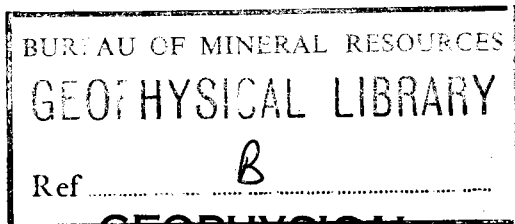


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COMMONWEALTH OF AUSTRALIA
DEPARTMENT OF NATIONAL DEVELOPMENT
BUREAU OF MINERAL RESOURCES,
GEOLOGY AND GEOPHYSICS



GEOPHYSICAL
OBSERVATORY REPORT

VOL. 13

No. 3

MARCH

1965

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Minister for National Development

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DEPARTMENT OF NATIONAL DEVELOPMENT

Minister - Hon. David Fairbairn, D.F.C., M.P.

Secretary - R.W. BOSWELL

BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

Director - J.M. RAYNER

This Report was prepared in the Geophysical Branch;

Assistant - Director L.S. PRIOR

Supervising - Geophysicist W.D. Parkinson

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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:-

Assistant Director (Geophysics),
Bureau of Mineral Resources,
Geology and Geophysics,
203 Collins Street,
MELBOURNE, C.1.,
A U S T R A L I A.

CONTRIBUTING OBSERVATORIES

GNANGARA MAGNETIC OBSERVATORY

P.M. McGregor, Observer in Charge

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

Instruments

Askania magnetometer No.508810

La Cour QHMs No.291, 292, 293

La Cour BMZ No.120

Eschenhagen D, H & Z recording variometers

Sensitivity	:	D 1.1 min/mm
		H 2.6 γ /mm
		Z 5.3 γ /mm

Recording speed	:	20 mm/hour
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Askania (Eschenhagen type)H variometer with visual recorder

Sensitivity	:	3 γ /mm
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Recording speed	:	20 mm/hour
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MACQUARIE ISLAND MAGNETIC OBSERVATORY

R.G. Sutton, Observer in Charge

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

Instruments

Askania declinometer No.640505

La Cour QHMs Nos.177, 178, 179

La Cour BMZ No.64

La Cour D, H & Z recording variometers

Standard instrument : Sensitivity	:	D 2.4 min/mm
		H 25 γ /mm
		Z 21 γ /mm

Recording speed	:	15 mm/hour
-----------------	---	------------

Rapid-run instrument: Sensitivity	:	D 1.0 min/mm
		H 5.4 γ /mm
		Z 9 γ /mm

Recording speed	:	180 mm/hour
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CONTRIBUTING OBSERVATORIES

MAWSON MAGNETIC OBSERVATORY

J. Haigh, Observer in Charge

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

Instruments

Askania declinometer No.630332

La Cour QHMs Nos.300, 301, 302

La Cour BMZ No.62

La Cour D, H & Z recording variometers

Normal sensitivity : D 0.9 min/mm
H 9.4 γ/mm
Z 10.0 γ/mm

Recording speed : 15 mm/hour
Low sensitivity : D 2.4 min/mm
H 51 γ/mm
Z 50 γ/mm

Recording speed : 15 mm/hour

Bar fluxmeter D magnetograph

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

Askania declinometer No.580333

La Cour QHMs Nos.187, 188, 189

La Cour BMZ No.68

La Cour D, H & Z recording variometers

Standard instrument : Sensitivity : D 0.44 min/mm
H 2.9 γ/mm
Z 3.2 γ/mm

Recording speed : 15 mm/hour

Rapid-run instrument: Sensitivity : D 0.05 min/mm
H 1.2 γ/mm
Z 0.3 γ/mm

Recording speed : 180 mm/hour

CONTRIBUTING OBSERVATORIES

TOOLANGI MAGNETIC OBSERVATORY

C.A. van der Waal, Observer in Charge

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

Instruments

Ruska magnetometer No.4813

La Cour QHMs Nos.288, 289, 290

La Cour BMZ No.119

La Cour D, H & Z recording variometers

Sensitivity	:	D 1.2 min/mm
		H 4.5 γ /mm
		Z 4.4 γ /mm
Recording speed	:	15 mm/hour

WILKES MAGNETIC OBSERVATORY

G.R. Small, Observer in Charge

Geographic Latitude	66°15'S	Longitude	110°31'E
Geomagnetic Latitude	-77.2°	Longitude	179.2°

Instruments

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 min/mm
		H 25 γ /mm
		Z 21 γ /mm
Recording speed	:	20 mm/hour
Rapid-run instrument: Sensitivity	:	D 1.1 min/mm
		H 5.1 γ /mm
		Z 7 γ /mm
Recording speed	:	240 mm/hour

