

M.O. 582

27 FEB 1954

AIR MINISTRY, METEOROLOGICAL OFFICE, LONDON.

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN FOR JANUARY, 1954

Lat. 51° 28' 6" N, Long. 0° 18' 47" W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION: RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS: (I) GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS: FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE"

(LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

COMPONENT.	DATE FROM WHICH CONSTANTS APPLY.	GALVANOMETER FREE PERIOD T ₁ sec.	PENDULUM FREE PERIOD T. sec.	DAMPING CONSTANT μ ² .	$\frac{Ak}{\pi l}$ sec. ⁻¹
N.	23 July 1951	21.6	23.3	+0.05	52.8
E.	26 July 1951	17.4	18.7	+0.01	66.7
Z.	2 August 1951	14.1	11.8	+0.18	143.

(II) VERTICAL SEISMOGRAPH, PERIOD 1.5 SECS., DIRECT OPTICAL REGISTRATION (ZV.).

TIME SERVICE: MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK.

TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY.

SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

DATE.	COMPT.	PHASE.	G.M.T.			PERIOD.	AMPLITUDE.	Δ	REMARKS.
			h.	m.	s.				
1	ZV, Z	iPP	13	24	16	sec.	μ	km.	(12670) NE, e. Small. Sawoe Sea. 8½°S, 124°E Depth about 100 Kms. (U.S.C.G.S).
	ZV, Z	ipPP		24	38				
	ZNE	ePS		33	45				
	NE	eL	14	02	-				
		F		30	-				
2	ZV, Z	i(P)	01	18	45	sec.	μ	km.	(3000) Small. N, e.
	ZE	i(S)		23	21				
	NE	eL		26	23				
		F		35	-				
3	NE	e	05	36	-	sec.	μ	km.	Microseisms, Small.
		F	06	50	-				
6	ZV	iP	15	59	24	sec.	μ	km.	NE, e. Microseisms, small South west of Spitzbergen 76°N, 7°E. (U.S.C.G.S).
	NE	eL	16	11	22				
		F		30	-				
6	NE	e	22	52	-	sec.	μ	km.	Microseisms, small.
		e	23	00	-				
		e		08	-				
		F	-	-	-				
7	N	eL	07	56	-	sec.	μ	km.	Microseisms, small. About 500 mls south of Fiji Islands (U.S.C.G.S).
		F	08	25	-				
7	NE	e	10	42	-	sec.	μ	km.	Microseisms, small.
		F	11	15	-				
7	E	e	11	45	-	sec.	μ	km.	Microseisms, small.
		F	12	15	-				

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KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN.

JANUARY, 19 54

DATE.	COMPT.	PHASE.	G.M.T.			PERIOD.	AMPLI- TUDE.	Δ	REMARKS.
			h.	m.	s.				
11	NE	eL F	17 18	52 50	- -				Small. Ryuku Islands region 23°N., 126°E. (U.S.C.G.S).
12	ZV,Z Z Z ZNE	iPKP iPKP2 ePP eL F	14 15 17	40 53 00	33 36 37 -		18,800		NE,e. Foreshock of 00h. 33m. E,e. 24s. Off South Island, NE,e. New Zealand. 49°S., 165°E. (U.S.C.G.S). Break in records (1447-1537).
12/13	NE ZNE	eS e F	23 00 -	56 10 -	- -				Near Wheeler Ridge, California Minor property damage. 35.0°N., 119.1°W. (U.S.C.G.S) Overlapped.
13	ZV,Z ZV,Z E ZV E ZE ZNE NE NE NE ZNE	iPKP iPKP2 ePKS iPP iSKSP e iSS e e eLQ eLR F	00 01 03	33 34 37 38 49 57 59 10 14 30 40 20	24 30 - 41 00 - - - - - -		18800		Confused, phases doubtful. E,e. Off South Island, New Zealand. 49°S., 165°E. (U.S.C.G.S).
13	NE NE	e e F	13	26 31 45	- - -				Microseisms, small.
13	NE	e F	17	22 35	- -				Microseisms, small..
17	NE	eL F	18	17 35	- -				Felt, Fort Jameson N.Rhodesia 13½°S., 33°E.
18	NE	eL F	14	28 35	11 -				Small. Near west coast Greece. Felt. (U.S.C.G.S).
20	NE	eL F	05	00 20	- -				Small. Pacific Ocean, South of Mexico. 8½°N., 103½°W. (U.S.C.G.S).
23	ZV NE	iP eL F	16	15 31 55	42 - -				
23	ZV NE	iP eL F	17	21 39 50	06 - -				Repeat of 16h. 15m. 42s.
24	NE	e F	13	44 50	- -				Small.
31	NE	e F	12 13	23 00	- -				Small.

AIR MINISTRY, METEOROLOGICAL OFFICE, LONDON.KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.SEISMOLOGICAL BULLETIN FOR MARCH, 19 54

Lat. 51° 28' 6" N, Long. 0° 18' 47" W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION : RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS : (I) GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

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			h.	m.	s.				
1	NE	e	07	09	-			Small.	
		F	07	32	-				
3	ZV	iPKP	06	22	03		(13,830)	Central New Guinea 5 $\frac{1}{2}$ °S., 142 $\frac{1}{2}$ °E. (U.S.C.G.S).	
	Z	i		22	08				
	Z	e		23	36				
	ZV, NE	iFP		23	55				
	NE	iPKS		25	18				
	Z	iPPP		26	28				
	N	e		26	59				
	E	i		30	56				
	N	e		31	38				
	N	e		33	30				
	E	iPS		33	54				
	Z	i		35	12				
	E	eLQ	07	02	20				
NE	eLR		06	30					
E	M		10	-	22	21			
N	M		17	-	22	26			
Z	M		18	-	22	27			
	F		09	10	-				
7	N	e	00	54	36			Small.	
		e		58	14				
7	E	e	01	47	20			Small.	
		e		52	12				
		eL	02	17	14				
	F		30	-					

AIR MINISTRY, METEOROLOGICAL OFFICE, LONDON.

EDINBURGH

7 APR 1954

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KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.
SEISMOLOGICAL BULLETIN FOR FEBRUARY, 1954.

Lat. 51° 28' 6" N, Long. 0° 18' 47" W, Height above M.S.L. 5m.

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			h.	m.	s.				
1	ZV, Z	iP	01	20	32	17	46	(11,200)	deeper than normal. Volcano Islands 24½°N., 142½°E. (U.S.C.G.S).
	ZNE	ePP		24	46				
	ZNE	eSKS		31	03				
	NE	e		37	31				
	NE	eSS		38	45				
	NE	eSSS		42	35				
	NE	e		47	35				
	ZNE	eLQ		57	-				
	ZNE	eLR	02	01	-				
1	NE	M	00	59				Small. Aftershock of 01h 20m 32s. 24½°N., 142½°E.	
		F	03	50					
5	ZV, Z	ePKP	09	38	59	17	46	(14,000)	NE, e. New Britain 4½°S., 153°E. (U.S.C.G.S).
	ZV, Z	iPKS		42	14				
	NE	iSKKS		47	56				
	NE	eSSS	10	05	28				
	NE	e		15	-				
5	ZV	F	11	55					
		iP	15	30	27				
		eS		39	-				
		e		52	-				
9	NE	eL		58	-				
		F	16	30	-				
		e	23	40	49				
9	ZNE	e		42	08				
		e		43	30				
		e		44	26				
		F		50	-				

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			h.	m.	s.				
11	ZV, ZNE	iP	00	41	10			7500	Compression.
	ZV, Z	iPP		43	39				
	ZV, ZNE	iPPP		45	12				
	ZNE	iS		50	06				
	NE	e		52	58				
	NE	eSS		54	43				
	ZNE	i		57	17				
	ZNE	eL	01	01	-				
	N	M		06	42	24	190		
	Z	M		12	29	13	78		
	E	M		14	34	16	112		
	F	03	20	-					
15	NE	e	16	01	-			Small.	
		F		10	-				
15	NE	e	18	52	-			Small.	
		F	19	00	-				
15	NE	e	20	14	-			Small.	
		F	21	10	-				
17	NE	e	02	24	-			Small.	
		e		32	-				
		F	03	00	-				
19	ZV, ZNE	eP	00	52	38			(8780)	
	ZNE	eS	01	02	42				
	ZNE	eSS		07	40				
	ZNE	e		11	26				
	NE	eL		19	-				
	E	M		23	17	20	39		
	F	F	02	50	-				
19	NE	eP	13	59	32			(1780)	Small.
		eS	14	02	30				
		eL		03	14				
		F		10	-				
19	NE	e(L)	15	09	-			Small.	
		F		55	-				
19	ZV	iPKP	19	28	22				NE, e. Microseisms.
	NE	iPKP2		30	12				N, e.
	E	eSKKS		40	44				
	E	e		43	52				
	ZNE	e		45	36				
	NE	e		50	47				
	E	i		51	58				N, e.
	ZNE	i	20	00	29				
	N	e		04	26				
	E	e		06	22				
	NE	e		25	10				
	ZNE	eLQ		32	-				
	ZNE	eLR		36	-				
	F	-	-	-				Overlapped.	

