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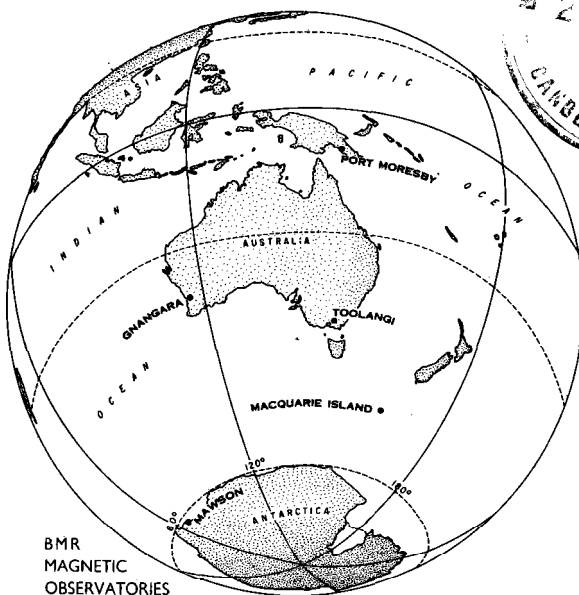
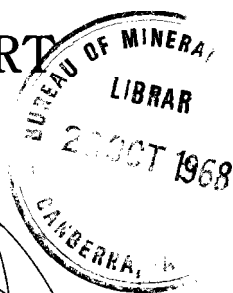
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BUREAU OF MINERAL RESOURCES,
GEOLOGY & GEOPHYSICS

GEOPHYSICAL OBSERVATORY REPORT



Volume 16, No. 6
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The Hon. David Fairbairn, Minister for National Development*

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COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT

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C O N T E N T S

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

Assistant Director (Geophysics),
Bureau of Mineral Resources,
P.O. Box 378,
CANBERRA CITY. A.C.T. 2601.

CONTRIBUTING OBSERVATORIES

OBSERVATORY	OBSERVER IN CHARGE	GEOGRAPHIC		GEOMAGNETIC	
		LAT.	LONG.	LAT.	LONG.
GNANGARA	<i>I.B. Everingham</i>	31°47'S	115°57'E	-43.2°	185.8°
MACQUARIE I.	<i>J.B. Connelly</i>	54°30'S	158°57'E	-60.7°	243.0°
MAWSON	<i>R.S. Smith</i>	67°36'S	62°53'E	-73.2°	103.1°
PORT MORESBY	<i>D. Denham</i>	9°24'S	147°09'E	-18.7°	218.0°
TOOLANGI	<i>C.A. van der Waal</i>	37°32'S	145°28'E	-46.7°	220.8°

MAGNETOGRAPHS

OBSERVATORY	TYPE	NOMINAL SCALE VALUES								
		NORMAL			INSENSITIVE			RAPID RUN		
		D	H	Z	D	H	Z	D	H	Z
GNANGARA	<i>Eschenhagen</i>	1.1	2.5	5.3						
MACQUARIE I.	<i>La Cour</i>	2.4	25	21				1.0	5.4	6.1
MAWSON	<i>La Cour</i>	0.9	9.6	9.7	2.4	51	50			
PORT MORESBY	<i>La Cour</i>	0.4	2.8	3.3				0.05	1.2	0.3
TOOLANGI	<i>La Cour</i>	1.2	4.5	4.4						

Scale values are in minutes of arc/mm (D) and gammas/mm (H,Z)

G N A N G A R A

MAGNETIC K-INDICES - JUNE 1968

Range for lower limit of K=9 is 350 gammas

<u>Day</u>	<u>K-Indices</u>								<u>K-Sum</u>	<u>C</u>
1	2	2	2	3	3	4	3	4	23	1
2	2	2	3	2	3	2	4	3	21	1
3	2	2	3	3	3	4	2	3	22	1
4	3	2	2	2	2	3	2	3	19	1
5	2	2	1	0	1	1	1	1	09	0
6	1	1	1	1	2	1	1	1	09	0
7	1	1	2	2	2	4	2	1	15	0
8	2	3	2	1	1	3	3	2	17	0
9	2	2	3	0	0	1	3	2	13	0
10	3	3	4	3	4	4	2	4	27	1
11	5	6	5	5	5	6	3	5	40	2
12	3	4	5	6	5	5	3	3	34	2
13	3	4	4	6	5	5	4	3	34	1
14	3	3	5	4	3	4	3	3	28	1
15	2	2	2	2	1	1	3	1	14	0
16	1	1	1	3	3	3	3	4	19	1
17	4	4	4	3	2	1	1	1	20	1
18	2	2	3	3	2	3	3	2	20	1
19	3	3	3	3	3	2	4	3	24	1
20	2	3	2	1	0	2	1	1	12	0
21	1	1	1	0	0	1	0	0	04	0
22	1	3	3	3	3	1	2	2	18	0
23	1	3	3	2	1	1	1	1	13	0
24	1	2	1	1	0	0	1	1	07	0
25	1	1	1	0	0	1	1	2	07	0
26	4	2	2	2	1	3	2	3	19	1
27	2	2	2	2	4	2	2	2	18	1
28	2	0	1	0	1	3	1	2	10	0
29	1	2	1	0	0	2	4	4	14	0
30	2	2	2	1	2	1	3	2	15	0

