

COMMONWEALTH OF AUSTRALIA
DEPARTMENT OF NATIONAL DEVELOPMENT

BUREAU OF MINERAL RESOURCES,
GEOLOGY AND GEOPHYSICS

GEOPHYSICAL OBSERVATORY REPORT

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DEPARTMENT OF NATIONAL DEVELOPMENT

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C O N T E N T S

	<u>Page</u>
Contributing Observatories	2
K Indices	3
Principal Magnetic Storms	6
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 Greenwich Mean Time. Should further information be required, explanation can be obtained by applying to:

Assistant Director (Geophysics),
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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. Major</i>	54°30'S	158°57'E	-60.7°	243.0°
MAWSON	<i>V. Dent</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 1967

Range for lower limit of K=9 is 350 gammas

<u>Day</u>	<u>K-Indices</u>								<u>K-Sum</u>
1	2	2	3	5	3	4	3	2	24
2	3	2	2	0	0	0	0	1	08
3	2	1	1	1	0	0	2	1	08
4	1	1	1	0	0	1	2	2	08
5	2	2	3	3	5	3	2	2	22
6	1	1	0	0	2	2	2	3	11
7	3	4	1	1	1	1	1	1	13
8	1	1	1	1	0	0	0	0	04
9	0	0	0	0	1	0	1	0	02
10	0	0	0	0	1	0	0	1	02
11	3	3	2	2	3	3	4	3	23
12	2	3	3	1	0	2	2	2	15
13	2	2	2	0	0	1	3	3	13
14	2	2	3	3	2	0	2	2	16
15	2	2	1	0	1	3	4	3	16
16	2	2	2	1	0	0	0	0	07
17	1	2	1	0	1	1	2	2	10
18	2	2	2	2	2	2	1	1	14
19	2	1	1	0	1	1	1	1	08
20	2	1	1	1	2	1	1	1	10
21	1	2	1	1	1	1	2	1	10
22	1	1	1	0	2	1	1	1	08
23	1	2	2	1	2	1	3	5	17
24	3	3	2	2	1	1	4	1	17
25	1	1	2	2	2	3	3	2	16
26	1	2	1	1	0	0	1	0	06
27	0	0	1	1	0	0	0	0	02
28	2	2	2	2	2	2	3	2	17
29	2	3	3	0	0	2	2	4	16
30	3	4	2	0	0	0	0	0	09
31	1	1	0	0	0	0	0	0	02

MACQUARIE ISLAND

MAGNETIC K-INDICES - JULY 1967

Range for lower limit of K=9 is 1500 gammas

<u>Day</u>	<u>K-Indices</u>								<u>K-Sum</u>
1	1	2	6	6	5	4	4	1	29
2	3	3	1	0	0	0	0	0	07
3	1	0	1	0	0	0	0	0	02
4	0	1	1	1	0	0	0	0	03
5	2	3	5	6	7	5	2	1	31
6	1	1	1	0	5	2	3	2	15
7	4	4	2	2	1	0	1	1	15
8	1	0	0	2	0	0	0	0	03
9	0	0	0	0	1	1	0	0	02
10	0	0	0	0	2	0	0	0	02
11	2	1	4	4	4	5	3	2	25
12	1	3	2	2	0	1	1	0	10
13	1	1	0	0	0	0	1	1	04
14	1	1	3	3	3	1	0	0	12
15	0	0	0	0	2	2	2	2	08
16	0	2	0	0	0	0	0	0	02
17	0	0	0	0	0	0	1	0	01
18	1	1	1	4	3	1	0	0	11
19	0	0	0	0	0	0	0	0	00
20	0	1	0	1	3	1	0	0	06
21	1	1	1	1	1	1	0	0	06
22	0	1	0	1	1	0	0	0	03
23	0	1	1	1	1	1	2	3	10
24	3	2	2	0	0	0	1	1	09
25	1	1	2	3	3	2	3	1	16
26	1	1	0	1	0	0	0	0	03
27	0	0	1	3	0	0	0	0	04
28	1	0	1	3	1	4	3	1	14
29	3	3	2	2	0	1	1	3	15
30	4	5	5	2	1	0	0	0	17
31	0	0	0	0	0	0	0	0	00

M A W S O N

MAGNETIC K-INDICES - JULY 1967

Range for lower limit of K=9 is 1500 gammas

<u>Day</u>	<u>K-Indices</u>								<u>K-Sum</u>
1	5	5	6	5	4	5	5	5	40
2	5	5	3	1	1	0	0	1	16
3	5	3	0	2	1	0	3	5	19
4	3	3	3	1	1	2	1	6	20
5	6	4	4	4	3	4	3	6	34
6	4	4	3	0+	3+	4	3	6	27+
7	6	4	4	3	4	3	4	4	32
8	4	2	2	2	2	1	1	1	15
9	0	2	2	1	1	1	3	3	13
10	0	0	0	0	0	0	1	4	05
11	6	4	5	4	4	3	3	5	34
12	5	4	4	4	2	2	2	6	29
13	5	3	2	1	1	1	5	6	24
14	4	4	5	3	3	1	4	5	29
15	3	1	2	1	2	3	6	6	24
16	2	6	3	2	1	0	0	4	18
17	3	3	0	1	0	1	3	4	15
18	3	2	3	4	3	2	2	3	22
19	4	3	1	0	1	1	3	4	17
20	3	2	1	2	2	2	4	5	21
21	4	4	2	2	3	1	4	4	24
22	3	1	2	0	0	0	0	4	10
23	0	1	1	2	2	2	7	6	21
24	4	4	2	3	3	2	6	3	27
25	3	4	3	3	3	3	5	5	29
26	4	5	2	3	1	1	0	0	16
27	1	2	2	2	1	2	2	3	15
28	5	3	3	2	3	3	4	5	28
29	4	6	5	1	2	2	6	6	32
30	6	6	5	2	1	0	0	2	22
31	2	3	2	1	0	0	0	0	08

