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COMMONWEALTH OF AUSTRALIA
DEPARTMENT OF NATIONAL DEVELOPMENT
BUREAU OF MINERAL RESOURCES,
GEOLOGY AND GEOPHYSICS

GEOPHYSICAL OBSERVATORY REPORT

VOL. 9

No. 5

MAY

1961

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*ssued under the authority of Senator The Hon. W. H. Spooner,
Minister for National Development*

DEPARTMENT OF NATIONAL DEVELOPMENT

Minister - SENATOR The HON. W. H. SPOONER

Secretary - H. G. RAGGATT

BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

J. M. RAYNER - Director

This Report was prepared in the Geophysical Branch:

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C O N T E N T S

	Page
Contributing Observatories	2
Geomagnetic Data:	
Mawson	5
Wilkes	6
Macquarie Island	7
Toolangi	8
Gnangara	10
Port Moresby	12

Unless otherwise stated all times are given in
Greenwich Mean Time

The terminology used in this report is that accepted
by international convention. Should further information
be required, explanation can be obtained by applying to :-

Chief Geophysicist,
Bureau of Mineral Resources,
Geology & Geophysics,
203 Collins Street,
MELBOURNE, C.1.,
A U S T R A L I A.

Geographic Latitude 31°47'S Longitude 115°57'E
Geomagnetic Latitude -43.2° Longitude 185.8°

La Cour rapid run variometers are being installed

Geographic Latitude 54°30's Longitude 158°57'E
Geomagnetic Latitude -60.7° Longitude 243.0°

H 63 Y/mm
Z 59 Y/mm
Recording speed : 15 mm/hour

CONTRIBUTING OBSERVATORIESMAWSON MAGNETIC OBSERVATORY R.J. Hollingsworth, Observer in Charge

Geographic Latitude 67°36'S Longitude 62°53'E
 Geomagnetic Latitude -73.2° Longitude 103.1°

Instruments

La Cour QHMs Nos. 300, 301, 302

La Cour BMZ No. 62

La Cour D, H & Z recording variometers

Normal sensitivity : D 0.8 min/mm
 H 9.9 Y/mm
 Z 10.3 Y/mm

Recording speed : 15 mm/hour

Low sensitivity : D 2.4 min/mm
 H 52 Y/mm
 Z 51 Y/mm

Recording speed : 15 mm/hour

Bar fluxmeter magnetograph H, D, Z components

Recording speed : 5 mm/minute

PORT MORESBY MAGNETIC OBSERVATORY J.A. Brooks, Observer in Charge

Geographic Latitude 9°24'S Longitude 147°09'E
 Geomagnetic Latitude -18.7° Longitude 218.0°

Instruments

La Cour QHMs Nos. 187, 188, 189

La Cour BMZ No. 68

Askania declinometer No. 580333

Askania earthinductor No. 5111081

C.I.W. field magnetometer and portable earthinductor No. 18

La Cour D, H & Z recording variometers

Standard instrument : Sensitivity : D 0.9 min/mm
 H 5.6 Y/mm
 Z 7.2 Y/mm

Recording speed : 15 mm/hour

Rapid-run instrument: Sensitivity : D 0.6 min/mm
 H 1.8 Y/mm
 Z 3.0 Y/mm

Recording speed : 180 mm/hour

Geographic Latitude 37°32'S Longitude 145°28'E
Geomagnetic Latitude -46.7° Longitude 220.8°

Ruska magnetometer No.4813
Schulze earthinductor No.49
La Cour QMHs Nos.288, 289, 290
La Cour BMZ No.119
La Cour D, H & Z recording variometers

Sensitivity	:	D 1.16 min/mm
		H 4.6 γ/mm
		Z 4.4 γ/mm
Recording speed	:	15 mm/hour

Geographic Latitude 66°15'S Longitude 110°35'E
Geomagnetic Latitude -77.2° Longitude 179.2°

C.I.W. field magnetometer and theodolite earthinductor No.28
La Cour QHMs Nos.492, 493, 494
La Cour BMZ No.236
Ruska D, H & Z recording variometers
Standard instrument : Sensitivity : D 10.6 min/mm
H 24 Y/mm
Z 24 Y/mm
Recording speed : 20 mm/hour
Rapid-run instrument: Sensitivity : D 1.3 min/mm
H 5.3 Y/mm
Z 6.3 Y/mm
Recording speed : 240 mm/hour

