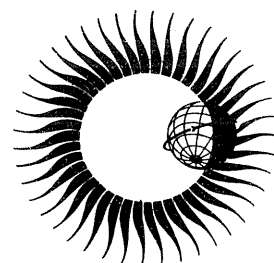


WORLD DATA CENTER A
for
Solar-Terrestrial Physics



CATALOGUE OF
DIGITAL GEOMAGNETIC VARIATION DATA
AT
WORLD DATA CENTER A
FOR
SOLAR-TERRESTRIAL PHYSICS



JULY 1974

WORLD DATA CENTER A
National Academy of Sciences
2101 Constitution Avenue, N. W. Washington, D. C., U.S.A., 20418

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and eight subcenters:

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Rockets and Satellites
Goddard Space Flight Center
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Telephone (301) 982-6695

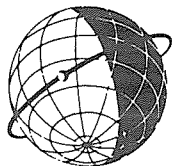
Tsunami:

World Data Center A:
Tsunami
National Oceanic and Atmospheric
Administration
2525 Korrea Road
Honolulu, Hawaii, U.S.A. 96822
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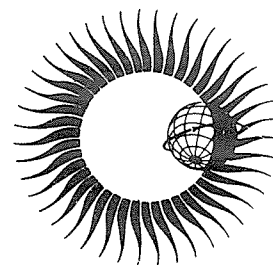
Notes:

- (1) World Data Centers conduct international exchange of geophysical observations in accordance with the principles set forth by the International Council of Scientific Unions. WDC-A is established in the United States under the auspices of the National Academy of Sciences.
- (2) Communications regarding data interchange matters in general and World Data Center A as a whole should be addressed to: World Data Center A, Coordination Office (see address above).
- (3) Inquiries and communications concerning data in specific disciplines should be addressed to the appropriate subcenter listed above.

WORLD DATA CENTER A for Solar-Terrestrial Physics



CATALOGUE OF DIGITAL GEOMAGNETIC VARIATION DATA AT WORLD DATA CENTER A FOR SOLAR-TERRESTRIAL PHYSICS



JULY 1974

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CATALOGUE OF DIGITAL GEOMAGNETIC VARIATION DATA
AT WORLD DATA CENTER A FOR SOLAR-TERRESTRIAL PHYSICS

I. INTRODUCTION

As high speed computers have become more readily available, the number of requests for digital geomagnetic variation data has steadily increased. To meet these needs we have endeavored over the past decade to collect all geomagnetic data available in this form, in addition to those in tabular formats. This catalogue lists all of the geomagnetic data available on magnetic tape in World Data Center A for Solar-Terrestrial Physics. Other information of interest is also provided.

II. SOURCES OF DATA

The geomagnetic variation data available on magnetic tape were obtained from many sources and institutions. They are as follows:

1. Hourly Values

- a. Yearbooks, microfilm, bulletins, etc. from the observatories.
- b. Magnetic tapes, punched cards, or punched paper tape from the observatories.
- c. Means of 2.5 minute values as derived by the National Geophysical and Solar-Terrestrial Data Center, Environmental Data Service, NOAA.

2. 2.5 Minute Values

- a. Digitizing the magnetograms with the aid of automatic or semi-automatic equipment.
- b. Converted from data recorded directly on magnetic tape at one-minute (or shorter) intervals.

3. K-Indices

International Union of Geodesy and Geophysics, International Association of Geomagnetism and Aeronomy.

4. Kp-Indices

Magnetic tape prepared by the European Space Research Organization from the data supplied by the Geophysikalisches Institute of the University of Göttingen. These data are included on a tape containing other solar and geophysical parameters, among them the day of the solar rotation cycle, Ap, Cp, and C9.

5. Dst-Indices

Goddard Space Flight Center, National Aeronautics and Space Administration.

6. AE-Indices

Those listed below were derived from 10 to 11 observatories well spread in longitude.

<u>Hourly AE</u>	Jul 1957-Dec 1964	Geophysical Institute, University of Alaska.
<u>2.5 Minute AE</u>	Sep 1964-Dec 1965	Goddard Space Flight Center, NASA.
<u>2.5 Minute AE</u>	Jan 1966-Dec 1970	National Geophysical and Solar-Terrestrial Data Center, EDS, NOAA.

7. Kn, Ks, and Km Indices, Faculté des Sciences de Paris, Institut de Physique du Globe.

8. aa Indices, Faculté des Sciences de Paris, Institut de Physique du Globe.

III. OTHER DIGITAL DATA AVAILABLE AT WORLD DATA CENTER A

Within the past few years a number of observatories have begun direct digital recording of magnetic variations at one minute (or shorter) intervals. Copies of a small number of these recordings have been furnished to the World Data Centers. Information regarding the observatory-intervals for which these data are available will be furnished on request.

IV. MAGNETIC INDICES AVAILABLE IN COMPUTER FORMAT

During this century many types of indices have been derived to show magnetic activity. A list of those available on magnetic tape is as follows:

1. K from individual observatories	1969-1972
2. Kp	1932-Present
3. Dst	1957-Present
4. AE (Hourly-1966 onward based on 10 or 11 observatories)	1957-1970
5. AE (2.5 Minute-1966 onward based on 10 or 11 observatories)	1957-1970
6. aa	1868-1967
7. Kn, Ks, Km	1959-1970

✓ It is planned to continue preparation of the AE hourly and 2.5 minute indices from 1971 onward.

V. COST OF COPYING AND INFORMATION ON ORDERING

The cost of a direct tape-to-tape copy of any of the data listed in this catalogue is \$50.00 plus the cost of a blank tape. However, if specific observatory-intervals of data are required the cost will depend on the number of magnetic tapes used in abstracting the required data. The data available at the present time are stored on approximately 130 (2400-foot) tapes. The cost of copying data for specific observatory-intervals will be furnished on request to the Data Center.

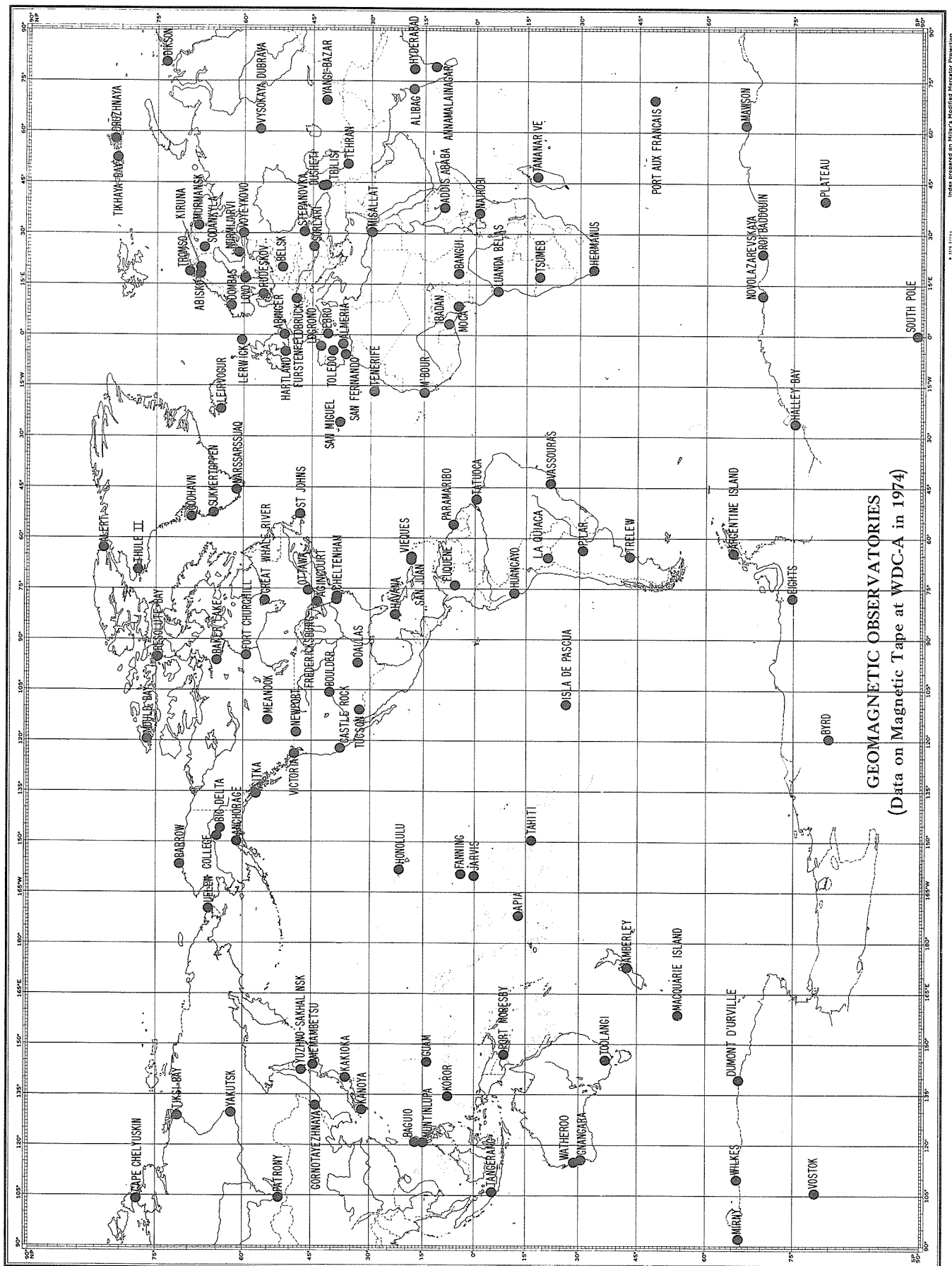
VI. MAP

The observatory names indicated on the map are those used in the catalogue of hourly and 2.5 minute values. These are not necessarily the preferred names used in the Master Station List of World Data Center A for Solar-Terrestrial Physics which covers all disciplines at the Data Center. Of course the amount of digital data available varies observatory to observatory. The details are presented in the catalogue.

