



SEISMOLOGICAL BULLETIN

No. 1.

January - March 1946

King's College Observatory,  
Aberdeen.

Lat. 57°10' N.

Long. 2°6' W.

Height above M.S.L 12m.

Lithologic Foundation: Glacial deposit over boulder clay.

Instruments: Milne-Shaw seismograph.  
Photographic registrations, Two Components.

Compts	Mass	To	Damping Ratio	Magnification	1" Tilt	Date from which constants apply.
N	1 lb.	10 sec.	20:1	150	18.1	23/3/44.
E	1 lb.	10 sec.	20:1	150	18.1	28/3/44.

Date	Components	Phase	Time G.M.T.	Period	Ampl.	△	Remarks
Additions to previous Bulletins							
			h. m. s.	secs.	<i>M</i>	km.	
Extras. Sept. 1/2	E	e	23 12 10				
	E	i.	30 10				
	E	L	00 5 7				
	E	M	25 33	20	6		
		F	?				
Oct. 2	N	e	01 13 23				No trace on W-E.
	N	M	18 16	18	4		
		F	39				
Oct. 13.	N	e	01 22 11				No trace on W-E.
	N	M	33 25	17	4		
		F	51				
Oct. 20	N	e	01 5 20				Very slight
		F	16				
Jan. 5	N	i	20 19 31				
	E	i	20 20 22				
	N	i	31 57				
	NE	i	42 37				
	NE	LQ	54 26				
	N	LR	21 2 48				
	N	M	18 21	22	67		
	E	M	25 27	22	40		
		F	22 35				
Jan. 12	N	i	20 36 4				
	NE	i	39 40				
	NE	i	44 5				
	N	i	43 11				
	NE	i	51 13				
	E	L	53 6				
	N	L	54 56				
	E	M	55 41	28	42		
	N	M	59 23	26	60		
		F	21 49				

SEISMOLOGICAL BULLETIN

No. 2.

January - March 1946

King's College Observatory,  
Aberdeen.

Date	Components	Phase	Time G.M.T.			Period	Ampl.	△ km.	Remarks.
			h.	m.	s.				
Jan. 17 ✓	NE E N	e M M	10	31 43 44	12 26 29	23 23	25 11		
Jan. 25 ✓	NE NE NE E N	F iP iS L M M	11 17	6 34 38 38 39 40	41 0 47 15 4	10 10	71 65	18.2° 2020	
Feb. 9	N E	F i i	19 13	2 29 30	49 4				
Feb. 12 ✓	NE NE NE E N N	F iP iS L M L <sub>R</sub> M	02	48 52 54 56 56 58	18 17 34 12 53 33	13 10	21 15	22.3° 2480	
Feb. 15	N E	F e e	03 03	20 55 55	9 24				
Feb. 18	N E N E N E	F e e eL eL M M F	04 00 01	1 55 57 19 25 26 36 56	10 25 15 15 55 15	20 20	4 6		
Feb. 19	N E N	F e e M	19	25 29 30 40	10 15 21	21	8		
Feb. 20	N E N E N E	L L M <sub>1</sub> M <sub>1</sub> M <sub>2</sub> M <sub>2</sub>	04	27 28 31 32 35 35	22 1 55 18 10 38	22 22 20 20	40 67 30 47	Partially obscured by micro-seisms	
Feb. 21	E N E N E	F i i L M M F	15 16	53 54 0 3 3	53 29 34 0 54	13 12	3 3		
Feb. 24.	NE E N	F e M M F	10	28 35 38 45	24 24	20 20	5 5	Slight	

SEISMOLOGICAL BULLETIN

No. 3.

January - March 1946

King's College Observatory,  
Aberdeen.

