UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

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GEOLOGICAL SURVEY**

**PRELIMINARY GEOMAGNETIC DATA
COLLEGE OBSERVATORY
FAIRBANKS, ALASKA**

JANUARY 1981

OPEN FILE REPORT

81-300A

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THIS REPORT WAS PREPARED UNDER THE DIRECTION OF JOHN B. TOWNSHEND, CHIEF OF THE COLLEGE OBSERVATORY WITH THE ASSISTANCE OF OBSERVATORY STAFF MEMBERS J.E. PAPP, E.A. SAUTER, AND S.P. TILTON, AND IN COOPERATION WITH THE GEOPHYSICAL INSTITUTE OF THE UNIVERSITY OF ALASKA. THE COLLEGE OBSERVATORY IS A PART OF THE BRANCH OF ELECTROMAGNETISM AND GEOMAGNETISM OF THE U.S. GEOLOGICAL SURVEY.

COLLEGE OBSERVATORY PRELIMINARY GEOMAGNETIC DATA

INTRODUCTION

The preliminary geomagnetic data included here is made available to scientific personnel and organizations, as part of a cooperative effort and on a data exchange basis because of the early need by some users. To avoid delay, all of the data is copied from original forms processed at the observatory; therefore it should be regarded as preliminary. Inquiries about this report or about the College Observatory should be addressed to:

Chief, College Observatory
U.S. Geological Survey
Yukon Drive on West Ridge
Fairbanks, Alaska 99701

Requests for copies of the magnetograms except for the current month should be addressed to:

World Data Center A-NOAA
Environmental Data Service
Boulder, Colorado 80302

OBSERVATORY LOCATION

The College Observatory, operated by the U. S. Geological Survey, is located at the University of Alaska, Fairbanks, Alaska. It is near the Auroral Zone and the northern limit of the world's greatest earthquake belt, the circum-Pacific Seismic belt. Although the observatory's basic operation is in geomagnetism and seismology, it cooperates with other scientists and organizations in areas where the facility and personnel can be of service.

The observatory is one of three operated by the USGS in Alaska. The others are located at Barrow and Sitka.

The position of the observatory site is:

Geographic latitude.....64°31.6'N
Geographic longitude.....147°50.2'W
Geomagnetic latitude.....64.6°
Geomagnetic longitude.....-256.5°
Elevation.....200 meters

GEOMAGNETIC DATA

Normal, Storm, and Rapid Run magnetograms and appropriate calibration data are processed daily at the observatory and are available for analysis or copying. Also available are mean hourly scalings, K-Indices, selected magnetic phenomena reports, and on a real-time basis are recordings from a 3-component fluxgate magnetometer and F-component proton magnetometer.

Magnetic Activity

The K-Index. The K-Index is a logarithmic measurement of the range of the most disturbed component (D or H) of the geomagnetic field for eight intervals beginning 0000-0300, 0300-0600...2100-2400 UT. It is a measure of the difference between the highest and lowest deviation from a smooth curve to be expected for a component on a magnetically quiet day, within a three hour interval.

The Equivalent Daily Amplitude, AK. The K-Index is converted into an equivalent range, AK, which is near the center of the limiting gamma ranges for a given K. The average of the eight values is called equivalent daily amplitude AK. The unit 10γ has been chosen so as not to give the illusion of an accuracy not justified.

The schedule for converting gamma range to K, and K to AK is as follows:

Gamma Range	K - Index	AK*
0 < 25	0	0
25 < 50	1	3
50 < 100	2	7
100 < 200	3	15
200 < 350	4	27
350 < 600	5	48
600 < 1000	6	80
1000 < 1650	7	140
1650 < 2500	8	240
2500+	9	400 (10γ)

The Magnetic Daily Character Figure, C. To each Universal day a character is assigned on the basis C=0, if it is quiet; C=1 if it is moderately disturbed; C=2 if it is greatly disturbed. The method used to assign characters at the College Observatory is based on AK as follows:

AK Range	C
0-11	0
11-50	1
50+	2

Routine assignment of C was discontinued at College on January 1, 1976.

Selected Phenomena & Outstanding Magnetic Effects

Prior to January 1, 1976, the Normal & Rapid Run records were reviewed at the observatory for selected magnetic phenomena and the events identified were forwarded to the IUGG Commission on Magnetic Variations and Disturbances. This was discontinued on January 1, 1976, but a report on Outstanding Magnetic Effects is prepared monthly for this report.

