

**WORLD DATA CENTER-A
for
Solid Earth Geophysics**



**A REPORT ON
GEOMAGNETIC OBSERVATORIES
AND
OBSERVATIONS,
1994**

March 1994



NATIONAL GEOPHYSICAL DATA CENTER

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by

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

March 1994

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NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE
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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
INTERMAGNET	International Real-Time Geomagnetic Observatory Network
IUGG	International Union of Geology and Geophysics
NGDC	National Geophysical Data Center (NOAA)
NOAA	National Oceanic and Atmospheric Administration
STEP	Solar-Terrestrial Energy Program
STP	Solar-Terrestrial Physics
WDC	World Data Center
WG V-4	Working Group 4 of IAGA Division V

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A Report on Geomagnetic Observatories and Observations, 1994

by

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

Recent years have seen dramatic changes in our world. Countries have dissolved and new ones emerged. The same can be said of the geomagnetic observatory network worldwide. Some observatories have been closed, some have been renamed or relocated, and some new observatories have been established. The present status of the geomagnetic observatory network is of interest to the research community and to many observatory operators who need access to data from other regions. To make data more accessible to the international scientific community, most of the world's observatories have been very generous in making their data available through the World Data Center system.

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. Because of the importance of higher resolution observatory data and the need to fill the gaps between magnetic observatories with good magnetic repeat observations, we have expanded the report. Tables 1 and 2 contain information on the current magnetic observatory network, based on annual means data received at WDC-A. Table 3 shows the availability of digital high-resolution data at WDC-A, while Tables 4 and 5 give an historic look at the magnetic observatory network. Table 6 summarizes the repeat station data efforts of IAGA Division V Working Group 8, Analysis of the Global and Regional Geomagnetic Field and its Secular Variation (formerly WG V-4 Magnetic Surveys and Charts) (Newitt, 1993).

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 traditionally been the magnetogram. This is changing 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 mean data are crucial to the studies of secular change, investigations into the Earth's interior, and to global modeling efforts.

For the purpose of global modeling of Earth's magnetic field, probably the greatest weakness in the means data base comes from the uneven geographical distribution of observatories. Observatories are currently limited to land areas. Neither the land mass available, nor the distribution of observatories on land are evenly distributed geographically. Maps 1 and 2 show the locations of observatories, color coded by the timeliness of the annual means available from the

World Data Centers. It is clear that the majority of observatories producing annual means as well as the majority of current means are located in the Northern Hemisphere. This problem is not a new one (see Map 3 showing the location of observatories since 1818). A variety of methods are presently being investigated to help alleviate this—from the formation of regional committees to foster cooperation among observatories, to research into magnetometers which will operate on the ocean bottom. The effects of these efforts are already being felt in the increased flow of information and data from Latin America. The U.S. Geodynamics Committee, Board on Earth Sciences and Resources, Commission on Geosciences, Environment and Resources of the National Research Council, formed a task group to consider the distribution of magnetic observatory sites, uses of data, rapid transmission to Data Centers, and management and funding problems. The task group will issue a report in May of 1994 (personal communication, J. Heirtzler, chairman Task Group for Geomagnetic Observatories). Other data problems are being addressed through IAGA's Program Outreach (Williams, 1993), and the efforts of STEP and INTERMAGNET to establish new observatory and variation sites. Appendix I contains the names and addresses for organizations managing observatories. Where available, electronic mail addresses are included.

While possibly the best method of mapping the secular change in the magnetic field is with traditional magnetic observatory data, as shown in Map 1, observatory data is not always available. Carefully carried out magnetic repeat observations play an important role in filling the gaps between observatories. With this in mind, IAGA adopted a scheme for classifying and reporting magnetic repeat station data at the General Assembly in Exeter in July 1989. The scheme was designed to ensure regular reporting of repeat station data to the World Data Centers by using a standardized form and including sufficient information about the data collection and reduction for the data to be useful in magnetic field modeling. This work was undertaken by the Working Group V-4, Magnetic Surveys and Charts, with the data being forwarded to the World Data Center-A for Solid Earth Geophysics as the primary archive and dissemination center. In 1993, L. R. Newitt, Geological Survey of Canada, compiled and published *A Catalog of National Magnetic Surveys and Charts* describing surveying and charting activities globally. It is not the intention of this report to repeat the work of this catalog, but rather to briefly describe the status of data received at the WDC-A as a result of the efforts of WG V-4. Table 6 and Map 5 show the type and location of repeat observations at the WDC-A.

Finally, in an effort to illustrate the changes in the global network with time, Tables 4 and 5 and Figure 1 give an historical look at magnetic observatories producing annual means from 1818 to the present. Table 4 lists observatories by country, showing the years of annual means available and links to earlier and later observatories. Table 5 is a comprehensive listing of all magnetic observatories showing the location, station and IAGA code. Figure 1 depicts the changes in the number of magnetic observatories in operation with time. This illustration is loosely based on work previously done by S.R.C. Malin and D. Gubbins, but is created from the annual means data available from WDC-A.

While every effort has been made to ensure the information in this report is accurate, some errors may be 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 available in computer readable form on floppy diskette. If you would like a copy, please contact Susan McLean:

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

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References

Newitt, L.R., IAGA Working Group V-4, *A Catalog of National Magnetic Surveys and Charts*, Geological Survey of Canada Open File Report No. 2751, 1993.

Williams, D.J., "IAGA Announces Program Outreach," *EOS, Transactions, American Geophysical Union*, V. 74, No. 3, p. 34, January 19, 1993.

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Tables

Table 1: Notes on Observatories in Operation
Sorted by Country / Region

Country / Region		FIPS Country Code		Notes on operation	
Observatory		Annual Means			
IAGA Code	Status*	First Year	Latest Year		
<u>ALGERIA</u>		<u>AG</u>			
TAMANRASSET		Operations improving with assistance from France.			
TAM	O	1932.6	1991.5		
<u>ANGOLA</u>		<u>AO</u>			
LUANDA BELAS		No new data since 1989, delay unknown. No response to inquiries.			
LUA	O	1954.5	1989.2		
<u>ARGENTINA</u>		<u>AR</u>			
CACHOEIRA PAULIS		Station was to open 1987. No data yet, status unknown.			
CHP	U				
LA QUIACA		Last k indicies received - 1993.			
LQA	O	1942.5	1989.5		
LAS ACACIAS		Data 1988-1992 expect 1994.			
LAS	O	1964.5	1987.5		
PILAR		Last means received 1989. Operational status uncertain.			
PIL	U	1905.5	1989.5		
TRELEW		Data for 1990-91 expect 1994. K values for 1990. Belgium assisting.			
TRW	O	1957.8	1989.5		
<u>AUSTRALIA</u>		<u>AS</u>			
ALICE SPRINGS		Opened June 1992, no data at WDC yet.			
ASP	N	1992.0			
CANBERRA		Per request Australian GSO 3/93 code changed from CAN to CNB			
CNB	O	1979.5	1991.5		
CASEY		Data considered of variation quality.			
CSY	O	1978.5	1991.5		
CHARTERS TOWERS		Station opened in 1984.			
CTA	O	1984.5	1991.5		
DAVIS		Data considered of variation quality.			

* Station status: O=Operating, N=New, U=Uncertain

Country / Region		FIPS Country Code				Notes on operation
Observatory						
IAGA Code	Status*	Annual Means		First Year	Latest Year	
DVS	O	1979.4	1991.5			
GNANGARA						
GNA	O	1957.5	1991.5			
KAKADU						
KDU	N	1995.0				Proposed observatory near Darwin, Australia to open ~1995
LEARMONTH						
LRM	O	1987.5	1991.5			
MACQUARIE ISLAND						
MCQ	O	1911.9	1991.5			
MAWSON						
MAW	O	1955.8	1991.5			
 <u>AUSTRIA</u>						
						<u>AU</u>
WIEN KOBENZL						
WIK	O	1955.5	1991.5			
 <u>BELARUS</u>						
						<u>BO</u>
PLESHENITZI						(Minsk) operating but not sending data to WDC-B. Last means 1989.
MNK	O	1961.5	1989.5			
 <u>BELGIUM</u>						
						<u>BE</u>
DOURBES						
DOU	O	1952.5	1991.5			
MANHAY						
MAB	O	1932.5	1990.5			
 <u>BOLIVIA</u>						
						<u>BL</u>
PATACAMAYA						Expect 1991-92 means. Assistance from Germany improving operation
PTY	O	1983.5	1984.5			
 <u>BRAZIL</u>						
						<u>BR</u>
TATUOCA						

* Station status: O=Operating, N=New, U=Uncertain

Country / Region		FIPS Country Code		Notes on operation
Observatory IAGA Code	Status*	Annual Means First Year Latest Year		
TTB	O	1957.8	1991.5	
VASSOURAS				
VSS	O	1915.5	1990.5	
<u>BULGARIA</u>		<u>BU</u>		
PANAGYURISHTE		Digital recording system from Germany.		
PAG	O	1948.5	1991.5	
<u>CANADA</u>		<u>CA</u>		
ALERT		Annual Means at WDC-A, high resolution data available from CGS.		
ALE	O	1961.9	1988.5	
BAKER LAKE		Annual Means at WDC-A, high resolution data available from CGS.		
BLC	O	1951.6	1991.5	
CAMBRIDGE BAY		Annual Means at WDC-A, high resolution data available from CGS.		
CBB	O	1972.5	1991.5	
FORT CHURCHILL		Annual Means at WDC-A, high resolution data available from CGS.		
FCC	O	1957.8	1991.5	
GLENLEA		Annual Means at WDC-A, high resolution data available from CGS.		
GLN	O	1982.5	1990.5	
MEANOOK		Annual Means at WDC-A, high resolution data available from CGS.		
MEA	O	1916.8	1991.5	
MOULD BAY		Annual Means at WDC-A, high resolution data available from CGS.		
MBC	O	1962.8	1991.5	
OTTAWA		Annual Means at WDC-A, high resolution data available from CGS.		
OTT	O	1968.7	1991.5	
POSTE-DE-LA-BALEINE		Annual Means at WDC-A, high resolution data available from CGS.		
PBQ	O	1985.5	1990.5	
RESOLUTE BAY		Annual Means at WDC-A, high resolution data available from CGS.		
RES	O	1952.5	1991.5	
SAINT JOHNS		Annual Means at WDC-A, high resolution data available from CGS.		
STJ	O	1977.0	1991.5	
VICTORIA		Annual Means at WDC-A, high resolution data available from CGS.		
VIC	O	1956.6	1991.5	

* Station status: O=Operating, N=New, U=Uncertain

Country / Region		FIPS Country Code		Notes on operation
Observatory	Status*	Annual Means		
IAGA Code		First Year	Latest Year	
YELLOWKNIFE		Annual Means at WDC-A, high resolution data available from CGS.		
YKC	O	1975.5	1990.5	
<u>CENTRAL AFRICAN REPUBLIC</u>		<u>CT</u>		
BANGUI				
BNG	O	1952.4	1990.5	
<u>CHINA</u>		<u>CH</u>		
BEIJING		No new data received since 1988. Not the same station as BMT.		
BJI	O	1957.5	1988.5	
BEIJING MING TOMBS		Digital station, first data for 1991 expected soon.		
BMT	N			
CHANGCHUN (HELONG)		1979 - locations confirmed by station. No new data since 1988.		
CNH	O	1979.5	1988.5	
CHENGDU		First year of annual means 1988.		
CHD	N	1988.5	1988.5	
GREAT WALL		Opened 1987, no data yet. Absolutes made, some data loss in winter.		
GTW	N			
GUANGZHOU		No new data received since 1989.		
GZH	O	1958.5	1989.5	
KASKI		First year of annual means 1988.		
KSH	N	1988.5	1988.5	
LANZHOU		No new data received since 1989.		
LZH	O	1959.5	1989.5	
LHASA		No new data received since 1987.		
LSA	O	1957.5	1987.5	
MANZAOLI		First year of annual means 1988.		
MZL	N	1988.5	1988.5	
MO HE		New station, no data as of 1993.		
MOH	N			
QIONGZHONG		First year of annual means 1988.		
QGZ	N	1988.5	1988.5	
QUANZHOU		First year of annual means 1988.		

* Station status: O=Operating, N=New, U=Uncertain

Country / Region		FIPS Country Code		
Observatory				Notes on operation
IAGA Code	Status*	Annual Means		
		First Year	Latest Year	
QZH	N	1988.5	1988.5	
SHESHAN				No new data received since 1989.
SSH	O	1933.5	1989.5	
TONGHAI				First year of annual means 1988.
THJ	N	1988.5	1988.5	
URUMQI				No new data received since 1989.
WMQ	O	1978.5	1989.5	
WUHAN				No new data received since 1989.
WHN	O	1959.5	1989.5	
ZHONG SHAN				New digital station, no data as of 1993.
ZHS	N			
<u>CHINA (TAIWAN)</u>		<u>TW</u>		
LUNPING				
LNP	O	1965.8	1991.5	
<u>COLOMBIA</u>		<u>CO</u>		
FUQUENE				Station operating, cause of delay unknown.
FUQ	U	1954.9	1982.5	
<u>COSTA RICA</u>		<u>CS</u>		
CHIRIPA				Observatory replaced Costa Rica SJN in 1982, first means 1984.
CRP	O	1984.5	1992.5	
<u>CUBA</u>		<u>CU</u>		
CENTRO GEOFISICO				No new data since 1984. Status of station unknown.
HVN	U	1964.5	1984.5	
<u>CZECH REPUBLIC</u>		<u>EZ</u>		
BUDKOV				
BDV	O	1967.5	1991.5	

* Station status: O=Operating, N=New, U=Uncertain

Country / Region		FIPS Country Code		
Observatory		Annual Means		Notes on operation
IAGA Code	Status*	First Year	Latest Year	
<u>DENMARK</u>		<u>DA</u>		
BRORFELDE				
BFE	O	1980.5	1992.5	
<u>DJIBOUTI</u>		<u>DJ</u>		
DJIBOUTI		New station (operational?) receiving assistance from France.		
DJI	U			
<u>EGYPT</u>		<u>EG</u>		
MISALLAT		Cooperating with Germany to solve operational problems.		
MLT	O	1960.6	1987.5	
<u>ETHIOPIA</u>		<u>ET</u>		
ADDIS ABABA		Last means 1989.		
AAE	O	1958.5	1989.5	
<u>FINLAND</u>		<u>FI</u>		
NURMIJARVI				
NUR	O	1953.5	1992.5	
SODANKYLA				
SOD	O	1946.5	1992.5	
<u>FRANCE</u>		<u>FR</u>		
CHAMBON-LA-FORET				
CLF	O	1936.5	1991.0	
<u>FRENCH GUIANA</u>		<u>FG</u>		
KOUROU		New station in French Guiana, operational status unknown.		
KOU	U			
<u>FRENCH POLYNESIA (TAHITI)</u>		<u>FP</u>		

* Station status: O=Operating, N=New, U=Uncertain

Country / Region		FIPS Country Code		Notes on operation
Observatory		Annual Means		
IAGA Code	Status*	First Year	Latest Year	
PAMATAI				
PPT	O	1966.2	1990.5	
<u>FRENCH SOUTHERN AND ANTARCTIC</u> <u>FS</u>				
DUMONT D'URVILLE				
DRV	O	1957.7	1991.5	
MARTIN DE VIVIES				
AMS	O	1981.6	1991.5	
PORT ALFRED				
CZT	O	1974.5	1991.5	
PORT-AUX-FRANCAIS		Per request 4/93 code changed to PAF from KGL for post 1987		
PAF	O	1989.5	1991.5	
<u>GEORGIA</u>		<u>GG</u>		
DUSHETI		Station operational status uncertain.		
TFS	O	1938.6	1990.5	
<u>GERMANY</u>		<u>GE</u>		
FURSTENFELDBRUCK				
FUR	O	1939.5	1991.5	
NIEMEGK				
NGK	O	1910.5	1993.5	
WINGST				
WNG	O	1939.5	1992.5	
<u>GREENLAND</u>		<u>GL</u>		
GODHAVN				
GDH	O	1975.5	1992.5	
NARSSARSSUAQ				
NAQ	O	1968.9	1992.5	
THULE (QANAQ)				
THL	O	1955.8	1992.5	

* Station status: O=Operating, N=New, U=Uncertain

Country / Region		FIPS Country Code		Notes on operation	
Observatory		Annual Means			
IAGA Code	Status*	First Year	Latest Year		
<u>GUAM</u>		<u>GQ</u>			
GUAM					
GUA	O	1957.8	1992.5		
<u>HUNGARY</u>		<u>HU</u>			
NAGYCENK				Station receiving assistance through INTERMAGNET.	
NCK	O	1961.5	1991.5		
TIHANY					
THY	O	1955.5	1990.5		
<u>ICELAND</u>		<u>IC</u>			
LEIRVOGUR					
LRV	O	1957.8	1991.5		
<u>INDIA</u>		<u>IN</u>			
ALIBAG					
ABG	O	1904.5	1990.5		
ANNAMALAINAGAR					
ANN	O	1957.9	1990.5		
ETAIYAPURAM				Annual means expected 1989-1990. Operational status unknown.	
ETT	U	1980.5	1983.5		
HYDERABAD					
HYB	O	1965.5	1990.5		
JAIPUR				Status uncertain, no new data received since 1987.	
JAI	O	1976.5	1987.5		
KODAIKANAL					
KOD	O	1902.5	1991.5		
SABHAWALA					
SAB	O	1964.5	1989.5		
SHILLONG				Status uncertain, no new data received since 1988.	
SHL	O	1976.5	1988.5		

* Station status: O=Operating, N=New, U=Uncertain

Country / Region		FIPS Country Code		
Observatory		Annual Means		Notes on operation
IAGA Code	Status*	First Year	Latest Year	
TRIVANDRUM				
TRD	O	1957.9	1990.5	
UJJAIN				
UJJ	O	1976.5	1989.5	
<u>INDONESIA</u>				
		<u>ID</u>		
MANADO		New near Sulawesi, Indonesia measuring xyz. No data at WDC yet.		
MND	N			
TANGERANG				
TNG	O	1964.5	1991.5	
TUNTUNGAN		Station possibly at risk, no new data since 1987.		
TTG	O	1982.5	1987.5	
<u>IRAN</u>				
		<u>IR</u>		
TEHRAN		Interest expressed in digital system 1990, status uncertain.		
TEH	U	1960.5	1973.5	
<u>IRAQ</u>				
		<u>IZ</u>		
BAGHDAD		Opened 1/86, location approximate. No reply to letters 4/93, no data .		
BGH	O	1987.0		
<u>IRELAND</u>				
		<u>EI</u>		
VALENTIA				
VAL	O	1899.5	1993.5	
<u>ISRAEL</u>				
		<u>IS</u>		
AMATSIA		No recent data at WDC. Status uncertain.		
AMT	O	1976.5	1988.5	
BAR GYORA		New station, possible replacement for Amatsia.		
BGY	N			
<u>ITALY</u>				
		<u>IT</u>		

* Station status: O=Operating, N=New, U=Uncertain

Country / Region		FIPS Country Code		Notes on operation
Observatory		Annual Means		
IAGA Code	Status*	First Year	Latest Year	
CASTELLO TESINO		Latest means 1988, delay unknown.		
CTS	O	1965.5	1988.5	
L AQUILA				
AQU	O	1960.5	1991.5	
TERRA NOVA BAY		Italian Station, status uncertain. Latest means for 1989 partial year.		
TNB	U	1987.1	1989.1	
<u>JAPAN</u>		<u>JA</u>		
CHICHIJIMA				
CBI	O	1973.5	1991.5	
HATIZYO				
HTY	O	1967.7	1991.5	
KAKIOKA				
KAK	O	1913.5	1991.5	
KANOYA				
KNY	O	1958.5	1991.5	
KANOZAN				
KNZ	O	1961.5	1991.5	
MEMAMBETSU				
MMB	O	1950.8	1991.5	
MIZUSAWA				
MIZ	O	1969.5	1991.5	
SYOWA BASE				
SYO	O	1958.5	1992.0	
<u>KAZAKHSTAN</u>		<u>KZ</u>		
ALMA ATA		Last means 1988. Believe operating. No longer sending data to WDC-		
AAA	O	1963.4	1988.5	
BEREZNYAKI		Last means 1988. Believe operating. No longer sending data to WDC-		
KGD	O	1965.5	1988.5	
PARATUNKA (PETROPVLOVSK)		Last means 1988. Believe operating. No longer sending data to WDC-		
PET	O	1969.5	1989.5	

* Station status: O=Operating, N=New, U=Uncertain

Country / Region		FIPS Country Code		
Observatory				Notes on operation
IAGA Code	Status*	Annual Means		
		First Year	Latest Year	
<u>MADAGASCAR</u>		<u>MA</u>		
TANANARIVE		Last means 1989, reason for delay unknown.		
TAN	O	1890.5	1989.5	
<u>MEXICO</u>		<u>MX</u>		
TEOLOYUCAN		Operation improved. Expect 1979-93 means 1994. Magnetograms exi		
TEO	O	1914.5	1988.5	
<u>MONGOLIA</u>		<u>MG</u>		
ULAN BATOR		No data since 1977, receiving funds for training from UK.		
UBA	U	1966.5	1977.5	
<u>MOROCCO</u>		<u>MO</u>		
TIOUINE		Station believed operational for several years, no data yet.		
TIO	N	1989.0		
<u>MOZAMBIQUE</u>		<u>MZ</u>		
MAPUTO		Station closed then re-established in June 1993.		
LMM	O	1957.5	1987.5	
<u>NAMIBIA</u>		<u>WA</u>		
TSUMEB				
TSU	O	1964.8	1989.5	
<u>NEW ZEALAND</u>		<u>NZ</u>		
EYREWELL		Station operational with assistance from Australia.		
EYR	O	1978.0	1991.5	
SCOTT BASE		Station possibly at risk.		
SBA	O	1957.8	1991.5	
<u>NIGERIA</u>		<u>NI</u>		

* Station status: O=Operating, N=New, U=Uncertain

Country / Region		FIPS Country Code		
Observatory		Annual Means		Notes on operation
IAGA Code	Status*	First Year	Latest Year	
ILE IFE				New station (operational?), digital system from UK. No data yet.
IIF	U			
<u>NORWAY</u>		<u>NO</u>		
BEAR ISLAND				
BJN	O	1953.5	1991.5	
DOMBAS				
DOB	O	1952.5	1991.5	
NEW ALESUND				
NAL	O	1966.5	1991.5	
TROMSO				
TRO	O	1930.5	1992.5	
<u>PAKISTAN</u>		<u>PK</u>		
KARACHI				
KRC	O	1988.5	1992.5	
QUETTA				
QUE	O	1953.9	1991.5	
<u>PAPUA NEW GUINEA</u>		<u>PP</u>		
PORT MORESBY				
PMG	O	1957.8	1991.5	Data processing, maintainance & poss. digital system from Australia.
<u>PERU</u>		<u>PE</u>		
ANCON				
ANC	N	1990.0		Ancon observatory opened 1990, will attempt to recover Huancayo.
HUANCAYO				
HUA	O	1922.5	1991.5	Operational difficulties since 1990, will be replaced by Ancon.
<u>PHILIPPINES</u>		<u>RP</u>		
BAGUIO				
BAG	U	1967.5	1983.5	No data since 1983. Station requested photographic paper 1989.

* Station status: O=Operating, N=New, U=Uncertain

Country / Region		FIPS Country Code				Notes on operation
Observatory	IAGA Code	Status*	Annual Means		First Year	
DAVAO						Observatory destroyed by earthquake 1989.
DAV		U	1968.5	1984.5		
<u>POLAND</u>						<u>PL</u>
ARCTOWSKI						Station possibly at risk, no new means since 1989.
ARC		O	1978.5	1989.5		
BELSK						
BEL		O	1960.5	1992.5		
HEL						
HLP		O	1901.5	1990.5		
HORNSUND						Station possibly at risk, no new means since 1985.
HRN		O	1978.5	1985.5		
<u>PORTUGAL</u>						<u>PQ</u>
COIMBRA						
COI		O	1931.5	1992.5		
<u>PUERTO RICO</u>						<u>RQ</u>
SAN JUAN						
SJG		O	1965.5	1992.5		
<u>ROMANIA</u>						<u>RO</u>
SURLARI						
SUA		O	1949.5	1991.5		
<u>RUSSIA</u>						<u>RS</u>
ARKHANGELSK						
ARK		O	1985.5	1989.5		
ARTI						New digital system installed 1993.
ARS		O	1973.5	1991.5		
BOROK						Operating, sending data to WDC-B.
BOX		O	1977.5	1990.5		

* Station status: O=Operating, N=New, U=Uncertain

Country / Region		FIPS Country Code		Notes on operation
Observatory IAGA Code	Status*	Annual Means First Year Latest Year		
CAPE CHELYUSKIN		Station moved, current status uncertain. Sending data to WDC-B.		
CCS	U	1935.5	1991.5	
CAPE WELLEN (UELEN)		Operating, sending data to WDC-B. AARI station.		
CWE	O	1933.5	1991.5	
DIXON ISLAND				
DIK	O	1953.5	1991.5	
GORNOTAYEZHNYAYA		Operating, sending data to WDC-B.		
VLA	O	1958.5	1989.5	
HEISS ISLAND		Operation more secure, AARI station.		
HIS	O	1959.5	1991.5	
KLYUCHI (NOVOSIBIRSK)		Operating, sending data to WDC-B.		
NVS	O	1967.5	1991.5	
KRASNAYA PAKHRA		Operating, sending data to WDC-B.		
MOS	O	1930.5	1990.5	
LOPARSKOYE		No new data since 1985, status uncertain.		
MMK	O	1961.5	1985.5	
MIRNY		Operation more secure, AARI station.		
MIR	O	1956.8	1991.5	
MOLODEZHNYAYA		Operation more secure, AARI station.		
MOL	O	1965.5	1991.5	
PATRONY		Operating, sending data to WDC-B.		
IRT	O	1957.5	1990.5	
PODKAMENNAYA TUNGUS				
POD	O	1969.5	1989.5	
STEKOLNYY (MAGADAN)				
MGD	O	1966.5	1990.5	
TIXIE BAY		Operating, sending data to WDC-B. New digital system installed 1993		
TIK	O	1944.5	1991.5	
VOSTOK		Operation more secure, AARI station.		
VOS	O	1958.5	1991.5	
VOYEYKOVO				
LNN	O	1947.5	1990.5	
YAKUTSK		Operating, sending data to WDC-B. New digital system installed 1993.		