Date	Components	Phase	Time G.M.T.			Period	Ampl.	△ km	Remarks	
			h.	m.	s.					secs.
Feb. 28	NE	i	02	47	35	20	6	M		
				51	31					
	NE	e	03	15	16					
				21	26					
	E	L		29	3					
				31	59					
E	M		55							
			59							
March 12.	E	F	01	40		18	2		Unsettled from 2400 onwards	
				13	10					
				25						
March 12	NE	i	02	37	2	20	14			
				40	10					
	N	e		41	0					
				45	10					
	E	L		46	35					
				50	41					
E	M		51	38						
			51	38						
March 15	NE	F	03	27		20	8		Slight effect generally	
				08	43					11
				09	58					
March 15 ✓	NE	e	13	42	13	16	13		This phase very doubt- ful	
				14	0					11
	NE	i		15	33					
				20	22					
	NE	L		24	27					
				25	31					
	E	L		32	58					
				33	4					
	E	M		33	4					
				33	4					
March 16 ✓	E	F	15	4		17	5			
				11	56					22
				12	27					2
March 26 ✓	E	M	12	27	19	15	6			
				27	19					
				40						
March 26 ✓	NE	e	17	33	25	24	82			
				36	1					
	N	i		41	16					
				49	13					
	N	i		56	28					
				57	55					
	E	L	18	6	7					
				8	32					
	E	M		18	37					
				18	37					
March 27/28	E	F	19	44		21	33			
				23	52					23
				00	5					45
March 29	E	L		7	0	14	3			
				10	54					
	E	M		25						
				25						
NE	iP	07	38	47	20	11	83.9°	9320		
			49	11						
NE	iS	08	0	56	20	19				
			7	35						
E	L		14	41						
			17	23						
E	M		17	23						
			17	23						
E	F		09	40						
			09	40						

SEISMOLOGICAL BULLETIN.

No.1.

April - June 1946.

King's College Observatory,  
Aberdeen.



Lat. 57° 10' N.

Long. 2.6' W.

Height Above M.S.L. 12m

Lithologic Foundation: Glacial deposit over boulder clay.

Instruments: Milne-Shaw seismograph.  
Photographic registrations: Two Components.

Compts	Mass	To	Damping Ratio	Magnification	1" Tilt	Date from which constants apply
N	1 lb.	10 sec.	20:1	150	18.1	23/3/44.
E	1 lb.	10 sec.	20:1	150	18.1	28/3/44.

Date	Components	Phase	Time G.M.T.			Period	Ampl	△ km.	Remarks.
			h.	m.	s.				
Apr. 1.	NE	e F	06	28	41 42 30				slight
Apr. 1.	NE NE	iP iS	12	40	2 49 7			69.2 7690	
	NE NE E N E N	iPS i L M M <sup>1</sup> M <sup>2</sup> F <sup>2</sup>		49	39 56 48 13 2 2 4 25 9 27 15 27 16 23				
Apr. 1.	N E N E	i i M M F	17	19	9 20 37 40 27 43 9 18 12				
Apr. 1.	NE NE E N E	iP iS i L L M M F	19	8	51 17 44 25 48 31 17 36 27 38 33 41 31 20 53			67°0 7445	
Apr. 2.	N E N E	i e M M F	04	33	46 42 30 54 40 57 27 05 18				

SEISMOLOGICAL BULLETIN.

No. 2

April - June 1946.

King's College Observatory,  
ABERDEEN.

Date	Components	Phase	Time G.M.T.			Period	Ampl.	km.	Remarks.
			h.	m.	s.				
Apr. 2.	N NE	i	05	58	36	18	13		No distinct max. on W-E
		i	06	17	14				
	N N	L		37	17				
		M F	07	42	6 5				
Apr. 2.	NE N	i	16	49	10	20	7		
		M	17	16	32				
	E	M		16	50				
		F		42	30				
Apr. 3.	N E N	i	09	18	40	15			very slight
		i		28	38				
		M		40	44				
		F		53					
Apr. 5.	NE NE	i	21	4	21				
		i		10	28				
		F		19	30				
Apr. 6.	NE NE N E	i	05	12	47	19	12		
		L		32	10				
		M		37	45				
		M		38	27				
		F	06	5					
Apr. 9.	N N E	i	20	47	8	16	16		
		M		48	44				
		M		49	4				
		F	21	2					
✓ Apr. 11.	N E	iP	02	2	36	13	59	56° 0 6220	
		i		3	6				
	N E NE	iS		10	23				
		iS		10	31				
		iPs	02	16	55				
	N E	iss		16	29				
		iss		16	33				
	N E	L		20	32				
		L		20	40				
	N E E	M		25	32				
		M		27	13				
		F	05	0					
	Apr. 12.	NE	i	07	53				
F			08	3					
Apr. 16	E NE NE N E	e	11	54	6	13	10		
		i		55	56				
		L		56	42				
		M		59	19				
		M F	11	59	34				
			12	11					

SEISMOLOGICAL BULLETIN.

No.3.

April - June 1946.

King's College Observatory,  
ABERDEEN.

