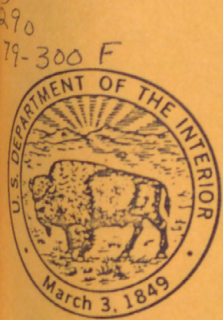


X

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY.



PRELIMINARY GEOMAGNETIC DATA
COLLEGE OBSERVATORY
FAIRBANKS, ALASKA

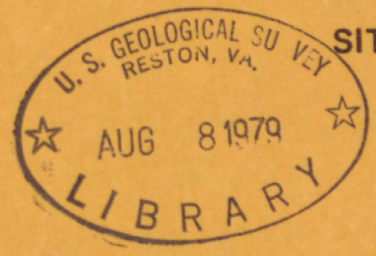
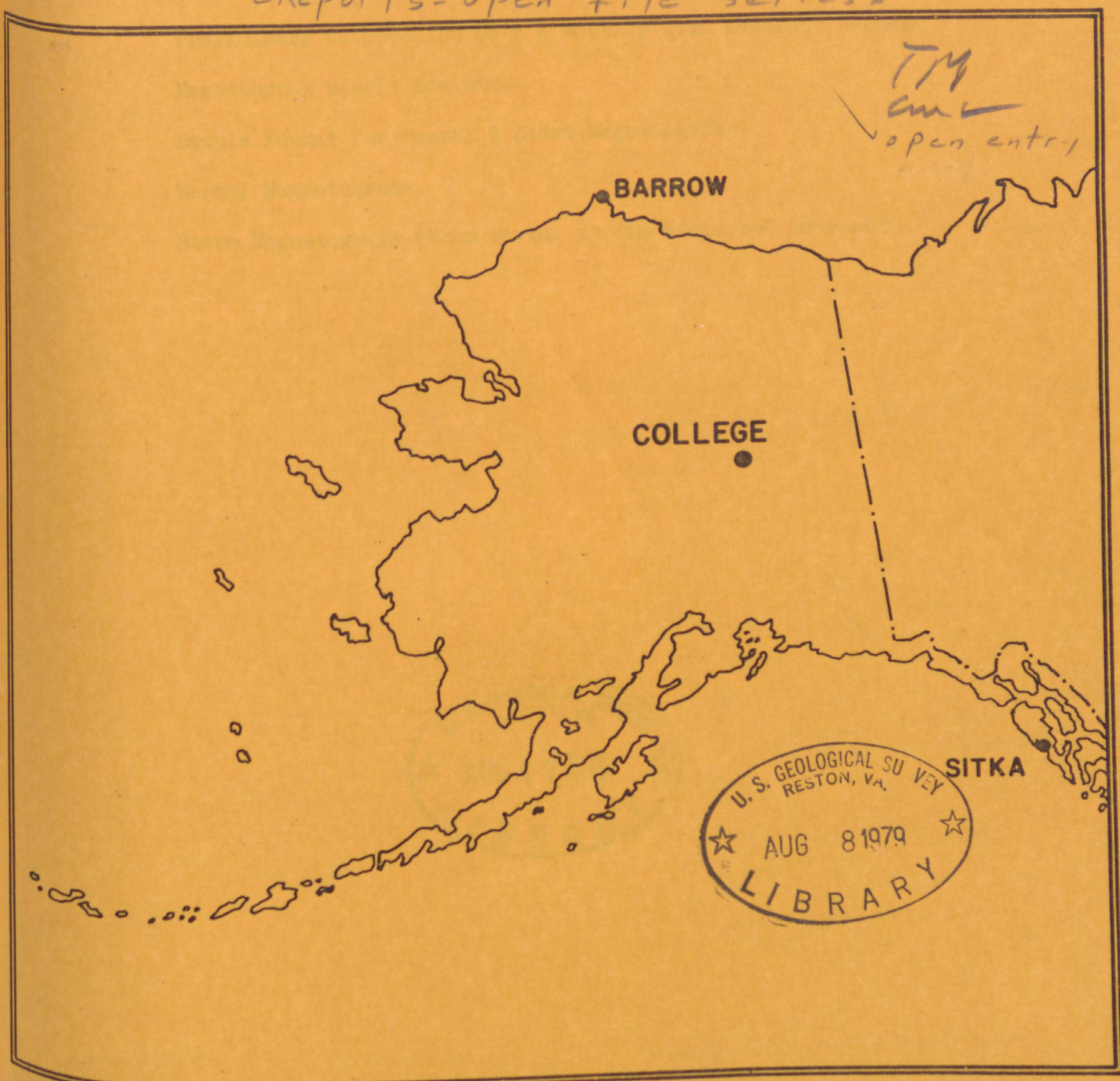
U.S. Geological Survey

OPEN FILE REPORT

79-300F

JUNE 1979

CR reports - open file series



GEOLOGICAL SURVEY

PRELIMINARY GEOMAGNETIC DATA
COLLEGE OBSERVATORY
FAIRBANKS, ALASKA

OPEN FILE REPORT

1979



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Preliminary Calibration Data & Monthly Mean Absolute Values

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Normal Magnetograms

Storm Magnetograms (When Normal is too disturbed to read)



THIS REPORT WAS PREPARED UNDER THE DIRECTION OF JOHN B. TOWNSEND, 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

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 10 γ 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 (10 γ)

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.

