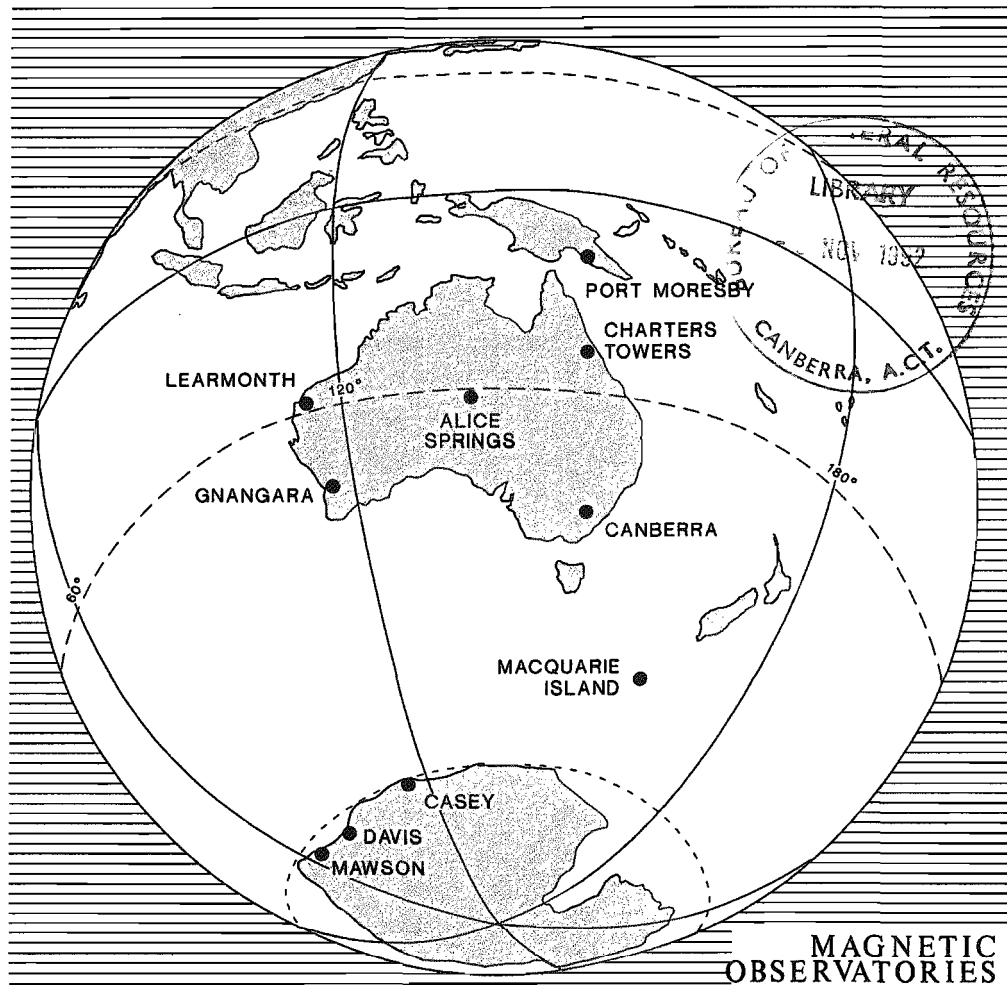


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AUSTRALIAN GEOMAGNETISM REPORT



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AUSTRALIAN GEOLOGICAL SURVEY ORGANISATION

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DEPARTMENT OF PRIMARY INDUSTRIES AND ENERGY

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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 - AUGUST 1992

