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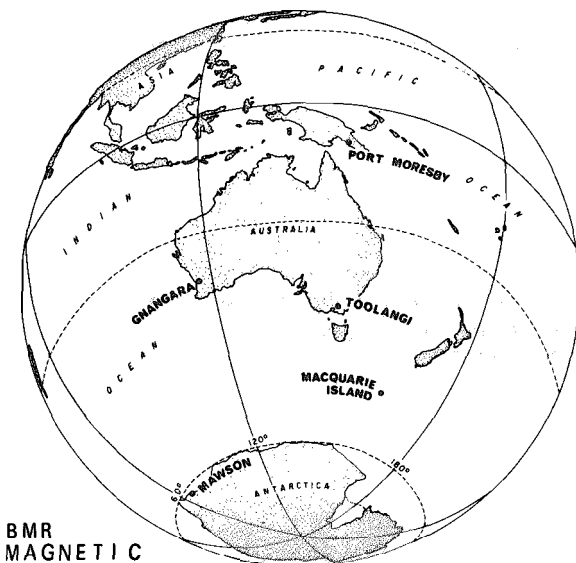
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14 MAY 1974
BUREAU OF MINERAL RESOURCES,
GEOLOGY & GEOPHYSICS

GEOPHYSICAL OBSERVATORY REPORT



BMR
MAGNETIC
OBSERVATORIES

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The Hon. P.F.X. Connor, M.P., Minister for Minerals & Energy

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COMMONWEALTH OF AUSTRALIA

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.J. Walsh	54°30'S	158°57'E	— 61 1°	243 1°
MAWSON	P.J. Cameron	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	R.L. Paine	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 - FEBRUARY 1974

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	3	2	1	2	2	3	5	4	22	1
02	3	2	2	3	3	3	2	2	20	1
03	2	1	2	2	2	2	1	3	15	0
04	1	2	2	1	0	2	3	1	12	0
05	1	0	0	1	1	4	2	1	10	0
06	2	1	1	0	2	2	1	2	11	0
07	2	2	2	2	3	1	3	0	15	0
08	1	0	1	2	1	4	2	1	12	0
09	1	1	1	1	0	0	1	1	06	0
10	1	1	2	2	0	2	5	3	16	1
11	4	2	3	2	4	4	4	3	26	1
12	4	4	4	5	5	4	2	2	30	1
13	3	2	2	3	4	4	2	2	22	1
14	2	2	1	3	3	3	0	1	15	0
15	1	1	0	0	1	0	1	2	06	0
16	1	1	1	0	2	2	3	3	13	0
17	2	1	2	3	2	1	1	2	14	0
18	1	1	1	0	1	0	0	0	04	0
19	1	0	2	2	1	2	1	1	10	0
20	2	0	2	2	2	5	3	2	18	1
21	3	2	3	3	5	3	2	4	25	1
22	3	2	3	1	1	2	4	5	21	1
23	4	3	4	3	5	5	6	4	34	2
24	4	3	3	5	3	3	5	3	29	1
25	4	3	4	4	4	5	5	4	33	2
26	3	3	3	4	4	4	3	3	27	1
27	3	3	3	4	4	5	3	4	29	1
28	4	3	4	3	5	3	4	3	29	1

MACQUARIE ISLAND

MAGNETIC K-INDICES - FEBRUARY 1974

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	2	1	1	3	2	3	2	16	0
02	2	2	2	4	4	3	1	1	19	1
03	1	2	2	3	2	1	0	1	12	0
04	1	2	1	1	0	1	1	1	08	0
05	1	1	1	0	4	6	1	1	15	1
06	1	2	0	0	4	3	1	2	13	0
07	1	3	1	2	6	1	1	0	15	1
08	0	0	0	3	2	4	1	1	11	0
09	1	2	0	0	0	0	1	0	04	0
10	1	1	2	3	0	2	2	2	13	0
11	3	4	3	4	7	4	6	3	34	2
12	2	6	5	7	7	5	1	1	34	2
13	2	3	3	5	5	4	3	1	26	1
14	2	2	1	4	4	4	1	1	19	1
15	1	1	0	0	1	0	0	0	03	0
16	0	1	0	0	1	2	2	2	08	0
17	1	3	3	5	6	0	0	1	19	1
18	0	0	0	0	0	0	0	0	00	0
19	0	0	1	3	0	1	0	0	05	0
20	1	0	0	2	5	7	4	1	20	1
21	3	3	3	5	7	6	2	1	30	2
22	1	2	4	2	2	2	2	4	19	1
23	4	3	5	5	8	7	6	4	42	2
24	4	2	6	7	4	3	5	3	34	2
25	3	4	5	7	7	8	5	3	42	2
26	3	3	5	6	6	5	4	3	35	2
27	2	6	3	6	6	5	4	3	35	2
28	4	3	4	6	7	4	3	3	34	2

M A W S O N

MAGNETIC K-INDICES - FEBRUARY 1974

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	4	4	3	4	3	3	6	7	34	2
02	4	4	3	3	3	3	3	5	28	1
03	3	4	4	3	3	2	5	5	29	1
04	2	6	4	2	1	2	4	2	23	1
05	3	4	3	2	3	4	3	6	28	1
06	4	5	2	2	3	3	3	5	27	1
07	5	5	3	3	3	3	4	4	30	2
08	2	3	2	2	3	4	3	4	23	1
09	4	3	3	1	2	1	1	5	20	1
10	3	3	3	3	3	3	8	6	32	2
11	5	4	3	4	4	3	7	7	37	2
12	4	7	7	4	5	6	5	5	43	2
13	5	5	5	4	3	5	5	5	37	2
14	6	4	3	4	3	3	3	4	30	2
15	3	3	2	2	2	2	1	1	16	0
16	3	4	2	2	3	2	5	5	26	1
17	3	5	5	4	4	3	5	6	35	2
18	2	2	2	1	1	1	0	0	09	0
19	2	2	2	2	2	2	1	3	16	0
20	6	4	2	2	3	3	4	7	31	2
21	6	4	5	5	4	4	3	5	36	2
22	3	4	6	2	2	1	5	6	29	1
23	5	5	5	3	6	5	8	7	44	2
24	6	4	5	5	3	4	8	6	41	2
25	7	6	6	5	4	5	8	4	45	2
26	6	5	4	4	3	4	8	7	41	2
27	5	5	6	4	3	6	6	7	42	2
28	5	5	5	4	5	5	7	7	43	2

