REPORT SE-53

WORLD DATA CENTER-A
for
Solid Earth Geophysics

A REPORT
ON
GEOMAGNETIC OBSERVATORIES,
1995

May 1995

NATIONAL GEOPHYSICAL DATA CENTER

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by

S.J. McLean
K.D. Meyers
L.D. Morris
W.M. Davis

In cooperation with
IAGA/IUGG, Division V, Magnetic Observatories, Instruments, Surveys, and Analysis

May 1995

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE
National Geophysical Data Center
Boulder, Colorado 80303-3328, USA

List of Acronyms Used in this Report

AARI	Arctic and Antarctic Research Institute
AGU	American Geophysical Union
CGS	Canadian Geological Survey
FIPS	Federal Information Processing Standard
IAGA	International Association of Geomagnetism and Aeronomy
IGRF	International Geomagnetic Reference Field
IUGG	International Union of Geodesy and Geophysics
INTERMAGNET	International Real-Time Geomagnetic Observatory Network
NGDC	National Geophysical Data Center (NOAA)
NOAA	National Oceanic and Atmospheric Administration
SEG	Solid Earth Geophysics
STP	Solar-Terrestrial Physics
STEP	Solar-Terrestrial Energy Program
SUNY	State University of New York
WDC	World Data Center
WG V-4	Working Group 4 of IAGA Division V

Disclaimer

Contents

A Report on Geomagnetic Observatories, 1995

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S.J. McLean, K.D. Meyers, L.D. Morris, W.M. Davis

Like the phenomena it was established to observe, the global geomagnetic observatory network is in a constant state of change. This past year has seen some improvement in this network. Great strides have been made in Latin America, where the Second Latin-American School on Geomagnetism, held this summer, marked a renewed spirit of cooperation between observatories. Stations previously operating under great difficulties and able to report only sporadically, have submitted monthly means within 6 months of their observation. India and China announced the opening of several new stations. This year also marked the first major distribution of observatory yearbooks by the Chinese State Seismological Bureau in several years.

This report is part of the ongoing effort by the World Data Center-A in Boulder, Colorado, to catalog the status of the geomagnetic observatory network. Most of the world's observatories have been very generous in making their data available through the World Data Center system, thereby improving access and future availability of the data. Tables 1 and 2 contain information on the current magnetic observatory network, based on annual means data received at the WDC-A. Maps 1 and 2 show the locations of observatories, color coded by the timeliness of the annual mean data available from the WDC-A. Because of the importance of higher resolution observatory data, we have included Table 3 which shows the availability of digital high-resolution data from the WDC-A for Solar Terrestrial Physics.

Finally, to illustrate the changes in the global network with time, Table 4 and Figure 1 give a historical look at magnetic observatories producing annual means from 1818 to the present. Table 4 lists observatories by country or region, showing the location and years of annual means data available. Figure 1 depicts the changes in the number of magnetic observatories in operation with time. This illustration is loosely based on work done by S.R.C. Malin and D. Gubbins, but is created from the annual means data available from WDC-A. Information for contacting the observatories is available in Appendix 1. Electronic mail addresses are included with each contact where available. Appendix 2 is a sample station report generated from annual means values archived at the WDC-A.

Based on available information, there are 205 geomagnetic observatories currently or soon to be in operation. Of these observatories, 13 stations are planned in the next year or are currently operating but have not yet processed their first year of data. These stations are flagged as new with a code of "N". Of the currently operating observatories for which data are available, 151 are located in the Northern Hemisphere and 39 in the Southern Hemisphere. As of the date of publication, 23 observatories had reported annual means for 1994 and an additional 82 observatories reported 1993 mean values. In addition to the new and operating observatories, several observatories are believed to be operating, but their exact status and availability of data are not known. These stations are flagged with a code of "U" in the tables.

Historically, magnetic observatories were established to monitor the secular change of Earth's magnetic field, and this remains one of their most important functions. For the purpose of this report, the term "standard geomagnetic observatory" or simply "magnetic observatory" implies an installation that is producing data suitable for studies of secular change. This generally involves absolute measurements sufficient in number to monitor instrumental drift and the production of annual means. The output product of the standard geomagnetic observatory has changed as more observatories operate digital magnetometers recording high-resolution data. Analog recording rates are typically 20 mm/h, while digital rates vary from less than one second to one minute. While the digitally-recorded data are considered by many to be the primary record, the analog record can be synthesized from the digital recordings if desired. Absolute observations of the field elements provide a baseline for the magnetograms and monitor instrument drift. Hourly mean values are averaged for the daily, monthly, and annual mean values. The magnetic observatory data are crucial to the studies of secular change, investigations into Earth's interior, and to global modeling efforts. The data cataloged in this report were made available to modelers working on the next generation of the IGRF.

For global modeling of Earth's magnetic field, probably the greatest weakness in the data base comes from the uneven geographical distribution of observatories. Observatories are currently limited to land areas. The distribution of available land mass and the distribution of observatories on land is uneven. As shown on Maps 1 and 2, the majority of observatories producing annual means as well as the majority of current means are located in the Northern Hemisphere.

This report is published by the WDC-A for SEG because the present status of the geomagnetic observatory network is of interest to the research community and to many observatory operators. This year for the first time, the contents of the report will also be made available in digital form through the World Wide Web (WWW). Some WWW addresses of interest to the community are:

World Data Center-A Home Page	http://www.ngdc.noaa.gov/wdcmain.html
National Geophysical Data Center	http://www.ngdc.noaa.gov/
WDC-A for Solid Earth Geophysics	http://www.ngdc.noaa.gov/wdcaseg.html
WDC-A for Solar-Terrestrial Physics	http://www.ngdc.noaa.gov/stp/WDC/wdcstp.html
British Geological Survey WDC-C1	http://192.171.143.111
WDC-C1 for Solar-Terrestrial Physics	http://wdcc1b.bnsc.rl.ac.uk/

While every effort has been made to ensure the information in this report is accurate, some errors may by found. The WDC-A would appreciate being informed of any errors or omissions so they can be corrected. The information contained in this report is also available in computer-readable form on diskette. If you would like a copy, please contact Susan McLean at the address shown on the next page.

Address Information

WDC-A for Solid Earth Geophysics
National Geophysical Data Center
NOAA, EGC1
325 Broadway
Boulder Colorado 80303-3328 U.S.A.

Telephone: 303-497-6478 (Geomagnetism)
Fax: 303-497-6513
Telex: 592811 NOAA MASC BDR
Email (Internet): smclean@ngdc.noaa.gov

Acknowledgments

The authors would like to acknowledge the valuable work and willing participation of the active, operating observatories, without whom this report would not be possible or necessary.

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Tables

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Table 1: Magnetic Observatories in Operation, Sorted by IAGA Code

01-May-95

IAGA Code	Station	Latitude	Longitude	Country Code	Country/Region
A					
AAA	ALMA ATA	43.250	76.917	KZ	Kazakhstan
AAE	ADDIS ABABA	9.030	38.765	ET	Ethiopia
ABG	ALIBAG	18.638	72.872	IN	India
ABK	ABISKO	68.358	18.823	SW	Sweden
AIA	ARGENTINE (FARADAY) ISLANDS	-65.245	295.742	AY	Antarctica
ALE	ALERT	82.497	297.647	CA	Canada
ALH	ALLAHABAD	25.050	82.000	IN	India
AMS	MARTIN DE VIVIES	-37.833	77.567	FS	French Southern and Antarctic Lands
ANC	ANCON	-11.690	282.852	PE	Peru
ANK	ANKARA	39.891	32.764	TU	Turkey
ANN	ANNAMALAINAGAR	11.367	79.683	IN	India
API	APIA	-13.807	188.225	WS	Western Samoa
AQU	L'AQUILA	42.383	13.317	IT	Italy
ARC	ARCTOWSKI	-62.160	301.522	AY	Antarctica
ARK	ARKHANGELSK	64.583	40.500	RS	Russia
ARS	ARTI	56.433	58.567	RS	Russia
ASH	VANNOVSKAYA	37.950	58.108	TX	Turkmenistan
ASP	ALICE SPRINGS	-23.762	133.883	AS	Australia
B					
BAG	BAGUIO	16.400	120.633	RP	Philippines
BCL	BACLIEU	9.283	105.733	VM	Vietnam
BDV	BUDKOV	49.080	14.015	EZ	Czech Republic
BEL	BELSK	51.837	20.792	PL	Poland
BFE	BRORFELDE	55.625	11.672	DA	Denmark
BGH	BAGHDAD	33.250	44.467	IZ	Iraq
BGY	BAR GYORA	31.730	35.210	IS	Israel
BIN	BINZA	-4.267	15.367	CG	Zaire
BJI	BEIJING	40.040	116.175	CH	China
BJN	BEAR ISLAND	74.500	19.200	NO	Norway
BLC	BAKER LAKE	64.333	263.967	CA	Canada
BMT	BEIJING MING TOMBS	40.300	116.200	CH	China
BNA	BUNIA	1.533	30.017	CG	Zaire
BNG	BANGUI	4.437	18.565	CT	Central African Republic

IAGA Code	Station	Latitude	Longitude	Country Code	Country/Region
BOU	BOULDER	40.138	254.762	US	United States
BOX	BOROK	58.030	38.970	RS	Russia
BRW	BARROW	71.323	203.380	US	United States
BSL	BAY ST LOUIS	30.400	270.600	US	United States
C					
CBB	CAMBRIDGE BAY	69.123	254.969	CA	Canada
CBI	CHICHIJIMA	27.083	142.167	JA	Japan
CCS	CAPE CHELYUSKIN	77.717	104.283	RS	Russia
CHD	CHENGDU	31.000	103.700	CH	China
CHP	CACHOEIRA PAULIS	-22.730	315.000	BR	Brazil
CLF	CHAMBON-LA-FORET	48.023	2.260	FR	France
CMO	COLLEGE	64.860	212.163	US	United States
CNB	CANBERRA	-35.315	149.363	AS	Australia
CNH	CHANGCHUN (HELONG)	43.827	125.299	CH	China
COI	COIMBRA	40.222	351.578	PO	Portugal
CPA	CHA PA	22.350	103.833	VM	Vietnam
CRP	CHIRIPA	10.440	275.089	CS	Costa Rica
CSY	CASEY	-66.283	110.533	AY	Antarctica
CTA	CHARTERS TOWERS	-20.100	146.300	AS	Australia
CTS	CASTELLO TESINO	46.047	11.650	IT	Italy
CWE	CAPE WELLEN (UELEN)	66.163	190.165	RS	Russia
CZT	PORT ALFRED	-46.433	51.867	FS	French Southern and Antarctic Lands
D					
DIK	DIXON ISLAND	73.543	80.562	RS	Russia
DJI	DJIBOUTI	11.700	43.300	DJ	Djibouti
DLR	DEL RIO	29.487	259.085	US	United States
DLT	DALAT	11.917	108.417	VM	Vietnam
DOB	DOMBAS	62.073	9.117	NO	Norway
DOU	DOURBES	50.097	4.595	BE	Belgium
DRV	DUMONT D'URVILLE	-66.665	140.007	FS	French Southern and Antarctic Lands
DVS	DAVIS	-68.583	77.967	AY	Antarctica
E					
EBR	EBRO	40.820	0.493	SP	Spain
ESA	ESASHI	39.234	141.358	JA	Japan
ESK	ESKDALEMUIR	55.317	356.800	UK	United Kingdom
ETT	ETAIYAPURAM	9.000	78.000	IN	India
EYR	EYREWELL	-43.417	172.350	NZ	New Zealand

IAGA Code	Station	Latitude	Longitude	Country Code	Country/Region
F					
FCC	FORT CHURCHILL	58.759	265.912	CA	Canada
FRD	FREDERICKSBURG	38.205	282.627	US	United States
FRN	FRESNO	37.090	240.280	US	United States
FUQ	FUQUENE	5.470	286.263	CO	Colombia
FUR	FURSTENFELDBRUCK	48.165	11.277	GE	Germany
G					
GCK	GROCKA	44.633	20.767	SR	Serbia
GDH	GODHAVN	69.252	306.467	GL	Greenland
GLN	GLENLEA	49.645	262.880	CA	Canada
GNA	GNANGARA	-31.783	115.950	AS	Australia
GTW	GREAT WALL	-62.200	301.000	AY	Antarctica
GUA	GUAM	13.583	144.870	GQ	Guam
GUI	GUIMAR	28.477	343.739	SP	Spain
GZH	GUANGZHOU	23.093	113.343	CH	China
H					
HAD	HARTLAND	50.995	355.517	UK	United Kingdom
HBK	HARTEBEESTHOEK	-25.882	27.707	SF	South Africa
HER	HERMANUS	-34.425	19.225	SF	South Africa
HIS	HEISS ISLAND	80.617	58.050	RS	Russia
HLP	HEL	54.608	18.815	PL	Poland
HON	HONOLULU	21.320	201.998	US	United States
HRB	HURBANOVO	47.873	18.190	LO	Slovakia
HRN	HORNSUND	77.000	15.550	PL	Poland
HTY	HATIZYO	33.122	139.802	JA	Japan
HUA	HUANCAYO	-12.045	284.660	PE	Peru
HVN	HAVANA	23.068	277.540	CU	Cuba
HYB	HYDERABAD	17.413	78.555	IN	India
I					
IIF	ILE IFE	7.550	4.567	NI	Nigeria
IQA	IQALUIT	63.753	291.482	CA	Canada
IRT	PATRONY	52.167	104.450	RS	Russia
ISK	ISTANBUL-KANDILLI	41.063	29.062	TU	Turkey
J					
JAI	JAIPUR	26.917	75.800	IN	India

IAGA Code	Station	Latitude	Longitude	Country Code	Country/Region
K					
KAK	KAKIOKA	36.230	140.190	JA	Japan
KDU	KAKADU	-12.700	132.500	AS	Australia
KGD	BEREZNYAKI	49.817	73.083	KZ	Kazakhstan
KGI	KING GEORGE ISLAND	-62.221	301.247	AY	Antarctica
KIR	KIRUNA	67.833	20.417	SW	Sweden
KIV	DYMER	50.717	30.300	UP	Ukraine
KNY	KANOYA	31.420	130.882	JA	Japan
KNZ	KANOZAN	35.253	139.960	JA	Japan
KOD	KODAIKANAL	10.230	77.463	IN	India
KOU	KOUROU	5.100	307.400	FG	French Guiana
KRC	KARACHI	24.950	67.140	PK	Pakistan
KSH	KASKI	39.500	76.000	CH	China
KZN	ZAYMISHCHE	55.833	48.850	RS	Russia
L					
LAS	LAS ACACIAS	-35.007	302.310	AR	Argentina
LER	LERWICK	60.133	358.817	UK	United Kingdom
LMM	MAPUTO	-25.917	32.583	MZ	Mozambique
LNN	VOYEYKOVO	59.950	30.705	RS	Russia
LNP	LUNPING	25.000	121.167	TW	Taiwan
LOV	LOVO	59.345	17.827	SW	Sweden
LQA	LA QUIACA	-22.103	294.395	AR	Argentina
LRM	LEARMONTH	-22.220	114.100	AS	Australia
LRV	LEIRVOGUR	64.183	338.300	IC	Iceland
LSA	LHASA	29.700	91.150	CH	China
LUA	LUANDA BELAS	-8.917	13.167	AO	Angola
LVV	LVOV	49.900	23.750	UP	Ukraine
LZH	LANZHOU	36.087	103.845	CH	China
M					
MAB	MANHAY	50.298	5.682	BE	Belgium
MAW	MAWSON	-67.605	62.882	AY	Antarctica
MBC	MOULD BAY	76.315	240.638	CA	Canada
MBO	M'BOUR	14.392	343.042	SG	Senegal
MCQ	MACQUARIE ISLAND	-54.500	158.950	AS	Australia
MEA	MEANOOK	54.616	246.653	CA	Canada
MGD	STEKOLNYY (MAGADAN)	60.117	151.017	RS	Russia
MIR	MIRNY	-66.550	93.017	AY	Antarctica

IAGA Code	Station	Latitude	Longitude	Country Code	Country/Region
MIZ	MIZUSAWA	39.010	141.080	JA	Japan
MLT	MISALLAT	29.515	30.892	EG	Egypt
MMB	MEMAMBETSU	43.907	144.193	JA	Japan
MMK	LOPARSKOYE	68.250	33.083	RS	Russia
MND	MANADO	1.297	124.925	ID	Indonesia
MNK	PLESHENITZI (MINSK)	54.500	27.883	BO	Byelarus
MOH	MO HE	53.500	112.400	CH	China
MOL	MOLODEZHNAYA	-67.667	45.850	AY	Antarctica
MOS	KRASNAYA PAKHRA	55.467	37.312	RS	Russia
MZL	MANZAOLI	49.600	117.400	CH	China
N					
NAL	NEW ALESUND	78.917	11.933	NO	Norway
NAQ	NARSSARSSUAQ	61.100	314.800	GL	Greenland
NCK	NAGYCENK	47.633	16.717	HU	Hungary
NEW	NEWPORT	48.263	242.880	US	United States
NGK	NIEMEGK	52.072	12.675	GE	Germany
NGP	NAGPUR	21.100	79.000	IN	India
NKK	NOVOKAZALINSK	45.800	62.100	KZ	Kazakhstan
NUR	NURMIJARVI	60.508	24.655	FI	Finland
NVS	KLYUCHI (NOVOSIBIRSK)	55.033	82.900	RS	Russia
O					
ODE	STEPANOVKA (ODESSA)	46.783	30.883	UP	Ukraine
OTT	OTTAWA	45.403	284.448	CA	Canada
P					
PAF	PORT-AUX-FRANCAIS	-49.350	70.200	FS	French Southern and Antarctic Lands
PAG	PANAGYURISHTE	42.515	24.177	BU	Bulgaria
PBQ	POSTE-DE-LA-BALEINE	55.277	282.255	CA	Canada
PEG	PENDELI	38.047	23.863	GR	Greece
PET	PARATUNKA (PETROPVLOVSK)	52.900	158.433	RS	Russia
PHU	PHUTHUY	21.033	105.967	VM	Vietnam
PIL	PILAR	-31.667	296.117	AR	Argentina
PMG	PORT MORESBY	-9.408	147.152	PP	Papua New Guinea
PND	PONDICHERRY	11.920	79.920	IN	India
POD	PODKAMENNAYA TUNGUSKA	61.600	90.000	RS	Russia
PPT	PAMATAI	-17.568	210.425	FP	French Polynesia (Tahiti)
PRE	PREOBRAZHENIA	74.400	114.000	RS	Russia
PTY	PATACAMAYA	-17.250	292.050	BL	Bolivia

IAGA Code	Station	Latitude	Longitude	Country Code	Country/Region
Q					
QGZ	QIONGZHONG	19.000	109.800	CH	China
QUE	QUETTA	30.187	66.950	PK	Pakistan
QZH	QUANZHOU	24.900	118.600	CH	China
R					
RES	RESOLUTE BAY	74.690	265.105	CA	Canada
S					
SAB	SABHAWALA	30.363	77.798	IN	India
SAN	SANYA	18.200	109.500	CH	China
SBA	SCOTT BASE	-77.850	166.783	AY	Antarctica
SFS	SAN FERNANDO	36.462	353.795	SP	Spain
SHL	SHILLONG	25.567	91.883	IN	India
SIT	SITKA	57.058	224.675	US	United States
SJG	SAN JUAN	18.113	293.850	RQ	Puerto Rico
SOD	SODANKYLA	67.368	26.630	FI	Finland
SPT	SAN PABLO- TOLEDO	39.547	355.650	SP	Spain
SSH	SHESHAN	31.097	121.187	CH	China
STJ	SAINT JOHNS	47.595	307.323	CA	Canada
SUA	SURLARI	44.680	26.253	RO	Romania
SYO	SYOWA BASE	-69.007	39.590	AY	Antarctica
T					
TAM	TAMANRASSET	22.792	5.527	AG	Algeria
TAN	TANANARIVE	-18.917	47.550	MA	Madagascar
TEH	TEHRAN	35.737	51.382	IR	Iran
TEO	TEOLOYUCAN	19.747	260.818	MX	Mexico
TFS	DUSHETI	42.092	44.705	GG	Georgian Republic
THJ	TONGHAI	24.000	102.700	CH	China
THL	THULE (QANAQ)	77.483	290.833	GL	Greenland
THY	TIHANY	46.900	17.893	HU	Hungary
TIK	TIXIE BAY	71.583	129.000	RS	Russia
TIO	TIOUINE	30.930	352.740	MO	Morocco
TIR	TIRUNELVELI	8.670	77.820	IN	India
TKT	YANGI-BAZAR	41.333	69.617	UZ	Uzbekistan
TNB	TERRA NOVA BAY	-74.683	164.117	AY	Antarctica
TNG	TANGERANG	-6.167	106.633	ID	Indonesia
TRD	TRIVANDRUM	8.483	76.950	IN	India