* Station status: O=Operating, N=New, U=Uncertain

Country / Region		FIPS Country Code		
Observatory				Notes on operation
IAGA Code	Status*	Annual Means		
		First Year	Latest Year	
YAK	O	1931.5	1989.5	
YUZHNO SAKHALINSK				Operational difficulties since 1991, sending data to WDC-B.
YSS	O	1941.5	1989.5	
ZAYMISHCHE				New digital system installed 1993. (Kazan 1893-1912)
KZN	O	1912.5	1988.5	
<u>SENEGAL</u>				<u>SG</u>
M BOUR				
MBO	O	1952.6	1989.5	
<u>SERBIA</u>				<u>SR</u>
GROCKA				
GCK	O	1958.5	1991.5	
<u>SLOVAKIA</u>				<u>LO</u>
HURBANOVO				
HRB	O	1948.5	1990.5	
<u>SOUTH AFRICA</u>				<u>SE</u>
HARTEBEESTHOEK				
HBK	O	1973.5	1991.5	
HERMANUS				
HER	O	1941.5	1991.5	
SANAE III				Station possibly at risk
SNA	O	1979.8	1989.5	
<u>SPAIN</u>				<u>SP</u>
ALMERIA				Urban site.
ALM	O	1955.5	1991.5	
EBRO				Data processing help needed, no new means since 1983.
EBR	O	1905.5	1983.5	
LAS MESAS(TENERIFE)				

* Station status: O=Operating, N=New, U=Uncertain

Country / Region		FIPS Country Code		Notes on operation
Observatory IAGA Code	Status*	Annual Means First Year Latest Year		
TEN	O	1959.5	1991.5	
SAN FERNANDO		Station disturbed after 1980. Operational new site in 1992. but no data		
SFS	O	1880.5	1979.5	
SAN PABLO- TOLEDO				
SPT	O	1981.5	1991.5	
<u>SWEDEN</u>		<u>SW</u>		
ABISKO		WDC data available since 1921, but absolutes poor prior to 1945		
ABK	O	1921.5	1991.5	
KIRUNA				
KIR	O	1962.5	1989.0	
LOVO				
LOV	O	1928.5	1991.5	
<u>TURKEY</u>		<u>TU</u>		
ANKARA				
ANK	O	1986.5	1991.5	
ISTANBUL-KANDILLI				
ISK	O	1946.5	1991.5	
<u>TURKMENISTAN</u>		<u>TX</u>		
VANNOVSKAYA		Station operating, but not sending data to WDC-B.		
ASH	O	1959.5	1990.5	
<u>UKRAINE</u>		<u>UP</u>		
DYMER		Sending data to WDC-B, but operations at risk.		
KIV	O	1964.5	1991.5	
LVOV		Sending data to WDC-B, but operations at risk.		
LVV	O	1952.5	1991.5	
STEPANOVKA		Sending data to WDC-B, but operations at risk.		
ODE	O	1936.5	1991.5	

* Station status: O=Operating, N=New, U=Uncertain

Country / Region		FIPS Country Code		Notes on operation
Observatory		Annual Means		
IAGA Code	Status*	First Year	Latest Year	
<u>UNITED KINGDOM</u>		<u>UK</u>		
ESKDALEMUIR				
ESK	O	1908.5	1992.5	
FARADAY ISLANDS		Also known as Argentine Island, station at risk of closure.		
AIA	O	1957.6	1991.5	
HARTLAND				
HAD	O	1957.5	1992.5	
LERWICK				
LER	O	1923.5	1992.5	
<u>UNITED STATES</u>		<u>US</u>		
BARROW				
BRW	O	1975.5	1992.5	
BAY ST LOUIS				
BSL	O	1986.6	1992.5	
BOULDER				
BOU	O	1964.5	1992.5	
COLLEGE				
CMO	O	1948.5	1992.5	
DEL RIO				
DLR	O	1982.5	1992.5	
FREDERICKSBURG				
FRD	O	1956.5	1992.5	
FRESNO				
FRN	O	1982.5	1992.5	
HONOLULU				
HON	O	1961.5	1992.5	
NEWPORT				
NEW	O	1966.6	1992.5	
SITKA		On-site observer retired.		
SIT	O	1940.5	1992.5	
TUCSON				
TUC	O	1909.5	1992.5	

* Station status: O=Operating, N=New, U=Uncertain

Country / Region		FIPS Country Code		Notes on operation
Observatory	Status*	Annual Means		
IAGA Code		First Year	Latest Year	
TULSA		Operational difficulties, interested in digital system 1993.		
TUL	O	1968.9	1989.5	
<u>UZBEKISTAN</u>		<u>UZ</u>		
YANGI-BAZAR		New digital system installed, sending data to WDC-B.		
TKT	O	1957.5	1990.5	
<u>VIETNAM</u>		<u>VM</u>		
BACLIEU		New station. Location and start year per letter from obs. 3/93		
BCL	U	1988.5	1990.5	
CHA PA		Alternate spelling SAPA		
CPA	U	1955.5	1989.5	
DALAT				
DLT	O	1978.5	1989.5	
PHUTHUY				
PHU	O	1978.5	1988.5	
<u>WESTERN SAMOA</u>		<u>WS</u>		
APIA		Digital system. New Zealand assisting processing & training .		
API	O	1905.5	1990.5	
<u>ZAIRE</u>		<u>CG</u>		
BINZA		Status uncertain, no data since 1973. Station believed operating.		
BIN	U	1953.5	1973.5	
BUNIA		New station, no data as of 1992.		
BNA	N			
KARAVIA		Status uncertain, no new data at the WDC.		
KVA	U	1958.5	1961.3	

* Station status: O=Operating, N=New, U=Uncertain

**Table 2: Magnetic Observatories in Operation, sorted by IAGA Code
(based on data received at WDC-A)**

IAGA Code	Observatory	Latitude	Longitude	Country Code	Country / Region
A					
AAA	ALMA ATA	43.25	76.917	KZ	Kazakhstan
AAE	ADDIS ABABA	9.03	38.765	ET	Ethiopia
ABG	ALIBAG	18.638	72.872	IN	India
ABK	ABISKO	68.358	18.823	SW	Sweden
AIA	FARADAY ISLANDS	-65.245	295.742	UK	United Kingdom
ALE	ALERT	82.5	297.5	CA	Canada
ALM	ALMERIA	36.853	357.54	SP	Spain
AMS	MARTIN DE VIVIES	-37.833	77.567	FS	French Southern and Antarctic
AMT	AMATSIA	31.55	34.917	IS	Israel
ANC	ANCON	-11.69	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	-62.16	301.522	PL	Poland
ARK	ARKHANGELSK	64.583	40.5	RS	Russia
ARS	ARTI	56.433	58.567	RS	Russia
ASH	VANNOVSKAYA	37.95	58.108	TX	Turkmenistan
ASP	ALICE SPRINGS	-23.762	133.883	AS	Australia
B					
BAG	BAGUIO	16.4	120.633	RP	Philippines
BCL	BACLIEU	9.283	105.733	VM	Vietnam
BDV	BUDKOV	49.08	14.015	EZ	Czech Republic
BEL	BELSK	51.837	20.792	PL	Poland
BFE	BRORFELDE	55.625	11.672	DA	Denmark
BGH	BAGHDAD	33.25	44.467	IZ	Iraq
BGY	BAR GYORA	31.73	35.21	IS	Israel
BIN	BINZA	-4.267	15.367	CG	Zaire
BJI	BEIJING	40.04	116.175	CH	China
BJN	BEAR ISLAND	74.5	19.2	NO	Norway
BLC	BAKER LAKE	64.333	263.967	CA	Canada

IAGA Code	Observatory	Latitude	Longitude	Country Code	Country / Region
BMT	BEIJING MING TOMBS	40.3	116.2	CH	China
BNA	BUNIA	1.533	30.017	CG	Zaire
BNG	BANGUI	4.437	18.565	CT	Central African Republic
BOU	BOULDER	40.138	254.762	US	United States
BOX	BOROK	58.03	38.97	RS	Russia
BRW	BARROW	71.323	203.38	US	United States
BSL	BAY ST LOUIS	30.4	270.6	US	United States
C					
CBB	CAMBRIDGE BAY	69.2	255	CA	Canada
CBI	CHICHIJIMA	27.083	142.167	JA	Japan
CCS	CAPE CHELYUSKIN	77.717	104.283	RS	Russia
CHD	CHENGDU	31	103.7	CH	China
CHP	CACHOEIRA PAULIS	-22.73	315	AR	Argentina
CLF	CHAMBON-LA-FORET	48.023	2.26	FR	France
CMO	COLLEGE	64.86	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	22.35	103.833	VM	Vietnam
CRP	CHIRIPA	10.44	275.089	CS	Costa Rica
CSY	CASEY	-66.283	110.533	AS	Australia
CTA	CHARTERS TOWERS	-20.1	146.3	AS	Australia
CTS	CASTELLO TESINO	46.047	11.65	IT	Italy
CWE	CAPE WELLEN (UELEN)	66.163	190.165	RS	Russia
CZT	PORT ALFRED	-46.433	51.867	FS	French Southern and Antarctic
D					
DAV	DAVAO	7.053	125.38	RP	Philippines
DIK	DIXON ISLAND	73.543	80.562	RS	Russia
DJI	DJIBOUTI	11.7	43.3	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

IAGA Code	Observatory	Latitude	Longitude	Country Code	Country / Region
DVS	DAVIS	-68.583	77.967	AS	Australia
E					
EBR	EBRO	40.82	0.493	SP	Spain
ESK	ESKDALEMUIR	55.317	356.8	UK	United Kingdom
ETT	ETAIYAPURAM	9	78	IN	India
EYR	EYREWELL	-43.417	172.35	NZ	New Zealand
F					
FCC	FORT CHURCHILL	58.767	265.9	CA	Canada
FRD	FREDERICKSBURG	38.205	282.627	US	United States
FRN	FRESNO	37.09	240.28	US	United States
FUQ	FUQUENE	5.47	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	49.6	262.9	CA	Canada
GNA	GNANGARA	-31.783	115.95	AS	Australia
GTW	GREAT WALL	-62.2	301	CH	China
GUA	GUAM	13.583	144.87	GQ	Guam
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	58.05	RS	Russia
HLP	HEL	54.608	18.815	PL	Poland
HON	HONOLULU	21.32	201.998	US	United States
HRB	HURBANOVO	47.873	18.19	LO	Slovakia
HRN	HORNSUND	77	15.55	PL	Poland
HTY	HATIZYO	33.122	139.802	JA	Japan
HUA	HUANCAYO	-12.045	284.66	PE	Peru

IAGA Code	Observatory	Latitude	Longitude	Country Code	Country / Region
HVN	CENTRO GEOFISICO	22.967	277.857	CU	Cuba
HYB	HYDERABAD	17.413	78.555	IN	India
i					
IIF	ILE IFE	7.55	4.567	NI	Nigeria
IRT	PATRONY	52.167	104.45	RS	Russia
ISK	ISTANBUL-KANDILLI	41.063	29.062	TU	Turkey
I					
JAI	JAIPUR	26.917	75.8	IN	India
K					
KAK	KAKIOKA	36.23	140.19	JA	Japan
KDU	KAKADU	-12.7	132.5	AS	Australia
KGD	BEREZNYAKI	49.817	73.083	KZ	Kazakhstan
KIR	KIRUNA	67.833	20.417	SW	Sweden
KIV	DYMER	50.717	30.3	UP	Ukraine
KNY	KANOYA	31.42	130.882	JA	Japan
KNZ	KANOZAN	35.253	139.96	JA	Japan
KOD	KODAIKANAL	10.23	77.463	IN	India
KOU	KOUROU	5.1	307.4	FG	French Guiana
KRC	KARACHI	24.95	67.14	PK	Pakistan
KSH	KASKI	39.5	76	CH	China
KVA	KARAVIA	-11.637	27.42	CG	Zaire
KZN	ZAYMISHCHE	55.833	48.85	RS	Russia
L					
LAS	LAS ACACIAS	-35.007	302.31	AR	Argentina
LER	LERWICK	60.133	358.817	UK	United Kingdom
LMM	MAPUTO	-25.917	32.583	MZ	Mozambique
LNN	VOYEYKOVO	59.95	30.705	RS	Russia
LNP	LUNPING	25	121.167	TW	China (Taiwan)
LOV	LOVO	59.345	17.827	SW	Sweden
LQA	LA QUIACA	-22.103	294.395	AR	Argentina
LRM	LEARMONTH	-22.22	114.1	AS	Australia

IAGA Code	Observatory	Latitude	Longitude	Country Code	Country / Region
LRV	LEIRVOGUR	64.183	338.3	IC	Iceland
LSA	LHASA	29.7	91.15	CH	China
LUA	LUANDA BELAS	-8.917	13.167	AO	Angola
LVV	LVOV	49.9	23.75	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	AS	Australia
MBC	MOULD BAY	76.2	240.6	CA	Canada
MBO	M BOUR	14.392	343.042	SG	Senegal
MCQ	MACQUARIE ISLAND	-54.5	158.95	AS	Australia
MEA	MEANOOK	54.617	246.667	CA	Canada
MGD	STEKOLNYY (MAGADAN)	60.117	151.017	RS	Russia
MIR	MIRNY	-66.55	93.017	RS	Russia
MIZ	MIZUSAWA	39.01	141.08	JA	Japan
MLT	MISALLAT	29.515	30.892	EG	Egypt
MMB	MEMAMBETSU	43.907	144.193	JA	Japan
MMK	LOPARSKOYE	68.25	33.083	RS	Russia
MND	MANADO	1.297	124.925	ID	Indonesia
MNK	PLESHENITZI	54.5	27.883	BO	Belarus
MOH	MO HE	53.5	112.4	CH	China
MOL	MOLODEZHNAYA	-67.667	45.85	RS	Russia
MOS	KRASNAYA PAKHRA	55.467	37.312	RS	Russia
MZL	MANZAOLI	49.6	117.4	CH	China
N					
NAL	NEW ALESUND	78.917	11.933	NO	Norway
NAQ	NARSSARSSUAQ	61.1	314.8	GL	Greenland
NCK	NAGYCENK	47.633	16.717	HU	Hungary
NEW	NEWPORT	48.263	242.88	US	United States
NGK	NIEMEGK	52.072	12.675	GE	Germany
NUR	NURMIJARVI	60.508	24.655	FI	Finland
NVS	KLYUCHI (NOVOSIBIRSK)	55.033	82.9	RS	Russia

IAGA Code	Observatory	Latitude	Longitude	Country Code	Country / Region
Q					
ODE	STEPANOVKA	46.783	30.883	UP	Ukraine
OTT	OTTAWA	45.4	284.45	CA	Canada
P					
PAF	PORT-AUX-FRANCAIS	-49.35	70.2	FS	French Southern and Antarctic
PAG	PANAGYURISHTE	42.515	24.177	BU	Bulgaria
PBQ	POSTE-DE-LA-BALEINE	55.277	282.257	CA	Canada
PET	PARATUNKA (PETROPVLO	52.9	158.433	KZ	Kazakhstan
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
POD	PODKAMENNAYA TUNGU	61.6	90	RS	Russia
PPT	PAMATAI	-17.568	210.425	FP	French Polynesia (Tahiti)
PTY	PATACAMAYA	-17.25	292.05	BL	Bolivia
Q					
QGZ	QIONGZHONG	19	109.8	CH	China
QUE	QUETTA	30.187	66.95	PK	Pakistan
QZH	QUANZHOU	24.9	118.6	CH	China
R					
RES	RESOLUTE BAY	74.7	265.1	CA	Canada
S					
SAB	SABHAWALA	30.363	77.798	IN	India
SBA	SCOTT BASE	-77.85	166.783	NZ	New Zealand
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	293.85	RQ	Puerto Rico
SNA	SANAE III	-70.312	357.59	SF	South Africa
SOD	SODANKYLA	67.368	26.63	FI	Finland
SPT	SAN PABLO- TOLEDO	39.547	355.65	SP	Spain
SSH	SHESHAN	31.097	121.187	CH	China

IAGA Code	Observatory	Latitude	Longitude	Country Code	Country / Region
STJ	SAINT JOHNS	47.6	307.317	CA	Canada
SUA	SURLARI	44.68	26.253	RO	Romania
SYO	SYOWA BASE	-69.007	39.59	JA	Japan
<u>I</u>					
TAM	TAMANRASSET	22.792	5.527	AG	Algeria
TAN	TANANARIVE	-18.917	47.55	MA	Madagascar
TEH	TEHRAN	35.737	51.382	IR	Iran
TEN	LAS MESAS(TENERIFE)	28.477	343.739	SP	Spain
TEO	TEOLOYUCAN	19.747	260.818	MX	Mexico
TFS	DUSHETI	42.092	44.705	GG	Georgia
THJ	TONGHAI	24	102.7	CH	China
THL	THULE (QANAQ)	77.483	290.833	GL	Greenland
THY	TIHANY	46.9	17.893	HU	Hungary
TIK	TIXIE BAY	71.583	129	RS	Russia
TIO	TIOUINE	30.93	352.74	MO	Morocco
TKT	YANGI-BAZAR	41.333	69.617	UZ	Uzbekistan
TNB	TERRA NOVA BAY	-74.683	164.117	IT	Italy
TNG	TANGERANG	-6.167	106.633	ID	Indonesia
TRD	TRIVANDRUM	8.483	76.95	IN	India
TRO	TROMSO	69.663	18.948	NO	Norway
TRW	TRELEW	-43.248	294.685	AR	Argentina
TSU	TSUMEB	-19.217	17.7	WA	Namibia
TTB	TATUOCA	-1.205	311.487	BR	Brazil
TTG	TUNTUNGAN	3.51	98.56	ID	Indonesia
TUC	TUCSON	32.247	249.167	US	United States
TUL	TULSA	35.912	264.212	US	United States
<u>U</u>					
UBA	ULAN BATOR	47.85	107.05	MG	Mongolia
UJJ	UJJAIN	23.183	75.783	IN	India
<u>V</u>					
VAL	VALENTIA	51.933	349.75	EI	Ireland
VIC	VICTORIA	48.517	236.583	CA	Canada

IAGA Code	Observatory	Latitude	Longitude	Country Code	Country / Region
VLA	GORNOTAYEZHAY	43.683	132.167	RS	Russia
VOS	VOSTOK	-78.45	106.867	RS	Russia
VSS	VASSOURAS	-22.4	316.35	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
X					
YAK	YAKUTSK	62.017	129.717	RS	Russia
YKC	YELLOWKNIFE	62.467	245.533	CA	Canada
YSS	YUZHNO SAKHALINSK	46.95	142.717	RS	Russia
Z					
ZHS	ZHONG SHAN	-69.4	76.4	CH	China

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

IAGA Code	Observatory	Year of		Year of	
		1st Hourly	Latest Hourly	1st 1-Min	Latest 1-Min
A					
AAA	ALMA ATA	1965	1969		
AAE	ADDIS ABABA	1958	1970		
ABG	ALIBAG	1925	1989		
ABK	ABISKO	1968	1974		
ABN	ABINGER	1926	1956		
AGN	AGINCOURT	1932	1969		
AIA	FARADAY ISLANDS	1957	1991		
ALE	ALERT	1963	1986	1978	1986
ALM	ALMERIA	1954	1966		
AML	AMBERLEY	1959	1977		
AMS	MARTIN DE VIVIES	1981	1992	1982	1992
AMT	AMATSIA (AMAZYA)	1979	1988		
AMU	ANCHORAGE	1957	1958		
ANN	ANNAMALAINAGAR	1964	1989		
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 (ASHKHABAD)	1959	1990	1990	1990
B					
BAG	BAGUIO	1966	1969		
BDE	BIG DELTA	1957	1959		
BEL	BELSK	1966	1990		
BFE	BRORFELDE	1981	1989		
BJI	BEIJING	1979	1980		
BLC	BAKER LAKE	1951	1989	1978	1989
BLT	BELOIT	1957	1959		
BNG	BANGUI	1961	1991	1991	1991

IAGA Code	Observatory	Year of		Year of	
		1st Hourly	Latest Hourly	1st 1-Min	Latest 1-Min
BOU	BOULDER	1967	1992	1978	1992
BOX	BOROK	1989	1990		
BRT	BURLINGTON	1957	1959		
BRW	BARROW	1964	1992	1976	1992
BRW	BARROW	1964	1992	1976	1992
BRW	BARROW	1964	1992	1976	1992
BSL	BAY ST LOUIS	1986	1992	1986	1992
BYR	BYRD STATION	1957	1968		
C					
CAX	CARROLLTON	1958	1959		
CBB	CAMBRIDGE BAY	1973	1989	1978	1989
CCS	CAPE CHELYUSKIN	1957	1990	1990	1990
CLF	CHAMBON-LA-FORET	1960	1992	1980	1992
CLH	CHEL TENHAM	1901	1956		
CMO	COLLEGE	1948	1991	1978	1991
CNB	CANBERRA	1979	1992	1990	1992
CNH	CHANGCHUN	1979	1980		
COI	COIMBRA	1964	1965		
CPA	CHA PA	1965			
CTO	CAPE TOWN	1932	1949		
CTX	CHARCOT	1957	1958		
CWE	CAPE WELLEN	1957	1990	1990	1990
CZT	PORT ALFRED	1978	1992	1978	1992
D					
DAL	DALLAS	1964	1974		
DAV	DAVAO	1980	1984		
DBN	DE BILT	1903	1938		
DIK	DIXON ISLAND	1957	1986		
DLR	DEL RIO	1982	1991	1982	1991
DOB	DOMBAS	1964	1969		
DOU	DOURBES	1960	1987		
DRV	DUMONT D'URVILLE	1978	1992	1974	1992

IAGA Code	Observatory	Year of		Year of	
		1st Hourly	Latest Hourly	1st 1-Min	Latest 1-Min
E					
EBR	EBRO	1965	1979		
EIC	EASTER ISLAND	1964	1964		
ESK	ESKDALEMUIR	1911	1990	1990	1992
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	1992	1984	1992
FRN	FRESNO	1982	1992	1982	1992
FSP	FORT SIMPSON	1993	1993	1993	1993
FUQ	FUQUENE	1961	1969		
FUR	FURSTENFELDBRUCK	1964	1992		
G					
GCK	GROCKA	1965	1965		
GDH	GODHAVN	1959	1987		
GLN	GLENLEA	1985	1989	1982	1989
GNA	GNANGARA	1957	1992		
GTV	GRYTVIKEN	1975	1982		
GUA	GUAM	1958	1992	1983	1992
GWC	GREAT WHALE RIVER	1965	1984	1978	1984
GZH	GUANGZHOU	1979	1980		
H					
HAD	HARTLAND	1957	1991	1990	1992
HBA	HALLEY BAY	1957	1967		
HBK	HARTEBEESTHOEK	1989	1990	1989	1990
HER	HERMANUS	1941	1990	1989	1990
HIS	HEISS ISLAND	1958	1969		

IAGA Code	Observatory	Year of		Year of	
		1st Hourly	Latest Hourly	1st 1-Min	Latest 1-Min
HON	HONOLULU	1902	1992	1979	1992
HRB	HURBANOVO	1979	1986		
HUA	HUANCAYO	1964	1980		
HVN	HAVANA	1967	1968		
I					
IBD	IBADAN	1965	1965		
IRT	PATRONY	1957	1988		
ISK	ISTANBUL-KANDILLI	1980	1981		
J					
JAI	JAIPUR	1979	1987		
JRV	JARVIS ISLAND	1957	1959		
K					
KAK	KAKIOKA	1913	1993	1976	1993
KEL	KELES	1957	1963		
KGD	BEREZNYAKI	1969	1980		
KGL	KERGUELEN	1962	1987	1972	1992
KIR	KIRUNA	1962	1970		
KIV	DYMER	1958	1988		
KIV	KIEV	1958	1988		
KNY	KANOYA	1958	1993	1979	1993
KNZ	KANOZAN	1980			
KOD	KODAIKANAL	1980	1980		
KZN	ZAYMISHCHE	1964	1987		
L					
LAA	LITTLE AMERICA I	1957	1958		
LDV	LEADVILLE	1957	1959		
LER	LERWICK	1926	1991		
LGR	LOGRONO	1964	1966		
LMM	MAPUTO	1980	1984		