M A W S O NMAGNETIC K-INDICES - MAY 1961

Range for lower limit of K=9 is 1500 gammas

<u>Day</u>	<u>K-Indices</u>								<u>K-Sum</u>
1	4	6	3	4	3	3	1	5	29
2	4	6	3	4	2	2	2	4	28
3	2	3	2	2	2	1	1	1	14
4	1	1	1	2	1	2	6	5	19
5	3	3	4	3	2	6	4	3	28
6	4	6	6	6	5	3	7	6	43
7	4	5	6	5	4	3	2	7	36
8	4	5	5	4	3	3	6	6	36
9	3	5	5	4	4	3	4	6	34
10	5	3	3	5	3	2	4	6	31
11	7	5	4	4	3	4	5	5	37
12	6	6	5	5	3	3	3	5	36
13	6	5	5	4	4	4	5	5	38
14	6	6	4	3	3	1	2	4	29
15	1	1	2	2	2	1	5	5	19
16	5	5	7	4	5	4	3	6	39
17	6	4	5	4	4	3	2	3	31
18	4	3	3	1	1	2	1	3	18
19	3	3	3	3	3	3	3	6	27
20	5	7	6	4	3	3	5	4	37
21	3	4	4	2	1	2	5	4	25
22	4	3	3	1	1	2	6	4	24
23	2	5	3	2	4	2	4	4	26
24	6	5	3	3	3	2	1	5	28
25	5	6	7	4	4	7	6	5	44
26	4	3	3	2	3	2	2	5	24
27	5	4	3	3	2	2	4	5	28
28	3	4	3	2	3	4	5	6	30
29	2	4	3	1	1	0	0	0	11
30	3	3	3	3	3	2	2	2	21
31	3	4	4	5	4	5	5	6	36

PRELIMINARY MONTHLY MEAN VALUES

Based on 10 selected quiet days

1961	H	D	Z
	Y	!	Y
May	18 320	60°11.1W	-48720

W I L K E SMAGNETIC K-INDICES - MAY 1961

Range for lower limit of K=9 is 2500 gammas

<u>Day</u>	<u>K-Indices</u>				<u>K-Sum</u>				
									Recording suspended till 0000 hrs on 22nd
22	3	-	3	2	1	2	2	2	-
23	2	4	3	2	2	1	2	2	18
24	2	3	2	2	2	1	0	1	13
25	2	3	3	2	2	3	3	2	20
26	3	3	3	2	1	1	1	0	14
27	2	3	3	2	2	1	0	0	13
28	2	3	2	2	1	2	2	2	16
29	1	2	2	1	1	0	0	0	07
30	1	2	2	1	0	1	1	1	09
31	1	2	2	2	2	4	4	2	19

PRELIMINARY MONTHLY MEAN VALUES

1961
May

Insufficient data for monthly means.

MACQUARIE ISLANDMAGNETIC K-INDICES - MAY 1961

Range for lower limit of K=9 is 150C gammas

<u>Day</u>	<u>K-Indices</u>				<u>K-Sum</u>			
1	3	3	1	7	6	1	0	23
2	5	5	4	4	5	0	0	23
3	0	0	2	2	1	0	0	05
4	0	0	0	1	3	1	3	11
5	1	2	4	4	3	6	3	25
6	2	6	6	7	7	2	2	34
7	3	3	4	7	6	4	2	31
8	2	2	2	3	3	2	3	19
9	2	3	6	6	6	6	1	31
10	2	0	3	4	3	0	0	13
11	3	3	4	4	5	4	3	28
12	3	2	4	4	2	2	1	19
13	4	4	2	3	3	2	2	22
14	1	2	2	4	2	2	0	13
15	0	0	0	1	1	2	1	06
16	3	5	6	5	7	6	2	35
17	1	3	2	3	4	3	1	18
18	1	0	1	2	1	0	0	05
19	0	1	3	4	0	2	1	12
20	2	5	4	4	4	4	1	24
21	0	0	1	4	4	0	3	12
22	1	2	1	0	0	1	3	09
23	1	3	1	3	3	3	1	16
24	2	2	1	1	2	1	0	09
25	2	6	7	7	7	7	4	42
26	3	2	3	2	2	0	1	14
27	1	1	2	2	4	3	0	13
28	0	1	0	4	2	4	4	17
29	2	2	1	0	0	0	0	06
30	0	0	3	3	3	1	0	12
31	2	2	6	5	4	3	4	28

