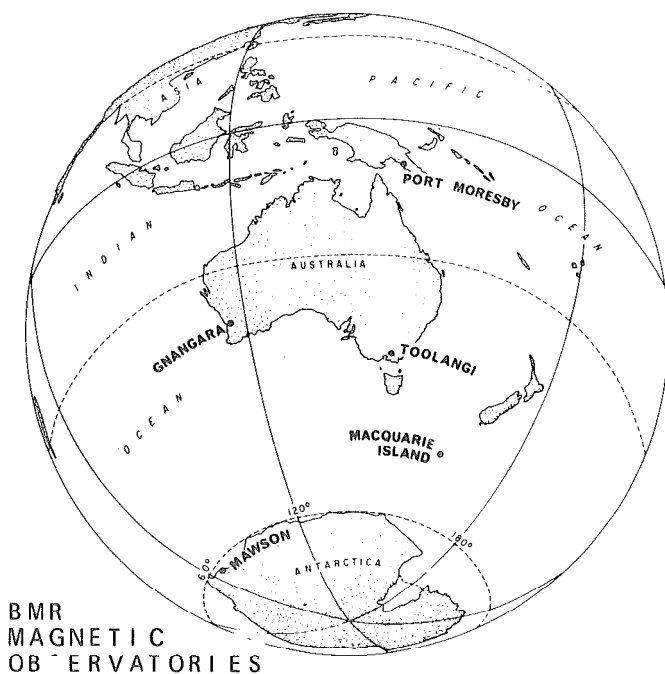


BUREAU OF MINERAL RESOURCES,
GEOLOGY & GEOPHYSICS

GEOPHYSICAL OBSERVATORY REPORT



Volume 23, No 8

August 1975

*Issued under the authority of
The Hon. R.F.X. Connor, M.P., Minister for Minerals & Energy*

DEPARTMENT OF MINERALS & ENERGY

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The terminology used in this report is that accepted by international convention. The units of field intensity, nanotesla (nT), are those of the SI system. All times are in Universal Time. Should further information be required, apply to:

GEOPHYSICAL OBSERVATORY GROUP
BUREAU OF MINERAL RESOURCES
P.O. BOX 378
CANBERRA CITY, A.C.T. 2601

Note: $1\text{ nT} \equiv 1$ gamma in the C.G.S. system

CONTRIBUTING OBSERVATORIES

OBSERVATORY	OBSERVER IN CHARGE	GEOGRAPHIC		GEOMAGNETIC	
		LAT	LONG	LAT	LONG
GNANGARA	P.J. Gregson	31°47'S	115°57'E	— 43.3°	185.8°
MACQUARIE I	J. Silich	54°30'S	158°57'E	— 61.1°	243.1°
MAWSON	P.J. Hill	67°36'S	62°53'E	— 73.1°	102.9°
PORT MORESBY	I.D. Ripper	9°25'S	147°09'E	— 18.6°	217.9°
TOOLANGI	E.P. Paull	37°32'S	145°28'E	— 46.7°	220.8°

MAGNETOGRAPHS

OBSERVATORY	TYPE	NOMINAL SCALE VALUES		
		NORMAL	SENSITIVE	RAPID RUN
		D H Z	D H Z	D H Z
GNANGARA	<i>Eschenhagen</i>	1 2½ 5½		
MACQUARIE I	<i>La Cour</i>	2½ 24 21		1 5½ 6
MAWSON	<i>La Cour</i>	2½ 21 22	1 10 10	
PORT MORESBY	<i>La Cour</i>	½ 2½ 3½		
TOOLANGI	<i>La Cour</i>	1 4½ 5		

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

MAGNETOMETERS

*Absolute data are based on control observations made with QHM's BMZ's
Askania Declinometers and Proton Precession Magnetometers
Errors in preliminary values are not likely to exceed ±5 nT or 0.5 minutes*

G N A N G A R A

MAGNETIC K-INDICES - AUGUST 1975

Range for lower limit of K=9 is 350 nT

<u>Day</u>	<u>K-Indices</u>								<u>K-Sum</u>	<u>C</u>
01	2	3	3	2	1	0	1	1	13	0
02	2	2	2	1	2	2	2	1	14	0
03	2	2	2	2	2	1	1	1	13	0
04	1	1	1	1	1	2	2	2	11	0
05	3	4	4	5	5	5	4	3	33	2
06	3	3	3	2	0	2	2	0	15	0
07	1	0	0	0	4	4	3	2	14	0
08	2	4	3	3	0	2	3	2	19	1
09	2	2	2	3	2	3	4	5	23	1
10	2	3	3	3	3	3	2	1	20	1
11	0	1	2	3	2	1	2	2	13	0
12	1	0	1	1	1	1	1	1	07	0
13	1	1	1	3	3	2	1	1	13	0
14	4	3	3	3	3	1	2	2	21	1
15	3	2	2	4	5	3	5	2	26	1
16	1	1	1	3	3	2	2	1	14	0
17	2	1	3	2	1	3	2	2	16	0
18	1	1	2	3	1	0	1	1	10	0
19	1	1	1	1	1	1	3	1	10	0
20	0	2	2	4	4	4	4	4	24	1
21	2	4	2	1	2	4	3	4	22	1
22	3	4	3	2	3	2	1	1	19	1
23	3	2	2	3	3	2	3	1	19	1
24	0	3	2	1	3	2	3	1	15	0
25	2	2	2	2	3	3	3	3	20	1
26	1	1	0	1	2	0	2	1	08	0
27	2	2	1	1	0	0	0	1	07	0
28	1	1	1	1	1	0	3	2	10	0
29	3	4	4	4	5	3	3	3	29	1
30	2	3	3	4	2	3	2	1	20	1
31	1	1	1	2	1	1	2	2	11	0

