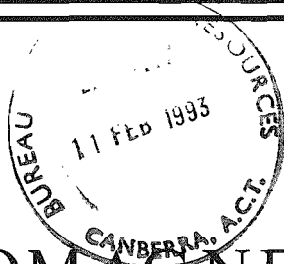
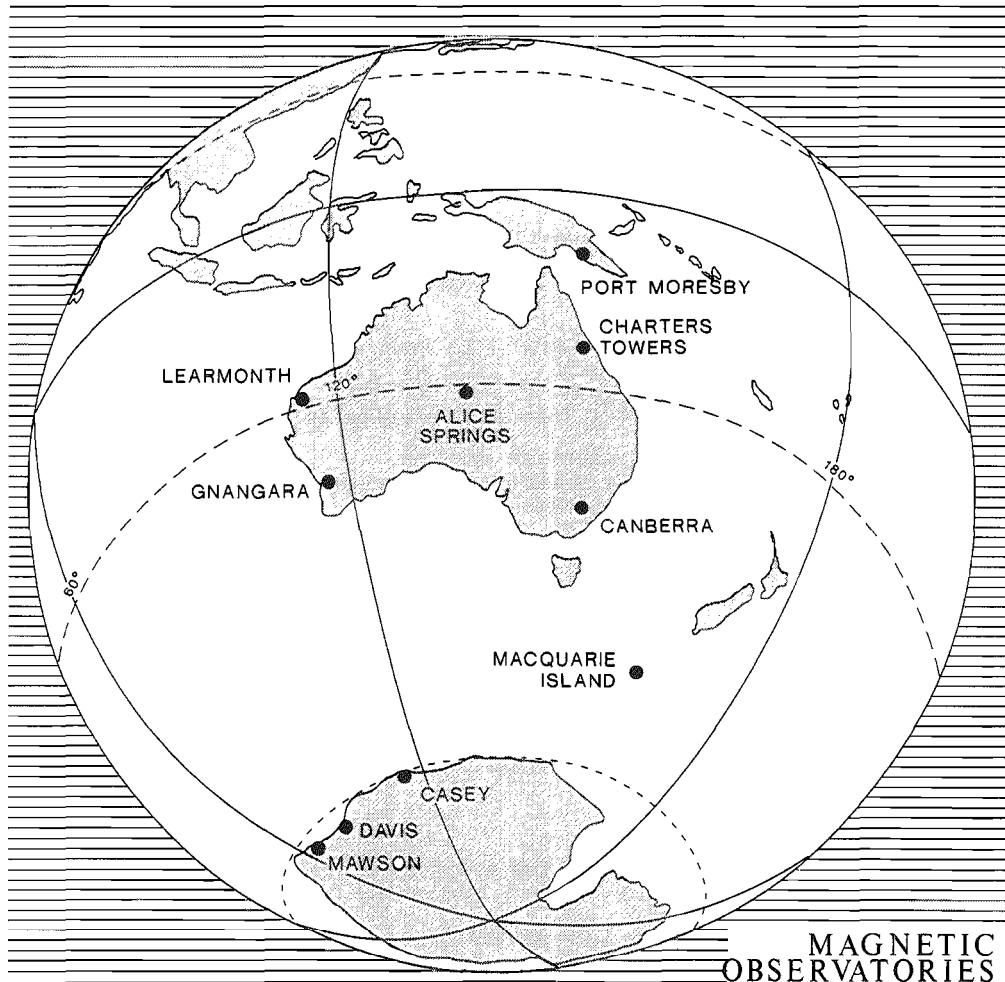


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AUSTRALIAN GEOMAGNETISM REPORT



MAGNETIC
OBSERVATORIES

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(LENDING SECTION)

VOLUME 40 No.10
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AUSTRALIAN GEOLOGICAL SURVEY ORGANISATION

DEPARTMENT OF PRIMARY INDUSTRIES AND ENERGY

Minister for Resources:

The Hon. Alan Griffiths MP

AUSTRALIAN GEOLOGICAL SURVEY ORGANISATION

EXECUTIVE DIRECTOR:

R.W.R. Rutland AO, FTS

This report was prepared by:

Geomagnetism Section
Geophysical Observatories & Mapping Program
Minerals & Environment Group

CHIEF OF DIVISION : D. Denham AM

For further Information write to:

GEOMAGNETISM SECTION
AUSTRALIAN GEOLOGICAL SURVEY
ORGANISATION
G.P.O. Box 378
CANBERRA, A.C.T., 2601
AUSTRALIA.

