h. m. s. Arc.					
Date	Station	Phase	G. M. T.	Dist.	R/c	Remarks.	
23	KIM	i	14 19 42		C		
	PRE	i		47.5	C		
23	WIN	i	19 26 05.5				
	KIM	i		24			
	PRE	i		29.5	C		
24	PRE	iPn	17 21 53.5		C		Probably Sandwich Islands, Far North
	WIN	iPn		22 58.0	D		
		iSn		28 36.0			
	PIE	t		26 00			
26	PRE	t	09 12 00				Probably far North
26	PRE	i	15 19 48.5				
27	PRE	iPKP2	17 42 31.0	147	D		USCGS H=17 22 58.7 51.9 N 176.1 E Rat I's Aleutian -
	PIE	iPKP2		37 147	C		
	WIN	iPKP2		38.5 148	D		
	KIM	iPKP2		43 150			
	GRH	iPKP2		55 152	D		
27	PRE	iP	19 17 41.2	79			USCGS H=19 05 48.5 36.1 N 77.8 E Kashmir- Sinkiang border region h= 35 mag 5.4
	KIM	iP		18 03 83			
	WIN	iP		10.0 83			
	PIE	t		00			
28	WIN	iPKP1	01 50 34.5	149	D		USCGS H= 01 31 56.7 52.1 N 175.0 E Rat I's Aleutian I's h= 45 mag. 5.2 Probably far North
	PRE	iPKP1		51 26.0 148	C		
28	PRE	t	12 34 00				
	KIM	t		35 00			
30	PRE	iPKP2	10 14 24.5	149	C		USCGS H= 09 54 38.3 50.1 N 176.6 W Andreanof I's Aleutian I's h=30 mag 5.0

H.O.Oliver.
Winifred Wagner.



JUN 1967

JUNE 1967

Geological Survey Office,
Department of Mines,
P.O. Box 401,
Pretoria,
Republic of South Africa.

Seismological Bulletin.

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<u>Stations</u>	<u>Lat:</u>	<u>Long:</u>	<u>Height</u>	<u>Instrument</u>
Pretertia (PRE)	25°45.2'S	28°11.4'E	1350m.	Vertical S.P.(1.0sec.)seis mometer:Geotech Model 11051 Two horizontal S.P.(1.0sec)seismometers Geotech Model 1101 Vertical L.P.(30sec) Seismometer: Spre -gnether Two horizontal L.P.(30sec) Seismometers Sprengnether Galvanometers for SP System,0.75sec Galvanometers for LP System, 100.0sec.
			<u>Lithologic Foundation</u> Weathered shale	

Seismological Officer: The Director, Geologic
-al Survey,P.O. Box 401, Pretoria.

Windhoek (WIN)	22°34'S	17°06'E	Height 1728m.	<u>Instrument</u> Same as Pretoria.
			<u>Lithologic Foundation</u> Micha Schist	<u>Seismological Officer</u> :Officer in charge Weather Office.

Grahamstown (GRH)	33°18.6'S	26°34.5'E	Height 558m	<u>Instrument</u> :Benioff S.P. vertical with shortand long period recorders <u>Seismological Officer</u> :Professor of Physics Rhodes University.
			<u>Lithologic Foundation</u> Dwyka Shale	

Pietermaritzburg. (PIE)	29°37.2'S	30°23.8'E	Height 656m.	<u>Instrument</u> : Benioff S.P. vertical <u>Seismological Officer</u> :Professor of Physics Natal University.
			<u>Lithologic Foundation</u> Soft Ecca Shale	

Kimberley (KIM)	28°45.1'S	24°46.8'E	Height 1321m	<u>Instrument</u> : Benioff S.P. Vertical <u>Seismological Officer</u> : Rev. Br.N.G. Alter.Christian Brothers College.
			<u>Lithologic Foundation</u> Dolerite boulders embedded in decayed dolerite.	

Data are occasionally reported herein by courtesy of the Republic Observatory, Johannesburg, which operates a 200kg. Wiechert Horizontal seismograph. This station is called J, and is at 26°10.9'S , 28°04.5'E , height 1806 metres.

All times given are G.M.T.

The supervision of this network and bulletin is at present in the hands of the undersign
-ed, to whom all enquiries should be addressed.

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Jan Smuts Avenue,
Johannesburg, South Africa.

H.O. Oliver.
Seismological Officer.