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			h.	m.	s.				
19	ZV	e	21	47	-	21	34		
	NE	e		57	-				
	ZNE	i	22	00	37				
	NE	e		01	56				
	NE	e		05	-				
	N	e		08	-				
	NE	eL		12	-				
E	M		15	41					
	F		23	00	-				
20	NE	e	02	40	-				
		F	03	00	-				
20	ZV	i	18	52	55				
	ZNE	i		55	55				
	Z	e		56	52				
	NE	i		58	57				
	NE	i	19	00	17				
	ZV, ZNE	i		03	03				
	E	e		05	35				
	NE	e		07	12				
	ZE	e		10	08				
	NE	e		12	54				
	NE	e		18	11				
	NE	e		22	09				
	NE	e		24	06				
	NE	eL		34	-				
	F		21	00	-				
20	NE	e	22	52	46			Small.	
		eL		57	-				
		F	23	40	-				
22	ZV	e	06	24	19			Small.	
		eL		57	-				
	NE	F	07	15	-				
22	NE	e	11	13	-			Small.	
		F		30	-				
22	NE	e	12	28	19				
	ZN	e		32	00				
	ZN	e		33	12				
	N	e		38	52				
	NE	e		48	41				
	NE	e		55	-				
		F		13	40				-
23	ZV	i	06	51	46				
	N	e	07	09	-				
	NE	eL		15	-				
		F		45	-				
24	N	eL	18	16	-			Small.	
		F		25	-				

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			h.	m.	s.				
25	ZV	i	11	55	27				Microseisms. Small.
	N	e	12	00	-				
	NE	e		13	-				
		F		25	-				
23	N	e	00	47	-				Small.
	NE	e		55	-				
		F	01	10	-				
28	ZV	e	01	12	(10)				
	NE	eL		39	-				
		F	02	15	-				

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			h.	m.	s.				
1	NE	e	00	56	-			Microseisms, Small.	
	N	e	01	12	-				
	NE	e		18	-				
1	(ZV	i	01	41	49)			Microseisms, small.	
	NE	e	02	05	-				
1	NE	F		25	-			Microseisms, small.	
		F	09	09	-				
1	NE	e		30	-			North of Puerto Rico, 19½°N, 67°W. Depth about 60 Kms. (U.S.C.G.S).	
		F	14	33	-				
1	ZNE	eL		39	-			Kurile Islands 46½°N, 153½°E. Depth about 60 Kms. (U.S.C.G.S).	
		F	18	41	-				
1	NE	eS	18	41	-			Small, Kermadec Islands, 28½°S. 177°W. Depth about 60 Kms (U.S.C.G.S).	
		eL	19	00	-				
2	NE	F		40	-			Small.	
		F	16	22	-				
4	ZE	i	17	24	51			Small.	
		e		37	-				
4	NE	F	18	05	-				
		F		45	-				

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			h.	m.	s.				
4/5	ZV,Z	iP	23	26	16				N,e. Compression. Near south coast of Hokkaido Japan. Felt. 42°N, 142½°E. (U.S.C.G.S).
	NE	eL		57	-				
		F	00	20	-				
5	NE	e	17	45	-				Small.
		F	18	25	-				
6	NE	e(s)	14	48	-				Small. Southern Iran (U.S.C.G.S).
		F	15	05	-				
6	NE	e	15	53	-				Small.
		F	16	20	-				
6	E	e	17	49	-				Small.
		F	18	00	-				
8	N	e	04	32	-				Small.
		F		40	-				
8	NE	eL	17	38	-				Small. Easter Islands region 23½°S, 116°W. (U.S.C.G.S).
		F	18	00	-				
8	N	e	18	38	-				Small.
		F	19	00	-				
9	N	eL	08	11	-				Small. Off north coast of Luzon, Philippine Islands. 19½°N, 121½°E. (U.S.C.G.S).
		F		20	-				
11	NE	eLQ	04	03	-				Small. Solomon Islands. 7°S, 155°E. (U.S.C.G.S).
		F		45	-				
11	NE	e	04	57	-				Small.
		F	05	20	-				
11	ZV,Z	iP	10	35	42			6825	NE,e. Dilatation. Arabian Sea. 12°N, 58°E. (U.S.C.G.S).
	ZV,Z	iPP		35	52				
	ZNE	iS		44	02				
	ZNE	eScS		45	33				
	ZNE	eSS		48	09				
	NE	e		51	01				
11		F	-	-	-				Overlapped.
	ZVZNE	iP	11	02	19			5700	Compression.
	ZV	i		02	29				
	ZV,Z	iPP		02	39				
	ZV,E	iSP		03	07				Hindu Kush 37°N, 70½°E. Depth about 60 Kms(U.S.C.G.S)
	ZV,ZE	ePcP		03	25				
	Z	ePPP		05	26				
	ZV	iScP		07	07				
	ZE	eS		10	01				
		F		12	00	01			
13	(ZV	e	13	42	41)				Seismic?
	E	eL	14	12	-				
		F		20	-				

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			h.	m.	s.				
13	ZV,Z NE	i e F	15	38	33 16 15 30				Small
14	ZV,Z NE	iP eL F	13 14	37	22 11 30				Small, Andaman Islands region 10°N, 93°E.(U.S.C.G.S)
14	NE	e F	17 18	55	- 00				Small.
15	NE	e F	08 09	31	- 15				Small.
17	ZV Z NE E N NE	iP i eS e e eL F	20	22	36 28 42 32 24 43 02 50 02 56 -			8,550	NE,e. Andreanof Islands, Aleutian Islands. Felt on Adak. 51½°N, 179°W.
			-	-	-				Overlapped.
17	ZV,Z ZV Z	iP i eS F	20 21 23	57	34 39 22 20			8,550	E,e. Second shock
18	N	e F	04 05	31	- 00				Small.
23	E ZNE	e e F	20	04	- 06 10				Small.
24	NE	eL F	18	22	- 45				Small.
25	ZV,Z NE E NE NE N NE ZNE	iP eS eScS eSS eLQ e eLR e F	00	37	24 44 54 47 23 48 40 50 24 51 50 54 02 56 -			5920	
			01	45	-				
25	ZNE	eL F	21	15	- 30				Small. Central California. Minor damage.
26	ZV,Z ZV ZV N NE NE NE ZNE	iP iPcP isP esPP eS e e eL F	20 21	36	28 36 36 37 08 40 02 46 02 49 34 55 52 00 -			8,300	Ne, e. Compression deeper than normal.
			21	00	- 50				

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			h.	m.	s.				
27	ZV,Z	1P	10	18	42			9,200	E,e. Dilatation. Depth about 100 Kms.
	ZV	1PcP		18	46				
	Z	1pP		19	06				
	ZE	1PP		22	08				
	Z	i		24	42				
	ZNE	eS(ScS)		28	50				
	N	e(LQ)		41	-				
	ZE	eLR		45	-				
	F		11	30					
27	Z	e(PKP)	21	41	31			(18000)	Small.
	ZV	e		42					
	NE	e(SS)	22	06	25				
	E	e		12	42				
	ZNE	eL		49	-				
	F		23	40					
29	ZVZ	eP	11	01	49			8800	Bay of California.
	Z	ePP		04	55				
	ZNE	eS		11	52				
	NE	eSS		17	02				
	NE	e		22	38				
	NE	eL		25	-				
	N	M		32	-	30	60		
	F		-	-			Overlapped.		
29	ZV,Z	1P	11	46	52			8900	Second shock.
	ZV,ZE	1PP		49	58				
	N	eS		57	02				
	N	eSS	12	02	-				
	NE	eL		08	-	22	122		
	N	M		19	-				
	F		14	50					
30	ZVZNE	eP	13	07	08			2,330	Dilatation Thessaly Greece About 20 killed. Extensive property damage.
	ZVZNE	1!!		07	14				
	ZNE	iS		10	54				
	ZNE	eL		13	-				
	E	M		14	-	18	>264		
	N	M		14	-	15	>333		
	Z	M		16	-	16	>359		
	F		15	20					
30	NE	e	16	02	-			Small.	
	N	eL		11	-				
		F		45	-				
30	ZV,Z	1P	19	38	04			7,200	
	ZE	ePPP		41	52				
	NE	e		44	21				
	Z	e		45	01				
	Z	e		46	05				
	ZE	eS		46	45				
		F		55	-				
30/1	ZV,E	1P	23	13	56				
	Z	1PcP		14	25				
	Z	ePP		16	39				
	NE	e		21	31				
	NE	eSS		27	01				
	NE	eL		33	-				
	F		00	30					

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GEOLOGICAL
SURVEY
EDINBURGH

AIR MINISTRY, METEOROLOGICAL OFFICE, LONDON. 3 JUL 1954
R6

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN FOR MAY, 19 54

Lat. 51° 28' 6" N, Long. 0° 18' 47" W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION: RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS: (I) GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS: FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE"

(LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

COMPONENT.	DATE FROM WHICH CONSTANTS APPLY.	GALVANOMETER FREE PERIOD T. sec.	PENDULUM FREE PERIOD T. sec.	DAMPING CONSTANT μ^2 .	$\frac{Ak}{\pi l}$ sec. ⁻¹
N.	23 July 1951	21.6	23.3	+0.05	52.8
E.	26 July 1951	17.4	18.7	+0.01	66.7
Z.	2 August 1951	14.1	11.8	+0.18	143.