VII. EXPLANATION OF THE CATALOGUE OF HOURLY AND 2.5 MINUTE VALUES

In the following numbered paragraphs are given explanations of the column headings as found in the actual catalogue presented in Section X.

1. The observatory names are shown in the first column of this catalogue. Other names for an observatory at this, or a nearby geographic site, are shown in the second column following these names. A list of alternate observatory names is also given on page 5 in Section IX.
2. A two-or three-letter mnemonic code as adopted by IAGA in its Bulletin 12 (later 32) Series is shown after each observatory.
3. In most cases the geographic coordinates were furnished by the institutions operating the observatories. The geomagnetic coordinates are based on the standard centered dipole (78.5°N and 291.0°E). In most cases where the observatory moved, but the name remained unchanged, the coordinates are given for the current site.
4. The catalogue shows the observatory-months for which hourly and 2.5 minute magnetic values are available on magnetic tape. In most cases three elements (D, H, and Z or X, Y, and Z) are available.



VIII. MAGNETIC TAPE FORMATS FOR HOURLY AND 2.5 MINUTE VALUES

The following tape format was adopted by IAGA at the Madrid meeting in 1969:

Position

1-3	Observatory Mnemonic Code, left adjusted.
4-5	Year, last two digits
6-7	Month (01-12)
8	Element (D, H, Z, F or X, Y, Z, F)
9-10	Day (01-31)
11-12	Blanks
13-15	Arbitrary
16	Blank for data since 1900, '8' for data prior to 1900.
17-20	Tabular base, in degrees for D and I, hundreds of gammas for the intensity elements. The bases are right adjusted and signed if negative. Negative values are identified with a minus sign either adjacent to the first significant digit or in the high-order position of the field (position 17). NOTE: A blank digit will not appear between a minus sign and the first significant digit. For example, a base may appear as -050 or b-50 but not as -b50 (b=blank).
21-116	Twenty-four 4-digit Hourly Values for the day. The values are in tenth-minutes for D and in gammas for the intensity elements. The first hourly value represents the mean value between 00h and 01h....the 24th value represents the mean value between 23h and 24h. Rules for negative values are the same as those described for tabular bases. A missing value is identified by a 9999.
117-120	Daily Mean. Rules for negative values are the same as those described for tabular bases. If any of the hourly values for the day are missing, a 9999 will appear as the mean.

The 26 values in positions 21-120 will have the range -999 to 9998, with 9999 reserved for missing values. To avoid a 4-digit negative value in positions 21-116, the tabular base will be adjusted for that day, for example for D, one degree is subtracted from the base and 600 units are added to each of the hourly values for the day-- for the intensity elements, 500 gammas are subtracted from the base and 500 gammas are added to each of the hourly values for the day.

Each tape block contains 20 records (2400 characters). A standard inter-record gap appears between tape blocks. When necessary, padded nines are used to complete the last block of data. Two or more tape marks follow the last block of data.

The records are sorted according to observatory mnemonic, year, month, element, day (positions 1-10).

NOTE: The same format is used for 2.5-minutes values, except positions 11-12 contain the hour (00-23), and the first data value is for 2.5 minutes past the hour. For 2.5 minute values the hourly mean appears in positions 117-120, if more than 20 2.5 minute values are missing the mean will appear as "9999".

NOTE: For those unable to use alphabetic identifications or month-day notation, the following is suggested:

- a) observatory code... use a 2 or 3 digit code.
- b) element... 1=D, 2=F, 3=H, 4=I, 5=X, 6=Y, 7=Z.
- c) month-day... leave positions 6-7 and 9-10 blank and place day number in positions 13-15.

Sample Computations Showing Use of Tabular Bases

	D	H	Z	X	Y
Tabular Base	-006	155	-485	-025	090
Hourly Value	<u>-623</u>	<u>-032</u>	<u>-096</u>	<u>26</u>	<u>250</u>
Total Value	-7°02.3'	15468	-48596	-2474	9250

As shown above, the value of a magnetic element at any particular time is obtained by adding the signed tabular base to the signed value.

The customary geomagnetic convention is followed: all magnetic values are referred to the north-seeking end of the compass needle, with X regarded as positive when directed northward, Y as positive when directed eastward, Z as positive when directed downward, and D as positive when directed eastward.

Where data are digitized in a semi-automatic manner from normal magnetograms, only one sample should be taken each 2.5 minutes.

When the basic data are obtained from an automatic digital instrument with a very rapid sampling rate it is recommended that only one sample per minute be preserved for the World Digital Data Centers.

IX. ALTERNATE OBSERVATORY NAMES

For various reasons many observatories are known by more than one name. In the following list the observatory names shown in the first column are the ones used in this catalogue. The second column shows another name by which these observatories are known.

ABINGER	HARTLAND
DIKSON	DIXON
DRUZHNYA	HEISS IS
DUMONT D'URVILLE	TERRE ADELIE
DUSHETI	TBILISI
EBRO	TORTOSA
FORT CHURCHILL	CHURCHILL
GORNOTAYEZHNYA	USSURISK
HAVANA	CUBA
ISLA DE PASCUA	EASTER ISLAND
LUANDA BELAS	LUANDA
PATRONY	IRKUTSK
PORT-AUX-FRANCAIS	KERGUELEN
ROI BAUDOUIN	BAUDOUIN
RUDE SKOV	COPENHAGEN
SAN JUAN	PUERTO RICO
STEPANOVKA	ODESSA
TIKHAYA BAY	HEISS IS
TIKSI BAY	TIXIE BAY
UELEN	CAPE WELLEN
VOYEYKOVO	LENINGRAD
VYSOKAYA DUBRAVA	SVERDLOVSK
WATHEROO	GNANGARA
YANGI-BAZAR	TASHKENT

CATALOGUE OF HOURLY AND 2.5 MINUTE VALUES ON MAGNETIC TAPE

MAGNETIC TAPE	NAME MASTER STATION LIST	CODE ON TAPE	GEOGRAPHIC		GEO MAGNETIC		YEAR	HOURLY VALUES	2.5-MIN VALUES			
			LAT	LONG	LAT	LONG						
			+NORTH -SOUTH	+EAST -WEST	+NORTH -SOUTH	EAST						
			DEGREES				MONTH		MONTH			
							JFM	AMJ	JAS	OND		
ABINGER	(HARTLAND)	[AB]	51.1	-0.3	53.8	84.0	1926	XXX	XXX	XXX	XXX	
							1927	XXX	XXX	XXX	XXX	
							1928	XXX	XXX	XXX	XXX	
							1929	XXX	XXX	XXX	XXX	
							1930	XXX	XXX	XXX	XXX	
							1931	XXX	XXX	XXX	XXX	
							1932	XXX	XXX	XXX	XXX	
							1933	XXX	XXX	XXX	XXX	
							1934	XXX	XXX	XXX	XXX	
							1935	XXX	XXX	XXX	XXX	
							1936	XXX	XXX	XXX	XXX	
							1937	XXX	XXX	XXX	XXX	
							1938	XXX	XXX	XXX	XXX	
							1939	XXX	XXX	XXX	XXX	
							1940	XXX	XXX	XXX	XXX	
							1941	XXX	XXX	XXX	XXX	
							1942	XXX	XXX	XXX	XXX	
							1943	XXX	XXX	XXX	XXX	
							1944	XXX	XXX	XXX	XXX	
							1945	XXX	XXX	XXX	XXX	
							1946	XXX	XXX	XXX	XXX	
							1947	XXX	XXX	XXX	XXX	
							1948	XXX	XXX	XXX	XXX	
							1949	XXX	XXX	XXX	XXX	
							1950	XXX	XXX	XXX	XXX	
							1951	XXX	XXX	XXX	XXX	
							1952	XXX	XXX	XXX	XXX	
							1953	XXX	XXX	XXX	XXX	
							1954	XXX	XXX	XXX	XXX	
							1955	XXX	XXX	XXX	XXX	
							1956	XXX	XXX	XXX	XXX	
ABISKO		[AI]	68.3	18.8	66.0	115.1	1968	XXX	XXX	XXX	XXX	
							1969	XXX	XXX	XXX	XXX	
							1970	XXX	XXX	XXX	XXX	
							1971				X	
							1972	X				
ADDIS ABABA		[AA]	9.0	38.7	5.3	109.1	1958	XXX	XXX	XXX	XXX	
							1964		X	XXX		
							1965	XXX	XXX	XXX	XXX	
AGINCOURT		[AG]	43.7	-79.2	55.0	347.0	1966	XXX	XXX	XXX	XXX	
							1967	XXX	XXX	XXX	XXX	
							1968	XXX	XXX	XXX	XXX	
							1969	XXX				
ALERT		[AT]	82.5	-62.5	85.8	168.1	1963	XXX	XXX	XXX	XXX	
							1964		X	XXX		
							1965	XXX	XXX	XXX	XXX	
							1966	XXX	XXX	XXX	XXX	
							1967	XXX	XXX	XXX	XXX	
							1968	XXX	XXX	XXX	XXX	
							1969	XXX				
							1970	X				
ALIBAG		[AL]	18.6	72.8	9.4	143.6	1958	XXX	XXX	XXX	XXX	
							1961	XXX	XXX	XXX	XXX	
							1964	XXX	XXX	XXX	XXX	
							1966	X				
ALMERIA		[AE]	36.8	-2.4	40.6	75.2	1966	X				
AMBERLEY		[AM]	-43.1	172.7	-47.6	252.5	1959		X	XXX		
							1964	XXX	XXX	XX		
							1965	X	XXX	XX		
							1966					
ANCHORAGE		[ANC]	61.2	-149.8	60.9	258.1	1957		XXX	XXX		
							1958	XXX	XXX	XXX	XXX	
ANNAMALAINAGAR		[ANN]	11.4	79.6	1.5	149.3	1967		X	X		
APIA		[AP]	-13.8	-171.7	-16.0	260.2	1957		XXX	XXX		
							1958	XXX	XXX	XXX	XXX	
							1961	XXX	XXX	XXX	XXX	
							1963	XXX	XXX	XXX	XXX	
							1964	XXX	XXX			
							1965	XXX	XXX	XXX	XXX	
ARGENTINE ISLANDS		[AR]	-65.2	-64.2	-53.7	03.3	1957	XXX	XXX	XXX	XXX	
							1958	XXX	XXX	XXX	XXX	
							1959	XXX	XXX	XXX	XXX	
							1960	XXX	XXX	XXX	XXX	