(13)

JUNE 1967			h.	m.	s.	Arc.			
Date	Station	Phase	G.	M.	T.	Dist.	R/C	Remarks	
1	WIN	iPKP ₁	03	55	56.5	150	C	USCGS H=03 36 19.0 53.7 N 165.6 W	
	PRE	iPKP ₁		56	05.9	152	D	Fox I's Aleutian I's h=60 mag.5.7	
	KIM	iPKP ₁			06	155			
1	WIN	iP	10	49	30.5	62		USCGS H=10 39 22.8 36.9 N 29.2 E	
	PRE	iP			44.0	63	C	Turkey h=36 mag. 5.0	
1	WIN	i	21	10	12.5				
3	WIN	t	08	29	00				
3	PRE	iPKP ₂	09	28	38.0	149		USCGS H=09 08 56.4 58.4 N 151.2 W	
								Kodiak I's reg. h=33 mag. 5.5	
10	PRE	iPKP ₂	04	09	36.0	153		USCGS H=03 49 47.2 52.7 N 169.1 W	
								Fox I's Aleutian I's. h=32 mag.4.4	
10	WIN	iPcP	05	38	30.5	75		USCGS H=05 26 44.4 41.3 S 73.6 W	
	PIE	iP			55	79		near coast S, Chile h=37 mag.5.7	
	PRE	iP			39 00	80	D		
10	WIN	iP	05	45	09.0	1030km			
		iS			46 52.0				
	PRE	t			48 00				
10	PRE	iPn	15	53	06.5	310km		Traces at all other stations.	
		iPi			14.2				
		iSn			38.5				
		iSi			47.0				
	WIN	iPn		54	23.5	920km			
		iPi			54.0				
		iSi			56 36.5				
12	PIE	iP	05	24	39	40km	C		
		iS			43				
	KIM	i		25	15				
	PRE	i		26	48.5				
12	PRE	t	21	30	00				
12	PRE	iPKP	23	41	56.0	134		Probably Sumatra	
								USCGS H=23 22 45.3 47.4 N 154.3 E	
								Kurile I's h=56 mag.5.4	
13	WIN	i	02	08	(55.0)				
	PRE	i		10	51.0		R		
14	WIN	iP	03	26	43.6	129	D	USCGS H=03 11 59.0 21.2 S 169.6 E	
								Loyalty I's reg. h=33 mag. 4.5	
15	PRE	iP	17	41	30.0	40	D	USCGS H=17 33 57 43.9 S 16.1 W	
	KIM	t			42 00			S. Atlantic Ridge h=33 mag. 5.0	
15	PRE	i	17	51	49.5		C		
16	PRE	iPn	14	53	51.0	1100km		B.P.I. H=14 51 32 Probably S. of S.	
		iPi			53.0			Africa. Indian Ocean. Traces at all	
		iSn			55 33.0			other stations.	
		iSi			56 29.0				
16	PRE	iPi	19	00	(54.2)				
17	GRH	iP	05	08	04		C		
	KIM	iP			22		C		
	WIN	iP			34.5		D		
	PIE	iP			39		C		
	PRE	iP			53.5		D		
19	PRE	i	01	33	56.5		C		
19	WIN	iPKP ₂	17	27	(34.0)	151		USCGS H=17 07 45.4 52.7 N 166.9 W	
	PRE	iPKP ₂			36.3	154		Fox I's Aleutian I's h=33 mag. 5.7	
	PIE	t			28 00				
20	PRE	i	02	29	45.0				
20	PRE	iPKP ₂	05	45	13.9	153		USCGS H=05 25 22.4 52.8 N 167.1 W	
								Fox I's Aleutian I's h=31 mag.4.5	
20	WIN	iPKP ₂	06	40	41.5	151	C	USCGS H=06 20 49.5 52.7 N 166.9 W	
	PRE	iPKP ₂			43.9	153		Fox I's Aleutian I's. h=9 mag.4.5	
20	WIN	iPKP ₂	07	58	37.5	151		USCGS H=07 38 44.9 52.8 N 167.1 W	
	PRE	iPKP ₂			39.5	153		Fox I's Aleutian I's h=11 mag. 5.2	
20	PRE	iPKP ₂	12	45	44.0	153		USCGS H=12 25 50.2 52.8 N 166.9 W	
								Fox I's Aleutian I's h=11 mag. 4.6	
21	PRE	iP	15	58	31.5	100		USCGS H=15 45 28.3 12.7 N 123.1 E	
								Luzon Phillipine I's h=56 mag 5.2	
21	PIE	i	18	24	25				
	PRE	t			25 00				
21	PIE	i	18	32	38				
	PRE	t			33 00				
21	PRE	t	18	45	00				
21	WIN	i	19	31	18				