Date.	Components	Phase	Time G.M.T.			Period	Ampl.	△ km.	Remarks.
			h.	m.	s.				
Apr. 22	NE NE N E N E N	i	05	40	9	20 20	8 14		
		e	06	11	0				
		L	21	21					
		L <sup>q</sup>	23	23					
		L <sup>R</sup>	28	46					
		M	32	44					
		M	33	39					
Apr. 23	N	F	07	15				Doubtful on W-E	
		i	11	54	27				
✓ May 3/4.	NE NE NE NE NE N E E E N N	F	12	4				150° 16,660	
		e	22	25	0				
		i	30	32					
		i	32	12					
		i	44	34					
		i	54	25					
		i	23	2	7				
		i	5	40					
		i	13	33					
		L	17	57					
		L	26	15					
		M	30	20	27				
		M	37	53	24				
		F	02	7					
✓ May 8.	E N  E E NE N N NE N E	iP	05	33	38	25 21	122 52	93° 10335	
		e	34	-					
		iPP	37	8					
		iPPP	39	45					
		iS	44	45					
		i	58	0					
		i	06	4	50				
		L	15	0					
		M	20	0					
		M	25	21					
		F	08	30					
May 8.	E E E E E E E	i	10	5	35	20	28	N-S record unreadable owing to tilting of building.	
		i	8	5					
		i	13	22					
		i	10	22	0				
		e	39	30					
		i	46	23					
		L	52	11					
		M	58	15					
May 9.	E N	F	12	12					
		e	23	11	30				
		e	12	25					
		F	32						

SEISMOLOGICAL BULLETIN.

No. 4.

April - June 1946.

King's College Observatory,  
ABERDEEN.

Date	Components	Phase	Time G.M.T.			Period	Ampl.	△ km.	Remarks.
			h.	m.	s.				
May 10	E	e	00	6	30	19 15	7 5		
	N	e		7	20				
	NE	L		11	11				
	N	M		17	22				
	E	M		20	57				
		F	48						
May 11.	E	i	16	29	28	18 19	4 4		
	E	M		30	23				
	N	M		30	36				
		F		46					
May 11.	NE	iP	18	41	32			14.4° 1600	
	NE	i		43	29				
	NE	iS		44	11				
	NE	i		46	3				
		F	19	6					
May 12.	NE	iP	13	25	40	11 10	16 8	26.1° 2900	
	NE	iS		30	13				
	NE	L		32	0				
	E	M		34	31				
	N	M		35	29				
		F	14	31					
May 15	E	e	22	22	40	23 23	7 13		
	N	e		23	30				
	NE	i		32	51				
	NE	L		48	30				
	N	M		52	24				
	E	M		54	7				
		F	23	40					
May 19.	NE	i	00	51	4	18	3		
	NE	L	01	5	40				
	NE	M		15	21				
		F		55					
May 21.	NE	iP	09	26	51	22 23	22 29	60.6° 6665	
	NE	iS		35	3				
	NE	iSS		39	15				
	NE	L		44	27				
	N	M		46	51				
	E	M		47	6				
		F	10	12					
May 30.	NE	iP	03	44	10	9 8	25 25	15.3° 1700	
	NE	iS		46	59				
	NE	i		47	59				
	E	M		48	49				
	N	M		49	29				
		F		04	15				

SEISMOLOGICAL BULLETIN

No. 5.

April - June 1946.  
King's College Observatory,  
ABERDEEN.

Date	Components	Phase	Time G.M.T.			Period secs.	Ampl. μ	Δ km.	Remarks.
			h.	m.	s.				
May 31	N E E N N N E	e i i i L M M F	03	18 19 24 24 32 34 39 04	38 24 41 48 50 54 12 15				
May 31	Slight trace from 16h 35m to 16h 39m on W-E component.								
June 1	NE E	e M F	17	0 7 16	28 26	17	3		very slight
June 2	NE E N E N	i L L M M F	01	32 52 53 02 4 5 21	18 20 28 46 1	17 16	20 20		
June 7	NE NE N N E E E F	iP iS i i L M	04	25 34 44 46 47 53 05 34	34 48 27 43 59 35 -	18 25	33 48	70.8° 7865	N-S trace entirely different in appearance from W-E trace
June 12	E N E N E N	e e eL eL M M F	17	0 1 11 12 17 18 18 35	39 44 - - 31 42 -	19 19	5 5		
June 15	NE N E N E	i eL eL M M F	18 19	48 22 23 28 31 20 5	47 44 53 49 48 -	27 25	8 9		
June 20	N E N N E	i i L M M F	00 01	57 1 5 11 13 27	51 29 40 54 42 -	15 15	2 3		



SEISMOLOGICAL BULLETIN.