Principal Magnetic Storms

Gradual and sudden commencement magnetic disturbances with at least one K-Index of 5 or greater, which are believed to be part of a world-wide disturbance, are classified as principal magnetic storms. The time of the storm beginning and ending; direction and amplitude of sudden commencements; period of maximum activity; and storm range are reported. Monthly reports of these data are forwarded to the World Data Center A in Boulder, Colorado.

Magnetogram Hourly Scalings

Magnetogram hourly scalings are averages for successive periods of one hour for the D, H, and Z elements. The value in the column headed "01" is the average for the hour beginning 0000 and ending 0100. Note that the values on the scaling sheets are in tenths of mm with the decimal point omitted. The user of these scalings should keep in mind that the tabular values are hourly means and if he is interested in the detailed morphology of the magnetic field, he should refer directly to the magnetograms.

Magnetograms

The normal magnetograms in this report are reproduced at about one-third the size of the originals. Preliminary base-line values and scale values adopted for use with the original magnetograms are included. For days when the magnetic field is too disturbed for the Normal magnetogram to be readable, Storm magnetograms are reproduced.

Absolutes, Base-lines, and Scale Values

To determine the absolute value of the magnetic field from the hourly means or from point scalings the following equations should be used:

$D = B_D \cdot d \cdot S_D$; $H = B_H \cdot h \cdot S_H$; $Z = B_Z \cdot z \cdot S_Z$
where D, H, and Z are absolute values;
 B_D , B_H and B_Z are base-line values;
 S_D , S_H and S_Z are scale values;
and d, h, and z are scalings in millimeters.

COLLEGE, ALASKA

MAGNETIC ACTIVITY

(Greenwich civil time, counted from midnight to midnight)

MONTH AND YEAR

JANUARY 1981

DATE	K-INDICES								AK	TIME SCALE ON MAGNETOGRAMS
	00-03	03-06	06-09	09-12	12-15	15-18	18-21	21-24		
								SUM		20 mm/hr
1	2	2	3	5	3	3	5	2	25	20
2	0	1	1	3	3	5	2	1	16	12
3	3	2	3	1	2	3	2	1	17	09
4	3	3	2	4	1	3	2	2	20	12
5	1	1	2	2	4	3	2	2	17	10
6	1	0	1	2	5	3	2	1	15	11
7	2	2	1	0	2	2	0	1	10	04
8	1	1	2	1	5	4	3	2	19	14
9	2	1	0	0	2	1	1	0	07	03
10	0	0	0	2	3	2	2	2	11	05
11	3	3	4	5	5	6	2	2	30	31
12	1	0	1	1	0	0	0	0	03	01
13	0	0	1	2	4	2	2	0	11	06
14	0	1	3	4	5	1	0	0	14	12
15	0	0	2	3	4	2	2	1	14	08
16	1	2	3	6	4	2	1	1	20	18
17	1	0	2	2	6	3	1	1	16	15
18	0	0	0	1	0	0	0	0	01	00
19	0	0	0	1	1	1	0	0	03	01
20	0	0	0	1	1	0	0	0	02	01
21	0	0	0	1	0	0	0	0	01	00
22	0	0	0	3	5	4	2	1	15	13
23	0	0	0	5	6	4	1	1	17	20
24	0	0	4	5	5	2	1	1	18	17
25	0	0	0	0	4	3	1	1	09	06
26	0	0	3	5	6	1	1	0	16	19
27	1	1	2	5	6	0	1	1	17	18
28	2	4	4	3	5	3	2	2	25	19
29	2	3	4	4	5	5	2	0	25	22
30	1	0	1	1	2	2	2	1	10	04
31	2	5	4	6	3	3	3	2	28	27

POSSIBLE SOLAR-FLARE
EFFECTS BASED ON
INSPECTION OF GRAMS
ALONE (WITHOUT
REFERENCE TO DATA
FROM OTHER SOURCES)

BEGIN

END

d h m

d h m

K SCALE USED:

LOWER LIMIT FOR K = 9.....

CURRENT SCALE VALUE.....

LOWER LIMIT FOR K = 9.....

D

683.8

3.75

2560

H

321.7

7.81

2510

Z

(mm)

(γ/mm)

(to nearest 10γ)

SCALINGS AND COMPUTATIONS HAVE BEEN CHECKED.