CATALOGUE OF HOURLY AND 2.5 MINUTE VALUES ON MAGNETIC TAPE

NAME			GEOGRAPHIC		GEOMAGNETIC		YEAR	HOURLY VALUES	2.5-MIN VALUES		
MAGNETIC TAPE	MASTER STATION LIST	CODE ON TAPE	LAT +NORTH -SOUTH	LONG +EAST -WEST	LAT +NORTH -SOUTH	LONG EAST					
			DEGREES				MONTH				
							JFM	AMJ	JAS	OND	
ARGENTINE ISLANDS	[AR]		-65.2	-64.2	-53.7	03.3	1961	XXX	XXX	XXX	XXX
							1962	XXX	XXX	XXX	XXX
							1963	XXX	XXX	XXX	XXX
							1964	XXX	XXX	XXX	XXX
							1965	XXX	XXX	XXX	XXX
							1966	XXX	XXX	XXX	XXX
							1967	XXX	XXX	XXX	XXX
BAGUIO	[BG]		16.4	120.6	5.0	189.2	1965			X	
							1966	X			
							1967		XX	X	X
							1968	XX	XXX		XX
							1969		XXX	X	
BAKER LAKE	[BL]		64.3	-96.0	73.7	315.2	1960	XXX	XXX	XXX	XXX
							1961	XXX	XXX	XXX	XXX
							1962	XXX	XXX	XXX	XXX
							1963	XXX	XXX	XXX	XXX
							1964	XXX	XXX	XXX	XXX
							1965	XXX	XXX	XXX	XXX
							1966	XXX	XXX	XXX	XXX
							1967	XXX	XXX	XXX	XXX
							1968	XXX	XXX	XXX	XXX
							1969	XXX	XXX	XXX	XXX
							1970	X			
BANGUI	[BA]		4.4	18.5	4.8	88.4	1961		XX	XXX	
							1965		XX		XX
							1966	X		XX	
							1967	XX	XX	XX	X
							1968	XX	XXX		XX
							1969		XXX	X	
							1970	XXX			
BARROW	[BW]		71.3	-156.7	68.5	241.1	1964		X	XXX	
							1965	XXX	XXX	XXX	XXX
							1966	XXX	XXX	XXX	XXX
							1967	XXX	XXX	XXX	XXX
							1968	XXX	XXX	XXX	XXX
							1969	XXX	XXX	XXX	XXX
							1970	XXX	XXX	XXX	XXX
							1971	XXX	XXX	XXX	XXX
							1972	XXX	XXX	XXX	XXX
							1973	XXX	XXX	XXX	XXX
							1974	XXX	X		
BELSK	[BE]		51.8	20.8	50.4	104.0	1970	XXX	XXX	XXX	XXX
							1971	XXX	XXX	XXX	XXX
BIG DELTA	[BIG]		64.0	-145.7	64.2	259.3	1957		XXX	XXX	
							1958	XXX	XXX	XXX	XXX
BOULDER	[BD]		40.1	-105.2	48.9	316.5	1964		X	XXX	
							1967	XXX	XXX	XXX	XXX
							1968	XXX	XXX	XXX	XXX
							1969	XXX	XXX	XXX	XXX
							1970	XXX	XXX	XXX	XXX
							1971	XXX	XXX	XXX	XXX
							1972	XXX	XXX	XXX	XXX
							1973	XXX	XXX	XXX	XXX
							1974	XXX	X		
BYRD	[BY]		-80.0	-119.5	-70.5	336.3	1957		XX	XXX	
							1958	XXX	XXX	XXX	XXX
							1959	XXX	XXX	XXX	XXX
							1960	XXX	XXX	XXX	XXX
							1961	XXX	XXX	XXX	XXX
							1962	XXX	XXX	XXX	XXX
							1963	XXX	XXX	XXX	XXX
							1964	XXX	XXX	XXX	XXX
							1965				
							1966				
							1967	XXX	XXX	XXX	XXX
							1968	XXX	XXX		
							1970		XX		XX
* CAPE CHELYUSKIN	[CC]		77.7	104.2	66.2	176.4	1964		X	XXX	
							1965	XXX	XXX	XXX	XXX
							1966	XXX	XXX	XXX	XXX
							1967	XXX	XXX	XXX	XXX
							1968	XXX	XXX	XXX	XXX
							1969*	XXX	XXX	XXX	XXX
							1970*	XXX	XXX	XXX	XXX

* Computations are relative values from arbitrary baseline.

CATALOGUE OF HOURLY AND 2.5 MINUTE VALUES ON MAGNETIC TAPE

NAME			GEOGRAPHIC		GEOMAGNETIC		YEAR	HOURLY VALUES	2.5-MIN VALUES	
MAGNETIC TAPE	MASTER STATION LIST	CODE ON TAPE	LAT +NORTH -SOUTH	LONG +EAST -WEST	LAT +NORTH -SOUTH	LONG EAST				
			DEGREES				MONTH		MONTH	
							JFM AMJ JAS OND	JFM AMJ JAS OND	JFM AMJ JAS OND	JFM AMJ JAS OND
CASTLE ROCK		[CR]	37.2	-122.1	43.4	298.6	1970	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1971	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1972	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1973	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
CHELTENHAM		[CH]	38.7	-76.8	50.1	350.5	1937	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1938	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1939	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1940	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1941	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1942	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1943	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1944	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1945	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1946	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1947	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1948	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1949	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1950	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1951	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1952	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1953	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1954	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1955	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1956	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
COLLEGE		[CO]	64.8	-147.8	64.6	256.5	1948	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1949	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1950	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1951	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1952	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1953	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1954	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1955	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1956	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1957	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1958	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1959	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1960	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1961	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1962	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1963	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1964	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1965	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1966	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1967	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1968	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1969	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1970	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1971	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1972	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1973	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1974	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
DALLAS		[DS]	32.9	-96.7	42.9	327.8	1964	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1965	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1966	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1967	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1968	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1969	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1970	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1971	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1972	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1973	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1974	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
* DIKSON	(DIXON)	[DI]	73.5	80.5	63.0	161.5	1964	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1965	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1966	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1967	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1968	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1969	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1970 *	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1971 *	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX
							1972	XX	XX	XX
DOMBAS		[DO]	62.0	9.1	62.2	100.1	1969	X XXX	X XXX	X XXX
DRUZHNAJA	(HEISS IS)	[DR]	80.6	58.0	71.3	156.0	1965	XXX X X	XXX X X	XXX X X
							1966	XXX X X	XXX X X	XXX X X
							1967	XXX X X	XXX X X	XXX X X
DUMONT D'URVILLE	(TERRE ADELIE)	[DU]	66.6	140.0	-75.6	230.8	1964	X XXX	X XXX	X XXX
							1965	XXX XXX XXX	XXX XXX XXX	XXX XXX XXX

* Computations are relative values from arbitrary baseline.

