Seismological Observatory,
Rathfarnham Castle,
Dublin, Ireland.

Bulletin: January - March 1960

Origin Times and Epicentres are those of U.S.C.G.S. unless otherwise stated.

This bulletin gives first arrivals. Further information is available on request. Records are available for copy or loan.

Instruments are run on reduced magnification during periods of winter storm.

Clock corrections are recorded to 0·1 sec.

Date	Comp.	Phase	G. M. T.	Type	Remarks
1960			h. m. s.		
Jan. 2	Z	i	10 25 26		
3	Z	iP	11 33 56		44N 84·5E
	Z	e	11 38 54		H 11:24:00
	Z	iP	20 23 50	C	39·2N 15·2E
	Z	i	24 00		H 20:19:06
	Z	i	24 16		h: 250-300 km.
	NEZ		29 08		(B.C.I.S.)
					D: 2200 km.
4	Z	iPKP	06 39 56		Very small
	Z	iP	12 57 00	C	45N 27E H 12:51:52
	Z	i	15 02 26		Seismic(?)
7	NE	eL	14 15 00		
8	Z	iPKP	02 53 (44)		Very small. Microseisms
9	EN	eP	04 04 (51)		(D: 3900)
	N	eS	09 (10)		Microseisms
	EN	eL	14 00		37N 29E H 03:58:45
	Z	eP	07 33 (15)		Microseisms
11	Z	e	03 05 07		
12	NE	eL	02 30 00		
	NE	eL	03 55 00		

Date	Comp.	Phase	G. M. T.	Type	Remarks
			h. m. s.		
1960					
Jan.13	ZNE	iP	15 53 10		16S 72W
	Z	ipP	53 40		H 15:40:34
	NE	ePP	57 37		D: 9900km
	E	eSKS	16 03 19		
	NE	iS	03 57		18s 10μ
	N	esS	05 00		
	N	e	05 50		
	NE	eSS	09 55		
	NE	eSSS	13 30		
	NE	eLQ	16 30		
	N	eLR	18 20		
	N	M	20 00		40s 300μ
	Z	eP	16 41 (51)		Microseisms
15	Z	iP	09 43 10	C	15S 75W
	Z	i	43 46		H 09:30:24
	N	eL	10 07 00		
					Lines crossed.
16	Z	iP	21 00 (06)		
17	Z	e(P)	04 32 08		
19	Z	iP	02 28 30		
	Z	iPKP	09 33 54		
	Z	i	34 00		
22	Z	i	02 27 53		
	Z	iP(?)	04 13 17	C	
	Z	e	13 26	D	
23	Z	e	05 03 48		
	Z	e	04 44		
	NE	eL	39 00		
	Z	e	07 51 40		
24	NE	eL	05 22 00		Microseisms
25	Z	i	13 39 18		
	Z	i	14 37 34		
26	Z	iP	09 58 54	C	39·5N 39·5E
					H 09:52:00

Date	Comp.	Phase	G. M. T. h. m. s.	Type	Remarks
1960					
Jan.26 (contd.)	Z	iP	20 31 50	C	46N 26·5E
	Z	i	31 58		H 20:27:05
	Z	e	32 26		h: 150km
	Z	i(P?)	20 34 33	D	
31	Z	e	05 22 (20)		Microseisms
	NE	eL	50 00		
Feb. 1	Z	iP	12 05 53	C	35N 23·5E
	Z	e	06 24		H 11:59:34
	NZ	eL	12 14 30		D: 3400 km
	Z	iP	14 08 35	C	Very small
4	Z	e	04 06 30		Microseisms
	Z	i	04 07 25		
	N	eL	04 48 00		
	Z	i	07 14 20		Seismic?
7	Z	e	10 56 54		
8	NE	e(SS)	13 15 (00)		Microseisms
		eL	13 26		
10	Z	ePKP	00 15 (00)		Microseisms
	Z	e	23 00		"
	Z	e	23 45 08		
14	Z	i	05 40 10		
	Z	i	06 13 26		
16	NE	eL	13 35 (00)		Microseisms
18	08 hrs. - 22 Feb. 08 hrs. No records				
22	Z	eP	21 09 (50)		39N 20·5E (BCIS)
	NE	eL	16 00		H 21:04:36 Microseisms
23	Z	e	00 36 (50)		Microseisms
	Z	iP	07 39 49		Repitition
	Z	i	40 05		H 07:34:30
	Z	e	07 53 (05)		V. small