IAGA Code	Station	Latitude	Longitude	Country Code	Country/Region
TRO	TROMSO	69.663	18.948	NO	Norway
TRW	TRELEW	-43.268	294.618	AR	Argentina
TSU	TSUMEB	-19.217	17.700	WA	Namibia
TTB	TATUOCA	-1.205	311.487	BR	Brazil
TTG	TUNTUNGAN	3.510	98.560	ID	Indonesia
TUC	TUCSON	32.247	249.167	US	United States
TUL	TULSA	35.912	264.212	US	United States
U					
UBA	ULAN BATOR	47.850	107.050	MG	Mongolia, Peoples Republic of
UJJ	UJJAIN	23.183	75.783	IN	India
V					
VAL	VALENTIA	51.933	349.750	EI	Ireland
VIC	VICTORIA	48.517	236.583	CA	Canada
VLA	GORNOTAYEZHNAYA	43.683	132.167	RS	Russia
VOS	VOSTOK	-78.450	106.867	AY	Antarctica
VSK	VISAKHAPATNAM	17.670	83.320	IN	India
VSS	VASSOURAS	-22.400	316.350	BR	Brazil
W					
WHN	WUHAN	30.528	114.559	CH	China
WIK	WIEN KOBENZL	48.265	16.318	AU	Austria
WMQ	URUMQI	43.817	87.697	CH	China
WNG	WINGST	53.743	9.073	GE	Germany
Y					
YAK	YAKUTSK	62.017	129.717	RS	Russia
YKC	YELLOWKNIFE	62.482	245.518	CA	Canada
YSS	YUZHNO SAKHALINSK	46.950	142.717	RS	Russia
Z					
ZHS	ZHONG SHAN	-69.400	76.400	AY	Antarctica

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Table 2: Notes on Observatories in Operation, Sorted by Country/Region

01-May-95

Country/Region Name / STATION NAME / Notes on operation	Country Code (IAGA Code)	Status	Annual Means** First Year	Annual Means** Latest Year
Algeria	**AG**			
TAMANRASSET	TAM	O	1932.6	1991.5
Digital station, operations improving with assistance from France. HDZF observed.				
Angola	**AO**			
LUANDA BELAS	LUA	O	1954.5	1993.2
Received 1993 means 11/94. Need 1992 means.				
Antarctica	**AY**			
ARCTOWSKI	ARC	O	1978.5	1989.5
Station possibly at risk, no new means since 1989.				
ARGENTINE (FARADAY) ISLANDS	AIA	O	1957.6	1992.5
Future of observatory uncertain due to British Antarctic Survey pulling out 1996.				
CASEY	CSY	V	1978.5	1993.5
Digital station. Data considered of variation quality.				
DAVIS	DVS	V	1979.4	1993.5
Digital station. Data considered of variation quality.				
GREAT WALL	GTW	N		
Opened 1987, no data yet. Absolutes made, some data loss in winter.				
KING GEORGE ISLAND	KGI	V		
Variation station started 1994. SUNY and South Korea joint operation.				
MAWSON	MAW	O	1955.8	1993.5
Digital station.				
MIRNY	MIR	O	1956.8	1993.5
Operation more secure, AARI station.				
MOLODEZHNAYA	MOL	O	1965.5	1993.5
Operation more secure, AARI station.				
SCOTT BASE	SBA	O	1957.8	1994.5
Digital station				
SYOWA BASE	SYO	O	1958.5	1993.5
TERRA NOVA BAY	TNB	O	1987.1	1992.1
Station installed during austral summer 1986/87. 1 minute absolutes HDZ computed.				

* Station Status: O=Operating, N=New, U=Uncertain, V=Variation

** Data may not be continuous between years indicated.

Country/Region Name / STATION NAME / Notes on operation	Country Code / IAGA Code	Status	Annual Means** First Year	Latest Year
VOSTOK	VOS	O	1958.5	1993.5
Operation more secure, AARI station.				
ZHONG SHAN	ZHS	N		
New digital station, no data as of publication.				
Argentina	**AR**			
LA QUIACA	LQA	O	1942.5	1992.5
Last k indicies received—1993.				
LAS ACACIAS	LAS	O	1961.8	1993.5
Preliminary monthly means through Aug. 1994.				
PILAR	PIL	O	1905.5	1993.5
Data quality poor, planning to replace instruments in 1995 (fax 11/94).				
TRELEW	TRW	O	1972.5	1993.5
Monthly means thru 10/94. K values for 1990. Belgium assisting.				
Australia	**AS**			
ALICE SPRINGS	ASP	O	1992.0	1993.5
Digital station. Opened June 1992, first full year of data 1993.5.				
CANBERRA	CNB	O	1979.5	1993.5
Digital station. HDZF observed.				
CHARTERS TOWERS	CTA	O	1984.5	1993.5
Digital station opened in 1984.				
GNANGARA	GNA	O	1957.5	1993.5
Digital station. HDZF observed.				
KAKADU	KDU	N		
Proposed observatory near Darwin, Australia to open ~1995.				
LEARMONTH	LRM	O	1987.5	1993.5
Digital station.				
MACQUARIE ISLAND	MCQ	O	1911.9	1993.5
Digital station.				
Austria	**AU**			
WIEN KOBENZL	WIK	O	1955.5	1993.5
Belgium	**BE**			
DOURBES	DOU	O	1952.5	1993.5
MANHAY	MAB	O	1932.5	1993.5

* Station Status: O=Operating, N=New, U=Uncertain, V=Variation

** Data may not be continuous between years indicated.

Country/Region Name / STATION NAME / Notes on operation	Country Code / IAGA Code	Status	Annual Means** First Year	Latest Year
Bolivia	**BL**			
PATACAMAYA	PTY	O	1983.5	1993.5
Yrbks 1992-93 received 11/94. Absolutes and hourlies but no table base line for annual mean.				
Brazil	**BR**			
CACHOEIRA PAULIS	CHP	U		
Station was to open 1987. No data yet, status unknown.				
TATUOCA	TTB	O	1957.8	1992.5
VASSOURAS	VSS	O	1915.5	1990.5
Digital system installed.				
Bulgaria	**BU**			
PANAGYURISHTE	PAG	O	1948.5	1991.5
Digital recording system from Germany.				
Byelarus	**BO**			
PLESHENITZI (MINSK)	MNK	O	1961.5	1989.5
(Minsk) operating but not sending data to WDC-B. Last means 1989.				
Canada	**CA**			
ALERT	ALE	O	1961.9	1992.5
Digital station. Annual Means at WDC-A, 1-minute data from CGS.				
BAKER LAKE	BLC	O	1951.6	1993.5
Digital station. XYZF observed. Annual means at WDC-A, 1-minute data from CGS.				
CAMBRIDGE BAY	CBB	O	1972.5	1993.5
Digital station. XYZF observed. Annual means at WDC-A, 1-minute data from CGS.				
FORT CHURCHILL	FCC	O	1957.8	1993.5
Digital station. XYZF observed. Annual means at WDC-A, 1-minute data from CGS.				
GLENLEA	GLN	O	1982.5	1993.5
Digital station. Annual Means at WDC-A, 1-minute data from CGS.				
IQALUIT	IQA	V	1994.0	
Variation station with limited absolute control.				
MEANOOK	MEA	O	1916.8	1993.5
Digital station. XYZF observed. Annual means at WDC-A, 1-minute data from CGS.				
MOULD BAY	MBC	O	1962.8	1993.5
Digital station. Annual means at WDC-A, 1-minute data from CGS.				

* Station Status: O=Operating, N=New, U=Uncertain, V=Variation

** Data may not be continuous between years indicated.

Country/Region Name / STATION NAME / Notes on operation	Country Code / IAGA Code	Status	Annual Means** / First Year	Latest Year
OTTAWA	OTT	O	1968.7	1993.5
Digital station. XYZF observed. Annual means at WDC-A, 1-minute data from CGS.				
POSTE-DE-LA-BALEINE	PBQ	O	1985.5	1993.5
Digital station. XYZF observed. Annual means at WDC-A, 1-minute data from CGS.				
RESOLUTE BAY	RES	O	1952.5	1993.5
Digital station. XYZF observed. Annual means at WDC-A, 1-minute data from CGS.				
SAINT JOHNS	STJ	O	1977.0	1993.5
Digital station. XYZF observed. Annual means at WDC-A, 1-minute data from CGS.				
VICTORIA	VIC	O	1956.6	1993.5
Digital station. XYZF observed. Annual means at WDC-A, 1-minute data from CGS.				
YELLOWKNIFE	YKC	O	1975.5	1993.5
Digital station. XYZF observed. Annual means at WDC-A, 1-minute data from CGS.				
Central African Republic	**CT**			
BANGUI	BNG	O	1952.4	1991.5
China	**CH**			
BEIJING	BJI	O	1957.5	1990.5
Yearbooks 1985-1990 received 1/95.				
BEIJING MING TOMBS	BMT	N		
Digital station, opened 1991. No data at WDC yet.				
CHANGCHUN (HELONG)	CNH	O	1979.5	1990.5
1979—locations confirmed by station. Yearbooks 1985-1988 received 1/95.				
CHENGDU	CHD	O	1988.5	1988.5
First year of annual means 1988.				
GUANGZHOU	GZH	O	1958.5	1990.5
Yearbooks 1985-1989 received 1/95.				
KASKI	KSH	O	1988.5	1988.5
First year of annual means 1988.				
LANZHOU	LZH	O	1959.5	1990.5
Yearbooks 1985-1990 received 1/95.				
LHASA	LSA	O	1957.5	1991.5
Yearbooks 1985-1988, 1990-1991 received 1/95.				
MANZAOLI	MZL	O	1988.5	1988.5
First year of annual means 1988.				

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** Data may not be continuous between years indicated.

Country/Region Name / STATION NAME / Notes on operation	Country Code / IAGA Code	Status	Annual Means** First Year	Latest Year
MO HE	MOH	N		
New station, no data as of publication.				
QIONGZHONG	QGZ	O	1988.5	1988.5
First year of annual means 1988.				
QUANZHOU	QZH	O	1988.5	1988.5
First year of annual means 1988.				
SANYA	SAN	V	1990.0	
Variation station, no absolutes.				
SHESHAN	SSH	O	1933.5	1990.5
Yearbooks 1985-1990 received 1/95				
TONGHAI	THJ	O	1988.5	1988.5
First year of annual means 1988.				
URUMQI	WMQ	O	1978.5	1991.5
Yearbooks 1985-1991 received 1/95.				
WUHAN	WHN	O	1959.5	1990.5
Yearbooks 1985-1990 received 1/95.				
Colombia	**CO**			
FUQUENE	FUQ	O	1954.9	1992.5
Station operating. New data received 10/94.				
Costa Rica	**CS**			
CHIRIPA	CRP	O	1984.5	1992.5
Observatory replaced Costa Rica SJN in 1982, first means 1984.				
Cuba	**CU**			
HAVANA	HVN	O	1983.5	1984.5
Opened 1981; first mean at WDC-A 1983.				
Czech Republic	**EZ**			
BUDKOV	BDV	O	1967.5	1993.5
Digital station. XYZF observed. Canada assisting.				
Denmark	**DA**			
BRORFELDE	BFE	O	1980.5	1994.5
Digital station. XYZF observed.				

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** Data may not be continuous between years indicated.

Country/Region Name / STATION NAME / Notes on operation	Country Code IAGA Code	Status	Annual Means** First Year	Latest Year
Djibouti	**DJ**			
DJIBOUTI	DJI	O		
New digital station receiving assistance from France. HDZF observed. First available mean will be for 1996.				
Egypt	**EG**			
MISALLAT	MLT	O	1960.6	1991.5
Cooperating with Germany to solve operational problems. Data gap 88-89?				
Ethiopia	**ET**			
ADDIS ABABA	AAE	O	1958.5	1989.5
Finland	**FI**			
NURMIJARVI	NUR	O	1953.5	1993.5
Digital station. XYZF observed.				
SODANKYLA	SOD	O	1946.5	1993.5
Digital station. XYZF observed.				
France	**FR**			
CHAMBON-LA-FORET	CLF	O	1936.5	1993.5
Digital station. HDZF observed.				
French Guiana	**FG**			
KOUROU	KOU	N		
New digital station. HDZF observed. First available mean will be for 1995.				
French Polynesia (Tahiti)	**FP**			
PAMATAI	PPT	O	1966.2	1992.5
Yearbook 10/94; digital station.				
French Southern and Antarctic Lands	**FS**			
DUMONT D'URVILLE	DRV	O	1957.7	1993.5
Digital station. XYZF observed.				
MARTIN DE VIVIES	AMS	O	1981.6	1993.5
Digital station. HDZF observed.				
PORT ALFRED	CZT	O	1974.5	1993.5
Digital station. HDZF observed.				

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** Data may not be continuous between years indicated.

Country/Region Name / STATION NAME / Notes on operation	Country Code / IAGA Code	Status	Annual Means** First Year	Latest Year
PORT-AUX-FRANCAIS	PAF	O	1988.5	1993.5
Digital station. HDZF observed.				
Georgian Republic	**GG**			
DUSHETI	TFS	O	1938.6	1992.5
Station operational. Analog hourly values 1991& 1992, 11/94.				
Germany	**GE**			
FURSTENFELDBRUCK	FUR	O	1939.5	1994.5
NIEMEGK	NGK	O	1910.5	1994.5
Digital station. XYZF observed.				
WINGST	WNG	O	1939.5	1993.5
Greece	**GR**			
PENDELI	PEG	V	1959.5	1993.5
Permanent station meas. DHZF 1/week; special operation by request. K index available.				
Greenland	**GL**			
GODHAVN	GDH	O	1975.5	1994.5
Digital station. XYZF observed.				
NARSSARSSUAQ	NAQ	O	1968.9	1994.5
Digital station. XYZF observed.				
THULE (QANAQ)	THL	O	1955.8	1994.5
Digital station. XYZF observed.				
Guam	**GQ**			
GUAM	GUA	O	1957.8	1994.5
Digital station.				
Hungary	**HU**			
NAGYCENK	NCK	O	1961.5	1991.5
Digital station receiving assistance through INTERMAGNET. HDZF observed.				
TIHANY	THY	O	1955.5	1990.5
Digital station. HDZF observed.				

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** Data may not be continuous between years indicated.

Country/Region Name / STATION NAME / Notes on operation	Country Code / IAGA Code	Status	Annual Means** / First Year	Latest Year
Iceland	**IC**			
LEIRVOGUR	LRV	O	1957.8	1993.5
Digital station.				
India	**IN**			
ALIBAG	ABG	O	1904.5	1991.5
Digital system installed.				
ALLAHABAD	ALH	N		
New station—observations not yet commissioned.				
ANNAMALAINAGAR	ANN	O	1957.9	1991.5
ETAIYAPURAM	ETT	O	1980.5	1987.5
Annual means expected 1989-1990 in 1995. Letter 11/94.				
HYDERABAD	HYB	O	1965.5	1991.5
JAIPUR	JAI	U	1976.5	1987.5
Status uncertain, no new data received since 1987.				
KODAIKANAL	KOD	O	1902.5	1992.5
NAGPUR	NGP	O		
Opened mid-1991—no data at WDC.				
PONDICHERRY	PND	O		
Opened January 1993—no data at WDC.				
SABHAWALA	SAB	O	1964.5	1991.5
SHILLONG	SHL	O	1976.5	1988.5
Status uncertain, no new data received since 1988.				
TIRUNELVELI	TIR	N		
New station—observations not yet commissioned.				
TRIVANDRUM	TRD	O	1957.9	1991.5
UJJAIN	UJJ	O	1976.5	1991.5
VISAKHAPATNAM	VSK	O		
Opened July 1994—no data at WDC.				
Indonesia	**ID**			
MANADO	MND	N		
Near Sulawesi, Indonesia measuring XYZ. No data at WDC yet.				
TANGERANG	TNG	O	1964.5	1991.5
TUNTUNGAN	TTG	U	1982.5	1987.5
Station possibly at risk, no new data since 1987.				

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** Data may not be continuous between years indicated.

Country/Region Name STATION NAME Notes on operation	Country Code IAGA Code	Status	Annual Means** First Year	Latest Year
Iran	**IR**			
TEHRAN	TEH	U	1960.5	1973.5
Interest expressed in digital system 1990, status uncertain.				
Iraq	**IZ**			
BAGHDAD	BGH	U		
Opened 1/86, location approximate. No reply to letters 4/93, no data.				
Ireland	**EI**			
VALENTIA	VAL	O	1899.5	1994.5
Israel	**IS**			
BAR GYORA	BGY	O	1989.5	1992.5
First full year 1989.				
Italy	**IT**			
CASTELLO TESINO	CTS	O	1965.5	1992.5
L'AQUILA	AQU	O	1960.5	1993.5
Japan	**JA**			
CHICHIJIMA	CBI	O	1973.5	1993.5
ESASHI	ESA	N		
Digital sub-station. Orientation DHZF. Data from 1/1/93.				
HATIZYO	HTY	O	1967.7	1992.5
KAKIOKA	KAK	O	1913.5	1994.5
Digital station. XYZF observed.				
KANOYA	KNY	O	1958.5	1994.5
Digital station.				
KANOZAN	KNZ	O	1961.5	1993.5
MEMAMBETSU	MMB	O	1950.8	1994.5
Digital station.				
MIZUSAWA	MIZ	O	1969.5	1993.5
Kazakhstan	**KZ**			
ALMA ATA	AAA	O	1963.4	1992.5
Operating. No longer sending data to WDC-B.				

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** Data may not be continuous between years indicated.

Country/Region Name / STATION NAME / Notes on operation	Country Code / IAGA Code	Status	Annual Means** First Year	Latest Year
BEREZNYAKI	KGD	O	1965.5	1988.5
Last means 1988. Believe operating. No longer sending data to WDC-B.				
NOVOKAZALINSK	NKK	O	1974.5	1993.5
Madagascar	**MA**			
TANANARIVE	TAN	O	1890.5	1993.5
Digital station. HDZF observed. No means 1978-81, 1987 due to damage.				
Mexico	**MX**			
TEOLOYUCAN	TEO	O	1914.5	1988.5
Operation improved. Expect 1979-93 means 1995. Magnetograms exist.				
Mongolia, Peoples Republic of	**MG**			
ULAN BATOR	UBA	U	1966.5	1977.5
No data since 1977.				
Morocco	**MO**			
TIOUINE	TIO	N	1989.0	
Station believed operational for several years; no data yet.				
Mozambique	**MZ**			
MAPUTO	LMM	O	1957.5	1988.5
Station closed, then re-established in June 1993.				
Namibia	**WA**			
TSUMEB	TSU	O	1964.8	1992.5
Yearbook for 1992 means.				
New Zealand	**NZ**			
EYREWELL	EYR	O	1978.0	1994.5
Digital station operational.				
Nigeria	**NI**			
ILE IFE	IIF	V		
New variometer station, digital system from UK. Operations improving as of start of 1995. No annual means yet.				

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** Data may not be continuous between years indicated.