MACQUARIE ISLAND

MAGNETIC K-INDICES - AUGUST 1975

Range for lower limit of K=9 is 1500 nT

<u>Day</u>	<u>K-Indices</u>								<u>K-Sum</u>	<u>C</u>
01	2	4	3	3	0	0	0	0	12	1
02	1	1	1	2	1	0	0	1	07	0
03	1	1	1	0	3	0	0	0	06	0
04	1	1	0	2	1	1	1	1	08	0
05	3	6	6	7	6	7	5	2	42	2
06	3	3	4	3	0	0	0	0	13	1
07	0	0	0	0	5	5	3	1	14	1
08	2	5	5	5	1	0	1	1	20	1
09	1	2	4	5	2	4	5	4	27	1
10	3	3	5	6	5	4	2	0	28	2
11	1	2	2	5	4	2	0	1	17	1
12	1	1	2	1	1	0	0	0	06	0
13	1	1	2	5	4	1	0	1	15	1
14	2	5	6	6	5	2	1	1	28	2
15	3	2	4	7	6	5	4	3	34	2
16	1	1	1	3	3	1	1	0	11	0
17	2	3	5	3	3	3	1	2	22	1
18	1	1	2	5	1	0	0	0	10	0
19	1	0	1	1	1	1	1	0	06	0
20	0	0	0	5	7	7	2	2	23	1
21	3	3	2	1	1	3	4	3	20	1
22	4	3	1	4	3	1	1	1	18	1
23	3	2	1	6	6	1	1	1	21	1
24	0	2	0	0	3	1	1	1	08	0
25	2	2	2	3	3	4	1	1	18	1
26	1	1	1	2	2	0	1	0	08	0
27	2	4	0	1	0	0	0	0	07	0
28	0	2	1	1	1	0	0	1	06	0
29	3	5	5	7	7	4	3	2	36	2
30	4	5	4	6	3	2	1	1	26	2
31	0	1	1	4	2	1	1	0	10	0

M A W S O N

MAGNETIC K-INDICES - AUGUST 1975

Range for lower limit of K=9 is 1500 nT

<u>Day</u>	<u>K-Indices</u>								<u>K-Sum</u>	<u>C</u>
01	3	6	4	2	1	1	1	2	20	1
02	2	3	3	2	1	2	3	5	21	1
03	4	2	3	2	3	3	6	4	27	1
04	5	3	2	2	2	3	5	3	25	1
05	5	5	6	5	4	4	7	5	41	2
06	6	5	5	4	3	2	4	5	34	2
07	4	1	1	1	3	3	4	5	22	1
08	5	7	6	3	2	2	4	4	33	2
09	3	4	4	3	3	6	6	6	35	2
10	4	5	4	5	3	3	2	2	28	2
11	1	4	4	3	3	2	6	5	28	1
12	4	3	2	2	2	2	4	4	23	1
13	2	2	3	3	3	2	1	4	20	1
14	6	6	6	4	2	3	5	5	37	2
15	6	4	4	5	4	5	7	5	40	2
16	2	3	3	3	3	2	3	2	21	1
17	3	5	5	4	3	3	6	4	33	2
18	2	3	4	3	3	2	5	4	26	1
19	4	3	2	2	2	2	3	2	20	1
20	2	0	1	2	4	4	5	6	24	1
21	4	5	4	2	2	3	4	7	31	2
22	4	6	5	4	3	3	5	6	36	2
23	5	4	2	3	3	2	4	4	27	1
24	2	3	1	1	2	2	4	5	20	1
25	4	5	4	3	3	3	5	5	32	2
26	3	3	2	2	3	1	4	5	23	1
27	5	6	2	2	1	0	0	3	19	1
28	5	4	1	1	1	1	5	4	22	1
29	7	6	5	4	4	5	4	5	40	2
30	5	6	6	3	3	2	2	5	32	2
31	3	3	3	3	3	3	5	3	26	1