IAGA Code	Observatory	Year of		Year of	
		1st Hourly	Latest Hourly	1st 1-Min	Latest 1-Min
LNN	VOYEYKOVO	1948	1988		
LNP	LUNPING	1980	1993	1988	1993
LOV	LOVO	1940	1980		
LRV	LEIRVOGUR	1962	1993	1989	1993
LUA	LUANDA BELAS	1964	1967		
LVV	LVOV	1957	1971		
LWI	LWIRO	1964	1965		
LZH	LANZHOU	1980	1980		
M					
MAW	MAWSON	1964	1988		
MBC	MOULD BAY	1962	1989	1978	1989
MBO	M'BOUR	1952	1991		
MCQ	MACQUARIE ISLAND	1962	1968		
MEA	MEANOOK	1932	1989	1978	1989
MFP	MOCA	1964	1969		
MGD	MAGADAN	1966	1988		
MIR	MIRNY	1956	1985		
MIZ	MIZUSAWA	1980	1982		
MLT	MISALLAT	1964	1965		
MMB	MEMAMBETSU	1958	1993	1985	1993
MMK	LOPARSKOYE	1959	1980		
MMK	MURMANSK	1959	1980		
MNK	PLESHENITZI (MINSK)	1961	1990	1990	1990
MOL	MOLODEZHNYA	1965	1977		
MOS	KRASNAYA PAKHRA	1958	1987		
MOS	MOSCOW	1958	1987		
MUT	MUNTINLUPA	1963	1972		
N					
NAI	NAIROBI	1964	1967		
NAQ	NARSSARSSUAQ	1968	1983	1980	1983
NEW	NEWPORT	1966	1992	1982	1992
NGK	NIEMEGK	1910	1987		

IAGA Code	Observatory	Year of		Year of	
		1st Hourly	Latest Hourly	1st 1-Min	Latest 1-Min
NKK	NOVOKAZALINSK	1980	1980		
NMP	NAMPULA	1982	1984		
NUR	NURMIJARVI	1953	1992		
NVL	NOVOLAZAREVSKAYA	1961	1978		
NVS	KLYUCHI (NOVOSIBIRSK)	1967	1990		
NWS	NORWAY STATION	1960	1962		
Q					
OAS	OASIS	1957	1958		
ODE	STEPANOVKA (ODESSA)	1957	1980		
OTT	OTTAWA	1968	1989	1978	1989
P					
PAB	PARAMARIBO	1964	1969		
PAF	PORT-AUX-FRANCAIS	1988	1992	1988	1992
PAG	PANAGYURISHTI	1964	1965		
PBQ	POSTE-DE-LA-BALEINE	1984	1989	1984	1989
PCU	PRICE	1957	1959		
PET	PARATUNKA (PETROPAVLOSK)	1969	1990	1990	1990
PIL	PILAR	1957	1968		
PIO	PIONERSKAYA	1957	1972		
PMG	PORT MORESBY	1958	1989		
POD	PODKAMMENAYA TUNGUSKA	1969	1989		
PPT	PAMATAI	1968	1992	1985	1992
PRU	PRUHONICE	1964	1965		
PTU	PLATEAU	1966	1968		
Q					
QUE	QUETTA	1965	1965		
R					
RBD	ROI BAUDOUIN	1958	1966		
RES	RESOLUTE BAY	1960	1989	1978	1989

IAGA Code	Observatory	Year of		Year of	
		1st Hourly	Latest Hourly	1st 1-Min	Latest 1-Min
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	1939		
SIT	SITKA	1940	1992	1978	1992
SJG	SAN JUAN	1926	1992	1979	1992
SKT	SUKKERTOPPEN	1965	1966		
SMG	SAN MIGUEL	1965	1965		
SNA	SANAE I	1961	1983		
SOD	SODANKYLA	1914	1944		
SOD	SODANKYLA	1944	1989		
SPA	SOUTH POLE	1959	1971		
SSH	SHESHAN	1980	1981		
SSO	SIMOSATO	1964	1965		
STJ	SAINT JOHNS	1968	1976		
STJ	SAINT JOHNS	1977	1989		
STO	STONYHURST	1964	1965		
SUA	SURLARI	1961	1965		
SVD	VYSOKAYA DUBRAVA	1957	1976		
SWI	SWIDER	1964	1965		
SZB	SANTA CRUZ	1964	1966		
T					
TAH	TAHITI	1966	1970		
TAN	TANANARIVE	1964	1970		
TEO	TEOLOYUCAN	1965	1965		
TFS	DUSHETI	1959	1990	1990	1990
TFS	TBILISI	1959	1990	1990	1990
THL	THULE I	1950			

IAGA Code	Observatory	Year of		Year of	
		1st Hourly	Latest Hourly	1st 1-Min	Latest 1-Min
THY	TIHANY	1964	1965		
TIK	TIXIE BAY	1957	1974	1990	1991
TKH	TIKHAYA BAY	1957	1958		
TKT	YANGI-BAZAR	1964	1980		
TNG	TANGERANG	1964	1969		
TOL	TOLEDO	1963	1980		
TOO	TOOLANGI	1924	1979		
TRD	TRIVANDRUM	1981	1989		
TRO	TROMSO	1964	1991		
TRW	TRELEW	1964	1968		
TSU	TSUMEB	1964	1983		
TTB	TATUOCA	1964	1965		
TUC	TUCSON	1909	1992	1978	1992
<u>U</u>					
UJJ	UJJAIN	1980	1989		
<u>V</u>					
VAL	VALENTIA	1961	1991		
VIC	VICTORIA	1964	1989	1978	1989
VLA	GORNOTAYEZHAYAY	1958	1988		
VOS	VOSTOK	1958	1985		
VQS	VIEQUES	1903	1924		
VSS	VASSOURAS	1959	1980		
<u>W</u>					
WAT	WATHEROO	1919	1958		
WHN	WUHAN	1980	1980		
WHS	WHITESHELL	1979	1980		
WIK	WIEN-KOBENZL	1964	1965		
WIL	WILKES	1957	1966		
WIT	WITTEVEEN	1938	1984		
WNG	WINGST	1964	1965		

IAGA Code	Observatory	Year of		Year of	
		1st Hourly	Latest Hourly	1st 1-Min	Latest 1-Min
Y					
YAK	YAKUTSK	1957	1985		
YKC	YELLOWKNIFE	1977	1989	1978	1989
YSS	YUZHNO SAKHALINSK	1959	1988		

**Table 4: Magnetic Observatories 1818-1994, Sorted by Country / Region
(based on annual means received at WDC-A)**

<u>Country / Region Name</u>	<u>FIPS Code</u>			
<u>Observatory</u>	<u>IAGA Code</u>	<u>First Mean</u>	<u>Latest Mean</u>	<u>Replaced By</u>
ALGERIA				
	AG			
BOUZAREAH	BZR	1888.5	1950.1	
EL ABIOD SIDI	EAS	1948.5	1954.5	
TAMANRASSET	TAM	1932.6	1991.5	
ANGOLA				
	AO			
LUANDA CAPELO	LUA	1881.5	1919.5	LUANDA GOLF
LUANDA GOLF	LUA	1954.5	1955.5	LUANDA BELAS
LUANDA BELAS	LUA	1954.5	1989.2	LUANDA GOLF
ANTARCTICA				
	AY			
CAPE DENISON	CDE	1912.5	1931.0	
CAPE EVANS	CEV	1912.0	1958.0	
CHARCOT	CTX	1957.5	1958.5	
EIGHTS	EGS	1963.6	1965.4	
GAUSS STATION	GAS	1902.7	1902.7	
GONZALES VIDELA	GVD	1961.5	1961.5	
HALLETT STATION	HLL	1957.9	1962.5	
DISCOVERY BAY (HUT)	HUT	1903.0	1903.0	
LAZAREV	LZV	1960.5	1960.5	NOVOLAZAREVSKAYA
NORWAY STATION	NWS	1960.5	1962.0	
OASIS	OAS	1957.5	1958.5	
PIONERSKAYA	PIO	1957.5	1958.5	
PLATEAU	PTU	1966.5	1968.5	
ROI BAUDOUIN	RBD	1958.6	1959.1	ROI BAUDOUIN 2

<u>Country / Region Name</u>	<u>FIPS Code</u>			
Observatory	IAGA Code	First Mean	Latest Mean	Replaced By Replaces Previous
ROI BAUDOUIN	RBD	1964.7	1966.5	ROI BAUDOUIN 1
WILKES	WIL	1957.8	1966.5	
<u>ARGENTINA</u>	<u>AR</u>			
CACHOEIRA PAULIS	CHP			
LAS ACACIAS	LAS	1964.5	1987.5	
LA QUIACA	LQA	1920.5	1933.5	LA QUIACA
LA QUIACA	LQA	1942.5	1989.5	LA QUIACA
NEW YEARS ISLAND	NYI	1902.5	1916.5	
PILAR	PIL	1905.5	1989.5	
TRELEW	TRW	1957.8	1989.5	
<u>AUSTRALIA</u>	<u>AS</u>			
ALICE SPRINGS	ASP	1992.0		
CANBERRA	CNB	1979.5	1991.5	
CASEY	CSY	1978.5	1991.5	
CHARTERS TOWERS	CTA	1984.5	1991.5	
DAVIS	DVS	1979.4	1991.5	
GNANGARA	GNA	1957.5	1991.5	WATHEROO
KAKADU	KDU	1995.0		
LEARMONTH	LRM	1987.5	1991.5	
MAWSON	MAW	1955.8	1991.5	
MACQUARIE ISLAND	MCQ	1911.9	1991.5	
MELBOURNE	MEL	1893.5	1921.5	TOOLANGI
SYDNEY	SDN	1892.1	1892.1	
TOOLANGI	TOO	1919.5	1979.2	MELBOURNE
WATHEROO	WAT	1919.5	1959.0	GNANGARA

<u>Country / Region Name</u>	<u>FIPS Code</u>				
<u>Observatory</u>	<u>IAGA Code</u>	<u>First Mean</u>	<u>Latest Mean</u>	<u>Replaced By</u>	<u>Replaces Previous</u>
<u>AUSTRIA</u>	<u>AU</u>				
KLAGENFURT	KFT	1891.5	1899.5		
KREMSMUNSTER	KRE	1891.5	1904.5		
WIEN AUHOF	WIA	1929.5	1950.5	WIEN KOBENZL	WIEN
WIEN	WIE	1892.5	1898.5	WIEN AUHOF	
WIEN KOBENZL	WIK	1955.5	1991.5		WIEN AUHOF
<u>BELARUS</u>	<u>BO</u>				
PLESHENITZI	MNK	1961.5	1989.5		
<u>BELGIUM</u>	<u>BE</u>				
DOURBES	DOU	1952.5	1991.5		
MANHAY	MAB	1932.5	1990.5		UCCLE
UCCLE	UCC	1891.5	1947.5	MANHAY	
<u>BOLIVIA</u>	<u>BL</u>				
LA PAZ	LPB	1964.5	1976.5		
PATACAMAYA	PTY	1983.5	1984.5		LA PAZ
<u>BRAZIL</u>	<u>BR</u>				
EUSEBIO	EUS	1975.6	1977.2		
RIO DE JANEIRO	RDJ	1837.5	1867.5	RIO DE JANIERO	
RIO DE JANEIRO	RDJ	1899.5	1910.5	VASSOURAS	
SAO JOSE DOS CAMPOS	SJB	1973.1	1975.0		
TATUOCA	TTB	1933.8	1934.0	TATUOCA 2	
TATUOCA	TTB	1957.8	1991.5		TATUOCA 1
VASSOURAS	VSS	1915.5	1990.5		RIO DE JANEIRO
<u>BULGARIA</u>	<u>BU</u>				
PANAGYURISHTTE	PAG	1948.5	1991.5		
<u>BURMA</u>	<u>BM</u>				

<u>Country / Region Name</u>	<u>FIPS Code</u>				
Observatory	IAGA Code	First Mean	Latest Mean	Replaced By	Replaces Previous
TOUNGGOO	TGO	1905.5	1932.5		
<u>CANADA</u>	<u>CA</u>				
AGINCOURT	AGN	1899.5	1970.0	OTTAWA	TORONTO
ALERT	ALE	1961.9	1988.5		
BAFFIN ISLAND	BFI	1922.2	1922.2		
BAKER LAKE	BLC	1951.6	1991.5		
CAMBRIDGE BAY	CBB	1972.5	1991.5		
DISCOVERY BAY	DIS	1876.0	1876.0		
ETAH	ETA	1908.6	1908.6		
ETAH	ETA	1923.6	1925.6		
ETAH	ETA	1938.1	1941.6		
ETAH	ETA	1947.6	1947.6		
FORT CHURCHILL	FCC	1957.8	1991.5		
FORT CONGER	FCR	1883.0	1883.0		
FLOEBERG BEACH	FLB	1876.0	1876.0		
FORT RAE 2	FRA	1933.2	1933.2		
FORT RAE 1	FTE	1883.2	1883.2		
GLENLEA	GLN	1982.5	1990.5		
GREAT WHALE RIVER	GWC	1965.5	1984.5	POSTE-DE-LA-BALEINE	
KINGUAFJORD	KGF	1883.3	1883.3		
KING POINT	KPT	1906.0	1906.0		
MOULD BAY	MBC	1962.8	1991.5		
MEANOOK	MEA	1916.8	1991.5		
OTTAWA	OTT	1968.7	1991.5		
POSTE-DE-LA-BALEINE	PBQ	1985.5	1990.5		GREAT WHALE RIVER

<u>Country / Region Name</u>	<u>FIPS Code</u>				
Observatory	IAGA Code	First Mean	Latest Mean	Replaced By	Replaces Previous
PORT FOULKE	PFK	1861.0	1861.0		
RESOLUTE BAY	RES	1952.5	1991.5		
REFUGE HARBOUR	RFH	1924.1	1924.1		
SAINT JOHNS	STJ	1968.8	1976.5		
SAINT JOHNS	STJ	1977.0	1991.5		
TORONTO	TOR	1840.5	1898.5	AGINCOURT	
VAN RENSSELAER	VAN	1854.1	1854.1		
VICTORIA	VIC	1956.6	1991.5		
WHITESHELL	WHS	1977.5	1980.4		
YELLOWKNIFE 1	YKC	1957.8	1958.3	YELLOWKNIFE 2	
YELLOWKNIFE	YKC	1975.5	1990.5		YELLOWKNIFE 1
<u>CENTRAL AFRICAN REPUBLIC</u>		<u>CT</u>			
BANGUI	BNG	1952.4	1990.5		
<u>CHILE</u>		<u>CI</u>			
EASTER ISLAND	EIC	1958.5	1968.4		
ORANGE BAY CAPE HOR	ORB	1883.2	1883.2		
SANTIAGO 1	SNT	1850.7	1852.5	SANTIAGO 2	
SANTIAGO	SNT	1899.5	1909.5		SANTIAGO 1
<u>CHINA</u>		<u>CH</u>			
AU TAU	AUT	1927.6	1939.5	HONG KONG-TATE'S	HONG KONG
BEIJING	BJI	1957.5	1988.5		
BEIJING MING TOMBS	BMT				
CHENGDU	CHD	1988.5	1988.5		
CHANGCHUN 1	CNH	1957.5	1978.5	CHANGCHUN	
CHANGCHUN (HELONG)	CNH	1979.5	1988.5		CHANGCHUN 1

<u>Country / Region Name</u>	<u>FIPS Code</u>			
Observatory	IAGA Code	First Mean	Latest Mean	Replaced By Replaces Previous
GREAT WALL	GTW			
GUANGZHOU	GZH	1958.5	1989.5	
KASKI	KSH	1988.5	1988.5	
LUKIAPANG	LKP	1908.8	1933.5	ZO-SE(SHESHAN)
LHASA	LSA	1957.5	1987.5	
LANZHOU	LZH	1959.5	1989.5	
MO HE	MOH			
MANZAOLI	MZL	1988.5	1988.5	
PEKING	PEK	1868.5	1883.5	BEIJING
QIONGZHONG	QGZ	1988.5	1988.5	
QUANZHOU	QZH	1988.5	1988.5	
SANYA	SAN	1990.0		
SHESHAN	SSH	1933.5	1989.5	LUKIAPANG
TONGHAI	THJ	1988.5	1988.5	
TSINGTAO (QINGDAO)	TSI	1906.5	1936.5	
WUHAN	WHN	1959.5	1989.5	
URUMQI	WMQ	1978.5	1989.5	
ZHONG SHAN	ZHS			
ZIKAWEI	ZKW	1875.5	1908.1	LUKIAPANG
<u>CHINA (TAIWAN)</u>	<u>TW</u>			
LUNPING	LNP	1965.8	1991.5	
TAIPEI	TAP	1919.5	1967.5	TAI PEI
<u>COLOMBIA</u>	<u>CO</u>			
FUQUENE	FUQ	1954.9	1982.5	
<u>COSTA RICA</u>	<u>CS</u>			

<u>Country / Region Name</u>	<u>FIPS Code</u>			
Observatory	IAGA Code	First Mean	Latest Mean	Replaced By Replaces Previous
CHIRIPA	CRP	1984.5	1992.5	COSTA RICA
COSTA RICA	SNJ	1979.9	1979.9	CHIRIPA
<u>CROATIA</u>	<u>HR</u>			
POLA	POL	1881.5	1922.5	
<u>CUBA</u>	<u>CU</u>			
HAVANA	HVN	1897.2	1898.1	CENTRO GEOFISCO
CENTRO GEOFISCO	HVN	1964.5	1984.5	HAVANA 1
SAN JOSE LAS LAJAS	SJL	1964.8	1976.2	
<u>CZECH REPUBLIC</u>	<u>EZ</u>			
BUDKOV	BDV	1967.5	1991.5	
<u>DENMARK</u>	<u>DA</u>			
BRORFELDE	BFE	1980.5	1992.5	RUDE SKOV
COPENHAGEN	COP	1891.5	1908.5	RUDE-SKOV
RUDE SKOV	RSV	1891.5	1984.5	BRORFELDE COPENHAGEN
<u>DJIBOUTI</u>	<u>DI</u>			
DJIBOUTI	DJI			
<u>EGYPT</u>	<u>EG</u>			
HELWAN	HLW	1903.5	1960.0	MISALLAT
MISALLAT	MLT	1960.6	1987.5	HELWAN
<u>ETHIOPIA</u>	<u>ET</u>			
ADDIS ABABA	AAE	1958.5	1989.5	
<u>FINLAND</u>	<u>FI</u>			
NURMIJARVI	NUR	1953.5	1992.5	
SODANKYLA	SOD	1883.1	1883.1	SODANKYLA 2
SODANKYLA	SOD	1914.5	1945.0	SODANKYLA 3 SODANKYLA 1
SODANKYLA	SOD	1946.5	1992.5	SODANKYLA 2
<u>FORMER SOVIET UNION</u>	<u>UR</u>			

<u>Country / Region Name</u>	<u>FIPS Code</u>				
Observatory	IAGA Code	First Mean	Latest Mean	Replaced By	Replaces Previous
NIZHNEDEVITSK	NNV	1935.5	1940.5		
<u>FORMERLY CZECHOSLOVAKIA</u>		<u>CZ</u>			
PRAGUE	PRA	1830.5	1926.5	PRUHONICE	
PRUHONICE	PRU	1946.5	1972.5		PRAQUE
STARA DALA	STA	1924.5	1947.5	HURBANOVO	O' GYALLA
<u>FRANCE</u>		<u>FR</u>			
CHAMBON-LA-FORET	CLF	1936.5	1991.0		VAL JOYEUX
NICE	NCE	1885.5	1901.0		
NANTES	NTS	1923.5	1958.5		
PERPIGNAN	PER	1885.5	1910.5		
PARC ST. MAUR	PSM	1883.5	1900.5	VAL JOYEUX	
ST HELIER	STH	1898.5	1907.5		
TOULOUSE	TLS	1882.5	1905.5		
VAL JOYEUX	VLJ	1901.5	1936.5	CHAMBON-LA-FORET	PARC ST. MAUR
<u>FRENCH GUIANA</u>		<u>FG</u>			
KOUROU	KOU				
<u>FRENCH POLYNESIA (TAHITI)</u>		<u>FP</u>			
PAMATAI	PPT	1966.2	1990.5		TAHITI
TAHITI	TAH	1958.6	1972.5	PAMATAI(PAPEETE)	
<u>FRENCH SOUTHERN AND ANTARC</u>		<u>FS</u>			
MARTIN DE VIVIES	AMS	1981.6	1991.5		
PORT ALFRED	CZT	1974.5	1991.5		
DUMONT D'URVILLE	DRV	1957.7	1991.5		
KERGUELEN 1	KGL	1875.0	1875.0	KERGUELEN 2	
KERGUELEN 2	KGL	1902.6	1903.1	PORT JEANNE D'ARC	KERGUELEN 1
KERGUELEN	KGL	1957.9	1988.5	PORT-AUX-FRANCAIS	PORT JEANNE D'ARC

<u>Country / Region Name</u>	<u>FIPS Code</u>				
<u>Observatory</u>	<u>IAGA Code</u>	<u>First Mean</u>	<u>Latest Mean</u>	<u>Replaced By</u>	<u>Replaces Previous</u>
PORT-AUX-FRANCAIS	PAF 1989.5	1991.5			KERGUELEN
PORT JEANNE D'ARC	PJA 1930.1	1962.5	KERGUELEN		KERGUELEN 2
<u>GEORGIA</u>	<u>GG</u>				
KARSANI	KAS 1905.5	1934.5	DUSHETI		TBILISI
TBILISI	TFS 1879.5	1905.5	KARSANI		
DUSHETI	TFS 1938.6	1990.5			KARSANI
<u>GERMANY</u>	<u>GE</u>				
BARTH	BAH 1889.5	1903.5			
BEUTHEN	BEU 1899.5	1911.5	BEUTHEN MIKILOW		
BEUTHEN MIKILOW	BMK 1925.5	1932.5			BEUTHEN
BOCHUM	BOC 1893.5	1934.5			
LEIPZIG (COLLMBERG)	CLL 1935.0	1935.0			
CLAUSTHAL	CLZ 1845.5	1918.5			
DONNERSBERG	DNB 1933.5	1934.5			
FLENSBURG	FLE 1891.5	1903.5			
FREIBERG	FRB 1890.5	1899.5			
FURSTENFELDBRUCK	FUR 1939.5	1991.5			MAISACH
GROSS RAUM	GRR 1935.0	1935.0			
GOTTINGEN	GTT 1832.6	1867.5			
HERMSDORF	HDF 1901.5	1929.5			
HAMBURG	HMG 1885.5	1896.5			
KIEL	KIE 1856.7	1890.8			
LUBECK	LUB 1885.5	1893.5			
MAISACH	MAS 1927.5	1932.5	FURSTENFELDBRUCK		MUNICH
MUNICH	MNH 1841.5	1926.5	MAISCH		

<u>Country / Region Name</u>	<u>FIPS Code</u>				
<u>Observatory</u>	<u>IAGA Code</u>	<u>First Mean</u>	<u>Latest Mean</u>	<u>Replaced By</u>	<u>Replaces Previous</u>
NEUFAHRWASSER	NFW 1891.5	1903.5			
NIEMEGK	NGK 1910.5	1993.5			POTSDAM, SEDDIN
POTSDAM	POT 1890.5	1928.5	NIEMEGK		
REGENSBURG	REG 1931.5	1955.5			
REGENSBURG	REG 1956.5	1975.5			
ROSTOCK	ROK 1890.5	1903.5			
SEDDIN	SED 1908.5	1931.5	NIEMEGK		
TELLNITZ	TEL 1933.5	1934.5			
WILHELMSHAVEN	WLH 1884.5	1932.5	WINGST		
WINGST	WNG 1939.5	1992.5			WILHELMSHAVEN
WUSTROW	WUS 1891.5	1903.5			
<u>GILBERT ISLANDS</u>	<u>GS</u>				
FANNING	FAN 1957.6	1958.5			
JARVIS ISLAND	JRV 1957.6	1958.5			
<u>GREECE</u>	<u>GR</u>				
ATHENS	ATH 1899.5	1908.5	DEKELIA		
DEKELEIA	DEK 1935.5	1939.5	PENDELLI		ATHENS
PENDELI	PEG 1959.5	1960.5			DEKELIA
<u>GREENLAND</u>	<u>GL</u>				
ANGMAGSSALIK	AMK 1933.2	1933.2			
CAP THORSEN	CTH 1883.2	1883.2			
GODHAVN 1	GDH 1903.5	1903.5	GODHAVN 2		
GODHAVN	GDH 1926.5	1975.0	GODHAVN 3		GODHAVN 1
GODHAVN	GDH 1975.5	1992.5			GODHAVN 2
GODTHAAB 1	GHB 1883.0	1883.0			