CATALOGUE OF HOURLY AND 2.5 MINUTE VALUES ON MAGNETIC TAPE

NAME			GEOGRAPHIC		GEOMAGNETIC		HOURLY VALUES				2.5-MIN VALUES								
MAGNETIC	MASTER	CODE	LAT	LONG	LAT	LONG	YEAR												
TAPE	STATION	ON	+NORTH	+EAST	+NORTH	EAST													
	LIST	TAPE	-SOUTH	-WEST	-SOUTH														
			DEGREES				MONTH				MONTH								
							JFM AMJ JAS OND				JFM AMJ JAS OND								
DUSHETI	(TBILISI)	[DT]	42.0	44.7	36.6	122.0	1967				X	X	X				X	X	X
							1968	XX	XXX					XX	XXX				
EBRO	(TORTOSA)	[EB]	40.8	0.4	43.9	79.6	1966	XXX	XXX	XXX	X			XXX	XXX	XXX	X		
							1967				X						X		
EIGHTS		[EG]	-75.2	-77.1	-63.8	355.3	1964				X	XXX					X	XXX	
							1965	XXX	XXX	XXX				XXX	XXX	XXX			
FANNING		[FAN]	3.9	-159.3	3.7	268.8	1957				XX	XXX							
							1958	XXX	XXX	XXX	XXX								
FORT CHURCHILL	(CHURCHILL)	[FC]	58.8	-94.1	68.7	322.8	1964				X	XXX					X	XXX	
							1965	XXX	XXX	XXX	XXX	XXX		XXX	XXX	XXX	XXX		
							1966	XXX	XXX	XXX	XXX	XXX		XXX	XXX	XXX	XXX		
							1967	XXX	XXX	XXX	XXX	XXX		XXX	XXX	XXX	XXX		
							1968	XXX	XXX	XXX	XXX	XXX		XXX	XXX	XXX	XXX		
							1969	XXX	XXX	XXX	XXX	XXX		XXX	XXX	XXX	XXX		
							1970	XXX	XXX	XXX	XXX	XXX		XXX	XXX	XXX	XXX		
							1971					X						X	
							1972	XX						XX					
FREDERICKSBURG		[FR]	38.2	-77.3	49.5	349.9	1956	XXX	XXX	XXX	XXX								
							1957	XXX	XXX	XXX	XXX								
							1958	XXX	XXX	XXX	XXX								
							1959	XXX	XXX	XXX	XXX								
							1960	XXX	XXX	XXX	XXX								
							1961	XXX	XXX	XXX	XXX						XX	XXX	
							1962	XXX	XXX	XXX	XXX								
							1963	XXX	XXX	XXX	XXX								
							1964	XXX	XXX	XXX	XXX								
							1965	XXX	XXX	XXX	XXX		XXX	XXX	XXX	XXX			
							1966	XXX	XXX	XXX	XXX		XXX	XXX	XXX	XXX			
							1967	XXX	XXX	XXX	XXX		XXX	XXX	XXX	XXX			
							1968	XXX	XXX	XXX	XXX		XXX	XXX	XXX	XXX			
							1969	XXX	XXX	XXX	XXX		XXX	XXX	XXX	XXX			
							1970	XXX	XXX	XXX	XXX		XXX				X		
							1971	XXX	XXX	XXX	XXX		XX						
							1972	XXX	XXX	XXX	XXX								
							1973	XXX	XXX	XXX	XXX					XX	XX		
							1974	XXX	X										
FUQUENE		[FU]	5.4	-73.7	16.9	355.1	1961				XX	XXX					XX	XXX	
							1964	XXX	XXX	XXX	XXX			XXX	XXX	XXX	XXX		
							1965	XXX	XXX	XXX	XXX			XXX	XXX	XXX	XXX		
							1966	XXX	XXX					XXX	XXX				
							1967				XX	X	X				XX	X	X
							1968	XX	XXX					XX	XXX				
							1969				XXX	X					XXX	X	
FURSTENFELDBRUCK		[FU]	48.1	11.2	48.8	93.3	1964				X	XXX					X	XXX	
							1965	XXX	XXX	XXX	XXX			XXX	XXX	XXX	XXX		
							1966	XXX	XXX	XXX	XXX			XXX	XXX	XXX	XXX		
							1967	XXX	XXX	X	X			XXX	XXX	X	X		
							1968	XXX	X		X			XXX	X		X		
							1969			X	XXX					X	XXX		
							1970	X						X					
GNANGARA		[GN]	-31.7	115.9	-43.2	185.7	1959				X	XXX							
							1961				XX	XXX					XX	XXX	
							1964	XXX	XXX	XXX	XXX			XXX	XXX	XXX	XXX		
							1965	XXX	XXX	XXX	XXX			XXX	XXX	XXX	XXX		
							1966	XXX	XXX	XXX	XXX			XXX	XXX	XXX	XXX		
							1967	XXX	XXX	XXX	XXX			XXX	XXX	XXX	XXX		
							1968	XXX	XXX	XXX	XXX			XXX	XXX	XXX	XXX		
							1969	XXX						XXX					
							1970	XXX						XXX					
GODHAVN		[GO]	69.2	-53.5	79.8	32.5	1964				X	XXX					X	XXX	
							1965	XXX	XXX	XXX	XXX			XXX	XXX	XXX	XXX		
							1966	X						X					
							1967				X	X	X				X	X	X
							1968	XX	XXX					XX	XXX				
							1969				XXX	X					XXX	X	
							1970	X						X					
GORNOTAYEZH NAYA	(USSURISK)	[GR]	43.6	132.1	32.8	198.1	1970				X							X	
GREAT WHALE RIVER		[GWR]	55.2	-77.7	66.5	347.4	1965				X	XXX					X	XXX	
							1966	XXX	XXX	XXX	XXX			XXX	XXX	XXX	XXX		
							1967	XXX	XXX	XXX	XXX			XXX	XXX	XXX	XXX		
							1968	XXX	XXX	XXX	XXX			XXX	XXX	XXX	XXX		
							1969	XXX	XXX	XXX	XXX			XXX	XXX	XXX	XXX		
							1970	XXX	XXX	XXX	XXX			XXX	XXX	XXX	XXX		

CATALOGUE OF HOURLY AND 2.5 MINUTE VALUES ON MAGNETIC TAPE

NAME			GEOGRAPHIC		GEOMAGNETIC		YEAR	HOURLY VALUES				2.5-MIN VALUES			
MAGNETIC TAPE	MASTER STATION LIST	CODE ON TAPE	LAT +NORTH -SOUTH	LONG +EAST -WEST	LAT +NORTH -SOUTH	LONG EAST									
			DEGREES					MONTH				MONTH			
								JFM	AMJ	JAS	OND	JFM	AMJ	JAS	OND
GREAT WHALE RIVER		[GWR]	55.2	-77.7	66.5	347.4	1972								
GUAM		[GU]	13.5	144.8	3.9	212.8	1957			XXX	XXX				
							1958	XXX	XXX	XXX	XXX				
							1959	XXX	XXX	XXX	XXX				
							1960	XXX	XXX	XXX	XXX				
							1961	XXX	XXX	XXX	XXX			XX	XXX
							1962	XXX	XXX	XXX	XXX				XXX
							1963	XXX	XXX	XX		XXX	XXX	XX	
							1964	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1965	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1966	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1967	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1968	XXX	X	XXX	XXX	XXX	X	XXX	XXX
							1969	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1970	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1971	XXX	XXX	XXX	XXX	XXX			
							1972	XXX	XXX	XXX	XX				
							1973	XXX	XXX	XXX	XXX				
							1974	XXX	X						
HALLEY BAY		[HY]	-75.5	-26.6	-65.7	24.2	1957	XXX	XXX	XXX	XXX				
							1958	XXX	XXX	XXX	XXX				
							1959	XXX	XXX	XXX	XXX				
							1960	XXX	XXX	XXX	XXX				
							1961	XXX	XXX	XXX	XXX				
							1962	XXX	XXX	XXX	XXX				
							1963	XXX	XXX	XXX	XXX				
							1964	XXX	XXX	XXX	XXX				
HARTLAND		[HA]	50.9	-4.4	54.6	79.0	1957	XXX	XXX	XXX	XXX				
							1958	XXX	XXX	XXX	XXX				
							1959	XXX	XXX	XXX	XXX				
							1960	XXX	XXX	XXX	XXX				
							1961	XXX	XXX	XXX	XXX				
							1962	XXX	XXX	XXX	XXX				
							1963	XXX	XXX	XXX	XXX				
							1964	XXX	XXX	XXX	XXX	XX	XXX	XXX	XXX
							1965	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1966	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1967	XXX	XX	X	X	XXX	XX	X	X
							1968	XXX	XXX	XXX	XXX				
							1969	XXX	XXX	XXX	XXX				
							1970	XXX	XXX	XXX	XXX				
							1971	XXX	XXX	XXX	XXX				
HAVANA	(CUBA)	[HAV]	22.9	-82.1	34.1	345.4	1967			X	X			X	X
							1968	XX	XXX			XX	XXX		
HERMANUS		[HR]	-34.4	19.2	-33.2	80.5	1956	XXX	XXX	XXX	XXX				
							1957	XXX	XXX	XXX	XXX				
							1958	XXX	XXX	XXX	XXX				
							1959	XXX	XXX	XXX	XXX				
							1960	XXX	XXX	XXX	XXX				
							1961	XXX	XXX	XXX	XXX				
							1962	XXX	XXX	XXX	XXX				
							1963	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1964	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1965	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1966	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1967	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1968	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1969								
							1970	XXX	XXX	XXX	XXX	XXX			
							1971	XXX	XXX	XXX	XXX				
							1973	XXX	XXX	XXX	XXX				
HONOLULU		[HO]	21.3	-158.0	21.0	266.4	1939	XXX	XXX	XXX	XXX				
							1940	XXX	XXX	XXX	XXX				
							1941	XXX	XXX	XXX	XXX				
							1942	XXX	XXX	XXX	XXX				
							1943	XXX	XXX	XXX	XXX				
							1944	XXX	XXX	XXX	XXX				
							1945	XXX	XXX	XXX	XXX				
							1946	XXX	XXX	XXX	XXX				
							1947	XXX	XXX	XXX	XXX				
							1948	XXX	XXX	XXX	XXX				
							1949	XXX	XXX	XXX	XXX				
							1950	XXX	XXX	XXX	XXX				
							1951	XXX	XXX	XXX	XXX				
							1952	XXX	XXX	XXX	XXX				
							1953	XXX	XXX	XXX	XXX				
							1954	XXX	XXX	XXX	XXX				
							1955	XXX	XXX	XXX	XXX				