JUNE 1967 continued.				Arc		R/C	Remarks
Date	Station	Phase	G. M. T.	Dist.			
			h. m. s.				
21	WIN	iPcP	20 21 31.0	78	R		USCGS H=20 09 28.4 25.2 S 70.5 W near coast N. Chile h= 23 mag. 5.7
21	PRE	iP	22 11.0	86			Local
22	WIN	iS	09 30 12				Local
22	PRE	t	31 00				
22	PRE	iPKP2	15 56 19.5	149	D		USCGS H=15 36 38.9 51.7 N 176.8 W Andreev I's Aleutian I's h=54 mag. 5.3
	WIN	iPKP2	22.5	151			
	PIE	iPKP2	24	152			
23	PRE	t	12 00 00				
24	PRE	t	13 03 00				
24	WIN	t	15 06 00				
24	WIN	iS	23 27 23.5				Local
25	WIN	iS	00 28 17.5				Local
25	PRE	i	20 12 35.0				
25	WIN	iPP	21 48 39.5	131			USCGS H=21 27 41.8 33.4 N 141.4 E off coast Honshu Japan h=59 mag. 4.6
25	PRE	t	23 28 00				
26	KIM	i	21 47 34		R		
26	PRE	i	24 28 57.0				
27	PRE	i	17 09 02.5				
27	PRE	i	20 52 40.4				
27	PIE	i	21 47 04				
27	PRE	i	31.0		C		
28	WIN	t	22 51 00				
29	PIE	t	05 13 00				

H.O. Oliver.
Winifred Wagner.

~~JOH~~

W.P. South



~~---~~ AUG 1967

Aug. 67

PHASE DATA INDIC.

Geological Survey Office,
Department of Mines,
P.O. Box 401,
Pretoria,
Republic of South Africa.

Seismological Bulletin.

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<u>Stations</u>	<u>Lat:</u>	<u>Long:</u>	<u>Height</u>	<u>Instrument</u>
Pretoria (PRE)	25°45.2'S	28°11.4'E	1350m.	Vertical S.P.(1.0sec.) seismometer: Geotech Model 1051 Two horizontal S.P.(1.0sec) seismometers Geotech Model 1101 Vertical L.P.(30 ¹⁵ sec) Seismometer: Sprengnether Two horizontal L.P.(30 ¹⁵ sec) Seismometers Sprengnether Galvanometers for SP System, 0.75sec Galvanometers for LP System, 100.0sec.

Seismological Officer: The Director, Geological Survey, P.O. Box 401, Pretoria.

Windhoek (WIN)	22°34'S	17°06'E	Height 1728m.	<u>Instrument</u> : Same as Pretoria.
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Seismological Officer: Officer in charge Weather Office.

Grahamstown (GRH)	33°18.6'S	26°34.5'E	Height 558m	<u>Instrument</u> : Benioff S.P. vertical with short and long period recorders
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Lithologic Foundation: Dwyka Shale
Seismological Officer: Professor of Physics Rhodes University.

Portmaritzburg (PIE)	29°37.2'S	30°23.8'E	Height 656m.	<u>Instrument</u> : Benioff S.P. vertical
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Lithologic Foundation: Soft Ecca Shale
Seismological Officer: Professor of Physics Natal University.

Kimberley (KIM)	28°45.1'S	24°46.8'E	Height 1321m	<u>Instrument</u> : Benioff S.P. Vertical
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Lithologic Foundation: Dolerite boulders embedded in decayed dolerite.
Seismological Officer: Rev. Br. N.G. Alter. Christian Brothers College.

Data are occasionally reported herein by courtesy of the Republic Observatory, Johannesburg, which operates a 200kg. Wiechert Horizontal seismograph. This station is called J, and is at 26°10.9'S, 28°04.5'E, height 1806 metres.

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Johannesburg, South Africa.

H.O. Oliver.
Seismological Officer.