Range for lower limit of K=9 is 300nT

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

Mean of K-Sum is 18.3

Frequency of K-Indices

K :	0	1	2	3	4	5	6	7	8	9	-
f :	2	68	87	55	24	9	2	1	0	0	0

GNANGARA

MAGNETIC K-INDICES - AUGUST 1992

Range for lower limit of K=9 is 450nT

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

Mean of K-Sum is 15.3

Frequency of K-Indices

K :	0	1	2	3	4	5	6	7	8	9	-
f :	26	93	55	41	20	9	4	0	0	0	0

CANBERRA

MAGNETIC K-INDICES - AUGUST 1992

Range for lower limit of K=9 is 450nT

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

Mean of K-Sum is 14.5

Frequency of K-Indices

K :	0	1	2	3	4	5	6	7	8	9	-
f :	38	85	56	39	17	11	2	0	0	0	0

MAWSON

MAGNETIC K-INDICES - AUGUST 1992

Range for lower limit of K=9 is 1500nT

DAY	K-INDICES								K-SUM
01	6	5	5	2	3	2	4	5	32
02	3	3	2	1	0	1	3	5	18
03	3	1	2	1	1	2	2	4	16
04	3	2	1	1	2	3	5	5	22
05	7	7	5	6	3	3	4	4	39
06	2	5	3	4	3	4	6	4	31
07	6	6	5	5	5	4	5	4	40
08	3	5	6	5	3	4	6	6	38
09	4	3	3	5	4	3	6	3	31
10	5	2	2	2	3	3	5	5	27
11	6	5	4	4	3	4	4	6	36
12	5	5	5	3	2	1	2	4	27
13	1	3	3	3	3	4	4	6	27
14	5	4	3	2	3	4	3	2	26
15	3	4	4	2	1	1	6	6	27
16	3	4	5	3	2	2	2	4	25
17	3	3	1	0	0	0	2	5	14
18	3	3	2	1	2	3	3	4	21
19	4	3	2	1	2	3	3	5	23
20	4	5	6	4	3	1	2	3	28
21	2	3	1	1	3	7	5	3	25
22	3	3	4	5	4	7	7	7	40
23	7	8	6	3	4	2	7	6	43
24	4	4	3	3	1	1	6	6	28
25	3	5	2	1	2	1	3	4	21
26	4	5	6	3	2	3	4	5	32
27	3	4	3	3	3	4	6	4	30
28	3	3	2	1	1	1	3	5	19
29	5	5	5	4	3	2	2	4	30
30	4	2	2	2	3	1	2	1	17
31	2	3	1	1	0	1	2	2	12

Mean of K-Sum is 27.3

Frequency of K-Indices

K :	0	1	2	3	4	5	6	7	8	9	-
f :	5	29	41	64	43	36	21	8	1	0	0

PRINCIPAL MAGNETIC STORMS - AUGUST 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	04 14 07	ssc	0	+20	+18	5(1)	6	6	180	70	06 07
	06 04 25	ssc	+0.3	+27	+27	6(4);7(3,4)	5	6	140	80	08 00
	22 06 ..	...	..	..	..	23(1)	7	8	180	90	24 00
Gnangara	06 04 25	ssc	-1.2	+18	-3	7(4)	5	13	90	110	08 12
	21 12 ..	...	..	..	..	22(6)	6	26	180	150	23 22
Canberra	22 12 ..	...	..	..	..	23(1,2)	6	21.0	221	85	23 18

AUGUST 1992

PRELIMINARY MONTHLY MEAN VALUES

OBSERVATORY	H	D		Z	F
	nT	deg	min(E)	nT	nT
PORT MORESBY	35934	06°	35.7'	-23660	43024
CHARTERS TOWERS	31742	07°	47.5'	-38211	49675
LEARMONTH	29544	-00°	22.4'	-44398	53329
ALICE SPRINGS	29947	04°	58.3'	-44571	53698
GNANGARA	23190	-02°	55.9'	-53764	58552
CANBERRA	23648	12°	32.4'	-53616	58599
MACQUARIE IS.	12568	29°	55.2'	-63441	64674
MAWSON	18503	-64°	35.2'	-45889	49479
DAVIS	16675	-78°	02.9'	-51842	54457
CASEY	9640	-92°	06.6'	-63839	64563

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): 03 17 31 02 25
Quietest days (6-10): 28 30 18 12 10
Most Disturbed days : 23 22 05 20 07

SUDDEN STORM COMMENCEMENTS (ssc): AUGUST 1992

Observatory	Day	Type and Quality	U.T.	Sense and Amplitude of Chief Movement		
				H(nT)	D(nT)	Z(nT)
PORT MORESBY	04	ssc B	0108	+18	-4	+14
	04	ssc B	1407	+20	0	+18
	06	ssc B	0425	+27	+3	+27
	13	ssc B	1514	+28	0	+24
GNANGARA	06	ssc B	0425	+18	-6	-3
CANBERRA	13	ssc*B	1515	+30	+7*	+5

SOLAR FLARE EFFECTS (sfe): AUGUST 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		

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