Country/Region Name / STATION NAME / Notes on operation	Country Code / IAGA Code	Status	Annual Means** / First Year	Latest Year
Norway	**NO**			
BEAR ISLAND	BJN	O	1953.5	1993.5
DOMBAS	DOB	O	1952.5	1993.5
NEW ALESUND	NAL	O	1966.5	1991.5
TROMSO	TRO	O	1930.5	1993.5
Pakistan	**PK**			
KARACHI	KRC	O	1988.5	1993.5
QUETTA	QUE	O	1953.9	1992.5
Papua New Guinea	**PP**			
PORT MORESBY	PMG	O	1957.8	1992.5
Equipment stolen 11/1993. Observatory will close due to housing project.				
Peru	**PE**			
ANCON	ANC	O	1990.0	
Ancon observatory opened 1990 with assistance from Japan.				
HUANCAYO	HUA	O	1922.5	1992.5
Operational difficulties since 1990.				
Philippines	**RP**			
BAGUIO	BAG	U	1967.5	1983.5
No data since 1983. Station requested photographic paper 1989. Status uncertain.				
Poland	**PL**			
BELSK	BEL	O	1960.5	1993.5
Digital station. XYZF observed.				
HEL	HLP	O	1901.5	1992.5
HORNSUND	HRN	O	1978.5	1985.5
Station possibly at risk, no new means since 1985.				
Portugal	**PO**			
COIMBRA	COI	O	1931.5	1993.5
Puerto Rico	**RQ**			
SAN JUAN	SJG	O	1965.5	1994.5
Digital station.				

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** Data may not be continuous between years indicated.

Country/Region Name / STATION NAME / Notes on operation	Country Code / IAGA Code	Status	Annual Means** First Year	Latest Year
Romania	**RO**			
SURLARI	SUA	O	1949.5	1993.5
Digital recording system 1990.				
Russia	**RS**			
ARKHANGELSK	ARK	O	1985.5	1993.5
ARTI	ARS	O	1973.5	1993.5
New digital system installed 1993.				
BOROK	BOX	O	1977.5	1990.5
Operating, sending data to WDC-B.				
CAPE CHELYUSKIN	CCS	O	1935.5	1993.5
Station moved. Sending data to WDC-B.				
CAPE WELLEN (UELEN)	CWE	O	1933.5	1993.5
Operating, sending data to WDC-B. AARI station.				
DIXON ISLAND	DIK	O	1953.5	1993.5
GORNOTAYEZHNAYA	VLA	O	1958.5	1993.5
Operating, sending data to WDC-B.				
HEISS ISLAND	HIS	O	1959.5	1993.5
Operation more secure, AARI station.				
KLYUCHI (NOVOSIBIRSK)	NVS	O	1967.5	1993.5
Operating, sending data to WDC-B.				
KRASNAYA PAKHRA	MOS	O	1930.5	1992.5
Operating, sending data to WDC-B.				
LOPARSKOYE	MMK	O	1961.5	1988.5
New data for 1988 received 10/94.				
PARATUNKA (PETROPVLOVSK)	PET	O	1969.5	1993.5
PATRONY	IRT	O	1957.5	1992.5
Operating, sending data to WDC-B.				
PODKAMENNAYA TUNGUSKA	POD	O	1969.5	1992.5
PREOBRAZHENIA	PRE	V		
Analog observatory.				
STEKOLNYY (MAGADAN)	MGD	O	1966.5	1992.5
TIXIE BAY	TIK	O	1944.5	1992.5
Operating, sending data to WDC-B. New digital system installed 1993.				
VOYEYKOVO	LNN	O	1947.5	1990.5
YAKUTSK	YAK	O	1931.5	1991.5
Operating, sending data to WDC-B. New digital system installed 1993.				

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** Data may not be continuous between years indicated.

Country/Region Name / STATION NAME / Notes on operation	Country Code / IAGA Code	Status	Annual Means** First Year	Latest Year
YUZHNO SAKHALINSK	YSS	O	1941.5	1990.5
Operational difficulties since 1991, sending data to WDC-B.				
ZAYMISHCHE	KZN	O	1912.5	1992.5
New digital system installed 1993.				
Senegal	**SG**			
M'BOUR	MBO	O	1952.6	1991.5
Began March 1952. Magnetograms digitized every 160 seconds. HDZF observed.				
Serbia	**SR**			
GROCKA	GCK	O	1958.5	1992.5
Slovakia	**LO**			
HURBANOVO	HRB	O	1948.5	1990.5
South Africa	**SF**			
HARTEBEESTHOEK	HBK	O	1973.5	1993.5
Digital station.				
HERMANUS	HER	O	1941.5	1993.5
Digital station. HDZF observed.				
Spain	**SP**			
EBRO	EBR	O	1905.5	1983.5
Data processing help needed, no new means since 1983.				
GUIMAR	GUI	N		
Digital station opened 3/1993. Replaces Tenerife. Location provisional. No data yet.				
SAN FERNANDO	SFS	O	1891.5	1993.5
Site closed, re-established 1990 new site. Data 1978-90 extrapolated.				
SAN PABLO- TOLEDO	SPT	O	1981.5	1992.5
Digital system installed.				
Sweden	**SW**			
ABISKO	ABK	O	1921.5	1992.5
Data available at the WDC since 1921, but absolutes poor prior to 1945.				
KIRUNA	KIR	O	1962.5	1993.5
LOVO	LOV	O	1928.5	1991.5

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** Data may not be continuous between years indicated.

Country/Region Name STATION NAME Notes on operation	Country Code IAGA Code	Status	Annual Means** First Year	 Latest Year
Taiwan	**TW**			
LUNPING	LNP	O	1965.8	1993.5
Digital station.				
Turkey	**TU**			
ANKARA	ANK	O	1986.5	1992.5
ISTANBUL-KANDILLI	ISK	O	1946.5	1992.5
Turkmenistan	**TX**			
VANNOVSKAYA	ASH	O	1959.5	1993.5
Ukraine	**UP**			
DYMER	KIV	O	1964.5	1993.5
Sending data to WDC.				
LVOV	LVV	O	1952.5	1993.5
Sending data to WDC.				
STEPANOVKA (ODESSA)	ODE	O	1936.5	1993.5
Sending data to WDC.				
United Kingdom	**UK**			
ESKDALEMUIR	ESK	O	1908.5	1994.5
Digital station. XYZF observed.				
HARTLAND	HAD	O	1957.5	1994.5
Digital station. XYZF observed.				
LERWICK	LER	O	1923.5	1994.5
Digital station. XYZF observed.				
United States	**US**			
BARROW	BRW	O	1975.5	1994.5
Digital station. HDZF observed.				
BAY ST LOUIS	BSL	O	1986.6	1994.5
Digital station.				
BOULDER	BOU	O	1964.5	1993.5
Digital station.				
COLLEGE	CMO	O	1948.5	1994.5
Digital station.				
DEL RIO	DLR	O	1982.5	1994.5
Digital station.				

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** Data may not be continuous between years indicated.

Country/Region Name / STATION NAME / Notes on operation	Country Code / IAGA Code	Status	Annual Means** First Year	Latest Year
FREDERICKSBURG	FRD	O	1956.5	1993.5
Digital station. HDZF observed.				
FRESNO	FRN	O	1982.5	1993.5
Digital station.				
HONOLULU	HON	O	1961.5	1993.5
Digital station. HDZF observed.				
NEWPORT	NEW	O	1966.6	1993.5
Digital station.				
SITKA	SIT	O	1940.5	1993.5
Digital station. On-site observer retired.				
TUCSON	TUC	O	1909.5	1994.5
Digital station.				
TULSA	TUL	O	1968.9	1989.5
Operational difficulties, interested in digital system 1993.				
Uzbekistan	**UZ**			
YANGI-BAZAR	TKT	O	1957.5	1992.5
New digital system installed, sending data to WDC-B.				
Vietnam	**VM**			
BACLIEU	BCL	O	1988.5	1992.5
Location and start year per letter from observatory, 3/93. 1991 FHZD, 1992 F only.				
CHA PA	CPA	O	1955.5	1991.5
DALAT	DLT	O	1978.5	1992.5
Means for F only for 1992.				
PHUTHUY	PHU	O	1978.5	1993.5
1993 absolutes only, 1991-92 FHZI means.				
Western Samoa	**WS**			
APIA	API	O	1905.5	1994.5
Digital system.				
Zaire	**CG**			
BINZA	BIN	U	1953.5	1973.5
Status uncertain, no data since 1973. Station believed operating.				
BUNIA	BNA	N		
New station, no data as of printing.				

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Table 3: Digital High Resolution Data at the WDC-A for STP, Sorted by IAGA Code

01-May-95

IAGA Code	Station Name	*Year of 1st Hourly	*Year of Latest Hourly	*Year of 1st 1-Min	*Year of Latest 1-Min
AAA	ALMA ATA	1963	1990		
AAE	ADDIS ABABA	1958	1970		
ABG	ALIBAG	1925	1990		
ABK	ABISKO	1968	1974		
ABN	ABINGER	1926	1956		
AGN	AGINCOURT	1932	1969		
AIA	ARGENTINE (FARADAY) ISLANDS	1957	1991		
ALE	ALERT	1963	1986	1978	1986
ALM	ALMERIA	1964	1966		
AML	AMBERLEY	1959	1977		
AMS	MARTIN DE VIVIES	1981	1993	1982	1993
AMT	AMATSIA	1979	1988		
AMU	ANCHORAGE	1957	1958		
ANN	ANNAMALAINAGAR	1964	1990		
API	APIA	1957	1988		
AQU	L'AQUILA	1960	1981		
ARE	CHARACATO (AREQUIPA)	1964	1964		
ARK	ARKHANGELSK	1985	1988		
ARS	ARTI	1973	1990	1990	1990
ASH	VANNOVSKAYA	1959	1990	1990	1990
B					
BAG	BAGUIO	1966	1969		
BDE	BIG DELTA	1957	1959		
BEL	BELSK	1966	1990		
BFE	BRORFELDE	1981	1989		

* Data may not be continuous between years indicated.

** Not all data from this observatory are in WDC format.

IAGA Code	Station Name	*Year of 1st Hourly	*Year of Latest Hourly	*Year of 1st 1-Min	*Year of Latest 1-Min
BJI	BEIJING	1979	1980		
BLC	BAKER LAKE	1951	1989	1978	1989
BLT	BELOIT	1957	1959		
BNG	BANGUI	1961	1991	1991	1991
BOU	BOULDER	1967	1993	1978	1993
BOX	BOROK	1980	1990		
BRT	BURLINGTON	1957	1959		
BRW	BARROW	1964	1993	1976	1993
BSL	BAY ST LOUIS	1986	1993	1986	1993
BYR	BYRD STATION	1957	1968		
C					
CAX	CARROLLTON	1958	1959		
CBB	CAMBRIDGE BAY	1973	1989	1978	1989
CCS	CAPE CHELYUSKIN	1957	1990	1977	1990
CLF	CHAMBON-LA-FORET	1960	1994	1980	1994
CLH	CHELTENHAM	1901	1956		
CMO	COLLEGE	1948	1993	1978	1993
CNB	CANBERRA	1979	1993	1990	1993
CNH	CHANGCHUN (HELONG)	1979	1980		
COI	COIMBRA	1964	1965		
CPA	CHA PA	1965	1965		
CTO	CAPE TOWN	1932	1940		
CTX	CHARCOT	1957	1958		
CWE	CAPE WELLEN (UELEN)	1957	1990	1990	1990
CZT	PORT ALFRED	1974	1993	1974	1993
D					
DAL	DALLAS	1964	1974		
DAV	DAVAO	1980	1984		
DBN	DE BILT	1903	1938		

* Data may not be continuous between years indicated.

** Not all data from this observatory are in WDC format.

IAGA Code	Station Name	*Year of 1st Hourly	Latest Hourly	*Year of 1st 1-Min	Latest 1-Min
DIK	DIXON ISLAND	1957	1986	1977	1990
DLR	DEL RIO	1982	1993	1982	1993
DOB	DOMBAS	1964	1969		
DOU	**DOURBES	1960	1993		
DRV	DUMONT D'URVILLE	1978	1993	1974	1993
E					
EBR	EBRO	1965	1979		
EIC	EASTER ISLAND	1964	1964		
ESK	ESKDALEMUIR	1911	1991	1990	1991
EYR	EYREWELL	1978	1988		
F					
FAN	FANNING	1957	1959		
FCC	FORT CHURCHILL	1964	1989	1978	1989
FRA	FORT RAE 2	1964	1964		
FRD	FREDERICKSBURG	1956	1993	1984	1993
FRN	FRESNO	1982	1993	1982	1993
FSP	FORT SIMPSON	1993	1995	1993	1995
FUQ	FUQUENE	1961	1969		
FUR	**FURSTENFELDBRUCK	1950	1994		
G					
GCK	GROCKA	1965	1965		
GDH	GODHAVN 1	1959	1987		
GLN	GLENLEA	1985	1989	1982	1989
GNA	GNANGARA	1957	1992		
GUA	GUAM	1958	1993	1983	1993
GWC	GREAT WHALE RIVER	1965	1984	1978	1984
GZH	GUANGZHOU	1979	1980		
H					
HAD	HARTLAND	1957	1991	1990	1992

* Data may not be continuous between years indicated.

** Not all data from this observatory are in WDC format.

IAGA Code	Station Name	*Year of 1st Hourly	*Year of Latest Hourly	*Year of 1st 1-Min	*Year of Latest 1-Min
HBA	HALLEY BAY	1957	1967		
HBK	HARTEBEESTHOEK	1972	1993	1989	1993
HER	HERMANUS	1941	1993	1989	1993
HIS	HEISS ISLAND	1958	1969		
HON	HONOLULU	1902	1993	1979	1993
HRB	HURBANOVO	1979	1986		
HUA	HUANCAYO	1964	1980		
HVN	CENTRO GEOFISICO	1967	1968		
I					
IBD	IBADAN	1965	1965		
IRT	PATRONY	1957	1990		
ISK	ISTANBUL-KANDILLI	1980	1981		
J					
JAI	JAIPUR	1979	1987		
JRV	JARVIS ISLAND	1957	1959		
K					
KAK	KAKIOKA	1913	1994	1976	1994
KGD	BEREZNYAKI	1965	1989		
KGL	KERGUELEN	1957	1987	1972	1987
KIR	KIRUNA	1962	1970		
KIV	DYMER	1958	1991		
KNY	KANOYA	1958	1994	1979	1994
KNZ	KANOZAN	1980	1980		
KOD	KODAIKANAL	1980	1980		
KZN	ZAYMISHCHE	1964	1987		
L					
LAA	LITTLE AMERICA 1	1957	1958		
LDV	LEADVILLE	1957	1959		
LER	LERWICK	1926	1991	1990	1992

* Data may not be continuous between years indicated.

** Not all data from this observatory are in WDC format.

IAGA Code	Station Name	*Year of 1st Hourly	*Year of Latest Hourly	*Year of 1st 1-Min	*Year of Latest 1-Min
LGR	LOGRONO	1964	1966		
LMM	MAPUTO	1980	1984		
LNN	VOYEYKOVO	1948	1988		
LNP	LUNPING	1980	1995	1988	1995
LOV	LOVO	1940	1980		
LRV	**LEIRVOGUR	1962	1995	1989	1995
LUA	LUANDA BELAS	1964	1967		
LVV	LVOV	1957	1971		
LWI	LWIRO	1964	1965		
LZH	LANZHOU	1980	1980		
M					
MAB	**MANHAY	1986	1993		
MAW	MAWSON	1964	1993		
MBC	MOULD BAY	1962	1989	1978	1989
MBO	M'BOUR	1952	1991	1990	1991
MCQ	MACQUARIE ISLAND	1962	1993		
MEA	MEANOOK	1932	1989	1978	1989
MFP	MOCA	1964	1969		
MGD	MAGADAN	1966	1989		
MIR	MIRNY	1956	1985		
MIZ	MIZUSAWA	1980	1982		
MLT	MISALLAT	1964	1965		
MMB	MEMAMBETSU	1958	1994	1985	1994
MMK	LOPARSKOYE	1959	1990		
MNK	PLESHENITZI (MINSK)	1961	1990	1990	1990
MOL	MOLODEZHNAYA	1965	1977		
MOS	KRASNAYA PAKHRA	1958	1989		
MUT	MUNTINLUPA	1963	1972		

* Data may not be continuous between years indicated.

** Not all data from this observatory are in WDC format.

IAGA Code	Station Name	*Year of 1st Hourly	Latest Hourly	*Year of 1st 1-Min	Latest 1-Min
N					
NAI	NAIROBI	1964	1967		
NAQ	NARSSARSSUAQ	1968	1983	1980	1983
NEW	NEWPORT	1966	1993	1982	1993
NGK	NIEMEGK	1910	1987		
NKK	NOVOKAZALINSK	1980	1980		
NMP	NAMPULA	1982	1984		
NUR	NURMIJARVI	1953	1993		
NVL	NOVOLAZAREVSKAYA	1961	1978		
NVS	KLYUCHI (NOVOSIBIRSK)	1967	1990		
NWS	NORWAY STATION	1960	1962		
O					
OAS	OASIS	1957	1958		
ODE	STEPANOVKA (ODESSA)	1957	1991		
OTT	OTTAWA	1968	1989	1978	1989
P					
PAB	PARAMARIBO	1964	1969		
PAF	PORT-AUX-FRANCAIS	1988	1993	1988	1993
PAG	PANAGYURISHTE	1964	1965		
PBQ	POSTE-DE-LA-BALEINE	1984	1989	1984	1989
PCU	PRICE	1957	1959		
PET	PARATUNKA (PETROPVLOVSK)	1969	1990	1990	1990
PIL	PILAR	1957	1968		
PIO	PIONERSKAYA	1957	1972		
PMG	PORT MORESBY	1958	1991		
POD	PODKAMENNAYA TUNGUSKA	1969	1991		
PPT	PAMATAI	1968	1992	1985	1992
PRU	PRUHONICE	1964	1965		
PTU	PLATEAU	1966	1968		

* Data may not be continuous between years indicated.

** Not all data from this observatory are in WDC format.

IAGA Code	Station Name	*Year of 1st Hourly	*Year of Latest Hourly	*Year of 1st 1-Min	*Year of Latest 1-Min
Q					
QUE	QUETTA	1965	1965		
R					
RBD	ROI BAUDOUIN	1958	1966		
RES	RESOLUTE BAY	1960	1989	1978	1989
ROB	ROBURENT	1965	1965		
RSV	RUDE SKOV	1959	1981		
S					
SAB	SABHAWALA	1964	1974		
SBA	SCOTT BASE	1957	1988		
SFS	SAN FERNANDO	1964	1966		
SHL	SHILLONG	1980	1987		
SIT	SITKA	1902	1993	1978	1993
SJG	SAN JUAN	1926	1993	1979	1993
SKT	SUKKERTOPPEN	1965	1966		
SMG	SAN MIGUEL	1965	1965		
SNA	SANAE I	1961	1983		
SOD	SODANKYLA	1914	1989		
SPA	SOUTH POLE	1959	1971		
SSH	SHESHAN	1932	1987		
SSO	SIMOSATO	1964	1965		
STJ	SAINT JOHNS	1968	1989	1978	1989
STO	STONYHURST	1964	1965		
SUA	SURLARI	1961	1965		
SVD	VYSOKAYA DUBRAVA	1930	1980		
SWI	SWIDER	1964	1965		
SZT	SANTA CRUZ	1964	1966		
T					
TAH	TAHITI	1966	1970		
TAN	TANANARIVE	1964	1993	1993	1993

* Data may not be continuous between years indicated.