(17)

AUGUST 1967

DATE	STATION	PHASE	h. m. s. G. M. T.	ARC. DIST.	R/C	REMARKS
1	WIN	iPP	01 26 30.5	66	R	USCGS H=01 13 42.6 13.0 S 76.8 W near coast of Peru h= 66 mag. 5.5
3	PRE	t	21 55 00			
3	PRE	iPKP2	21 57 17.5	151	C	USCGS H=21 37 26.7 53.0 N 166.7 W. Fox I's Aleutian I's. h= 29 mag. 4.6
	WIN	t	58 00			
7	PRE	iPKP2	11 34 23.0	147		USCGS H= 11 14 42.7 58.7 N 154.6 W Alas
	KIM	iPKP2	30	151		ka Pen. h= 37 mag. 5.1
9	PIE	i	22 54 19			
	PRE	i	45.0			
	GRH	t	55 00			
9	GRH	iPn	23 12 (37)			
		iSn	13 18			
	PIE	iSi	(50)			
	PRE	t	15 00			
	WIN	t	00			
11	WIN	iPn	03 17 49.0			Balovale region Barotseland
		iSn	19 32.0			
		iSi	20 35.5			
	PRE	iPn	18 13.0			
		iSn	20 17.5			
		iSi	21 35.0			
	PIE	t	23 00			
11	WIN	i	19 16 39.0			
12	KIM	i	09 58(26)			Probably Mozambique
	PRE	i	28.5			
	WIN	i	42		R	
12	PRE	t	11 35 00			
12	PRE	iPeP	23 06 06.5	75	C	USCGS H= 22 54 38.6 37.0 N 71.4 E Af_ghanistan U.S.S.R. border reg. h= 121 mag, 5.1
13	PIE	iP	16 37 47	31		USCGS H= 16 33 04.0 50.9 S 29.1 E. S. of S. Africa h= 33 mag. 5.4
	KIM	iP	57	31	D	
	PRE	iP	38 25.0	35	D	
	WIN	iP	39 07.5	38	D	
13	PIE	iPKP	20 24 56	118	C	USCGS H= 20 06 50.6 35.3 N 135.3 E. S. Honshu Japan h= 357 mag. 6.0
	PRE	iPKP	56.0	119	C	
	KIM	iPKP	25 04	123	D	
13	PRE	i	22 19 21.4		R	
	KIM	i	29		C	
	WIN	i	44.2		C	
	PIE	t	20 00			
13	WIN	iP	23 50 41.3	33	D	USCGS H=23 44 11 7.0 S 12.6 W Ascension I's reg. h= 28 mag. 5.0
	PRE	iP	52 10.5	43	D	
	PIE	t	53 00			
14	PRE	i	06 53 16.0			
15	PRE	iP	09 33 36.0	85	C	USCGS H=09 21 02.3 31.1 N 93.7 E Tibet h= 33 mag. 5.7
15	PRE	i	14 41 (40.5)			
		i	42 19.0			
	WIN	i	44 06.9		O	Probably Far North.

August 1967 cont.

(13)

DATE	STATION	PHASE	h. m. s. G. M. T.	ARC. DIST.	R/C	REMARKS.
16	KIM	iPcP	17 51 04	45		USCGS H= 17 42 55.7 56.2 S 26.9 W S. Sa -ndwich I's. h= 113 mag. 5.4
WIN	iPcP	14.5	46	R		
PRE	iPcP	37.5	49	0		
16	PRE	iPcP	19 30 27.4	74	0	USCGS H= 19 18 57.6 0.9 N 98.9 E N. Sum -atra h= 26 mag. 5.6
16	WIN	iP	31 22.4	84	C	
17	KIM	iP	20 36 52	47	D	USCGS H= 20 28 34 60.3 S 27.0 W S. San- dwich I's h= 98 mag. 5.2
17	PRE	iPKP	23 01 (45.0)	148		USCGS H= 22 42 09.3 59.4 N 151.4 W Kena - i Peninsula Alaska h= 55 mag. 5.0
19	PRE	t	10 02 00			
20	WIN	iP	15 15 22.0	78	C	USCGS H= 15 03 36.2 25.2 S 69.0 W N. C -hile h= 109 mag. 5.6
	KIM	iP	- 42.	82	C	
	PRE	iP	16 02.9	86	C	
21	PIE	iP	07 44 (17)	72		USCGS H= 07 33 00.6 3.6 N 95.8 E off w. coast N. Sumatra h= 33 mag 5.9
	PRE	iP	20.0	73		
	KIM	iP	41	76		
	GRH	iP	(42)	76		
	WIN	iP	45 14.5	82	D	
22	WIN	iPn iSn	02 34 52.0 36 49.5	610km		
	PRE	iP iS	35 03.9 37 06.5	850km		
	KIM	iP iS	35 (26) 37 (58)	1000km		
	PIE	t	39 00			
22	GRH	t	41 00			
22	KIM	iP	13 10 24	45	D	USCGS G= 13 02 06.8 60.8 S 24.6 W S. Sandwich I's region h=33 mag. 6.1
	WIN	iP	37.2	47	C	
	PIE	iP	40	48	C	
	PRE	iP	51.5	50		
	GRH	t	11 00			
23	PIE	iP	12 41 09	60km		Natal Giant's Castle area.
		iS	15			
	PRE	iPn iSn	42 17.0 43 (07.0)	410km		
	KIM	iS	22			
	GRH	iS	(51)			
	WIN	t	48 00			
24	PRE	iPn	10 46 45.5			Probably Mozambique
		iS	49 48.0			
	PIE	iP iS	47 05 49 51			
	KIM	i	47 40			
	WIN	i	48 27.5	R		
24	WIN	iPn	23 18 16.5			Probably the Republic of the Congo
		iPi	21 (14.0)			
	PRE	iPn	18 22.5			
	PIE	t				
	GRh	t				
25	WIN	iPKP2	15 23 07.0	151	D	USCGS H= 15 03 25.1 51.7 N 177 .2 E Rat I's Aleutian I's h=37 mag. 4.8
	KIM	iPKP2	(12)			