APPROVED JOHN B. TOWNSHEND, CHIEF, COLLEGE OBSERVATORY

OBSERVER IN CHARGE

OUTSTANDING MAGNETIC EFFECTS			OBSERVATORY COLLEGE, ALASKA	
			MONTH JANUARY	YEAR 1981
DATE	TIME U.T.	NATURE OF PHENOMENON ¹	REMARKS	
09	15XX	pc4		
09	18XX	pc5		
12	11XX	pi2		
13	08XX	pi2		
IDENTIFIED BY: JBT VERIFIED BY: JEP				

1. NATURE OF PHENOMENON: ssc, ssc*, si, si*, b, bp, bs, bps, pc1, pc2 - - - pc5, pg, pi 1, pi 2, sfe.

JANUARY

1981

NORMAL MAGNETOGRAPH

COMPONENT	PERIOD		CALIBRATION		
	FROM	TO	SCALE VALUE		BASELINE
D	0000 U.T., 1-1-81	2400 U.T., 1-31-81	1.0/mm	3.78/mm	27° 47.1 E
H	0000 U.T., 1-1-81	2400 U.T., 1-31-81	7.88/mm		127548
Z	0000 U.T., 1-1-81	2400 U.T., 1-31-81	7.78/mm		551398

STORM MAGNETOGRAPH

COMPONENT	PERIOD		CALIBRATION		
	FROM	TO	SCALE VALUE		BASELINE
D	0000 U.T., 1-1-81	2400 U.T., 1-31-81	7.8/mm	29.78/mm	23° 49.4 E
H	0000 U.T., 1-1-81	2400 U.T., 1-31-81	44.08/mm		115078
Z	0000 U.T., 1-1-81	2400 U.T., 1-31-81	48.68/mm		540468

RAPID RUN MAGNETOGRAPH

COMPONENT	PERIOD		CALIBRATION	
	FROM	TO	SCALE VALUE	
D				
H				
Z				

MONTHLY MEAN ABSOLUTE VALUES*

D	H	Z
28° 06.0 E	130018	553798

* COMPUTED FROM TEN QUIETEST DAYS DURING MONTH.

DAYS USED: JAN 7, 9, 10, 12, 13, 18, 19, 20, 21, 30

MAGNETOGRAM HOURLY SCALINGS

(UNIVERSAL TIME)

Values are in tenths of mm and are averages for successive periods of one hour beginning at midnight. Hour 01 of local day 1500 (A.T.) is hour 11 of the 220000 universal day.

MAGNETOGRAM HOURLY SCALINGS																													
(UNIVERSAL TIME)																													
Values are in units of mm and are averages for successive periods of one hour beginning at midnight. Hour 01 of local day 15 SEP 1953 is known. Hour 01 of local day 16 SEP 1953 is known. Hour 01 of local day 17 SEP 1953 is known. Hour 01 of local day 18 SEP 1953 is known. Hour 01 of local day 19 SEP 1953 is known. Hour 01 of local day 20 SEP 1953 is known. Hour 01 of local day 21 SEP 1953 is known. Hour 01 of local day 22 SEP 1953 is known. Hour 01 of local day 23 SEP 1953 is known. Hour 01 of local day 24 SEP 1953 is known. Hour 01 of local day 25 SEP 1953 is known. Hour 01 of local day 26 SEP 1953 is known. Hour 01 of local day 27 SEP 1953 is known. Hour 01 of local day 28 SEP 1953 is known. Hour 01 of local day 29 SEP 1953 is known. Hour 01 of local day 30 SEP 1953 is known. Hour 01 of local day 31 SEP 1953 is known. Hour 01 of local day 1 OCT 1953 is known. Hour 01 of local day 2 OCT 1953 is known. Hour 01 of local day 3 OCT 1953 is known. Hour 01 of local day 4 OCT 1953 is known. 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MAGNETOGRAM HOURLY SCALINGS

(UNIVERSAL TIME)

Values are in tenths of mm, and are averages for successive periods of one hour beginning at midnight. Minor 01 of local day is 12:54:25 (LST) is hour 13 of the SUMME universal day.