<u>Country / Region Name</u>	<u>FIPS Code</u>				
<u>Observatory</u>	<u>IAGA Code</u>	<u>First Mean</u>	<u>Latest Mean</u>	<u>Replaced By</u>	<u>Replaces Previous</u>
GODTHAAB 2	GHB	1923.6	1925.7		
GODTHAAB 3	GHB	1931.8	1931.8		
GODTHAAB 4	GHB	1941.6	1941.6		
GJOAHAVN	GJO	1903.9	1905.2		
HOLSTEINSBORG 1	HST	1853.5	1853.5		
HOLSTEINSBORG 2	HST	1908.7	1908.7		
HOLSTEINSBORG 3	HST	1912.4	1912.4		
HOLSTEINSBORG 4	HST	1924.6	1943.6		
HOLSTEINSBORG 5	HST	1965.6	1965.6		
INGE LEHMANN	ILN	1966.6	1967.6		
IVIGTUT 1	IVI	1863.9	1863.9		
IVIGTUT 2	IVI	1931.6	1943.5		
IVIGTUT 3	IVI	1946.5	1946.5		
IVIGTUT 4	IVI	1960.5	1960.5		
JULIANEHAAB	JUL	1932.8	1934.3	JULIANEHAAB 2	
JULIANEHAAB II	JUL	1957.8	1965.5	NARSSARSSUAQ	JULIANEHAAB 1
KAP TOBIN	KTG	1959.6	1967.6		
NARSSARSSUAQ	NAQ	1968.9	1992.5		
NANORTALIK 1	NNT	1884.1	1885.0	NANORTALIK 2	
NANORTALIK 2	NNT	1931.8	1931.8	NANORTALIK 3	NANORTALIK1
NANORTALIK 3	NNT	1943.7	1943.7	NANORTALIK 4	NANORTALIK 2
NANORTALIK 4	NNT	1960.7	1960.7		NANORTALIK 3
SCORESBY SUND (HEKL	SCO	1892.1	1892.1	SCORESBY SUND 2	
SCORESBY SUND 2	SCO	1933.2	1933.2		SCORESBY SUND 1

<u>Country / Region Name</u>	<u>FIPS Code</u>				
<u>Observatory</u>	<u>IAGA Code</u>	<u>First Mean</u>	<u>Latest Mean</u>	<u>Replaced By</u>	<u>Replaces Previous</u>
SUKKERTOPPEN	SKT	1965.5	1965.5		
THULE (DUNDAS)	THL	1932.8	1933.3	THULE (AIR FORCE)	
THULE (AIR FORCE)	THL	1947.5	1952.5	THULE (QANAQ)	THULE (DUNDAS)
THULE (QANAQ)	THL	1955.8	1992.5		THULE (AIR FORCE)
TASUISAK	TSK	1899.2	1899.2		
<u>GUAM</u>	<u>GQ</u>				
GUAM	GUA	1957.8	1992.5		
<u>HEARD ISL. AND MCDONALD ISL.</u>	<u>HM</u>				
HEARD ISLAND	HII	1948.0	1954.4		
<u>HONG KONG</u>	<u>HK</u>				
HONG KONG	HKC	1884.5	1928.5	AU TAU	
HONG KONG-TATE'S	HKC	1972.5	1978.5		AU TAU
<u>HUNGARY</u>	<u>HU</u>				
BUDAPEST	BUP	1875.5	1889.5	HURBANOVO	
BUDAKESZI	BUZ	1949.5	1956.0	TIHANY	
NAGYCENK	NCK	1961.5	1991.5		
O GYALLA	OGY	1890.5	1923.5	STARA DALA	
TIHANY	THY	1955.5	1990.5		BUDAKESZI
<u>ICELAND</u>	<u>IC</u>				
LEIRVOGUR	LRV	1957.8	1991.5		
<u>INDIA</u>	<u>IN</u>				
ALIBAG	ABG	1904.5	1990.5		COLABA(BOMBAY)
ANNAMALAINAGAR	ANN	1957.9	1990.5		
BARRACKPORE	BAC	1904.5	1914.5		
COLABA	CLA	1846.5	1906.1	ALIBAG	
DEHRA DUN	DDI	1903.5	1943.3	SABHAWALA	

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<u>Observatory</u>	<u>IAGA Code</u>	<u>First Mean</u>	<u>Latest Mean</u>	<u>Replaced By</u>	<u>Replaces Previous</u>
ETAIYAPURAM	ETT	1980.5	1983.5		
HYDERABAD	HYB	1965.5	1990.5		
JAIPUR	JAI	1976.5	1987.5		
KODAIKANAL	KOD	1902.5	1991.5		
MADRAS	MDS	1851.5	1855.5		
SABHAWALA	SAB	1964.5	1989.5		DEHRA DUN
SHILLONG	SHL	1976.5	1988.5		
TRIVANDRUM	TRD	1854.5	1869.5	TRIVANDRUM 2	
TRIVANDRUM	TRD	1957.9	1990.5		TRIVANDRUM 1
UJJAIN	UJJ	1976.5	1989.5		
INDONESIA	ID				
BATAVIA	BTB	1884.5	1944.5	KUYPER	
HOLLANDIA	HNA	1957.8	1962.3		
KUYPER	KUY	1929.5	1962.5	TANGERANG	BATAVIA(DJAKARTA)
MANADO	MND				
TANGERANG	TNG	1964.5	1991.5		KUYPER
TUNTUNGAN	TTG	1982.5	1987.5		
IRAN	IR				
TEHRAN	TEH	1960.5	1973.5		TAIHOKU
IRAQ	IZ				
BAGHDAD	BGH	1987.0			
IRELAND	EI				
DUBLIN	DUB	1834.5	1850.5		
VALENTIA	VAL	1899.5	1993.5		
ISRAEL	IS				
AMATSIA	AMT	1976.5	1988.5		

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<u>Observatory</u>	<u>IAGA Code</u>	<u>First Mean</u>	<u>Latest Mean</u>	<u>Replaced By</u>	<u>Replaces Previous</u>
BAR GYORA	BGY				
MODIIM	MOD	1975.5	1975.5		
NITZANIM	NSM	1963.5	1967.5		
ITALY					
	IT				
L AQUILA	AQU	1960.5	1991.5		
CASTELLACCIO	CAO	1933.5	1969.5		
CAPODIMONTE	CPD	1882.5	1922.5		
CASTELLO TESINO	CTS	1965.5	1988.5		
GIBILMANNA	GIB	1954.2	1957.5		
MONTE CAPELLINO	MCP	1958.8	1962.5		
ROBURENT	ROB	1964.8	1973.5		
TERRA NOVA BAY	TNB	1987.1	1989.1		
JAPAN					
	JA				
ASO	ASO	1958.5	1958.5		
CHICHIJIMA	CBI	1973.5	1991.5		
HATIZYO	HTY	1967.7	1991.5		
KAKIOKA	KAK	1913.5	1991.5		TOKYO
KATUURA	KAT	1946.9	1953.5	SIMOSATO	
KANOYA	KNY	1958.5	1991.5		
KANOZAN	KNZ	1961.5	1991.5		
MINAMITORI SHIMA	MIN	1941.7	1941.7		
MIZUSAWA	MIZ	1969.5	1991.5		
MEMAMBETSU	MMB	1950.8	1991.5		
OTOMARI	OTM	1920.5	1943.5		
SIMOSATO	SSO	1954.8	1977.5	HATIZYO	KATURA

<u>Country / Region Name</u>	<u>FIPS Code</u>			
Observatory	IAGA Code	First Mean	Latest Mean	Replaced By
SYOWA BASE	SYO	1958.5	1992.0	
TOYOHARA	TOH	1932.8	1940.3	YUZHNO SAKHALINSK
TOYOHARA	TOH	1941.5	1944.5	
TOKYO	TOK	1887.5	1912.5	KAKIOKA
<u>KAZAKHSTAN</u>	<u>KZ</u>			
ALMA ATA	AAA	1963.4	1988.5	
BEREZNYAKI	KGD	1965.5	1988.5	
PARATUNKA (PETROPVLO	PET	1969.5	1989.5	PETROPAVLOVSK
<u>KENYA</u>	<u>KE</u>			
NAIROBI	NAI	1964.5	1980.5	
<u>KOREA, REPUBLIC OF</u>	<u>KS</u>			
ZINSEN	ZIN	1918.5	1944.5	
<u>LEBANON</u>	<u>LE</u>			
KSARA	KSA	1930.9	1970.5	
<u>MADAGASCAR</u>	<u>MA</u>			
NAMPULA	NMP	1982.8	1984.5	
PENANG	PNN	1976.7	1976.7	PENANG 2
PENANG 2	PNN	1979.9	1979.9	PENANG 1
TANANARIVE	TAN	1890.5	1989.5	
<u>MAURITIUS</u>	<u>MP</u>			
MAURITIUS	MRI	1892.5	1966.0	PLAISANCE
PLAISANCE	PLS	1966.5	1976.5	MAURITIUS
<u>MEXICO</u>	<u>MX</u>			
CUAJIMALPA	CUA	1903.5	1926.5	TEOLOYUCAN
MEXICO CITY	MEX	1879.8	1879.8	TACUBAYA
MEXICO CITY	MEX	1881.7	1887.2	MEXICO CITY

<u>Country / Region Name</u>	<u>FIPS Code</u>				
Observatory	IAGA Code	First Mean	Latest Mean	Replaced By	Replaces Previous
TACUBAYA	TAC	1890.5	1926.5	CUAJIMALPA	MEXICO
TEOLOYUCAN	TEO	1914.5	1988.5		
<u>MIDWAY ISLANDS</u>	<u>MQ</u>				
MIDWAY	MDY	1964.5	1966.0		
<u>MONGOLIA</u>	<u>MG</u>				
ULAN BATOR	UBA	1966.5	1977.5		
<u>MOROCCO</u>	<u>MO</u>				
AVERROES	AVE	1967.5	1976.5		
TIOUINE	TIO	1989.0			
<u>MOZAMBIQUE</u>	<u>MZ</u>				
MAPUTO	LMM	1957.5	1987.5		
<u>NAMIBIA</u>	<u>WA</u>				
TSUMEB	TSU	1964.8	1989.5		
<u>NETHERLANDS</u>	<u>NL</u>				
DE BILT	DBN	1899.5	1938.5	WITTEWWEEN	UTRECHT
WITTEVEEN	WIT	1938.5	1987.5		DE BILT
UTRECHT	WIU	1891.5	1898.5	WITTEWEN	
<u>NEW ZEALAND</u>	<u>NZ</u>				
AMBERLEY	AML	1929.5	1977.5	LAUDER	CHRISTCHURCH
AUCKLAND ISLAND	AUI	1875.0	1875.0		
CHRISTCHURCH	CHR	1902.5	1930.5	AMBERLEY	
EYREWELL	EYR	1978.0	1991.5		
LAUDER	LAU	1979.5	1979.5		AMBERLY
SCOTT BASE	SBA	1957.8	1991.5		DISCOVERY BAY
<u>NIGERIA</u>	<u>NI</u>				
IBADAN	IBD	1956.5	1975.5		
ILE IFE	IIF				

<u>Country / Region Name</u>	<u>FIPS Code</u>			
<u>Observatory</u>	<u>IAGA Code</u>	<u>First Mean</u>	<u>Latest Mean</u>	<u>Replaced By</u>
				<u>Replaces Previous</u>
<u>NORWAY</u>	<u>NQ</u>			
BEAR ISLAND	BJN 1933.2	1933.2		
BEAR ISLAND	BJN 1951.5	1952.5		
BEAR ISLAND	BJN 1953.5	1991.5		
BODO	BOD 1932.7	1934.4		
BOSSEKOP 1	BOP 1839.0	1839.0	BOSSEKOP 2	
BOSSEKOP 2	BOP 1883.1	1883.1	BOSSEKOP 3	BOSSEKOP 1
BOSSEKOP 3	BOP 1933.2	1933.2		BOSSEKOP 2
DOMBAS	DOB 1916.5	1951.5	DOMBAS	
DOMBAS	DOB 1952.5	1991.5		DOMBAS 1
JAN MAYEN 1	JMI 1883.1	1892.7	JAN MAYEN 2	
JAN MAYEN 2	JMI 1933.2	1933.2		JAN MAYEN 1
NEW ALESUND	NAL 1966.5	1991.5		
OSLO	OSL 1843.5	1930.5		
SVEAGRUVA	SVG 1933.2	1933.2		
TROMSO	TRO 1930.5	1992.5		
<u>PAKISTAN</u>	<u>PK</u>			
KARACHI	KRC 1988.5	1992.5		
QUETTA	QUE 1953.9	1991.5		
<u>PAPUA NEW GUINEA</u>	<u>PP</u>			
PORT MORESBY	PMG 1957.8	1991.5		
<u>PERU</u>	<u>PE</u>			
ANCON	ANC 1990.0			HUANCAYO
HUANCAYO	HUA 1922.5	1991.5		
<u>PHILIPPINES</u>	<u>RP</u>			
ANTIPOLO	ANO 1910.5	1940.5	MUNTINLUPA	MANILA

<u>Country / Region Name</u>	<u>FIPS Code</u>				
<u>Observatory</u>	<u>IAGA Code</u>	<u>First Mean</u>	<u>Latest Mean</u>	<u>Replaced By</u>	<u>Replaces Previous</u>
BAGUIO	BAG	1967.5	1983.5		
DAVAO	DAV	1968.5	1984.5		
MANILA	MAN	1889.5	1904.5	ANTIPOLO	
MUNTINLUPA	MUT	1951.5	1988.5		ANTIPOLO
<u>POLAND</u>	<u>PL</u>				
ARCTOWSKI	ARC	1978.5	1989.5		
BELSK	BEL	1960.5	1992.5		
BRESLAU	BRE	1852.5	1895.5		
CRACOW (KRAKAU)	CRA	1895.5	1895.5	CRACOW	
CRACOW	CRA	1906.5	1936.5		CRACOW (KRAKAU)
HEL	HLP	1901.5	1990.5		
HORNSUND	HRN	1978.5	1985.5		
SWIDER	SWI	1921.5	1974.5		
STETTIN-ZABELSDORF	SZA	1892.5	1901.5		
WARSAW	WSW	1893.5	1893.5		
<u>PORTUGAL</u>	<u>PQ</u>				
ANGRA DO HEROISMO	ANH	1957.5	1970.5		
COIMBRA ALTO BALEIA	COI	1866.7	1930.5	COIMBRA	
COIMBRA	COI	1931.5	1992.5		COIMBRA ALTO BALEIA
LISBON	LIS	1858.5	1900.5		
SAN MIGUEL	SMG	1911.5	1977.5		
<u>PUERTO RICO</u>	<u>RQ</u>				
SAN JUAN	SJG	1926.5	1965.0	SAN JUAN 2	VIEQUES
SAN JUAN	SJG	1965.5	1992.5		SAN JUAN 1
VIEQUES	VQS	1903.5	1924.4	SAN JUAN 1	

<u>Country / Region Name</u>	<u>FIPS Code</u>				
Observatory	IAGA Code	First Mean	Latest Mean	Replaced By	Replaces Previous
<u>ROMANIA</u>	<u>RO</u>				
BUCHAREST	BUC	1898.4	1898.4		
JASSY	JSS	1931.5	1971.5		
SURLARI	SUA	1949.5	1991.5		
<u>RUSSIA</u>	<u>RS</u>				
ALGER ISLAND	ALG	1905.5	1905.5		
ARKHANGELSK	ARK	1985.5	1989.5		
ARTI	ARS	1973.5	1991.5		VYSOKAYA DUBRAVA
BOROK	BOX	1977.5	1990.5		
BARNAUL	BRN	1842.5	1873.5		
CAPE CHELYUSKIN	CCS	1935.5	1991.5		
CAPE WELLEN (UELEN)	CWE	1933.5	1991.5		
DIXON ISLAND	DIK	1933.5	1950.0		
DIXON ISLAND	DIK	1950.5	1953.0		
DIXON ISLAND	DIK	1953.5	1991.5		
HEISS ISLAND	HIS	1959.5	1991.5		TIKHAYA BAY
IRKUTSK	IRT	1887.5	1914.5	ZUY	
PATRONY	IRT	1957.5	1990.5		ZUY
JEKMAN ISLAND	JKI	1939.2	1939.2		
KANDALAKSHA	KND	1933.2	1933.2		
KUTCHINO	KTC	1926.5	1933.5	KRASNAYA PAKHRA	MOSCOW
KAZAN	KZN	1892.5	1911.5	ZAYMISHCHE	
ZAYMISHCHE	KZN	1912.5	1988.5		KAZAN
VOYEYKOVO	LNN	1947.5	1990.5		SLUTSK
MAITUN	MAI	1936.5	1948.5	VOROSHILOV	

<u>Country / Region Name</u>	<u>FIPS Code</u>				
<u>Observatory</u>	<u>IAGA Code</u>	<u>First Mean</u>	<u>Latest Mean</u>	<u>Replaced By</u>	<u>Replaces Previous</u>
MAGADAN	MGD	1960.5	1966.5	STEKOLNYY	SREDNIKAN
STEKOLNYY (MAGADAN)	MGD	1966.5	1990.5		MAGADAN
MIRNY	MIR	1956.8	1991.5		
MALYYE KARMAKULY	MKL	1883.2	1883.2		
MURMANSK	MMK	1958.8	1961.5	LOPARSKAYE	
LOPARSKOYE	MMK	1961.5	1985.5		MURMANSK
MOLODEZHNYA	MOL	1965.5	1991.5		
MOSCOW	MOS	1880.5	1888.5	KUTCHINO	
KRASNAYA PAKHRA	MOS	1930.5	1990.5		KUTCHINO
MATOCHKIN SHAR	MSR	1923.9	1949.5	VYKHODNOY	
NERTSCHINSK	NER	1841.5	1864.5		
NOVOKAZALINSK	NKK	1974.5	1990.5		
NOVOLAZAREVSKAYA	NVL	1961.5	1987.5		LAZAREV
KLYUCHI (NOVOSIBIRSK)	NVS	1967.5	1991.5		
PODKAMENNAYA TUNGU	POD	1969.5	1989.5		
PITLEKAYA	PTL	1879.1	1879.1		
PETSAMO	PTS	1933.1	1933.1		
SAGASTYR	SAG	1883.5	1883.5		
SLUTSK	SLU	1878.5	1945.0	VOYEYKOVO	ST. PETERSBURG
ST. PETERSBURG	SPE	1869.5	1877.5	SLUTSK	
SREDNIKAN	SRE	1936.5	1967.0	MAGADAN	
SVERDLOVSK	SVD	1841.5	1931.5	VYSOKAYA DUBRAVA	SVERDLOVSK YEKATERI
VYSOKAYA DUBRAVA	SVD	1929.5	1980.5	ARTI	SVERDLOVSK
SVERDLOVSK YEKATERI	SVE	1841.5	1841.5	SVERDLOVSK	

<u>Country / Region Name</u>	<u>FIPS Code</u>			
<u>Observatory</u>	<u>IAGA Code</u>	<u>First Mean</u>	<u>Latest Mean</u>	<u>Replaced By</u>
TIXIE BAY	TIK 1944.5	1991.5		
TIKHAYA BAY	TKH 1933.5	1958.5	HEISS ISLAND	
TOMSK	TMK 1958.5	1969.5		
TEPLITZ BAY	TPB 1904.1	1904.1		
GORNOTAYEZH NAYA	VLA 1958.5	1989.5		VOROSHILOV
VOROSHILOV	VOR 1951.5	1958.0	GORNOTAYEZH NAYA	MAITUN(VLADIVOSTOK)
VOSTOK	VOS 1958.5	1991.5		
VYKHODNOY	VYK 1949.5	1955.5		MATOCHIN SHAR
YAKUTSK	YAK 1931.5	1989.5		
YUZHNO SAKHALINSK	YSS 1941.5	1989.5		
ZUY	ZUY 1915.5	1959.0	PATRONY	IRKUTSK
<u>SENEGAL</u>	<u>SG</u>			
M BOUR	MBO 1952.6	1989.5		
<u>SERBIA</u>	<u>SR</u>			
GROCKA	GCK 1958.5	1991.5		
<u>SINGAPORE</u>	<u>SN</u>			
SINGAPORE	SIN 1840.5	1847.5		
<u>SLOVAKIA</u>	<u>LO</u>			
HURBANOVO	HRB 1948.5	1990.5		STARA DALA
<u>SOMALIA</u>	<u>SO</u>			
MOGADISCIO	MOG 1933.1	1933.1		
ORCADAS DEL SUR	ORC 1905.5	1962.5		
<u>SOUTH AFRICA</u>	<u>SE</u>			
CAPE OF GOOD HOPE	CGH 1841.5	1846.3	CAPE TOWN	
CAPE TOWN	CTO 1932.5	1940.5	HERMANUS	CAPE OF GOOD HOPE
GRAHAMSTOWN	GRM 1974.8	1980.1		

<u>Country / Region Name</u>	<u>FIPS Code</u>				
<u>Observatory</u>	<u>IAGA Code</u>	<u>First Mean</u>	<u>Latest Mean</u>	<u>Replaced By</u>	<u>Replaces Previous</u>
HARTEBEESTHOEK	HBK	1973.5	1991.5		
HERMANUS	HER	1941.5	1991.5		CAPE TOWN
MARION ISLAND	MRN	1973.7	1980.5		
SANAE I	SNA	1962.7	1970.5	SANAE 2	
SANAE II	SNA	1971.7	1978.5	SANAE 3	SANAE 1
SANAE III	SNA	1979.8	1989.5		SANAE 2
<u>SPAIN</u>	<u>SP</u>				
ALMERIA	ALM	1955.5	1991.5		
EBRO	EBR	1905.5	1983.5		
LOGRONO	LGR	1957.8	1976.5		
MADRID	MDD	1879.5	1901.5		
SAN FERNANDO	SFS	1880.5	1979.5		
SAN PABLO- TOLEDO	SPT	1981.5	1991.5		TOLEDO
LAS MESAS(TENERIFE)	TEN	1959.5	1991.5		
TOLEDO	TOL	1947.5	1982.0	SAN PABLO	
<u>SURINAME</u>	<u>NS</u>				
PARAMARIBO	PAB	1957.8	1974.5		
<u>SWEDEN</u>	<u>SW</u>				
ABISKO	ABK	1921.5	1991.5		
KIRUNA	KIR	1962.5	1989.0		
LOVO	LOV	1928.5	1991.5		
<u>TANZANIA, UNITED REPUBLIC OF</u>	<u>TZ</u>				
DAR ES SALAAM	DMS	1896.5	1903.5		
<u>TRUST TERRITORY PACIFIC ISL.(</u>	<u>TO</u>				
JALUIT	JAL	1938.5	1942.5		
KOROR	KOR	1957.6	1966.2		PALAU

<u>Country / Region Name</u>	<u>FIPS Code</u>			
<u>Observatory</u>	<u>IAGA Code</u>	<u>First Mean</u>	<u>Latest Mean</u>	<u>Replaced By</u>
MAJURO	MJR 1964.8	1966.1		
PALAU	PLA 1926.5	1941.5	KOROR	
<u>TURKEY</u>	<u>TU</u>			
ANKARA	ANK 1986.5	1991.5		
ISTANBUL-KANDILLI	ISK 1946.5	1991.5		
<u>TURKMENISTAN</u>	<u>TX</u>			
VANNOVSKAYA	ASH 1959.5	1990.5		
<u>UKRAINE</u>	<u>UP</u>			
KIEV	KIV 1958.6	1963.5	DYMER	
DYMER	KIV 1964.5	1991.5		KIEV
LVOV	LVV 1952.5	1991.5		JANOW (YANOV)
ODESSA	ODE 1896.5	1901.5	ODESSA	
ODESSA	ODE 1908.5	1925.5	STEPANOVKA	ODESSA
STEPANOVKA	ODE 1936.5	1991.5		ODESSA
SIMFEROPOL	SIM 1959.5	1959.5		
JANOW (YANOV)	YNV 1933.7	1934.5	L'VOV	
<u>UNITED KINGDOM</u>	<u>UK</u>			
ABINGER	ABN 1925.5	1958.0	HARTLAND	GREENWICH
FARADAY ISLANDS	AIA 1957.6	1991.5		
BYRD STATION	BYR 1957.8	1962.0	BYRD STATION 2	
BYRD STATION	BYR 1962.5	1968.3		BYRD STATION 1
ESKDALEMUIR	ESK 1908.5	1992.5		
FALMOUTH	FAL 1891.5	1912.5		
GREENWICH	GRW 1818.7	1925.5	ABINGER	
GRYTVIKEN	GTV 1975.5	1982.2		

<u>Country / Region Name</u>	<u>FIPS Code</u>				
<u>Observatory</u>	<u>IAGA Code</u>	<u>First Mean</u>	<u>Latest Mean</u>	<u>Replaced By</u>	<u>Replaces Previous</u>
GEORG VON NEUMAYER	GVN	1983.6	1989.5		
HARTLAND	HAD	1957.5	1992.5		ABINGER
HALLEY BAY	HBA	1957.7	1980.5		
HACKNEY WICK	HKW	1813.6	1815.4	HACKNEY WICK 2	
HACKNEY WICK (BUSH)	HKW	1817.6	1822.2		HACKNEY WICK
KEW	KEW	1842.5	1924.5		
LERWICK	LER	1923.5	1992.5		
MAKERSTOUN	MAK	1841.5	1849.5		
SOUTH GEORGIA	SGE	1883.2	1883.2		
STONYHURST	STO	1865.5	1967.5		
<u>UNITED STATES</u>			<u>US</u>		
ADAK	ADA	1964.8	1966.0		
ANCHORAGE	AMU	1957.6	1958.5		
BALDWIN	BAL	1901.5	1909.4		
BIG DELTA	BDE	1957.6	1958.5		
BELOIT	BLT	1957.6	1958.5		
BOULDER	BOU	1964.5	1992.5		
BURLINGTON	BRT	1957.5	1959.5		
BARROW	BRW	1933.2	1933.2		
BARROW	BRW	1949.5	1974.5		
BARROW	BRW	1975.5	1992.5		
BAY ST LOUIS	BSL	1986.6	1992.5		
BARTER ISLAND	BTI	1958.5	1958.5		
CARROLLTON	CAX	1958.5	1959.5		
CHESTERFIELD INLET	CFI	1933.2	1933.2		

