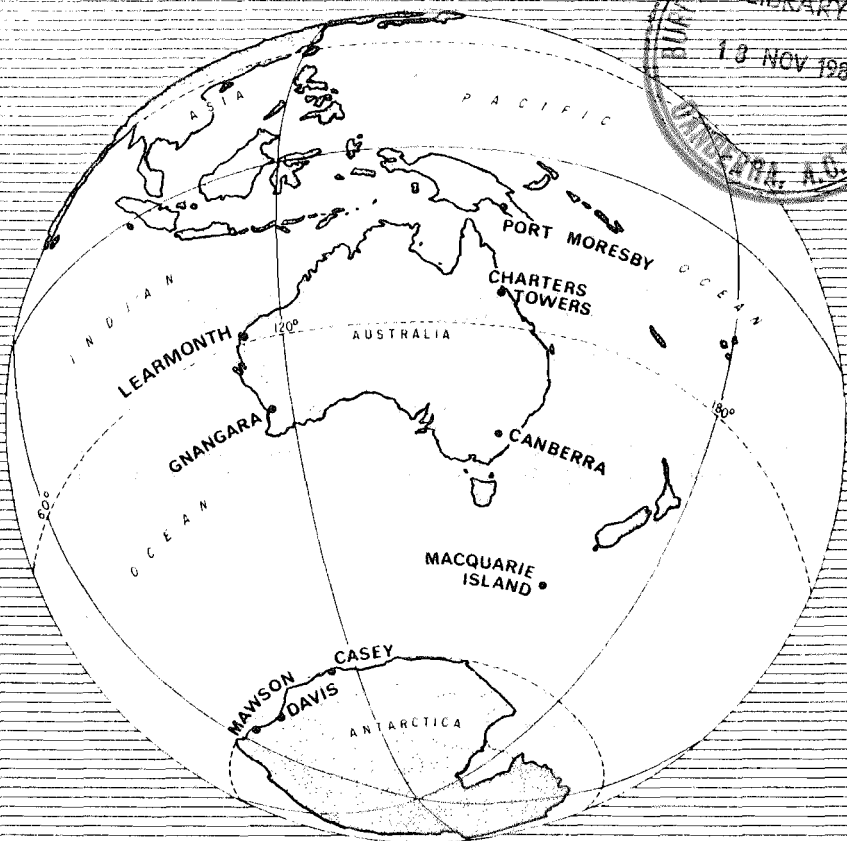
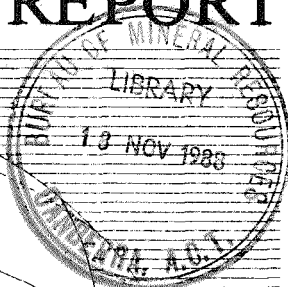


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MAGNETIC OBSERVATORIES

VOLUME 36 No. 5

MAY 1988

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DEPARTMENT OF PRIMARY INDUSTRIES AND ENERGY

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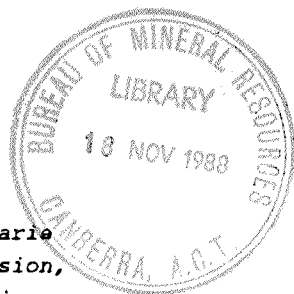
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The observers at Casey, Davis and Macquarie Island are officers of the Antarctic Division, Department of Science and Technology: their contributions are gratefully acknowledged. These observers and the Bureau of Mineral Resources (BMR) geophysicist at Mawson are members of the Australian National Antarctic Research Expeditions (ANARE).

Data from the Port Moresby Geophysical Observatory are contributed by the Geological Survey of Papua New Guinea.

The terminology used in this report is that accepted by International Association of Geomagnetism and Aeronomy. The unit of field intensity is nanotesla (nT). All times are in Universal Time.



CONTRIBUTING OBSERVATORIES

OBSERVATORY	OBSERVER IN CHARGE	GEOGRAPHIC		GEOMAGNETIC	
		LAT	LONG	LAT	LONG
PORT MORESBY	I.D. Ripper	9° 25' S	147° 09' E	-18.2°	219.6°
CHARTERS TOWERS	J.M. Millican	20° 05' S	146° 15' E	-28.8°	220.2°
LEARMONTH	M.W. McMullan	22° 13' S	114° 06' E	-33.4°	185.5°
GNANGARA	P.J. Gregson	31° 47' S	115° 57' E	-42.9°	187.8°
CANBERRA	P.A. Hopgood	35° 19' S	149° 22' E	-43.5°	226.4°
MACQUARIE I	G. Kowalik	54° 30' S	158° 57' E	-60.6°	244.6°
MAWSON	R. Hutchinson	67° 36' S	62° 53' E	-73.3°	105.9°
DAVIS	M. Craven	68° 35' S	77° 58' E	-76.9°	123.5°
CASEY	T. Maggs	66° 17' S	110° 32' E	-77.5°	182.4°