** Not all data from this observatory are in WDC format.

IAGA Code	Station Name	*Year of 1st Hourly	*Year of Latest Hourly		*Year of 1st 1-Min	*Year of Latest 1-Min
TEO	TEOLOYUCAN	1965	1965			
TFS	TBILISI	1959	1990		1990	1990
TFS	DUSHETI	1959	1990		1990	1990
THL	THULE (QANAQ)	1950	1987			
THY	TIHANY	1964	1965			
TIK	TIXIE BAY	1957	1991		1990	1991
TKH	TIKHAYA BAY	1957	1958			
TKT	YANGI-BAZAR	1964	1991			
TNG	TANGERANG	1964	1969			
TOL	TOLEDO	1963	1980			
TOO	TOOLANGI	1924	1979			
TRD	TRIVANDRUM	1981	1990			
TRO	TROMSO	1964	1991			
TRW	TRELEW	1964	1968			
TSU	TSUMEB	1964	1983			
TTB	TATUOCA	1964	1965			
TUC	TUCSON	1909	1993	1978	1993	
U						
UJJ	UJJAIN	1980	1990			
V						
VAL	VALENTIA	1961	1991			
VIC	VICTORIA	1964	1989		1978	1989
VLA	GORNOTAYEZHNAYA	1958	1988			
VOS	VOSTOK	1958	1985			
VQS	VIEQUES	1903	1924			
VSS	VASSOURAS	1959	1980			
W						
WAT	WATHEROO	1919	1958			
WHN	WUHAN	1980	1980			

* Data may not be continuous between years indicated.

** Not all data from this observatory are in WDC format.

IAGA Code	Station Name	*Year of 1st Hourly	*Year of Latest Hourly	*Year of 1st 1-Min	*Year of Latest 1-Min
WHS	WHITESHELL	1979	1980		
WIK	WIEN KOBENZL	1964	1965		
WIL	WILKES	1957	1966		
WIT	WITTEVEEN	1938	1984		
WNG	WINGST	1964	1965		
Y					
YAK	YAKUTSK	1957	1990	1990	1990
YKC	YELLOWKNIFE	1977	1989	1978	1989
YSS	YUZHNO SAKHALINSK	1959	1988		

* Data may not be continuous between years indicated.

** Not all data from this observatory are in WDC format.

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Table 4: Magnetic Observatories 1818-1995, Sorted by Country/Region (based on annual means received at WDC-A)

01-May-95

Country/Region Name / Station Name	FIPS Country Code / IAGA Code	Latitude	Longitude	First Mean*	Latest Mean*	Status**	Replaced by
Algeria	**AG**						
BOUZAREAH	BZR	36.802	3.017	1888.5	1950.1	C	
EL ABIOD SIDI	EAS	32.903	0.550	1948.5	1954.5	C	
TAMANRASSET	TAM	22.792	5.527	1932.6	1991.5	O	
Angola	**AO**						
LUANDA CAPELO	LUA	-8.817	13.217	1881.5	1919.5	C	LUANDA GOLF
LUANDA GOLF	LUA	-8.858	13.250	1954.5	1955.5	C	LUANDA BELAS
LUANDA BELAS	LUA	-8.917	13.167	1954.5	1993.2	O	
Antarctica	**AY**						
ARGENTINE (FARADAY) ISLANDS	AIA	-65.245	295.742	1957.6	1991.5	O	
ARCTOWSKI	ARC	-62.160	301.522	1978.5	1989.5	O	
CAPE DENISON	CDE	-67.000	142.667	1912.5	1931.0	C	
CAPE EVANS	CEV	-77.633	166.400	1912.0	1958.0	C	
CASEY	CSY	-66.283	110.533	1978.5	1993.5	V	
CHARCOT	CTX	-69.367	139.033	1957.5	1958.5	C	
DAVIS	DVS	-68.583	77.967	1979.4	1993.5	V	
EIGHTS	EGS	-75.233	282.833	1963.6	1965.4	C	
GAUSS STATION	GAS	-66.033	89.633	1902.7	1902.7	C	
GREAT WALL	GTW	-62.200	301.000			N	
GONZALES VIDELA	GVD	-64.820	297.152	1961.5	1961.5	C	
HALLETT STATION	HLL	-72.315	170.217	1957.9	1962.5	C	
DISCOVERY BAY (HUT)	HUT	-77.850	166.750	1903.0	1903.0	C	
KING GEORGE ISLAND	KGI	-62.221	301.247			V	
LAZAREV	LZV	-69.967	12.900	1960.5	1960.5	C	NOVOLAZAREVSKAYA
MAWSON	MAW	-67.605	62.882	1955.8	1993.5	O	
MIRNY	MIR	-66.550	93.017	1956.8	1993.5	O	
MOLODEZHNAYA	MOL	-67.667	45.850	1965.5	1993.5	O	
NORWAY STATION	NWS	-70.500	357.467	1960.5	1962.0	C	
OASIS	OAS	-66.300	100.717	1957.5	1958.5	C	
PIONERSKAYA	PIO	-69.733	95.500	1957.5	1958.5	C	
PLATEAU	PTU	-79.252	40.500	1966.5	1968.5	C	
ROI BAUDOUIN	RBD	-70.432	24.308	1958.6	1959.1	C	ROIBAUDOUIN 2

* Data may not be continuous between years indicated.

** Station Status: O=Operating, N= New, U=Uncertain, V=Variation, C=Closed

Country/Region Name / Station Name	FIPS Country Code / IAGA Code	Latitude	Longitude	First Mean*	Latest Mean*	Status**	Replaced by
ROI BAUDOUIN	RBD	-70.430	24.298	1964.7	1966.5	C	
SCOTT BASE	SBA	-77.850	166.783	1957.8	1994.5	O	
SYOWA BASE	SYO	-69.007	39.590	1958.5	1993.5	O	
TERRA NOVA BAY	TNB	-74.683	164.117	1987.1	1992.1	O	
VOSTOK	VOS	-78.450	106.867	1958.5	1993.5	O	
WILKES	WIL	-66.250	110.583	1957.8	1966.5	C	
ZHONG SHAN	ZHS	-69.400	76.400			N	
Argentina	**AR**						
LAS ACACIAS	LAS	-35.007	302.310	1961.8	1993.5	O	
LA QUIACA	LQA	-22.110	294.417	1920.5	1933.5	C	LA QUIACA
LA QUIACA	LQA	-22.103	294.395	1942.5	1992.5	O	
NEW YEARS ISLAND	NYI	-54.650	295.850	1902.5	1916.5	C	
PILAR	PIL	-31.667	296.117	1905.5	1993.5	O	
TRELEW	TRW	-43.248	294.685	1957.8	1970.5	C	TRELEW 2
TRELEW	TRW	-43.268	294.618	1972.5	1993.5	O	
Australia	**AS**						
ALICE SPRINGS	ASP	-23.762	133.883	1992.0	1993.5	O	
CANBERRA	CNB	-35.315	149.363	1979.5	1993.5	O	
CHARTERS TOWERS	CTA	-20.100	146.300	1984.5	1993.5	O	
GNANGARA	GNA	-31.783	115.950	1957.5	1993.5	O	
KAKADU	KDU	-12.700	132.500	1995.0		N	
LEARMONTH	LRM	-22.220	114.100	1987.5	1993.5	O	
MACQUARIE ISLAND	MCQ	-54.500	158.950	1911.9	1993.5	O	
MELBOURNE	MEL	-37.832	144.975	1893.5	1921.5	C	TOOLANGI
SYDNEY	SDN	-33.883	151.183	1892.1	1892.1	C	
TOOLANGI	TOO	-37.533	145.467	1919.5	1979.2	C	
WATHEROO	WAT	-30.318	115.877	1919.5	1959.0	C	GNANGARA
Austria	**AU**						
KLAGENFURT	KFT	46.616	14.300	1891.5	1899.5	C	
KREMSMUNSTER	KRE	48.057	14.132	1891.5	1904.5	C	
WIEN AUHOF	WIA	48.203	16.235	1929.5	1950.5	C	WIEN KOBENZL
WIEN	WIE	48.250	16.366	1892.5	1898.5	C	WIEN AUHOF
WIEN KOBENZL	WIK	48.265	16.318	1955.5	1993.5	O	

* Data may not be continuous between years indicated.

** Station Status: O=Operating, N= New, U=Uncertain, V=Variation, C=Closed

Country/Region Name / Station Name	FIPS Country Code / IAGA Code	Latitude	Longitude	First Mean*	Latest Mean*	Status**	Replaced by
Belgium	**BE**						
DOURBES	DOU	50.097	4.595	1952.5	1993.5	O	
MANHAY	MAB	50.298	5.682	1932.5	1993.5	O	
UCCLE	UCC	50.798	4.362	1891.5	1947.5	C	MANHAY
Bolivia	**BL**						
LA PAZ	LPB	-16.537	291.903	1964.5	1976.5	C	
PATACAMAYA	PTY	-17.250	292.050	1983.5	1993.5	O	
Brazil	**BR**						
CACHOEIRA PAULIS	CHP	-22.730	315.000			U	
EUSEBIO	EUS	-3.890	321.560	1975.6	1977.2	C	
RIO DE JANEIRO	RDJ	-22.900	316.833	1837.5	1867.5	C	RIO DE JANIERO
RIO DE JANEIRO	RDJ	-22.907	316.828	1899.5	1910.5	C	VASSOURAS
SAO JOSE DOS CAMPOS	SJB	-23.200	314.130	1973.1	1975.0	C	
TATUOCA	TTB	-1.200	311.490	1933.8	1934.0	C	TATUOCA 2
TATUOCA	TTB	-1.205	311.487	1957.8	1992.5	O	
VASSOURAS	VSS	-22.400	316.350	1915.5	1990.5	O	
Bulgaria	**BU**						
PANAGYURISHTE	PAG	42.515	24.177	1948.5	1991.5	O	
Burma	**BM**						
TOUNGOO	TGO	18.930	96.450	1905.5	1932.5	C	
Byelarus	**BO**						
PLESHENITZI (MINSK)	MNK	54.500	27.883	1961.5	1989.5	O	
Canada	**CA**						
AGINCOURT	AGN	43.783	280.733	1899.5	1970.0	C	OTTAWA
ALERT	ALE	82.497	297.647	1961.9	1992.5	O	
BAFFIN ISLAND	BFI	64.400	282.133	1922.2	1922.2	C	
BAKER LAKE	BLC	64.333	263.967	1951.6	1993.5	O	
CAMBRIDGE BAY	CBB	69.123	254.969	1972.5	1993.5	O	
DISCOVERY BAY	DIS	81.733	295.267	1876.0	1876.0	C	
ETAH	ETA	78.300	287.333	1908.6	1908.6	C	
ETAH	ETA	78.317	287.300	1923.6	1925.6	C	
ETAH	ETA	78.317	287.333	1938.1	1941.6	C	
ETAH	ETA	78.317	287.267	1947.6	1947.6	C	

* Data may not be continuous between years indicated.

** Station Status: O=Operating, N= New, U=Uncertain, V=Variation, C=Closed

Country/Region Name / Station Name	FIPS Country Code / IAGA Code	Latitude	Longitude	First Mean*	Latest Mean*	Status**	Replaced by
FORT CHURCHILL	FCC	58.759	265.912	1957.8	1993.5	O	
FORT CONGER	FCR	81.733	295.267	1883.0	1883.0	C	
FLOEBERG BEACH	FLB	83.450	298.633	1876.0	1876.0	C	
FORT RAE 2	FRA	62.833	243.933	1933.2	1933.2	C	
FORT RAE 1	FTE	62.650	244.266	1883.2	1883.2	C	
GLENLEA	GLN	49.645	262.880	1982.5	1993.5	O	
GREAT WHALE RIVER	GWC	55.267	282.217	1965.5	1984.5	C	POSTE-DE-LA-BALEINE
IQALUIT	IQA	63.753	291.482	1994.0		V	
KINGUAFJORD	KGF	66.600	292.683	1883.3	1883.3	C	
KING POINT	KPT	69.117	221.867	1906.0	1906.0	C	
MOULD BAY	MBC	76.315	240.638	1962.8	1993.5	O	
MEANOOK	MEA	54.616	246.653	1916.8	1993.5	O	
OTTAWA	OTT	45.403	284.448	1968.7	1993.5	O	
POSTE-DE-LA-BALEINE	PBQ	55.277	282.255	1985.5	1993.5	O	
PORT FOULKE	PFK	78.300	287.000	1861.0	1861.0	C	
RESOLUTE BAY	RES	74.690	265.105	1952.5	1993.5	O	
REFUGE HARBOUR	RFH	78.533	287.617	1924.1	1924.1	C	
SAINT JOHNS	STJ	47.593	307.317	1968.8	1976.5	C	
SAINT JOHNS	STJ	47.595	307.323	1977.0	1993.5	O	
TORONTO	TOR	43.666	280.500	1840.5	1898.5	C	AGINCOURT
VAN RENSSELAER	VAN	78.617	289.333	1854.1	1854.1	C	
VICTORIA	VIC	48.517	236.583	1956.6	1993.5	O	
WHITESHELL	WHS	49.750	264.750	1977.5	1980.4	C	
YELLOWKNIFE 1	YKC	62.433	245.600	1957.8	1958.3	C	YELLOWKNIFE 2
YELLOWKNIFE	YKC	62.482	245.518	1975.5	1993.5	O	
Central African Republic	**CT**						
BANGUI	BNG	4.437	18.565	1952.4	1991.5	O	
Chile	**CI**						
EASTER ISLAND	EIC	-27.172	250.578	1958.5	1968.4	C	
ORANGE BAY CAPE HORN	ORB	-55.516	291.916	1883.2	1883.2	C	
SANTIAGO 1	SNT	-33.433	289.366	1850.7	1852.5	C	SANTIAGO 2
SANTIAGO	SNT	-33.450	289.300	1899.5	1909.5	C	
China	**CH**						
AU TAU	AUT	22.447	114.045	1927.6	1939.5	C	HONG KONG-TATE'S
BEIJING	BJI	40.040	116.175	1957.5	1990.5	O	
BEIJING MING TOMBS	BMT	40.300	116.200			N	

* Data may not be continuous between years indicated.

** Station Status: O=Operating, N= New, U=Uncertain, V=Variation, C=Closed

Country/Region Name / Station Name	FIPS Country Code / IAGA Code	Latitude	Longitude	First Mean*	Latest Mean*	Status**	Replaced by
CHENGDU	CHD	31.000	103.700	1988.5	1988.5	O	
CHANGCHUN 1	CNH	43.833	125.300	1957.5	1978.5	C	CHANGCHUN
CHANGCHUN (HELONG)	CNH	43.827	125.299	1979.5	1990.5	O	
GUANGZHOU	GZH	23.093	113.343	1958.5	1990.5	O	
KASKI	KSH	39.500	76.000	1988.5	1988.5	O	
LUKIAPANG	LKP	31.317	121.040	1908.8	1933.5	C	ZO-SE(SHESHAN)
LHASA	LSA	29.700	91.150	1957.5	1991.5	O	
LANZHOU	LZH	36.087	103.845	1959.5	1990.5	O	
MO HE	MOH	53.500	112.400			N	
MANZAOLI	MZL	49.600	117.400	1988.5	1988.5	O	
PEKING	PEK	39.950	116.466	1868.5	1883.5	C	BEIJING
QIONGZHONG	QGZ	19.000	109.800	1988.5	1988.5	O	
QUANZHOU	QZH	24.900	118.600	1988.5	1988.5	O	
SANYA	SAN	18.200	109.500	1990.0		V	
SHESHAN	SSH	31.097	121.187	1933.5	1990.5	O	
TONGHAI	THJ	24.000	102.700	1988.5	1988.5	O	
TSINGTAO (QINGDAO)	TSI	36.067	120.317	1906.5	1936.5	C	
WUHAN	WHN	30.528	114.559	1959.5	1990.5	O	
URUMQI	WMQ	43.817	87.697	1978.5	1991.5	O	
ZIKAWEI	ZKW	31.208	121.438	1875.5	1908.1	C	LUKIAPANG
Colombia	**CO**						
FUQUENE	FUQ	5.470	286.263	1954.9	1992.5	O	
Costa Rica	**CS**						
CHIRIPA	CRP	10.440	275.089	1984.5	1992.5	O	
COSTA RICA	SNJ	9.913	276.043	1979.9	1979.9	C	CHIRIPA
Croatia	**HR**						
POLA	POL	44.863	13.847	1881.5	1922.5	C	
Cuba	**CU**						
HAVANA	HVN	23.133	277.650	1897.2	1898.1	C	CENTRO GEOFISCO
CENTRO GEOFISICO	HVN	22.967	277.857	1964.5	1980.5	C	HAVANA 2
HAVANA	HVN	23.068	277.540	1983.5	1984.5	O	
SAN JOSE LAS LAJAS	SJL	23.017	277.350	1964.8	1976.2	C	

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Czech Republic	**EZ**						
BUDKOV	BDV	49.080	14.015	1967.5	1993.5	O	
Czechoslovakia (Formerly)	**CZ**						
PRAGUE	PRA	50.088	14.418	1830.5	1926.5	C	PRUHONICE
PRUHONICE	PRU	49.990	14.547	1946.5	1972.5	C	
STARA DALA	STA	47.875	18.192	1924.5	1947.5	C	HURBANOVO
Denmark	**DA**						
BRORFELDE	BFE	55.625	11.672	1980.5	1994.5	O	
COPENHAGEN	COP	55.683	12.583	1891.5	1908.5	C	RUDE-SKOV
RUDE SKOV	RSV	55.843	12.457	1891.5	1984.5	C	BRORFELDE
Djibouti	**DJ**						
DJIBOUTI	DJI	11.700	43.300			O	
Egypt	**EG**						
HELWAN	HLW	29.858	31.342	1903.5	1960.0	C	MISALLAT
MISALLAT	MLT	29.515	30.892	1960.6	1991.5	O	
Ethiopia	**ET**						
ADDIS ABABA	AAE	9.030	38.765	1958.5	1989.5	O	
Finland	**FI**						
NURMIJARVI	NUR	60.508	24.655	1953.5	1993.5	O	
SODANKYLA	SOD	67.466	26.600	1883.1	1883.1	C	SODANKYLA 2
SODANKYLA	SOD	67.367	26.645	1914.5	1945.0	C	SODANKYLA 3
SODANKYLA	SOD	67.368	26.630	1946.5	1993.5	O	
France	**FR**						
CHAMBON-LA-FORET	CLF	48.023	2.260	1936.5	1993.5	O	
NICE	NCE	43.716	7.300	1885.5	1901.0	C	
NANTES	NTS	47.247	358.440	1923.5	1958.5	C	
PERPIGNAN	PER	42.702	2.883	1885.5	1910.5	C	
PARC ST. MAUR	PSM	48.817	2.483	1883.5	1900.5	C	VAL JOYEUX
ST HELIER	STH	49.192	357.908	1898.5	1907.5	C	
TOULOUSE	TLS	43.613	1.458	1882.5	1905.5	C	
VAL JOYEUX	VLJ	48.822	2.015	1901.5	1936.5	C	CHAMBON-LA-FORET

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French Guiana	**FG**						
KOUROU	KOU	5.100	307.400			N	
French Polynesia (Tahiti)	**FP**						
PAMATAI	PPT	-17.568	210.425	1966.2	1992.5	O	
TAHITI	TAH	-17.555	210.388	1958.6	1972.5	C	PAMATAI(PAPEETE)
French Southern and Antarctic Lan	**FS**						
MARTIN DE VIVIES	AMS	-37.833	77.567	1981.6	1993.5	O	
PORT ALFRED	CZT	-46.433	51.867	1974.5	1993.5	O	
DUMONT D'URVILLE	DRV	-66.665	140.007	1957.7	1993.5	O	
KERGUELEN 1	KGL	-49.150	70.200	1875.0	1875.0	C	KERGUELEN 2
KERGUELEN 2	KGL	-49.417	69.883	1902.6	1903.1	C	PORT JEANNE D'ARC
KERGUELEN	KGL	-49.350	70.200	1957.9	1987.5	C	PORT-AUX-FRANCAIS
PORT-AUX-FRANCAIS	PAF	-49.350	70.200	1988.5	1993.5	O	
PORT JEANNE D'ARC	PJA	-49.550	69.817	1930.1	1962.5	C	KERGUELEN
Georgian Republic	**GG**						
KARSANI	KAS	41.833	44.700	1905.5	1934.5	C	DUSHETI
TBILISI	TFS	41.718	44.797	1879.5	1905.5	C	KARSANI
DUSHETI	TFS	42.092	44.705	1938.6	1992.5	O	
Germany	**GE**						
BARTH	BAH	54.367	12.750	1889.5	1903.5	C	
BEUTHEN	BEU	50.350	18.920	1899.5	1911.5	C	BEUTHEN MIKILOW
BEUTHEN MIKILOW	BMK	50.150	18.900	1925.5	1932.5	C	
BOCHUM	BOC	51.490	7.232	1893.5	1934.5	C	
LEIPZIG (COLLMBERG)	CLL	51.317	13.000	1935.0	1935.0	C	
CLAUSTHAL	CLZ	51.805	10.337	1845.5	1918.5	C	
DONNERSBERG	DNB	50.550	13.933	1933.5	1934.5	C	
FLENSBURG	FLE	54.783	9.433	1891.5	1903.5	C	
FREIBERG	FRB	50.916	13.350	1890.5	1899.5	C	
FURSTENFELDBRUCK	FUR	48.165	11.277	1939.5	1994.5	O	
GROSS RAUM	GRR	54.833	20.500	1935.0	1935.0	C	
GOTTINGEN	GTT	51.533	9.950	1832.6	1867.5	C	
HERMSDORF	HDF	50.760	16.238	1901.5	1929.5	C	
HAMBURG	HMG	53.550	9.983	1885.5	1896.5	C	
KIEL	KIE	54.333	10.150	1856.7	1890.8	C	
LUBECK	LUB	53.866	10.700	1885.5	1893.5	C	