(II) VERTICAL SEISMOGRAPH, PERIOD 1.5 SECS., DIRECT OPTICAL REGISTRATION (ZV).

TIME SERVICE: MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK.

TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY.

SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

DATE.	COMPT.	PHASE.	G.M.T.			PERIOD.	AMPLITUDE.	Δ	REMARKS.
			h.	m.	s.				
1	NE	e F	15	37	51				Small.
				48	-				
1	NE	e F	18	53	-				Small.
			19	07	-				
1	ZV	iP	20	58	39		(2790)		Small. 36½°N., 26°E.
	ZNE	iS	21	03	01				Aegean Sea (U.S.C.G.S).
	NE	eL F		05	31				
				24	-				
2	E	e	10	35	36				Microseisms. Small.
	E	e F		50	06				
			11	30	-				
2	E	eS	18	11	31				Microseisms. Small.
	E	iSS		16	43				4°N., 94½°E. Off NW coast
	NE	eL F		45	31				Sumatra. (U.S.C.G.S).
			19	05	-				
3	NE	eL F	05	38	10				Microseisms. Small. Near
				50	-				South coast of Greece.
									36°N., 21½°E. (U.S.C.G.S).
3	NE	eL F	09	04	10				Microseisms. Small. Near
				16	-				South coast of Greece.
									36½°N., 21°E. (U.S.C.G.S).
3	NE	e F	13	42	40				Small. Dodecanese Islands.
				51	30				Felt. 36°N., 27°E. (U.S.C.G.S)

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KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN.

MAY, 19 54

DATE.	COMPT.	PHASE.	G.M.T.			PERIOD.	AMPLI-TUDE.	Δ	REMARKS.
			h.	m.	s.				
3	ZVZ	iP	15	41	31			(8420)	Off Southeast coast of Kamchatka 51½°N., 159½°E. (U.S.C.G.S).
	NE	ePP		43	55				
	E	iS		51	16				
	NE	eL	16	14	-				
	E	M		19	06	18	12		
	N	M		19	16	18	11		
3	N	M		24	18	18	9		
		F	17	05	-				
3	N	eL	18	57	-				Microseisms. Small. 31°N., 98½°E. Sikang Province, China. (U.S.C.G.S).
		F	19	09	-				
4	ZV	iP. I	16	47	58			(2300)	Two shocks, Central Greece. 40°N., 21½°E. (U.S.C.G.S).
	Z	i		48	36				
	ZVZ	iP. II		50	03				
	NZ	i		52	33				
	ZNE	eS. II		53	48				
	E	e		54	09				
4	NE	M		56	47	16	18		Small. Central Greece. (U.S.C.G.S).
		M		57	12	10	7		
		M		57	33	8	5		
		F	17	15	-				
		eL	23	55	40				
		F		59	30				
5	ZVZ	iP	13	22	11			(8800)	27½°N., 112½°W. (U.S.C.G.S). Felt in California.
	Z	ePP		25	11				
	NE	eS		32	17				
	N	e		49	39				
	NE	eL		56	29				
	E	M		57	15	17	12		
8	NE	M		57	18	16	10		Small.
		M		58	-	15	8		
		F	14	39	-				
		e	22	16	13				
		e		17	53				
		F		25	-				
9	ZV,ZN	iP	14	19	10			(2390)	Small. 71°N., 12°W. Near Jan Mayen Island.
	Z	e		23	10				
	N	eS		23	00				
	N	eL		24	38				
	E	eL		25	18				
	Z	eL		26	18				
10	NE	F		55	-				Small.
		e	07	32	-				
12	ZV	F	08	05	-				Small.
		e	02	21	21				
		e		24	52				
		F		28	47				
12	NE	e		33	-				
		F		33	-				

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KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN.

MAY, 19 54

DATE.	COMPT.	PHASE.	G.M.T.			PERIOD.	AMPLI-TUDE.	Δ	REMARKS.
			h.	m.	s.				
13	ZVZE	iP	14	58	47			8780	Oaxaca Mexico 17°N, 95½°W. (U.S.C.G.S).
	ZNE	iS	15	08	49				
	N	M		28	-	26	6		
	E	M		30	-	24	12		
	Z	M		30	-	24	11		
		F	16	05	-				
14	ZV,ZNE	iP	22	51	38			(9500)	Dilatation. Honshu. Japan. felt. 36°N., 137°E. Depth 250 Kms. (U.S.C.G.S).
	Z	iP		52	36				
	Z	iS		53	02				
	Z	ePP		54	46				
	NE	eS	23	01	44				
	N	iPPS		03	28				
	NE	eL		20	-				
	E	M		28	13	16	6		
	N	M		30	-	16	5		
	Z	M		37	17	12	5		
		F	24	20	-				
15	ZNE	e	12	33	45				
	ZNE	eL		37	25				
	E	M		37	57	16	3		
	M	M		37	57	16	8		
		F		50	-				
16	NE	eL	00	11	-				Small.
		F	01	10	-				
19	Z	eP	09	36	43			(740)	ZV not recording. Switzerland felt 46°N., 7¼°E. (BCIS)
	ZN	iPg		37	19				
	Z	i		37	32				
	E	iS		38	04				
	NE	i		38	20				
	ZE	i		38	33				
	ZN	i		38	41				
	NE	i(Sg)		38	47				
	NE	i		39	02				
	Z	M		40	-	7	12		
	N	M		40	-	6	15		
E	M		40	-	6	19			
		F	10	00	-				
21	NE	eL	16	41	-				Small.
		F	17	05	-				
22	NE	e	11	28	-				Small.
		F	12	00	-				
23	NE	eL	07	51	-				Small.
		F	08	20	-				
24	ZV	i	14	48	47				Small.
	ZNE	e		52	29				
	Z	i		53	14				
		F		58	-				

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KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

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MAY, 19 54

DATE.	COMPT.	PHASE.	G.M.T.			PERIOD.	AMPLITUDE.	Δ	REMARKS.
			h.	m.	s.				
25	ZVZE	iP	22	08	08			2330	Compressional N, e. Greece.
	Z	i		09	44				
	Z	i		10	25				
	ZNE	iS		11	53				
	NE	eL		14	34				
	N	M		14	56	16	9		
	E	M		16	51	10	10		
25	Z	M		16	51	10	8		
		F	22	40	-				
26	ZNE	e	02	29	18				Small.
		F		58	-				
27	NE	e	23	02	-				Small.
		F		12	-				
28	Z	e	07	52	37				Small.
	NE	eL		54	07				
		F	08	05	-				
31	Z	e	16	08	13				E,e.
	Z	e		17	42				
	E	e		23	49				
	NE	eL		48	-				
	N	M	17	05	-	19	2		
	E	M		05	-	19	3		
	Z	M		05	-	19	3		
	F	17	20	-					

30 JUL 1954 *R6*AIR MINISTRY, METEOROLOGICAL OFFICE, LONDON.KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.SEISMOLOGICAL BULLETIN FOR JUNE, 1954

Lat. 51° 28' 6" N, Long. 0° 18' 47" W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION: RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS: (i) GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS: FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE"

(LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

COMPONENT.	DATE FROM WHICH CONSTANTS APPLY.	GALVANOMETER FREE PERIOD T_1 sec.	PENDULUM FREE PERIOD T sec.	DAMPING CONSTANT μ^2 .	$\frac{Ak}{\pi l}$ sec. ⁻¹
N.	23 July 1951	21.6	23.3	+0.05	52.8
E.	26 July 1951	17.4	18.7	+0.01	66.7
Z.	2 August 1951	14.1	11.8	+0.18	143.

(ii) VERTICAL SEISMOGRAPH, PERIOD 1.5 SECS., DIRECT OPTICAL REGISTRATION (ZV).