MAGNETOGRAM HOURLY SCALINGS																																					
(UNIVERSAL TIME)																																					
Values are in tenths of mm, and are averages for successive periods of one hour in getting at midnight. Hours 01 to 24 are in tenths of the day. Universal time.																																					
Shading corrections have been applied. Negative values are indicated by minus signs above.																																					
C	S	M	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	YEAR	RE	JAN	II	SCALE						
01	333	329	364	379	367	360	347	336	323	310	297	284	271	258	245	232	219	206	193	180	167	154	141	128	115	102	89	76	63	50	37	24	11	504			
02	317	325	324	321	330	340	352	346	350	357	362	365	370	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	7247			
03	295	370	372	325	354	355	410	400	365	340	315	290	265	240	215	190	165	140	115	90	65	40	15	-10	-35	-60	-85	-110	-135	-160	-185	-210	-235	-260	-285	-310	7152
04	277	363	375	360	393	451	420	370	380	426	426	380	340	315	290	265	240	215	190	165	140	115	90	65	40	15	-10	-35	-60	-85	-110	-135	-160	-185	-210	7961	
05	321	328	332	329	327	339	350	350	358	365	370	375	380	385	390	395	400	405	410	415	420	425	430	435	440	445	450	455	460	465	470	475	480	485	490	8223	
06	312	312	310	330	330	333	330	331	338	323	320	306	293	280	267	254	241	228	215	202	189	176	163	150	137	124	111	98	85	72	59	46	33	20	7522		
07	313	327	339	326	361	360	349	350	340	325	321	321	321	321	321	321	321	321	321	321	321	321	321	321	321	321	321	321	321	321	321	321	321	321	7172		
08	310	323	333	350	359	341	340	341	349	339	331	323	315	307	299	291	283	275	267	259	251	243	235	227	219	211	203	195	187	179	171	163	155	147	7209		
09	304	334	339	341	350	350	339	331	329	320	317	319	319	319	319	319	319	319	319	319	319	319	319	319	319	319	319	319	319	319	319	319	319	319	7731		
10	311	320	331	339	337	339	340	337	330	332	333	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	7714		
11	324	331	371	439	456	349	353	369	291	239	17	55	132	184	284	366	415	379	330	328	328	319	318	318	318	318	318	318	318	318	318	318	318	318	5431		
12	326	321	320	329	330	326	331	337	330	311	309	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	299	7610		
13	300	307	307	311	313	305	325	327	325	308	320	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	6090		
14	301	299	306	321	328	339	367	393	397	371	370	256	256	256	256	256	256	256	256	256	256	256	256	256	256	256	256	256	256	256	256	256	256	256	7044		
15	307	300	309	320	320	325	315	339	365	347	310	261	261	261	261	261	261	261	261	261	261	261	261	261	261	261	261	261	261	261	261	261	261	261	7311		
16	307	320	308	308	333	332	330	379	415	366	284	132	132	132	132	132	132	132	132	132	132	132	132	132	132	132	132	132	132	132	132	132	132	132	7074		
17	308	307	308	304	314	317	325	328	329	341	336	328	328	328	328	328	328	328	328	328	328	328	328	328	328	328	328	328	328	328	328	328	328	328	6643		
18	298	308	316	313	320	319	330	334	329	326	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	7561		
19	300	309	312	319	320	320	327	329	330	328	329	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	7617		
20	300	300	310	319	323	326	328	339	331	326	329	319	319	319	319	319	319	319	319	319	319	319	319	319	319	319	319	319	319	319	319	319	319	319	7626		
21	302	301	316	318	320	323	326	323	320	319	319	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	316	7700		
22	316	319	326	329	335	329	335	337	337	338	354	323	323	323	323	323	323	323	323	323	323	323	323	323	323	323	323	323	323	323	323	323	323	323	7228		
23	304	309	319	322	327	323	311	310	305	297	160	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	5911			
24	306	310	316	320	328	321	323	323	321	323	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	7110		
25	301	305	315	322	326	329	330	321	320	323	320	319	319	319	319	319	319	319	319	319	319	319	319	319	319	319	319	319	319	319	319	319	319	319	7347		
26	302	304	312	320	321	329	330	341	397	394	310	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	6966		
27	285	289	301	311	328	340	335	339	349	355	343	191	191	191	191	191	191	191	191	191	191	191	191	191	191	191	191	191	191	191	191	191	191	191	7100		
28	280	299	339	340	393	520	546	530	421	326	355	317	317	317	317	317	317	317	317	317	317	317	317	317	317	317	317	317	317	317	317	317	317	7166			
29	292	310	330	410	423	372	344	520	436	413	402	370	370	370	370	370	370	370	370	370	370	370	370	370	370	370	370	370	370	370	370	370	370	7901			
30	305	309	326	329	339	330	339	339	350	349	348	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	7723		
31	298	301	332	313	356	168	686	508	494	473	483	308	308	308	308	308	308	308	308	308	308	308	308	308	308	308	308	308	308	308	308	308	308	7645			
SCALED BY			SPT, KKR, EAS, JEP																														227052				
CHECKED BY			JEP, SPT, EAS																														305				
MONS. REC. BY			JEP																														305				
PUNCHED BY																																	305				