No. 6.

April - June 1946.

King's College Observatory,  
ABERDEEN.

Date	Components	Phase	Time G.M.T.			Period	Ampl.	△ km.	Remarks.
			h.	m.	s.				
✓ June 23	NE	iP	17	23	54			63.4° 7045	Slight effect observable both components from 21h 23m to 21h 40m. Time of commencement doubtful owing to shaking of building
	NE	i		28	28				
	NE	iS		32	26				
	N	iPS		34	51				
	NE	iSS		36	43				
	N	iSSS		39	16				
	NE	L		40	41				
	N	M		43	51	26	230		
	E	M		44	58	26	280		
		F	20	11	-				
June 26.	NE	eL	14	6	19				
	N	M		18	49	22	3		
	E	M		18	52	20	4		
		F		15	0	-			

SEISMOLOGICAL BULLETIN.

No.1

July-September 1946

King's College Observatory,  
Aberdeen.

Lat. 57°10' M.

Long. 2.6' W.

Height above M.S.L. 12m

Lithologic Foundation: Glacial deposit over boulder clay.

Instruments: Milne-Shaw seismograph.  
Photographic registrations: Two Components.

Compts	Mass	To	Damping Ratio	Magnification	1" Tilt	Date from which constants apply
N	1 lb.	10 sec.	20.1	150	18.1	13/7/46
E	1 lv.	10 sec.	20.1	150	18.1	15/7/46

Correction: For April 22 in April-June Bulletin 1946 read April 23.

Date	Components	Phase	Time G.M.T.			Period secs.	Ampl	△ km.	Remarks	
			h.	m.	s.					
July 1/2	E N E N E N	i i L L M M F	23	4	53	28 21	10 -			
				6	2					
				30	30					
				38	22					
				41	39					
				50	11					
July 8	NE	e F	13	27	30					
				14	50					
July 9	NE NE N E E	i eL M M F	01	49	47	18 18	4 6			
				02	27					14
					36					44
					39					32
				03	36					-
July 11	E NE N N E E	iP iS i e L M F	04	58	24	18	4	74.5° 8280km	N-S compt e.  No definite max. on N-S.	
				05	7					58
					8					32
					17					17
					23					4
					32					42
July 16	NE E N N N E N E	i i i L M <sub>1</sub> M <sub>2</sub> F	05	32	42	18 13 13	22 24 21			
					37					32
					38					9
					42					9
					45					2
					47					46
					48					35
				06	45					-

SEISMOLOGICAL BULLETIN:

No.2.

July-September 1946.

King's College Observatory,  
Aberdeen.

Date	Components	Phase	Time G.M.T.			Period secs.	Ampl.	△ km.	Remarks.	
			H.	m.	s.					
July 16	NE	e	19	20	32		u	55.1° 6120km	Slight Distur- bance	
	E	i		56	17					
	N	M	20	5	17	15				2
	E	M		5	37	15				2
		F		24	-					
July 18	NE	iP	06	26	23			53.0° 5890	Two Distur- bances appear to have approx- imately the same origin	
	NE	iS		34	5					
	N	L		38	7					
	E	L		38	19	23	28			
	E	M		42	2	21	27			
	N	M		42	37					
		F	07	20	-					
July 18	NE	iP	07	36	3					
	N	iS		43	32					
	NE	L		47	52	20	25			
	N	M		51	15	18	20			
	E	M		52	20					
		F	08	36	-					
July 19	NE	i	21	38	40					
	NE	e	22	2	21					
	E	eL		6	11					
	N	eL		7	21					
	E	M		12	51	17	3			
	N	M		13	26	16	4			
		F		39	-					
July 25	N	e	16	53	0					
	E	i	17	2	47					
	E	M		25	50	20	5			
	N	M		26	52	20	11			
		F	18	17	-					
July 26	NE	e	07	8	42					
	N	M		35	17	24	6			
	E	M		36	21	22	7			
		F		49	-					
July 27	NE	i	16	39	1					
		F	17	11	-					
Aug. 2	NE	e	19	37	0				Slight effect from this point onwards	
	NE	i		43	11					
	NE	i		51	12					
	N	i	20	1	24					
	E	i		1	34					
	N	M		11	3	25	30			
	E	M		13	23	25	30			
		F	22	0	-					

SEISMOLOGICAL BULLETIN.