AUGUST 1967 cont.

(19)

DATE	STATION	PHASE	H. M. S.		ARC. DIST.	R/C.	REMARKS.
			G.	M. T.			
26	NIN	i	24	55	42.0	C	
	PRE	i		56	21.5		
26	PRE	i	22	04	43.0		
27	GRH	t	14	06	00		
28	PRE	i	15	45	42.5	C	
30	PRE	i	02	35	03.0	C	
30	PIE	i	04	35	04		
	KIM	i			21		
30	WIN	i	12	14	35.0	R	

H.O. Oliver
Winifred Wagner.


 -- OCT 1967

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			<u>Lithologic Foundation</u> Weathered shale	

Seismological Officer: The Director, Geologic-
-al Survey, P.O. Box 401, Pretoria.

Windhoek (WIN)	22°34'S	17°06'E	<u>Height</u> 1728m.	<u>Instrument</u> : Same as Pretoria.
			<u>Lithologic Foundation</u> Micha Schist	

Seismological Officer: Officer in charge
Weather Office.

Grahamstown (GRH)	33°18.6'S	26°34.5'E	<u>Height</u> 558m	<u>Instrument</u> : Benioff S.P. vertical with short and long period recorders
			<u>Lithologic Foundation</u> Dwyka Shale	<u>Seismological Officer</u> : Professor of Physics Rhodes University.

Pietermaritzburg. (PIE)	29°37.2'S	30°23.8'E	<u>Height</u> 656m.	<u>Instrument</u> : Benioff S.P. vertical
			<u>Lithologic Foundation</u> Soft Ecca Shale	<u>Seismological Officer</u> : Professor of Physics Natal University.

Kimberley (KIM)	28°45.1'S	24°46.8'E	<u>Height</u> 1321m	<u>Instrument</u> : Benioff S.P. Vertical
			<u>Lithologic Foundation</u> Dolerite boulders embedded in decayed dolerite.	<u>Seismological Officer</u> : Rev. Br. N.G. Alter. Christian Brothers College.

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H.O. Oliver.
Seismological Officer.