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MAISACH	MAS	48.202	11.260	1927.5	1932.5	C	FURSTENFELDBRUCK
MUNICH	MNH	48.147	11.608	1841.5	1926.5	C	MAISCH
NEUFAHRWASSER	NFW	54.416	18.650	1891.5	1903.5	C	
NIEMEGK	NGK	52.072	12.675	1910.5	1994.5	O	
POTSDAM	POT	52.382	13.063	1890.5	1928.5	C	NIEMEGK
REGENSBERG	REG	47.483	8.450	1931.5	1955.5	C	
REGENSBERG	REG	47.483	8.442	1956.5	1975.5	C	
ROSTOCK	ROK	54.100	12.150	1890.5	1903.5	C	
SEDDIN	SED	52.278	13.010	1908.5	1931.5	C	NIEMEGK
TELLNITZ	TEL	50.733	13.967	1933.5	1934.5	C	
WILHELMSHAVEN	WLH	53.532	8.147	1884.5	1932.5	C	WINGST
WINGST	WNG	53.743	9.073	1939.5	1993.5	O	
WUSTROW	WUS	54.350	12.400	1891.5	1903.5	C	
Gilbert Islands	**GS**						
FANNING	FAN	3.905	200.610	1957.6	1958.5	C	
JARVIS ISLAND	JRV	-0.383	199.967	1957.6	1958.5	C	
Greece	**GR**						
ATHENS	ATH	37.972	23.720	1899.5	1908.5	C	DEKELIA
DEKELEIA	DEK	38.102	23.773	1935.5	1939.5	C	PENDELLI
PENDELI	PEG	38.047	23.863	1959.5	1993.5	V	
Greenland	**GL**						
ANGMAGSSALIK	AMK	65.617	322.367	1933.2	1933.2	C	
CAP THORDSEN	CTH	78.467	15.700	1883.2	1883.2	C	
GODHAVN 1	GDH	69.233	306.483	1903.5	1903.5	C	GODHAVN 2
GODHAVN	GDH	69.240	306.478	1926.5	1975.0	C	GODHAVN 3
GODHAVN	GDH	69.252	306.467	1975.5	1994.5	O	
GODTHAAB 1	GHB	64.183	308.283	1883.0	1883.0	C	
GODTHAAB 2	GHB	64.200	308.283	1923.6	1925.7	C	
GODTHAAB 3	GHB	64.217	308.300	1931.8	1931.8	C	
GODTHAAB 4	GHB	64.200	308.250	1941.6	1941.6	C	
GJOAHAVN	GJO	68.617	264.117	1903.9	1905.2	C	
HOLSTEINSBORG 1	HST	66.866	306.733	1853.5	1853.5	C	
HOLSTEINSBORG 2	HST	66.933	306.317	1908.7	1908.7	C	
HOLSTEINSBORG 3	HST	66.933	306.217	1912.4	1912.4	C	
HOLSTEINSBORG 4	HST	66.933	306.367	1924.6	1943.6	C	
HOLSTEINSBORG 5	HST	66.950	306.350	1965.6	1965.6	C	

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INGE LEHMANN	ILN	77.917	320.767	1966.6	1967.6	C	
IVIGTUT 1	IVI	61.200	311.733	1863.9	1863.9	C	
IVIGTUT 2	IVI	61.200	311.833	1931.6	1943.5	C	
IVIGTUT 3	IVI	61.200	311.817	1946.5	1946.5	C	
IVIGTUT 4	IVI	61.200	311.833	1960.5	1960.5	C	
JULIANEHAAB	JUL	60.717	313.962	1932.8	1934.3	C	JULIANEHAAB 2
JULIANEHAAB II	JUL	60.717	313.967	1957.8	1965.5	C	NARSSARSSUAQ
KAP TOBIN	KTG	70.417	338.033	1959.6	1967.6	C	
NARSSARSSUAQ	NAQ	61.100	314.800	1968.9	1994.5	O	
NANORTALIK 1	NNT	60.133	314.733	1884.1	1885.0	C	NANORTALIK 2
NANORTALIK 2	NNT	60.150	314.750	1931.8	1931.8	C	NANORTALIK 3
NANORTALIK 3	NNT	60.133	314.717	1943.7	1943.7	C	NANORTALIK 4
NANORTALIK 4	NNT	60.150	314.767	1960.7	1960.7	C	
SCORESBY SUND (HEKLA)	SCO	70.467	333.800	1892.1	1892.1	C	SCORESBY SUND 2
SCORESBY SUND 2	SCO	70.483	338.033	1933.2	1933.2	C	
SUKKERTOPPEN	SKT	65.417	307.083	1965.5	1965.5	C	
THULE (DUNDAS)	THL	76.527	291.107	1932.8	1933.3	C	THULE (AIR FORCE)
THULE (AIR FORCE)	THL	76.538	290.942	1947.5	1952.5	C	THULE (QANAQ)
THULE (QANAQ)	THL	77.483	290.833	1955.8	1994.5	O	
TASUISAK	TSK	65.616	322.450	1899.2	1899.2	C	
Guam	**GQ**						
GUAM	GUA	13.583	144.870	1957.8	1994.5	O	
Heard Isl. and McDonald Isl.	**HM**						
HEARD ISLAND	HII	-53.032	73.365	1948.0	1954.4	C	
Hong Kong	**HK**						
HONG KONG	HKC	22.303	114.175	1884.5	1928.5	C	AU TAU
HONG KONG-TATE'S CAIRN	HKC	22.367	114.217	1972.5	1978.5	C	
Hungary	**HU**						
BUDAPEST	BUP	47.500	19.033	1875.5	1889.5	C	HURBANOVO
BUDAKESZI	BUZ	47.523	18.897	1949.5	1956.0	C	TIHANY
NAGYCENK	NCK	47.633	16.717	1961.5	1991.5	O	
O GYALLA	OGY	47.867	18.183	1890.5	1923.5	C	STARA DALA
TIHANY	THY	46.900	17.893	1955.5	1990.5	O	
Iceland	**IC**						
LEIRVOGUR	LRV	64.183	338.300	1957.8	1993.5	O	

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India	**IN**						
ALIBAG	ABG	18.638	72.872	1904.5	1991.5	O	
ALLAHABAD	ALH	25.050	82.000			N	
ANNAMALAINAGAR	ANN	11.367	79.683	1957.9	1991.5	O	
BARRACKPORE	BAC	22.775	88.362	1904.5	1914.5	C	
COLABA	CLA	18.897	72.815	1846.5	1906.1	C	ALIBAG
DEHRA DUN	DDI	30.322	78.055	1903.5	1943.3	C	SABHAWALA
ETAIYAPURAM	ETT	9.000	78.000	1980.5	1987.5	O	
HYDERABAD	HYB	17.413	78.555	1965.5	1991.5	O	
JAIPUR	JAI	26.917	75.800	1976.5	1987.5	U	
KODAIKANAL	KOD	10.230	77.463	1902.5	1992.5	O	
MADRAS	MDS	13.066	80.250	1851.5	1855.5	C	
NAGPUR	NGP	21.100	79.000			O	
PONDICHERRY	PND	11.920	79.920			O	
SABHAWALA	SAB	30.363	77.798	1964.5	1991.5	O	
SHILLONG	SHL	25.567	91.883	1976.5	1988.5	O	
TIRUNELVELI	TIR	8.670	77.820			N	
TRIVANDRUM	TRD	8.516	77.000	1854.5	1869.5	C	TRIVANDRUM 2
TRIVANDRUM	TRD	8.483	76.950	1957.9	1991.5	O	
UJJAIN	UJJ	23.183	75.783	1976.5	1991.5	O	
VISAKHAPATNAM	VSK	17.670	83.320			O	
Indonesia	**ID**						
BATAVIA	BTV	-6.183	106.833	1884.5	1944.5	C	KUYPER
HOLLANDIA	HNA	-2.572	140.513	1957.8	1962.3	C	
KUYPER	KUY	-6.033	106.733	1929.5	1962.5	C	TANGERANG
MANADO	MND	1.297	124.925			N	
TANGERANG	TNG	-6.167	106.633	1964.5	1991.5	O	
TUNTUNGAN	TTG	3.510	98.560	1982.5	1987.5	U	
Iran	**IR**						
TEHRAN	TEH	35.737	51.382	1960.5	1973.5	U	
Iraq	**IZ**						
BAGHDAD	BGH	33.250	44.467	1987.0		U	
Ireland	**EI**						
DUBLIN	DUB	53.350	353.733	1834.5	1850.5	C	
VALENTIA	VAL	51.933	349.750	1899.5	1994.5	O	

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Israel	**IS**						
AMATSIA	AMT	31.550	34.917	1976.5	1988.5	C	BAR GYORA
BAR GYORA	BGY	31.730	35.210	1989.5	1992.5	O	
MODIIM	MOD	31.933	34.983	1975.5	1975.5	C	
NITZANIM	NSM	31.733	34.600	1963.5	1967.5	C	
Italy	**IT**						
L'AQUILA	AQU	42.383	13.317	1960.5	1993.5	O	
CASTELLACCIO	CAO	44.430	8.933	1933.5	1969.5	C	
CAPODIMONTE	CPD	40.863	14.257	1882.5	1922.5	C	
CASTELLO TESINO	CTS	46.047	11.650	1965.5	1992.5	O	
GIBILMANNA	GIB	37.990	14.020	1954.2	1957.5	C	
MONTE CAPELLINO	MCP	44.552	8.955	1958.8	1962.5	C	
ROBURENT	ROB	44.297	7.888	1964.8	1973.5	C	
Japan	**JA**						
ASO	ASO	32.882	131.010	1958.5	1958.5	C	
CHICHIJIMA	CBI	27.083	142.167	1973.5	1993.5	O	
HATIZYO	HTY	33.122	139.802	1967.7	1992.5	O	
KAKIOKA	KAK	36.230	140.190	1913.5	1994.5	O	
KATUURA	KAT	33.630	135.948	1946.9	1953.5	C	SIMOSATO
KANOYA	KNY	31.420	130.882	1958.5	1994.5	O	
KANOZAN	KNZ	35.253	139.960	1961.5	1993.5	O	
MINAMITORI SHIMA	MIN	24.283	153.967	1941.7	1941.7	C	
MIZUSAWA	MIZ	39.010	141.080	1969.5	1993.5	O	
MEMAMBETSU	MMB	43.907	144.193	1950.8	1994.5	O	
OTOMARI	OTM	46.650	142.767	1920.5	1943.5	C	
SIMOSATO	SSO	33.575	135.940	1954.8	1977.5	C	HATIZYO
TOYOHARA	TOH	46.967	142.750	1932.8	1940.3	C	YUZHNO SAKHALINSK
TOYOHARA	TOH	46.947	142.745	1941.5	1944.5	C	
TOKYO	TOK	35.685	139.753	1887.5	1912.5	C	KAKIOKA
Kazakhstan	**KZ**						
ALMA ATA	AAA	43.250	76.917	1963.4	1992.5	O	
BEREZNYAKI	KGD	49.817	73.083	1965.5	1988.5	O	
NOVOKAZALINSK	NKK	45.800	62.100	1974.5	1993.5	O	
Kenya	**KE**						
NAIROBI	NAI	-1.327	36.815	1964.5	1980.5	C	

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Kiribati	**KR**						
MOCA	MFP	3.343	8.660	1958.5	1971.5	C	
Korea, Republic of	**KS**						
ZINSEN	ZIN	37.475	126.625	1918.5	1944.5	C	
Lebanon	**LE**						
KSARA	KSA	33.823	35.888	1930.9	1970.5	C	
Madagascar	**MA**						
NAMPULA	NMP	-15.087	39.253	1982.8	1984.5	C	
PENANG	PNN	4.467	100.150	1976.7	1976.7	C	PENANG 2
PENANG 2	PNN	5.350	100.300	1979.9	1979.9	C	
TANANARIVE	TAN	-18.917	47.550	1890.5	1993.5	O	
Mauritius	**MP**						
MAURITIUS	MRI	-20.093	57.553	1892.5	1966.0	C	PLAISANCE
PLAISANCE	PLS	-20.433	57.667	1966.5	1976.5	C	
Mexico	**MX**						
CUAJIMALPA	CUA	19.373	260.717	1903.5	1926.5	C	TEOLOYUCAN
MEXICO CITY	MEX	19.433	260.883	1881.7	1887.2	C	MEXICO CITY
MEXICO CITY	MEX	19.416	260.916	1879.8	1879.8	C	TACUBAYA
TACUBAYA	TAC	19.405	260.805	1890.5	1926.5	C	CUAJIMALPA
TEOLOYUCAN	TEO	19.747	260.818	1914.5	1988.5	O	
Midway Islands	**MQ**						
MIDWAY	MDY	28.210	182.617	1964.5	1966.0	C	
Mongolia, Peoples Republic of	**MG**						
ULAN BATOR	UBA	47.850	107.050	1966.5	1977.5	U	
Morocco	**MO**						
AVERROES	AVE	33.298	352.587	1967.5	1976.5	C	
TIOUINE	TIO	30.930	352.740	1989.0		N	
Mozambique	**MZ**						
MAPUTO	LMM	-25.917	32.583	1957.5	1988.5	O	

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Namibia	**WA**						
TSUMEB	TSU	-19.217	17.700	1964.8	1992.5	O	
Netherlands	**NL**						
DE BILT	DBN	52.102	5.177	1899.5	1938.5	C	WITTEWWEEN
WITTEVEEN	WIT	52.813	6.668	1938.5	1987.5	C	
UTRECHT	WIU	52.083	5.116	1891.5	1898.5	C	WITTEWEN
New Zealand	**NZ**						
AMBERLEY	AML	-43.152	172.722	1929.5	1977.5	C	LAUDER
AUCKLAND ISLAND	AUI	-50.866	166.083	1875.0	1875.0	C	
CHRISTCHURCH	CHR	-43.530	172.622	1902.5	1930.5	C	AMBERLEY
EYREWELL	EYR	-43.417	172.350	1978.0	1994.5	O	
LAUDER	LAU	-45.040	169.683	1979.5	1979.5	C	
Nigeria	**NI**						
IBADAN	IBD	7.433	3.900	1956.5	1975.5	C	
ILE IFE	IIF	7.550	4.567			N	
Norway	**NO**						
BEAR ISLAND	BJN	74.497	19.227	1933.2	1933.2	C	
BEAR ISLAND	BJN	74.510	19.010	1951.5	1952.5	C	
BEAR ISLAND	BJN	74.500	19.200	1953.5	1993.5	O	
BODO	BOD	67.300	14.417	1932.7	1934.4	C	
BOSSEKOP 1	BOP	69.966	23.266	1839.0	1839.0	C	BOSSEKOP 2
BOSSEKOP 2	BOP	69.966	23.250	1883.1	1883.1	C	BOSSEKOP 3
BOSSEKOP 3	BOP	69.967	23.250	1933.2	1933.2	C	
DOMBAS	DOB	62.078	9.097	1916.5	1951.5	C	DOMBAS
DOMBAS	DOB	62.073	9.117	1952.5	1993.5	O	
JAN MAYEN 1	JMI	71.000	351.533	1883.1	1892.7	C	JAN MAYEN 2
JAN MAYEN 2	JMI	70.983	351.667	1933.2	1933.2	C	
NEW ALESUND	NAL	78.917	11.933	1966.5	1991.5	O	
OSLO	OSL	59.916	10.717	1843.5	1930.5	C	
SVEAGRUVA	SVG	77.900	16.750	1933.2	1933.2	C	
TROMSO	TRO	69.663	18.948	1930.5	1993.5	O	
Pakistan	**PK**						
KARACHI	KRC	24.950	67.140	1988.5	1993.5	O	
QUETTA	QUE	30.187	66.950	1953.9	1992.5	O	

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Country/Region Name / Station Name	FIPS Country Code / IAGA Code	Latitude	Longitude	First Mean*	Latest Mean*	Status**	Replaced by
Papua New Guinea	**PP**						
PORT MORESBY	PMG	-9.408	147.152	1957.8	1992.5	O	
Peru	**PE**						
ANCON	ANC	-11.690	282.852	1990.0		O	
HUANCAYO	HUA	-12.045	284.660	1922.5	1992.5	O	
Philippines	**RP**						
ANTIPOLO	ANO	14.600	121.167	1910.5	1940.5	C	MUNTINLUPA
BAGUIO	BAG	16.400	120.633	1967.5	1983.5	U	
DAVAO	DAV	7.053	125.380	1968.5	1984.5	C	
MANILA	MAN	14.578	120.975	1889.5	1904.5	C	ANTIPOLO
MUNTINLUPA	MUT	14.375	121.015	1951.5	1988.5	C	
Poland	**PL**						
BELSK	BEL	51.837	20.792	1960.5	1993.5	O	
BRESLAU	BRE	51.116	17.033	1852.5	1895.5	C	
CRACOW (KRAKAU)	CRA	50.050	19.950	1895.5	1895.5	C	CRACOW
CRACOW	CRA	50.052	19.952	1906.5	1936.5	C	
HEL	HLP	54.608	18.815	1901.5	1992.5	O	
HORNSUND	HRN	77.000	15.550	1978.5	1985.5	O	
SWIDER	SWI	52.115	21.253	1921.5	1974.5	C	
STETTIN-ZABELSDORF	SZA	53.450	14.566	1892.5	1901.5	C	
WARSAW	WSW	52.217	21.033	1893.5	1893.5	C	
Portugal	**PO**						
ANGRA DO HEROISMO	ANH	38.320	332.775	1957.5	1970.5	C	
COIMBRA ALTO BALEIA	COI	40.207	351.577	1866.7	1930.5	C	COIMBRA
COIMBRA	COI	40.222	351.578	1931.5	1993.5	O	
LISBON	LIS	38.717	350.852	1858.5	1900.5	C	
SAN MIGUEL	SMG	37.767	334.350	1911.5	1977.5	C	
Puerto Rico	**RQ**						
SAN JUAN	SJG	18.382	293.882	1926.5	1965.0	C	SAN JUAN 2
SAN JUAN	SJG	18.113	293.850	1965.5	1994.5	O	
VIEQUES	VQS	18.147	294.552	1903.5	1924.4	C	SAN JUAN 1