PRELIMINARY MONTHLY MEAN VALUES

Based on 10 selected quiet days

1961	H	D	Z
	Y	'	Y
May	13 242	25°46.8E	-64391

T O O L A N G IMAGNETIC K-INDICES - MAY 1961

Range for lower limit of K=9 is 500 gammas

<u>Day</u>	<u>K-Indices</u>				<u>K-Sum</u>				
1	4	3	3	4	3	2	2	2	23
2	4	3	3	2	2	1	1	1	17
3	2	2	1	1	0	0	1	0	07
4	1	1	1	1	2	0	2	3	11
5	2	3	3	2	2	3	4	3	22
6	3	5	4	5	4	1	2	2	26
7	2	2	4	4	3	3	2	2	22
8	2	2	3	3	1	2	3	2	18
9	2	3	4	5	3	3	1	1	22
10	3	2	2	2	2	0	1	2	14
11	3	3	2	3	3	3	3	1	21
12	2	3	3	4	1	3	2	2	20
13	4	3	2	3	3	2	2	2	21
14	3	2	2	3	2	2	1	2	17
15	1	1	0	1	1	2	2	2	10
16	3	3	4	4	4	4	3	2	27
17	1	2	2	2	3	3	2	1	16
18	1	1	1	1	1	0	1	2	08
19	1	2	2	2	1	2	2	2	14
20	3	4	3	3	2	3	2	2	22
21	1	1	2	3	2	1	3	2	15
22	2	3	2	1	0	3	3	1	15
23	2	4	1	2	2	3	2	2	18
24	3	2	2	2	2	1	1	1	14
25	3	5	4	5	4	4	4	2	31
26	3	0	2	2	2	1	1	1	12
27	2	2	2	1	3	1	1	1	13
28	2	1	1	3	2	4	3	2	18
29	2	3	1	1	0	0	2	1	10
30	1	1	3	2	2	2	2	2	15
31	3	3	3	4	2	2	2	2	21

T O O L A N G IPRELIMINARY MONTHLY MEAN VALUES

Based on 10 selected quiet days

1961	H	D	Z
	Y	Y	Y
April	22 632	10°18.9E	-56 403
May	22 637	10°18.9E	-56 404

PRINCIPAL MAGNETIC STORMS - MAY 1961

date	storm time		sudden commencements			act-iv-ity	max. activity 0 to 9			Ranges		
	begin	end	type	amplitudes			3-hr day per.	K	D	H	Z	
	h m	d h		D	H					Z	Y	Y

NIL

SUDDEN COMMENCEMENTS AND OTHER PHENOMENA - MAY 1961

<u>Day</u>	<u>Time</u> h m	<u>Type</u>	Sense of Movement			<u>Remarks</u>
			H	D	Z	
01	10 05	bp A	+	-	+	
02	08 39	bp C	-	-	-	
04	12 01	pt				
06	04 44	si A	+	+	+	
07	03 24	si C	-	-	-	
15	14 43	pt				
21	11 33	bp C	+	-	+	
23	14 07	pt				
24	12 50	bp C	+	-	+	
27	14 08	bp C	+	-	+	
29	13 38	pt				
29	15 05	pt				

G N A N G A R AMAGNETIC K-INDICES - MAY 1961

Range for lower limit of K=9 is 350 gammas

<u>Day</u>	<u>K-Indices</u>				<u>K-Indices</u>				<u>K-Sum</u>
1	4	3	2	4	4	2	0	2	21
2	4	4	2	2	2	1	1	0	16
3	0	1	1	1	0	1	1	0	05
4	1	1	2	1	1	0	3	4	13
5	2	2	3	2	2	4	4	2	21
6	3	5	3	5	4	2	2	2	26
7	2	3	3	4	3	3	2	3	23
8	1	1	2	2	1	2	4	2	15
9	0	2	3	5	3	3	1	1	18
10	1	1	1	2	2	1	2	2	12
11	3	3	2	2	2	3	4	2	21
12	3	3	3	2	1	3	2	1	18
13	4	2	2	3	2	2	3	1	19
14	3	3	3	3	2	1	0	0	15
15	0	0	0	0	1	2	2	1	06
16	3	4	4	3	4	5	3	2	28
17	2	2	2	1	3	3	0	1	14
18	0	1	1	0	0	0	0	0	02
19	1	2	2	2	2	2	2	1	14
20	2	4	2	2	2	3	2	1	18
21	1	1	2	1	1	1	3	1	11
22	2	2	2	1	0	3	3	2	15
23	2	4	1	2	2	3	2	1	17
24	2	1	1	0	2	1	1	1	09
25	3	5	3	5	5	5	5	2	33
26	2	1	2	1	2	1	0	1	10
27	2	2	2	0	3	1	0	0	10
28	0	0	1	2	2	4	3	3	15
29	1	2	0	0	0	0	1	0	04
30	0	2	2	1	2	2	0	2	11
31	3	3	3	4	2	3	3	3	24

