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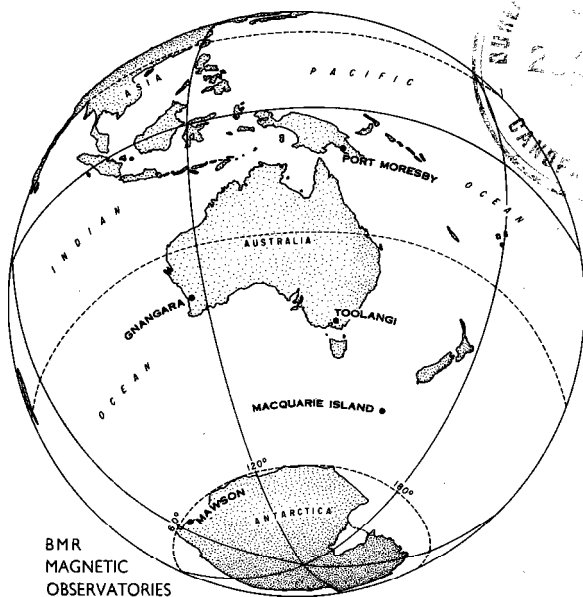
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BUREAU OF MINERAL RESOURCES,
GEOLOGY & GEOPHYSICS

GEOPHYSICAL OBSERVATORY REPORT



Volume 16, No. 7
July 1968

*Issued under the authority of
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

	<u>Page</u>
Contributing Observatories	2
K and C indices	3
Principal Storms	8
Monthly Mean Values, Sudden Commencement and other Phenomena	9

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 - JULY 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	1	1	1	2	1	12	0
2	3	2	1	3	2	2	2	2	17	0
3	3	2	5	3	1	1	2	2	19	1
4	1	3	3	3	2	2	3	1	18	0
5	1	2	1	2	1	2	2	2	13	0
6	1	2	2	1	1	0	2	1	10	0
7	1	2	2	2	0	2	1	0	10	0
8	1	2	2	3	1	0	1	1	11	0
9	1	2	1	1	1	1	1	1	09	0
10	3	4	2	4	5	2	5	4	29	1
11	3	2	1	0	1	2	3	2	14	0
12	2	1	0	0	0	2	1	0	06	0
13	1	2	1	0	0	4	4	3	15	0
14	4	3	1	1	2	1	4	2	18	1
15	1	2	1	1	0	0	2	1	08	0
16	1	2	1	0	2	3	1	1	11	0
17	1	2	1	2	4	1	3	1	15	0
18	1	2	2	2	2	3	1	1	14	0
19	1	3	2	2	1	3	1	4	17	0
20	2	2	0	0	0	1	1	1	07	0
21	1	1	1	1	1	1	3	2	11	0
22	3	3	3	4	3	2	4	2	24	1
23	1	2	3	2	1	4	1	1	15	0
24	1	1	2	0	0	0	1	1	06	0
25	1	1	1	2	2	1	1	1	10	0
26	2	2	2	2	1	2	3	3	17	0
27	3	2	3	3	3	0	1	2	17	0
28	2	1	0	1	1	2	3	1	11	0
29	1	1	1	0	0	0	1	1	05	0
30	0+	1+	1	0	0	1	1	1	05+	0
31	2	2	1	1	1	1	1	1	10	0

M A C Q U A R I E I S L A N D

MAGNETIC K-INDICES - JULY 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	3	3	2	2	1	1	0	14	0
2	2	1	3	4	2	2	0	0	14	0
3	1	2	6	4	3	2	1	1	20	1
4	0	1	4	3	3	1	0	1	13	0
5	1	2	1	3	2	2	0	0	11	0
6	1	1	1	2	1	0	0	0	06	0
7	0	0	4	3	0	1	1	0	09	0
8	1	1	2	4	1	0	0	0	09	0
9	0	0	3	3	0	0	0	0	06	0
10	1	5	3	7	7	3	4	4	34	2
11	4	-	-	-	-	-	-	-	--	-
12	3	2	0	0	0	2	0	0	07	0
13	1	2	1	0	0	4	5	3	16	0
14	5	5	2	3	2	0	4	0	21	1
15	1	1	0	3	0	0	0	0	05	0
16	1	1	0	0	2	4	1	0	09	0
17	0	0	0	2	3	0	0	0	05	0
18	1	2	0	1	3	4	0	0	11	0
19	0	1	3	3	1	2	0	1	11	0
20	1	0	0	0	0	0	0	0	01	0
21	0	0	0	0	2	1	2	1	06	0
22	2	2	4	6	5	4	2	1	26	1
23	1	2	5	2	2	3	0	0	15	0
24	0	0	0	0	0	0	0	0	00	0
25	0	1	0	0	2	2	0	0	05	0
26	0	1	0	3	4	2	2	2	14	0
27	3	2	3	3	4	0	0	1	16	0
28	1	1	0	2	1	1	0	0	06	0
29	1	1	1	1	1	0	0	0	05	0
30	0	0	0	0	0	0	0	1	01	0
31	0	2	1	2	1	0	0	0	06	0