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Country/Region Name / Station Name	FIPS Country Code / IAGA Code	Latitude	Longitude	First Mean*	Latest Mean*	Status**	Replaced by
Romania	**RO**						
BUCHAREST	BUC	44.416	26.100	1898.4	1898.4	C	
JASSY	JSS	47.183	27.533	1931.5	1971.5	C	
SURLARI	SUA	44.680	26.253	1949.5	1993.5	O	
Russia	**RS**						
ALGER ISLAND	ALG	80.367	56.100	1905.5	1905.5	C	
ARKHANGELSK	ARK	64.583	40.500	1985.5	1993.5	O	
ARTI	ARS	56.433	58.567	1973.5	1993.5	O	
BOROK	BOX	58.030	38.970	1977.5	1990.5	O	
BARNAUL	BRN	53.333	83.783	1842.5	1873.5	C	
CAPE CHELYUSKIN	CCS	77.717	104.283	1935.5	1993.5	O	
CAPE WELLEN (UELEN)	CWE	66.163	190.165	1933.5	1993.5	O	
DIXON ISLAND	DIK	73.500	80.417	1933.5	1950.0	C	
DIXON ISLAND	DIK	73.550	80.567	1950.5	1953.0	C	
DIXON ISLAND	DIK	73.543	80.562	1953.5	1993.5	O	
HEISS ISLAND	HIS	80.617	58.050	1959.5	1993.5	O	
IRKUTSK	IRT	52.267	104.267	1887.5	1914.5	C	ZUY
PATRONY	IRT	52.167	104.450	1957.5	1992.5	O	
JEKMAN ISLAND	JKI	76.433	95.133	1939.2	1939.2	C	
KANDALAKSHA	KND	67.133	32.433	1933.2	1933.2	C	
KUTCHINO	KTC	55.762	37.965	1926.5	1933.5	C	KRASNAYA PAKHRA
KAZAN	KZN	55.783	49.133	1892.5	1911.5	C	ZAYMISHCHE
ZAYMISHCHE	KZN	55.833	48.850	1912.5	1992.5	O	
VOYEYKOVO	LNN	59.950	30.705	1947.5	1990.5	O	
MAITUN	MAI	43.250	132.333	1936.5	1948.5	C	VOROSHILOV
MAGADAN	MGD	60.117	151.017	1960.5	1966.5	C	STEKOLNYY
STEKOLNYY (MAGADAN)	MGD	60.117	151.017	1966.5	1992.5	O	
MALYYE KARMAKULY	MKL	72.383	52.717	1883.2	1883.2	C	
MURMANSK	MMK	68.950	33.050	1958.8	1961.5	C	LOPARSKAYE
LOPARSKOYE	MMK	68.250	33.083	1961.5	1988.5	O	
MOSCOW	MOS	55.733	37.633	1880.5	1888.5	C	KUTCHINO
KRASNAYA PAKHRA	MOS	55.467	37.312	1930.5	1992.5	O	
MATOCHKIN SHAR	MSR	73.263	56.397	1923.9	1949.5	C	VYKHODNOY
NERTSCHINSK	NER	51.316	119.616	1841.5	1864.5	C	
NOVOLAZAREVSKAYA	NVL	-70.768	11.832	1961.5	1987.5	C	
KLYUCHI (NOVOSIBIRSK)	NVS	55.033	82.900	1967.5	1993.5	O	
PARATUNKA (PETROPVLOVSK)	PET	52.900	158.433	1969.5	1993.5	O	
PODKAMENNAYA TUNGUSKA	POD	61.600	90.000	1969.5	1992.5	O	

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Country/Region Name / Station Name	FIPS Country Code / IAGA Code	Latitude	Longitude	First Mean*	Latest Mean*	Status**	Replaced by
PITLEKAYA	PTL	67.083	186.617	1879.1	1879.1	C	
PETSAMO	PTS	69.533	31.250	1933.1	1933.1	C	
SAGASTYR	SAG	73.383	126.600	1883.5	1883.5	C	
SLUTSK	SLU	59.687	30.488	1878.5	1945.0	C	VOYEYKOVO
ST. PETERSBURG	SPE	59.933	30.333	1869.5	1877.5	C	SLUTSK
SREDNIKAN	SRE	62.440	152.313	1936.5	1967.0	C	MAGADAN
SVERDLOVSK	SVD	56.827	60.638	1841.5	1931.5	C	VYSOKAYA DUBRAVA
VYSOKAYA DUBRAVA	SVD	56.733	61.067	1929.5	1980.5	C	ARTI
SVERDLOVSK YEKATERI	SVE	56.833	60.633	1841.5	1841.5	C	SVERDLOVSK
TIXIE BAY	TIK	71.583	129.000	1944.5	1992.5	O	
TIKHAYA BAY	TKH	80.333	52.800	1933.5	1958.5	C	HEISS ISLAND
TOMSK	TMK	56.467	84.933	1958.5	1969.5	C	
TEPLITZ BAY	TPB	81.800	57.983	1904.1	1904.1	C	
GORNOTAYEZHNAYA	VLA	43.683	132.167	1958.5	1993.5	O	
VOROSHILOV	VOR	43.783	132.033	1951.5	1958.0	C	GORNOTAYEZHNAYA
VYKHODNOY	VYK	73.235	56.730	1949.5	1955.5	C	
YAKUTSK	YAK	62.017	129.717	1931.5	1991.5	O	
YUZHNO SAKHALINSK	YSS	46.950	142.717	1941.5	1990.5	O	
ZUY	ZUY	52.460	104.038	1915.5	1959.0	C	PATRONY
Senegal	**SG**						
M'BOUR	MBO	14.392	343.042	1952.6	1991.5	O	
Serbia	**SR**						
GROCKA	GCK	44.633	20.767	1958.5	1992.5	O	
Singapore	**SN**						
SINGAPORE	SIN	1.283	103.850	1840.5	1847.5	C	
Slovakia	**LO**						
HURBANOVO	HRB	47.873	18.190	1948.5	1990.5	O	
Somalia	**SO**						
MOGADISCIO	MOG	2.033	45.350	1933.1	1933.1	C	
ORCADAS DEL SUR	ORC	-60.733	315.217	1905.5	1962.5	C	
South Africa	**SF**						
CAPE OF GOOD HOPE	CGH	-33.933	18.483	1841.5	1846.3	C	CAPE TOWN
CAPE TOWN	CTO	-33.950	18.467	1932.5	1940.5	C	HERMANUS
GRAHAMSTOWN	GRM	-33.315	26.503	1974.8	1980.1	C	

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Country/Region Name / Station Name	FIPS Country Code / IAGA Code	Latitude	Longitude	First Mean*	Latest Mean*	Status**	Replaced by
HARTEBEESTHOEK	HBK	-25.882	27.707	1973.5	1993.5	O	
HERMANUS	HER	-34.425	19.225	1941.5	1993.5	O	
MARION ISLAND	MRN	-46.875	37.847	1973.7	1980.5	C	
SANAE I	SNA	-70.300	357.633	1962.7	1970.5	C	SANAE 2
SANAE II	SNA	-70.320	357.663	1971.7	1978.5	C	SANAE 3
SANAE III	SNA	-70.312	357.590	1979.8	1989.5	C	
Soviet Union (Formerly)	**UR**						
NIZHNEDEVITSK	NNV	51.517	38.367	1935.5	1940.5	C	
Spain	**SP**						
ALMERIA	ALM	36.853	357.540	1955.5	1991.5	C	
EBRO	EBR	40.820	0.493	1905.5	1983.5	O	
GUIMAR	GUI	28.477	343.739			N	
LOGRONO	LGR	42.458	357.495	1957.8	1976.5	C	
MADRID	MDD	40.416	356.316	1879.5	1901.5	C	
SAN FERNANDO	SFS	36.462	353.795	1891.5	1993.5	O	
SAN PABLO- TOLEDO	SPT	39.547	355.650	1981.5	1992.5	O	
LAS MESAS(TENERIFE)	TEN	28.477	343.739	1959.5	1991.5	C	
TOLEDO	TOL	39.883	355.953	1947.5	1982.0	C	SAN PABLO
Suriname	**NS**						
PARAMARIBO	PAB	5.810	304.778	1957.8	1974.5	C	
Sweden	**SW**						
ABISKO	ABK	68.358	18.823	1921.5	1992.5	O	
KIRUNA	KIR	67.833	20.417	1962.5	1993.5	O	
LOVO	LOV	59.345	17.827	1928.5	1991.5	O	
Taiwan	**TW**						
LUNPING	LNP	25.000	121.167	1965.8	1993.5	O	
TAIPEI	TAP	25.038	121.513	1919.5	1940.5	C	TAI PEI
TAIPEI	TAP	25.038	121.513	1951.7	1967.5	C	
Tanzania, United Republic of	**TZ**						
DAR ES SALAAM	DMS	-6.816	39.316	1896.5	1903.5	C	

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Country/Region Name / Station Name	FIPS Country Code / IAGA Code	Latitude	Longitude	First Mean*	Latest Mean*	Status**	Replaced by
Trust Territory Pacific Isl. (CQ	**TQ**						
JALUIT	JAL	5.915	169.652	1938.5	1942.5	C	
KOROR	KOR	7.335	134.500	1957.6	1966.2	C	
MAJURO	MJR	7.083	171.377	1964.8	1966.1	C	
PALAU	PLA	7.333	134.483	1926.5	1941.5	C	KOROR
Turkey	**TU**						
ANKARA	ANK	39.891	32.764	1986.5	1992.5	O	
ISTANBUL-KANDILLI	ISK	41.063	29.062	1946.5	1992.5	O	
Turkmenistan	**TX**						
VANNOVSKAYA	ASH	37.950	58.108	1959.5	1993.5	O	
Ukraine	**UP**						
KIEV	KIV	50.717	30.300	1958.6	1963.5	C	DYMER
DYMER	KIV	50.717	30.300	1964.5	1993.5	O	
LVOV	LVV	49.900	23.750	1952.5	1993.5	O	
ODESSA	ODE	46.433	30.766	1896.5	1901.5	C	ODESSA
ODESSA	ODE	46.440	30.773	1908.5	1925.5	C	STEPANOVKA
STEPANOVKA (ODESSA)	ODE	46.783	30.883	1936.5	1993.5	O	
SIMFEROPOL	SIM	44.833	34.067	1959.5	1959.5	C	
JANOW (YANOV)	YNV	49.900	23.733	1933.7	1934.5	C	L'VOV
United Kingdom	**UK**						
ABINGER	ABN	51.185	359.613	1925.5	1958.0	C	HARTLAND
BYRD STATION	BYR	-79.983	240.000	1957.8	1962.0	C	BYRD STATION 2
BYRD STATION	BYR	-80.017	240.483	1962.5	1968.3	C	
ESKDALEMUIR	ESK	55.317	356.800	1908.5	1994.5	O	
FALMOUTH	FAL	50.150	354.923	1891.5	1912.5	C	
GREENWICH	GRW	51.483	0.000	1818.7	1925.5	C	ABINGER
GRYTVIKEN	GTV	-54.283	323.517	1975.5	1982.2	C	
GEORG VON NEUMAYER	GVN	-70.617	351.633	1983.6	1989.5	C	
HARTLAND	HAD	50.995	355.517	1957.5	1994.5	O	
HALLEY BAY	HBA	-75.517	333.397	1957.7	1980.5	C	
HACKNEY WICK	HKW	51.550	359.966	1813.6	1815.4	C	HACKNEY WICK 2
HACKNEY WICK (BUSH)	HKW	51.633	359.666	1817.6	1822.2	C	
KEW	KEW	51.468	359.687	1842.5	1924.5	C	
LERWICK	LER	60.133	358.817	1923.5	1994.5	O	
MAKERSTOUN	MAK	55.583	357.483	1841.5	1849.5	C	

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Country/Region Name / Station Name	FIPS Country Code / IAGA Code	Latitude	Longitude	First Mean*	Latest Mean*	Status**	Replaced by
SOUTH GEORGIA	SGE	-54.516	323.983	1883.2	1883.2	C	
STONYHURST	STO	53.845	357.530	1865.5	1967.5	C	
United States	**US**						
ADAK	ADA	51.865	183.357	1964.8	1966.0	C	
ANCHORAGE	AMU	61.235	210.130	1957.6	1958.5	C	
BALDWIN	BAL	38.783	264.833	1901.5	1909.4	C	
BIG DELTA	BDE	63.997	214.268	1957.6	1958.5	C	
BELOIT	BLT	39.477	261.867	1957.6	1958.5	C	
BOULDER	BOU	40.138	254.762	1964.5	1993.5	O	
BURLINGTON	BRT	39.383	257.733	1957.5	1959.5	C	
BARROW	BRW	71.383	203.717	1933.2	1933.2	C	
BARROW	BRW	71.303	203.252	1949.5	1974.5	C	
BARROW	BRW	71.323	203.380	1975.5	1994.5	O	
BAY ST LOUIS	BSL	30.400	270.600	1986.6	1994.5	O	
BARTER ISLAND	BTI	70.133	216.017	1958.5	1958.5	C	
CARROLLTON	CAX	39.367	266.467	1958.5	1959.5	C	
CHESTERFIELD INLET	CFI	63.333	269.300	1933.2	1933.2	C	
CHELTENHAM	CLH	38.733	283.158	1901.5	1957.0	C	FREDERICKSBURG
COLLEGE	CMO	64.850	212.167	1933.5	1933.5	C	COLLEGE 2
COLLEGE	CMO	64.867	212.183	1941.8	1947.0	C	COLLEGE
COLLEGE	CMO	64.860	212.163	1948.5	1994.5	O	
CASTLE ROCK	CRC	37.240	237.870	1970.5	1974.5	C	
CASPER	CSR	42.833	253.633	1958.5	1958.5	C	
DALLAS	DAL	32.985	263.248	1964.5	1974.5	C	
DEL RIO	DLR	29.487	259.085	1982.5	1994.5	O	
ESPANOLA	EPN	35.983	253.950	1958.5	1958.5	C	
EAST PORT	ETP	44.900	293.016	1860.5	1864.5	C	
FREDERICKSBURG	FRD	38.205	282.627	1956.5	1993.5	O	
FRESNO	FRN	37.090	240.280	1982.5	1993.5	O	
FORT YUKON	FYU	66.567	214.733	1958.5	1958.5	C	
HEALY	HEA	63.855	211.032	1957.6	1958.5	C	
HONOLULU	HON	21.320	201.937	1902.5	1947.0	C	HONOLULU 2
HONOLULU	HON	21.305	201.905	1947.7	1961.0	C	HONOLULU
HONOLULU	HON	21.320	201.998	1961.5	1993.5	O	
OTZEBUE	KOT	66.883	197.367	1958.5	1958.5	C	
KEY WEST	KWT	24.550	278.200	1860.5	1866.5	C	
LITTLE AMERICA 1	LAA	-78.583	196.200	1929.8	1929.8	C	LITTLE AMERICA 2
LITTLE AMERICA 2	LAA	-78.567	196.067	1934.6	1934.6	C	LITTLE AMERICA 3

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LITTLE AMERICA 3	LAA	-78.483	196.150	1940.7	1940.7	C	LITTLE AMERICA 4
LITTLE AMERICA 4	LAA	-78.433	196.083	1947.1	1947.1	C	LITTLE AMERICA 5
LITTLE AMERICA 5	LAA	-78.183	197.800	1957.8	1958.5	C	
LITTLE AMERICA3	LAA	-78.167	194.417	1958.0	1958.0	C	
LEADVILLE	LDV	39.283	253.717	1957.5	1959.5	C	
LOS ANGELES	LOS	34.050	241.750	1882.8	1889.5	C	
MOUNT WEATHER	MWR	39.067	282.117	1908.2	1908.2	C	
NEWPORT	NEW	48.263	242.880	1966.6	1993.5	O	
NORTHWAY	NRW	63.017	218.200	1958.5	1958.5	C	
PATRICK	PAT	28.213	279.388	1954.8	1956.2	C	
PRICE	PCU	39.600	249.167	1957.5	1959.5	C	
PHILADELPHIA GIRARD	PGC	39.966	284.816	1840.5	1845.2	C	
SITKA	SIT	57.052	224.665	1902.5	1939.5	C	
SITKA	SIT	57.058	224.675	1940.5	1993.5	O	
SOUTH POLE	SPA	-89.993	346.678	1959.5	1971.5	C	
TUCSON	TUC	32.247	249.167	1909.5	1994.5	O	
TULSA	TUL	35.912	264.212	1968.9	1989.5	O	
WASHINGTON CITY	WDC	38.900	282.966	1841.0	1842.0	C	WASHINGTON NEW
WASHINGTON 1	WDC	38.883	283.000	1867.5	1869.2	C	WASHINGTON 2
WASHINGTON 2	WDC	38.900	282.950	1888.5	1892.5	C	WASHINGTON 1
WASHINGTON NEW	WDC	38.916	282.950	1894.5	1894.5	C	
Uzbekistan	**UZ**						
KELES	KEL	41.420	69.205	1936.5	1964.0	C	YANGI BAZAR
TASHKENT	TKT	41.333	69.300	1883.5	1935.2	C	KELES
YANGI-BAZAR	TKT	41.333	69.617	1957.5	1992.5	O	
Vietnam	**VM**						
BACLIEU	BCL	9.283	105.733	1988.5	1992.5	O	
CHA PA	CPA	22.350	103.833	1955.5	1991.5	O	
DALAT	DLT	11.917	108.417	1978.5	1992.5	O	
PHUTHUY	PHU	21.033	105.967	1978.5	1993.5	O	
Western Samoa	**WS**						
APIA	API	-13.807	188.225	1905.5	1994.5	O	

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Zaire	**CG**						
BINZA	BIN	-4.267	15.367	1953.5	1973.5	U	
BUNIA	BNA	1.533	30.017			N	
ELIZABETHVILLE	ELI	-11.658	27.468	1932.9	1958.0	C	KARAVIA
KARAVIA	KVA	-11.637	27.420	1958.5	1961.3	C	
LWIRO	LWI	-2.250	28.800	1958.8	1970.5	C	

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Maps and Figures

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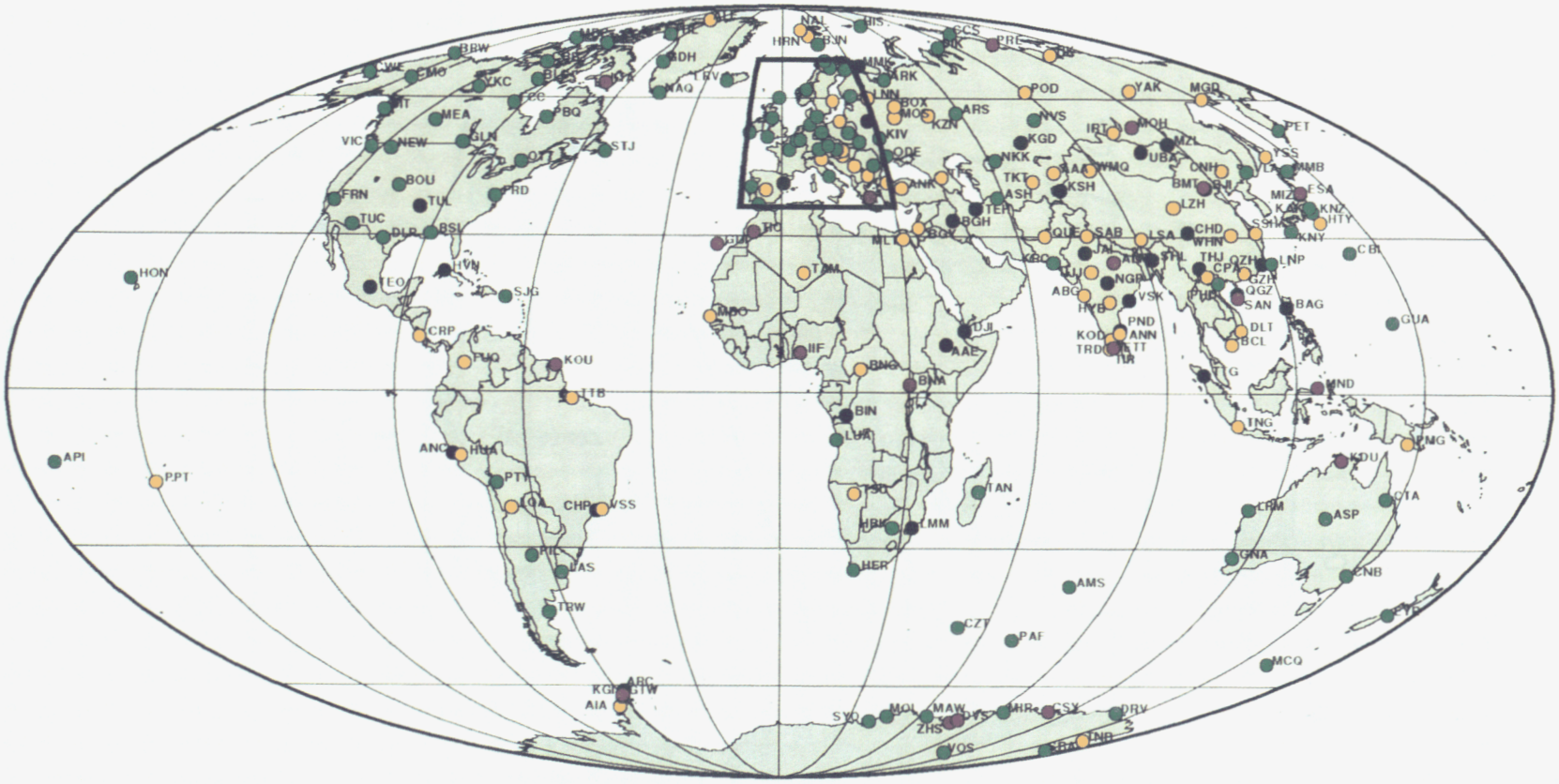
Magnetic Observatories in Operation 1995