October 1967					(22)				
Date	Station	Phase	h. m. s.	Arc.	R/				
			G. M. T.	Dist.	C.	Remarks.			
3	PRE	i	18 34 46.3		C				
4	PRE	i	01 11 04.2						
4	PRE	iPKP	17 40 05.0	119	C	USCGS H=17 21 07.7 5.7S 153.9E			
	WIN	t	45 00			New Ireland reg. h=52 mag. 6 3/4			
6	PRE	iP	04 07 27.3	40	C	USCGS H=03 59 51.0 10.3S 66.4E			
						Mid Indian Rise h=33 mag. 5.1			
7	WIN	iP	01 25 58.5	79	C	USCGS H=01 14 04.1 23.6S 71.1W			
	KIM	iP	26 16	83		Near coast Central Chile h=42			
	PRE	iP	36.9	87		mag. 5.3			
8	WIN	i	18 30 41.0	128		USCGS H=18 08 18.1 5.6S 154.0E			
						Solomon I's h=70 mag. 5.1			
9	PRE	i	05 04 13.0		C				
9	WIN	i	13 47 (05.4)	128		USCGS H=13 27 56.7 5.7S 154.0E			
						Solomon I's h=41 mag. 4.9			
9	WIN	i	13 50 24.5						
9	WIN	t	17 23 00						
9	PRE	i	17 39 (23.5)						
	KIM	i	39						
		i	41 38						
		i	43 (11)						
	WIN	i	39 (41.0)						
	PIE	i	40 33						
9	PRE	t	23 29 00						
10	PRE	i	12 23 43.0						
12	WIN	i	06 40 46.0						
12	WIN	t	13 15 00			Probably Kurile Islands.			
12	PRE	iP	18 45 08.1	98		USCGS H=18 31 37.1 7.1S 129.8E Banda			
						Sea h=45 mag. 6.2			
14	PRE	i	23 34 49.6		R	Far North			
		i	39 22.1						
		i	42 (08.6)						
	WIN	i	35 24.5						
		i	44 17.0						
	KIM	i	35 55						
		i	44 16						
	PIE	t	00						
15	KIM	iPKP	08 19 11	115		USCGS H=08 00 50.3 11.9 N 86.0W			
	PRE	iPKP	17.1	118		Near coast Nicaragua h=162 mag. 6.2			
15	PRE	i	08 29 46.0						
	KIM	i	57						
	WIN	i	30 22.0		C				
15	PRE	iPKP2	17 58 33.0	154		USCGS H=17 38 43.1 52.1N 169.5W			
						Fox I's Aleutian I's h=32 mag. 4.5			
16	PRE	iPKP2	13 47 32.1	153		USCGS H=13 27 35.6 49.3N 129.1W			
						Vancouver I's reg. h=33 mag. 5.2			
17	PRE	i	06 45 03.5						
18	WIN	t	01 30 00						
	PRE	iPP	20.9	103	R	USCGS H=01 11 45 79.8N 2.4E			
						Greenland Sea h=33 mag. 5.7			
18	KIM	i	14 49 42						
	PRE	i	47.5						
19	PRE	iP	10 45 08.5		C	Far North			
		iS	51 30.9						
	WIN	iPn	45 38.9						
		iSi	53 (17.5)						
	PIE	i	45 41						
	KIM	i	42						
	GRH	t	56 00						
19	KIM	iP	15 47 25	44		USCGS H=15 39 10.3 58.7S 25.0W			
	WIN	iP	40.5	46		Sandwich I's reg. h=33 mag. 5.1			
	PRE	iP	58.0	49					
20	GRH	iPP	01 11 14	42		USCGS H=01 02 43.8 58.6S 25.0W			
	WIN	iPcP	16.0	46	R	S. Sandwich I's reg. h=12 mag. 5.6			
	PIE	iPcP	19	47					
	PRE	iP	34.4	50	R				
21	WIN	i	02 47 18.6						
	PRE	i	56.1		R				
22	WIN	i	01 03 28.4						
	KIM	i	53		R				
	PRE	i	04 13.5		R				

October 1967 cont.			m. s.		Arc. (23)R/			Remarks.
Date	Station	Phase	G.	M.	T.	Dist.	C	
23	PRE	i	11	17	09.8	about	R	Prob. Lake Nyasa region.
		i		19	17.7	1580km		
		i		21	27.5			
	WIN	i		18	08.0		C	
25	PRE	i	01	13	(20.0)			
25	PRE	i	09	41	22.5			
26	WIN	i	12	45	(21.5)			
26	PRE	iP ₁		46	17.5	1000km		Kariba.
		iSn		47	08.0			
	KIM	t		49	00			
27	PRE	t	21	30	00			Prob. Far North.
	WIN	t			00			
29	WIN	i	12	45	55.9			
	PRE	i		46	08.9		C	
30	PRE	t	06	49	00			
31	WIN	t	21	19	00			

H.O. Oliver.
Winifred Wagner.

-- NOV 1967

8 FEB 1968

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Seismological Bulletin.

The data herewith give the results from a network of seismographs intended particularly for the study of earthquakes occurring in or near South Africa. This bulletin, however, is prepared regularly and will be sent to interested organizations on request.