<u>Country / Region Name</u>	<u>FIPS Code</u>				
<u>Observatory</u>	<u>IAGA Code</u>	<u>First Mean</u>	<u>Latest Mean</u>	<u>Replaced By</u>	<u>Replaces Previous</u>
CHELTENHAM	CLH	1901.5	1957.0	FREDRICKSBURG	
COLLEGE	CMO	1933.5	1933.5	COLLEGE 2	
COLLEGE	CMO	1941.8	1947.0	COLLEGE	COLLEGE 2
COLLEGE	CMO	1948.5	1992.5		COLLEGE 2
CASTLE ROCK	CRC	1970.5	1974.5		
CASPER	CSR	1958.5	1958.5		
DALLAS	DAL	1964.5	1974.5		
DEL RIO	DLR	1982.5	1992.5		
ESPANOLA	EPN	1958.5	1958.5		
EAST PORT	ETP	1860.5	1864.5		
FREDERICKSBURG	FRD	1956.5	1992.5		CHELTENHAM
FRESNO	FRN	1982.5	1992.5		
FORT YUKON	FYU	1958.5	1958.5		
HEALY	HEA	1957.6	1958.5		
HONOLULU	HON	1902.5	1947.0	HONOLULU 2	
HONOLULU	HON	1947.7	1961.0	HONOLULU	HONOLULU 1
HONOLULU	HON	1961.5	1992.5		HONOLULU 2
KOTZEBUE	KOT	1958.5	1958.5		
KEY WEST	KWT	1860.5	1866.5		
LITTLE AMERICA 1	LAA	1929.8	1929.8	LITTLE AMERICA 2	
LITTLE AMERICA 2	LAA	1934.6	1934.6	LITTLE AMERICA 3	LITTLE AMERICA 1
LITTLE AMERICA 3	LAA	1940.7	1940.7	LITTLE AMERICA 4	LITTLE AMERICA 2
LITTLE AMERICA 4	LAA	1947.1	1947.1	LITTLE AMERICA 5	LITTLE AMERICA 3
LITTLE AMERICA 5	LAA	1957.8	1958.5		LITTLE AMERICA 4

<u>Country / Region Name</u>	<u>FIPS Code</u>			
<u>Observatory</u>	<u>IAGA Code</u>	<u>First Mean</u>	<u>Latest Mean</u>	<u>Replaced By</u>
				<u>Replaces Previous</u>
LITTLE AMERICA3	LAA	1958.0	1958.0	
LEADVILLE	LDV	1957.5	1959.5	
LOS ANGELES	LOS	1882.8	1889.5	
MOUNT WEATHER	MWR	1908.2	1908.2	
NEWPORT	NEW	1966.6	1992.5	
NORTHWAY	NRW	1958.5	1958.5	
PATRICK	PAT	1954.8	1956.2	
PRICE	PCU	1957.5	1959.5	
PHILADELPHIA GIRARD	PGC	1840.5	1845.2	
SITKA	SIT	1902.5	1939.5	
SITKA	SIT	1940.5	1992.5	
SOUTH POLE	SPA	1959.5	1971.5	
TUCSON	TUC	1909.5	1992.5	
TULSA	TUL	1968.9	1989.5	
WASHINGTON CITY	WDC	1841.0	1842.0	WASHINGTON NEW
WASHINGTON 1	WDC	1867.5	1869.2	WASHINGTON 2
WASHINGTON 2	WDC	1888.5	1892.5	WASHINGTON 1
WASHINGTON NEW	WDC	1894.5	1894.5	
				WASHINGTON NEW
<u>UZBEKISTAN</u>			<u>UZ</u>	
KELES	KEL	1936.5	1964.0	YANGI BAZAR
TASHKENT	TKT	1883.5	1935.2	KELES
YANGI-BAZAR	TKT	1957.5	1990.5	
				KELES
<u>VIETNAM</u>			<u>YM</u>	
BACLIEU	BCL	1988.5	1990.5	
CHA PA	CPA	1955.5	1989.5	

<u>Country / Region Name</u>	<u>FIPS Code</u>				
<u>Observatory</u>	<u>IAGA Code</u>	<u>First Mean</u>	<u>Latest Mean</u>	<u>Replaced By</u>	<u>Replaces Previous</u>
DALAT	DLT	1978.5	1989.5		
PHUTHUY	PHU	1978.5	1988.5		
<u>WESTERN SAMOA</u>	<u>WS</u>				
APIA	API	1905.5	1990.5		
<u>ZAIRE</u>	<u>CG</u>				
BINZA	BIN	1953.5	1973.5		
BUNIA	BNA				
ELIZABETHVILLE	ELI	1932.9	1958.0	KARAVIA	
KARAVIA	KVA	1958.5	1961.3		ELIZABETHVILLE
LWIRO	LWI	1958.8	1970.5		

**Table 5: Magnetic Observatories 1818-1994, Sorted by IAGA Code
(based on annual means received at WDC-A)**

IAGA Code	Observatory	Status	Latitude	Longitude	Country Code	Country / Region
A						
AAA	ALMA ATA	O	43.25	76.917	KZ	Kazakhstan
AAE	ADDIS ABABA	O	9.03	38.765	ET	Ethiopia
ABG	ALIBAG	O	18.638	72.872	IN	India
ABK	ABISKO	O	68.358	18.823	SW	Sweden
ABN	ABINGER	C	51.185	359.613	UK	United Kingdom
ADA	ADAK	C	51.865	183.357	US	United States
AGN	AGINCOURT	C	43.783	280.733	CA	Canada
AIA	FARADAY ISLANDS	O	-65.245	295.742	UK	United Kingdom
ALE	ALERT	O	82.5	297.5	CA	Canada
ALG	ALGER ISLAND	C	80.367	56.1	RS	Russia
ALM	ALMERIA	O	36.853	357.54	SP	Spain
AMK	ANGMAGSSALIK	C	65.617	322.367	GL	Greenland
AML	AMBERLEY	C	-43.152	172.722	NZ	New Zealand
AMS	MARTIN DE VIVIES	O	-37.833	77.567	FS	French Southern and Antarctic Lands
AMT	AMATSIA	O	31.55	34.917	IS	Israel
AMU	ANCHORAGE	C	61.235	210.13	US	United States
ANC	ANCON	N	-11.69	282.852	PE	Peru
ANH	ANGRA DO HEROISMO	C	38.32	332.775	PO	Portugal
ANK	ANKARA	O	39.891	32.764	TU	Turkey
ANN	ANNAMALAINAGAR	O	11.367	79.683	IN	India
ANO	ANTIPOLO	C	14.6	121.167	RP	Philippines
API	APIA	O	-13.807	188.225	WS	Western Samoa
AQU	L AQUILA	O	42.383	13.317	IT	Italy

IAGA Code	Observatory	Status	Latitude	Longitude	Country Code	Country / Region
ARC	ARCTOWSKI	O	-62.16	301.522	PL	Poland
ARK	ARKHANGELSK	O	64.583	40.5	RS	Russia
ARS	ARTI	O	56.433	58.567	RS	Russia
ASH	VANNOVSKAYA	O	37.95	58.108	TX	Turkmenistan
ASO	ASO	C	32.882	131.01	JA	Japan
ASP	ALICE SPRINGS	N	-23.762	133.883	AS	Australia
ATH	ATHENS	C	37.972	23.72	GR	Greece
AUI	AUCKLAND ISLAND	C	-50.866	166.083	NZ	New Zealand
AUT	AU TAU	C	22.447	114.045	CH	China
AVE	AVERROES	C	33.298	352.587	MO	Morocco
B						
BAC	BARRACKPORE	C	22.775	88.362	IN	India
BAG	BAGUIO	U	16.4	120.633	RP	Philippines
BAH	BARTH	C	54.367	12.75	GE	Germany
BAL	BALDWIN	C	38.783	264.833	US	United States
BCL	BACLIEU	U	9.283	105.733	VM	Vietnam
BDE	BIG DELTA	C	63.997	214.268	US	United States
BDV	BUDKOV	O	49.08	14.015	EZ	Czech Republic
BEL	BELSK	O	51.837	20.792	PL	Poland
BEU	BEUTHEN	C	50.35	18.92	GE	Germany
BFE	BRORFELDE	O	55.625	11.672	DA	Denmark
BFI	BAFFIN ISLAND	C	64.4	282.133	CA	Canada
BGH	BAGHDAD	O	33.25	44.467	IZ	Iraq
BGY	BAR GYORA	N	31.73	35.21	IS	Israel
BIN	BINZA	U	-4.267	15.367	CG	Zaire
BJI	BEIJING	O	40.04	116.175	CH	China

IAGA Code	Observatory	Status	Latitude	Longitude	Country Code	Country / Region
BJN	BEAR ISLAND	O	74.5	19.2	NO	Norway
BJN	BEAR ISLAND	C	74.51	19.01	NO	Norway
BJN	BEAR ISLAND	C	74.497	19.227	NO	Norway
BLC	BAKER LAKE	O	64.333	263.967	CA	Canada
BLT	BELOIT	C	39.477	261.867	US	United States
BMK	BEUTHEN MIKILOW	C	50.15	18.9	GE	Germany
BMT	BEIJING MING TOMBS	N	40.3	116.2	CH	China
BNA	BUNIA	N	1.533	30.017	CG	Zaire
BNG	BANGUI	O	4.437	18.565	CT	Central African Republic
BOC	BOCHUM	C	51.49	7.232	GE	Germany
BOD	BODO	C	67.3	14.417	NO	Norway
BOP	BOSSEKOP 2	C	69.966	23.25	NO	Norway
BOP	BOSSEKOP 1	C	69.966	23.266	NO	Norway
BOU	BOULDER	O	40.138	254.762	US	United States
BOX	BOROK	O	58.03	38.97	RS	Russia
BRE	BRESLAU	C	51.116	17.033	PL	Poland
BRN	BARNAUL	C	53.333	83.783	RS	Russia
BRT	BURLINGTON	C	39.383	257.733	US	United States
BRW	BARROW	O	71.323	203.38	US	United States
BRW	BARROW	C	71.303	203.252	US	United States
BRW	BARROW	C	71.383	203.717	US	United States
BSL	BAY ST LOUIS	O	30.4	270.6	US	United States
BTI	BARTER ISLAND	C	70.133	216.017	US	United States
BTV	BATAVIA	C	-6.183	106.833	ID	Indonesia
BUC	BUCHAREST	C	44.416	26.1	RO	Romania
BUP	BUDAPEST	C	47.5	19.033	HU	Hungary

IAGA Code	Observatory	Status	Latitude	Longitude	Country Code	Country / Region
BUZ	BUDAKESZI	C	47.523	18.897	HU	Hungary
BYR	BYRD STATION	C	-79.983	240	UK	United Kingdom
BYR	BYRD STATION	C	-80.017	240.483	UK	United Kingdom
BZR	BOUZAREAH	C	36.802	3.017	AG	Algeria
C						
CAO	CASTELLACCIO	C	44.43	8.933	IT	Italy
CAX	CARROLLTON	C	39.367	266.467	US	United States
CBB	CAMBRIDGE BAY	O	69.2	255	CA	Canada
CBI	CHICHIJIMA	O	27.083	142.167	JA	Japan
CCS	CAPE CHELYUSKIN	U	77.717	104.283	RS	Russia
CDE	CAPE DENISON	C	-67	142.667	AY	Antarctica
CEV	CAPE EVANS	C	-77.633	166.4	AY	Antarctica
CFI	CHESTERFIELD INLET	C	63.333	269.3	US	United States
CGH	CAPE OF GOOD HOPE	C	-33.933	18.483	SF	South Africa
CHD	CHENGDU	N	31	103.7	CH	China
CHP	CACHOEIRA PAULIS	U	-22.73	315	AR	Argentina
CHR	CHRISTCHURCH	C	-43.53	172.622	NZ	New Zealand
CLA	COLABA	C	18.897	72.815	IN	India
CLF	CHAMBON-LA-FORET	O	48.023	2.26	FR	France
CLH	CHELTENHAM	C	38.733	283.158	US	United States
CLL	LEIPZIG (COLLMBERG)	C	51.317	13	GE	Germany
CLZ	CLAUSTHAL	C	51.805	10.337	GE	Germany
CMO	COLLEGE	O	64.86	212.163	US	United States
CMO	COLLEGE	C	64.85	212.167	US	United States
CMO	COLLEGE	C	64.867	212.183	US	United States
CNB	CANBERRA	O	-35.315	149.363	AS	Australia

IAGA Code	Observatory	Status	Latitude	Longitude	Country Code	Country / Region
CNH	CHANGCHUN 1	C	43.833	125.3	CH	China
CNH	CHANGCHUN (HELONG)	O	43.827	125.299	CH	China
COI	COIMBRA	O	40.222	351.578	PO	Portugal
COI	COIMBRA ALTO BALEIA	C	40.207	351.577	PO	Portugal
COP	COPENHAGEN	C	55.683	12.583	DA	Denmark
CPA	CHA PA	U	22.35	103.833	VM	Vietnam
CPD	CAPODIMONTE	C	40.863	14.257	IT	Italy
CRA	CRACOW (KRAKAU)	C	50.05	19.95	PL	Poland
CRA	CRACOW	C	50.052	19.952	PL	Poland
CRC	CASTLE ROCK	C	37.24	237.87	US	United States
CRP	CHIRIPA	O	10.44	275.089	CS	Costa Rica
CSR	CASPER	C	42.833	253.633	US	United States
CSY	CASEY	O	-66.283	110.533	AS	Australia
CTA	CHARTERS TOWERS	O	-20.1	146.3	AS	Australia
CTH	CAP THORSEN	C	78.467	15.7	GL	Greenland
CTO	CAPE TOWN	C	-33.95	18.467	SF	South Africa
CTS	CASTELLO TESINO	O	46.047	11.65	IT	Italy
CTX	CHARCOT	C	-69.367	139.033	AY	Antarctica
CUA	CUAJIMALPA	C	19.373	260.717	MX	Mexico
CWE	CAPE WELLEN (UELEN)	O	66.163	190.165	RS	Russia
CZT	PORT ALFRED	O	-46.433	51.867	FS	French Southern and Antarctic Lands

D

DAL	DALLAS	C	32.985	263.248	US	United States
DAV	DAVAO	U	7.053	125.38	RP	Philippines
DBN	DE BILT	C	52.102	5.177	NL	Netherlands
DDI	DEHRA DUN	C	30.322	78.055	IN	India

IAGA Code	Observatory	Status	Latitude	Longitude	Country Code	Country / Region
DEK	DEKELEIA	C	38.102	23.773	GR	Greece
DIK	DIXON ISLAND	O	73.543	80.562	RS	Russia
DIK	DIXON ISLAND	C	73.5	80.417	RS	Russia
DIK	DIXON ISLAND	C	73.55	80.567	RS	Russia
DIS	DISCOVERY BAY	C	81.733	295.267	CA	Canada
DJI	DJIBOUTI	U	11.7	43.3	DJ	Djibouti
DLR	DEL RIO	O	29.487	259.085	US	United States
DLT	DALAT	O	11.917	108.417	VM	Vietnam
DMS	DAR ES SALAAM	C	-6.816	39.316	TZ	Tanzania, United Republic of
DNB	DONNERSBERG	C	50.55	13.933	GE	Germany
DOB	DOMBAS	C	62.078	9.097	NO	Norway
DOB	DOMBAS	O	62.073	9.117	NO	Norway
DOU	DOURBES	O	50.097	4.595	BE	Belgium
DRV	DUMONT D'URVILLE	O	-66.665	140.007	FS	French Southern and Antarctic Lands
DUB	DUBLIN	C	53.35	353.733	EI	Ireland
DVS	DAVIS	O	-68.583	77.967	AS	Australia
E						
EAS	EL ABIOD SIDI	C	32.903	0.55	AG	Algeria
EBR	EBRO	O	40.82	0.493	SP	Spain
EGS	EIGHTS	C	-75.233	282.833	AY	Antarctica
EIC	EASTER ISLAND	C	-27.172	250.578	CI	Chile
ELI	ELIZABETHVILLE	C	-11.658	27.468	CG	Zaire
EPN	ESPANOLA	C	35.983	253.95	US	United States
ESK	ESKDALEMUIR	O	55.317	356.8	UK	United Kingdom
ETA	ETAH	C	78.317	287.267	CA	Canada
ETA	ETAH	C	78.3	287.333	CA	Canada

IAGA Code	Observatory	Status	Latitude	Longitude	Country Code	Country / Region
ETA	ETAH	C	78.317	287.3	CA	Canada
ETA	ETAH	C	78.317	287.333	CA	Canada
ETP	EAST PORT	C	44.9	293.016	US	United States
ETT	ETAIYAPURAM	U	9	78	IN	India
EUS	EUSEBIO	C	-3.89	321.56	BR	Brazil
EYR	EYREWELL	O	-43.417	172.35	NZ	New Zealand
E						
FAL	FALMOUTH	C	50.15	354.923	UK	United Kingdom
FAN	FANNING	C	3.905	200.61	GS	Gilbert Islands
FCC	FORT CHURCHILL	O	58.767	265.9	CA	Canada
FCR	FORT CONGER	C	81.733	295.267	CA	Canada
FLB	FLOEBERG BEACH	C	83.45	298.633	CA	Canada
FLE	FLENSBURG	C	54.783	9.433	GE	Germany
FRA	FORT RAE 2	C	62.833	243.933	CA	Canada
FRB	FREIBERG	C	50.916	13.35	GE	Germany
FRD	FREDERICKSBURG	O	38.205	282.627	US	United States
FRN	FRESNO	O	37.09	240.28	US	United States
FTE	FORT RAE 1	C	62.65	244.266	CA	Canada
FUQ	FUQUENE	U	5.47	286.263	CO	Colombia
FUR	FURSTENFELDBRUCK	O	48.165	11.277	GE	Germany
FYU	FORT YUKON	C	66.567	214.733	US	United States
G						
GAS	GAUSS STATION	C	-66.033	89.633	AY	Antarctica
GCK	GROCKA	O	44.633	20.767	SR	Serbia
GDH	GODHAVN	C	69.24	306.478	GL	Greenland

IAGA Code	Observatory	Status	Latitude	Longitude	Country Code	Country / Region
GDH	GODHAVN	O	69.252	306.467	GL	Greenland
GIB	GIBILMANNA	C	37.99	14.02	IT	Italy
GJO	GJOAHAVN	C	68.617	264.117	GL	Greenland
GLN	GLENLEA	O	49.6	262.9	CA	Canada
GNA	GNANGARA	O	-31.783	115.95	AS	Australia
GRM	GRAHAMSTOWN	C	-33.315	26.503	SF	South Africa
GRR	GROSS RAUM	C	54.833	20.5	GE	Germany
GRW	GREENWICH	C	51.483	0	UK	United Kingdom
GTT	GOTTINGEN	C	51.533	9.95	GE	Germany
GTV	GRYTVIKEN	C	-54.283	323.517	UK	United Kingdom
GTW	GREAT WALL	N	-62.2	301	CH	China
GUA	GUAM	O	13.583	144.87	GQ	Guam
GVD	GONZALES VIDELA	C	-64.82	297.152	AY	Antarctica
GVN	GEORG VON NEUMAYER	C	-70.617	351.633	UK	United Kingdom
GWC	GREAT WHALE RIVER	C	55.267	282.217	CA	Canada
GZH	GUANGZHOU	O	23.093	113.343	CH	China
H						
HAD	HARTLAND	O	50.995	355.517	UK	United Kingdom
HBA	HALLEY BAY	C	-75.517	333.397	UK	United Kingdom
HBK	HARTEBEESTHOEK	O	-25.882	27.707	SF	South Africa
HDF	HERMSDORF	C	50.76	16.238	GE	Germany
HEA	HEALY	C	63.855	211.032	US	United States
HER	HERMANUS	O	-34.425	19.225	SF	South Africa
HII	HEARD ISLAND	C	-53.032	73.365	HM	Heard Isl. and McDonald Isl.
HIS	HEISS ISLAND	O	80.617	58.05	RS	Russia
HKC	HONG KONG	C	22.303	114.175	HK	Hong Kong

IAGA Code	Observatory	Status	Latitude	Longitude	Country Code	Country / Region
HKC	HONG KONG-TATE'S	C	22.367	114.217	HK	Hong Kong
HKW	HACKNEY WICK	C	51.55	359.966	UK	United Kingdom
HKW	HACKNEY WICK (BUSH)	C	51.633	359.666	UK	United Kingdom
HLL	HALLETT STATION	C	-72.315	170.217	AY	Antarctica
HLP	HEL	O	54.608	18.815	PL	Poland
HLW	HELWAN	C	29.858	31.342	EG	Egypt
HMG	HAMBURG	C	53.55	9.983	GE	Germany
HNA	HOLLANDIA	C	-2.572	140.513	ID	Indonesia
HON	HONOLULU	C	21.305	201.905	US	United States
HON	HONOLULU	C	21.32	201.937	US	United States
HON	HONOLULU	O	21.32	201.998	US	United States
HRB	HURBANOVO	O	47.873	18.19	LO	Slovakia
HRN	HORNSUND	O	77	15.55	PL	Poland
HST	HOLSTEINSBORG 5	C	66.95	306.35	GL	Greenland
HST	HOLSTEINSBORG 1	C	66.866	306.733	GL	Greenland
HTY	HATIZYO	O	33.122	139.802	JA	Japan
HUA	HUANCAYO	O	-12.045	284.66	PE	Peru
HUT	DISCOVERY BAY (HUT)	C	-77.85	166.75	AY	Antarctica
HVN	CENTRO GEOFISICO	U	22.967	277.857	CU	Cuba
HVN	HAVANA	C	23.133	277.65	CU	Cuba
HYB	HYDERABAD	O	17.413	78.555	IN	India
I						
IBD	IBADAN	C	7.433	3.9	NI	Nigeria
IIF	ILE IFE	U	7.55	4.567	NI	Nigeria
ILN	INGE LEHMANN	C	77.917	320.767	GL	Greenland
IRT	PATRONY	O	52.167	104.45	RS	Russia

IAGA Code	Observatory	Status	Latitude	Longitude	Country Code	Country / Region
IRT	IRKUTSK	C	52.267	104.267	RS	Russia
ISK	ISTANBUL-KANDILLI	O	41.063	29.062	TU	Turkey
IVI	IVIGTUT 4	C	61.2	311.833	GL	Greenland
IVI	IVIGTUT 3	C	61.2	311.817	GL	Greenland
I						
JAI	JAIPUR	O	26.917	75.8	IN	India
JAL	JALUIT	C	5.915	169.652	TQ	Trust Territory Pacific Isl. (CQ & NQ)
JKI	JEKMAN ISLAND	C	76.433	95.133	RS	Russia
JMI	JAN MAYEN 1	C	71	351.533	NO	Norway
JRV	JARVIS ISLAND	C	-0.383	199.967	GS	Gilbert Islands
JSS	JASSY	C	47.183	27.533	RO	Romania
JUL	JULIANEHAAB II	C	60.717	313.967	GL	Greenland
K						
KAK	KAKIOKA	O	36.23	140.19	JA	Japan
KAS	KARSANI	C	41.833	44.7	GG	Georgia
KAT	KATUURA	C	33.63	135.948	JA	Japan
KDU	KAKADU	N	-12.7	132.5	AS	Australia
KEL	KELES	C	41.42	69.205	UZ	Uzbekistan
KEW	KEW	C	51.468	359.687	UK	United Kingdom
KFT	KLAGENFURT	C	46.616	14.3	AU	Austria
KGD	BEREZNYAKI	O	49.817	73.083	KZ	Kazakhstan
KGF	KINGUAFJORD	C	66.6	292.683	CA	Canada
KGL	KERGUELEN 1	C	-49.15	70.2	FS	French Southern and Antarctic Lands
KGL	KERGUELEN	C	-49.35	70.2	FS	French Southern and Antarctic Lands
KGL	KERGUELEN 2	C	-49.417	69.883	FS	French Southern and Antarctic Lands

IAGA Code	Observatory	Status	Latitude	Longitude	Country Code	Country / Region
KIE	KIEL	C	54.333	10.15	GE	Germany
KIR	KIRUNA	O	67.833	20.417	SW	Sweden
KIV	DYMER	O	50.717	30.3	UP	Ukraine
KIV	KIEV	C	50.717	30.3	UP	Ukraine
KND	KANDALAKSHA	C	67.133	32.433	RS	Russia
KNY	KANOYA	O	31.42	130.882	JA	Japan
KNZ	KANOZAN	O	35.253	139.96	JA	Japan
KOD	KODAIKANAL	O	10.23	77.463	IN	India
KOR	KOROR	C	7.335	134.5	TQ	Trust Territory Pacific Isl. (CQ & NQ)
KOT	KOTZEBUE	C	66.883	197.367	US	United States
KOU	KOUROU	U	5.1	307.4	FG	French Guiana
KPT	KING POINT	C	69.117	221.867	CA	Canada
KRC	KARACHI	O	24.95	67.14	PK	Pakistan
KRE	KREMSMUNSTER	C	48.057	14.132	AU	Austria
KSA	KSARA	C	33.823	35.888	LE	Lebanon
KSH	KASKI	N	39.5	76	CH	China
KTC	KUTCHINO	C	55.762	37.965	RS	Russia
KTG	KAP TOBIN	C	70.417	338.033	GL	Greenland
KUY	KUYPER	C	-6.033	106.733	ID	Indonesia
KVA	KARAVIA	U	-11.637	27.42	CG	Zaire
KWT	KEY WEST	C	24.55	278.2	US	United States
KZN	KAZAN	C	55.783	49.133	RS	Russia
KZN	ZAYMISHCHE	O	55.833	48.85	RS	Russia
L						
LAA	LITTLE AMERICA 2	C	-78.567	196.067	US	United States
LAA	LITTLE AMERICA 3	C	-78.483	196.15	US	United States