July-September 1946.

No. 5.

King's College Observatory,  
Aberdeen.

Date	Components	Phase	Time G.M.T.			Period secs.	Ampl.	△ km.	Remarks.
			h.	m.	s.				
Sept. 24	NE	i	23	59	53	30 27 20	31 37 6		
	NE	i	00	8	29				
	N	L		26	0				
	E	L		26	50				
	E	M <sub>1</sub>		30	55				
	N	M <sub>1</sub>		33	47				
Sept. 25	E	i	10	24	33	21	4	Obscured on N-S by shak- ing of building	
	E	M		36	44				
		F		48	-				
✓ Sept. 29	N	i	03	22	32	32 30 20 20	220 170 137 137	94° 104.50 km.	
	NE	iP		22	50				
	NE	iPPP		28	23				
	NE	i		29	57				
	NE	iSK		32	46				
	N	i		40	0				
	E	iSS		40	26				
	NE	L		56	22				
	N	M <sub>1</sub>	04	1	49				
	E	M <sub>1</sub>		5	45				
✓ Sept. 30	NE	e	11	48	-	19 19	3 4		
	E	M	12	21	32				
	N	M		24	16				
		F	13	15	-				
		F							



SEISMOLOGICAL BULLETIN.

No.1.

October - December 1946.

King's College Observatory,  
Aberdeen.

Lat. 57°10' M.

Long. 2.6' W.

Height above M.S.L. 12m

Lithologic Foundation: Glacial deposit over boulder clay.

Instruments: Milne-Shaw seismograph.  
Photographic registrations: Two Components

Compts	Mass	To	Damping Ratio	Magnification	1" Tilt	Date from which constants apply
N	1 lb.	10 sec.	20:1	150	18.1	13/7/46
E	1 lb.	10 sec.	20:1	150	18.1	15/7/46

Date	Components	Phase	Time G.M.T.			Period secs.	Ampl $\mu$	$\triangle$ km	Remarks			
			h.	m.	s.							
✓ Oct. 2.	NE N E E N N E E N	iP iS i e e eL eL M M F	04	57	15	17 17	4 5	69.5° 7720 km	W-E e.       The two shocks are approximately in the same locality			
										05	6	22
											6	44
											13	25
											15	15
											20	28
											22	35
											31	28
✓ Oct. 2.	NE NE NE N E E N	iP iS e eL eL M M F	06	54	26	15 16	2 4	69.8° 7755 km	same locality			
										07	3	35
											12	20
											19	25
											20	25
											28	34
											30	36
										08	11	-
✓ Oct. 4.	E E N E N	i eL eL M M F	15	4	0	21 20	25 14					
											14	24
											16	37
											17	20
											18	17
Oct. 9.	NE	e F	21	16	50				slight			
											30	-
Oct. 13.	N N N	e L M F	21	36	37	15	3					
											42	2
											45	46
										22	0	-

SEISMOLOGICAL BULLETIN.

No.2.

October - December 1946.

King's College Observatory,  
Aberdeen,

Date	Components	Phase	Time G.M.T.			Period secs.	Ampl.	$\Delta$ km	Remarks
			h.	m.	s.				
Oct. 18.	NE	e F	04	51	46		4		Very slight
				59	-				
Oct. 30. ✓	NE	iP	07	58	34			68.7° 7630 km	
	NE	iS	08	7	36				
	N	iSS		12	7				
	E	iSSS		14	44				
	E	L		21	6				
	N	L		22	34				
	E	M		31	23	18	13		
	N	M		31	48	18	29		
		F	09	27	-				
Nov. 1. ✓	N	iP	11	25	45				
	E	e		26	3				
	NE	iS		35	1				
	N	iSS		39	13				
	E	i		43	20				
	NE	L		49	33				
	E	M		55	16	24	43		
	N	M		58	8	20	49		
		F	14	15	-				
Nov. 2.	NE	i	14	28	43				
	E	eL		53	13				
	N	L		54	3				
	N	M	15	1	21	26	27		
	E	M		3	44	26	32		
		F		30	-				
Nov. 2. ✓	N	i	18	36	29			48.5° 5390 km	
	NE	iP		37	11				
	NE	iPP		39	4				
	NE	iPPP		39	44				
	NE	iS		44	11				
	E	iPS		44	41				
	NE	iSS		47	36				
	E	L		50	21				
	N	L		52	6				
	E	M		58	3	15	713		
	N	M		59	8	15	565		
		F	21	53	-				
Nov. 3.	NE	iP	19	42	29			58.4° 6490 km	
	NE	iS		50	31				
	NE	iSS		54	13				
	NE	L	20	0	22				
	E	M		4	49	20	27		
		M		5	38	16	18		
		F	21	8	-				