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°51.6'N
Geographic longitude.....147°50.2'W
Geomagnetic latitude.....+64.6°
Geomagnetic longitude.....+256.5°
Elevation.....200 meters

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:

$D = B_D + d \cdot S_D$; $H = B_H + h \cdot S_H$; $Z = B_Z + z \cdot S_Z$
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

JUNE 1979

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		
1	1	1	1	0	0	1	1	1	06	02	SUDDEN COMMENCEMENTS d h m
2	2	1	1	2	1	0	1	1	09	04	
3	1	0	1	1	2	3	1	1	10	05	
4	2	2	3	3	3	1	1	1	16	09	
5	0	0	0	0	1	0	1	1	03	01	
6	2	1	1	2	4	3	5	4	22	17	
7	4	6	5	3	4	5	4	3	34	36	
8	3	3	3	3	3	2	3	2	22	13	
9	3	3	3	3	3	3	3	2	23	14	
10	3	3	4	5	4	4	3	2	28	23	
11	3	3	2	4	4	3	2	2	23	15	POSSIBLE SOLAR-FLARE EFFECTS BASED ON INSPECTION OF GRAMS ALONE (WITHOUT REFERENCE TO DATA FROM OTHER SOURCES)
12	2	3	2	1	1	0	2	1	12	06	
13	2	0	0	1	3	3	2	2	13	07	
14	3	3	2	2	0	2	1	1	14	07	
15	1	2	3	3	3	2	2	2	18	10	
16	3	4	5	3	5	5	2	3	30	28	
17	4	3	2	5	4	6	3	2	29	28	
18	2	3	2	1	0	1	1	1	11	05	
19	2	3	2	3	3	0	1	1	15	08	
20	0	1	2	1	1	2	2	2	11	05	
21	2	3	3	4	5	3	3	3	26	20	BEGIN d h m END d h m
22	3	2	4	5	6	6	6	3	35	44	
23	4	4	5	6	4	3	3	3	32	32	
24	3	4	4	3	4	2	2	2	24	17	
25	2	3	3	4	3	2	2	1	20	12	
26	1	2	2	6	5	5	3	2	26	27	
27	4	3	2	3	5	4	2	2	25	19	
28	1	1	2	0	0	0	0	1	05	02	
29	2	1	0	3	1	2	1	0	10	05	
30	1	3	2	3	2	2	1	2	16	08	
31											

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

7.80

2510

Z

(mm)

(γ/mm)

(to nearest 10γ)

SCALINGS AND COMPUTATIONS HAVE BEEN CHECKED.

APPROVED JOHN B. TOWNSEND, CHIEF, COLLEGE OBSERVATORY

OBSERVER IN CHARGE

OUTSTANDING MAGNETIC EFFECTS

OBSERVATORY
COLLEGE. ALASKA

MONTH
JUNE

YEAR
1979

DATE	TIME U.T.	NATURE OF PHENOMENON ¹	REMARKS
02	09XX	pi2	
06	1926	ssc*	
17	08XX	pi2	
29	11XX	pi2	With bay.
IDENTIFIED BY: JEP VERIFIED BY: JBT			

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

PRINCIPAL MAGNETIC STORMS

Data from Individual Observatories:

COLLEGE OBSERVATORY, COLLEGE, ALASKA

JUNE

1979

WDC-A FOR SOLAR-TERRESTRIAL PHYSICS
ENVIRONMENTAL DATA SERVICE, NOAA
BOULDER, COLORADO 80502 U.S.A.

Obs. 2 letter IAGA code	Geomag. lat.	Commencement			SC - amplitudes			Max. 3 hr - index K			Ranges			UT End day hr
		day	hr min (UT)	type	D(')	H(γ)	Z(γ)	day	(3 hr - period)	K	D(')	H(γ)	Z(γ)	
CO	64°6 N	06	1926	s.c.*	-56	-312	-70	07	2	6	95	1290	440	08 11
		22	11XX	..	..	..	..	22	5, 6, 7	6	247	1560	850	24 13
								23	4	6				

NORMAL MAGNETOGRAPHS

COMPONENT	PERIOD		CALIBRATION		
	FROM	TO	SCALE VALUE		BASELINE
D	0000 U.T., 6-1-79	2400 U.T., 6-30-79	1.0/mm	3.88/mm	27° 47.3 E
H	0000 U.T., 6-1-79	2400 U.T., 6-30-79	7.88/mm		127668
Z	0000 U.T., 6-1-79	2400 U.T., 6-30-79	7.38/mm		551678

STORM MAGNETOGRAPHS

COMPONENT	PERIOD		CALIBRATION		
	FROM	TO	SCALE VALUE		BASELINE
D	0000 U.T., 6-1-79	2400 U.T., 6-30-79	7.8/mm	29.78/mm	23° 49.9 E
H	0000 U.T., 6-1-79	2400 U.T., 6-30-79	44.08/mm		115278
Z	0000 U.T., 6-1-79	2400 U.T., 6-30-79	48.68/mm		540238

RAPID RUN MAGNETOGRAPHS

COMPONENT	PERIOD		CALIBRATION	
	FROM	TO	SCALE VALUE	
D				
H				
Z				

MONTHLY MEAN ABSOLUTE VALUES*

D	H	Z
28° 11.2 E	130368	553748

* COMPUTED FROM TEN QUIETEST DAYS DURING MONTH.