MACQUARIE ISLAND

MAGNETIC K-INDICES - JUNE 1968

Range for lower limit of K=9 is 1500 gammas

<u>Day</u>	<u>K-Indices</u>								<u>K-Sum</u>	<u>C</u>
1	1	1	2	4	4	4	4	3	23	1
2	2	5	5	3	4	3	3	2	27	1
3	3	1	2	4	5	6	2	2	25	1
4	2	1	2	3	3	2	2	1	16	0
5	1	1	0	2	0	0	0	0	04	0
6	0	0	0	0	4	0	0	0	04	0
7	0	1	4	5	5	5	2	0	22	1
8	0	1	0	1	1	5	3	2	13	0
9	0	2	2	0	0	0	1	2	07	0
10	3	5	7	7	5	5	3	5	40	2
11	5	7	5	7	5	6	5	4	44	2
12	5	4	7	5	7	7	4	3	42	2
13	4	5	6	7	7	7	6	4	46	2
14	3	3	6	6	5	7	5	2	37	2
15	2	2	2	3	2	0	0	0	11	0
16	0	0	0	5	4	4	2	3	18	1
17	3	3	7	5	5	0	3	2	28	1
18	2	2	2	4	4	4	4	2	24	1
19	3	3	4	3	5	3	3	2	26	1
20	2	2	1	1	0	1	1	0	08	0
21	0	0	0	0	0	0	0	0	00	0
22	0	2	4	5	6	3	1	0	21	1
23	1	2	3	4	1	0	0	0	11	0
24	0	0	0	0	0	0	0	0	00	0
25	0	0	0	0	0	0	0	0	00	0
26	2	1	1	2	2	3	1	1	13	0
27	1	1	1	4	5	2	0	2	16	0
28	1	0	0	0	1	1	0	0	03	0
29	0	0	0	0	0	1	3	3	07	0
30	2	2	1	3	3	2	1	2	16	0

M A W S O N

MAGNETIC K-INDICES - JUNE 1968

Range for lower limit of K=9 is 1500 gammas

<u>Day</u>	<u>K-Indices</u>					<u>K-Sum</u>				<u>C</u>
1	2	4	3	3	4	4	6	6	32	1
2	5	6	5	3	3	2	5	5	34	2
3	4	3	4	3	2	4	4	6	30	1
4	4	4	4	4	2	4	4	6	32	1
5	3	4	4	2	2	2	4	5	26	1
6	2	2	1	1	3	2	1	1	13	0
7	4	3	5	4	3	4	3	1	27	1
8	2	4	3	3	2	4	4	4	26	1
9	2	3	4	2	2	3	5	6	27	1
10	7	6	6	5	5	4	4	7	44	2
11	7	8	7	5	5	4	7	7	50	2
12	7	7	5	4	3	6	7	7	46	2
13	6	7	6	3	5	4	5	6	42	2
14	4	4	4	3	4	6	5	4	34	2
15	4	4	5	3	2	4	3	4	29	1
16	4	3	2	2	2	3	6	6	28	1
17	5	6	5	4	3	2	3	3	31	1
18	2	3	5	4	3	4	7	5	33	1
19	4	6	5	3	3	5	6	6	38	2
20	3	4	3	3	1	2	3	3	22	1
21	2	2	0	0	1	1	0	2	08	0
22	1	2	4	5	4	2	5	6	29	1
23	3	4	3	3	2	1	1	6	23	1
24	3	1	2	0	0	0	0	4	10	0
25	1	1	1	0	0	3	2	4	12	0
26	6	3	1	1	3	3	2	5	24	1
27	3	3	5	3	3	2	5	6	30	1
28	3	1	1	1	1	2	3	5	17	0
29	3	3	3	0	1	4	6	6	36	1
30	6	6	3	2	2	3	6	5	33	1