(based on data received at the WDC-A)



- New Observatory or Variation Station
- Latest Annual Mean available - 1993 or Later
- Latest Annual Mean available - 1990 to 1992
- Operation Uncertain or Latest Annual Mean available - 1989 or Earlier

Map 1

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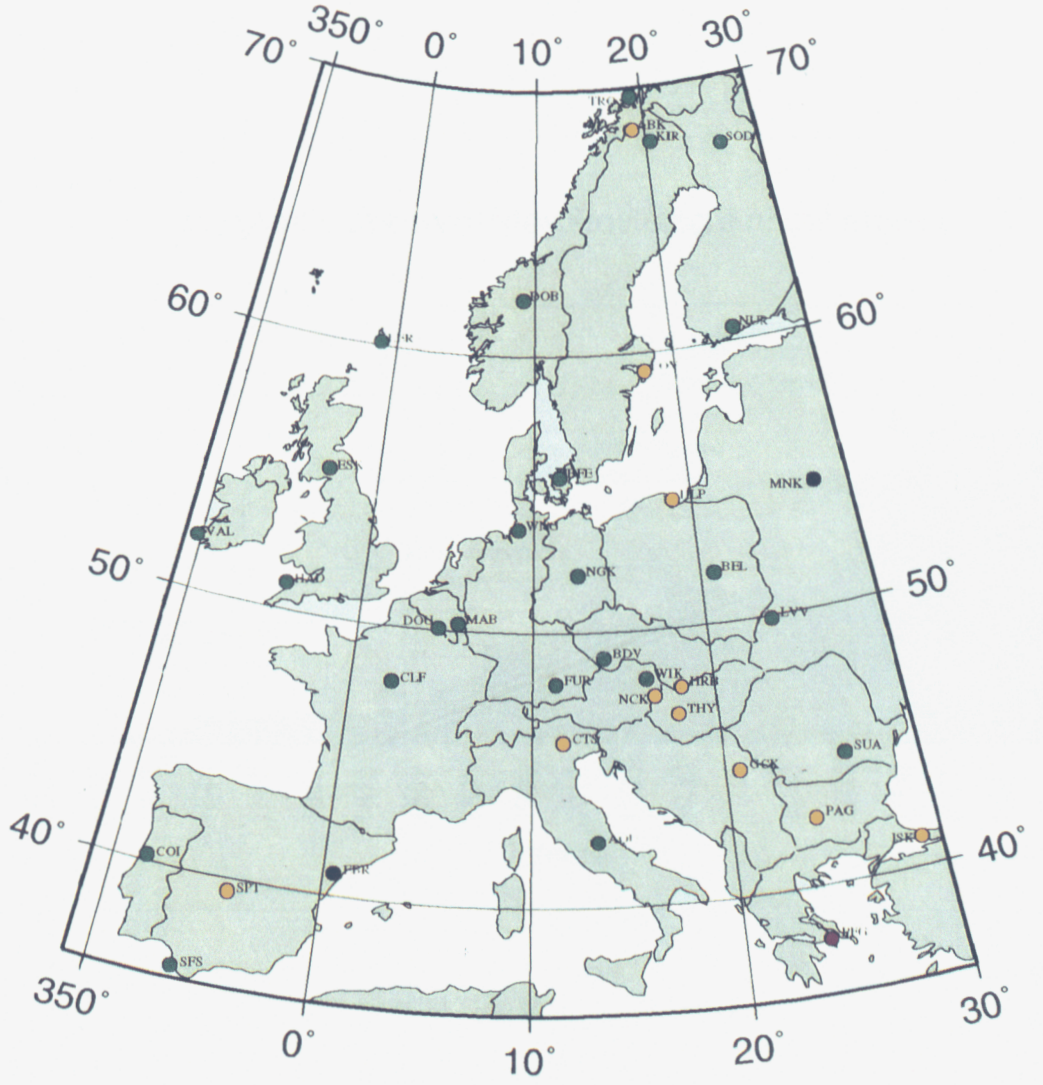
Magnetic Observatories in Operation 1995

(based on data received at the WDC-A)



Map 2

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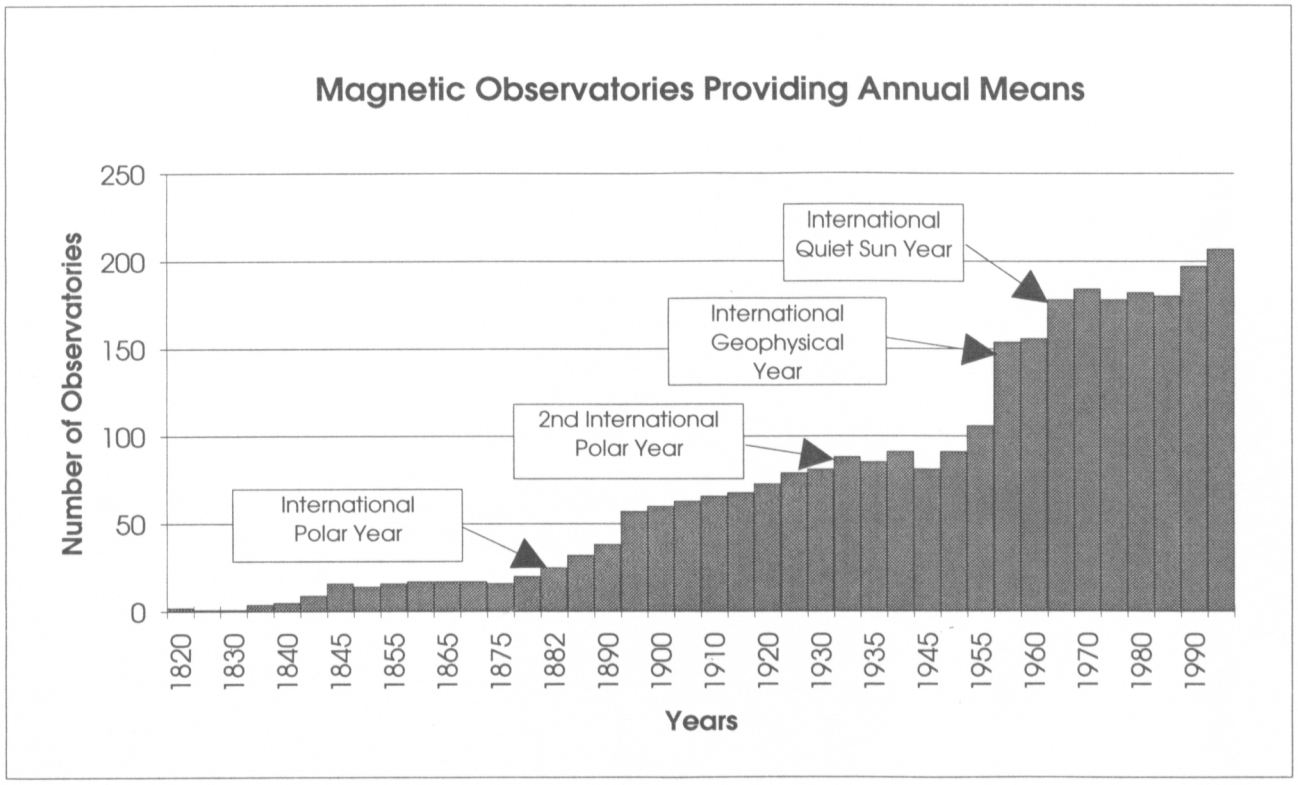
Magnetic Observatories Providing Annual Means
Number of Observatories
250
200
150
100
50
0
International Quiet Sun Year
International Geophysical Year
2nd International Polar Year
International Polar Year
1820
1830
1840
1845
1855
1865
1875
1882
1890
1900
1910
1920
1930
1935
1945
1955
1960
1970
1980
1990
Years

Figure 1

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Appendices

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Appendix 1: Addresses for Requesting Data or Information

01-May-95

World Data Centers

World Data Center A: Coordination Office
National Academy of Sciences
HA-372
2101 Constitution Avenue, NW
Washington, D.C. 20418, United States

Tel: (202) 334-2744
Fax:(202) 334-1377
Telex: unknown
Email: alinn@nas.edu

World Data Center A: Glaciology (Snow and Ice)
Cooperative Institute for Research in Environmental Sciences
University of Colorado
Boulder, CO 80309, United States

Tel: (303) 492-5171
Fax: (303) 492-2468
Telex: none
Email: nsidc@kryos.colorado.edu

World Data Center A: Marine Geology and Geophysics
National Geophysical Data Center
NOAA, E/GC3
325 Broadway
Boulder, CO 80303-3328, United States

Tel: (303) 497-6487
Fax:(303) 497-6513
Telex: 592811 NOAA MASC BDR
Email: info@ngdc.noaa.gov

World Data Center A: Meteorology
National Climatic Data Center
NOAA, E/CC
Federal Building
Asheville, NC 28801, United States

Tel: (704) 271-4682
Fax:(704) 271-4682
Telex: unknown
Email: ashumbera@ncdc.noaa.gov

World Data Center A: Oceanography
National Oceanographic Data Center
NOAA, E/OC
1825 Connecticut Avenue, NW
Universal Building, Room 406
Washington, D.C. 20235, United States

Tel: (202) 606-4507
Fax:(202) 606-4586
Telex: unknown
Email: unknown

World Data Center A: Paleoclimatology
National Geophysical Data Center
NOAA, E/GC
325 Broadway
Boulder, CO 80303-3328, United States

Tel: (303) 497-6172
Fax:(303) 497-6513
Telex: 592811 NOAA MASC BDR
Email: info@ngdc.noaa.gov

World Data Center A: Rockets and Satellites
NASA/Goddard Space Flight Center
Code 630.2
Greenbelt, MD 20771, United States

Tel: (301) 286-7354
Fax:(301) 286-0587
Telex: unknown
Email: unknown

World Data Center A: Rotation of the Earth
U.S. Naval Observatory
Washington, D.C. 20392-5100, United States

Tel: (202) 653-1529/1527
Fax:(202) 653-0587
Telex: unknown
Email: unknown

World Data Center A: Seismology
U.S. Geological Survey
Branch of Global Seismology and Geomagnetism
Box 250436, Mail Stop 967
Denver Federal Center
Denver, CO 80225, United States

Tel: (303) 236-1500
Fax:unknown
Telex: unknown
Email: filson@gldfs.cr.usgs.gov

World Data Center A: Solid Earth Geophysics
National Geophysical Data Center
NOAA, E/GC
325 Broadway
Boulder, CO 80303-3328, United States

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Fax: (303) 497-6513
Telex: 592811 NOAA MASC BDR
Email: info@ngdc.noaa.gov

World Data Center A: Solar Terrestrial Physics
National Geophysical Data Center
NOAA, E/GC
325 Broadway
Boulder, CO 80303-3328, United States

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Fax: (303) 497-6513
Telex: 592811 NOAA MASC BDR
Email: info@ngdc.noaa.gov

World Data Center B2
Russian Geophysical Committee
Academy of Sciences of Russia
Molodezhanaya 3
Moscow 117 296, Russia

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Fax:(7) 930-5509
Telex: 411 478 SGC SU
Email: sgc@adonis.iasnet.com

World Data Center C1
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Tel: (3) 45 31 29 21 00
Fax: (3) 45 31 29 34 00
Telex: 15835 GEOMI DK
Email: or@dk.min.dmi.dmicvx
Gram: METOBS

World Data Center C1 for Geomagnetism
Geomagnetism Group
British Geological Survey
Murchison House West Mains Road
Edinburgh EH9 3LA
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Tel: (031) 667-1000
Fax:(031) 668-4368
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World Data Center C2 for Geomagnetism
Data Analysis Center for Geomagnetism & Space Magnetism
Kyoto University
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Fax: 075-722-7884
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Academia Sinica
Beijing, China

Tel: 86-01-201 1118
Fax: 86-01-203 1995
Telex: none
Email: unknown

Observatories and Sponsoring Institutions

Listed by country in which observatory is located

Algeria (AG)

TAMANRASSET

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Astrophysique et Geophysique (CRAAG)
B.P. 63 Bouzareah
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Telex: 53 337 CRAAG DZ
Email: unknown

TAMANRASSET

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Tamanrasset, Algeria

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Telex: unknown
Email:unknown

Angola (AO)

LUANDA BELAS

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Antarctica (AY)

MAWSON

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Gram: BUROMIN

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Telex: 2723515 POL RSC J
Email: unknown
Gram: POLARESEARCH TOKYO

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Wellington, New Zealand

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Christchurch 9, New Zealand

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Telex: unknown
Email: geoserve@equinox.gen.nz
Alt. Tel: (64) 03-383-1936

ARCTOWSKI

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Alt. Tel: (22) 37 05 22/37 05 24

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Telex: 121423 NILAS SU
Email:olegtro@geophys.spb.su

ARGENTINE (FARADAY) ISLANDS

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Geospace Research Group
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England, United Kingdom

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Telex: 817725 BASCAM G
Email: unknown

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State University of New York at Albany
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Telex: unknown

Argentina (AR)

LA QUIACA
PILAR

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Centro de Geofisica
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Buenos Aires 1427, Argentina

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Fax: (54) 311-3968
Telex: unknown
Email: unknown

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Trelew 9100, Argentina

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Telex: unknown
Email:unknown

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TRELEW

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Universidad Nacional de La Plata
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Telex: unknown
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LA QUIACA
PILAR

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Email: unknown

Australia (AS)

ALICE SPRINGS
CANBERRA
CHARTERS TOWERS
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MACQUARIE ISLAND

Dr. Peter Hopgood
Division of Geophysical Observatories & Mapping
Australian Geological Survey Organisation
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Gram: BUROMIN

GNANGARA

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Austria (AU)

WIEN KOBENZL

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Fax: unknown
Telex: 131837 A METW A
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Belgium (BE)

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Tel: 0032 (60) 399311/12
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Bolivia (BL)

PATACAMAYA

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Universidad Mayor de San Andres
Casilla 8635
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Fax: (591) 2-792-622
Telex: unknown
Email: unknown

Brazil (BR)

TATUOCA
VASSOURAS

Dr. Luiz Muniz Barreto
CNPq - Observatorio Nacional
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Fax: (21) 580-6071/0332
Telex: (21) 21288
Email:barreto@on.br
Bitnet: OGG3@LNCC

TATUOCA

Dr. Jose Teotonio Ferreira
Observatorio Magnetico de Tatuoca
C.P. No. 469
66,000 Belem - Para, Brazil

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Telex: unknown
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TATUOCA
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04510 Mexico, DF, Mexico

Tel: 52-5-622-4149
Fax: 52-5-550-2486
Telex: unknown
Email:muniz@tonatiuh.igeofcu.unam.mx
(This address is only in effect during 1995.)

Bulgaria (BU)

PANAGYURISHTE

Dr. I. Butchvarov
Geophysical Institute
Akad.
G. Bonchev Str., Block 3
Sofia 1113, Bulgaria

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Fax: (02) 70 02 26
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Email: unknown

Byelarus (BQ)

PLESHENITZI (MINSK)

Dr. Y. Kharin, Director
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Molodezhanaya 3
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Fax: (7) 930-5509
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Email: sgc@adonis.iasnet.com

Canada (CA)

ALERT
BAKER LAKE
CAMBRIDGE BAY
FORT CHURCHILL
GLENLEA
MEANOOK
MOULD BAY
OTTAWA
POSTE-DE-LA-BALEINE
RESOLUTE BAY
SAINT JOHNS
VICTORIA
YELLOWKNIFE

Dr. Gerrit Jansen van Beek
Geological Survey of Canada
Natural Resources Division
1 Observatory Crescent
Ontario K1A 0Y3, Canada

Tel: (613) 837-1067
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Telex: 533117
Email: vanbeek@geolab.emr.ca
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Central African Republic (CT)

BANGUI

Dr. P. Barral, Directeur
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ORSTOM
B.P. 893
Bangui, Central African Republic

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ORSTOM
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F-93143 Bondy-Cedex, France

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China (CH)

BEIJING MING TOMBS
MO HE

Dr. Xu Wen Yao, Director
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Chinese Academy of Sciences
Beijing 100101, China

Tel: 86-01-201-1118
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Telex: unknown
Email:unknown

BEIJING
CHANGCHUN (HELONG)
GUANGZHOU
LANZHOU
LHASA
SHESHAN
URUMQI
WUHAN

Colleague
Institute of Geophysics Information Services
State Seismological Bureau
No. 5 Minzuxueyuan
Haidian District
Beijing 100081, China

Tel: (01) 841-7744
Fax: (01) 861-5372
Telex: unknown
Gram: 3803
Email:unknown

CHENGDU
KASKI
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Colombia (CO)

FUQUENE

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Unidad de Geofisica
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Costa Rica (CS)

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Cuba (CU)

CENTRO GEOFISICO

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Cuban Academy of Sciences
Calle 212 No. 2906 e/ 29 y 31
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Czech Republic (EZ)

BUDKOV

Dr. M. Konecny
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11431 Prague 4 - Sporilov, Czech Republic

Tel: (2) 761941-1/762541-5
Fax: unknown
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Denmark (DA)

BRORFELDE

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Djibouti (DJ)

DJIBOUTI

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Departement des Observatoires
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Tel: (33) 44 27 49 27
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Egypt (EG)

MISALLAT

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National Research Institute of Astronomy & Geophysics
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Ethiopia (ET)

ADDIS ABABA

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Telex: 21205 AAUNIV
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Finland (FI)

NURMIJARVI

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SODANKYLA

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France (FR)

CHAMBON-LA-FORET

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French Guiana (FG)

KOUROU

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French Southern and Antarctic Lands (FS)

DUMONT D'URVILLE
MARTIN DE VIVIES
PORT ALFRED
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Georgian Republic (GG)

DUSHETI

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Telex: 02 11 138 bsh hh-d
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Gram: HYDRODIENST HAMBU

WINGST

Dr. Gunter Schulz
Neue Behordenbezeichnung
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Tel: (49) 4778/4306
Fax: unknown
Telex: unknown
Email: unknown

Greece (GR)

PENDELI

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Magnetic Observatory of Pendeli
Institute of Geology and Mineral Exploration
70 Messoghion Street
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Tel: (01) 77 79 420
Fax: (01) 7752211
Telex: 21 6357 IGME GR
Email: unknown

Greenland (GL)

GODHAVN

NARSSARSSUAQ

THULE (QANAQ)

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Telex: 15835 GEOMI DK
Email: or@dmi.min.dk
Gram: METOBS
Alt. Telex: 27138 METOBS

Guam (GQ)

GUAM

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Telex: 5106014123
Email: herzog@gldfs.cr.usgs.gov