<u>Stations</u>	<u>Lat.</u>	<u>Long.</u>	<u>Height</u>	<u>Lithologic Foundation</u>	<u>Instrument</u>
Pretoria (PRE)	25°45.2 'S	28°11.4'E	1350m.	Weathered shale	Vertical S.P.(1.0 sec.) seismometer: Geotech Model 1051 Two horizontal S.P.(1.0sec) seismometers Geotech Model 1101 Vertical L.P. (15sec) Seismometer: Sprengnether Two horizontal L.P.(15sec) Seismometers Sprengnether Galvanometers for S.P. System 0.75 secs. Galvanometers for LP System 100.0 secs.
Windhoek (WIN)	22°34'S	17°06 E	Height 1728m.	Lithologic Foundation Micha Schist	<u>Instrument:</u> Same as Pretoria. <u>Seismological Officer:</u> Officer in charge
Grahamstown (GRH)	33°18.6'S	26°34.5'E	Height 558m	Lithologic Foundation Dwyka Shale	<u>Instrument:</u> Benioff S.P. vertical with short and long period recorders <u>Seismological Officer:</u> Professor of Physics Rhodes University.
Pietermaritzburg. (PIE)	29°37.2'S	30°23.8'E	Height 656m.	Lithologic Foundation Soft Ecca Shale	<u>Instrument:</u> Benioff S.P. vertical <u>Seismological Officer:</u> Professor of Physics Natal University.
Kimberley (KIM)	28°45.1'S	24°46.8'E	Height 1321 m	Lithologic Foundation Dolerite boulders embedded in decayed dolerite.	<u>Instrument:</u> Benioff S.P. Vertical <u>Seismological Officer:</u> Rev. Br. N.G. Alter Christian Brothers College.

Data is occasionally reported herein by courtesy of the Republic Observatory, Johannesburg, which operates a 200kg. Wiechert Horizontal seismograph. This station is called J, and is at 26°10.9'S, 28°04.5'E, height 1806 metres.

All times are given in G.M.T.

The supervision of this network and bulletin is at present in the hands of the undersigned to whom all enquiries should be addressed.

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H.O. Oliver.
Seismological Officer.