DAYS USED: JUN 1, 2, 3, 5, 12, 13, 18, 20, 28, 29

MAGNETOGRAM HOURLY SCALINGS
(UNIVERSAL TIME)U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATIONOBSY. YEAR MONTH ELE-
MENTValues are in tenths of mm, and are averages for successive periods of one hour beginning at midnight. Hour 01 of local day (150W M.T.) is hour 11 of the same universal day.
Shrinkage corrections have been applied. Negative values are in red, with minus signs shown.

GO 79 JUN D

C	U of S	Ten Q	11r	01	02	03	04	05	06	07	08	09	10	11	12	11r	13	14	15	16	17	18	19	20	21	22	23	24	SUM
			01	157	154	140	152	190	207	232	220	213	210	215	217	01	239	270	297	311	351	387	403	392	374	251	188	132	5902
			02	141	129	126	122	177	226	227	223	211	208	207	237	02	237	265	307	343	358	348	315	314	277	245	179	117	5539
			03	108	119	137	156	179	207	220	217	222	213	217	234	03	252	272	298	341	365	383	365	329	306	243	197	167	5747
			04	137	135	144	175	191	222	186	177	153	168	196	196	04	188	228	294	331	342	368	362	327	291	220	171	148	5350
			05	137	145	161	190	215	233	243	234	226	229	228	236	05	246	256	286	352	405	424	404	366	323	241	190	156	6126
			06	110	107	117	161	206	214	220	207	212	190	171	200	06	199	300	407	368	405	427	374	333*	264	157	125	185	5659
			07	100	47	65	99	50	20	121	132	139	180	185	211	07	186	193	210	301*	460*	412*	428	350	299	289	230	194	4901
			08	173	179	193	208	221	201	254	219	181	141	141	189	08	221	254	298	338	343	367	371	349	298	206	151	141	5637
			09	120	151	171	170	241	231	201	199	198	203	178	168	09	198	242	293	355	395	349	362	372	234	218	181	162	5592
			10	159	141	151	188	211	259	207	166	101	176	168	178	10	201	194	278	307	323	357	383	318	299	218	196	161	5340
			11	127	163	148	200	203	203	222	223	233	182	181	134	11	200	197	244	351	371	368	356	309	302	246	220	187	5570
			12	151	167	179	178	221	268	227	231	219	204	197	189	12	170	187	219	265	318	357	362	378	298	278	252	189	5704
			13	170	162	171	191	213	238	236	228	224	212	218	211	13	192	164	212	231	341	341	374	377	248	241	223	146	5564
			14	124	136	139	205	219	226	236	225	217	204	161	173	14	192	223	249	322	332	359	386	358	330	281	231	195	5723
			15	142	139	144	178	199	238	204	203	194	170	141	130	15	180	271	346	334	353	372	360	354	304	215	169	197	5537
			16	185	149	152	135	144	125	163	202	154	172	142	179	16	152	210	356	321	423	368	374	383	290	258	191	152	5380
			17	136	107	96	175	215	187	227	192	218	190	204	189	17	261	260	319	651*	619*	463	346	347	337	264	224	186	6413
			18	178	167	181	165	158	203	209	194	204	200	228	242	18	261	271	301	332	352	388	378	358	291	269	243	199	6173
			19	162	147	142	159	140	161	178	160	162	189	188	222	19	251	301	282	312	337	352	335	288	263	180	169	120	5200
			20	104	102	131	166	189	221	221	201	211	209	206	214	20	221	261	309	312	387	381	358	328	252	149	100	119	5352
			21	114	140	181	197	158	141	132	127	198	159	149	231	21	135	303	389	431	462	458	491	348	274	199	95	103	5615
			22	186	159	166	180	189	207	160	215	149	206	191	146	22	272	348	453*	714*	825*	833*	722*	409	247	215	135	130	7457
			23	117	96	30	62	144	53	-94*	78	76	223*	223	174	23	223	246	288	327	357	376	362	352	330	185	125	131	4484
			24	129	116	102	184	112	143	123	223	190	206	187	198	24	224	215	243	293	340	392	384	323	282	275	223	175	5282
			25	133	107	129	140	179	245	230	218	210	164	138	181	25	193	196	275	300	347	378	369	364	280	213	180	146	5315
			26	146	153	154	147	170	191	231	213	212	190	148	196	26	213	244	308	488	529	440	477	440	297	292	238	91	6208
			27	100	89	117	139	190	180	215	241	178	166	190	187	27	160	274	259	290	369	342	370	328	267	235	204	178	5268
			28	156	151	158	181	199	223	232	208	230	217	223	218	28	237	273	310	340	370	383	389	363	294	264	215	190	6024
			29	137	134	148	191	220	222	212	212	195	192	177	189	29	238	241	265	316	385	424	427	368	280	211	201	128	5713
			30	99	86	105	130	166	213	168	180	174	142	127	153	30	197	262	313	352	402	432	390	345	272	234	170	127	5239
			31													31													

SCALED
BY

SPT, REF

CHECKED
BY

JEP, EAS, REF, SPT

SIGNS RE-
VIEWED BY

JEP

PUNCHED
BY

Preliminary base-line and scale values:

Interval
BeginningBase-line
ValueScale
Value

() Interpolated

[] Significant portion of
hour interpolated.[] No record; or no values
available because of
faulty record.