AGSO

AUSTRALIAN GEOLOGICAL
SURVEY ORGANISATION

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The observers at Casey, Davis and Macquarie Island are officers of the Antarctic Division, of the Department of the Arts, Sport, the Environment & Territories. Their contributions are gratefully acknowledged. These observers and the Australian Geological Survey Organisation's (AGSO) geophysicist at Mawson are members of the Australian National Antarctic Research Expedition (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 the International Association of Geomagnetism and Aeronomy (IAGA). The unit of field intensity is the nanoTesla (nT). All times are in Universal Time (UT). Geographic and Geomagnetic latitudes & longitudes are positive North & East respectively.



CONTRIBUTING OBSERVATORIES

OBSERVATORY	OBSERVER IN CHARGE	GEOGRAPHIC		GEOMAGNETIC	
		LAT. (N)	LONG. (E)	LAT. (N)	LONG. (E)
PORT MORESBY	I.D.Ripper	-9° 25'	147° 09'	-18.1°	219.6°
CHARTERS TOWERS	J.M.Millican	-20° 05'	146° 15'	-28.7°	220.2°
LEARMONTH	M.W.McMullan	-22° 13'	114° 06'	-33.2°	185.4°
ALICE SPRINGS	W.Serone	-23° 46'	133° 53'	-33.7°	207.3°
GNANGARA	P.J.Gregson	-31° 47'	115° 57'	-42.7°	187.8°
CANBERRA	P.A.Hopgood	-35° 19'	149° 22'	-43.3°	226.4°
MACQUARIE IS.	R.Jones	-54° 30'	158° 57'	-60.5°	244.5°
MAWSON	J.L.Jamieson	-67° 36'	62° 53'	-73.2°	106.1°
DAVIS	D.Neudegg	-68° 35'	77° 58'	-76.7°	123.7°
CASEY	N.Mifsud	-66° 17'	110° 32'	-77.3°	182.4°

* Geomagnetic co-ordinates based on the 1980 DGRF Geomagnetic North pole position of 78.81°N, 289.24°E.

MAGNETOGRAPHS

OBSERVATORY	CODE	MODEL (TYPE/RES.)	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	Elsec (D/.1)	D	I	F	
CANBERRA	CNB	Elsec (D/.1)	D	I	F	
MACQUARIE IS.	MCQ	PEM (D/.1)	X	Y	Z	
MAWSON	MAW	PEM (D/.1)	X	Y	Z	
ALICE SPRINGS	ASP	NAROD 3F/G (D/.025)	X	Y	Z	

A = analogue, 20mm/hr, scale values in nT/mm

D/1 = digital, 1 minute readings, 1 nT resolution

D/.1 = digital, 1 minute readings, 0.1 nT resolution

PEM = BMR Photo-electronic magnetograph

NAROD 3F/G = NAROD 3 component ring core fluxgate magnetometer

MAGNETOMETERS

Absolute data are based on observations made with QHM's, BMZ's, fluxgate-theodolites, declinometers, proton vector magnetometers, proton precession magnetometers and three component fluxgate 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 - OCTOBER 1992