Date	Comp.	Phase	G. M. T.	Type	Remarks
1960			h. m. s.		
Feb.23 (contd.)	Z	iPKP	11 49 58	D	
24	Z	ePKP	21 57 (00)		Very strong microseisms mask all phases.
	NE	eL	22 36		
26	Z	e	01 50 13		
	Z	iPKP	06 52 17	C?	20S 174W
			52 26		H 06:32:36
	Z	iP	23 41 11	C?	51·5N 178W
	Z	i	41 20		H 23:29:25
27	Z	iP	08 21 52	C?	Repetition
	Z	e	22 29		H 08:10:03
	Z	e	23 36		
29	ZN	iP	23 45 49	C	30·5N 9·7W
	Z	i	46 03		H 23:40:13
	Z	i	48 11		D: 2800km
	EZN	iS	50 19		Microseisms
	NE	eL	53 00		
	NE	M	56 00		
Mar. 2	Z	i	20 34 30		
	Z	iP	21 59 50	D	
	Z	i	22 00 06		
3	Z	i	01 22 52		
4	Z	iP	02 27 50	C	
	Z	iP	04 05 46	D?	
	Z	iP	16 29 47		72N OE
	Z	i	30 13		H 16:25:27 (BCIS)
5	Z	iP	11 36 20		
			14 - -		Disturbance
	Z	i	20 44 04	C	Seismic?
6	Z	iP	02 35 32	C	
	Z	i	35 43	D	
	Z	i	36 12	D	

Date	Comp.	Phase	G. M. T.			Type	Remarks
1960			h.	m.	s.		
Mar. 8	Z	iPKP	16	52	44		Microseisms
	Z	ipPKP		53	48		16·5S 168E
	Z	i		54	48		H 16:33:38
	Z	iPP		55	59		h 250km
	NE	eSS	17	14	00		D 15900km
10	Z	iP	00	07	11	C	16S 72W
	Z	e		09	06		H 23:54:20 h 150km
	Z	iPKP	05	19	04	C?	
	Z	iP	14	44	33	C	
12	Z	i	11	58	43		42N 21E
	Z	iP	11	58	57		H 11:54:00
	Z	i		59	23		D 2450km
	Z	eL	12	05	00		
	Z	ePKP	20	49	50		Poorly recorded.
	NE	eL	21	35	00		
13	Z	iP	09	32	47	C	
	Z	i		33	00		
18	Z	i	14	40	40		Seismic?
	Z	iP?	14	52	33		
	Z	i	19	45	35		
19	Z	i	11	39	36		
	Z	i	12	24	12		
20	Z	i	02	28	39		
	ZN	iP	17	19	59	D	Small D, large C on Z
	ZN	iPP		23	23		D 9400km
	NE	iS		30	21	N	40N 143·5E
	NE	iPS		31	30		H 17:07:30
	NE	eSS		35	50		
	NE	eLQ		41	30		
	NEZ	eLR		44	20		
	NE	M		55	00		20s 350 μ
	NE	M		59	00		15s 500 μ
	NE	M	18	01	00		14s 600 μ
	Z	i	20	28	05		