* Derived from Storm Meph., converted to Normal Meph.

[] Scaling uncertain because
of magnetic storm.<> Record off sheet for part
or all of hour; if value is
given, curve was estimated
for missing part.

MONTHLY SUM

MONTHLY MEAN

DATES WITH GAPS:

169014

235

MAGNETOGRAM HOURLY SCALINGS
(UNIVERSAL TIME)U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATIONOBSY. YEAR MONTH ELE-
MENT
GO 79 JUN IIValues are in tenths of mm. and are averages for successive periods of one hour beginning at midnight. Hour 01 of local day (150W M.T.) is hour 11 of the same universal day.
Shrinkage corrections have been applied. Negative values are in red, with minus signs shown.

C	Q	S	T	Q	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	SUM															
					01	333	328	347	378	356	369	386	386	373	369	363	358	01	351	347	345	333	311	340	345	342	314	305	305	321	8305													
					02	332	347	348	381	391	394	358	358	373	380	398	372	02	367	352	329	318	330	343	350	337	313	310	315	325	8421													
					03	338	317	322	338	346	350	355	369	371	382	375	364	03	357	347	297	317	369	354	347	337	317	310	321	322	8222													
					04	328	323	363	372	403	430	436	465	483	406	396	392	04	365	322	357	412	412	397	382	376	342	341	333	322	9158													
					05	322	333	348	349	359	373	384	385	386	374	374	381	05	386	393	393	382	377	363	340	328	318	317	329	338	8632													
					06	350	354	387	393	364	365	363	381	386	414	441	407	06	381	211	134	233	238	292	375	310	414	371	422	443	8429													
					07	443	397	496	644	1045	626	660	584	482	382	335	344	07	371	191	57	-35	-123	-106*	219	353	366	326	327	361	8745													
					08	396	413	503	331	330	394	478	381	401	359	279	333	08	339	329	239	309	319	316	337	353	289	293	291	283	8295													
					09	349	330	367	411	449	406	398	369	397	291	219	302	09	307	269	183	199	261	300	331	287	301	319	331	351	7727													
					10	354	366	416	459	496	459	423	418	489	129	231	358	10	376	332	161	221	343	319	263	309	329	333	313	302	8199													
					11	306	343	406	474	431	384	383	419	371	362	349	285	11	96	187	244	251	329	380	369	356	317	330	289	311	7972													
					12	333	381	337	373	421	429	389	363	350	362	347	358	12	347	347	359	370	384	390	369	321	322	299	301	300	8552													
					13	319	330	360	358	351	358	351	342	360	362	359	362	13	372	349	260	229	308	339	319	322	321	306	260	305	7902													
					14	355	382	428	431	370	347	337	362	368	388	392	357	14	358	357	347	359	357	323	346	351	328	321	317	323	8604													
					15	339	358	377	367	402	380	435	515	457	405	402	313	15	238	221	299	386	372	358	333	317	287	276	303	362	8522													
					16	364	437	459	395	518	586	559	426	275	343	280	324	16	214	115	-72	-84	155	298	319	291	331	321	351	401	7606													
					17	341	270	376	464	389	361	336	369	411	391	324	-70	17	124	258	69	-207*	-241*	232	350	386	362	331	313	303	6242													
					18	319	349	329	371	394	382	351	376	381	387	387	370	18	353	347	352	347	354	330	339	319	300	314	311	314	8376													
					19	333	361	361	348	427	416	450	509	500	432	388	363	19	328	255	293	319	321	332	357	340	309	309	314	333	8698													
					20	356	364	358	356	366	376	369	374	376	364	370	361	20	369	363	341	351	334	351	308	300	264	289	330	331	8321													
					21	324	332	337	337	426	496	519	541	447	451	417	333	21	78	6	161	285	209	208	187	284	257	240	272	368	7515													
					22	411	423	362	365	397	368	476	405	440	389	372	289	22	-45	-6	-236*	-462*	-632*	-507*	344*	293	420	396	388	508	4470													
					23	433	442	575	613	495	641	565	580	325	169	204	342	23	235	226	289	218	266	368	373	349	300	260	264	318	8850													
					24	338	405	464	510	628	472	508	536	399	362	323	313	24	175	323	360	370	364	341	337	348	338	322	312	305	9153													
					25	308	301	328	384	398	464	433	397	388	375	283	272	25	371	352	272	354	358	378	352	307	276	298	299	300	8248													
					26	306	312	322	351	388	399	433	417	382	382	263*	-106*	26	326	332	61	31*	206	387	319	307	280	318	318	272	7006													
					27	326	380	477	422	376	427	380	368	389	376	348	375	27	299	94	37	166	191	351	366	392	362	319	282	288	7791													
					28	307	317	333	342	354	345	348	380	366	361	361	363	28	361	364	363	352	337	339	329	339	337	316	311	319	8244													
					29	302	308	347	338	343	362	377	378	391	391	372	269	29	336	353	366	339	302	299	323	308	322	303	307	311	8047													
					30	333	320	314	363	378	415	465	429	440	484	442	379	30	329	350	338	344	318	354	347	308	283	275	296	305	8609													
					31												31																											
SCALED BY	SPT, PEF					Preliminary base-line and scale values:												☐ Interpolated ☐ Significant portion of hour interpolated. ☐ No record; or no values available because of faulty record.												☐ Scaling uncertain because of magnetic storm. <> Record off sheet for part or all of hour; if value is given, curve was estimated for missing part.												MONTHLY SUM		242861
CHECKED BY	JEP, PEF, EAS, SPT					Interval Beginning												Base-line Value												Scale Value												MONTHLY MEAN		337
SIGNS RE-VIEWED BY	JEP																																									DATES WITH GAPS:		
PUNCHED BY																																												
* Derived from Storm Mph., converted to Normal Mph.																																												