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DATE.	COMPT.	PHASE.	G.M.T.			PERIOD.	AMPLITUDE.	Δ	REMARKS.
			h.	m.	s.				
4	ZV, ZE	iP	07	03	49	17	2	10,110 km.	Compression. Galapagos Islands. 1°S., 91½°W. (U.S.C.G.S).
	NE	iS		14	52				
	NE	e		16	17				
	E	e		17	51				
	NE	eL		30	-				
	N	M		42	-				
	E	M		42	-				
	Z	M		42	-				
4	NE	eL	16	38	17	17	2	13,000 km.	Small. Central Gulf of California (U.S.C.G.S).
		F	17	10	-				
4	ZNE	e	21	25	-	17	2	13,000 km.	Small. Gulf of California. (U.S.C.G.S).
		F		35	-				
5	ZV, Z	iP	02	00	53	17	2	13,000 km.	Small. Near coast of Mexico 18°N., 102½°W. (U.S.C.G.S).
5	ZN	i	14	13	47	17	2	13,000 km.	Small.
		e		16	37				
		F		24	-				
6	ZV, Z	iPKP	17	09	36	24	34	13,000 km.	Compression. New Guinea. 3½°S., 136½°E.
	Z	iPP		11	02				
	E	1SKS		16	38				
	E	18KKS		17	54				
	ZNE	ePS		20	47				
	NE	eSS		27	37				
	NE	eLQ		45	-				
	NE	eLR		51	-				
	E	M		53	00				

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KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN.

JUNE, 19 54

DATE.	COMPT.	PHASE.	G.M.T.			PERIOD.	AMPLITUDE.	Δ	REMARKS.
			h.	m.	s.				
Contd.						sec.	μ	km.	
6	N	M	17	53	-	24	21		
	Z	M	18	03	-	24	27		
		F	19	55	-				
7	ZV,Z	iPKP	10	33	50			13,600	Small. New Britain 3½°S., 152½°E. Depth about 450 Km. (U.S.C.G.S).
	ZV	iPP		35	49				
	ZV,Z	i		35	58				
	Z	i		36	26				
	ZV,Z	iSPP		38	00				
	ZV	iPPP		38	28				
	NE	eScS		40	16				
	NE	i		42	6				
	NE	i(sSS)		54	56				
		F	11	34	-				
10	ZNE	e	04	56	-				Small. North Atlantic Ocean. 33½°N., 38°W. (U.S.C.G.S).
		F	05	05	-				
15	ZV,Z	iP	13	42	29			(9660)	Dilatation. Small. Peru 5°S, 77°W. Depth about 100 Km. (U.S.C.G.S).
	Z	iSP		43	02				
	NE	eS		52	52				
	NE	iPS		53	46				
	ZE	i		54	46				
		F	14	35	-				
17	ZV,Z	iP	01	53	39			7890	Small. Kodiak Islands. 56°N., 159½°W. (U.S.C.G.S).
	NE	iS	02	02	55				
	NE	eL		27	-				
		F	03	25	-				
19	NE	eL	02	42	-				Small. Off south coast of Kyushu, Japan. 30½°N., 130°E. (U.S.C.G.S).
		F	03	16	-				
20	ZV,Z	i(P)	22	17	17			(5930)	Small.
	ZNE	i(S)		24	47				
	NE	eL		36	17				
		F	23	05	-				
21	ZV	i(P)	02	01	52			(9270)	Small.
	ZV	i		02	23				
	ZV,Z	i(PP)		05	41				
	NE	i(S)		12	19				
	NE	eL		37	-				
		F		57	-				
28	NE	eL	06	30	-				Small.
		F	07	16	-				
30	Z	iP	13	36	25			6390	Small.
	ZNE	iS		44	16				
	Z	iScS		46	07				
	NE	eSS		48	09				
	NE	eL	14	02	-				
		F		42	-				

AIR MINISTRY, METEOROLOGICAL OFFICE, LONDON.

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN FOR JULY, 19 54

Lat. 51° 28' 6" N, Long. 0° 18' 47" W, Height above M.S.L. 5m.

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SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

DATE.	COMPT.	PHASE.	G.M.T.			PERIOD. sec.	AMPLI- TITUDE. μ	Δ km.	REMARKS.
			h.	m.	s.				
1	NE	eL F	04	00 25	- -			Small. Off east coast of Kamchatka 52°N, 159½°E. (U.S.C.G.S).	
1	NE	eL F	06	09 30	- -			Small. Off east coast of Formosa 23½°N, 122°E. (U.S.C.G.S).	
2	Z ZNE E NE E NE NE NE	eP ePKP eSKS ePS e e e(L _q) eLR F	02 03	58 02	(54) (52)		(11,000)	13½°N., 123½°E. SE Luzon, Phillipines Islands. Many casualties, extensive property damage. (U.S.C.G.S).	
3	N NE	eSS eL F	00 01	55 03 40	- - -			Small. Uganda-Belgian Congo border region. (U.S.C.G.S).	
3	NE	eL F	22	07 25	- -			Small. Near northeast coast Luzon 18°N., 121°E. (U.S.C.G.S).	
3/4	ZV, Z Z Z E ZE NE	iP iPKP iPKS eSKS e e	22	45 48 52 56 05 16	28 38 02 - - -			Near southwest coast Java 6½°S., 106°E. Depth about 100 Kms. (U.S.C.G.S).	

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.
SEISMOLOGICAL BULLETIN.

JULY, 1954

DATE.	COMPT.	PHASE.	G.M.T.			PERIOD.	AMPLI- TUDE.	Δ	REMARKS.
			h.	m.	s.				
Contd. 3/4	NE N	eL M F	23	26	-				
			01	34	-	24	28		
			01	10	-				
6	ZNE	eL F	05	14	-				Small. Bismarck Sea 3°S., 148°E., (U.S.C.G.S).
			05	30	-				
6	ZV,ZNE	iP	08	16	43			8,800	Compression. Kurile Islands
	ZN	ePP		19	37				46½°N., 153½°E. Depth about
	NE	iS		26	48				100 Kms. (U.S.C.G.S).
	N	eSS		31	40				
	N	e		44	30				
	NE	eL		48	-				
	N	M	09	00	-	17	19		
		F	11	15	-				
6	ZV,ZNE	iP	11	25	00			(8,350)	Near Fallon, Nevada. Several
	Z	ePP		29	39				injured and moderate
	E	eS		34	42				property damage 39½°N.,
	ZNE	eL		51	-				118½°W. (U.S.C.G.S).
		F	12	55	-				
6	N	e F	13 14	35 15	- -				Small. Nevada aftershock 39½°N., 119°W. (U.S.C.G.S).
6	ZV,ZNE	iP	22	19	23			8,350	Dilatation. Nevada
	NE	eS		29	05				aftershock 39½°N., 118½°W.
	ZNE	eL		45	-				(U.S.C.G.S).
		F	23	40	-				
8	ZNE	eL F	20	17	- -				Small. Nevada aftershock 39½°N., 118½°W. (U.S.C.G.S).
			20	20	-				
9	ZV,Z	iPKP	12	40	07				Small. Tonga Islands region
	N	e(L)	13	32	-				16°S., 174½°W. Depth about
		F	14	00	-				100 Kms. (U.S.C.G.S).
9	ZV,Z	iP	15	50	38				Small. Off east coast
		F	16	45	-				Hokkaido Japan 43½°N., 147°E
									(U.S.C.G.S).
9	ZV	eP	18	40	41			(8,500)	Small. Off northwest coast
	E	iS		50	29				Honshu, Japan. 41°N., 138½°E
		F	19	00	-				(U.S.C.G.S).
10	ZNE	eL F	16 17	57 20	- -				Small. Off coast central Chile (U.S.C.G.S).
			16	20	-				
10	ZV,Z	iP	23	05	39				NE, e. Small. Hindu Kush
	ZV,Z	ipP		06	27				37°N., 70½°E. Depth about
		F		35	-				200 Kms. (U.S.C.G.S).
12	ZNE	eL F	18	25	- -				Small.
			18	55	-				
13	Z	ePP	08	25	51				Small. New Britain region
	NE	eSKS		31	-				3°S., 151°E. (U.S.C.G.S).
	Z	e		55	27				
		F	10	55	-				

M.O. 582

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN.

JULY, 19 54

DATE.	COMPT.	PHASE.	G.M.T.			PERIOD.	AMPLI- TUDE.	Δ	REMARKS.
			h.	m.	s.				
13	ZNE	eL F	22 23	55 15	- -				Small.
15	Z ZNE	e eL F	00 01 02	24 24 15	- - -				Small.
17	NE N NE NE NE	eP eS eSS eL e F	13	34 43 48 58 01 10	- - - - - -				Small.
18	N	eL F	07	11 50	- -				Small. Near east coast Kamchatka 55°N., 161½°E. (U.S.C.G.S).
18	ZV,Z Z NE NE	iP ePP eS eL F	09	20 23 30 48 10	21 46 55 - -		(9400)		Near east coast of Honshu, Japan. Felt 35½°N., 140½°E. (U.S.C.G.S).
18	NE NE	e eL F	11 12	48 52 10	- - -				Small.
18	NE	eL F	13	31 40	- -				Small.
18	ZN Z E ZN Z N NE	e i i i i e eL F	14	47 47(51) 51 51 53 53 55 10	16 - 02 09 16 40 31 -				
21	ZV,Z N NE ZE	i e e e(L) F	04 05	50 00 20 27 40	39 - - - -				Dilatation. Small.
23	ZE Z NE NE ZNE	iP ePP eSKS ePS eL F	04 05 06	46 51 58 00 25 05	26 38 22 48 - -				
23	ZNE	eL F	15	15 30	- -				Small.
26	Z NE NE NE	iPP eS ePS eSS	20	34 42 44 50	59 32 12 32				E,e.