P O R T M O R E S B Y
MAGNETIC K-INDICES - JULY 1967

Range for lower limit of K=9 is 1500 gammas

<u>Day</u>	<u>K-Indices</u>								<u>K-Sum</u>
1	2	1	4	4	2	3	2	3	21
2	2	2	2	0	1	0	0	2	09
3	1	1	0	0	0	0	1	1+	04+
4	1	1	1	1	1	2	1	2	10
5	1	1	3	4	3	3	2	1	18
6	2	1	1	1	3	3	2	2	15
7	2	3	2	1	1	1	2	2	14
8	2	1	1	2	1	1	1	1	10
9	2	2	1	0	1	1	2	2	11
10	1	2	1	1	1	0	1	1+	08+
11	3	3	3	3	3	3	3	3	24
12	2	4	2	1	1	1	1	1	13
13	2	1	1	1	1	1	2	2	11
14	2	1	2	2	2	1	1	1	12
15	1	1	1	1	2	2	3	2	13
16	1	1	0	0	0	0	0	0	02
17	2	0	0	1	1	0	1	1	06
18	2	2	3	2	2	0	0	1	12
19	1	0	1	0	0	1	1	0	04
20	1	2	2	1	1	1	0	1	09
21	2	1	1	1	1	1	1	0	08
22	3	1	1	1	1	1	1	0	09
23	0	1	0	2	3	2	4	4	16
24	3	3	3	2	1	1	2	1+	16+
25	-	-	1	2	2	3	2	1	--
26	2	2	1	1	1	0	0	1	08
27	2	2	2	2	0	0	0	1	09
28	0+	0+	2	3	3	3	2	2	15+
29	4	4	2	0	0	1	1	2	14
30	2	5	4	1	0	0	0	0	12
31	0	0	0	0	0	0	0	0	00

T O O L A N G I

MAGNETIC K-INDICES - JULY 1967

Range for lower limit of K-9 is 500 gammas

<u>Day</u>	<u>K-Indices</u>								<u>K-Sum</u>
1	1	2	4	4	3	3	3	2	22
2	3	2	1	0	0	0	0	0	06
3	2	1	0	0	0	0	1	1	05
4	-	-	1	1	1	2	2	1	--
5	1	2	3	4	4	3	1	1	19
6	1	1	1	0	3	2	2	2	12
7	2	3	1	0	1	1	1	1	10
8	1	0	1	1	0	0	0	0	03
9	0	0	0	0	1	0	0	0	01
10	0	1	1	0	1	0	0	0	03
11	-	-	-	-	-	-	-	-	--
12	3	3	2	1	1	2	1	1	14
13	2	1	0	0	0	0	2	2	07
14	1	2	3	3	2	1	1	1	14
15	1	0	0	0	2	3	3	1	10
16	1	2	0	0	0	0	0	0	03
17	0	0	0	0	0	0	1	1	02
18	1	1	2	3	2	1	0	0	10
19	1	1	0	0	1	0	0	0	03
20	1	0	1	1	2	1	0	0	06
21	1	1	1	1	0	1	1	0	06
22	1	1	1	1	1	0	0	0	05
23	0	1	1	1	2	1	3	4	13
24	1	2	2	1	0	1	2	1	10
25	-	-	2	2	2	2	3	3	--
26	2	2	0	1	0	1	0	0	06
27	0	1	2	2	0	0	0	0	05
28	1	2	1	2	2	3	3	2	16
29	2	3	2	1	0	2	2	3	15
30	3	3	3	1	1	0	0	0	11
31	0	0	0	0	0	0	0	0	00

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

N I L

Port Moresby

N I L

∞

Toolangi

N I L

JULY 1967

PRELIMINARY MONTHLY MEAN VALUES

Based on selected quiet days

OBSERVATORY	H	D		Z
	γ	$^{\circ}$	$'$	γ
GNANGARA	23862	02	54.1W	-53502
MACQUARIE I.	13081	26	47.1E	-64170
MAWSON	18381	61	34.7W	-48180
PORT MORESBY	36273	06	10.7E	-23061
TOOLANGI	22472	10	36.7E	-56379

SUDDEN COMMENCEMENTS AND OTHER PHENOMENA

OBSERVATORY	DAY	TIME	TYPE	SENSE OF MOVEMENT		
				H	D	Z
Gnangara	24	1838	bps B	+	+	+
	25	1740	bs B	+	+	+
Port Moresby	05	1240	bps B	+	-	+
	25	1739	bps B	+	+	+
	30	0424	s1 B			
Toolangi	05	1238	bp B	+	-	+
	09	1255	p12 B			
	10	1145	p12 B			
	20	1220	p12 B			
	21	1420	p12 B			