GUAM

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Fax: unknown
Telex: unknown
Email: unknown

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Telex: unknown
Email: unknown

Appendix 2: Sample Data Report: WDC-A Observatory Annual Means

Station Name: San Juan **IAGA Code:** SJG **Country:** Puerto Rico (RQ)
Sponsoring Institution: U.S. Geological Survey

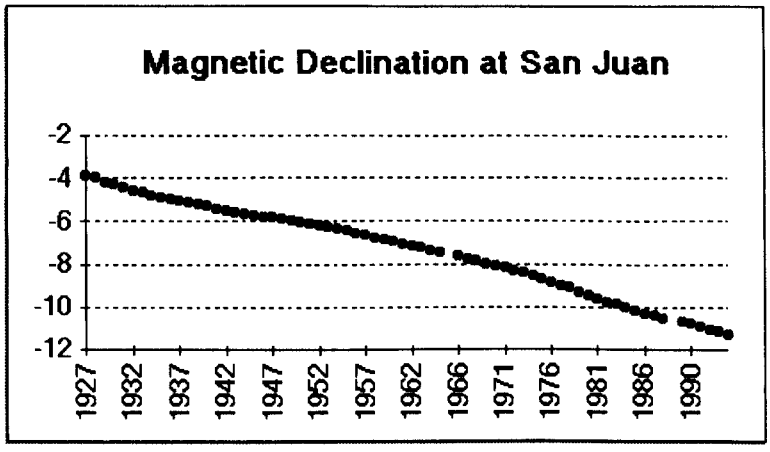
Latitude: 18.382 **Longitude:** 293.882 **Elevation (m):** 100 **Elements Measured:** DHZ

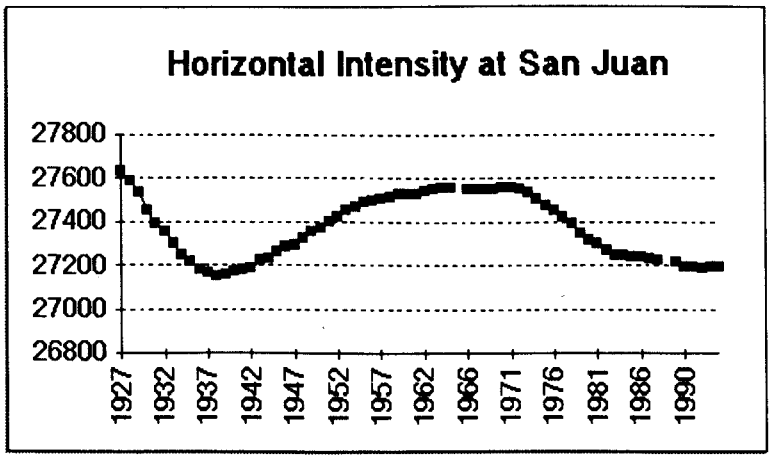
Year	Type	D	I	H	X	Y	Z	F	Note
1926.5	A	-4.352	52.176	27742.0	27662.0	-2105.0	35734.0	45239.0	
1927.5	A	-4.435	52.230	27700.0	27617.0	-2142.0	35750.0	45226.0	
1928.5	A	-4.592	52.362	27645.0	27556.0	-2213.0	35848.0	45269.0	
1929.5	A	-4.698	52.457	27559.0	27466.0	-2257.0	35859.0	45226.0	
1930.5	A	-4.840	52.522	27503.0	27405.0	-2321.0	35870.0	45200.0	
1931.5	A	-4.985	52.547	27460.0	27356.0	-2386.0	35847.0	45156.0	
1932.5	A	-5.110	52.570	27409.0	27300.0	-2441.0	35811.0	45096.0	
1933.5	A	-5.217	52.620	27356.0	27243.0	-2487.0	35806.0	45060.0	
1934.5	A	-5.328	52.673	27326.0	27208.0	-2538.0	35836.0	45066.0	
1935.5	A	-5.417	52.738	27290.0	27168.0	-2576.0	35873.0	45073.0	
1936.5	A	-5.493	52.785	27275.0	27150.0	-2611.0	35914.0	45097.0	
1937.5	A	-5.560	52.828	27261.0	27133.0	-2641.0	35953.0	45120.0	
1938.5	A	-5.638	52.857	27264.0	27132.0	-2679.0	35992.0	45153.0	
1939.5	A	-5.727	52.857	27279.0	27143.0	-2722.0	36014.0	45179.0	
1940.5	A	-5.808	52.853	27288.0	27148.0	-2762.0	36020.0	45189.0	
1941.5	A	-5.892	52.837	27295.0	27151.0	-2802.0	36008.0	45184.0	
1942.5	A	-5.970	52.772	27333.0	27185.0	-2843.0	35973.0	45179.0	
1943.5	A	-6.047	52.717	27345.0	27193.0	-2880.0	35917.0	45142.0	
1944.5	A	-6.125	52.652	27373.0	27217.0	-2921.0	35870.0	45121.0	
1945.5	A	-6.193	52.595	27397.0	27237.0	-2956.0	35827.0	45102.0	
1946.5	A	-6.238	52.547	27406.0	27244.0	-2978.0	35776.0	45067.0	
1947.5	A	-6.298	52.462	27433.0	27267.0	-3010.0	35701.0	45024.0	
1948.5	A	-6.367	52.365	27460.0	27291.0	-3045.0	35613.0	44970.0	
1949.5	A	-6.435	52.272	27482.0	27309.0	-3080.0	35521.0	44911.0	
1950.5	A	-6.505	52.178	27509.0	27332.0	-3116.0	35438.0	44862.0	
1951.5	A	-6.580	52.087	27532.0	27351.0	-3155.0	35349.0	44806.0	
1952.5	A	-6.662	51.978	27558.0	27372.0	-3197.0	35247.0	44741.0	
1953.5	A	-6.755	51.877	27580.0	27389.0	-3244.0	35144.0	44674.0	
1954.5	A	-6.853	51.777	27599.0	27402.0	-3293.0	35042.0	44605.0	
1955.5	A	-6.962	51.682	27607.0	27403.0	-3346.0	34933.0	44525.0	
1956.5	A	-7.073	51.595	27612.0	27402.0	-3400.0	34832.0	44449.0	
1957.5	A	-7.185	51.495	27624.0	27407.0	-3455.0	34722.0	44370.0	
1958.5	A	-7.297	51.397	27639.0	27415.0	-3510.0	34618.0	44298.0	
1959.5	A	-7.400	51.308	27640.0	27410.0	-3560.0	34513.0	44217.0	
1960.5	A	-7.498	51.225	27638.0	27402.0	-3607.0	34406.0	44132.0	
1961.5	A	-7.597	51.110	27654.0	27411.0	-3656.0	34284.0	44047	
1962.5	A	-7.700	50.983	27662.0	27413.0	-3706.0	34141.0	43941.0	
1963.5	A	-7.820	50.858	27665.0	27408.0	-3764.0	33993.0	43828.0	
1964.5	A	-7.938	50.732	27668.0	27403.0	-3821.0	33842.0	43713.0	

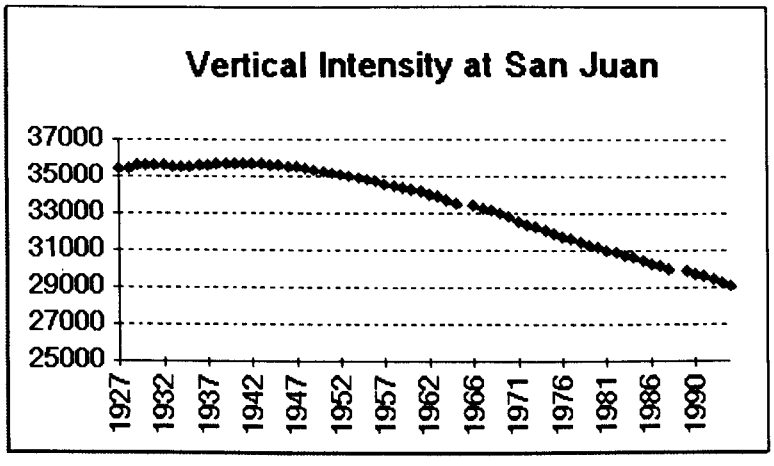
Latitude: 18.113 **Longitude:** 293.850 **Elevation (m):** 400 **Elements Measured:** DHZF

Year	Type	D	I	H	X	Y	Z	F	Note
1965	J	0.403	-0.102	-110.0	-83.0	207.0	-257.0	-265.0	1
1965.5	A	-7.673	50.513	27550.0	27303.0	-3679.0	33438.0	43326.0	
1966.5	A	-7.790	50.383	27551.0	27297.0	-3734.0	33286.0	43209.0	
1967.5	A	-7.897	50.248	27553.0	27292.0	-3785.0	33129.0	43089.0	
1968.5	A	-8.007	50.104	27553.0	27284.0	-3837.0	32958.0	42958.0	
1969.5	A	-8.103	49.937	27560.0	27285.0	-3884.0	32771.0	42819.0	
1970.5	A	-8.213	49.773	27558.0	27275.0	-3936.0	32579.0	42671.0	
1971.5	A	-8.326	49.621	27552.0	27262.0	-3990.0	32398.0	42529.0	
1972.5	A	-8.448	49.495	27533.0	27234.0	-4045.0	32231.0	42390.0	
1973.5	A	-8.573	49.381	27505.0	27198.0	-4100.0	32069.0	42249.0	
1974.5	A	-8.705	49.274	27474.0	27158.0	-4158.0	31912.0	42109.0	
1975.5	A	-8.840	49.156	27450.0	27124.0	-4218.0	31752.0	41973.0	
1976.5	A	-8.988	49.051	27419.0	27082.0	-4284.0	31599.0	41837.0	
1977.5	A	-9.140	48.947	27388.0	27040.0	-4351.0	31447.0	41702.0	
1978.5	A	-9.295	48.868	27343.0	26984.0	-4416.0	31309.0	41568.0	
1979.5	A	-9.448	48.758	27318.0	26947.0	-4484.0	31159.0	41439.0	
1980.5	A	-9.603	48.642	27299.0	26916.0	-4554.0	31010.0	41314.0	
1981.5	A	-9.757	48.552	27269.0	26875.0	-4621.0	30877.0	41195.0	
1982.5	A	-9.899	48.458	27246.0	26840.0	-4683.0	30749.0	41083.0	
1983.5	A	-10.051	48.317	27245.0	26827.0	-4754.0	30597.0	40969.0	
1984.5	A	-10.183	48.181	27240.0	26811.0	-4816.0	30446.0	40853.0	
1985.5	A	-10.313	48.048	27240.0	26800.0	-4877.0	30305.0	40748.0	
1986.5	A	-10.430	47.922	27229.0	26779.0	-4930.0	30158.0	40631.0	
1987.5	A	-10.550	47.782	27228.0	26768.0	-4985.0	30009.0	40520.0	
1988	J	-0.003	-0.005	-1.0	-1.0	-1.0	-7.0	-6.0	2
1988.5	A	-10.673	47.667	27213.0	26742.0	-5040.0	29871.0	40408.0	
1989.5	A	-10.800	47.550	27196.0	26714.0	-5096.0	29731.0	40293.0	
1990.5	A	-10.923	47.410	27195.0	26702.0	-5153.0	29585.0	40185.0	
1991.5	A	-11.050	47.280	27185.0	26681.0	-5211.0	29439.0	40071.0	
1992.5	A	-11.168	47.122	27192.0	26677.0	-5267.0	29284.0	39962.0	
1993.5	A	-11.285	46.963	27194.0	26668.2	-5321.6	29124.0	39846.0	

Notes: 1 OBSERVATORY MOVED TO NEW SITE ABOUT 24 KM AWAY IN 1965.
2 1987/8 ADJUSTMENT TO CALIBRATION DATA FROM 1988 JAN 1 ONWARDS


Magnetic Declination at San Juan
-2
-4
-6
-8
-10
-12
1927
1932
1937
1942
1947
1952
1957
1962
1966
1971
1976
1981
1986
1990


Horizontal Intensity at San Juan
27800
27600
27400
27200
27000
26800
1927
1932
1937
1942
1947
1952
1957
1962
1966
1971
1976
1981
1986
1990


Vertical Intensity at San Juan
37000
35000
33000
31000
29000
27000
25000
1927
1932
1937
1942
1947
1952
1957
1962
1966
1971
1976
1981
1986
1990

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Appendix 3: The World Data Center System

DESCRIPTION OF WORLD DATA CENTERS

The World Data Centers (WDCs) were created in 1957 to provide archiving for the observational data resulting from the International Geophysical Year (IGY). In the years following the IGY, the International Council of Scientific Unions (ICSU) recommended that the WDCs continue to collect, archive, and redistribute data. This new system for exchanging geophysical data was found to be very effective, and the operations of the WDCs were extended by ICSU on a continuing basis to other international programs. The WDCs were under the supervision of the Comite International de Geophysique for the period 1960 through 1967 and are now supervised by the ICSU Panel on World Data Centres.

World Data Centers have been established in a variety of countries: WDC-A is located in the USA; WDC-B in Russia; WDC-C in western Europe, Australia, and Japan; and, WDC-D in the People's Republic of China. The Centers collect and distribute data for a number of disciplines:

- ⇨ meteorology
- ⇨ oceanography
- ⇨ astronomy
- ⇨ rockets and satellites
- ⇨ solar-terrestrial physics: solar and interplanetary phenomena, ionospheric phenomena, flare-associated events, geomagnetic phenomena, aurora, cosmic rays, airglow
- ⇨ nuclear radiation
- ⇨ glaciology (snow and ice) and geocryology
- ⇨ marine geology and geophysics: gravity, magnetics, bathymetry, seismic profiles, marine sediment, rock analyses
- ⇨ solid earth geology and geophysics: seismology, tsunamis, gravimetry, Earth tides, recent movements of Earth's crust, Earth's rotation, magnetic measurements, paleomagnetism and archaeomagnetism, volcanology, geothermics
- ⇨ renewable resources and environment

In each discipline, the scientific community determines the nature and form of data exchange, based on research needs. Thus, the type and amount of data in the WDCs differ from discipline to discipline. However, each WDC is responsible for:

- ✓ collecting data in the field or discipline for which it is responsible
- ✓ protecting the incoming data
- ✓ copying and reproducing data, maintaining adequate standards of clarity and durability
- ✓ supplying copies of data to other WDCs
- ✓ preparing catalogs of data
- ✓ making data available to the scientific community.

All the Centers are staffed, funded, and maintained exclusively by the countries in which they are located. The WDCs catalog the data and make them available to scientists in all countries upon written request or personal visit. Minimal charges may be requested to cover costs of processing the requested data.

WORLD DATA CENTER-A

World Data Center-A was established in the United States under the auspices of the National Academy of Sciences. WDC-A is operated with national resources, but follows ICSU guidelines. The National Academy of Sciences has overall responsibility through the Geophysics Research Forum and its Committee on Geophysical Data. WDC-A consists of a Coordination Office and nine sub-centers at scientific institutions in various parts of the United States. Most WDC-A sub-centers are at corresponding national data centers, whose large national collections are available through the WDC-A sub-centers.

Organizations wishing to contribute data or establish exchange agreements should contact the appropriate World Data Center-A. Contact information begins on page 73.

WDC-A FOR SOLID EARTH GEOPHYSICS: REPORTS

World Data Center-A for Solid Earth Geophysics has a variety of reports related to its activities. This publication, SE-53, *A Report on Geomagnetic Observatories, 1995*, is one in a series. For information about the other publications (listed below), contact:

World Data Center-A for Solid Earth Geophysics
National Geophysical Data Center
NOAA, Code E/GC1
325 Broadway
Boulder, Colorado 80303-3328, U.S.A.

Telephone: 303-497-6277
Fax: 303-497-6513
Telex: 592811 NOAA MASC BDR
Email: info@ngdc.noaa.gov

SE-1 Catalog of Tsunamis in Alaska
SE-2 Geodynamics International-9
SE-3 Summary of Earthquake Focal Mechanisms for the Western Pacific-Indonesian Region, 1929-1973
SE-4 Catalog of Tsunamis in Hawaii
SE-5 Geodynamics International-10
SE-6 Catalog of Seismograms and Strong-Motion Records
SE-7 Directory of Seismograph Stations

SE-8 Survey of Practice in Determining Magnitudes of Near Earthquakes, Part 2: Europe, Asia, Africa, Australia, the Pacific
SE-9 Survey of Practice in Determining Magnitudes of Near Earthquakes, Part 1: North, Central, and South America
SE-10 Geodynamics International-11
SE-11 The Information Explosion and Its Consequences for Data Acquisition, Documentation, and Processing: An Additional Aspect of the Limits to Growth
SE-12 Geodynamics International-12
SE-13 Bibliography of Statistical Aspects of Seismicity
SE-14 Directory of U.S. Data Repositories Supporting the International Geodynamics Project
SE-15 Geodynamics International-13
SE-16 Geodynamics International-14
SE-17 Annual Mean Values of Geomagnetic Components for Selected Observatories, 1940-1973
SE-18 Homogenous Magnitude System of the Eurasian Continent: P-Waves
SE-19 Geodynamics International-15
SE-20 Manual of Seismological Practice
SE-21 Geomagnetic Observatories, 1978
SE-22 Historical Seismogram Filming Project: First Progress Report
SE-23 Geodynamics International-16
SE-24 Historical Seismogram Filming Project: Second Progress Report
SE-25 Directory of World Seismograph Stations, Volume 1. The Americas-Part 1. United States, Canada, Bermuda
SE-26 Geodynamics International-17: Final Report
SE-27 Catalog of Significant Earthquakes, 2000 B.C.-1979
SE-28 Historical Seismogram Filming Project: Third Progress Report
SE-29 Strong-Motion Data from Japanese Earthquakes
SE-30 Progress Report on Selected Geophysical Activities of the United States, 1977-1981
SE-31 New Catalog of Strong Earthquakes in the U.S.S.R. from Ancient Times through 1977
SE-32 Directory of World Digital Seismic Stations
SE-33 Historical Seismogram Filming Project: Fourth Progress Report
SE-34 Homogeneous Magnitude System of the Eurasian Continent: S and L Waves
SE-35 Documentation of Earthquake Algorithms
SE-36 Catalog of Submarine Volcanoes and Hydrological Phenomena Associated with Volcanic Events: 1500 B.C. to December 31, 1899
SE-37 Inventory of Filmed Historical Seismograms and Station Bulletins at World Data Center-A
SE-38 Catalog of Strong-Motion Accelerograph Records
SE-39 Tsunamis in Peru-Chile
SE-40 Earthquake Catalog for the Middle East Countries 1900-1983
SE-41 Directory of World Seismograph Stations, Volume II. East Asia-China, Japan, Korea, and Mongolia
SE-42 Catalog of Submarine Volcanoes and Hydrological Phenomena Associated with Volcanic Events: January 1, 1900 to December 31, 1959
SE-43 A Directory of Geomagnetic Observatories with Digital Recording Magnetometers, 1987
SE-44 Directory of Data Sources for Lithospheric Investigations, Volume 1
SE-45 A Report on Geomagnetic Observatory Operations, 1990

SE-46 Enhancement of Earth Science Research and Educational Capabilities in the Developing Nations through the Use of Compact Disc Technology; Report on the Pilot Project

SE-47 Global Change Data Base: Pilot (Diskette) Project for Africa; Data Base Documentation, Version 1.1

SE-48 Global Change Data Base: Training Exercise Manual; Exploring Earth's Environment, Africa as an Example

SE-49 Catalog of Significant Earthquakes, 2150 B.C.-1991 A.D., Including Quantitative Casualties and Damage

SE-50 Catálogo de Tsunamis (Maremotos) en la Costa Occidental de México (Catalog of Tsunamis on the Western Coast of Mexico). In Spanish and English.

SE-51 Bibliography of Historical Geomagnetic Main Field Survey and Secular Variation Reports at the World Data Center-A for Solid Earth Geophysics

SE-52 A Report on Geomagnetic Observatories and Observations, 1994

SE-53 A Report on Geomagnetic Observatories, 1995

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