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN.

JULY, 19 54

DATE.	COMPT.	PHASE.	G.M.T.			PERIOD.	AMPLI- TUDE.	Δ	REMARKS.
			h.	m.	s.				
Contd. 26	NE ZNE	e(LQ) eLR F	21	04	-				
				12	-				
				50	-				
26	ZV,Z ZE NE	eP eS eL F	22	19	12			(6,100)	Small.
				26	52				
				33	-				
				50	-				
29	ZV,Z (Z NE NE	i e e e(L) F	03	46	21				
				50	12				
				56	10				
				17	-				
			-	-	-				Overlapped.
29	ZV ZV,Z ZV ZV ZV,Z ZV,NE ZN	iP iPP iPPP i i iS iL F	04	44	15			1390	
				44	24				
				44	33				
				44	51				
				46	09				
				46	36				
				47	16				
				55	-				
30	E E ZNE ZNE	e e e(LQ) eLR F	09	16	16				Initial phases lost in chart changing.
				23	-				
				44	-				
				49	-				
			11	05	-				
31	ZV,ZE ZNE ZNE ZE N ZNE E N Z	iP iS eSS e e eL M M M F	01	11	07			7,780	N,e
				20	17				
				24	59				
				27	53				
				28	53				
				33	-				
				38	-	20	80		
				38	-	21	91		
				44	-	16	60		
			03	30	-				

AIR MINISTRY, METEOROLOGICAL OFFICE, LONDON.

EDINBURGH

29 SEP 1954

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN FOR AUGUST, 1954

Lat. 51° 28' 6" N, Long. 0° 18' 47" W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION: RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS: (I) GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS: FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE"

(LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

COMPONENT.	DATE FROM WHICH CONSTANTS APPLY.	GALVANOMETER FREE PERIOD T_1 sec.	PENDULUM FREE PERIOD T sec.	DAMPING CONSTANT μ^2	$\frac{Ak}{\pi l}$ sec. ⁻¹
N.	23 July 1951	21.6	23.3	+0.05	52.8
E.	26 July 1951	17.4	18.7	+0.01	66.7
Z.	2 August 1951	14.1	11.8	+0.18	143.

(II) VERTICAL SEISMOGRAPH, PERIOD 1.5 SECS., DIRECT OPTICAL REGISTRATION (ZV).

TIME SERVICE: MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK.

TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY.

SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

DATE.	COMPT.	PHASE.	G.M.T.			PERIOD. sec.	AMPLITUDE. μ	Δ km.	REMARKS.
			h.	m.	s.				
1	NE	e(L) F	04	32 45	- =			Small. Northern New Guinea. 3°S., 140°E. (U.S.C.G.S).	
3	ZNE	eL F	00	30 40	- -			Small. Southeast of Easter Island. 37°S., 99½°W. (U.S.C.G.S)	
3	ZV, Z	iP	18	22	54		2370	Northern Greece	
	ZV	ePP		23	21			40°N., 25°E. (U.S.C.G.S).	
	E	iS		26	47			N, e.	
	Z	iS		26	51				
		F	19	15	-				
5	ZV	e	03	52	(59)			Small. Repeat of 18h. 22m.	
	(E	e		57	25)			54s.	
	NE	e(L)		59	-				
		F	04	10	-				
5	ZV, Z	iP	04	17	37			Repeat of 18h. 22m. 54s.	
	ZNE	eS		21	26				
	NE	e		24	21				
	ZNE	eL		26	-				
		F		40	-				
5	ZV, Z	iP	04	42	16			Repeat of 18h. 22m. 54s.	
	ZV, ZE	i		42	19				
	ZV	iPP		42	37				
	N	e		49	07				
	ZNE	eL		51	-				
		F	05	00	-				
5	ZV, Z	iP	09	01	42			Rat Islands. Aleutians.	
	NE	eL		38	-			52°N., 176°E. Depth about	
		F	10	15	-			60 Kms. (U.S.C.G.S).	

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.
SEISMOLOGICAL BULLETIN.

AUGUST, 19 54

DATE.	COMPT.	PHASE.	G.M.T.			PERIOD.	AMPLITUDE.	Δ	REMARKS.
			h.	m.	s.				
5	ZV,Z	eP	20	44	37			(2915)	Small. Near east coast of Turkey (U.S.C.G.S).
	NE	eS		49	14				
	N	e(LQ)		53	-				
	NE	e(LR)		56	-				
		F	21	05	-				
6	ZNE	e	00	50	-				
	NE	eL		55	-				
		F	01	20	-				
6	ZV,Z	i	16	06	10				Small.
	ZNE	e		14	-				
		F		20	-				
6	ZV,Z	1P	16	29	29			(6300)	Small. Mid-Atlantic Ocean. 1°S., 23½°W, (U.S.C.G.S).
	NE	eS		37	20				
	NE	eL		55	-				
		F	17	10	-				
6	NE	e	17	58	-				Small.
		F	18	05	-				
6	ZNE	e	19	30	-				Small.
		F		40	-				
9	ZV,Z	1P	19	28	26			8335	Compression. Off east coast Kamchatka. Depth about 60 Kms. 53°N., 161°E. N,e. (U.S.C.G.S).
	ZV	1pP		28	45				
	ZV	1sP		28	51				
	E	1S		37	55				
	NE	eLQ		48	-				
	ZNE	eL	20	03	-				
		F		55	-				
10	Z	i	07	39	21				Small.
		F	-	-	-				
12/13	ZV,Z	i	23	29	56				Small.
	ZNE	e	00	09	-				
	NE	e(LQ)		38	-				
	NE	eLR		44	-				
		F	02	10	-				
14/15	NE	eL	23	59	-				Small.
		F	00	30	-				
16	NE	eL	09	32	-				Small.
		F		40	-				
17	N	eL	06	50	-				Small. No. E. Record.
		F	07	50	-				
18	ZV,Z	1PKP	05	01	03				Dilatation. No E. Record.
	ZV	1PKP2		01	58				
	Z	i		02	43				
	Z	i		06	09				
	N	e		12	08				
	N	e		25	18				
	N	eL		56	-				
		F	07	05	-				

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN.

AUGUST, 19 54

DATE.	COMPT.	PHASE.	G.M.T.			PERIOD.	AMPLI- TUDE.	Δ	REMARKS.
			h.	m.	s.				
19	NE	e F	21	14	-				Small.
20	ZV,Z Z ZNE	iP eS eL F	19	26	09			(2385)	Jan Mayen Island region.
				30	03				
				32	-				
				50	-				
20	ZV,Z E ZNE	iP eS eL F	20	28	48			(2395)	Repeat
				32	43				
				35	-				Overlapped.
			-	-	-				
20	ZV,Z E ZNE	iP eS eL F	20	41	06			(2345)	Repeat
				44	57				
				47	-				Overlapped.
			-	-	-				
20	ZV,Z E ZNE	iP eS eL F	20	46	57			(2385)	Repeat
				50	51				
				53	-				Overlapped.
			-	-	-				
20	ZV,Z E ZNE	iP eS eL F	20	50	57			(2385)	Repeat.
				54	51				
				57	-				
			21	05	-				
20	ZV ZNE	iP eL F	21	09	19				Small. Repeat.
				15	-				
				20	-				
20	Z ZNE	iP eL F	21	52	01				Repeat.
				58	-				
			22	10	-				
20	ZV,Z E ZNE	iP eS eL F	22	13	48			(2325)	Repeat.
				17	37				
				20	-				
				35	-				
20	ZV,Z E NE	iP eS eL F	22	44	31			(2395)	Repeat.
				48	26				
				50	-				
			23	00	-				
20	ZV,Z N ZNE	iP eS eL F	23	00	(55) 49			(2385)	Repeat.
				07					
				09	-				
				30	-				
20	NE	eL F	23	46	-				Small. repeat ?
				55	-				
21	ZV,Z ZV,ZN E ZNE	iP iPP eS eL F	00	30	13			(2370)	N,e. Repeat.
				30	42				
				34	06				
				36	-				
			01	20	-				

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.
SEISMOLOGICAL BULLETIN.