November 1967			h. m. s.	Arc.	(24)	
Date	Station	Phase	G. M. T.	Dist.	R/C	Remarks.
1	WIN	iPP	17 41 03.0	133		USCGS H=17 20 24.0 20.5 S 179.3 W Fiji I's reg. h=56 mag. 4.9
3	WIN	iP	22 46 04.7	47		USCGS H=22 37 49.6 56.1 S 27.2 W S. Sandwich I's region. h=155 mag. 5.4
	PRE	iP		28.8		
4	PRE	iPKP	10 35 22.7	130	D	USCGS H=10 17 14.7 17.8S 179.40W Fiji I's reg. h= 573
	WIN	iPKP		24.6		
4	PRE	iPKP	14 49 38.4	127	C	USCGS H=14 30 37.5 43.5N 144.1E Hokkaido Japan reg. h=30 mag. 5.8
	WIN	iPKP		(51.0)135		USCGS H= 14 46 01.9 43.5 N 144.0 E Hokkaido Japan reg. h= 33 mag. 5.4
4	PRE	iPKP	15 05 02.0	127		USCGS H=16 26 48.2 2.8S 77.7 W Peru-Ecuador border reg. h=99 mag. 6.0
4	WIN	iP	16 39 55.0	92	C	USCGS H=13 56 20 46.9S 34.6E Prince Edward I's reg. h=33 mag. 4.4
	PRE	t		45 00		
5	GRH	iP	13 59 40.2	17		
	PRE	iP	14 01 08.7	34	C	
	WIN	t		03 00		
6	WIN	t	15 34 00			
7	WIN	iPKP	04 08 40.5	140		USCGS H=03 49 17.4 14.9S 173.0 W Samoa I's reg. h=43 mag. 5.6
8	PRE	iPKP1	17 22 41.9	150	D	USCGS H=17 03 04.1 51.0N 178.6E Rat I's Aleutian I's h=42 mag. 4.7
	KIM	iPKP1		52 152		
8	PRE	iPKP2	17 29 05.5	149	D	USCGS H=17 09 27.1 51.1N 178.5E Rat I's Aleutian I's h=29 mag. 5.3
	WIN	iPKP2		11.5 153		
	KIM	iPKP2		14 153		
8	PRE	iPKP2	17 42 14.0	149	D	USCGS H=17 22 32.1 51.1N 178.4E Rat I's Aleutian I's. h=10 mag. 5.2
	PIE	iPKP2		19 150		
	WIN	iPKP2		19.9 153		
	KIM	iPKP2		24 153		
8	PRE	iPKP1	19 17 49.0	149		USCGS H=18 58 12 51.1 N 178.7E Rat I's Aleutian I's h=33 mag. 4.3
8	PRE	iPKP2	20 13 33.9	149	D	USCGS H=19 53 55.5 51.1N 178.4E Rat I's. Aleutian I's. h= 32 mag. 4.6
	KIM	iPKP2		45 153		
9	PRE	iP	02 30 55.5	92	C	USCGS H=02 18 45.5 7.2S 123.6E Banda Sea h= 560 mag. 5.8
9	WIN	iPKP1	08 06 57.7	149	C	USCGS H=07 47 16.0 54.8N 162.1W Alaska Peninsula h=40 mag. 4.7
	PRE	iPKP1	07 03.9	151		
10	PRE	iP	18 46 56.0	45		USCGS H= 18 38 37.6 6.0S 71.4E Chagos Archipelago region h=32 mag. 5.4
	WIN	iP	48 06.0	54		
11	PRE	iP	02 34(33.5)	18		USCGS H=02 28 45.6 2.0N 31.5E Uganda h=33 mag 5.1
		iS	43(22.5)			
11	PRE	i	09 50 22.5			
11	WIN	t	53 00			
11	PRE	iPP	12 04 15.0	45		
	WIN	iP	05 24.1	54		USCGS H=11 55 55.6 6.0S 71.4E Chagos Archipelago reg. h=37 mag. 5.6
11	PRE	iPP	12 23 16.0	45	C	USCGS H=12 14 57.3 6.0S 71.3E Chagos Archipelago reg. h=34 mag. 5.7
	WIN	iP	24 25.5	54		USCGS H=15 05 10.3 6.1S 71.3E Chagos Archipelago reg. h=33 mag. 5.3
11	PRE	iPP	15 13 28.2	45		
	WIN	iP	14 37.5	54		USCGS H=18 00 00.7 6.1S 71.4E Chagos Archipelago reg. h=33 mag. 5.7
11	PRE	iP	18 07 20.0	45	D	USCGS H=20 18 11.1 6.0S 71.3E Chagos Archipelago reg. h=20 mag. 5.4
	WIN	iP	09 28.7	54		
11	PRE	iP	20 26 32.0	45		
11	PRE	t	23 32 00			
11	WIN	t	33 00			
12	KIM	iPKP	10 55 54	130		USCGS H=10 36 52.0 17.2S 172.0W Tongo I's reg. h=34 mag. 5.6
	WIN	iPKP	56 10.0	138		
13	PRE	t	20 45 00			
15	WIN	iPoP	21 43 51.9	78		USCGS H=21 31 51.5 28.7S 71.2W near coast central Chile h=15 mag. 6.2
	GRH	iP	44 03.0	81	D	
	PRE	iP		30.0 85		
18	PRE	t	03 46 00			
20	PRE	iPKP	12 25 52.0	125	D	USCGS H= 12 06 59.5 36.4N 141.1E near coast Honshu Japan h=41 mag. 5.5
	KIM	iPKP		58 130		
21	PRE	iP	09 02 20.1	51	D	USCGS H=08 53 22.4 0.1N 17.1W N. Ascension I's h=33 mag. 4.8
23	PRE	i	08 44(17.0)			
25	PRE	i	22 00 56.0			
26	PRE	iPoP	03 06 10.6			
26	PRE	i	08 30 52.5			
27	PRE	iPKP1	04 46 37.6	146	D	USCGS H=02 53 57.8 8.1S 112.9E Java h=80 mag. 5.7
	PRE	iP	05 25(35.0)	84		USCGS H=04 27 02.4 60.3N 140.8W S.E. Alaska h=16 mag. 4.6
27	PRE	iP	21 10 38.0	38		USCGS H=05 13 12.6 30.8S 71.0W near coast central Chile h=62 mag. 5.4
						USCGS H= 21 03 20.4 12.7S 66.4E Mid-Indian Rise h=33 mag. 4.4

November 1967 continued.

Date	Station	Phase	H. M. S. G. M. T.	Arc. Dist.	R/C	Remarks.
28	PRE	i	00 20 19.0			
29	PRE	t	05 47 00			
30	PRE	iP	07 34 44.0	68	R	USCGS H=07 23 51.5 41.5N 20.5E Albania h= 29 mag. 6.0
	KIM	iP	59	71		
	PIE	iP	35(11)	72		
	GRH	iP	36 08	80		

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