Date	Comp.	Phase	G. M. T.			Type	Remarks
1960			h.	m.	s.		
Mar.21	Z	iP	00	47	21	C	
	Z	iPP		50	43		
	Z	i	02	13	29	C	
	Z	i	03	55	54	C	Seismic?
	Z	i	06	08	30		
	Z	e	09	26	11		
	Z	iP	09	30	55	D?	
22	NE	eL	04	12	00		
23	Z	iP	00	35	59		
	Z	i		36	03		
	Z	e		39	24		
	Z	iP	01	19	48	D	
	Z	iP	22	35	09		
	Z	iP	23	11	40	D	46·5N 8E (BCIS)
	Z	i		11	55		H 23:08:53
	Z	iS(?)		13	36		D 1300km
	Z	i		14	09		
	Z	iLg		15	00		
24	Z	eP	06	06	34		
	Z	iP?	16	32	52		
25	Z	iPKP	02	47	51		
27	Z	e	09	17	(30)		

27 March 18 hrs. until April 1st 08 hrs. Repairs. No records (on SPV)

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Bulletin April - June 1960

Date	Comp.	Phase	G. M. T.	Type	Remarks
1960			h. m. s.		
Apr. 1	NE	eL	14 44 00		
3	Z	e	07 07 16		
4	Z	e	00 54 51		
5	NE	eL	17 31 00		Microseisms
7	Z	iPKP	14 06 25	D	
	Z	e	07 03		
	Z	e	08 19		
8	Z	iPKP	00 15 19	D	
	Z	i	15 31	D	
	Z	ipPKP	16 10		
	Z	i	16 17		
9	Z	e	05 56 44		
10	Z	i	00 53 48		
	Z	e	22 11 (00)		Microseisms
13	Z	e	05 02 51		Microseisms
	Z	eP	12 49 (10)		Microseisms
15	Z	e	08 53 30		Microseisms
	Z	eP	11 51 11		
	Z	iPKP?	22 24 47	D	Very small
16	Z	i	20 50 39	D	
17	Z	iPKP	22 08 17	C?	20S 180E
	Z	i	08 21		H 21:49:24 h 500km
18	Z	eP	08 19 37	C?	
	Z	ePP	23 21		

Date	Comp.	Phase	G. M. T.			Type	Remarks
1960			h.	m.	s.		
Apr.19	Z	iP	20	44	39	C	Indistinct
				44	48		
22	Z	iPKP	20	45	40	C?	
	Z	e		46	50		
	Z	e		47	09		
23	Z	eP	06	34	40		Small
	Z	e		36	27		
24	Z	iPKP?	03	39	58	D	6S 113·5E
	Z	i		40	24	C	H 03:22:23
	Z	ePP		40	47		h 600km
	ZN	iPS		49	26		D 12500km
	ZN	iPKKP		50	51		
	ZE	e		54	08		
	Z	iP	12	23	31		28N 54·5E
	Z	i		23	42		H 12:14:26
	Z	i		24	27		D 5800km
	Z	i		25	33		
	NE	eS		30	53		
	Z	e	18	28	08		
25	Z	iP	15	04	58	D	
	Z	i		05	15		
	Z	eP	16	34	24		
	Z	iP?	22	19	53		
28	Z	eP?	16	40	17		
29	Z	e	04	31	01		
	Z	ePKP	19	51	00		
	Z	e		51	34		
	Z	i		51	39		
30	Z	ePP?	04	21	00		
	Z	i	22	33	33		
	Z	e		35	44		
May 2	Z	e	12	29	30		
3	Z	i	08	06	55		

Date	Comp.	Phase	G. M. T.	Type	Remarks
1960			h. m. s.		
May 3	Z	i	13 39 46		
(contd.)	Z	eP	22 35 24		
5	Z	iP	11 37 38	C	52·5N 158·5E
	Z	e	37 57		H 11:26:00
6	Z	eP?	17 26 05	C	
	Z	iP	18 58 52	C	
	Z	e	59 28		
8	Z	e	05 31 35		
	Z	iP	14 41 21		45·5N 151E
	Z	i	43 06		H 14:29:14
9	Z	e	00 22 (20)		Microseisms
	Z	e	16 37 18		"
12	Z	iP	22 44 (12)		Microseisms
	NE	eS	28 56		
13	Z	eP	16 18 37		
	NE	eL	38 00		
14	Z	e	17 58 46		
	Z	iP	22 31 27	C	
	Z	e	31 38		
18	Z	iP	06 47 59		29N 130E
	Z	i	49 00		H 06:35:09
	Z	iPP	51 32		h 100km
19	Z	eP	10 25 40		Microseisms
	NE	eL	50		
20	Z	$iPKP_1$	11 32 34		28S 167·5E
	Z	i	32 40		H 11:12:31
	Z	i	32 52		D 18000km
	Z	ePP	36 40		
21	Z	iP	06 46 33		37·5N 21E
	Z	i	47 09		H 06:41:10
	Z	eP	10 17 (16)	C?	Disturbed