CATALOGUE OF HOURLY AND 2.5 MINUTE VALUES ON MAGNETIC TAPE

NAME			GEOGRAPHIC		GEOMAGNETIC		YEAR	HOURLY VALUES				2.5-MIN VALUES					
MAGNETIC	MASTER	CODE	LAT	LONG	LAT	LONG											
TAPE	STATION	ON	+NORTH	+EAST	+NORTH	EAST											
	LIST	TAPE	-SOUTH	-WEST	-SOUTH												
			DEGREES						MONTH				MONTH				
									JFM	AMJ	JAS	OND	JFM	AMJ	JAS	OND	
HONOLULU		[HO]	21.3	-158.0	21.0	266.4	1956	XXX	XXX	XXX	XXX						
							1957	XXX	XXX	XXX	XXX						
							1958	XXX	XXX	XXX	XXX						
							1959	XXX	XXX	XXX	XXX						
							1960	XXX	XXX	XXX	XXX						
							1961	XXX	XXX	XXX	XXX				XX	XXX	
							1962	XXX	XXX	XXX	XXX						
							1963	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
							1964	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
							1965	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
							1966	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
							1967	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
							1968	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
							1969	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
							HUANCAYO		[HU]	-12.0	-75.3	-0.6	353.8	1957			
1958				X													
1964	XXX	XXX	XXX	XXX										XXX	XXX	XXX	XXX
1965	XXX	XXX	XXX	XXX										XXX	XXX	XXX	XXX
1966	XXX	XXX	XXX	XXX										XXX	XXX	XXX	XXX
1967			XX	XXX										XX	X	X	
1969	XXX	XXX			XXX	X										XXX	X
HYDERABAD		[HYD]	17.4	78.5	7.6	148.9	1966										
							1967										
							1968	XXX	XXX		XXX	XXX		XXX	XXX		XXX
IBADAN		[IB]	7.4	3.9	10.6	74.6	1965				X				X		
ISLA DE PASCUA (EASTER ISLAND)		[IP]	-27.1	-109.4	-18.2	322.7	1964	X				X					
JARVIS		[JRV]	-0.3	-160.0	-0.6	268.9	1958	XXX	XXX	XXX	XXX						
KAKIOKA		[KA]	36.2	140.1	26.0	205.9	1957	XXX	XXX	XXX	XXX						
							1958	XXX	XXX	XXX	XXX						
							1959	XXX	XXX	XXX	XXX						
							1960	XXX	XXX	XXX	XXX						
							1961	XXX	XXX	XXX	XXX				XX	XXX	
							1962	XXX	XXX	XXX	XXX						
							1963	XXX	XXX	XXX	XXX						
							1964	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
							1965	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
							1966	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
							1967	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
							1968	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
							1969	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
							1970	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
							1971										
1973	XXX	XXX	XXX	XXX													
KANOYA		[KY]	31.4	130.8	20.5	198.0	1966	X				X					
KIRUNA		[KI]	67.8	20.4	65.2	115.5	1962								XXX		
							1963	XXX	XXX	XX	XXX	XXX	XXX	XX		XXX	
							1964			X	XXX			X	XXX		
							1965	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
							1966	XXX	XXX			XXX	XXX				
							1967			X	X			X	X		
							1970	X	X			X	X				
KOROR		[KR]	7.3	134.5	-3.2	203.5	1957			XXX	XXX						
							1958	XXX	XXX	XXX	XXX						
							1965	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
							1966	XXX				XXX					
LA#QUIACA		[QA]	-22.1	-65.6	-10.6	03.2	1966	X				X					
LEIRVOGUR		[LR]	64.1	-21.7	70.2	71.0	1962								XXX		
							1963	XXX	XXX	XX	XXX	XXX	XXX	XX		XXX	
							1964			X	XXX			X	XXX		
							1965	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
							1966	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
							1967	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
							1968	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
							1969	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
							1970	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
							1972										

CATALOGUE OF HOURLY AND 2.5 MINUTE VALUES ON MAGNETIC TAPE

NAME			GEOGRAPHIC		GEOMAGNETIC		YEAR	HOURLY VALUES				2.5-MIN VALUES			
MAGNETIC	MASTER	CODE	LAT	LONG	LAT	LONG									
TAPE	STATION	ON	+NORTH	+EAST	+NORTH	EAST									
	LIST	TAPE	-SOUTH	-WEST	-SOUTH										
			DEGREES				MONTH				MONTH				
			JFM	AMJ	JAS	OND	JFM	AMJ	JAS	OND					
LERWICK		[LE]	60.1	-1.1	62.5	88.5	1964			X	XXX			X	XXX
							1965	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1966	X				X			
							1970	XXX				XXX			
LOGRONO		[LG]	42.4	-2.5	46.0	77.1	1966	X				X			
LOVO		[LO]	59.3	17.8	58.0	105.7	1940	XXX	XXX	XXX	XXX				
							1941	XXX	XXX	XXX	XXX				
							1942	XXX	XXX	XXX	XXX				
							1943	XXX	XXX	XXX	XXX				
							1944	XXX	XXX	XXX	XXX				
							1945	XXX	XXX	XXX	XXX				
							1946	XXX	XXX	XXX	XXX				
							1964								
							1965			X	XXX				X XXX
							1966	XXX	XXX	XXX	XXX	X			
							1967	XXX	XXX	XXX	XXX				
							1968	XXX	XXX	XXX	XXX				
							1969	XXX	XXX	XXX	XXX				
							1970	XXX	XXX	XXX	XXX				
LUANDA BELAS	(LUANDA)	[LU]	-8.9	13.1	-7.1	80.5	1967			X	X			X	X
							1969			X				X	
M#BOUR		[MB]	14.3	-16.9	21.2	55.0	1957			XXX	XXX				
							1958	XXX	XXX	XXX	XXX				
							1961	XXX	XXX	XXX	XXX				
							1965				XXX				XXX
							1966	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1967	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1968	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1970	X				X			
MACQUARIE ISLAND		[MI]	-54.5	158.9	-61.0	243.0	1962				XXX				XXX
							1963	XXX	XXX	XX		XXX	XXX	XX	
							1964			X	XXX			X	XXX
							1965	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1966	XXX				XXX			
							1967			X	X			X	X
							1968	XXX	X			XXX	X		
MAWSON		[MW]	-67.6	62.8	-73.0	102.8	1964			X	XXX			X	XXX
							1965	XXX		X	XXX	XXX		X	XXX
							1966	X				X			
MEANOOK		[ME]	54.6	-113.3	61.8	301.1	1964	X			X	XXX		X	XXX
							1965	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1966	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1967	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1968	XXX	XXX	XXX	XXX	XXX	XXX		
							1969	XXX	XXX	XXX	XXX		X	XXX	
							1970	XXX				XXX			
MEMAMBETSU		[MT]	43.9	144.1	34.0	208.4	1964	X			X	XXX	X		X
							1965	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1966	XXX	XXX			XXX	XXX		
MIRNY		[MY]	-66.5	93.0	-77.0	146.8	1964			X	XXX			X	XXX
							1966	X					X		
							1967			X	X			X	X
MISALLAT		[ML]	29.5	30.8	26.9	105.9	1964				X	XXX			X
							1965	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
MOCA		[MC]	3.3	8.6	5.7	78.5	1964	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1965	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1966	XXX	XXX	XXX		XXX	XXX	XXX	
							1967			X	X	X		X	X
							1968	XX	XXX			XX	XXX		
							1969			XXX	X			XXX	X
MOULD BAY		[MLB]	76.2	-119.4	79.0	256.3	1962				XX	XXX			
							1963	XXX	XXX	XXX	XXX				
							1964			X	XXX			X	XXX
							1965	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1966	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1967								
							1968								
							1969	XXX	XXX	XXX	XXX		X	XXX	X
MUNTINLUPA		[MU]	14.3	121.0	3.0	189.7	1963	XXX	XXX	XXX	XXX				
							1964	XXX	XXX	XXX	XXX			X	XXX
							1965	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX

CATALOGUE OF HOURLY AND 2.5 MINUTE VALUES ON MAGNETIC TAPE

NAME			GEOGRAPHIC		GEOMAGNETIC		YEAR	HOURLY VALUES				2.5-MIN VALUES			
MAGNETIC	MASTER	CODE	LAT	LONG	LAT	LONG									
TAPE	STATION	ON	+NORTH	+EAST	+NORTH	EAST									
	LIST	TAPE	-SOUTH	-WEST	-SOUTH										
			DEGREES					MONTH				MONTH			
								JFM	AMJ	JAS	OND	JFM	AMJ	JAS	OND
MUNTINLUPA		[MU]	14.3	121.0	3.0	189.7	1966	XXX	XXX	XXX	XXX				
							1967	XXX	XXX	XXX	XXX				
							1968	XXX	XXX	XXX	XXX				
							1969	XXX	XXX	XXX	XXX				
							1970	XXX	XXX	XXX	XXX				
							1971	XXX	XXX	XXX	XXX				
HURHANSK		[HM]	68.2	33.0	63.5	125.8	1964			X	XXX			X	XXX
							1965	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1966								
							1968	XXX	X			XXX	X		
NAIROBI		[NR]	-1.3	36.8	-4.4	105.2	1964			X	XXX			X	XXX
							1965	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1966	XXX				XXX			
							1967		XX				XX		
NARSSARSSUAQ		[NAS]	61.1	-45.2	71.0	37.0	1968	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1969	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1970	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1971				X				X
							1972	XX		X		XX		X	
NEWPORT		[NT]	48.2	-117.1	55.0	300.1	1966		XXX	XXX	XXX		XXX	XXX	XXX
							1967	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1968	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1969	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1970	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1971	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1972	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1973	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1974	XXX	X						
NOVOLAZARREVS KAYA		[NL]	-70.7	11.8	-66.1	53.5	1967			X	X			X	X
NURMIJARVI		[NU]	60.5	24.6	57.8	112.5	1953	XXX	XXX	XXX	XXX				
							1954	XXX	XXX	XXX	XXX				
							1955	XXX	XXX	XXX	XXX				
							1956	XXX	XXX	XXX	XXX				
							1957	XXX	XXX	XXX	XXX				
							1958	XXX	XXX	XXX	XXX				
							1959	XXX	XXX	XXX	XXX				
							1960	XXX	XXX	XXX	XXX				
							1961	XXX	XXX	XXX	XXX				
							1962	XXX	XXX	XXX	XXX				
							1963	XXX	XXX	XXX	XXX				
							1964	XXX	XXX	XXX	XXX	X		X	XXX
							1965	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1966	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1967	XXX	XXX	XXX	XX	XXX	XXX	X	
							1968	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1969	XXX	XXX	XXX	XXX				
							1970	X				X			
OTTAWA		[OTT]	45.4	-75.5	57.0	351.5	1968			XXX	XXX				
							1969	XXX	XXX	XXX	XXX				
							1970	XXX				XXX			
PARAMARIBO		[PA]	5.8	-55.2	16.9	14.3	1964	X		X	XXX	X		X	XXX
							1965	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1966	XXX	XXX	X	XX	XXX	XXX	X	XX
							1967			XX	X			XX	X
							1968	XX	XXX			XX	XXX		
							1969			XXX	X			XXX	X
PATRONY (IRKUTSK)		[PY]	52.1	104.4	40.7	174.7	1964	X		X	XXX	X		X	XXX
							1965	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1966	XXX	XXX	XXX		XXX	XXX	XXX	
							1967			XXX	XX	XXX		XXX	XX
							1968	XXX	XXX			XXX	XXX		
							1969			XXX	X			XXX	X
PILAR		[PI]	-31.6	-63.8	-20.2	04.6	1957			XXX	XXX				
							1958	XXX	XXX	XXX	XXX				
							1961	XXX	XXX	XXX	XXX				
							1964				XXX				XXX
							1965		X	XXX	XXX		X	XXX	XXX
							1966	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1967								
							1968	XXX	XXX			XXX	XXX		
PLATEAU		[PLT]	-79.5	40.0	-77.2	51.3	1966	XXX	XXX	XXX	XXX				
							1967	XXX	XXX	XXX	XXX				
							1968	XXX	XXX	XXX	XX				

CATALOGUE OF HOURLY AND 2.5 MINUTE VALUES ON MAGNETIC TAPE

NAME			GEOGRAPHIC		GEOMAGNETIC		YEAR	HOURLY VALUES				2.5-MIN VALUES			
MAGNETIC	MASTER	CODE	LAT	LONG	LAT	LONG									
TAPE	STATION	ON	+NORTH	+EAST	+NORTH	EAST									
	LIST	TAPE	-SOUTH	-WEST	-SOUTH										
			DEGREES					MONTH				MONTH			
								JFM	AMJ	JAS	OND	JFM	AMJ	JAS	OND
PORT AUX FRANCAIS	(KERGUELEN)	[KG]	-49.3	70.2	-57.3	127.9	1961	XXX	XXX	XXX	XXX				
							1962	XXX	XXX	XXX	XXX				
							1963	XXX	XXX	XXX	XXX				
							1964	XXX	XXX	XXX	XXX				
							1965	XXX	XXX	XXX	XXX				XX
							1966	XXX	X	X	XX	XXX	X	X	XX
PORT MORESBY		[PM]	-9.4	147.1	-18.5	217.8	1961			XX	XXX			XX	XXX
							1964	X		X	XXX	X		X	XXX
							1965	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1966	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1967	XXX		X	X	XXX		X	X
							1968	XX	XXX			XX	XXX		
							1969			XXX	X			XXX	X
							1970	XXX				XXX			
RESOLUTE BAY		[RB]	74.7	-94.9	82.9	289.3	1960	XXX	XXX	XXX	XXX				
							1961	XXX	XXX	XXX	XXX				
							1962	XXX	XXX	XXX	XXX				
							1963	XXX	XXX	XXX	XXX				
							1964			X	XXX			X	XXX
							1965	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1966	XXX	XXX	XXX	XXX	XXX	XXX		XX
							1967	XXX	XXX	XXX	XXX			XX	XXX
							1968	XXX	XXX	XXX	XXX	XXX	XXX		
							1969	XXX	XXX	XXX	XXX		X	XXX	X
							1970	XXX				XXX			
ROI BAUDOUIN	(BAUDOUIN)	[RBD]	-70.4	24.3	-67.9	63.1	1966	X				X			
RUDE SKOV	(COPENHAGEN)	[RS]	55.8	12.4	55.8	98.5	1964	X				X			
							1966	X				X			
							1968	XXX	X			XXX	X		
							1970	X				X			
SAN FERNANDO		[SF]	36.4	-6.2	40.9	71.3	1966	X				X			
SAN JUAN	(PUERTO RICO)	[SJ]	18.1	-66.1	29.6	03.1	1926	XXX	XXX	XXX	XXX				
							1927	XXX	XXX	X					
							1928	XX	XXX	XXX	XXX				
							1929	XXX	XXX	XXX	XXX				
							1930	XXX	XXX	XXX	XXX				
							1931	XXX	XXX	XXX	XXX				
							1932	XXX	XXX	XXX	XXX				
							1933	XXX	XXX	XXX	XXX				
							1934	XXX	XXX	XXX	XXX				
							1935	XXX	XXX	XXX	XXX				
							1936	XXX	XXX	XXX	XXX				
							1937	XXX	XXX	XXX	XXX				
							1938	XXX	XXX	XXX	XXX				
							1939	XXX	XXX	XXX	XXX				
							1940	XXX	XXX	XXX	XXX				
							1941	XXX	XXX	XXX	XXX				
							1942	XXX	XXX	XXX	XXX				
							1943	XXX	XXX	XXX	XXX				
							1944	XXX	XXX	XXX	XXX				
							1945	XXX	XXX	XXX	XXX				
							1946	XXX	XXX	XXX	XXX				
							1947	XXX	XXX	XXX	XXX				
							1948	XXX	XXX	XXX	XXX				
							1949	XXX	XXX	XXX	XXX				
							1950	XXX	XXX	XXX	XXX				
							1951	XXX	XXX	XXX	XXX				
							1952	XXX	XXX	XXX	XXX				
							1953	XXX	XXX	XXX	XXX				
							1954	XXX	XXX	XXX	XXX				
							1955	XXX	XXX	XXX	XXX				
							1956	XXX	XXX	XXX	XXX				
							1957	XXX	XXX	XXX	XXX				
							1958	XXX	XXX	XXX	XXX				
							1959	XXX	XXX	XXX	XXX				
							1960	XXX	XXX	XXX	XXX				
							1961	XXX	XXX	XXX	XXX			XX	XXX
							1962	XXX	XXX	XXX	XXX				XXX
							1963	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1964	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1965	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1966	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1967	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1968	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1969	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1970	XXX	XXX	XXX	XXX	XXX	X		
							1971	XXX	XXX	XXX	XXX				
							1972	XXX	XXX	XXX	XXX				