Scale

Value

Base-line

Value

Preliminary

Interval

Beginning

Scale

Value

Base-line

Value

Preliminary

Interval

Beginning

(1) Interpolated

(2) Significant portion of line interpolated.

(3) No record; no magnetic field; no data available for base of field; no data.

(4) Derived from 210:00. Magph. converted to Annual Magph.

(1) Scale in magnetic field

(2) Scale in magnetic field

(3) Scale in magnetic field

(4) Scale in magnetic field

MONTHLY SUM

MONTHLY MEAN

MONTHLY MEAN

MONTHLY MEAN

FORM 14-100										MAGNETOGRAM HOURLY SCALINGS										P.S. DEPARTMENT OF COMMERCE Estimated Solar, Cosmic Position and Solar Activity Data 1950-1959										OBSY.										YEAR										MONTH										FILE																																								
Values are in tenths of amp. and are averages for successive periods of one hour beginning at midnight. Root D of local day (1500) at T.T. is hour 11 of the 220000 universal day.										UNIVERSAL TIME										CO										K1										JAN										7																																																		
C	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
01	328	332	340	348	329	323	325	355	367	176	323	265	01	300	307	300	260	211	203	213	252	284	298	298	317	7054																																																																										
02	330	330	328	325	330	335	350	350	338	343	321	328	02	338	317	276	281	310	196	200	256	290	306	312	318	71408																																																																										
03	335	345	362	338	335	345	332	334	375	355	338	338	03	330	300	300	310	299	335	340	341	311	314	312	318	71542																																																																										
04	325	343	368	350	360	353	356	363	332	265	253	343	04	332	323	315	305	293	310	316	293	290	285	307	318	71692																																																																										
05	320	323	323	325	338	342	340	330	338	330	337	331	05	304	310	238	211	273	280	308	305	305	274	285	311	71791																																																																										
06	325	329	320	327	330	329	325	327	320	316	312	310	06	230	133	122	263	249	270	290	287	297	281	271	306	60553																																																																										
07	334	340	339	329	333	336	343	347	340	321	317	312	07	313	289	231	234	297	309	323	324	320	314	310	313	71568																																																																										
08	319	323	327	337	330	340	337	356	340	344	330	327	08	319	264	249	309	281	217	219	290	303	313	318	304	71423																																																																										
09	324	339	345	347	350	339	330	323	320	319	310	309	09	313	310	261	251	291	321	330	329	319	321	321	321	71643																																																																										
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11	327	353	350	409	447	401	359	381	319	376	189	249	11	210	331	549	259	34	221	263	263	301	331	326	321	71599																																																																										
12	336	341	329	337	343	341	339	340	337	329	311	309	12	310	311	318	319	315	311	315	320	316	320	325	324	71796																																																																										
13	326	327	321	322	330	340	338	330	319	304	318	300	13	245	138	115	184	235	269	290	273	265	267	305	320	6801																																																																										
14	325	323	322	330	346	330	346	340	362	319	336	311	14	297	353	174	270	320	322	327	324	325	326	328	326	71712																																																																										
15	329	327	320	324	330	330	331	361	335	349	321	274	15	223	204	265	298	308	290	287	302	309	316	321	326	71380																																																																										
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19	319	318	318	319	321	323	323	322	320	318	319	330	19	326	311	285	265	283	299	308	306	301	301	302	310	71447																																																																										
20	311	310	309	315	321	321	328	328	329	332	329	328	20	319	316	316	316	316	311	300	280	271	286	300	309	71511																																																																										
21	316	315	316	313	323	325	319	319	319	319	318	319	21	317	303	306	308	307	305	309	309	309	308	302	302	71517																																																																										
22	309	309	309	310	310	309	308	309	309	309	309	309	22	255	240	281	146	221	237	199	229	278	293	304	309	6652																																																																										
23	314	314	313	314	311	310	309	308	311	309	272	210	23	154	139	82	154	240	289	298	300	298	300	315	320	6464																																																																										
24	319	315	317	318	320	322	329	310	283	348	289	281	24	249	270	160	236	261	260	285	299	278	280	300	320	7049																																																																										
25	325	325	321	320	320	321	330	320	313	311	317	310	25	305	283	193	173	232	306	300	282	269	279	305	320	7080																																																																										
26	331	330	322	327	321	321	324	341	348	326	300	324	26	406	171	259	329	338	330	323	314	312	320	320	318	7661																																																																										
27	330	325	345	345	338	340	331	322	335	309	350	338	27	374	230	285	322	320	319	320	320	316	320	321	326	71716																																																																										
28	322	323	338	349	389	430	449	420	359	278	349	310	28	329	199	210	184	270	280	311	289	289	280	282	330	71594																																																																										
29	360	330	342	351	399	421	361	291	210	178	271	343	29	366	436	156	218	260	306	299	309	316	309	310	324	71448																																																																										
30	308	319	329	338	336	333	339	339	359	340	338	329	30	309	289	260	267	278	299	300	301	310	312	317	329	7628																																																																										
31	327	321	330	339	326	190	51	334	324	262	1	328	31	217	287	332	308	326	320	320	319	308	302	322	335	6839																																																																										