Range for lower limit of K=9 is 300nT

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

Mean of K-Sum is 18.1

Frequency of K-Indices

K :	0	1	2	3	4	5	6	7	8	9	-
f :	4	74	70	61	27	6	1	0	0	0	5

GNANGARA

MAGNETIC K-INDICES - OCTOBER 1992

Range for lower limit of K=9 is 450nT

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

Mean of K-Sum is 16.3

Frequency of K-Indices

K :	0	1	2	3	4	5	6	7	8	9	-
f :	26	63	64	55	22	9	0	0	0	0	9

CANBERRA

MAGNETIC K-INDICES - OCTOBER 1992

Range for lower limit of K=9 is 450nT

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

Mean of K-Sum is 16.6

Frequency of K-Indices

K :	0	1	2	3	4	5	6	7	8	9	-
f :	21	64	76	57	22	8	0	0	0	0	0

MAWSON**MAGNETIC K-INDICES - OCTOBER 1992**

Range for lower limit of K=9 is 1500nT

DAY	K-INDICES								K-SUM
01	6	6	5	4	3	5	6	4	39
02	5	4	4	3	2	4	4	5	31
03	3	3	3	3	3	2	6	4	27
04	5	7	4	1	1	0	0	1	19
05	4	4	2	1	1	2	3	5	22
06	6	6	3	3	3	3	4	3	31
07	2	4	3	4	3	2	5	2	25
08	3	4	2	1	1	1	4	4	20
09	3	3	2	4	3	4	6	4	29
10	2	3	4	3	3	2	3	5	25
11	4	4	2	4	5	5	6	5	35
12	4	5	5	6	6	6	6	5	43
13	6	5	3	2	4	4	6	5	35
14	5	5	5	4	3	2	7	7	38
15	7	6	5	5	4	4	7	6	44
16	6	5	5	5	3	3	3	6	36
17	3	4	3	4	4	5	7	5	35
18	5	4	3	2	4	4	6	5	33
19	6	5	5	4	4	4	4	4	36
20	6	5	3	3	2	2	3	4	28
21	4	3	3	2	2	2	3	5	24
22	4	3	2	2	3	3	1	3	21
23	3	3	2	1	2	1	4	3	19
24	3	2	2	0	0	1	1	4	13
25	5	2	3	3	2	2	2	4	23
26	4	4	3	3	2	2	6	5	29
27	7	6	5	5	5	5	4	5	42
28	5	4	4	4	3	4	4	5	33
29	5	5	5	4	4	6	6	6	41
30	3	6	5	3	3	5	5	6	36
31	4	4	4	4	4	3	3	3	29

Mean of K-Sum is 30.4

Frequency of K-Indices

K :	0	1	2	3	4	5	6	7	8	9	-
f :	4	13	32	56	61	47	28	7	0	0	0

PRINCIPAL MAGNETIC STORMS - OCTOBER 1992

OBSERVATORY	Commencement		SSC-amplitude			Max. 3hr K-index		Ranges			UT End
	Day Hr Min	Type	D(')	H(nT)	Z(nT)	Day (3hr-period)	K	D(')	H(nT)	Z(nT)	Day Hr
Port Moresby	08 18 ..	...	..	..	..	09(4)	6	10	250	90	12 18
Gnangara	Nil				Principal	Magnetic				Storms	
Canberra	11 10 ..	...	..	..	..	11(5);12(4,5)	5	22.2	118	48	12 18

OCTOBER 1992

PRELIMINARY MONTHLY MEAN VALUES

OBSERVATORY	H	D		Z	F
	nT	deg	min(E)	nT	nT
PORT MORESBY	35935	06°	35.8´	-23660	43025
CHARTERS TOWERS	31749	07°	47.3´	-38210	49679
LEARMONTH	29549	-00°	21.7´	-44402	53336
ALICE SPRINGS	29958	04°	57.5´	-44566	53699
GNANGARA	23181	-02°	55.7´	-53768	58553
CANBERRA	23649	12°	32.6´	-53613	58597
MACQUARIE IS.	12573	29°	54.5´	-63442	64676
MAWSON	18504	-64°	38.1´	-45892	49482
DAVIS	16682	-78°	05.4´	-51853	54470
CASEY	9658	-92°	01.0´	-63839	64565

The values are derived from magnetograms over the Quietest 5 International Days, except at Mawson, Davis and Casey, where the locally quietest days are used.

INTERNATIONAL QUIET AND DISTURBED DAYS

Quietest days (1- 5): 24 23 05 03 21
Quietest days (6-10): 25 04 08 07 22
Most Disturbed days : 12 15 27 01 29

SUDDEN STORM COMMENCEMENTS (ssc): OCTOBER 1992

Observatory	Day	Type and Quality	U.T.	Sense and Amplitude of Chief Movement		
				H(nT)	D(nT)	Z(nT)
PORT MORESBY	Nil	ssc's	observed			
GNANGARA	Nil	ssc's	observed			
CANBERRA	08	ssc*C	1839	+7	+7*	0

SOLAR FLARE EFFECTS (sfe): OCTOBER 1992

Observatory	----- U.T. of sfe -----				Con- fir- med.	Sense & Amplitude		
	Day	Began	Max.	Ended		H(nT)	D(nT)	Z(nT)
PORT MORESBY			Nil	sfe's	reported			
GNANGARA			Nil	sfe's	reported			
CANBERRA			Nil	sfe's	reported			