IAGA Code	Observatory	Status	Latitude	Longitude	Country Code	Country / Region
LAA	LITTLE AMERICA3	C	-78.167	194.417	US	United States
LAA	LITTLE AMERICA 1	C	-78.583	196.2	US	United States
LAA	LITTLE AMERICA 4	C	-78.433	196.083	US	United States
LAA	LITTLE AMERICA 5	C	-78.183	197.8	US	United States
LAS	LAS ACACIAS	O	-35.007	302.31	AR	Argentina
LAU	LAUDER	C	-45.04	169.683	NZ	New Zealand
LDV	LEADVILLE	C	39.283	253.717	US	United States
LER	LERWICK	O	60.133	358.817	UK	United Kingdom
LGR	LOGRONO	C	42.458	357.495	SP	Spain
LIS	LISBON	C	38.717	350.852	PO	Portugal
LKP	LUKIAPANG	C	31.317	121.04	CH	China
LMM	MAPUTO	O	-25.917	32.583	MZ	Mozambique
LNN	VOYEYKOVO	O	59.95	30.705	RS	Russia
LNP	LUNPING	O	25	121.167	TW	China (Taiwan)
LOS	LOS ANGELES	C	34.05	241.75	US	United States
LOV	LOVO	O	59.345	17.827	SW	Sweden
LPB	LA PAZ	C	-16.537	291.903	BL	Bolivia
LQA	LA QUIACA	C	-22.11	294.417	AR	Argentina
LQA	LA QUIACA	O	-22.103	294.395	AR	Argentina
LRM	LEARMONTH	O	-22.22	114.1	AS	Australia
LRV	LEIRVOGUR	O	64.183	338.3	IC	Iceland
LSA	LHASA	O	29.7	91.15	CH	China
LUA	LUANDA CAPELO	C	-8.817	13.217	AO	Angola
LUA	LUANDA BELAS	O	-8.917	13.167	AO	Angola
LUA	LUANDA GOLF	C	-8.858	13.25	AO	Angola
LUB	LUBECK	C	53.866	10.7	GE	Germany

IAGA Code	Observatory	Status	Latitude	Longitude	Country Code	Country / Region
LVV	LVOV	O	49.9	23.75	UP	Ukraine
LWI	LWIRO	C	-2.25	28.8	CG	Zaire
LZH	LANZHOU	O	36.087	103.845	CH	China
LZV	LAZAREV	C	-69.967	12.9	AY	Antarctica
M						
MAB	MANHAY	O	50.298	5.682	BE	Belgium
MAI	MAITUN	C	43.25	132.333	RS	Russia
MAK	MAKERSTOUN	C	55.583	357.483	UK	United Kingdom
MAN	MANILA	C	14.578	120.975	RP	Philippines
MAS	MAISACH	C	48.202	11.26	GE	Germany
MAW	MAWSON	O	-67.605	62.882	AS	Australia
MBC	MOULD BAY	O	76.2	240.6	CA	Canada
MBO	M BOUR	O	14.392	343.042	SG	Senegal
MCP	MONTE CAPELLINO	C	44.552	8.955	IT	Italy
MCQ	MACQUARIE ISLAND	O	-54.5	158.95	AS	Australia
MDD	MADRID	C	40.416	356.316	SP	Spain
MDS	MADRAS	C	13.066	80.25	IN	India
MDY	MIDWAY	C	28.21	182.617	MQ	Midway Islands
MEA	MEANOOK	O	54.617	246.667	CA	Canada
MEL	MELBOURNE	C	-37.832	144.975	AS	Australia
MEX	MEXICO CITY	C	19.416	260.916	MX	Mexico
MEX	MEXICO CITY	C	19.433	260.883	MX	Mexico
MGD	MAGADAN	C	60.117	151.017	RS	Russia
MGD	STEKOLNYY (MAGADAN)	O	60.117	151.017	RS	Russia
MIN	MINAMITORI SHIMA	C	24.283	153.967	JA	Japan
MIR	MIRNY	O	-66.55	93.017	RS	Russia

IAGA Code	Observatory	Status	Latitude	Longitude	Country Code	Country / Region
MIZ	MIZUSAWA	O	39.01	141.08	JA	Japan
MJR	MAJURO	C	7.083	171.377	TQ	Trust Territory Pacific Isl. (CQ & NQ)
MKL	MALYYE KARMAKULY	C	72.383	52.717	RS	Russia
MLT	MISALLAT	O	29.515	30.892	EG	Egypt
MMB	MEMAMBETSU	O	43.907	144.193	JA	Japan
MMK	LOPARSKOYE	O	68.25	33.083	RS	Russia
MMK	MURMANSK	C	68.95	33.05	RS	Russia
MND	MANADO	N	1.297	124.925	ID	Indonesia
MNH	MUNICH	C	48.147	11.608	GE	Germany
MNK	PLESHENITZI	O	54.5	27.883	BO	Belarus
MOD	MODIIM	C	31.933	34.983	IS	Israel
MOG	MOGADISCIO	C	2.033	45.35	SO	Somalia
MOH	MO HE	N	53.5	112.4	CH	China
MOL	MOLODEZHNYA	O	-67.667	45.85	RS	Russia
MOS	MOSCOW	C	55.733	37.633	RS	Russia
MOS	KRASNAYA PAKHRA	O	55.467	37.312	RS	Russia
MRI	MAURITIUS	C	-20.093	57.553	MP	Mauritius
MRN	MARION ISLAND	C	-46.875	37.847	SF	South Africa
MSR	MATOCHKIN SHAR	C	73.263	56.397	RS	Russia
MUT	MUNTINLUPA	C	14.375	121.015	RP	Philippines
MWR	MOUNT WEATHER	C	39.067	282.117	US	United States
MZL	MANZAOLI	N	49.6	117.4	CH	China
N						
NAI	NAIROBI	C	-1.327	36.815	KE	Kenya
NAL	NEW ALESUND	O	78.917	11.933	NO	Norway
NAQ	NARSSARSSUAQ	O	61.1	314.8	GL	Greenland

IAGA Code	Observatory	Status	Latitude	Longitude	Country Code	Country / Region
NCE	NICE	C	43.716	7.3	FR	France
NCK	NAGYCENK	O	47.633	16.717	HU	Hungary
NER	NERTSCHINSK	C	51.316	119.616	RS	Russia
NEW	NEWPORT	O	48.263	242.88	US	United States
NFW	NEUFAHRWASSER	C	54.416	18.65	GE	Germany
NGK	NIEMEGK	O	52.072	12.675	GE	Germany
NKK	NOVOKAZALINSK	C	45.8	62.1	RS	Russia
NMP	NAMPULA	C	-15.087	39.253	MA	Madagascar
NNT	NANORTALIK 1	C	60.133	314.733	GL	Greenland
NNT	NANORTALIK 4	C	60.15	314.767	GL	Greenland
NNV	NIZHNEDEVITSK	C	51.517	38.367	UR	Former Soviet Union
NRW	NORTHWAY	C	63.017	218.2	US	United States
NSM	NITZANIM	C	31.733	34.6	IS	Israel
NTS	NANTES	C	47.247	358.44	FR	France
NUR	NURMIJARVI	O	60.508	24.655	FI	Finland
NVL	NOVOLAZAREVSKAYA	C	-70.768	11.832	RS	Russia
NVS	KLYUCHI (NOVOSIBIRSK)	O	55.033	82.9	RS	Russia
NWS	NORWAY STATION	C	-70.5	357.467	AY	Antarctica
NYI	NEW YEARS ISLAND	C	-54.65	295.85	AR	Argentina
Q						
OAS	OASIS	C	-66.3	100.717	AY	Antarctica
ODE	ODESSA	C	46.433	30.766	UP	Ukraine
ODE	ODESSA	C	46.44	30.773	UP	Ukraine
ODE	STEPANOVKA	O	46.783	30.883	UP	Ukraine
OGY	O GYALLA	C	47.867	18.183	HU	Hungary
ORB	ORANGE BAY CAPE HOR	C	-55.516	291.916	CI	Chile

IAGA Code	Observatory	Status	Latitude	Longitude	Country Code	Country / Region
ORC	ORCADAS DEL SUR	C	-60.733	315.217	SO	Somalia
OSL	OSLO	C	59.916	10.717	NO	Norway
OTM	OTOMARI	C	46.65	142.767	JA	Japan
OTT	OTTAWA	O	45.4	284.45	CA	Canada
P						
PAB	PARAMARIBO	C	5.81	304.778	NS	Suriname
PAF	PORT-AUX-FRANCAIS	O	-49.35	70.2	FS	French Southern and Antarctic Lands
PAG	PANAGYURISHTE	O	42.515	24.177	BU	Bulgaria
PAT	PATRICK	C	28.213	279.388	US	United States
PBQ	POSTE-DE-LA-BALEINE	O	55.277	282.257	CA	Canada
PCU	PRICE	C	39.6	249.167	US	United States
PEG	PENDELI	C	38.047	23.863	GR	Greece
PEK	PEKING	C	39.95	116.466	CH	China
PER	PERPIGNAN	C	42.702	2.883	FR	France
PET	PARATUNKA (PETROPVLO	O	52.9	158.433	KZ	Kazakhstan
PFK	PORT FOULKE	C	78.3	287	CA	Canada
PGC	PHILADELPHIA GIRARD	C	39.966	284.816	US	United States
PHU	PHUTHUY	O	21.033	105.967	VM	Vietnam
PIL	PILAR	U	-31.667	296.117	AR	Argentina
PIO	PIONERSKAYA	C	-69.733	95.5	AY	Antarctica
PJA	PORT JEANNE D'ARC	C	-49.55	69.817	FS	French Southern and Antarctic Lands
PLA	PALAU	C	7.333	134.483	TQ	Trust Territory Pacific Isl. (CQ & NQ)
PLS	PLAISANCE	C	-20.433	57.667	MP	Mauritius
PMG	PORT MORESBY	O	-9.408	147.152	PP	Papua New Guinea
PNN	PENANG	C	4.467	100.15	MA	Madagascar
PNN	PENANG 2	C	5.35	100.3	MA	Madagascar

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POD	PODKAMENNAYA TUNGU	O	61.6	90	RS	Russia
POL	POLA	C	44.863	13.847	HR	Croatia
POT	POTSDAM	C	52.382	13.063	GE	Germany
PPT	PAMATAI	O	-17.568	210.425	FP	French Polynesia (Tahiti)
PRA	PRAGUE	C	50.088	14.418	CZ	Formerly Czechoslovakia
PRU	PRUHONICE	C	49.99	14.547	CZ	Formerly Czechoslovakia
PSM	PARC ST. MAUR	C	48.817	2.483	FR	France
PTL	PITLEKAYA	C	67.083	186.617	RS	Russia
PTS	PETSAMO	C	69.533	31.25	RS	Russia
PTU	PLATEAU	C	-79.252	40.5	AY	Antarctica
PTY	PATACAMAYA	O	-17.25	292.05	BL	Bolivia
Q						
QGZ	QIONGZHONG	N	19	109.8	CH	China
QUE	QUETTA	O	30.187	66.95	PK	Pakistan
QZH	QUANZHOU	N	24.9	118.6	CH	China
R						
RBD	ROI BAUDOUIN	C	-70.43	24.298	AY	Antarctica
RBD	ROI BAUDOUIN	C	-70.432	24.308	AY	Antarctica
RDJ	RIO DE JANEIRO	C	-22.907	316.828	BR	Brazil
RDJ	RIO DE JANEIRO	C	-22.9	316.833	BR	Brazil
REG	REGENSBURG	C	47.483	8.442	GE	Germany
REG	REGENSBURG	C	47.483	8.45	GE	Germany
RES	RESOLUTE BAY	O	74.7	265.1	CA	Canada
RFH	REFUGE HARBOUR	C	78.533	287.617	CA	Canada
ROB	ROBURENT	C	44.297	7.888	IT	Italy

IAGA Code	Observatory	Status	Latitude	Longitude	Country Code	Country / Region
ROK	ROSTOCK	C	54.1	12.15	GE	Germany
RSV	RUDE SKOV	C	55.843	12.457	DA	Denmark
S						
SAB	SABHAWALA	O	30.363	77.798	IN	India
SAG	SAGASTYR	C	73.383	126.6	RS	Russia
SBA	SCOTT BASE	O	-77.85	166.783	NZ	New Zealand
SCO	SCORESBY SUND (HEKL	C	70.467	333.8	GL	Greenland
SDN	SYDNEY	C	-33.883	151.183	AS	Australia
SED	SEDDIN	C	52.278	13.01	GE	Germany
SFS	SAN FERNANDO	O	36.462	353.795	SP	Spain
SGE	SOUTH GEORGIA	C	-54.516	323.983	UK	United Kingdom
SHL	SHILLONG	O	25.567	91.883	IN	India
SIM	SIMFEROPOL	C	44.833	34.067	UP	Ukraine
SIN	SINGAPORE	C	1.283	103.85	SN	Singapore
SIT	SITKA	O	57.058	224.675	US	United States
SIT	SITKA	C	57.052	224.665	US	United States
SJB	SAO JOSE DOS CAMPOS	C	-23.2	314.13	BR	Brazil
SJG	SAN JUAN	O	18.113	293.85	RQ	Puerto Rico
SJG	SAN JUAN	C	18.382	293.882	RQ	Puerto Rico
SJL	SAN JOSE LAS LAJAS	C	23.017	277.35	CU	Cuba
SKT	SUKKERTOPPEN	C	65.417	307.083	GL	Greenland
SLU	SLUTSK	C	59.687	30.488	RS	Russia
SMG	SAN MIGUEL	C	37.767	334.35	PO	Portugal
SNA	SANAE I	C	-70.3	357.633	SF	South Africa
SNA	SANAE II	C	-70.32	357.663	SF	South Africa
SNA	SANAE III	O	-70.312	357.59	SF	South Africa

IAGA Code	Observatory	Status	Latitude	Longitude	Country Code	Country / Region
SNJ	COSTA RICA	C	9.913	276.043	CS	Costa Rica
SNT	SANTIAGO 1	C	-33.433	289.366	CI	Chile
SNT	SANTIAGO	C	-33.45	289.3	CI	Chile
SOD	SODANKYLA	C	67.367	26.645	FI	Finland
SOD	SODANKYLA	O	67.368	26.63	FI	Finland
SOD	SODANKYLA	C	67.466	26.6	FI	Finland
SPA	SOUTH POLE	C	-89.993	346.678	US	United States
SPE	ST. PETERSBURG	C	59.933	30.333	RS	Russia
SPT	SAN PABLO- TOLEDO	O	39.547	355.65	SP	Spain
SRE	SREDNIKAN	C	62.44	152.313	RS	Russia
SSH	SHESHAN	O	31.097	121.187	CH	China
SSO	SIMOSATO	C	33.575	135.94	JA	Japan
STA	STARA DALA	C	47.875	18.192	CZ	Formerly Czechoslovakia
STH	ST HELIER	C	49.192	357.908	FR	France
STJ	SAINT JOHNS	C	47.593	307.317	CA	Canada
STJ	SAINT JOHNS	O	47.6	307.317	CA	Canada
STO	STONYHURST	C	53.845	357.53	UK	United Kingdom
SUA	SURLARI	O	44.68	26.253	RO	Romania
SVD	SVERDLOVSK	C	56.827	60.638	RS	Russia
SVD	VYSOKAYA DUBRAVA	C	56.733	61.067	RS	Russia
SVE	SVERDLOVSK YEKATERI	C	56.833	60.633	RS	Russia
SVG	SVEAGRUVA	C	77.9	16.75	NO	Norway
SWI	SWIDER	C	52.115	21.253	PL	Poland
SYO	SYOWA BASE	O	-69.007	39.59	JA	Japan
SZA	STETTIN-ZABELSDORF	C	53.45	14.566	PL	Poland

T

IAGA Code	Observatory	Status	Latitude	Longitude	Country Code	Country / Region
TAC	TACUBAYA	C	19.405	260.805	MX	Mexico
TAH	TAHITI	C	-17.555	210.388	FP	French Polynesia (Tahiti)
TAM	TAMANRASSET	O	22.792	5.527	AG	Algeria
TAN	TANANARIVE	O	-18.917	47.55	MA	Madagascar
TAP	TAIPEI	C	25.038	121.513	TW	China (Taiwan)
TEH	TEHRAN	U	35.737	51.382	IR	Iran
TEL	TELLNITZ	C	50.733	13.967	GE	Germany
TEN	LAS MESAS(TENERIFE)	O	28.477	343.739	SP	Spain
TEO	TEOLOYUCAN	O	19.747	260.818	MX	Mexico
TFS	DUSHETI	O	42.092	44.705	GG	Georgia
TFS	TBILISI	C	41.718	44.797	GG	Georgia
TGO	TOUNGOO	C	18.93	96.45	BM	Burma
THJ	TONGHAI	N	24	102.7	CH	China
THL	THULE (QANAQ)	O	77.483	290.833	GL	Greenland
THL	THULE (DUNDAS)	C	76.527	291.107	GL	Greenland
THL	THULE (AIR FORCE)	C	76.538	290.942	GL	Greenland
THY	TIHANY	O	46.9	17.893	HU	Hungary
TIK	TIXIE BAY	O	71.583	129	RS	Russia
TIO	TIOUINE	N	30.93	352.74	MO	Morocco
TKH	TIKHAYA BAY	C	80.333	52.8	RS	Russia
TKT	TASHKENT	C	41.333	69.3	UZ	Uzbekistan
TKT	YANGI-BAZAR	O	41.333	69.617	UZ	Uzbekistan
TLS	TOULOUSE	C	43.613	1.458	FR	France
TMK	TOMSK	C	56.467	84.933	RS	Russia
TNB	TERRA NOVA BAY	U	-74.683	164.117	IT	Italy
TNG	TANGERANG	O	-6.167	106.633	ID	Indonesia

IAGA Code	Observatory	Status	Latitude	Longitude	Country Code	Country / Region
TOH	TOYOHARA	C	46.967	142.75	JA	Japan
TOH	TOYOHARA	C	46.947	142.745	JA	Japan
TOK	TOKYO	C	35.685	139.753	JA	Japan
TOL	TOLEDO	C	39.883	355.953	SP	Spain
TOO	TOOLANGI	C	-37.533	145.467	AS	Australia
TOR	TORONTO	C	43.666	280.5	CA	Canada
TPB	TEPLITZ BAY	C	81.8	57.983	RS	Russia
TRD	TRIVANDRUM	C	8.516	77	IN	India
TRD	TRIVANDRUM	O	8.483	76.95	IN	India
TRO	TROMSO	O	69.663	18.948	NO	Norway
TRW	TRELEW	O	-43.248	294.685	AR	Argentina
TSI	TSINGTAO (QINGDAO)	C	36.067	120.317	CH	China
TSK	TASUISAK	C	65.616	322.45	GL	Greenland
TSU	TSUMEB	O	-19.217	17.7	WA	Namibia
TTB	TATUOCA	O	-1.205	311.487	BR	Brazil
TTB	TATUOCA	C	-1.2	311.49	BR	Brazil
TTG	TUNTUNGAN	O	3.51	98.56	ID	Indonesia
TUC	TUCSON	O	32.247	249.167	US	United States
TUL	TULSA	O	35.912	264.212	US	United States
U						
UBA	ULAN BATOR	U	47.85	107.05	MG	Mongolia
UCC	UCCLE	C	50.798	4.362	BE	Belgium
UJJ	UJJAIN	O	23.183	75.783	IN	India
Y						
VAL	VALENTIA	O	51.933	349.75	EI	Ireland

IAGA Code	Observatory	Status	Latitude	Longitude	Country Code	Country / Region
VAN	VAN RENSSLAER	C	78.617	289.333	CA	Canada
VIC	VICTORIA	O	48.517	236.583	CA	Canada
VLA	GORNOTAYEZHAY	O	43.683	132.167	RS	Russia
VLJ	VAL JOYEUX	C	48.822	2.015	FR	France
VOR	VOROSHILOV	C	43.783	132.033	RS	Russia
VOS	VOSTOK	O	-78.45	106.867	RS	Russia
VQS	VIEQUES	C	18.147	294.552	RQ	Puerto Rico
VSS	VASSOURAS	O	-22.4	316.35	BR	Brazil
VYK	VYKHODNOY	C	73.235	56.73	RS	Russia
W						
WAT	WATHEROO	C	-30.318	115.877	AS	Australia
WDC	WASHINGTON CITY	C	38.9	282.966	US	United States
WDC	WASHINGTON NEW	C	38.916	282.95	US	United States
WDC	WASHINGTON 1	C	38.883	283	US	United States
WDC	WASHINGTON 2	C	38.9	282.95	US	United States
WHN	WUHAN	O	30.528	114.559	CH	China
WHS	WHITESHELL	C	49.75	264.75	CA	Canada
WIA	WIEN AUHOF	C	48.203	16.235	AU	Austria
WIE	WIEN	C	48.25	16.366	AU	Austria
WIK	WIEN KOBENZL	O	48.265	16.318	AU	Austria
WIL	WILKES	C	-66.25	110.583	AY	Antarctica
WIT	WITTEVEEN	C	52.813	6.668	NL	Netherlands
WIU	UTRECHT	C	52.083	5.116	NL	Netherlands
WLH	WILHELMSHAVEN	C	53.532	8.147	GE	Germany
WMQ	URUMQI	O	43.817	87.697	CH	China
WNG	WINGST	O	53.743	9.073	GE	Germany

IAGA Code	Observatory	Status	Latitude	Longitude	Country Code	Country / Region
WSW	WARSAW	C	52.217	21.033	PL	Poland
WUS	WUSTROW	C	54.35	12.4	GE	Germany
Y						
YAK	YAKUTSK	O	62.017	129.717	RS	Russia
YKC	YELLOWKNIFE	O	62.467	245.533	CA	Canada
YKC	YELLOWKNIFE 1	C	62.433	245.6	CA	Canada
YNV	JANOW (YANOV)	C	49.9	23.733	UP	Ukraine
YSS	YUZHNO SAKHALINSK	O	46.95	142.717	RS	Russia
Z						
ZHS	ZHONG SHAN	N	-69.4	76.4	CH	China
ZIN	ZINSEN	C	37.475	126.625	KS	Korea, Republic of
ZKW	ZIKAWEI	C	31.208	121.438	CH	China
ZUY	ZUY	C	52.46	104.038	RS	Russia

**Table 6: Summary of Magnetic Repeat Observations at the WDC-A
(based on data received since 1990)**

Country/ Region	Network Description	No. of Obs.	IAGA Format	Period of Observation		Digital Data
Albania	Yes	34	Yes	1942	1990	No
Algeria	No	8	No	1982	1982	No
Australia	Yes	80	Yes	1986	1992	Yes
Bolivia	No	8	Yes	1992	1992	No
Brazil	Yes	100	No	1900	1986	No
Data are differences, not observed values						
Canada	Yes	2132	Yes	1900	1992	Yes
Central & South America	No	115	No	1982	1987	No
Honduras, Peru, Chile, Costa Rica, Guatemala, Panama, Uruguay						
Central African Republic	Yes	38	Yes	1993	1993	Yes
China	Yes	99	No	1980	1980	Yes
Data are reduced to 1980.0 epoch						
Finland	Yes	0	Yes			No
Former Soviet Union*	Yes	400	No	1943	1985	Yes
Data reduced to epoch						
France	Yes	56	Yes	1952	1991	Yes
French Antarctic and sub-antarctic lands						
Germany	Yes	248	Yes	1965	1982	Yes
Data reduced to epoch						

Country/ Region	Network Description	No. of Obs.	IAGA Format	Period of Observation		Digital Data
Indonesia	Yes	52	No	1990	1990	No
Ireland	No	15	No	1985	1985	No
Italy	Yes	100	Yes	1983	1986	No
Japan	Yes	1	No	1987	1987	No
Antarctica						
Mozambique	Yes	0	Yes			No
New Zealand	Yes	0	Yes			No
Polynesia	Yes	0	Yes			No
Portugal	Yes	24	No	1989	1990	No
South Africa	Yes	603	Yes	1948	1990	Yes
Botswana, Marion & Gough Islands included						
Spain	Yes	100	Yes		1990	No
Sweden	Yes	0	Yes			No
U.S.A.	No	961	No	1939	1985	Yes
United Kingdom	Yes	163	Yes	1985	1992	Yes
West Africa	Yes	60	No	1983	1986	No

