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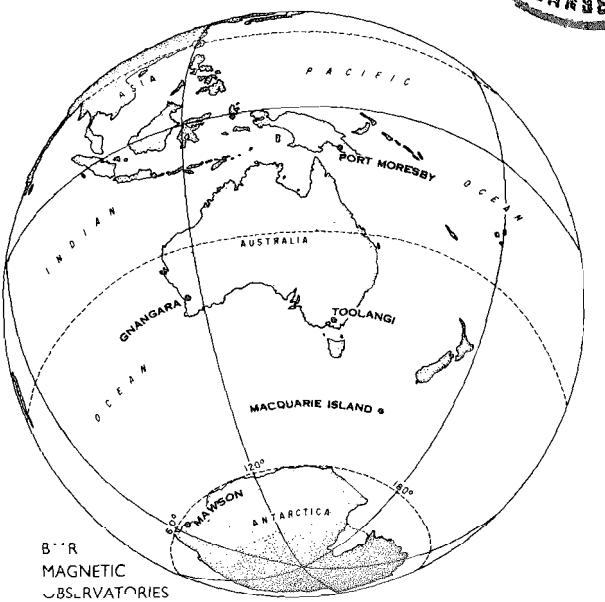
GEOPHYSICAL OBSERVATORY REPORT



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MAGNETIC
OBSERVATORIES

Volume 20, No. 3
March 1972

Issued under the authority of

The Hon. Reginald W. Swartz, Minister for National Development

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COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT

MINISTER: Hon. Reginald W. Swartz
SECRETARY: L.F. Bott

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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	*P. J. Gregson*	*31°47'S*	*115°57'E*	*− 43·3°*	*185·8°*
MACQUARIE I	*M.W. McMullan*	*54°30'S*	*158°57'E*	*− 61·1°*	*243·1°*
MAWSON	*J. Silich*	*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	*G.R. Small*	*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 gammas/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 ±5γ or 0.5 minutes

G N A N G A R A

MAGNETIC K-INDICES - MARCH 1972

Range for lower limit of K=9 is 350 gammas

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

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

MAGNETIC K-INDICES - MARCH 1972

Range for lower limit of K=9 is 1500 gammas

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

M A W S O N

MAGNETIC K-INDICES - MARCH 1972

Range for lower limit of K=9 is 1500 gammas

Day	K-Indices								K-Sum	C
01	3	3	1	3	2	2	6	6	26	1
02	4	4	2	1	2	3	3	6	25	1
03	5	4	5	2	3	3	4	4	30	1
04	4	2	3	3	3	2	2	5	24	1
05	5	3	2	1	2	1	5	5	24	1
06	5	3	3	2	1	1	4	8	27	1
07	7	5	6	5	4	4	4	5	40	2
08	4	3	2	2	2	4	3	1	21	1
09	3	4	2	3	3	4	5	2	26	1
10	1	1	0	0	0	0	0	5	07	0
11	5	4	4	1	0	0	3	1	18	1
12	1	1	0	1	1	1	1	6	12	0
13	4	1	2	2	3	1	0	5	18	1
14	3	1	2	1	1	1	0	1	10	0
15	1	2	2	0	1	1	4	3	14	1
16	6	6	5	3	3	3	3	5	34	2
17	5	6	3	3	3	3	6	7	36	2
18	6	4	4	2	2	1	3	5	27	1
19	5	3	2	1	1	1	4	5	22	1
20	4	3	2	1	0	3	2	5	20	1
21	3	3	1	1	1	2	3	4	18	1
22	5	4	2	1	2	2	4	4	24	1
23	2	1	2	2	3	1	6	6	23	1
24	4	6	4	2	2	4	7	5	34	2
25	4	6	4	3	2	1	6	5	31	2
26	3	4	2	2	2	2	6	6	27	1
27	5	4	4	2	1	3	7	6	32	2
28	6	4	3	2	1	1	0	0	17	1
29	3	3	3	4	3	4	8	6	34	2
30	6	6	7	3	2	4	6	6	40	2
31	4	5	3	2	2	3	7	6	32	2

P O R T M O R E S B Y

MAGNETIC K-INDICES - MARCH 1972

Range for lower limit of K=9 is 300 gammas

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

T O O L A N G I

MAGNETIC K-INDICES - MARCH 1972

Range for lower limit of K=9 is 500 gammas

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

MARCH 1972

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	06	2108	0713		ssc	+1	+35	+36	ms	06	8	7	22	120	130
PORT MORESBY	06	2108	0718		ssc	+1.6	+41	-35	ms	07	2	7	11	180	130
TOOLANGI	06	2108	0806		ssc*	+4	+36	+2	ms	06 07	8 1,2	6	30	200	55

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PRELIMINARY MONTHLY MEAN VALUES

Based on selected quiet days

OBSERVATORY	H γ	D ° ′	Z γ
GNANGARA	23738	03 04.2W	-53465
MACQUARIE I.	12937	27 22.6E	-64002
MAWSON	18370	62 10.5W	-47639
PORT MORESBY	36162	06 14.6E	-23211
TOOLANGI	22321	10 42.4E	-56320

SUDDEN COMMENCEMENTS AND OTHER PHENOMENA

OBSERVATORY	DAY	TIME	TYPE	SENSE OF MOVEMENT H	D
GNANGARA	03	0849	bp B	+	+
	04	1730	bps B	+	+
	06	2108	ssc B	+	+
	11	1853	bps B	+	+
	26	1919	bps B	+	+
PORT MORESBY	03	1509	bp B	+	+
	06	2108	ssc A	+	+
	07	0341	si A	+	+
	07	2210	si B	+	-
TOOLANGI	06	2108	ssc*A	+	+

MARCH 1972

SOLAR FLARE EFFECTS

Observatory	Day	Time			Amp	(Gammas)	
		Begin	Max.	End	H	D	Z
Port Moresby	05	0815	0817	0819	-2	+0.1	+1