P O R T M O R E S B Y

MAGNETIC K-INDICES - FEBRUARY 1974

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	2	1	2	2	2	3	2	16	0
02	3	2	2	2	1	2	1	2	15	0
03	2	2	2	2	1	1	2	2	14	0
04	1	1	2	1	1	1	1	1	09	0
05	1	1	2	1	3	3	1	2	14	0
06	2	3	1	1	1	2	2	2	14	0
07	3	2	3	2	2	1	2	2	17	0
08	1	1	1	2	2	4	2	1	14	1
09	0	1	1	1	1	0	1	1	06	0
10	2	1	2	3	1	2	3	4	18	1
11	2	3	3	3	5	3	4	3	26	1
12	2	5	5	4	4	2	2	1	25	1
13	2	2	2	3	4	3	2	2	20	1
14	2	2	2	3	3	2	1	1	16	0
15	3	1	1	1	2	1	1	1	11	0
16	1	2	2	1	1	2	2	3	14	0
17	1	1	3	2	2	1	2	2	14	0
18	1	1	1	0	1	0	0	0	04	0
19	0	1	1	1	1	2	0	1	07	0
20	3	2	3	3	4	4	3	3	25	1
21	3	2	4	3	5	2	2	2	23	1
22	2	3	4	2	1	2	3	3	20	1
23	3	2	4	3	5	5	4	4	30	1
24	4	2	3	5	2	3	3	2	24	1
25	3	3	4	3	3	5	3	3	27	1
26	3	3	3	3	4	3	2	3	24	1
27	3	3	3	4	3	3	2	4	24	1
28	3	3	3	3	4	2	3	3	24	1

T O O L A N G I

MAGNETIC K-INDICES - FEBRUARY 1974

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	2	2	2	2	2	4	3	19	1
02	2	3	1	2	2	2	1	2	15	0
03	1	2	3	2	1	1	1	1	12	0
04	1	2	2	1	1	1	2	1	11	0
05	1	1	1	1	2	4	1	2	13	0
06	2	2	1	0	2	2	1	3	13	0
07	2	2	2	2	3	1	2	1	15	0
08	0	1	1	2	2	3	1	1	11	0
09	2	2	1	1	1	0	1	1	09	0
10	1	2	3	3	0	3	4	3	19	1
11	3	3	3	2	4	4	4	4	27	1
12	2	4	4	5	5	3	3	3	29	1
13	2	2	3	3	3	3	3	2	21	1
14	2	2	2	3	3	3	0	1	16	0
15	1	2	1	1	1	0	1	1	08	0
16	1	2	1	0	2	1	3	2	12	0
17	2	2	3	3	3	1	2	2	18	0
18	1	1	1	0	1	0	0	0	04	0
19	1	0	1	2	1	2	0	1	08	0
20	2	1	2	2	3	4	3	2	19	1
21	3	3	3	4	5	3	3	3	27	1
22	2	2	3	2	1	1	3	4	18	1
23	4	2	4	2	4	4	5	4	29	1
24	4	3	4	5	2	3	4	3	28	1
25	3	3	5	4	3	5	4	3	30	1
26	3	3	3	5	4	4	3	4	29	1
27	2	3	3	3	4	5	3	4	27	1
28	4	4	3	3	5	3	3	4	29	1

1

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	10	07	..	14	16	..				10 (7),	5	14	120	120		
										12 (4, 5)						
	20	07	..	22	00	..				20 (6),	5	15	80	120		
										21 (5)						
	22	19	..	01	03	..				23 (7)	6	23	110	130		
PORT MORESBY	10	21	..	13	18	..				11 (5)	5					
										12 (2, 3)	5	7	90	50		
	20	01	57	29	00	ssc	+0.1	+11	+9	21 (5)	5	7	130	100		
										23 (5, 6)	5					
										24 (4)	5					
										25 (6)	5					
TOOLANGI	10	20	..	1	15	..				12 (4, 5)	5	20	130	45		
										21 (5)	5	23	100	45		
	20	08	..	22	09	..				23 (7)	5	30	170	45		
										24 (4)	5					
										25 (3, 6)	5					
										26 (4)	5					
										27 (6)	5					
										28 (5)	5					

FEBRUARY 1974

PRELIMINARY MONTHLY MEAN VALUES

Based on selected quiet days

OBSERVATORY	H nT	D °	Z nT
GNANGARA	23664	03 09.6W	-53457
MACQUARIE I.	12879	27 30.9E	-63970
MAWSON	18393	62 21.3W	-47412
PORT MORESBY	36114	06 16.8E	-23296
TOOLANGI	22259	10 45.3E	-56315

SUDDEN COMMENCEMENTS AND OTHER PHENOMENA

OBSERVATORY	DAY	TIME	TYPE	SENSE OF MOVEMENT		
				H	D	Z
PORT MORESBY	20	0157	ssc B			
TOOLANGI			N11			
GNANGARA	05	1445	bp B	+	-	
	20	1600	bp B	+	+	