AUGUST, 1954

DATE.	COMPT.	PHASE.	G.M.T.			PERIOD.	AMPLI- TUDE.	Δ	REMARKS.
			h.	m.	s.				
21	ZV,Z E ZNE	iP eS eL F	04	17	52			(2325)	Repeat.
21	ZV,Z ZE ZNE	iP eS eL F	07	24	25			(2335)	NE,e. Repeat.
21	ZNE	eL F	13	02	-				Repeat ? Overlapped.
21	ZV,ZN E ZNE	iP eS eL F	13	09	44			(2345)	Repeat.
21	ZV ZNE	iP eL F	14	05	01				Small, repeat.
21	ZV,Z E ZNE	iP eS eL F	17	44	44			(2360)	Repeat.
21	ZV,Z E ZNE	iP eS eL F	22	55	33			(2325)	Repeat. Jan Mayen Island region 72°N., 13°W. (U.S.C.G.S).
22	ZV,Z E ZNE	iP eS eL F	02	56	21			(2360)	Repeat.
22	ZNE	eL F	08	57	-				Small, repeat ?
22	ZV,ZN E ZNE	eP eS eL F	10	12	40			(2345)	Repeat.
22	ZV,Z E ZNE	iP eS eL F	12	44	18			(2385)	
22	ZV ZNE	iP eL F	18	25	53				Small, repeat.
22/23	ZV ZNE	iP eL F	23	56	51				Small, repeat.
			00	02	-				
				10	-				

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.SEISMOLOGICAL BULLETIN.

AUGUST, 19 52

DATE.	COMPT.	PHASE.	G.M.T.			PERIOD.	AMPLI- TUDE.	Δ	REMARKS.
			h.	m.	s.				
24	ZV,Z	iP	06	03	11			8430	Dilatation.
	Z	i		03	38				Lovelock, Nevada.
	ZE	iPP		06	06				
	ZNE	iS		12	56				
	NE	eSS		17	47				
	NE	e		21	20				
		F	-	-	-				Overlapped.
24	ZV	iP	06	22	48			2595	Confused by previous shock.
	Z	iS		26	58				
	ZNE	eL		29	-				
		F		-	-	-			Lost in chart changing.
29	NE	e	00	03	-				Small.
		F		40	-				
30	ZV	i	08	09	36				
		F	-	-	-				
31	ZV,Z	iP	22	32	14				
	NE	eS		41	53				
	NE	e		50	17				
	NE	eL		55	-				
		F		23	55	-			

NOTE

Some loss of record was entailed on 18 days between 11th and 31st August (mainly between the hours of 0830 Z and 1630 Z) by adjustment and calibration of the three Galitzin Seismographs after a period of three years.

INTERNATIONAL SEISMOLOGICAL CENTRE

Year	Month	Day	Time	Latitude	Longitude	Depth	Magnitude	Station	Remarks
1963	Jan	1	00:00	00	00	0	0.0		
1963	Jan	2	00:00	00	00	0	0.0		
1963	Jan	3	00:00	00	00	0	0.0		
1963	Jan	4	00:00	00	00	0	0.0		
1963	Jan	5	00:00	00	00	0	0.0		
1963	Jan	6	00:00	00	00	0	0.0		
1963	Jan	7	00:00	00	00	0	0.0		
1963	Jan	8	00:00	00	00	0	0.0		
1963	Jan	9	00:00	00	00	0	0.0		
1963	Jan	10	00:00	00	00	0	0.0		
1963	Jan	11	00:00	00	00	0	0.0		
1963	Jan	12	00:00	00	00	0	0.0		
1963	Jan	13	00:00	00	00	0	0.0		
1963	Jan	14	00:00	00	00	0	0.0		
1963	Jan	15	00:00	00	00	0	0.0		
1963	Jan	16	00:00	00	00	0	0.0		
1963	Jan	17	00:00	00	00	0	0.0		
1963	Jan	18	00:00	00	00	0	0.0		
1963	Jan	19	00:00	00	00	0	0.0		
1963	Jan	20	00:00	00	00	0	0.0		
1963	Jan	21	00:00	00	00	0	0.0		
1963	Jan	22	00:00	00	00	0	0.0		
1963	Jan	23	00:00	00	00	0	0.0		
1963	Jan	24	00:00	00	00	0	0.0		
1963	Jan	25	00:00	00	00	0	0.0		
1963	Jan	26	00:00	00	00	0	0.0		
1963	Jan	27	00:00	00	00	0	0.0		
1963	Jan	28	00:00	00	00	0	0.0		
1963	Jan	29	00:00	00	00	0	0.0		
1963	Jan	30	00:00	00	00	0	0.0		
1963	Jan	31	00:00	00	00	0	0.0		

AIR MINISTRY, METEOROLOGICAL OFFICE, LONDON.
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KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.
SEISMOLOGICAL BULLETIN FOR SEPTEMBER, 1954

Lat. 51° 28' 6" N, Long. 0° 18' 47" W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION: RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS: (I) GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS: FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE"

(LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

COMPONENT.	DATE FROM WHICH CONSTANTS APPLY.	GALVANOMETER FREE PERIOD T_1 sec.	PENDULUM FREE PERIOD T sec.	DAMPING CONSTANT μ^2	$\frac{Ak}{wI}$ sec. ⁻¹
N.	25 August 1954	21.7	21.2	+0.01	54.4
E.	26 August 1954	21.3	21.4	+0.01	52.6
Z.	1 Sept. 1954	11.3	11.4	+0.05	115.

(II) VERTICAL SEISMOGRAPH, PERIOD 1.5 SECS., DIRECT OPTICAL REGISTRATION (ZV).

TIME SERVICE: MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK.

TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY.

SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

DATE.	COMPT.	PHASE.	G.M.T.			PERIOD. sec.	AMPLI- TITUDE. μ	Δ km.	REMARKS.
			h.	m.	s.				
1	NE	eL	05	56	-				Small.
		F	06	15	-				
2	ZV,Z	i	01	58	30				Small. NE,e.
	ZV	i	02	00	20				
	ZV,E	i	02	52					
	NE	i	03	12					
	NE	i	03	51					
	Z	e	04	12					
	F		11	-					
4	ZV	i	03	41	45		(13200)		New Guinea 3°S., 139½°E. (U.S.C.G.S.).
	ZV	i(P)		43	46				
	ZV	i(PKP)		47	47				
	ZV	i		48	14				
	ZV	i		48	46				
	ZV,Z	i(PP)		49	22				
	ZV,Z	i		49	45				
	E	e		55	27				
	N	e		56	50				
	ZV,NE	e(PS)		59	10				
	NE	e(SS)	04	05	37				
	NE	e		10	14				
	NE	eLQ		22	-				
NE	eLR		30	-					
F		06	-	-					
4	ZV	i(P)	06	54	26		(6860)		Nepal 28°N., 83.5°E. (U.S.C.G.S.).
	ZV	i(PcP)		55	57				
	NE	e(S)	07	02	48				
	NE	eL		19	32				
	F			45	-				

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN.

SEPTEMBER, 19 54

DATE.	COMPT.	PHASE.	G.M.T.			PERIOD.	AMPLI- TUDE.	Δ	REMARKS.
			h.	m.	s.				
4	NE	eL	09	38	-			16,420	Small. SE of Formosa 21½°N., 122½°E. (U.S.C.G.S).
		F	10	15	-				
4	NE	eL	14	23	-				Small. Santa Cruz Islands 11½°S., 160°E. (U.S.C.G.S).
		F	15	20	-				
5	ZV,Z	iPKP	08	05	22				Fiji region 19°S., 176°E. (U.S.C.G.S.).
	ZV,ZE	iPKP2		05	26				
	Z	eFKS		09	34				
	E	iSS		27	59				
	NE	eLQ		58	-				
	ZNE	eLR	09	08	-				
		F	10	10	-				
6	ZNE	e	07	27	-				Small.
		F		55	-				
6	NE	eL	15	05	-				Small.
		F		10	-				
6	Z	i	17	00	08				Small.
		e		02	59				
		eL		36	-				
6	NE	F	18	10	-				Small.
6	ZV,Z	iP	18	42	35			8280	NE,e Near SE Coast of Kamchatka 51°N., 158°E. (U.S.C.G.S.).
		iS		52	11				
		e	19	06	-				
		eL		15	-				
7	ZE	i	00	04	13				N,e.
7	E	i	00	32	11				N,e.
		e	01	03	-				
		eL		07	33				
7	ZNE	F		55	-				
9	ZV,ZE	eP	01	08	15			(1720)	Dil. Az.175° Comp. Near Orleansville, Algeria, 1600 killed; major property damage 36°N., 1½°E. (U.S.C.G.S.).
	ZV,ZE	iP!		08	24				
	ZV,N	i		09	11				
	Z	i		09	19				
	ZV	i		09	43				
	E	i(S)		10	58				
	ZV	i		11	08				
	NE	i		11	17				
	Z,NE	i		11	34				
	E	i		12	09				
	N	i		12	41				
	ZV	i(PcP)		13	26				
	ZV	i(Pg)		13	36				
	ZV	i		14	29				
	ZV	i		15	25				
	ZV	i(ScP)		16	58				
	E	M		13	-				
N	M		14	-					
Z	M		17	30					
					18	734			
					16	266			
					8	133		Overlapped.	

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN.