MAGNETOGRAPHS

OBSERVATORY	CODE	TYPE	ELEMENT/SCALE-VALUE			
PORT MORESBY	PMG	La cour (A)	H/3	D/5	Z/4	
CHARTERS TOWERS	CTA	EDA/ELSEC (D/1)	X	Y	Z	
LEARMONTH	LRM	EDA/ELSEC (D/1)	X	Y	Z	
GNANGARA	GNA	Eschenhagen (A)	H/3	D/7	Z/6	
CANBERRA	CNB	ELSEC (D/.1)	D	I	F	
MACQUARIE ISLAND	MCQ	PEM (D/.1)	X	Y	Z	
MAWSON	MAW	PEM (D/.1)	X	Y	Z	

A = analogue, 20mm/hr, scale values in nT/mm
 D/1 = ditigal, 1 min readings, 1 nT resolution
 D/.1 = ditigal, 1 min readings, 0.1 nT resolution
 PEM = BMR Photo-electronic magnetograph.

MAGNETOMETERS

Absolute data are based on observations made with QHM's, BMZ's, fluxgate-theodolites, declinometers and proton precession magnetometers.

Errors in preliminary values obtained from magnetograms are not likely to exceed 5 nT or 0.5 minutes of arc.

PORT MORESBY

MAGNETIC K-INDICES -- MAY 1988

Range for lower limit of K=9 is 300nT

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

Mean of K-Sum is 16.4

Frequency of K-Indices

K :	0	1	2	3	4	5	6	7	8	9	-
f :	0	81	107	41	9	4	4	0	0	0	2

GNANGARA

MAGNETIC K-INDICES - MAY 1988

Range for lower limit of K=9 is 450nT

DAY	K-INDICES								K-SUM
01	1	2	2	1	1	0	1	1	09
02	0	0	1	1	3	2	2	3	12
03	1	1	1	1	1	2	4	2	13
04	1	2	2	1	2	2	3	2	15
05	1	1	2	4	3	2	2	3	18
06	5	5	6	7	6	7	4	3	43
07	2	2	2	2	4	3	4	3	22
08	2	2	1	3	4	3	3	3	21
09	1	1	2	2	2	2	2	2	14
10	2	3	3	2	3	3	2	1	19
11	1	1	1	2	2	2	2	1	12
12	1	1	1	0	1	2	1	2	09
13	1	1	1	1	1	2	1	0	08
14	0	1	1	1	1	1	1	0	06
15	0	2	2	1	0	1	0	1	07
16	1	2	1	3	4	3	1	2	17
17	1	3	2	4	5	3	4	3	25
18	4	3	2	3	3	2	1	2	20
19	2	1	1	1	2	1	1	0	09
20	1	2	1	0	1	1	2	2	10
21	1	2	2	1	2	2	2	2	14
22	3	3	2	1	3	2	0	0	14
23	1	1	0	0	1	2	2	2	09
24	1	2	2	1	4	2	3	1	16
25	1	1	1	1	1	0	2	3	10
26	2	3	1	1	1	2	0	0	10
27	0	0	0	0	0	0	1	0	01
28	0	1	0	0	1	0	1	0	03
29	0	2	1	1	2	2	0	1	09
30	1	3	3	1	1	1	2	3	15
31	2	2	2	2	2	2	1	1	14

Mean of K-Sum is 13.7

Frequency of K-Indices

K :	0	1	2	3	4	5	6	7	8	9	-
f :	33	88	76	33	11	3	2	2	0	0	0

CANBERRA

MAGNETIC K-INDICES - MAY 1988

Range for lower limit of K=9 is 450nT

DAY	K-INDICES								K-SUM
01	1	1	1	2	1	0	0	1	07
02	0	1	2	2	3	3	1	2	14
03	0	1	1	1	2	1	3	2	11
04	2	3	2	3	2	2	2	1	17
05	1	2	3	4	4	1	1	4	20
06	4	5	6	6	6	6	3	2	38
07	1	1	1	2	4	2	3	2	16
08	2	2	2	2	4	3	2	2	19
09	2	2	3	3	2	2	1	1	16
10	1	3	3	2	2	2	1	1	15
11	1	1	1	2	1	1	1	0	08
12	1	0	0	0	1	0	0	0	02
13	0	1	0	1	1	0	0	0	03
14	0	0	0	2	0	0	0	0	02
15	0	3	0	0	0	0	0	1	04
16	1	2	1	4	3	4	0	1	16
17	1	3	3	4	5	3	3	2	24
18	4	2	2	3	4	1	0	2	18
19	1	1	1	1	1	2	0	0	07
20	1	1	0	0	0	0	1	1	04
21	0	2	3	0	2	2	1	2	12
22	2	2	2	1	3	1	0	0	11
23	1	2	0	0	1	1	1	1	07
24	1	1	2	1	3	1	1	0	10
25	1	1	0	1	1	1	2	2	09
26	2	2	1	0	0	1	0	0	06
27	0	1	0	0	0	0	0	0	01
28	0	1	0	0	0	0	0	0	01
29	0	1	2	2	2	1	0	1	09
30	0	3	3	1	0	0	2	2	11
31	2	2	1	2	2	2	1	0	12