CATALOGUE OF HOURLY AND 2.5 MINUTE VALUES ON MAGNETIC TAPE

NAME			GEOGRAPHIC		GEOMAGNETIC		YEAR	HOURLY VALUES				2.5-MIN VALUES			
MAGNETIC TAPE	MASTER STATION LIST	CODE ON TAPE	LAT +NORTH -SOUTH	LONG +EAST -WEST	LAT +NORTH -SOUTH	LONG EAST									
			DEGREES					MONTH JFM AMJ JAS OND				MONTH JFM AMJ JAS OND			
SAN JUAN	(PUERTO RICO)	[SJ]	18.1	-66.1	29.6	03.1	1973	XXX	XXX	XXX	XXX				
							1974	XXX	X						
SAN MIGUEL		[SM]	37.7	-25.6	45.6	50.8	1965					XX			XX
SITKA		[SI]	57.0	-135.3	59.9	275.4	1902	X	XXX	XXX	XXX				
							1903	XXX	XXX	XXX	XXX				
							1904	XXX	XXX	XXX	XXX				
							1905	XXX	XXX	XXX	XXX				
							1906	XXX	XXX	XXX	XXX				
							1907	XXX	XXX	XXX	XXX				
							1908	XXX	XXX	XXX	XXX				
							1909	XXX	XXX	XXX	XXX				
							1910	XXX	XXX	XXX	XXX				
							1911	XXX	XXX	XXX	XXX				
							1912	XXX	XXX	XXX	XXX				
							1913	XXX	XXX	XXX	XXX				
							1914	XXX	XXX	XXX	XXX				
							1915	XXX	XXX	XXX	XXX				
							1916	XXX	XXX	XXX	XXX				
							1917	XXX	XXX	XXX	XXX				
							1918	XXX	XXX	XXX	XXX				
							1919	XXX	XXX	XXX	XXX				
							1920	XXX	XXX	XXX	XXX				
							1921	XXX	XXX	XXX	XXX				
							1922	XXX	XXX	XXX	XXX				
							1923	XXX	XXX	XXX	XXX				
							1924	XXX	XXX	XXX	XXX				
							1925	XXX	XXX	XXX	XXX				
							1926	XXX	XXX	XXX	XXX				
							1927	XXX	XXX	XXX	XXX				
							1928	XXX	XXX	XXX	XXX				
							1929	XXX	XXX	XXX	XXX				
							1930	XXX	XXX	XXX	XXX				
							1931	XXX	XXX	XXX	XXX				
							1932	XXX	XXX	XXX	XXX				
							1933	XXX	XXX	XXX	XXX				
							1934	XXX	XXX	XXX	XXX				
							1935	XXX	XXX	XXX	XXX				
							1936	XXX	XXX	XXX	XXX				
							1937	XXX	XXX	XXX	XXX				
							1938	XXX	XXX	XXX	XXX				
							1939	XXX	XXX	XXX	XXX				
							1940	XXX	XXX	XXX	XXX				
							1941	XXX	XXX	XXX	XXX				
							1942	XXX	XXX	XXX	XXX				
							1943	XXX	XXX	XXX	XXX				
							1944	XXX	XXX	XXX	XXX				
							1945	XXX	XXX	XXX	XXX				
							1946	XXX	XXX	XXX	XXX				
							1947	XXX	XXX	XXX	XXX				
							1948	XXX	XXX	XXX	XXX				
							1949	XXX	XXX	XXX	XXX				
							1950	XXX	XXX	XXX	XXX				
							1951	XXX	XXX	XXX	XXX				
							1952	XXX	XXX	XXX	XXX				
							1953	XXX	XXX	XXX	XXX				
							1954	XXX	XXX	XXX	XXX				
							1955	XXX	XXX	XXX	XXX				
							1956	XXX	XXX	XXX	XXX				
							1957	XXX	XXX	XXX	XXX				
							1958	XXX	XXX	XXX	XXX				
							1959	XXX	XXX	XXX	XXX				
							1960	XXX	XXX	XXX	XXX				
							1961	XXX	XXX	XXX	XXX				
							1962	XXX	XXX	XXX	XXX				
							1963	XXX	XXX	XXX	XXX				
							1964	XXX	XXX	XXX	XXX	XXX	XX	X	XXX
							1965	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1966	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1967	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1968	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1969	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1970	XXX	XXX	XXX	XXX	XX			
							1971	XXX	XXX	XXX	XXX				
							1972	XXX	XXX	XXX	XX			X	
							1973	XXX	XXX	XXX	XXX				
							1974	XXX	X						
SODANKYLA		[SO]	67.3	26.6	63.7	119.9	1914	XXX	XXX	XXX	XXX				
							1915	XXX	XXX	XXX	XXX				
							1916	XXX	XXX	XXX	XXX				
							1917	XXX	XXX	XXX	XXX				
							1918	XX	X	XXX	XXX				

CATALOGUE OF HOURLY AND 2.5 MINUTE VALUES ON MAGNETIC TAPE

NAME			GEOGRAPHIC		GEOMAGNETIC		YEAR	HOURLY VALUES				2.5-MIN VALUES			
MAGNETIC	MASTER	CODE	LAT	LONG	LAT	LONG									
TAPE	STATION	ON	+NORTH	+EAST	+NORTH	EAST									
	LIST	TAPE	-SOUTH	-WEST	-SOUTH										
			DEGREES				MONTH				MONTH				
							JFM AMJ JAS OND				JFM AMJ JAS OND				
SODANKYLA		[SO]	67.3	26.6	63.7	119.9	1919	XXX	XXX	XXX	XXX				
							1920	XXX	XXX	XXX	XXX				
							1921	XXX	XXX	XXX	XXX				
							1922	XXX	XXX	XXX	XXX				
							1923	XXX	XXX	XXX	XXX				
							1924	XXX	XXX	XXX	XXX				
							1925	XXX	XXX	XXX	XXX				
							1926	XXX	XXX	XXX	XXX				
							1927	XXX	XXX	XXX	XXX				
							1928	XXX	XXX	XXX	XXX				
							1929	XXX	XXX	XXX	XXX				
							1930	XXX	XXX	XXX	XXX				
							1931	XXX	XXX	XXX	XXX				
							1932	XXX	XXX	XXX	XXX				
							1933	XXX	XXX	XXX	XXX				
							1934	XXX	XXX	XXX	XXX				
							1935	XXX	XXX	XXX	XXX				
							1936	XXX	XXX	XXX	XXX				
							1937	XXX	XXX	XXX	XXX				
							1938	XXX	XXX	XXX	XXX				
							1939	XXX	XXX	XXX	XXX				
							1940	XXX	XXX	XXX	XXX				
							1941	XXX	XXX	XXX	XXX				
							1942	XXX	XXX	XXX	XXX				
							1943	XXX	XXX	XXX	XXX				
							1944	XXX	XXX	XXX					
							1946	XXX	XXX	XXX	XXX				
							1947	XXX	XXX	XXX	XXX				
							1948	XXX	XXX	XXX	XXX				
							1949	XXX	XXX	XXX	XXX				
							1950	XXX	XXX	XXX	XXX				
							1951	XXX	XXX	XXX	XXX				
							1952	XXX	XXX	XXX	XXX				
							1953	XXX	XX	XXX	XXX				
							1954	XXX	XXX	XXX	XXX				
							1955	XXX	XXX	XXX	XXX				
							1956	XXX	XXX	XXX	XXX				
							1957	XXX	XXX	XXX	XXX				
							1958	XXX	XXX	XXX	XXX				
							1959	XXX	XXX	XXX	XXX				
							1960	XXX	XXX	XXX	XXX				
							1961	XXX	XXX	XXX	XXX				
							1962	XXX	XXX	XXX	XXX				
							1963	XXX	XXX	XXX	XXX				
							1964	XXX	XXX	XXX	XXX				
							1965	XXX	XXX	XXX	XXX				
							1966	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1967	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1968	XXX	XX			XXX	XX		
							1969		X	XXX			X	XXX	
							1972	X				X			
SOUTH POLE		[SP]	-90.0	0.0	-78.4	360.0	1959	XXX	XXX	XXX	XX				
							1960	XXX	XXX	XXX	XXX				
							1961	XXX	XXX	XXX	XXX				
							1962	XXX	XXX	XXX	XXX	XXX	XX	XX	
							1963	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1964								
							1965	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1966	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1967	XXX	XXX			XXX	XXX		
							1968	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1969	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1970	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
							1971	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
ST JOHNS		[STJ]	47.6	-52.6	58.4	21.2	1968			XX	XXX				
							1969	XXX	XXX	XXX	XXX			XXX	X
							1970								
STEPANOVKA	(ODESSA)	[ST]	46.7	30.8	43.6	111.1	1965		XXX	XXX	XXX		XXX	XXX	XXX
							1966	XXX	XXX	XXX	X	X	XXX	XXX	X
							1967			X	X	X		X	X
							1968	XX	XXX			XX	XXX		
							1969		XXX	X			XXX	X	
SUKKERTOPPEN		[SKT]	65.4	-52.9	76.1	28.7	1965				XX				XX
							1966	X				X			
SURLARI		[SU]	44.6	26.2	42.5	106.0	1961			XX	XXX			XX	XXX
							1964	X		X	XXX		X		XXX
							1965	XXX				XXX			
TAHITI		[TAH]	-17.5	-149.6	-15.3	282.8	1966	X				X			