M A W S O N

MAGNETIC K-INDICES - MARCH 1965

Range for lower limit of K=9 is 1500 gammas

<u>Day</u>	<u>K-Indices</u>				<u>K-Sum</u>				
1	3	4	1	1	3	6	4	4	26
2	2	2	2	2	2	5	6	2	23
3	4	4	5	4	3	6	7	6	39
4	5	6	5	5	3	3	3	3	33
5	2	2	3	3	2	2	2	4	20
6	3	3	2	0	1	2	4	5	20
7	4	3	2	3	3	3	3	4	25
8	3	1	1	1	1	1	2	3	13
9	2	2	2	1	2	2	1	4	16
10	5	1	1	0	1	0	0	0	08
11	4	4	2	1	1	2	3	2	19
12	2	2	1	0	1	1	5	4	16
13	2	3	3	3	4	3	2	1	21
14	2	3	1	1	3	4	6	6	26
15	6	3	3	4	2	3	6	3	30
16	4	4	1	1	0	1	1	5	17
17	2	2	1	1	1	3	4	2	16
18	2	2	1	0	0	1	0	0	06
19	2	2	2	3	3	2	1	2	17
20	4	3	2	2	2	1	2	5	21
21	5	1	2	1	3	3	3	6	24
22	3	2	2	1	0	2	3	7	20
23	3	5	6	3	4	4	6	5	36
24	3	3	3	3	4	4	3	6	29
25	3	5	4	4	3	2	6	4	31
26	6	5	4	3	3	2	4	6	33
27	3	4	4	4	2	2	6	4	29
28	2	4	4	3	3	2	2	3	23
29	4	2	2	2	1	2	5	3	21
30	2	1	2	1	0	1	1	1	09
31	3	3	1	2	1	1	2	2	15

PRELIMINARY MONTHLY MEAN VALUES

Based on 10 selected quiet days

1965	H	D	Z
	Y	°	Y
March	18355	61 09.9W	-48380

W I L K E S

MAGNETIC K-INDICES - MARCH 1965

Range for lower limit of K=9 is 2500 gammas

<u>Day</u>	<u>K-Indices</u>								<u>K-Sum</u>
1	3	3	2	2	1	2	1	1	15
2	1	3	3	2	1	2	2	1	15
3	3	4	4	3	2	3	2	2	23
4	2	2	2	3	1	1	0	1	12
5	3	3	4	2	2	0	1	1	16
6	2	3	3	1	1	1	0	2	13
7	2	3	3	1	3	0	0	1	13
8	3	1	2	1	0	0	0	0	07
9	2	3	3	1	2	0	0	1	12
10	1	1	1	1	0	0	0	1	05
11	2	3	2	1	0	0	1	1	10
12	1	2	2	0	0	1	2	2	10
13	3	4	3	2	3	3	1	1	20
14	1	2	2	2	3	2	1	1	14
15	3	3	3	2	1	1	2	1	16
16	2	2	1	1	0	0	0	1	07
17	3	3	2	1	0	2	1	0	12
18	1	1	2	0	0	0	0	0	04
19	1	2	3	1	0	0	0	1	08
20	3	2	1	0	1	0	0	0	07
21	3	3	2	2	2	0	0	1	13
22	2	3	1	1	0	1	1	3	12
23	3	3	3	2	1	2	3	3	20
24	2	4	4	3	2	1	1	2	19
25	2	4	3	3	1	0	2	2	17
26	3	3	3	3	1	1	1	2	17
27	3	3	3	2	1	2	2	1	17
28	2	3	3	1	0	0	0	1	10
29	2	3	2	0	0	1	1	0	09
30	1	1	2	0	0	0	0	0	04
31	3	3	2	1	0	1	0	1	11

PRELIMINARY MONTHLY MEAN VALUES

Based on 10 selected quiet days

1965	H	D	Z
	Y	°	Y
March	9226	86 06.6W	-64740

MACQUARIE ISLAND

MAGNETIC K-INDICES - MARCH 1965

Range for lower limit of K=9 is 1500 gammas

<u>Day</u>	<u>K-Indices</u>								<u>K-Sum</u>
1	1	1	0	2	3	4	2	1	14
2	0	0	1	2	0	4	2	1	10
3	2	3	4	3	7	6	5	2	32
4	3	4	6	5	5	2	2	1	28
5	1	1	3	5	3	1	1	0	15
6	1	1	0	1	2	2	1	1	09
7	1	1	1	2	6	3	1	0	15
8	0	0	0	3	1	0	0	0	04
9	1	1	1	1	3	2	0	0	09
10	0	0	0	0	0	0	0	0	00
11	0	1	1	1	1	2	0	0	06
12	0	0	0	0	1	0	1	1	03
13	0	2	3	4	6	3	1	0	19
14	0	0	0	0	5	3	0	0	08
15	1	1	6	4	1	0	2	0	15
16	0	1	0	0	0	0	0	0	01
17	0	2	1	1	0	3	3	0	10
18	0	0	0	0	0	0	0	0	00
19	0	0	0	1	0	0	0	0	01
20	0	0	0	1	2	0	0	0	03
21	1	1	0	3	6	1	1	1	14
22	0	0	0	0	0	0	1	2	03
23	0	5	6	4	6	6	3	2	32
24	1	1	3	6	5	2	1	1	20
25	1	3	6	5	5	1	2	1	24
26	3	2	5	2	3	1	0	0	16
27	0	2	3	2	1	2	1	0	11
28	0	1	2	1	0	0	0	0	04
29	0	0	0	0	1	3	0	0	04
30	0	0	0	0	0	0	0	0	00
31	1	0	2	2	0	0	0	0	05