Mean of K-Sum is 11.2

Frequency of K-Indices

K :	0	1	2	3	4	5	6	7	8	9	-
f :	69	77	60	25	11	2	4	0	0	0	0

MAWSON

MAGNETIC K-INDICES - MAY 1988

Range for lower limit of K=9 is 1500nT

DAY	K-INDICES								K-SUM
01	4	2	2	1	1	1	1	2	14
02	1	3	1	1	1	3	3	6	19
03	3	3	2	2	2	1	5	5	23
04	4	5	4	2	2	1	6	4	26
05	1	2	2	4	4	1	4	5	23
06	6	6	7	4	3	7	7	7	47
07	3	3	4	2	2	3	5	6	28
08	4	5	5	3	3	4	3	6	33
09	2	2	4	3	3	3	2	4	23
10	4	5	5	3	3	2	1	5	28
11	3	5	3	3	2	2	2	3	23
12	3	3	3	0	0	1	0	4	14
13	4	2	1	0	1	0	0	0	08
14	0	2	2	0	0	0	1	0	05
15	4	4	2	0	0	1	0	1	12
16	1	5	4	2	2	2	0	5	21
17	4	5	5	4	5	3	6	6	38
18	6	4	4	3	3	1	1	5	27
19	4	4	2	2	4	1	1	0	18
20	5	4	3	0	2	0	3	5	22
21	3	5	4	1	2	2	2	5	24
22	5	5	3	3	2	2	3	3	26
23	2	3	1	0	1	0	3	5	15
24	3	2	3	2	1	1	3	2	17
25	1	2	2	1	2	1	3	6	18
26	4	4	2	0	0	0	1	0	11
27	0	0	2	1	0	0	1	3	07
28	0	1	0	0	0	0	0	2	03
29	1	1	3	1	2	1	4	4	17
30	2	5	4	2	1	1	5	6	26
31	3	4	3	2	3	2	2	5	24

Mean of K-Sum is 20.7

Frequency of K-Indices

K :	0	1	2	3	4	5	6	7	8	9	-
f :	35	42	50	45	34	27	11	4	0	0	0

MAY 1988

PRINCIPAL MAGNETIC STORMS

OBSERVATORY	Commencement		SSC-amplitude		Max. 3hr K-index		Ranges		UT End	
	day	hr min	type	D (°)	H (nT)	z (nT)	D (°)	H (nT)	z (nT)	day hr
Port Moresby	05	23 ..	...	..	..	..	6	11	290 120	07 00
Chartiers Towers	05	22 ..	...	..	..	..	7	17.6	269 43	06 21
Gaangara	05	23 ..	...	..	..	..	7	39	180 230	07 00
Canberra	05	23 ..	...	..	..	..	6	37.5	249 106	06 18

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PRELIMINARY MONTHLY MEAN VALUES

OBSERVATORY	H	D		Z	F
	nT	deg	min	nT	nT
PORT MORESBY	35922	06°	36.0 E	-23719	43046
CHARTERS TOWERS	31758	07°	46.7 E	-38270	49731
LEARMONTH	29472	00°	36.6 W	-44426	53313
GNANGARA	23209	03°	11.2 W	-53816	58607
CANBERRA	23671	12°	27.2 E	-53692	58678
MACQUARIE ISLAND	12562	29°	31.9 E	-63563	64793
MAWSON	18476	64°	03.9 W	-46151	49712
DAVIS	16655	77°	04.4 W	-52136	54731
CASEY	9593	91°	28.0 W	-64102	64816

The values are derived from magnetograms for selected quiet days except at Davis and Casey where they are derived from semi-weekly absolute measurements.

SUDDEN COMMENCEMENTS AND OTHER RAPID VARIATIONS

OBSERVATORY	DAY	TYPE AND QUALITY	TIME	SENSE AND AMPLITUDE OF CHIEF MOVEMENT		
				H(nT)	D(nT)	Z(nT)
PORT MORESBY			NIL			
CHARTERS TOWERS			NIL			
GNANGARA			NIL			
CANBERRA			NIL			

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