MAGNETOGRAM HOURLY SCALINGS
(UNIVERSAL TIME)U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATIONOBSY. YEAR MONTH FILE-
CO 79 JUN 2Values are in tenths of mm. and are averages for successive periods of one hour beginning at midnight, Hour 01 of local day (150W M.T.) is hour 11 of the same universal day.
Shrinkage corrections have been applied. Negative values are in red, with minus signs shown.

C	Q or S	Ten Q	hr	01	02	03	04	05	06	07	08	09	10	11	12	hr	13	14	15	16	17	18	19	20	21	22	23	24	SUM
			01	281	290	288	305	313	313	317	309	300	298	301	300	01	295	293	289	281	265	254	267	262	271	254	258	257	6861
			02	283	293	305	313	347	331	294	284	278	288	291	267	02	268	276	267	256	247	248	252	261	265	268	270	287	6739
			03	285	289	283	274	277	285	286	282	284	282	289	290	03	282	274	250	205	255	278	264	256	258	261	274	288	6551
			04	300	297	297	323	344	363	337	344	326	340	314	304	04	285	279	275	299	307	305	286	281	277	273	279	288	7323
			05	289	292	297	296	298	298	297	296	294	294	287	285	05	287	287	296	300	300	294	280	268	255	240	239	247	6816
			06	254	271	275	305	320	305	300	297	300	294	308	306	06	277	306	287	219	243	219	237	294	204	249	278	316	6664
			07	325	341	412	506	305	91	162	223	338	318	351	356	07	350	364	373	359	431*	293	264	282	257	268	300	331	7600
			08	327	350	368	358	320	301	349	310	291	266	227	279	08	288	300	284	277	287	309	302	306	286	266	264	286	7201
			09	279	310	331	328	381	338	319	327	320	248	108	201	09	253	281	269	251	253	236	252	293	263	293	309	311	6754
			10	313	320	317	358	388	380	343	256	338	341	256	299	10	319	319	311	244	286	317	281	231	260	282	309	320	7388
			11	321	326	331	361	357	330	330	330	316	291	300	263	11	290	197	210	209	226	267	283	290	296	289	287	293	6993
			12	309	347	373	344	370	364	330	339	313	309	297	291	12	282	287	309	318	330	326	300	291	270	271	288	292	7550
			13	297	309	311	310	308	308	302	292	288	288	289	290	13	282	272	234	211	222	279	279	243	233	266	288	285	6686
			14	323	342	339	379	340	319	297	296	304	317	306	282	14	293	289	297	302	297	288	267	270	275	281	285	289	7277
			15	292	293	307	326	357	370	338	345	341	311	275	296	15	273	211	223	289	307	292	267	272	274	252	260	287	7058
			16	309	349	357	357	353	327	320	227	252	333	302	325	16	333	352	220	143	73	120	200	228	238	281	320	367	6686
			17	372	336	320	371	339	319	321	289	311	299	288	284	17	153	201	287	246*	159*	-7	189	281	278	271	278	280	6465
			18	276	284	299	299	311	353	318	292	304	301	302	291	18	288	276	280	282	280	279	259	259	239	237	256	260	6825
			19	261	269	304	323	322	349	348	341	317	341	303	289	19	268	234	201	224	237	240	257	259	267	260	273	277	6764
			20	300	339	360	339	314	317	312	299	291	288	281	287	20	276	281	260	251	240	257	273	262	258	248	257	271	6861
			21	280	264	266	281	308	341	265	227	302	282	270	251	21	-13	166	172	199	188	142	164	154	246	263	273	293	5584
			22	340	394	341	329	334	331	306	216	287	314	308	280	22	143	412	558*	605*	658*	599*	166*	6	173	272	289	317	7978
			23	306	330	308	329	367	256	215	137	237	225	203	292	23	278	248	216	238	204	267	285	299	299	286	268	294	6387
			24	310	315	328	342	293	324	338	296	296	343	310	291	24	310	269	286	301	310	310	290	278	276	292	301	310	7319
			25	317	307	300	300	337	352	319	343	336	309	184	180	25	268	285	283	277	307	295	288	281	257	241	260	268	6894
			26	282	288	289	294	311	328	356	341	326	305	240	247	26	200	238	381	201	75	120	251	248	235	291	302	340	6489
			27	329	290	350	370	387	327	320	270	273	277	287	301	27	292	261	227	158	87	181	268	273	266	283	292	299	6668
			28	302	361	306	308	312	308	300	290	311	305	292	291	28	299	298	298	294	281	276	266	241	232	245	248	262	6866
			29	267	266	278	293	298	289	282	288	289	302	288	211	29	248	239	276	282	269	234	237	239	238	249	277	270	6409
			30	294	339	339	327	339	372	345	342	330	316	300	285	30	282	291	279	278	262	252	264	266	255	256	265	277	7155
			31													31													