Date	Comp.	Phase	G. M. T.	Type	Remarks
1960			h. m. s.		
May 21 (contd.)	ZNE	iPP	10 21 46	C	D 12000km
	NE	iSKS	27 55		
	NE	iS	29 27		37·5S 73·5W
	NE	ePS	31 08		H 10:02:50
	NE	iSS	36 49		
	NE	iSSS	40 55		
	E	eLQ	49 00		
	NE	M	11 05		20s 800μ
	Z	iP	12 35 41	C	
	Z	iP	13 14 14		
	Z	eP	14 14 04	C	
	Z	e	15 23 44		
	Z	e	19 20 59		
22	Z	i	06 17 21		
	Z	iP	10 44 58	C	Repetition
	Z	iP	10 47 07	C	
	ZNE	iPP	51 35	D	Repetition
	NE	eS	59 20		
	E	eLQ	18		
	NE	M	36		20s 50μ
	Z	iP	19 10 19	C	
	NE	iPP	14 47	C	Repitition
	NE	iS	22 42		
	Z	eP	19 25 21	C?	
	NEZ	iPP	29 46	C?	"
	Z	iP	19 25 41	D	38S 73·5W
	NE	iPP	30 13	C?	H 19:11:20
	NE	iSKS	36 12		D 12000km
	NE	e	40 10		
	NE	iSS	45 15		
	NE	eLQ	54 50		
	N	eLR	20 01 30		
	NE	M	10 00		20s 1500μ
23	Z	e	00 35 14		
	Z	e	01 07 41		
	Z	i	03 13 51		
	Z	i	14 47		

Date	Comp.	Phase	G. M. T.	Type	Remarks
1960			h. m. s.		
May 23 (contd.)	Z	iP	05 28 24		
	Z	eP	32 25		
	Z	e	07 29 41		Microseisms
	Z	e	10 07 (00)		"
24	Z	$iPKP_1$	15 06 53	D	44·5S 167·5E
	Z	$iPKP_2$	08 04	D	H 14:46:34
	Z	i	08 14		
	Z	ePP	12 01		
	Z	e	21 46 36		
25	Z	ePP	08 54 21		
26	ZN	iP	05 15 10		40·6N 20·6E
	Z	i	15 36		H 05:10:05
	NE	iS	19 16		D 2500km
	NE	L	21 20		
	E	iL	22 09		
	NE	M	22 35		17s 100μ
	Z	iP	20 17 06		
	Z	i	21 18 57		Seismic?
27	Z	eP	03 32 15		
28	Z	e	10 47 03		Seismic?
	Z	ePP?	11 23 59		
29	NS	eL	08 35 00		Changing records
	Z	e	21 39 11		
30	Z	e	07 15 05		
31	Z	ePP	02 59 06		
	Z	i	03 03 05		
	Z	iP	11 11 54	C	18N 62W
	Z	ePP	13 59		H 11:02:20
	ZN	eS	19 54		D 6200km
Jun. 1	Z	e	05 28 14		
2	Z	ePP	06 18 00		