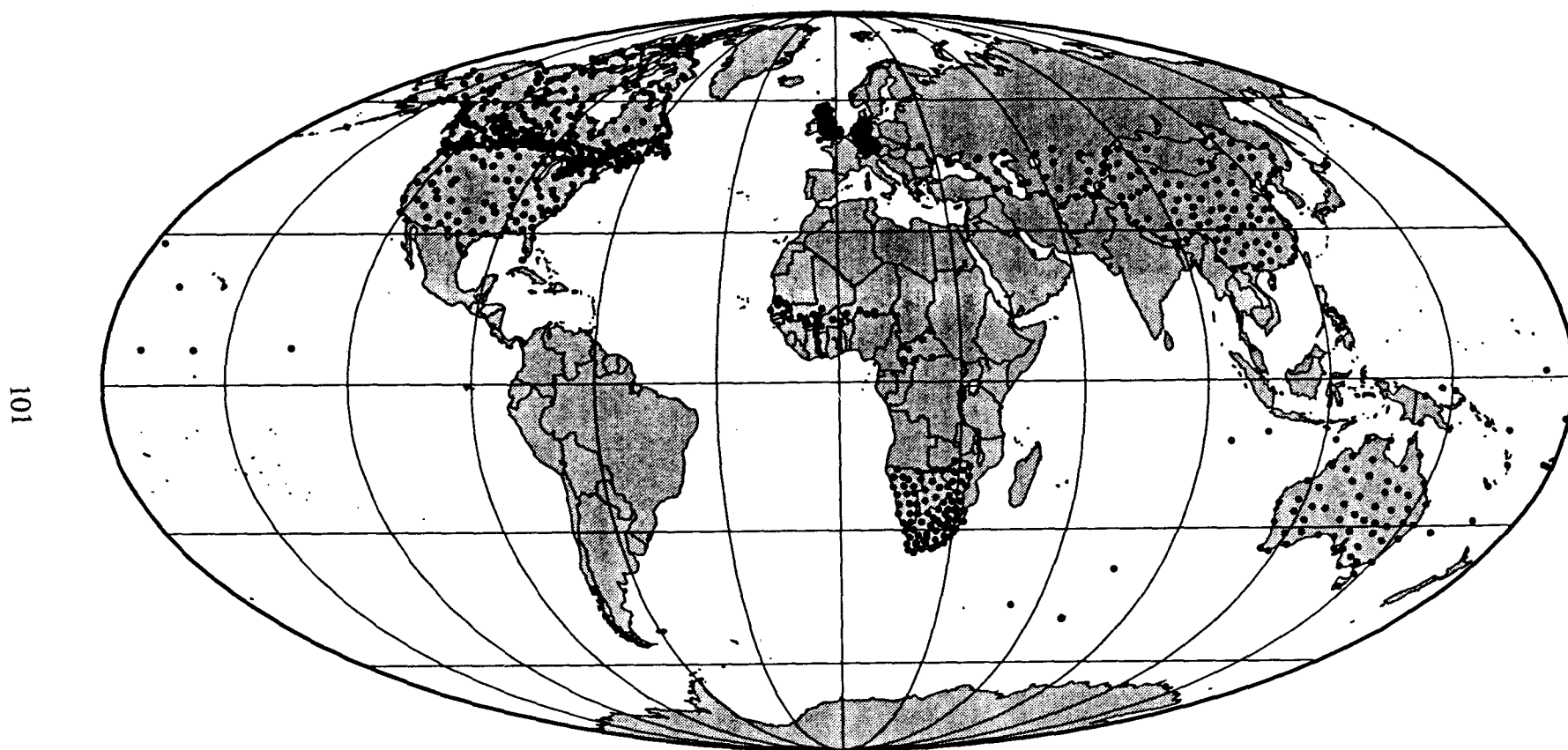
Maps and Figures

These maps may be found in the envelope on the inside of the back cover:

- Map 1. Magnetic Observatories in Operation, 1994 (Global)
- Map 2. Magnetic Observatories in Operation, 1994 (Europe)
- Map 3. Magnetic Observatories in Operation, 1818–1994 (Global)
- Map 4. Magnetic Observatories in Operation, 1818–1994 (Europe)

Magnetic Repeat Observation

Data at the WDC-A 1994



Map reflects digital data received in the format
recommended by IAGA WGV-8 (Nov 1990 rev. July 1991).
Earlier data in WDC-A format is available, but not shown.

Map 5.

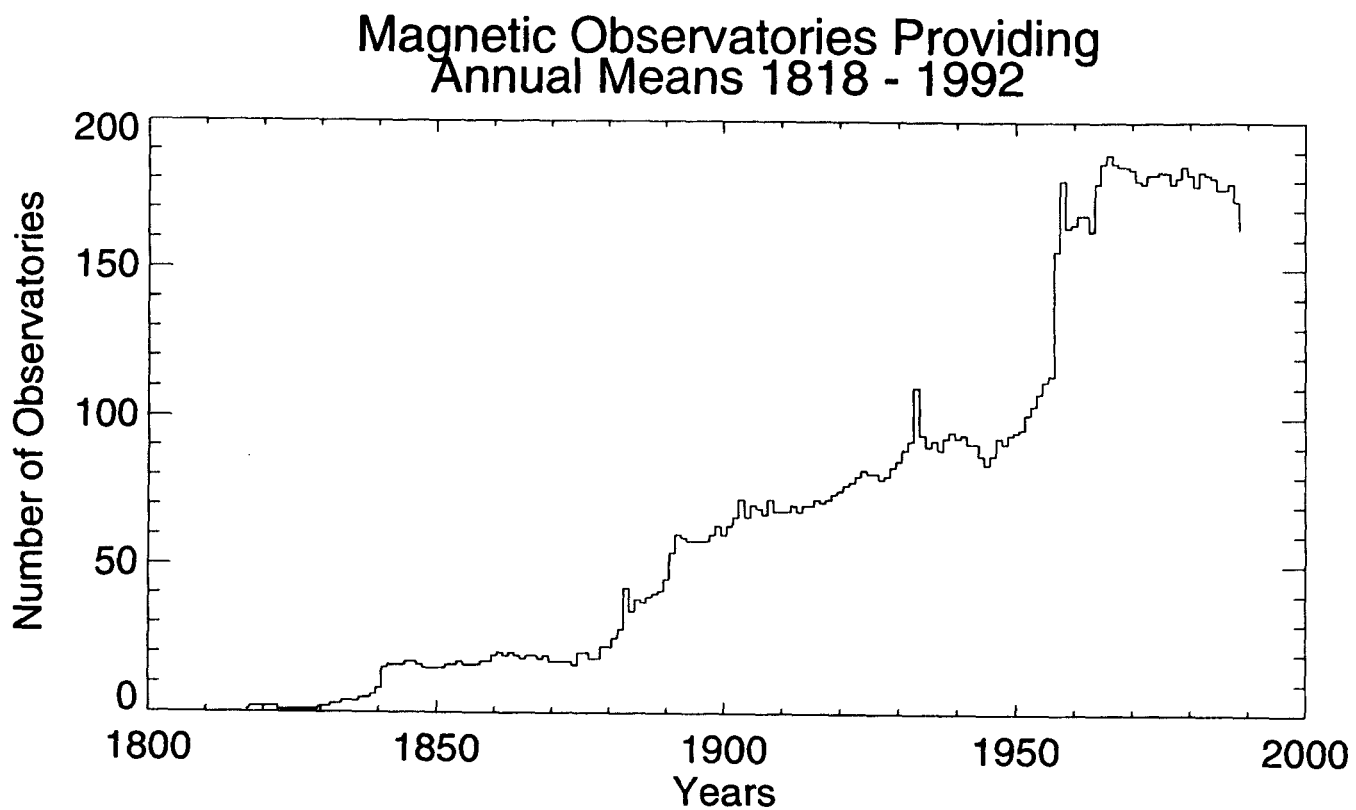


Figure 1.

Appendices

Appendix I

Addresses to Use in Requesting Data or Information

World Data Centers

For more information about the World Data Center system, please refer to Appendix III.

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

Tel: 303-497-6521
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
Molodezhnaya 3
Moscow 117 296, Russia

Tel: (7) 930 0546
Fax: (7) 930 5509
Telex: 411 478 SGC SU
Email: sgc@adonis.iasnet.com

World Data Center C1
Division of Geophysics
Danish Meteorological Institute
Lyngbyvej 100
DK-2100 Copenhagen, Denmark

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

World Data Center C1 for Geomagnetism
Geomagnetism Group
British Geological Survey
Murchison House West Mains Road
Edinburgh EH9 3LA, Scotland
United Kingdom

Tel: (031) 667-1000
Fax: (031) 668-4368
Telex: 727 343 WDDC C1
Email: e_djk@vaxa/merc-
murchison.ac.uk

World Data Center C2 for Geomagnetism
Data Analysis Center for Geomagnetism & Space Magnetism
Kyoto University
Kyoto 606, Japan

Tel: 075-751-753-3929
Fax: 075-722-7884
Telex: 5422302 SCIK YUJ
BITNET: GTKAMEI@JPNKYOTO
JUNET: iyemori%kugi.kyoto-
u.ac.jp@JPNSUT00.BITNET

World Data Center D for Geophysics
Institute of Geophysics
Academia Sinica
Beijing, China

Tel: 86-01-201 1118
Fax: 86-01-203 1995

Observatories and Sponsoring Institutions

The following are listed alphabetically by country and include the date of last revision.

Algeria (AG)

Tamanrasset

A. Fares
Service Magnetisme
Centre de Recherche en Astronomie
Astrophysique et Geophysique (CRAAG)
B.P. 63 Bouzareah
Algiers, Algeria

February 11, 1992
Tel: 79-14-43
Telex: 53 337 CRAAG DZ

Tamanrasset

M. Akacem Nourredine, Director
Observatoire de Tamanrasset
B.P. 32
Tamanrasset, Algeria

February 11, 1992

Angola (AO)

Luanda

Dr. Carlos Alberto Ferreira Monteiro, Chefe
Departamento de Geofisica
Instituto Nacional de Hidrometeorologia e Geofisica
Caixa Postal 1228-C
Luanda, Angola

February 11, 1992
Tel: 3003778

Argentina (AR)

La Quiaca, Pilar

Major Gustavo Talamoni
Centro de Geofisica
Servicio Meteorologico Nacional
Av. de Los Constituyentes 3454
(1427) Buenos Aires, Argentina

November 9, 1993
Tel: 518857
Fax: (54) 311-3968

Trelew

Angel Omar Pelliciuoli
Observatorio Magnetico
Sarmiento 609
(9100) Trelew, Argentina

February 11, 1992
Tel: (0965) 30251/96083

Trelew, Las Acacias

Lic. Julio Cesar Gianibelli, Jefe
Depto. de Magnetisme Terrestre
Facultad de Ciencias Astronomicas y Geofisicas
Universidad Nacional de La Plata
Paseo del Bosque
(1900) La Plata, Argentina

February 11, 1992
Tel: (021) 217308/38810

Australia (AS)**Alice Springs, Canberra, Charters Towers,
Kakadu, Learmonth, Macquarie Island,
Mawson**

Dr. Peter Hopgood
Division of Geophysical Observatories & Mapping
Australian Geological Survey Organisation
G.P.O. Box 378
Canberra City, A.C.T. 2601, Australia

February 15, 1994
Tel: (61) 6-249-9111
Telex: AA 62109
Fax: (61) 6-249-9986
Gram: BUROMIN

Casey, Davis

Dr. Gary Burns
Antarctic Division
Channel Highway
Kingston, Tasmania 7050, Australia

February 11, 1992
Tel: (002) 290 209/(002) 32 3209
Telex: AA 57090 ANARE
Fax: (002) 32 3288
Gram: ANTARCTIC HOBART
Email: burns@antdiv.gov.au

Casey, Davis

Dr. Charlie Barton
Division of Geophysical Observatories & Mapping
Australian Geological Survey Organisation
G.P.O. Box 378
Canberra ACT 2601, Australia

March 9, 1994
Tel: (61) 6-249-9111
Telex: AA 62109
Fax: (61) 6-249-9986
Email: cbarton@agso.gov.au

Gnangara

Mr. Peter Gregson
Mundaring Geophysical Observatory
Mundaring, WA 6073, Australia

February 11, 1992
Tel: (09) 295-1555
Fax: (09) 295-2433

Austria (AU)**Wien-Kobenzl**

Dipl. Ing. Peter Melichar
Zentralanstalt fur Meteorologie und Geodynamik
Hohe Warte 38
A-1190 Vienna, Austria

Februray 11, 1992
Tel: (222) 36 44 53
Telex: 131837 A METW A
Gram: METEOR WIEN

Belgium (BE)

Dourbes, Manhay

Dr. Jean Rasson
Centre de Physique du Globe
Institut Royal Meteorologique
5670 Dourbes, Belgium

November 9, 1993
Tel: 0032 (60) 399311/12
Telex: 51239 GEOPHY B
Fax: 0032 (60) 399421
Email: jr@meteo.oma.be

Belarus (BO)

Pleshenitzi

(See Russia)

February 15, 1994

Bolivia (BL)

Patacamaya

Lic. Alfonso Velarde
Jefe de la Carrera de Fisica
Universidad Mayor de San Andres
Casilla 8635
La Paz, Bolivia

February 22, 1994
Fax: (591) 2-792-622

Brazil (BR)

Tatuoca, Vassouras

Dr. Luiz Muniz Barreto
CNPq - Observatorio Nacional
Rua General Bruce, No. 586 Sao Cristovao
20,921 Rio de Janeiro - RJ, Brazil

November 9, 1993
Tel: (21) 589 7313 (ext. 210)
Telex: (21) 21288
Fax: (21) 580-6071/0332
Bitnet: OGG3@LNCC

Tatuoca

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

February 11, 1992

Vassouras

Dr. Luiz Muniz Barreto
Observatorio Magnetico de Vassouras
C.P. No. 85622
27,700 Vassouras - RJ, Brazil

November 9, 1993
Tel: (21) 0244/ 71-1142

Bulgaria (BU)

Panagyurishte

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

February 11, 1992
Tel: (02) 70 01 28
Fax: (02) 70 02 26

Canada (CA)

**Alert, Baker Lake, Cambridge Bay, Fort
Churchill, Glenlea, Meanook, Mould Bay,
Ottawa, Poste-de-la-Baleine, Resolute
Bay, St. John's, Victoria, Yellowknife**

Gerrit Jansen van Beek
Division of Geophysics
Geological Survey of Canada
1 Observatory Crescent
Ontario K1A 0Y3, Canada

February 11, 1992
Tel: (613) 837-1067 and
(613) 837-1757
Telex: 533117
Fax: (613) 824-9803

Central African Republic (CT)

Bangui

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

February 11, 1992
Tel: 011 (236) 61 20 89
Telex: PUBLIC 0971 5217 RC
Fax: 011 (236) 61 68 29

China (CH)

**Beijing Ming Tombs, Mo He
Great Wall, Zhong Shan**

Dr. Liu ChangFa
Institute of Geophysics
Chinese Academy of Sciences
Beijing 100101, China

February 15, 1994
Tel: 86-01-201-1118
Fax: 86-01-203-1995

**Beijing, Changchun, Guangzhou, Lanzhou
Lhasa, Sheshan, Urumqi, Wuhan**

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

March 9, 1994
Tel: (01) 841-7744
Fax: (01) 861-5372
Gram: 3808

**Chengdu, Kaski, Manzaoli, Qiongzong,
Quanzhou, Tonghai**

YuFen Gao
Institute of Geophysics
State Seismological Bureau
No. 5 Minzuxueyuan
Haidian District
Beijing 100081, China

February 15, 1994
Tel: (01) 841-7744
Fax: (01) 861-5372

China (Taiwan) (TW)

Lunping

Mr. S. W. Chen
Lunping Observatory, TTI
180 Lunping, Kuanyinn-Chiao
Taoyuan, Taiwan 32814
Republic of China

February 15, 1994
Tel: (02) 963-9260
Telex: 31202 TELTRAINS
Fax: (02) 963-9162

Columbia (CO)

Fuquene

Jario Avendano
Jefe, Seccion Geofisica
Instituto Geografico (Agustin Codazzi)
Carrera 30 No. 48-51
Bogota, Colombia

November 10, 1993
Tel: (01) 2-442-761
Fax: (01) 211-4751

Costa Rica (CS)

Chiripa

Ing. German Leandro C.
or Jorge Brenes
Instituto Costarricense de Electricidad (ICE)
Apartado 10032-1000
San Jose, Costa Rica

February 11, 1992
Tel: (506) 20-7337
Telex: (376) 2140
Fax: (506) 33-4737

Cuba (CU)

Centro Geofisico (Havana)

Lic. Juan Perez Hernandez, Director
Institute of Geophysics and Astronomy
Cuban Academy of Sciences
Calle 212 No. 2906 e/ 29 y 31
La Coronela, La Lisa
Havana, Cuba

February 15, 1994

Czech Republic (EZ)

Budkov

Dr. M. Konecny
Geomagneticke Oddeleni
Ceskoslovenska Akademie Ved
Geofyzikalni Ustav
Bocni II, CP. 1401
11431 Prague 4 - Sporilov,
Czech Republic

November 10, 1993

Tel: (2) 761941-1/762541-5

Telex: 186 382

Denmark (DA)

Brorfelde, Godhavn, Narssarssuaq, Thule

Division of Geophysics
Danish Meteorological Institute
Lyngbyvej 100
DK-2100 Copenhagen, Denmark

February 11, 1992

Tel: (3) 45 31 29 21 00

Telex: 15835 GEOMI DK or
27138 METOBS

Fax: (3) 45 31 29 34 00

Gram: METOBS

Email: or@dk.min.dmi.dmicvx

Djibouti (D.J)

Djibouti

(see France)

February 15, 1994

Egypt (EG)

Misallat

Prof. H.A. Deebes
National Research Institute of
Astronomy & Geophysics
Helwan, Cairo, Egypt

November 10, 1993

Tel: (2) 780645

Telex: 93070 NRIAG UN

Fax: (2) 782683

Ethiopia (ET)

Addis Ababa

Dr. Laike M. Asfaw, Director
Geophysical Observatory
P.O. Box 1176
Addis Ababa, Ethiopia

November 10, 1993
Tel: (1) 00251 1 11-72-53
Telex: 21205 AAUNIV

Finland (FI)

Nurmijarvi

Dr. Kari Pajunpaa, Director
Nurmijarvi Geophysical Observatory
Finnish Meteorological Institute
SF-05100 Roykka, Finland

November 10, 1993
Tel: (358) 0276-5820
Telex: 124436 EFKL SF
Fax: (358) 969 361 9875
Email: kari.pajunpaa@fmi.fi

Sodankyla

Mr. Johannes Kultima
Geophysical Observatory
Finnish Academy of Science and Letters
SF-99600 Sodankyla, Finland

February 11, 1992
Tel: (358) 693-1222617/8
Telex: 37254 GEFSO SF
Fax: (358) 969 361 9875
Email: kultima@convex.csc.fi

France (FR)

Dumont d'Urville, Martin-de-Vivies, Port Alfred, Port-aux-Francais

Dr. J. Bitterly, Head
Ecole et Observatoire de Physique du Globe
5 rue Rene Descartes
67084 Strasbourg CEDEX, France

November 10, 1993
Tel: (33) 44 27 49 35
Telex: 202810
Fax: (33) 88 61 67 47
Email: jacques@phylica.u-strasbg.fr

Chambon-la-Foret, Kourou, Djibouti

Dr. Xavier Lalanne
Institute de Physique de Globe de Paris
Departement des Observatoires
4, Place Jussieu
F-75252 Paris CEDEX 05, France

February 22, 1994
Tel: (33) 44 27 49 27
Telex: 202810F
Fax: (33) 44 27 24 01
Email: lalanne@ipgp.jussieu.fr

Pamatai, MBour, Bangui

ORSTOM
Laboratoire de Geophysique
72, rue d'Aulnay
F-93143 Bondy-Cedex, France

February 22, 1994
Tel: (33) 148 025 555
Fax: (33) 148 473 088
Email: albouy@bondy.orstom.fr

Georgian Republic (GG)

Dusheti (Tblisi)

Dr. T. Chelidze
Institute of Geophysics
Georgia Academy of Sciences
1 Rukhadze St.
Tblisi 380093
Georgian Republic
(See also Russia)

February 22, 1994
Tel: 36 17 81
Telex: 212948 incam.su
Fax: (8832) 361107
Email: geo@sciteco.ge

Germany (GE)

Niemegk

Dr. A. Best
Adolf-Schmidt-Observatorium fur Erdmagnetismus
Lindenstrasse 7
1824 Niemegk
Germany

November 10, 1993
Tel: (49) 296/295
Telex: 157528 OBSNK DD

Furstenfeldbruck

Dr. Martin Beblo
Geophysikalisches Observatorium
Ludwigshohe 8
D-8080 Furstenfeldbruck
Germany

November 10, 1993
Tel: (49) 081 41/9 24 70
Telex: 527692 FUR D

Wingst

Dr. J. Schulz-Ohlberg
Bundesamt fur Seeschifffahrt und Hydrographie
Postfach 30 12 20
D-2000 Hamburg 36
Germany

February 11, 1992
Tel: 011 (40) 31 90-51-84
Telex: 02 11 138 BSHH
Fax: 011 (49-40) 31 90 51 50
Gram: HYDRODIENST HAMBURG

Wingst

Dr. Gunter Schulz
Neue Behördenbezeichnung
Bundesamt fur Seeschifffahrt und Hydrographie
Am Olymp 13
D-2177 Wingst
Germany

November 10, 1993
Tel: (49) 4778/4306

Greece (GR)

Pendeli

Mr. Filippopoulos/Mr. Tsailas
Magnetic Observatory of Pendeli
Institute of Geology and Mineral Exploration
70 Messogeion Street
T.K. 11527
Athens, Greece

November 10, 1993
Tel: (01) 7779420
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Appendix II

A Sample Report for Magnetic Results

Data from the magnetic observatories arrive at the WDC-A in a variety of formats and on a variety of media. The following example was extracted with the kind permission of the authors. The original and complete report is available from the British Geological Survey: Clark, T.D.G., Kerridge, D.J., and Harris, T.J. (compilers) 1992, "Magnetic results 1991: Lerwick, Eskdalemuir and Hartland observatories," *British Geological Survey Geomagnetic Bulletin* 21. Some of the important features of this report are:

1. The geographic and geomagnetic location, including elevation, are clearly shown.
2. The instrumentation is detailed, including any important notes affecting operations.
3. Monthly and annual means are clearly presented with units shown.
4. The report contains an historical accounting of annual means with changes noted, but not applied, with a clear description of the cause of the change.

Whether data arrive by letter, printed Annual Report, in computer-readable format on diskette or via electronic transfer, it is important to include the information content from items 1 through 3 above.

Sample Report:

Hartland (Devon, England)

Hartland observatory is situated on the NW boundary of Hartland village. The site is the southern half of a large meadow which slopes steeply northward into a wooded valley. The sea (Bristol Channel) is about 3 km to both the north and west of Hartland. BGS operates a three-component seismometer set and a LF microphone at the observatory, and data from a seismic outstation in South Wales is transmitted to the observatory by radio link.

The observatory was purpose-built for magnetic work, and continuous operations began in 1957, the International Geophysical Year (IGY). Hartland is the successor to Abinger and Greenwich observatories. The moves from Greenwich to Abinger and then to Hartland were made necessary as electrification of the railways progressed, making accurate geomagnetic measurements impossible in SE England. BGS took control of Hartland observatory, from the Royal Greenwich Observatory, in 1968.

Since June 1987 Mr K E Johns (caretaker) has been the only member of BGS staff stationed at Hartland.

Figure 3 is a site diagram of Hartland observatory. Routine maintenance was carried out on all the observatory buildings during 1991.

The observatory coordinates are:

	Geographic	Geomagnetic
Latitude	51°00'N	54°06'
Longitude	355°31'E	80°20'
Height above <i>msl</i>	95 m	

3 INSTRUMENTATION

3.1 Absolute observations

At each observatory absolute measurements are made in a single Absolute Hut (see the site diagrams). Since 1st January 1990 absolute measurements of all geomagnetic elements are referred to a single standard pillar at each of the observatories. For continuity with previous records the differences between the new and old standards are quoted in the tables of annual mean values in the sense (new standard - old standard) for all elements of the geomagnetic field. Thus annual mean values prior to 1990.5 can be referred to the new standard by adding the site difference to the old standard values. A detailed account of the change in absolute measurement reference is given by Kerridge and Clark (1991).

The instruments used at each observatory are given below.