P O R T M O R E S B Y

MAGNETIC K-INDICES - JUNE 1968

Range for lower limit of K-9 is 300 gammas

<u>Day</u>					<u>K-Indices</u>				<u>K-Sum</u>	<u>C</u>
1	2	1	3	4	3	2	3	3	21	1
2	3	3	2	2	2	2	3	3	20	1
3	3	3	2	3	3	4	2	2+	22+	1
4	2	2	2	2	2	2	1	3	16	0
5	1	2	1	1	1	1	1	0	08	0
6	1	1	1	1	2	2	2	2	12	0
7	1	1	3	3	3	2	2	1	16	0
8	1	2	1	1	2	2	3	2	14	0
9	2	2	2	2	1	1	1	3	14	0
10	3	3	4	3	3	2	2	4	24	1
11	4	6	6	5	5	3	3	3	35	2
12	3	3	4	4	5	4	2	2	27	1
13	3	4	4	5	4	3	4	3	30	1
14	3	3	5	3	4	3	2	2	25	1
15	2	1	2	1	1	1	1	2	11	0
16	1	1	1	4	4	3	2	3	19	1
17	2	4	3	4	2	1	2	1	19	1
18	2	2	3	3	2	2	3	2	19	1
19	2	3	3	2	4	1	2	1+	18+	1
20	2	3	1	2	0	1	2	1	12	0
21	2	2	1	0	1	1	0	1	08	0
22	0	3	3	3	4	1	2	2	18	1
23	1	2	2	2	0	1	1	1	10	0
24	0	0	0	0	0	0	1	0+	01+	0
25	0	0	0	0	0	2	0	2	04	0
26	4	3	2	3	2	2	1	2	19	1
27	2	2	3	3	3	2	2	3	20	1
28	2	1	2	0	2	2	1	1	11	0
29	1	1	1	0	1	2	3	3	12	0
30	4	2	2	2	1	1	2	2	16	1

T O O L A N G I

MAGNETIC K-INDICES - JUNE 1968

Range for lower limit of K=9 is 500 gammas

<u>Day</u>	<u>K-Indices</u>				<u>K-Indices</u>				<u>K-Sum</u>	<u>C</u>
1	1	2	2	4	3	3	3	2	20	1
2	2	3	3	2	3	3	3	2	21	1
3	2	2	2	3	3	4	2	3	21	1
4	2	2	2	2	2	2	1	2	15	0
5	1	2	1	1	0	2	1	0	08	0
6	1	1	1	1	2	1	1	2	10	0
7	1	2	3	2	3	4	2	1	18	0
8	2	2	2	1	2	3	3	2	17	0
9	2	3	2	1	0	1	3	2	14	0
10	3	4	5	4	4	3	2	4	29	1
11	4	5	6	6	5	4	4	3	37	2
12	4	3	5	4	5	4	3	3	31	1
13	3	3	5	5	5	4	3	3	32	1
14	2	3	5	4	4	5	3	2	28	1
15	2	1	2	2	2	1	2	2	14	0
16	1	1	1	3	3	3	3	3	18	1
17	3	3	5	4	3	1	2	1	22	1
18	2	2	3	3	3	2	3	2	20	1
19	2	3	4	3	4	2	3	3	24	1
20	2	3	1	1	0	2	2	1	12	0
21	1	1	0	1	1	0	0	1	05	0
22	1	2	4	3	3	2	1	2	18	0
23	1	1	3	3	1	1	1	1	12	0
24	1	1	0	0	0	0	1	1	04	0
25	1	1	0	0	0	1	1	1	05	0
26	3	2	1	3	2	3	2	2	18	0
27	2	1	2	3	4	2	2	2	18	0
28	2	1	1	1	1	2	1	2	11	0
29	1	1	1	0	1	2	4	3	13	0
30	3	3	2	2	2	2	2	2	18	0

JUNE 1968
PRINCIPAL MAGNETIC STORMS

Observatory	Storm - time			Sudden commencement			Degree of activity	Maximal activity on K - scale 0 to 9			Ranges			
	Begin	End	Type	Amplitudes				Day	3 - hour period	K	D	H	Z	
				D	H	Z								
	d	h	m	d	h		γ	γ					γ	γ
GNANGARA	10	2152	1416	ssc*	+2*	-10	+8*	ms	11 12 13	2, 6 4 4	6	22	140	150
PORT MORESBY	10	2154	1418	ssc	+0.3	+11	+4	ms	11	2, 3	6	7	170	80
TOOLANGI	09	22..	1021	..	--	--	--	m	10	3	5	17	62	35
	10	2153	1416	ssc	1	26	--	ms	11	3, 4	6	30	165	82
	16	10..	1714	..	--	--	--	m	17	3	5	15	74	35

JUNE 1968

PRELIMINARY MONTHLY MEAN VALUES

Based on selected quiet days

OBSERVATORY	H	D	Z
	γ	$^{\circ}$,	γ
GNANGARA	23844	02 55.0W	-53498
MACQUARIE I.	13050	26 55.2E	-64129
MAWSON	18364	61 43.7W	-48064
PORT MORESBY	36351	06 11.1E	-23124
TOOLANGI	22432	10 37.4E	-56363

SUDDEN COMMENCEMENTS AND OTHER PHENOMENA

OBSERVATORY	DAY	TIME	TYPE	SENSE OF MOVEMENT		
				H	D	Z
GNANGARA	2	1835	bps B	+	+	+
	3	1538	bp B	+	+	+
	10	2152	ssc* B	-	+	+
	25	1617	s1 B			
	29	2034	b A	+	+	+
PORT MORESBY	02	1835	bp B	+	+	+
	03	1540	bp B	+	+	+
	10	2154	ssc B	+	+	+
TOOLANGI	10	2153	ssc A	-	-	-
	19	1043	s1 A			
	27	1154	bp A	+	-	+