PRELIMINARY MONTHLY MEAN VALUES

Based on 10 selected quiet days

1965	H	D	Z
	Y	°	Y
March	13165	26 26.5E	-64227

T O O L A N G I

MAGNETIC K-INDICES - MARCH 1965

Range for lower limit of K=9 is 500 gammas

<u>Day</u>	<u>K-Indices</u>								<u>K-Sum</u>
1	0	2	1	1	3	3	2	1	13
2	0	0	0	1	2	4	3	2	12
3	2	3	4	4	4	4	3	2	26
4	1	2	3	3	3	2	1	0	15
5	0	2	3	3	3	1	1	1	14
6	1	0	0	1	1	1	0	1	05
7	1	0	0	2	4	2	2	0	11
8	0	0	0	2	2	0	0	0	04
9	0	1	2	1	2	2	0	0	08
10	0	0	0	0	0	0	0	0	00
11	1	2	1	0	0	1	0	0	05
12	0	0	0	0	3	1	2	2	08
13	2	2	3	3	4	3	1	0	18
14	0	1	0	1	3	2	1	1	09
15	1	1	3	3	2	2	3	0	15
16	1	1	0	1	0	0	0	1	04
17	0	1	0	1	1	3	1	0	07
18	1	1	2	0	1	0	0	0	05
19	0	1	0	1	0	0	0	1	03
20	0	0	0	1	3	1	1	1	07
21	1	1	0	2	3	1	2	2	12
22	1	1	0	0	0	2	2	3	09
23	2	3	4	3	3	4	3	3	25
24	2	1	2	3	3	2	1	1	15
25	1	3	4	4	3	1	2	2	20
26	2	3	3	3	2	2	1	1	17
27	2	1	3	1	3	3	3	0	16
28	2	2	2	0	0	1	0	0	07
29	2	0	1	0	2	2	1	0	08
30	0	0	0	0	0	1	0	0	01
31	1	1	0	2	0	0	0	0	04

T O O L A N G I

PRELIMINARY MONTHLY MEAN VALUES

Based on 10 selected quiet days

1965	H Y	D °	Z Y
March	22551	10 31.3E	-56369

PRINCIPAL MAGNETIC STORMS - MARCH 1965

NIL

SUDDEN COMMENCEMENTS AND OTHER PHENOMENA - MARCH 1965

Day	Time h m	Type	Sense of Movement		
			H	D	Z
01	12 26	pi2 B			
01	12 50	bp C	+		
02	15 00	pi2 B			
02	17 04	b B	+	+	+
07	12 14	bp B	+	-	+
08	10 36	pi2 B			
08	12 59	bp B	+		+
09	08 01	pi2 B			
09	13 58	pi2 B			
12	12 27	bs B	+	+	+
12	16 46	pi2 B			
14	08 31	pi2 B			
14	12 52	pi2 B			
14	13 40	bp B	+	-	+
15	13 01	pi2 B			
No time marks 04 hrs. 16th - 03 hrs. on 19th					
20	12 15	bp B	+	-	+
21	12 40	bp B	+		+
22	12 46	pi2 B			
22	16 32	pi2 B			
27	14 40	bp B	+		+
28	07 30	bp C		-	
29	14 00	pi2 B			
29	15 00	bp C	+	+	+
30	15 45	bp C	+	+	
31	08 49	bp C	-	-	