SCALED BY
CHECKED BY
SIGNS REVIEWED BY
PUNCHED BY

SPT, PEF
JEP, EAS, PEF, SPT
JEP

Preliminary base-line and scale values:
Interval Beginning
Base-line Value
Scale Value

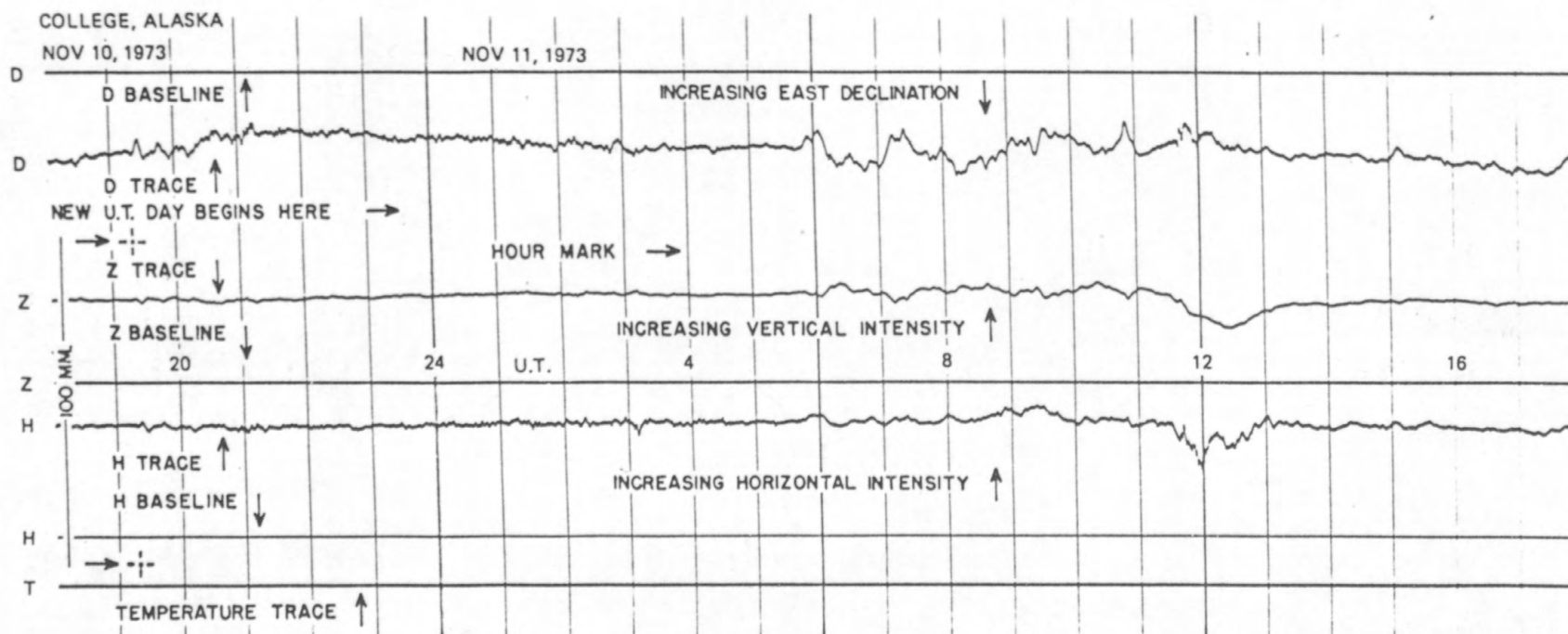
☐ Interpolated
☐ Significant portion of hour interpolated.
☐ No record; or no values available because of faulty record.
* Derived from Storm Mph., converted to Normal Mph.

☐ Scaling uncertain because of magnetic storm.
<> Record off sheet for part or all of hour; if value is given, curve was estimated for missing part.

MONTHLY SUM
MONTHLY MEAN
DATES WITH GAPS:

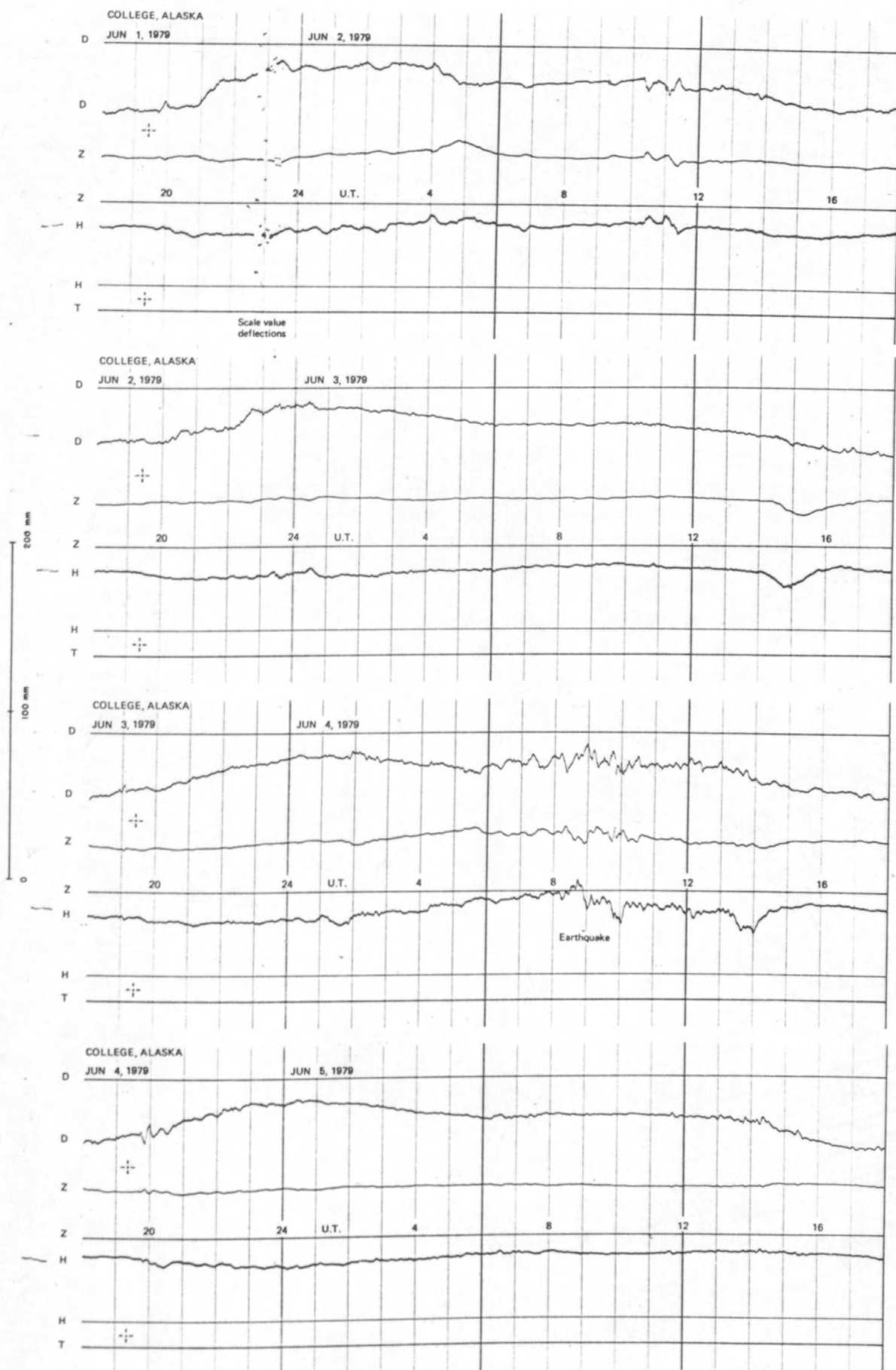
206811
287

FORMAT FOR NORMAL & STORM MAGNETOGRAMS (SAMPLE ONLY)