SEISMOLOGICAL BULLETIN.

No.3.

October - December 1946

King's College Observatory,  
Aberdeen.

Date	Components	Phase	Time G.M.T.			Period secs.	Ampl.	△ km.	Remarks
			h.	m.	s.				
Nov. 4. ✓	NE E N NE N E N E	iP iPP iPPP iS L L M M F	21	55	21			40.4° 4490km	
Nov. 6. ✓	N N N	i L M F	20	14	.18		33		E-W not recording
Nov. 7.	NE E N	i M M F	16	21	6		3 3		
Nov. 10.	E N NE E N	i i i M M F	01	7	23		3 3		
✓ Nov. 10.	NE NE NE NE N E E N	iP iS i i L L M M F	17 18	55 6	52 22			85.0° 9445km	
Nov. 12.	E N N E	e e M M F	06	24	26		4		
✓ Nov. 12.	N E NE N E E N	iP i iS L L M M F	17 18	48 51	12 12			127° 14110km	
Nov. 21.	NE	i F	01 02	52 5	51 -				Slight

SEISMOLOGICAL BULLETIN.

No.4.

October - December 1946

King's College Observatory,  
Aberdeen.

Date	Components	Phase	Time G.M.T.			Period	Ampl.	△ km.	Remarks.	
			h.	m.	s.					
✓ Dec. 4/5.	NE	i	22	50	34		μ			
	NE	i	23	10	15					
	NE	oL		30	54					
	E	M		34	39				23	66
	N	M		35	25				19	71
		F	00	15	-					
Dec. 16.	NE	e	22	24	50					
		F		40	-					
✓ Dec. 19.	NE	iP	03	20	19			67.1° 7455km		
	NE	iSS		32	47					
	NE	e		37	56					
	N	L		40	11					
	N	M		45	54				20	6
	E	M		52	3				22	7
		F	04	8	-					
✓ Dec. 20.	NE	iP	19	31	34			84.5° 9390km		
	NE	iPP		34	55					
	NE	i		38	25					
	N	iS		41	55					
	E	iS		42	2					
	NE	iSS		47	35					
	E	i		56	16					
	N	i		56	53					
	E	M	20	13	10				18	1091
	N	M		14	0				20	1151
		F	00	18	-					
Dec. 21	E	e	04	23	5					
	E	M		24	17				20	
		F		53	-					
✓ Dec. 21	N	iP	10	30	50			72.8° 8090km		
	E	o		31	5					
	NE	iS		40	15					
	E	iSS		45	10					
	N	iSS		45	26					
	E	L		52	45					
	N	L		56	48					
	E	M	11	3	27				23	113
	N	M		3	57				19	76
		F	13	53	-					
✓ Dec. 21.	NE	e	20	10	20					
	NE	i		15	33					
	N	L		31	43					
	E	L		32	0					
	E	M		40	7				17	20
	N	M		41	59				15	19
			F	21	37				-	
	Renewal at NE	e	22	39	10					
		F		49	-					



SEISMOLOGICAL BULLETIN.

No.5.

October - December 1946

King's College Observatory,  
Aberdeen.

Date	Components	Phase	Time G.M.T.			Period	Ampl.	Δ km.	Remarks
			h.	m.	s.				
✓ Dec.24.	NE	i	05	0	55		μ 5 4	W-E c	
	E	M		13	20	22			
	N	M		15	12	20			
		F		24	-				
Dec.24.	NE	i	17	19	56		2 2		
	NE	e		21	53				
	N	M		22	13	19			
		M		24	3	17			
	E	F		46	-				
Dec.28	N	i	10	44	29		4 2		
	E	i		53	0				
		M		54	15	20			
	N	M		11	0	18			
		F		11	-				