1000000

OFFICER BY

SIGNATURE

PUNCHED BY

Scale Value

Base-line Value

Preliminary Base-line and scale values:

SPT, KMR, EAS, JEP

JEP, SPT, EAS

JEP

MONTHLY SUM

MONTHLY MEAN

DATES WITH DATA

223425

307

(1) Significant portion of hour interpolated.

(2) Derived from 1500000. Height, converted to Normal Height.

(3) Interpolated

(4) Significant portion of hour interpolated.

(5) Derived from 1500000. Height, converted to Normal Height.

(6) Derived from 1500000. Height, converted to Normal Height.

(7) Derived from 1500000. Height, converted to Normal Height.

(8) Derived from 1500000. Height, converted to Normal Height.

(9) Derived from 1500000. Height, converted to Normal Height.

(10) Derived from 1500000. Height, converted to Normal Height.

(11) Derived from 1500000. Height, converted to Normal Height.

(12) Derived from 1500000. Height, converted to Normal Height.

(13) Derived from 1500000. Height, converted to Normal Height.

(14) Derived from 1500000. Height, converted to Normal Height.

(15) Derived from 1500000. Height, converted to Normal Height.

(16) Derived from 1500000. Height, converted to Normal Height.

(17) Derived from 1500000. Height, converted to Normal Height.

(18) Derived from 1500000. Height, converted to Normal Height.

(19) Derived from 1500000. Height, converted to Normal Height.

(20) Derived from 1500000. Height, converted to Normal Height.

(21) Derived from 1500000. Height, converted to Normal Height.

(22) Derived from 1500000. Height, converted to Normal Height.

(23) Derived from 1500000. Height, converted to Normal Height.

(24) Derived from 1500000. Height, converted to Normal Height.

(25) Derived from 1500000. Height, converted to Normal Height.

(26) Derived from 1500000. Height, converted to Normal Height.

(27) Derived from 1500000. Height, converted to Normal Height.

(28) Derived from 1500000. Height, converted to Normal Height.

(29) Derived from 1500000. Height, converted to Normal Height.

(30) Derived from 1500000. Height, converted to Normal Height.

(31) Derived from 1500000. Height, converted to Normal Height.

FORMAT FOR NORMAL & STORM MAGNETOGRAMS (SAMPLE ONLY)

SEE PRELIMINARY CALIBRATION DATA FOR SCALE VALUES & BASELINE VALUES

NORMAL MAGNETOGRAMS

NORMAL MAGNETOGRAMS

NORMAL MAGNETOGRAMS

NORMAL MAGNETOGRAMS

NORMAL MAGNETOGRAMS

NORMAL MAGNETOGRAMS

NORMAL MAGNETOGRAMS

NORMAL MAGNETOGRAMS

STORM MAGNETOGRAMS

200 mm
100 mm
0

STORM MAGNETOGRAMS

100 nT
200 nT

STORM MAGNETOGRAMS