G N A N G A R APRELIMINARY MONTHLY MEAN VALUES

Based on 5 selected quiet days

1961	H	D	Z
	Y	Y	Y
May	23 949	2°52.9W	53 488

PRINCIPAL MAGNETIC STORMS - MAY 1961

date	storm time		sudden commencements			act-iv-ity	max. activity			Ranges		
	begin	end	type	amplitudes			0 to 9					
	h m	d h		D	H		Z	day	3-hr per.	K	D	H
25	0212	2519	ssc	+1	+6	+5	m	25	2,4,5, 5 6,7	18	90	116

SUDDEN COMMENCEMENTS AND OTHER PHENOMENA - MAY 1961

<u>Day</u>	<u>Time</u> h m	<u>Type</u>	Sense of Movement			<u>Remarks</u>
			H	D	Z	
01	10 05	b A	+	-	-	
15	14 43	pt C	+			
16	14 09	bp A	+	-	-	
16	15 40	bps A	+	+	+	
17	14 25	bps A	+	+	+	
19	23 08	si B				
21	17 51	pt A				
23	15 40	bp B	+	+	+	
25	02 12	ssc B	+	+	+	
27	14 06	bp A	+	-	-	

P O R T M O R E S B YMAGNETIC K-INDICES - MAY 1961

Range for lower limit of K=9 is 300 gammas

<u>Day</u>	<u>K-Indices</u>							
1	5	3	0	4	3	0	0	3
2	4	5	3	3	3	0	0	0
3	0	0	0	0	0	0	0	0
4	4	3	0	0	0	0	0	4
5	3	3	3	3	3	3	3	3
6	4	6	5	4	5	0	3	3
7	3	0	4	4	3	3	0	0
8	0	3	3	3	0	0	0	3
9	0	4	4	4	3	3	0	0
10	0	0	0	3	3	0	0	0+
11	4	3	0	3	3	3	3	0
12	3	3	3	3	0	0	0	0
13	4	4	0	3	0	0	0	0
14	0	3	3	0	0	0	0	0
15	0	0	0	0	0	0	0	0+
16	3	5	4	4	4	4	0	0
17	0	0	3	0	3	3	0	0+
18	0	0	0	0	0	0	0	0
19	0	3	0	0	0	0	0	3
20	4	5	3	3	0	3	0	3
21	0	0	0	0	0	3	3	3
22	3	3	3	0	0	3	0	0
23	3	5	0	3	0	3	3	0
24	3	0	0	0	0	0	0	0
25	5	5	4	5	3	3	3	3
26	3	0	3	0	0	0	0	0
27	3	0	3	0	0	0	0	0
28	0	0	3	3	3	3	0	0
29	0	3	3	0	0	0	0	0
30	0	3	4	3	3	0	0	0
31	5	3	3	5	3	0	0	3

PRINCIPAL MAGNETIC STORMS - MAY 1961

date	storm time		sudden			act- iv- ity	max. activity			Ranges				
			commencements				0 to 9							
	begin	end	type	amplitudes			3-hr day per.	K	D	H	Z			
D	H	Z												
	h	m	d	h		Y	Y	Y				Y	Y	Y

NIL

SUDDEN COMMENCEMENTS AND OTHER PHENOMENA - MAY 1961

<u>Day</u>	<u>Time</u> h m	<u>Type</u>	Sense of Movement			<u>Remarks</u>
			H	D	Z	
01	10 04	bp C	+	-	+	
02	02 22	pt C				
02	08 34	pt C				
04	12 01	pt B				
09	07 50	bp C	+	-	+	
09	14 32	bp C	+	?	+	
15	14 42	pt B				
15	19 21	pt C				
16	14 10	pt B				
21	11 01	pt C				
21	18 10	pt C				
22	01 36	ssc B	+	-	+	
25	03 46	bs B	-	?	-	
25	06 32	pt B				
27	14 08	bp B	+	-	+	
28	16 59	pt C				
31	08(30)	B A				