CATALOGUE OF HOURLY AND 2.5 MINUTE VALUES ON MAGNETIC TAPE

NAME			GEOGRAPHIC		GEOMAGNETIC				HOURLY VALUES				2.5-MIN VALUES				
MAGNETIC	MASTER	CODE	LAT	LONG	LAT	LONG	YEAR										
TAPE	STATION	ON	+NORTH	+EAST	+NORTH	EAST											
	LIST	TAPE	-SOUTH	-WEST	-SOUTH												
			DEGREES						MONTH				MONTH				
									JFM AMJ JAS OND				JFM AMJ JAS OND				
TAHITI		[TAH]	-17.5	-149.6	-15.3	282.8	1968		XXX	X				XXX	X		
							1969				X	XXX				X	XXX
							1970		XXX					XXX			
TANANARIVE		[TN]	-18.9	47.5	-23.7	112.4	1965				X	X	XXX			X	X
							1966		XXX	XXX	XXX	XXX		XXX	XXX	XXX	XXX
							1967				XX	X	X			XX	X
							1968		XX	XXX				XX	XXX		
							1969				XXX	X				XXX	X
							1970		XXX					XXX			
TANGERANG		[TG]	-6.1	106.6	-17.6	175.4	1966					XXX					XXX
							1967			XX	X	XXX			XX	X	XXX
							1969				X	XXX			X	XXX	
TATUOCA		[TT]	-1.2	-48.5	9.5	20.7	1964					X	XXX			X	XXX
							1965		XXX	XXX	XXX	XXX		XXX	XXX	XXX	XXX
TBILISI		[TB]	41.7	44.8	36.3	122.0	1964		X								
TEHRAN		[TEH]	35.7	51.3	29.3	126.5	1966			X					X		
							1967					X				X	
TENERIFE		[TEN]	28.4	-16.2	34.9	58.6	1964					X	XXX			X	XXX
							1965		XXX	XXX	X	X		XXX	XXX	X	X
							1966							X			
THULE II		[TH]	77.4	-69.1	88.9	358.0	1964					X	XXX			X	XXX
							1965		XXX	XXX	XXX	XXX		XXX	XXX	XXX	XXX
							1966							X			
							1967		XXX	XXX	XXX	XXX		XXX	XXX	XXX	XXX
							1968		XXX	X			X	XXX	X		X
TIKHAYA BAY	(HEISS IS)	[BT]	80.3	52.8	71.5	153.2	1957					XXX	XXX				
							1958		XXX	XXX	XXX	XXX					
*TIKSI BAY	(TIXIE BAY)	[TI]	71.5	129.0	60.4	191.4	1964					X	XXX			X	XXX
							1965		XXX	XXX	XXX	XXX		XXX	XXX	XXX	XXX
							1966		XXX	XXX	XXX	XXX		XXX	XXX	XXX	XXX
							1967		XXX	XXX	XXX	X		XXX	XXX	XXX	X
							1968		XXX	XXX	XXX	XXX		XXX	XXX	XXX	XXX
							1969 *		XXX	XXX	XX	X		XXX	XXX	XX	X
							1970 *		XXX	XXX	XXX	XXX		XXX	XXX	XXX	XXX
TOLEDO		[TL]	39.8	-4.0	43.8	74.6	1964		X			X	XXX		X		XXX
							1965		XXX	XXX	XXX	XXX		XXX	XXX	XXX	XXX
							1966						XX				XX
							1967			XX		X	X		XX		X
							1968		XX	XXX				XX	XXX		
							1969					XXX	X			XXX	X
TOOLANGI		[TO]	-37.5	145.4	-46.6	220.8	1924		XXX	XXX	XXX	XXX					
							1925		XXX	XXX	XXX	XXX					
							1926		XXX	XXX	XXX	XXX					
							1927		XXX	XXX	XXX	XXX					
							1928		XXX	XXX	XXX	XXX					
							1929		XXX	XXX	XXX	XXX					
							1930		XXX	XXX	XXX	XXX					
							1931		XXX	XXX	XXX	XXX					
							1932		XXX	XXX	XXX	XXX					
							1933		XXX	XXX	XXX	XXX					
							1949		XXX	XXX	XXX	XXX					
							1950		XXX	XXX	XXX	XXX					
							1951		XXX	XXX	XXX	XXX					
							1952		XXX	XXX	XXX	XXX					
							1953		XXX	XXX	XXX	XXX					
							1954		XXX	XXX	XXX	XXX					
							1955		XXX	XXX	XXX	XXX					
							1956		XXX	XXX	XXX	XXX					
							1957		XXX	XXX	XXX	XXX					
							1958		XXX	XXX	XXX	XXX					
							1961				XX	XXX				XX	XXX
							1964		X		X	XXX		X		X	XXX
							1965		XXX	XXX	XXX	XXX		XXX	XXX	XXX	XXX
							1966		XXX	XXX	XXX	XXX		XXX	XXX	XXX	XXX
							1967		XXX	XX	XX	X	X	XXX	XX	XX	X
							1968		XXX	XXX				XXX	XXX		
							1969					XXX	X			XXX	X
							1970		XXX					XXX			
TRELEW		[TW]	-43.2	-65.3	-31.7	03.1	1964		X			X	XXX		X		XXX
							1965		XXX	XXX	XXX	XXX		XXX	XXX	XXX	XXX
							1966		XXX	XXX	XXX	XXX		XXX	XXX	XXX	XXX
							1967		XXX	XXX	XXX	XXX		XXX	XXX	XXX	XXX

* Computations are relative values from arbitrary baseline.

CATALOGUE OF HOURLY AND 2.5 MINUTE VALUES ON MAGNETIC TAPE

NAME			GEOGRAPHIC		GEOMAGNETIC		YEAR	HOURLY VALUES				2.5-MIN VALUES			
MAGNETIC	MASTER	CODE	LAT	LONG	LAT	LONG									
TAPE	STATION	ON	+NORTH	+EAST	+NORTH	EAST									
	LIST	TAPE	-SOUTH	-WEST	-SOUTH										
			DEGREES				MONTH				MONTH				
							JFM AMJ JAS OND				JFM AMJ JAS OND				
TRELEH		[TH]	-43.2	-65.3	-31.7	03.1	1968	XXX				XXX			
TROMSO		[TR]	69.6	19.0	67.1	116.8	1968	XXX X				XXX X			
TSUMEB		[TS]	-19.2	17.7	-18.1	82.8	1964 1965			XX XXX					
								XXX XXX	XXX XXX						
TUCSON		[TU]	32.2	-110.8	40.4	312.2	1909				XX				
							1910	XXX XXX XXX XXX							
							1911	XXX XXX XXX XXX							
							1912	XXX XXX XXX XXX							
							1913	XXX XXX XXX XXX							
							1914	XXX XXX XXX XXX							
							1915	XXX XXX XXX XXX							
							1916	XXX XXX XXX XXX							
							1917	XXX XXX XXX XXX							
							1918	XXX XXX XXX XXX							
							1919	XXX XXX XXX XXX							
							1920	XXX XXX XXX XXX							
							1921	XXX XXX XXX XXX							
							1922	XXX XXX XXX XXX							
							1923	XXX XXX XXX XXX							
							1924	XXX XXX XXX XXX							
							1925	XXX XXX XXX XXX							
							1926	XXX XXX XXX XXX							
							1927	XXX XXX XXX XXX							
							1928	XXX XXX XXX XXX							
							1929	XXX XXX XXX XXX							
							1930	XXX XXX XXX XXX							
							1931	XXX XXX XXX XXX							
							1932	XXX XXX XXX XXX							
							1933	XXX XXX XXX XXX							
							1934	XXX XXX XXX XXX							
							1935	XXX XXX XXX XXX							
							1936	XXX XXX XXX XXX							
							1937	XXX XXX XXX XXX							
							1938	XXX XXX XXX XXX							
							1939	XXX XXX XXX XXX							
							1940	XXX XXX XXX XXX							
							1941	XXX XXX XXX XXX							
							1942	XXX XXX XXX XXX							
							1943	XXX XXX XXX XXX							
							1944	XXX XXX XXX XXX							
							1945	XXX XXX XXX XXX							
							1946	XXX XXX XXX XXX							
							1947	XXX XXX XXX XXX							
							1948	XXX XXX XXX XXX							
							1949	XXX XXX XXX XXX							
							1950	XXX XXX XXX XXX							
							1951	XXX XXX XXX XXX							
							1952	XXX XXX XXX XXX							
							1953	XXX XXX XXX XXX							
							1954	XXX XXX XXX XXX							
							1955	XXX XXX XXX XXX							
							1956	XXX XXX XXX XXX							
							1957	XXX XXX XXX XXX							
							1958	XXX XXX XXX XXX							
							1959	XXX XXX XXX XXX							
							1960	XXX XXX XXX XXX							
							1961	XXX XXX XXX XXX							
							1962	XXX XXX XXX XXX							
							1963	XXX XXX XXX XXX							
							1964	XXX XXX XXX XXX							
							1965	XXX XXX XXX XXX				XXX XXX XXX XXX			
							1966	XXX XXX XXX XXX				XXX XXX XXX XXX			
							1967	XXX XXX XXX XXX				XXX XXX XXX XXX			
							1968	XXX XXX XXX XXX				XXX XXX XXX XXX			
							1969 *	XXX XXX XXX XXX				XXX XXX XXX XXX			
							1970 *	XXX XXX XXX XXX				XXX XXX XXX XXX			
								XXX X							
* UELN	(CAPE WELLEN)	[UE]	66.1	-169.8	61.7	237.0	1964			X XXX			X XXX		
							1965	XXX XXX XXX XXX				XXX XXX XXX XXX			
							1966	XXX XXX XXX XXX				XXX XXX XXX XXX			
							1967	XXX XXX XXX XXX				XXX XXX XXX XXX			
							1968	XXX XXX XXX XXX				XXX XXX XXX XXX			
							1969 *	XXX XXX XXX XXX				XXX XXX XXX XXX			
							1970 *	XXX XXX XXX XXX				XXX XXX XXX XXX			
VASSOURAS		[VA]	-22.4	-43.6	-11.9	23.8	1959			X XXX					

* Computations are relative values from arbitrary baseline.

CATALOGUE OF HOURLY AND 2.5 MINUTE VALUES ON MAGNETIC TAPE

[illegible]

CATALOGUE OF HOURLY AND 2.5 MINUTE VALUES ON MAGNETIC TAPE

NAME			GEOGRAPHIC		GEOMAGNETIC		YEAR	HOURLY VALUES				2.5-MIN VALUES			
MAGNETIC	MASTER	CODE	LAT	LONG	LAT	LONG									
TAPE	STATION	ON	+NORTH	+EAST	+NORTH	EAST									
	LIST	TAPE	-SOUTH	-WEST	-SOUTH										
			DEGREES					MONTH				MONTH			
								JFM	AMJ	JAS	OND	JFM	AMJ	JAS	OND
WILKES		[WK]	-66.2	110.5	-78.4	179.0	1964 1965 1966				X XXX				
								XXX	XXX	XXX	XXX				
								X							
YAKUTSK		[YA]	62.0	129.7	50.9	193.8	1964 1965 1966 1967 1968 1969	X							
								XXX	XXX	XXX	XXX				
								XXX	XXX	X					
										XX					
								XX							
YANGI-BAZAR		[YB]	41.3	69.6	32.3	144.0	1964 1965 1966 1967 1968 1969				X XXX				
								XXX	XXX	XXX	XXX				
								XXX	XXX	XXX	XXX				
								XXX	XXX	XXX	XXX				
YUZHNO-SAKHAL INSK		[YUZ]	46.9	142.7	36.8	206.6	1966							X XXX X	
														X	

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