P O R T M O R E S B Y

MAGNETIC K-INDICES - AUGUST 1975

Range for lower limit of K=9 is 300 nT

<u>Day</u>	<u>K-Indices</u>								<u>K-Sum</u>	<u>C</u>
01	2	4	3	3	0	1	2	2	17	1
02	3	2	3	1	3	1	1	1	15	0
03	2	2	1	1	2	1	2	1	12	0
04	1	1	1	2	1	2	3	2	13	0
05	3	4	4	3	4	3	2	2	25	1
06	3	3	3	2	1	0	1	1	14	0
07	1	1	1	0	3	3	2	2	13	0
08	2	4	3	4	0	1	1	2	17	1
09	3	2	2	3	2	3	3	3	21	1
10	2	3	4	3	2	2	2	1	19	1
11	1	1	2	3	2	1	2	1	13	0
12	1	2	1	1	1	0	0	1	07	0
13	1	1	2	4	3	1	2	2	16	1
14	3	3	3	4	3	1	1	1	19	1
15	2	2	2	4	5	2	3	2	22	1
16	2	1	1	2	1	1	2	2	12	0
17	2	1	2	2	2	3	2	1	15	0
18	1	2	2	3	1	0	1	2	12	0
19	0	0	1	1	1	1	2	0	06	0
20	1	2	2	5	3	3	2	3	21	1
21	4	3	3	1	2	3	2	3	21	1
22	3	3	3	3	2	2	1	3	20	1
23	4	2	2	3	2	1	1	2	17	1
24	1	2	1	1	2	1	2	2	12	0
25	1	2	2	2	3	3	2	3	18	0
26	2	1	1	1	1	0	1	1	08	0
27	1	2	1	2	0	0	0	3	09	0
28	2	1	2	0	0	0	1	1	07	0
29	4	3	4	3	3	2	2	2	23	1
30	3	3	3	4	2	3	1	1	20	1
31	1	1	1	3	1	1	2	2	12	0

T O O L A N G I

MAGNETIC K-INDICES - AUGUST 1975

Range for lower limit of K=9 is 500 nT

<u>Day</u>	<u>K-Indices</u>								<u>K-Sum</u>	<u>C</u>
01	2	3	2	2	0	1	1	1	12	0
02	2	1	2	1	1	1	1	1	10	0
03	1	1	1	1	2	1	1	1	09	0
04	1	1	0	2	1	2	1	1	09	0
05	3	3	4	4	4	3	3	2	26	1
06	2	3	3	2	0	0	0	0	10	0
07	0	0	0	0	3	3	3	1	10	0
08	2	4	4	4	0	1	1	1	17	1
09	2	1	2	3	2	3	4	3	20	1
10	2	3	3	4	3	3	2	0	20	1
11	1	1	2	2	2	1	1	2	12	0
12	0	0	1	1	1	0	0	1	04	0
13	-	1	2	3	2	1	1	1	--	-
14	3	3	4	3	3	1	1	2	20	1
15	2	2	3	4	4	3	4	3	25	1
16	1	1	1	3	3	1	2	1	13	0
17	2	2	3	3	2	3	1	1	17	0
18	1	2	2	3	1	0	1	1	11	0
19	1	1	1	1	1	1	2	1	09	0
20	0	1	1	4	4	4	3	3	20	1
21	2	3	2	1	1	3	3	3	18	0
22	3	3	2	3	3	2	1	2	19	1
23	2	2	1	4	3	2	1	0	15	1
24	1	2	0	1	3	1	2	2	12	0
25	2	3	2	2	2	3	2	2	18	0
26	1	1	1	1	2	0	1	1	08	0
27	1	2	0	1	0	0	0	0	04	0
28	1	2	1	1	2	0	2	2	11	0
29	2	3	4	4	4	3	3	2	25	1
30	2	3	3	4	2	2	0	0	16	1
31	0	2	1	3	1	1	1	1	10	0

AUGUST 1975

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								Z
	d	h	m	d	h		/	nT	nT		/	nT	nT

GNANGARA

NIL

PORT MORESBY 14 00 .. 15 19
20 09 .. 23 13

15 {05} 5 6 80 40
20 {04} 5 4 80 50

∞ TOOLANGI

NIL

AUGUST 1975

PRELIMINARY MONTHLY MEAN VALUES

Based on selected quiet days

OBSERVATORY	H nT	D ° ,	Z nT
GNANGARA	23599	03 11.9W	-53505
MACQUARIE I.	12840	27 44.5E	-63922
MAWSON	18389	62 32.9W	-47254
PORT MORESBY	36068	06 19.3E	-23379
TOOLANGI	22199	10 49.3E	-56307

SUDDEN COMMENCEMENTS AND OTHER PHENOMENA

OBSERVATORY	DAY	TIME	TYPE	SENSE OF MOVEMENT		
				H	D	Z
PORT MORESBY	08	0316	ssc B	+	+	
TOOLANGI			NIL			
GNANGARA	07	1431	bp B	+	-	
	07	1751	bp B	+	+	
	10	1739	bps B	+	+	
	17	1633	b B	+	+	

R74/2008(2)