	Fluxgate-theodolite	PVM
Lerwick	ELSEC 810	ELSEC 8801 Proton precession magnetometer mounted in ELSEC 5920 coils
Eskdalemuir	Bartington MAG 01H	ELSEC 8801 Proton precession magnetometer mounted in ELSEC 5920 coils
Hartland	ELSEC 810	ELSEC 8801 Proton precession magnetometer mounted in ELSEC 5920 coils

Monthly and annual mean values for Hartland 1991

Month	D	H	I	X	Y	Z	F
Jan	-6 11.0	19407	66 8.9	19294	-2090	43896	47995
Feb	-6 10.2	19404	66 9.1	19292	-2086	43896	47993
Mar	-6 9.4	19391	66 10.2	19279	-2080	43903	47995
Apr	-6 9.1	19404	66 9.3	19292	-2079	43900	47997
May	-6 8.4	19409	66 9.0	19298	-2076	43902	48001
Jun	-6 7.2	19398	66 10.2	19287	-2068	43918	48011
Jul	-6 6.8	19402	66 9.9	19292	-2066	43918	48013
Aug	-6 6.1	19396	66 10.3	19286	-2062	43917	48009
Sep	-6 5.3	19398	66 10.1	19289	-2057	43916	48009
Oct	-6 4.6	19386	66 11.1	19277	-2052	43923	48011
Nov	-6 3.6	19376	66 12.1	19268	-2046	43935	48018
Dec	-6 4.0	19403	66 10.0	19294	-2051	43923	48018
Annual	-6 7.1	19398	66 10.0	19288	-2067	43912	48006

D and I are given in degrees and decimal minutes
H, X, Y, Z and F are given in nanotesla

DAILY MEAN VALUES 1991 HARTLAND Lat:51 00 Long:355 31

Horizontal intensity in nT

19398

350nT

Declination in degrees east

-6.12

0.50deg

Vertical intensity in nT

43912

200nT

30 60 90 120 150 180 210 240 270 300 330 360

Day of year

Annual Values of Geomagnetic Elements

Abinger

Year	D	H	I	X	Y	Z	F
1925.5	-13 22.7	18597	66 35.2	18092	-4303	42946	46800
1926.5	-13 10.4	18581	66 36.3	18092	-4234	42947	46794
1927.5	-12 58.4	18575	66 36.2	18101	-4170	42932	46778
1928.5	-12 47.0	18564	66 37.2	18104	-4108	42941	46782
1929.5	-12 35.8	18555	66 37.2	18108	-4047	42918	46758
1930.5	-12 24.6	18542	66 38.2	18109	-3985	42924	46757
1931.5	-12 13.7	18543	66 38.1	18122	-3928	42923	46757
1932.5	-12 2.6	18536	66 39.1	18128	-3868	42940	46770
1933.5	-11 51.7	18532	66 39.4	18136	-3809	42942	46770
1934.5	-11 41.1	18533	66 39.7	18149	-3754	42955	46782
1935.5	-11 30.3	18527	66 40.9	18155	-3695	42981	46805
1936.5	-11 20.0	18524	66 41.8	18163	-3640	43007	46827
1937.5	-11 10.4	18522	66 42.7	18171	-3589	43031	46848
1938.5	-11 1.4	18522	66 43.2	18180	-3542	43050	46865
1939.5	-10 51.9	18528	66 43.5	18196	-3492	43074	46890
1940.5	-10 43.0	18533	66 43.9	18210	-3446	43099	46915
1941.5	-10 33.8	18539	66 44.3	18225	-3399	43128	46944
1942.5	-10 24.8	18554	66 43.9	18248	-3354	43146	46966
1943.5	-10 16.2	18556	66 44.5	18259	-3308	43172	46991
1944.5	-10 7.8	18566	66 44.3	18277	-3265	43189	47010
1945.5	-9 59.5	18573	66 44.3	18291	-3223	43207	47030
1946.5	-9 51.1	18569	66 45.4	18295	-3177	43235	47054
1947.5	-9 43.1	18577	66 45.2	18310	-3136	43246	47067
1948.5	-9 35.4	18593	66 44.4	18333	-3098	43255	47082
1949.5	-9 27.5	18607	66 44.0	18354	-3058	43273	47104
1950.5	-9 19.7	18628	66 43.0	18382	-3019	43288	47126
1951.5	-9 12.2	18648	66 42.1	18408	-2983	43305	47149
1952.5	-9 4.7	18670	66 41.0	18436	-2946	43316	47168
1953.5	-8 57.5	18695	66 39.5	18467	-2911	43321	47183
1954.5	-8 50.9	18720	66 38.1	18497	-2879	43332	47203
1955.5	-8 43.6	18738	66 37.4	18521	-2843	43348	47225
1956.5	-8 36.8	18750	66 37.4	18539	-2808	43376	47255
1957.1	-8 32.9	18755	66 37.6	18547	-2788	43394	47274

Hartland

Note 1	-1 -46.6	-146	0 11.4	-247	-542	56	-6
1957.5	-10 17.2	18627	66 47.7	18328	-3326	43451	47275
1958.5	-10 11.0	18655	66 46.3	18361	-3298	43465	47299
1959.5	-10 5.0	18681	66 45.1	18392	-3271	43484	47327
1960.5	-9 58.8	18707	66 43.9	18424	-3242	43504	47356
1961.5	-9 53.0	18744	66 41.7	18466	-3217	43512	47378
1962.5	-9 46.9	18779	66 39.5	18506	-3190	43517	47396
1963.5	-9 40.6	18807	66 37.9	18539	-3161	43528	47417
1964.5	-9 35.2	18840	66 36.0	18577	-3138	43535	47437
1965.5	-9 30.1	18872	66 34.0	18613	-3115	43540	47454
1966.5	-9 25.1	18897	66 32.7	18642	-3092	43554	47477
1967.5	-9 20.3	18923	66 31.5	18672	-3071	43573	47505
1968.5	-9 15.5	18956	66 29.9	18709	-3050	43592	47535
1969.5	-9 11.1	18994	66 27.9	18750	-3032	43611	47568
1970.5	-9 6.5	19033	66 26.1	18793	-3013	43636	47606
1971.5	-9 1.1	19075	66 23.8	18839	-2990	43655	47640
1972.5	-8 55.3	19110	66 22.1	18879	-2964	43676	47674
1973.5	-8 48.2	19144	66 20.5	18918	-2930	43697	47707
1974.5	-8 40.4	19175	66 19.1	18956	-2892	43719	47739
1975.5	-8 32.3	19212	66 17.0	18999	-2852	43733	47767
1976.5	-8 23.1	19240	66 15.7	19034	-2806	43749	47793
1977.5	-8 13.7	19271	66 13.9	19073	-2758	43758	47813
1978.5	-8 03.6	19286	66 13.3	19095	-2704	43773	47833
1979.5	-7 53.5	19309	66 12.0	19127	-2651	43778	47847
Note 2	0 0.0	0	0 -0.2	0	0	-6	-5
1980.5	-7 43.8	19330	66 10.3	19154	-2600	43768	47846

	Year	D	H	I	X	Y	Z	F
	1981.5	-7 33.9	19335	66 10.2	19167	-2546	43777	47857
	1982.5	-7 24.7	19342	66 10.1	19180	-2495	43787	47869
	1983.5	-7 15.1	19358	66 9.0	19203	-2443	43787	47876
	1984.5	-7 5.5	19366	66 8.6	19218	-2391	43791	47882
	1985.5	-6 56.1	19379	66 7.9	19237	-2340	43796	47892
	1986.5	-6 47.3	19383	66 8.0	19247	-2291	43807	47904
	1987.5	-6 39.2	19395	66 7.4	19264	-2247	43817	47918
	1988.5	-6 30.7	19393	66 8.2	19267	-2199	43838	47936
	1989.5	-6 22.9	19389	66 9.1	19269	-2155	43862	47956
Note 3		0 0.0	-6	0 1.1	-6	1	23	19
	1990.5	-6 15.0	19395	66 9.7	19280	-2111	43896	47990
	1991.5	-6 7.1	19398	66 10.0	19288	-2067	43912	48006

1 Site differences 1 Jan 1957 (Hartland value - Abinger value)

2 Site differences 1 Jan 1980 (new value - old value)

3 Site differences 1 Jan 1990 (new value - old value)

D and I are given in degrees and decimal minutes

All other elements are in nanotesla

Appendix III

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 Comité International de Géophysique 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.

World Data Center-A: Coordination Office
National Academy of Sciences
2101 Constitution Avenue, NW
Washington, D.C. 20418, U.S.A.

Tel: 202-334-3368

World Data Center-A: Glaciology (Snow and Ice)
Cooperative Institute for Research in Environmental Sciences
University of Colorado
Boulder, Colorado 80309, U.S.A.

Tel: 303-492-5171

World Data Center-A: Marine Geology and Geophysics
National Geophysical Data Center
NOAA, E/GC3
325 Broadway
Boulder, Colorado 80303-3328, U.S.A.

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, North Carolina 28801, U.S.A.

Tel: 704-259-0682

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

Tel: 202-673-5594

World Data Center-A: Paleoclimatology
National Geophysical Data Center
NOAA, E/GC
325 Broadway
Boulder, Colorado 80303-3328, U.S.A.

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, Maryland 20771, U.S.A.

Tel: 301-286-7354

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

Tel: 202-653-1529 or
1527

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

Tel: 303-236-1500

World Data Center-A: Solar-Terrestrial Physics
National Geophysical Data Center
NOAA, E/GC2
325 Broadway
Boulder, Colorado 80303-3328, U.S.A.

Tel: 303-497-6324
Fax: 303-497-6513
Telex: 592811 NOAA MASC BDR
Email: info@ngdc.noaa.gov

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

Tel: 303-497-6521
Fax: 303-497-6513
Telex: 592811 NOAA MASC BDR
Email: info@ngdc.noaa.gov

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-52, *A Report on Geomagnetic Observatories and Observations, 1994*, is one in a series. To obtain ordering information about the other publications contact the World Data Center-A for Solid Earth Geophysics (address listed on previous page). The following reports have been published by WDC-A for Solid Earth Geophysics:

- 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

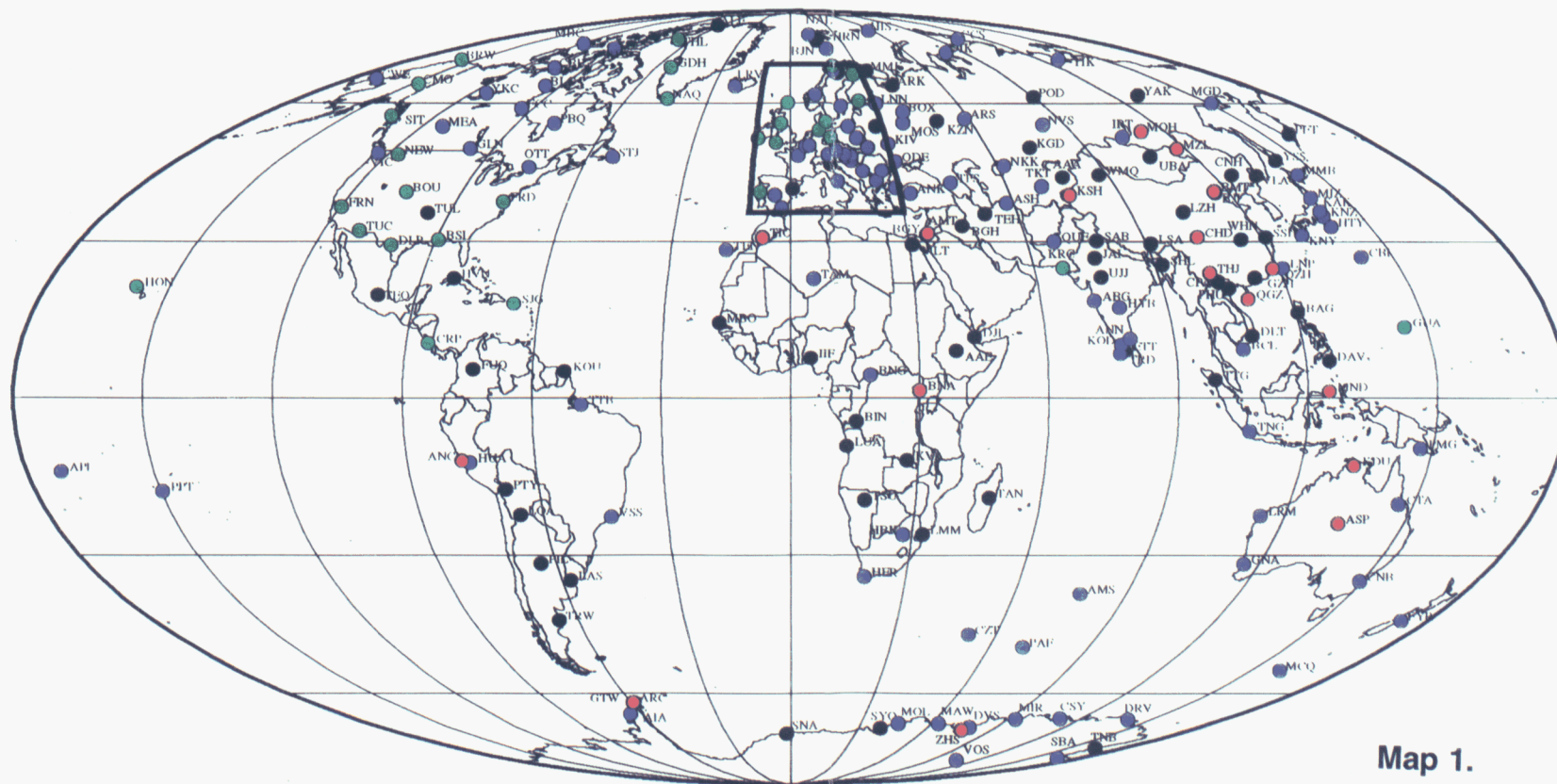
- SE-41 Directory of World Seismograph Stations, Volume II. East Asia–China, Japan, Korea and Mongolia
- SE-42 Catalog of Submarine Volcanoes and Hydrological Phenomena Associated with Volcanic Events: January 1, 1900 to December 31, 1959
- SE-43 A Directory of Geomagnetic Observatories with Digital 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

Magnetic Observatories in Operation 1994

(based on data received at the WDC-A)

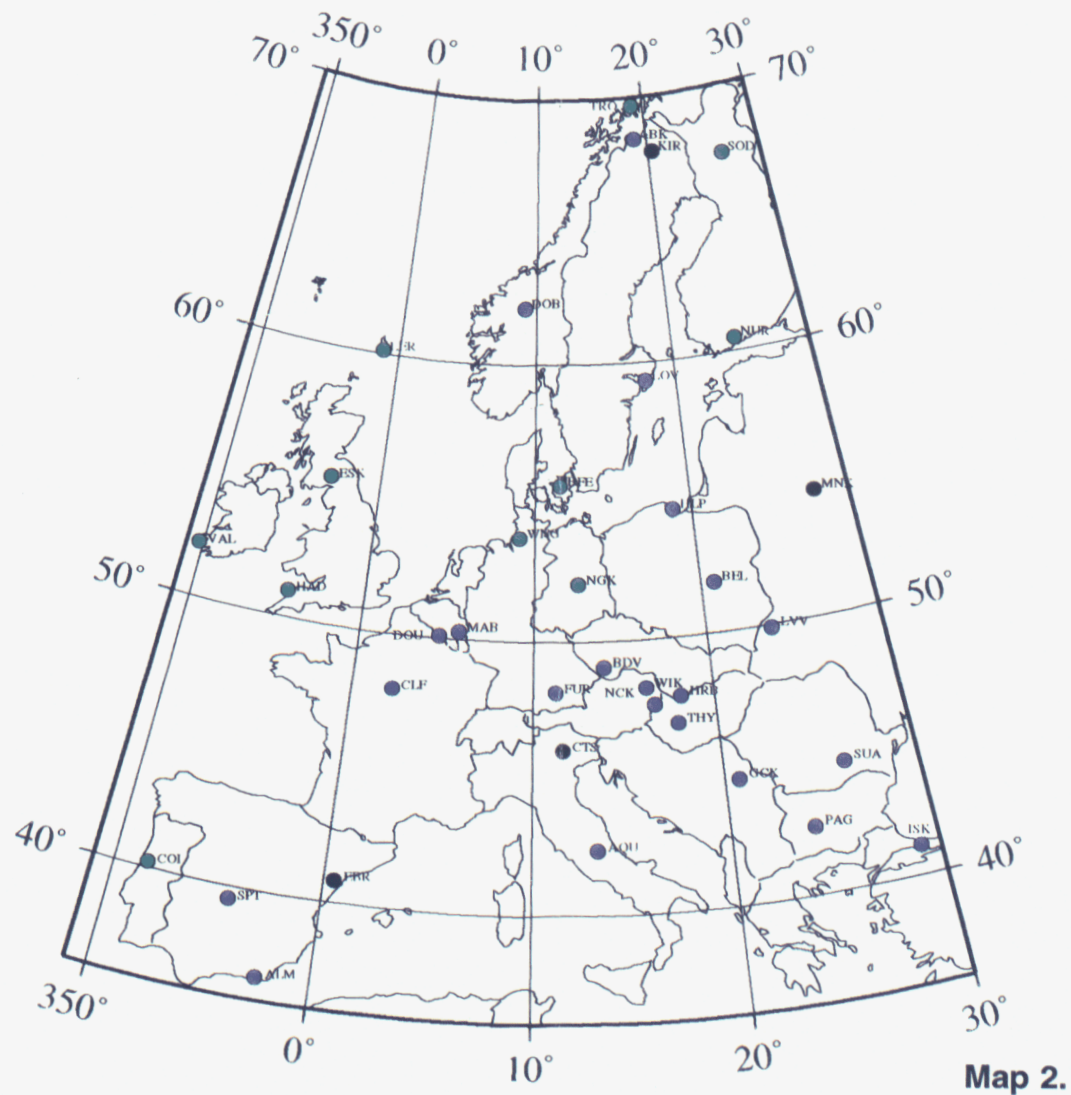


Map 1.

- New Observatory
- Observatory Annual Means for 1992 or Later at WDC-A
- Observatory Annual Means for 1990 or 1991 at WDC-A
- Observatory Operation Uncertain or Annual Means for 1989 or Earlier

Magnetic Observatories in Operation 1994

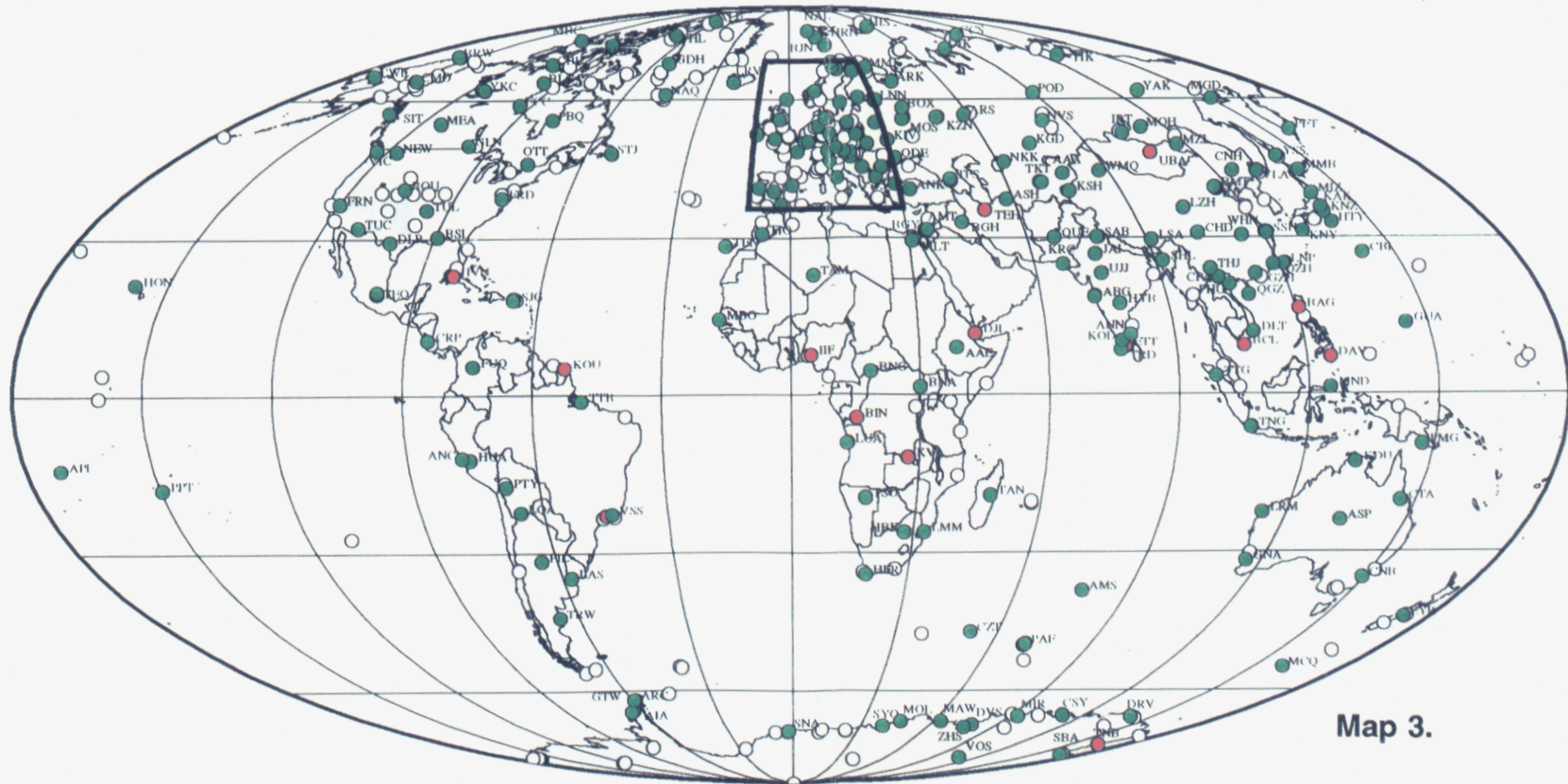
(based on data received at the WDC-A)



- New Observatory
- Observatory Annual Means for 1992 or Later at WDC-A
- Observatory Annual Means for 1990 or 1991 at WDC-A
- Observatory Operation Uncertain or Annual Means for 1989 or Earlier

Magnetic Observatories 1818 - 1994

(based on data received at the WDC-A)

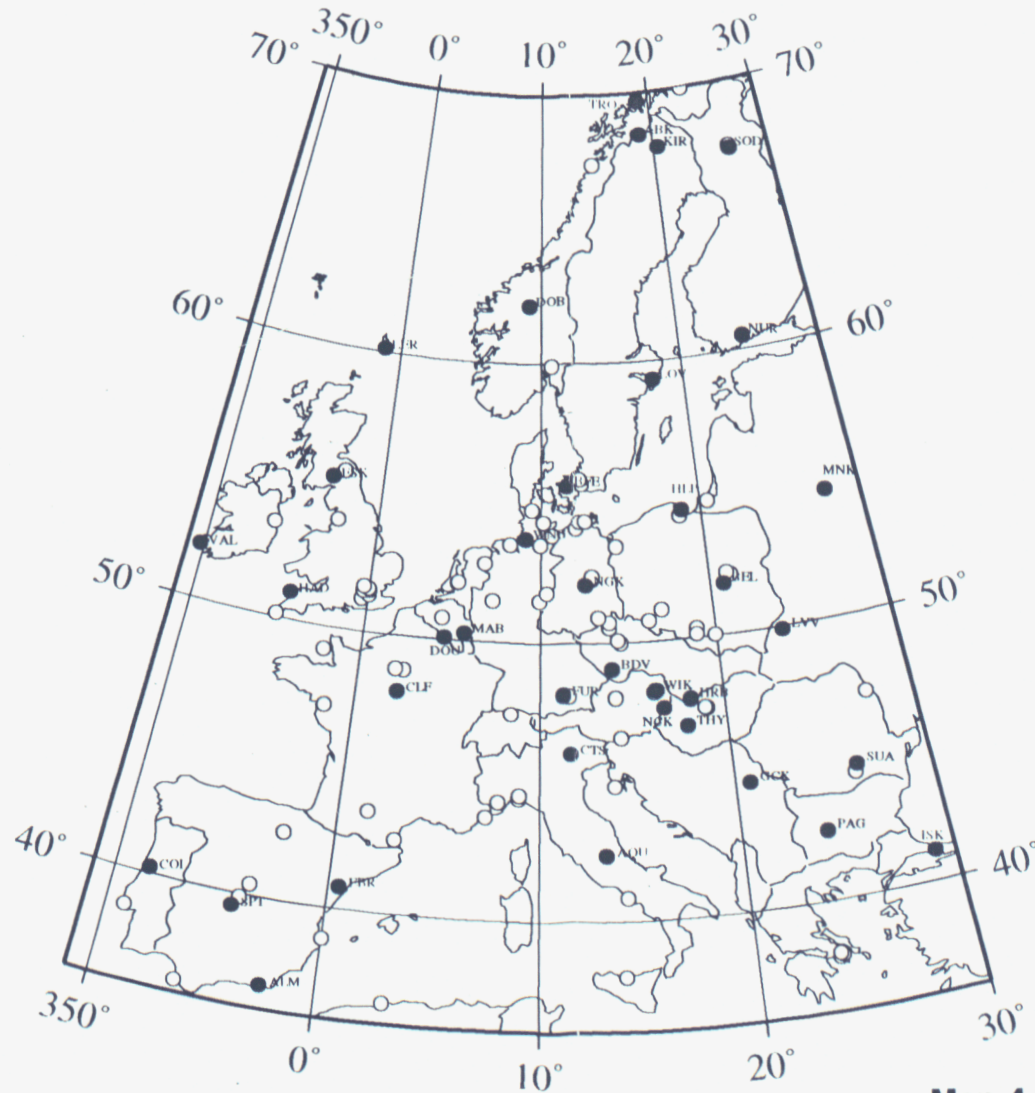


Map 3.

- Observatory status uncertain
- Observatory operating
- Observatory closed

Magnetic Observatories 1818 - 1994

(based on data received at the WDC-A)



- Operating Observatory
- Observatory closed