G N A N G A R A

MAGNETIC K-INDICES - MARCH 1965

Range for lower limit of K=9 is 350 gammas

<u>Day</u>	<u>K-Indices</u>								<u>K-Sum</u>
1	1	1	1	1	3	3	1	1	12
2	1	1	1	1	1	4	3	2	14
3	3	-	-	-	-	-	-	-	--
4	3	2	3	3	3	2	2	1	19
5	2	2	3	3	3	3	3	2	21
6	3	1	2	1	1	2	3	2	15
7	2	1	1	2	4	3	2	1	16
8	1	0	0	1	2	1	1	1	07
9	2	1	2	1	2	2	0	0	10
10	0	1	0	0	1	0	0	0	02
11	2	1	0	0	1	1	1	0	06
12	0	1	0	0	3	1	2	2	09
13	2	2	3	2	4	3	2	1	19
14	1	1	1	1	4	3	1	1	13
15	1	1	2	3	2	2	3	0	14
16	2	0	0	0	0	0	0	1	03
17	1	1	1	1	1	3	2	1	11
18	1	1	1	0	1	1	0	0	05
19	0	1	1	2	1	1	1	3	10
20	2	0	1	2	3	1	1	1	11
21	2	1	1	2	4	2	1	2	15
22	1	1	1	0	0	2	3	4	12
23	2	4	3	2	3	5	4	3	26
24	2	1	2	4	4	3	2	2	20
25	2	3	4	4	4	1	3	2	23
26	3	2	3	2	2	2	1	2	17
27	1	2	2	2	2	3	4	0	16
28	1	2	2	1	0	1	0	1	08
29	1	0	1	0	2	3	1	0	08
30	0	0	0	0	1	1	1	0	03
31	1	0	0	1	0	1	0	0	03

G N A N G A R A

PRELIMINARY MONTHLY MEAN VALUES

Based on 5 selected quiet days

1965	H	D	Z
	Y	°	Y
March	23911	2 51.7W	-53498

PRINCIPAL MAGNETIC STORMS - MARCH 1965

	storm time		sudden commencements			act-iv-ity	max. activity			Ranges			
date	begin	end	type	amplitudes			0 to 9						
				D	H		Z	day	3-hr per.	K	D	H	Z
	h m	d h			Y	Y						Y	Y
22	1516	2321	sc +1		+2	+2	m	23	6	5	11	58	60

SUDDEN COMMENCEMENTS AND OTHER PHENOMENA - MARCH 1965

Day	Time h m	Type	Sense of Movement		
			H	D	Z
01	16 46	pi2 B			
02	16 55	bp B	+	+	+
05	17 42	pi2 B			
06	12 10	bp B	+	-	-
12	12 25	si A	+	+	+
14	13 40	bp B	+	-	-
17	14 47	pi2 B			
22	15 16	ssc B	+	+	+
30	14 10	pi2 B			
30	15 40	pi2 A			

P O R T M O R E S B Y

MAGNETIC K-INDICES - MARCH 1965

Range for lower limit of K=9 is 300 gammas

<u>Day</u>	<u>K-Indices</u>				<u>K-Sum</u>			
1	2	2	1	3	4	2	2	17
2	1	1	2	2	2	3	3+, 2+	16+
3	1+	3+	2+	1+	2+	2+	2+, 1+	14+
4	2	3+	4	5	3	3	1 0	21+
5	2	3	2	4	4	2	2 2	21
6	1	1	1	2	2	1	0 2	10
7	1	1	1	2	3	2	1 0	11
8	0	1	0	1	2	0	1 0	05
9	2	2	2	1	2	1	0 0	10
10	1	0	0	1	1	1	0 0	04
11	2	1	2	1	2	1	1 1	11
12	0	0	0	0	3	2	2 3	10
13	3	3	3	3	4	2	2 0	20
14	1	1	1	2	3	2	0 1	11
15	2	2	3	2	2	2	3 2	18
16	2+	2	0	1	0	1	0 1	07+
17	1	2	1	1	2	2	2 2	13
18	2	2	1	1	2	1	1 1	11
19	1	1	1	2	1	1	2 2	11
20	2	1	2	2	3	1	2 2	15
21	2	2	1	2	3	2	2 2	16
22	1	1	1	1	1	2	3 3+	13+
23	-	-	-	-	-	-	- -	--
24	2	2	2	3	3	2	2 1	17
25	2	4	3	4	2+	-	- -	--
26	3+	2	3	3	2	2	1 1	17+
27	2	2	2	2	3	2	1 0	14
28	2	2	2	1	0	1	0 2	10
29	2	1	1	1	2	2	1 0	10
30	0	-	-	-	-	-	- -	--
31	2	1	3	2	1	1	1 1	12

P O R T M O R E S B Y

PRELIMINARY MONTHLY MEAN VALUES

Based on 10 selected quiet days

1965	H	D	Z
	Y	° ' "	Y
March	36345	06 08.2E	-22981

PRINCIPAL MAGNETIC STORMS - MARCH 1965

NIL

SUDDEN COMMENCEMENTS AND OTHER PHENOMENA - MARCH 1965

<u>Day</u>	<u>Time</u> h m	<u>Type</u>	Sense of Movement		
			H	D	Z
07	12 13	bp A	+	-	+
12	12 25	ssc B	+	+	+
14	13 40	bp B	+	-	+
20	13 20	bp C	+		+
21	12 40	bp B	+		+
24	11 35	bp C	+		+
27	14 40	bp B	+	+	+

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