Date	Comp.	Phase	G. M. T.			Type	Remarks
1960			h.	m.	s.		
Jun. 2 (contd.)	NS	eL	06	49	00		
	Z	ePKP	07	38	37		
	Z	e		39	38		
	Z	e	08	06	(-)		Changing record.
	Z	e		12	40		
	Z	iP	12	50	47	C	
	Z	i		51	14		
	Z	iPKP	19	17	50	D	20·5S 178·5W
	Z	i		17	53		h 550km H 18:59:05
	Z	iPKP	20	07	13	C	H 19:48:29
	Z	i		07	16		
3	Z	iPKP	13	33	11	C	Foreshock
	Z	e		33	44		H 13:14:38
	Z	iPKP	13	42	10	C	17·5S 179W
	Z	i		42	34		h 600km
	Z	i		42	40		H 13:23:37
	Z	i		43	04		
	Z	iPP		45	38	C	
	Z	iP	16	30	20	C?	41·5N 141·5E
	Z	i		30	42		H 16:18:04 h 100km
4	Z	iP	02	39	11	C	20N 95·5W
	Z	i		39	44	D	H 02:27:06
	Z	iP	08	14	36	C	
	Z	iP	11	10	05		
	Z	e		15	56		
6	Z	iP	01	29	18	D?	Microseisms
	Z	e		29	37		41N 125W
	E	eL	02	01	00		H 01:17:48
	Z	e	03	03	14		
	Z	e	06	13	03		45·5S 73·5W
	Z	ePP		15	00		H 05:55:44
	NE	eS		23	04		D 12700km
	N	ePS		25	10		
	NE	eSS		32	30		
	NE	eL		48	-		
	NZ	M	07	01	00		20s 150 μ

Date	Comp.	Phase	G. M. T.	Type	Remarks
1960			h. m. s.		
Jun. 7	Z	iP	13 08 47		Microseisms
8	Z	eP	16 25 32		Microseisms
	NS	eL	32 -		
9	Z	e	03 56 15		
	Z	iPKP	11 43 34		18S 169E
	Z	iPP	46 57		H 11:23:51
	Z	iP	17 52 19	C?	38N 26W
	ZN	eS	56 10		H 17:47:41 D 2350km
10 19hrs to June 11th 08 hrs. no Z record.					
11	Z	ePKP	15 33 38		
	Z	e	36 37		
	Z	ePKP	16 57 05		
	Z	e	59 19		
12	Z	e	00 52 20		Small
13	Z	e	04 41 05		
15	Z	iP	15 49 15	C	
	Z	i	49 31		
16	NE	eL	00 20 -		
17	Z	ePKP	05 21 14		
	Z	iP	16 47 15		
	Z	i	47 31		
19	Z	i	07 22 11		
	Z	iP	12 46 48		
	Z	e	47 00		
20	ZN	eP	02 15 39		38S 73·5W
	ZN	iPP	20 03	D	H 02:01:08
	Z	i	20 24		D 12100km
	Z	i	22 15		
	NE	eSKS	26 13		
	NE	iPPS	29 20		
	N	eSS	35 30		

Date	Comp.	Phase	G. M. T.	Type	Remarks
1960			h. m. s.		
Jun.20	N	eL	02 46 --		
(contd.)	N	M	03 02 10		30s 150μ
	NE	M	04 15		20s 150μ
	Z	iPKP	13 18 (10)		
	Z	ePP	18 50		
	NE	eL	45 --		
21	Z	ePKP	21 53 28		Very small
22	Z	e	03 16 20		
	Z	iP	16 22 45		12N 57S
	Z	e	22 59		H 16:12:00
	Z	e	23 47		
	Z	eP	23 40 32		
25	Z	ePn	14 31 10		Very small. doubtful.
	Z	$iPKP_2$?	15 02 20		
	Z	i	15 02 26	C	Microseisms
29	Z	i	02 45 00	C	
	Z	iP	10 26 42·5	C	47·5N 27W
	Z	i	26 53	D	H 10:23:02
	Z	i	28 19		D 1740km (P-H)
	Z	i(S?)	30 08		
	Z	iP	17 18 33	D?	
30	Z	iP	20 09 02	D	
	Z	e	09 17		

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