SEPTEMBER, 19 54

DATE.	COMPT.	PHASE.	G.M.T.			PERIOD.	AMPLI- TITUDE.	Δ	REMARKS	
			h.	m.	s.					sec.
9	ZV	e	01	53	31				Aftershock? overlapped.	
9	ZV	e	02	56	08				Aftershock overlapped.	
	Z	i		56	20					
	EN	eL	03	00	23					
9	NE	eL	03	58	-				Aftershock	
	NE	eL	04	06	-					
	ZNE	eL		13	-					
	F			55	-					
9	ZV,Z	iP	09	32	27				Dilatation. Small. Aftershock. E, e.	
	N	iS		35	31					
	E	eL		36	33					
	F			50	-					
9	ZV	i	18	22	43					
10	ZV,Z	e	05	47	38				Dilatation. Aftershock Compression.	
	ZV,ZN	iP		47	45					
	ZVZ	i		48	12					
	ZNE	i(S)		50	34					
	NE	i		51	35					
	E	M		53	-	13	54			
	N	M		54	-	12	169			
	Z	M		54	-	12	148			
		F		07	40	-				
12	ZNE	e	02	50	-				Small.	
	F		03	10	-					
12	ZV	iP	07	56	17			9180	Ze Off SE Hokkaido Japan 41°N., 143°E. (U.S.C.G.S.)	
	Z	i		57	12					
	NE	iS	08	06	34					
	NE	eSS		11	54					
	NE	eLQ		25	-					
	ZNE	eLR		32	-					
	E	M		33	30	17	7			
	N	M		38	30	17	11			
	Z	M		38	30	17	11			
13	ZV,Z	iPKP	02	29	28			16,570	NE, e. Dilatation. Depth about 160 Km. Tonga Islands 21°S., 175½°W. (U.S.C.G.S.).	
	ZV,Z	iPKP		30	18					
	ZN	i(SKP)		33	04					
	ZN	iPPP		36	46					
	ZN	e(SKP)		40	42					
	E	e		44	06					
	E	e		51	04					
	E	iSS		51	59					
	N	i		52	04					
	E	eSSS		53	12					
	ZE	e		56	54					
		F		04	25	-				
13	Z	e	18	32	34				Small.	
	ZNE	e		35	24					
	NE	e		42	34					
	NE	eLQ	19	04	-					
	ZNE	eLR		11	-					
	F			40	-					

M.O. 582

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.
SEISMOLOGICAL BULLETIN.

SEPTEMBER, 19 54

DATE.	COMPT.	PHASE.	G.M.T.			PERIOD.	AMPLITUDE.	Δ	REMARKS.
			h.	m.	s.				
14	ZV	e	00	58	56			(12000)	
	ZV,Z	i(P)	01	00	40				
	Z	i(PP)		05	11				NE,e.
	Z	i		05	40				
	NE	e(SKS)		11	58				Z,e.
	NE	eLQ		36	-				
	ZNE	eLR		46	34				
	E	M		47	44	16	4		
	N	M		47	44	16	7		
	Z	M		47	44	16	7	-	
	F		02	20	-				
14	NE	eL	07	43	-				Small.
	ZNE	eL		52	-				
	F		08	50	-				
15	ZV,ZNE	iPKP	18	14	47			(16000)	Deeper than usual.
	ZV,Z	i		15	11				Fiji Islands 18°S., 178½°N.
	ZV	e		15	19				Depth about 600 Km (U.S.C.G.S)
	ZN	e(SKS)		18	16				
	Z	ePPS		30	42				
	Z	e		33	12				
	E	eSS		36	24				
	F		19	15	-				
16	ZV	i	22	22	00				Small, Microseisms.
	E	eL		26	-				
	F			35	-				
17	NE	eL	02	15	-				Small. Microseisms.
	F			40	-				New Ireland area 4½°S., 153½°E. (U.S.C.G.S.).
17	NE	eL	08	16	-				Small. Microseisms. Near
	F		09	-	-				N. Coast of Formosa; felt. 25°N., 122°E. (U.S.C.G.S.).
17	ZV	i	11	22	36			16570	Dilatation.
	ZV,Z	i!PKP		22	42				NE,e. Compression. Depth
	Z	iPKP		23	44				about 200 Kms.
	ZN	i(PP)		26	19				Fiji Islands region 20½°S.,
	E	iSS		45	14				177½°W. (U.S.C.G.S.).
	E	esSS		46	56				N,e.
	E	e		12	05	24			
	F		13	30	-				
18	N	e	01	36	35				Small.
	F			38	-				
18	NE	e	16	20	-				Small.
	F			55	-				
18	E	e	19	10	-				Small.
	N	e		14	-				
	F			20	-				
20	ZV	e	00	14	57				Small.
	ZV	i		15	29				
	NE	e		20	35				
	Z	e		21	35				
	F			55	-				

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN.

SEPTEMBER, 19 54

DATE.	COMPT.	PHASE.	G.M.T.			PERIOD.	AMPLI- TUDE.	Δ	REMARKS.
			h.	m.	s.				
20	NE	e(1S)	01	08	15				Small. Celebes 1½°S., 120½°E. (U.S.C.G.S.).
	N	e		25	17				
	NE	eL		37	-				
		F	02	15	-				
23	ZV,Z	iP	21	55	37			8720 Compression.	
	NE	iS	22	05	33				
	NE	eSS		10	12				
	NE	e		26	-				
	ZNE	eL		33	-				
	N	M	22	36	30	18	22		
	E	M		36	30	18	11		
	Z	M		36	30	18	13		
28	NE	e	01	04	25			Small.	
	E	e		05	35				
	NE	eL		09	35				
		F		45	-				
28	NE	e	14	11	-			Small.	
		F	15	10	-				

AIR MINISTRY, METEOROLOGICAL OFFICE, LONDON.KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.SEISMOLOGICAL BULLETIN FOR OCTOBER, 1954

Lat. 51° 28' 6" N, Long. 0° 18' 47" W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION: RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS: (I) GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS: FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE"

(LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

COMPONENT.	DATE FROM WHICH CONSTANTS APPLY.	GALVANOMETER FREE PERIOD T_1 sec.	PENDULUM FREE PERIOD T sec.	DAMPING CONSTANT μ^2 .	$\frac{Ak}{\pi l}$ sec. ⁻¹
N.	25 August 1954	21.7	21.2	+0.01	54.4
E.	26 August 1954	21.3	21.4	+0.01	52.6
Z.	1 Sept. 1954	11.3	11.4	+0.05	115.

(II) VERTICAL SEISMOGRAPH, PERIOD 1.5 SECS., DIRECT OPTICAL REGISTRATION (ZV.).

TIME SERVICE: MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK.

TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY.

SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

DATE.	COMPT.	PHASE.	G.M.T.			PERIOD.	AMPLI- TUDE.	Δ	REMARKS.
			h.	m.	s.				
1	Z	ePKP	03	15	05				Santa Cruz Islands. N, e. 11° S., 166° E. (U.S.C.G.S.)
	Z	iPP		17	51				
	N	ePKS		18	33				
	N	e		31	33				
	E	e		35	(05)				
	NE	eSS		37	57				
	E	e(LQ)	04	02	-				
	NE	eLR		10	-				
1	NE	F	05	45	-				Small. Samoa Islands, Felt: Apia. Depth about 60 Kms. 14½° S., 173° W. (U.S.C.G.S.)
		eL	08	01	-				
3	ZV, Z	ePKP	03	07	25				Santa Cruz Islands 10° S., 166° E. (U.S.C.G.S.)
	ZNE	ePP		10	16				
	E	e(HFKP)		27	56				
	NE	e(SKSSKS)		33	-				
	N	i		37	45				
	E	e		43	-				
	NE	e		50	-				
	ZNE	eLQ		54	-				
		F	05	45	-				
	3	ZV, ZNE	iP	11	29				
E		iS		38	08				
E		eLQ		45	51				
NE		eLR		50	-				
ZV		i(P)		58	01				
		F	13	10	-				

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KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN.

OCTOBER, 19 54

DATE.	COMPT.	PHASE.	G.M.T.			PERIOD.	AMPLI- TUDE.	Δ	REMARKS.
			h.	m.	s.				
4	NE	e F	02	20 45	- -				Small.
12	ZV,Z E	iP e(S) F	19	27 29 35	14 (41) -				Small.
13	NE	e F	22	37 50	- -				Small.
14	Z NE	iPP e(L) F	01 02 03	55 34 05	13 - -				Small. Banda Sea 7°S., 128°E. (U.S.C.G.S)
16	ZV,Z N ZNE	iP iS eL F	00	32 36 39 50	52 52 - -		2,450		Jan Mayen Island region 71°N., 14°W. (U.S.C.G.S.).
16	ZV N NE	iP iS eL F	20	20 24 26 35	14 13 - -		2,450		Z,e. Repeat of 00hr. 32m. 52s. Jan Mayen aftershock. 71°N., 14°W. (U.S.C.G.S.)
17/18	N NE NE	e e eL F	23	19 34 39 00	49 - - 00				Microseisms.
19	ZV,ZE N ZNE	iP iS eL F	17	52 56 57 18	47 33 - 30		2300		N,e. ZE,e.
21	N NE	e e F	00 01 02	46 13 20	- - -				Confused by microseisms. South of Honshu, Japan. 31°N., 141°E. (U.S.C.G.S.)
21	E NE	eS eL F	07	14 30 50	- - -				Confused by microseisms. Guatemala 14°N., 90½°W. Depth about 60 Kms. (U.S.C.G.S)
21	ZVZ E	iP eL F	18	05 09 15	36 - -				
24	N N	e eL F	10	20 25 45	- - -				Lower California. Felt: San Diego and Imperial Counties, California. 31½°N., 116°W. (U.S.C.G.S.).
24	NE	i F	11	17 25	13 -				Small.
24	N	e F	23	50 55	- -				Small.
30	NE	e F	22	34 50	- -				Small.
30/31	NE	e F	23 00	55 15	- -				Small.