M A W S O N

MAGNETIC K-INDICES - JULY 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	4	4	4	3	3	1	3	5	27	1
2	6	4	2	5	3	2	3	6	31	1
3	5	6	6	4	3	3	5	4	36	2
4	5	5	5	4	3	2	6	3	33	1
5	4	4	3	4	3	2	3	2	25	1
6	3	3	3	3	3	1	5	3	24	1
7	3	3	4	4	3	3	2	1	23	1
8	2	3	3	3	3	2	2	3	21	1
9	1	3	3	2	1	1	0	3	14	0
10	3	6	5	5	5	2	5	7	38	2
11	4	5	4	3	2	2	7	5	32	1
12	5	4	2	1	1	2	1	1	17	1
13	2	4	3	1	0	5	7	5	27	1
14	7	6+	2+	3	3	2	5	5	33+	1
15	5	4	3	3	2	1	4	5	27	1
16	4	4	3	2	3	6	3	3	28	1
17	4	1	4	2	3	1	4	4	23	1
18	4	5	3	2	3	3	2	5	27	1
19	5	4	4	3	2+	1	2+	6	27+	1
20	4	3	1	0	0	1	3	3	15	0
21	4	2	1	1	1	3	5	6	23	1
22	4	5	5	4	3	3	5	4	33	1
23	4	4	5	3	3	2	2	4	27	1
24	3	2	2	1	1	1	2	2	14	0
25	3	3	3	2	3	2	1	3	20	1
26	3	3	5	4	3	2	5	6	31	1
27	6	5	4	4	3	1	3	3	29	1
28	4	4	2	1	3	3	6	5	28	1
29	4	3	3	1	2	2	2	2	19	1
30	3	3	3	2	1	1	5	5	23	1
31	5	3	2	2	2	1	2	5	22	1

P O R T M O R E S B Y

MAGNETIC K-INDICES - JULY 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	2	3	2	1	1	1	2	14	0
2	3	1	1	2	1	1	1	2	12	0
3	3	3	4	4	1	2	2	1	20	1
4	1	3	3	3	2	2	2	1	17	0
5	2	2	1	2	1	2	1	1	12	0
6	1	1	2	2	1	1	1	0	09	0
7	1	2	2	3	1	1	1	0	11	0
8	1	1	1	2	1	1	0	1	08	0
9	1	1	2	2	2	1	2	3	14	0
10	5	5	3	4	5	2	4	3	31	2
11	3	2	2	2	1	1	2	2	15	0
12	2	2	1	1	1	2	1	2	12	0
13	2	2	1	1	0	4	4	2	16	1
14	5	4	2	2	2	1	2	1	19	1
15	2	1	0	2	1	1	1	1+	9+	0
16	1	2	1	1	2	4	3	1	15	1
17	2	0	1	1	3	0	2	1	10	0
18	2	2	2	2	3	2	2	2	17	0
19	2	2	2	2	1	3	1	3	16	0
20	1	1	0	0	0	1	1	0	04	0
21	0	0	1	1	2	2	2	1	09	0
22	3	2	3	4	3	2	2	1	20	1
23	2	2	4	2	1	3	0	3	17	1
24	1	0	2	0	0	0	0	0	03	0
25	1	1	2	2	3	2	2	2	15	0
26	1	1	1	3	2	2	3	3	16	0
27	4	2	2	2	4	1	1	2	18	1
28	2	1	2	2	1	2	2	3	15	0
29	2	1	1	1	1	1	2	1	10	0
30	1	1	2	1	1	1	1	1	09	0
31	2	1	2	2	0	1	1	0	09	0

T O O L A N G I

MAGNETIC K-INDICES - JULY 1968

Range for lower limit of K=9 is 500 gammas

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

JULY 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	m		d	h								/
GNANGARA	09	21..	1101	..				m	10	5, 7	5	18,	110	114
PORT MORESBY	10	00--	1109	..				m	10	1,2,5	5	6	170	58
	13	1612	1412	ssc	+0.3	+27	+13	m	14	1	5	5	83	42
TOOLANGI	09	20--	1108	..	--	--	--	m	10	5	5	24	106	41

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JULY 1968

PRELIMINARY MONTHLY MEAN VALUES

Based on selected quiet days

OBSERVATORY	H	D	Z
	γ	$^{\circ}$,	γ
GNANGARA	23841	2 55.8W	-53496
MACQUARIE I.	13055	26 55.6E	-64129
MAWSON	18364	61 44.5W	-48051
PORT MORESBY	36253	6 11.7E	-23131
TOOLANGI	22434	10 37.3E	-56360

SUDDEN COMMENCEMENTS AND OTHER PHENOMENA

OBSERVATORY	DAY	TIME	TYPE	SENSE OF MOVEMENT		
				H	D	Z
GNANGARA	03	0815	bs B	-	-	-
	10	1820	ssc B	+	+	+
	13	1613	ssc A	+	+	+
PORT MORESBY	13	1612	ssc A	+	+	+
	16	1645	bp A	+	-	+
TOOLANGI	03	0755	bp A	+	-	+
	05	0929	p12 B			
	07	0650	bp B	+	-	+
	08	0902	bp B	+	-	+
	12	1517	p12 B			
	13	1612	ssc* B	+	+	+
	16	1645	bp B	+	-	+
	17	1203	bp B	+	-	+
	23	0735	bp B	-		-
	23	1507	bp B	+		+