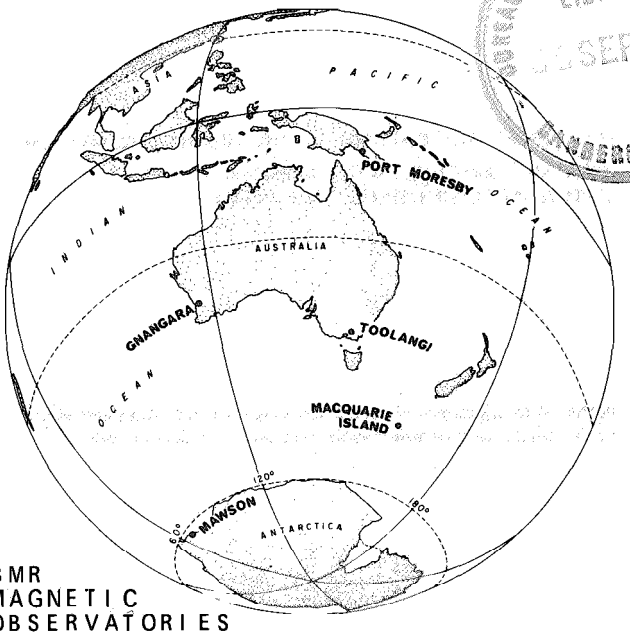
BUREAU OF MINERAL RESOURCES,
GEOLOGY & GEOPHYSICS

GEOPHYSICAL OBSERVATORY REPORT



BMR
MAGNETIC
OBSERVATORIES

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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:

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

Note: $1nT \equiv 1$ 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.B. Everingham	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	Eschenhagen	1	2½	5½						
MACQUARIE I	La Cour	2½	24	21				1	5½	6
MAWSON	La Cour	2½	21	22	1	10	10			
PORT MORESBY	La Cour	½	2½	3½						
TOOLANGI	La Cour	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 - JULY 1975

Range for lower limit of K=9 is 350 nT

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

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

MAGNETIC K-INDICES - JULY 1975

Range for lower limit of K=9 is 1500 nT

Day	K-Indices								K-Sum	C
01	2	2	3	5	2	4	1	2	21	1
02	1	1	1	0	3	2	0	1	09	0
03	1	1	3	4	4	0	1	1	15	1
04	1	0	0	2	1	0	1	1	06	0
05	0	1	1	0	0	0	0	0	02	0
06	0	0	0	0	2	1	1	1	05	0
07	3	2	0	3	3	2	3	2	18	0
08	3	5	6	7	6	5	5	2	39	2
09	2	5	4	7	5	3	4	2	32	2
10	2	2	5	4	6	4	2	2	27	2
11	2	3	5	7	6	3	2	1	29	2
12	2	1	2	1	1	2	1	1	11	0
13	1	1	0	2	4	3	2	3	16	1
14	3	2	3	4	3	2	0	3	20	1
15	3	2	4	6	6	4	3	2	30	2
16	3	3	3	4	4	2	1	1	21	1
17	1	1	3	4	5	4	2	2	22	1
18	2	2	2	5	6	4	2	1	24	1
19	2	2	2	2	3	3	3	2	19	1
20	2	2	3	3	0	0	1	1	12	0
21	0	1	0	3	5	1	1	0	11	0
22	1	1	2	2	2	2	1	2	13	0
23	1	2	2	2	0	0	0	0	07	0
24	2	1	2	4	1	0	0	0	10	0
25	2	5	6	5	7	7	4	3	39	2
26	3	3	3	5	5	5	2	2	28	2
27	2	3	3	4	3	2	3	2	22	1
28	3	3	2	3	5	1	2	1	20	1
29	1	1	0	2	3	0	0	1	08	0
30	2	2	2	3	1	2	0	0	12	0
31	1	1	0	0	1	0	0	2	05	0

M A W S O N

MAGNETIC K-INDICES - JULY 1975

Range for lower limit of K=9 is 1500 nT

Day	K-Indices								K-Sum	C
01	3	3	4	4	3	2	2	6	27	1
02	6	4	3	2	2	2	3	4	26	1
03	4	4	4	4	2	2	3	5	28	1
04	3	2	3	2	2	2	6	6	26	1
05	3	2	3	3	1	2	4	5	23	1
06	1	1	1	0	1	2	3	5	14	1
07	7	3	2	1	3	4	4	6	30	2
08	5	6	5	5	5	3	5	2	36	2
09	3	5	5	5	5	4	5	6	38	2
10	2	4	5	5	4	4	6	6	36	2
11	4	5	6	5	4	2	3	4	33	2
12	3	3	3	2	4	3	6	4	28	1
13	3	4	3	3	2	3	6	6	30	2
14	5	5	5	4	4	2	5	6	36	2
15	5	4	5	4	3	4	5	6	36	2
16	4	3	4	4	5	4	4	6	34	2
17	4	5	4	4	4	4	5	7	37	2
18	5	4	5	5	4	5	4	6	38	2
19	5	5	4	2	3	4	5	6	34	2
20	5	4	3	3	3	2	3	5	28	1
21	4	2	4	3	3	2	3	5	26	1
22	3	3	5	3	3	3	4	3	27	1
23	4	5	3	2	1	2	3	5	25	1
24	6	2	3	3	3	2	2	2	23	1
25	2	6	5	5	5	4	7	6	40	2
26	6	5	5	5	4	4	7	6	42	2
27	3	5	5	3	3	3	5	5	32	2
28	5	5	4	3	2	3	4	4	30	2
29	3	4	3	3	2	1	3	5	24	1
30	4	4	3	2	2	1	4	5	25	1
31	4	3	1	0	1	1	1	5	16	1

P O R T M O R E S B Y

MAGNETIC K-INDICES - JULY 1975

Range for lower limit of K=9 is 300 nT

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

T O O L A N G I

MAGNETIC K-INDICES - JULY 1975

Range for lower limit of K-9 is 500 nT

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

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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		′	nT	nT					′	nT	nT
GNANGARA	25	02	23	27	09	sc	+1	+2	+2		25	(5)	6	19	90	100
PORT MORESBY	06	17	22	11	18	ssc	+0.1	+10	+8		08	(3)	5	5	150	40
											09	(4)	5			
											11	(3)	5			
	25	02	21	27	15	ssc	-0.1	+11	+9		25	(3)	6	5	180	60
TOOLANGI	25	02	--	27	12	..					25	(3)	6			

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PRELIMINARY MONTHLY MEAN VALUES

Based on selected quiet days

OBSERVATORY	H nT	D ° ′	Z nT
GNANGARA	23602	03 11.4W	-53497
MACQUARIE I.	12840	27 43.6E	-63926
MAWSON	18392	62 32.0W	-47259
PORT MORESBY	36070	06 19.0E	-23372
TOOLANGI	22199	10 49.4E	-56310

SUDDEN COMMENCEMENTS AND OTHER PHENOMENA

OBSERVATORY	DAY	TIME	TYPE		SENSE OF MOVEMENT H	D	Z
PORT MORESBY	06	1722	ssc	B	+	+	
	25	0221	ssc	B	+	-	
TOOLANGI	11	1140	bs	A	+	-	
GNANGARA	08	1732	bs	B	+	+	
	11	1139	bp	B	+	-	

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