AIR MINISTRY, METEOROLOGICAL OFFICE, LONDON.

3 JAN 1955

K.B.

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN FOR NOVEMBER, 1954

Lat. 51° 28' 6" N, Long. 0° 18' 47" W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION: RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS: (i) GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

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(LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1918).

COMPONENT.	DATE FROM WHICH CONSTANTS APPLY.	GALVANOMETER FREE PERIOD T ₁ sec.	PENDULUM FREE PERIOD T. sec.	DAMPING CONSTANT μ ² .	$\frac{Ak}{\pi I}$ sec. ⁻¹
N.	25 August 1954	21.7	21.2	+0.01	54.4
E.	26 August 1954	21.3	21.4	+0.01	52.6
Z.	1 Sept. 1954	11.3	11.4	+0.05	115.

(ii) VERTICAL SEISMOGRAPH, PERIOD 1.5 SECS., DIRECT OPTICAL REGISTRATION (ZV).

TIME SERVICE: MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK.

TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY.

SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

DATE.	COMPT.	PHASE.	G.M.T.			PERIOD. sec.	AMPLITUDE. μ	Δ km.	REMARKS.		
			h.	m.	s.						
31/1	ZV	e	23	32	33				New Hebrides 18½°S., 170°E. Comp. (U.S.C.G.S.)		
	Z,ZV	iPKP		32	28						
	N	e	00	30	-						
1	NE	F	01	15	-				Small. off Guatemala 14°N., 92°W. Depth about 60 kms. (U.S.C.G.S.)		
		eL	21	38	-						
2	Z	F		55	-				(12800) ZV,E,e. Sumbawa Islands region 7½°S., 119°E. (U.S.C.G.S.) N,e.		
		iPP	08	43	51						
		eSKS		49	35						
		eSKKS		50	59						
		i(PS)		53	29						
		e(SS)		59	43						
		L									
6	NE	M		39	30	20	19	Beginning of long waves lost during changing of recording paper 0910-0920.			
		M		39	30	20	15				
		M		40	-	20	13				
		F	11	20	-						
12	NE	eL	13	53	-				Small.		
		F	14	05	-						
12	ZV	iP	12	39	00				Other phases obscured by microseisms. California, felt. 31½°N., 116°W. (U.S.C.G.S.)		
		eL	13	03	-						
		eL		11	-						
		M		12	30					18	18
		M		12	30					18	14
Z	M	F		13	-	18	12				
					45	-					

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KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN.

NOVEMBER, 19 54

DATE.	COMPT.	PHASE.	G.M.T.			PERIOD.	AMPLI- TUDE.	Δ	REMARKS.
			h.	m.	s.				
12	NE	e F	23	03	-				Small. Microseisms.
18	ZV,Z	iP	05	31	53			7,760	N,e. Small. Depth about 70 Km. NE,e.
	ZV,Z	iP		32	19				
	Z	iS		40	53				
	NE	e(SKS)		41	47				
	N	i		47	21				
	NE	eL		59	-				
	ZNE	eL, F	06	09	-				
18	ZV	iP	20	57	27			(9240)	Small. Honshu Japan 39°N., 142°E. (U.S.C.G.S.)
	ZV	ePPP	21	02	47				
	NE	eS		07	40				
	NE	i		18	02				
	NE	eL		26	-				
		F		55	-				
19	ZV,Z	iP	06	07	11			8710	Small. Depth about 500 kms. ZN,e.
	ZV,Z	iP		09	05				
	E	iS		16	23				
	NE	eSP		17	12				
	NE	eS		19	52				
		F	07	00	-				
21	NE	e	09	03	-				Small. ZV not recording.
		F		50	-				
23	NE	e	11	02	-				Small. Microseisms.
		F		20	-				
23	NE	e	21	50	-				Small. Microseisms.
		F		22	30	-			
25	ZV	iP	11	28	31			8600	Z,e. N,e. ZN,e.
	ZNE	ePP		31	30				
	E	iPPP		32	54				
	N	iS		38	22				
	NE	eSS		43	18				
	NE	e		45	34				
	NE	eLQ		50	-				
	ZNE	eLR		56	36				
	E	M		57	30	19	48		
	N	M		59	30	17	54		
Z	M	F	12	03	-	15	30		
			14	25	-				
25	E	e	21	30	-				Small. Microseisms.
		F		50	-				

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AIR MINISTRY, METEOROLOGICAL OFFICE, LONDON.

KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN FOR DECEMBER, 19 54

Lat. 51° 28' 6" N, Long. 0° 18' 47" W, Height above M.S.L. 5m.

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DATE.	COMPT.	PHASE.	G.M.T.			PERIOD.	AMPLITUDE.	Δ	REMARKS.
			h.	m.	s.				
3	NE ZNE NE	eL	22	06	51				Microseisms. Kirghiz, U.S.S.R. 41½°N., 74½°E. (U.S.C.G.S.)
		e		10	17				
		e		10	48				
		F		20	-				
4	NE	eL	08	01	-				Microseisms. New Britain region 5°S., 152½°E. (U.S.C.G.S.).
		F	09	00	-				
4	ZV E E N E N NE	iP	18	41	31		7300		Microseisms. Near Trinidad. One killed several injured and extensive property damage. 11°N., 61°W. Depth about 60kms. (U.S.C.G.S.)
		i		42	33				
		i		47	36				
		iS		50	10				
		i		52	04				
		e		57	-				
		eL	19	01	-				
		F		15	-				
6	N	e	03	57	-				Small.
		F	04	15	-				
7	N	e	01	03	-				Small.
		F		20	-				
10	ZV E NE	iP	13	11	48		8050		West of Jamaica 18½°N., 81½°W. (U.S.C.G.S.)
		eS		21	13				
		eL		32	-				
		F		50	-				

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KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

SEISMOLOGICAL BULLETIN.

DECEMBER, 19 54

DATE.	COMPT.	PHASE.	G.M.T.			PERIOD.	AMPLI- TUDE.	Δ	REMARKS.
			h.	m.	s.				
11	N E NE	eS eSS eL F	03	49	12				Off coast of Liberia (U.S.C.G.S.)
V 11	ZVZNE NE NE N E Z	iP iS eL M M M F	13	01	37			2170	Compression from NW. North Atlantic Ocean 52½°N., 32°W.(U.S.C.G.S.)
				05	13				
				07	-	14	76		
				08	-	15	54		
				08	-	12	43		
			14	30	-				
16	E	e F	08	25	-				Small. Tonga Islands region 24°S., 175°W.(U.S.C.G.S.)
				40	-				
16	ZV,ZN N N Z NE NE NE E N Z	iP I e e iP II iS I iS II eL M M M F	11	18	57			8300	Compression from NW. Nevada. Felt Pasadena, Los Angeles. Two shocks: I,II.
				20	19				
				22	25				
				23	13				
				28	33				
				32	49				
				42	-	16	126		
				56	-	15	153		
				56	-	15	150		
			14	45	-				
19	NE NE	e eL F	10	46	46				Small.
			11	14	-				
			12	35	-				
21	NE	e F	02	19	-				Microseisms, small.
				25	-				
V 21	ZV ZV,Z N NE NE N NE E N Z	eP iP iPP eS iS eSS eL M M M F	20	08	11			8445	Microseisms. California.
				08	14				
				11	02				
				17	56				
				18	00				
				22	56				
				33	-	14	42		
				42	-	14	59		
				42	-	15	56		
			22	30	-				
23	ZV E NE	iP eS eL F	16	32	(01)			2200	Microseisms. Commenced in time break. Pelopenessus. Felt.
				35	36				
				39	-				
				55	-				
28	ZV E N	i(P) i(S) i(PcS) F	01	19	53			(2050)	Small.
				23	20				
				29	01				
			-	-	-				Overlapped.
28	NE	eL F	01	57	-				Confused with overlapping.
			03	30	-				

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.....DECEMBER,.....1954

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			h.	m.	s.				
29	NE	e F	12	45	-		μ	km.	Small.
			13	15	-				
30	(ZV N	e	02	11	49)				Small.
		e		17	41				
		F		25	-				
30	N N NE	e	11	12	21				Small.
		e		14	53				
		eL		19	-				
		F		40	-				
30	E	e	11	53	53				Small.
		F	12	55	-				