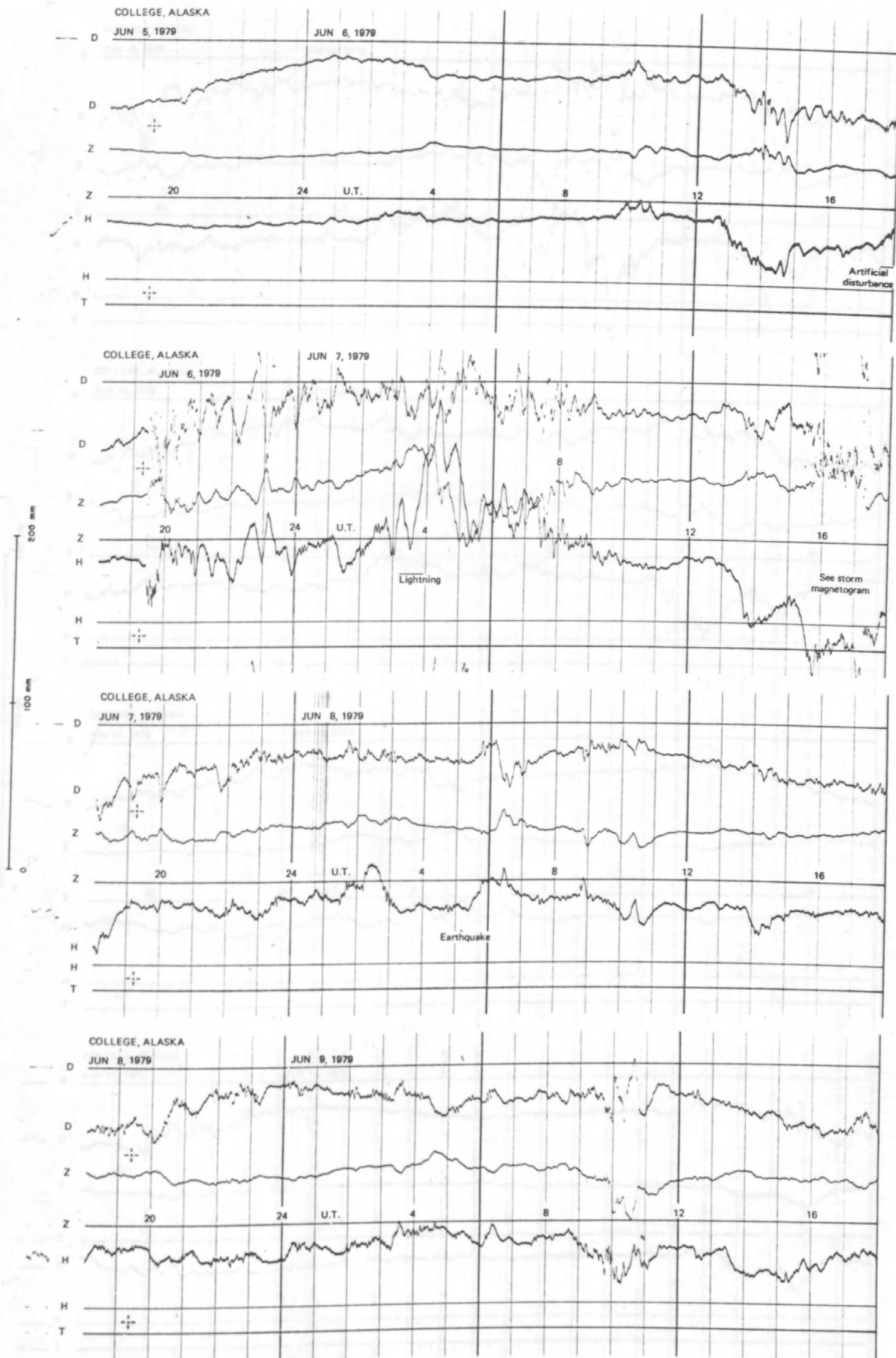


SEE PRELIMINARY CALIBRATION DATA FOR SCALE VALUES & BASELINE VALUES

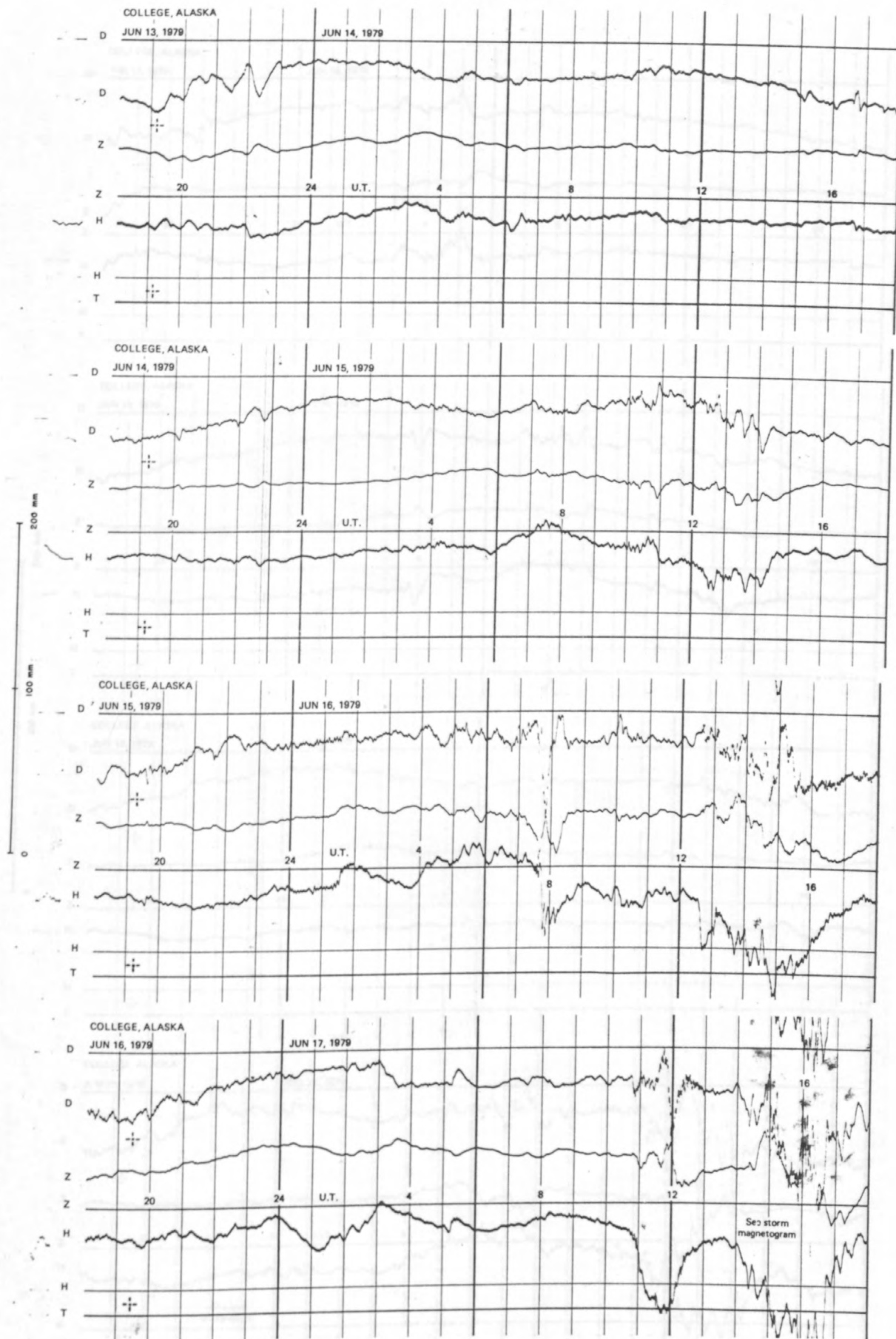
NORMAL MAGNETOGRAMS



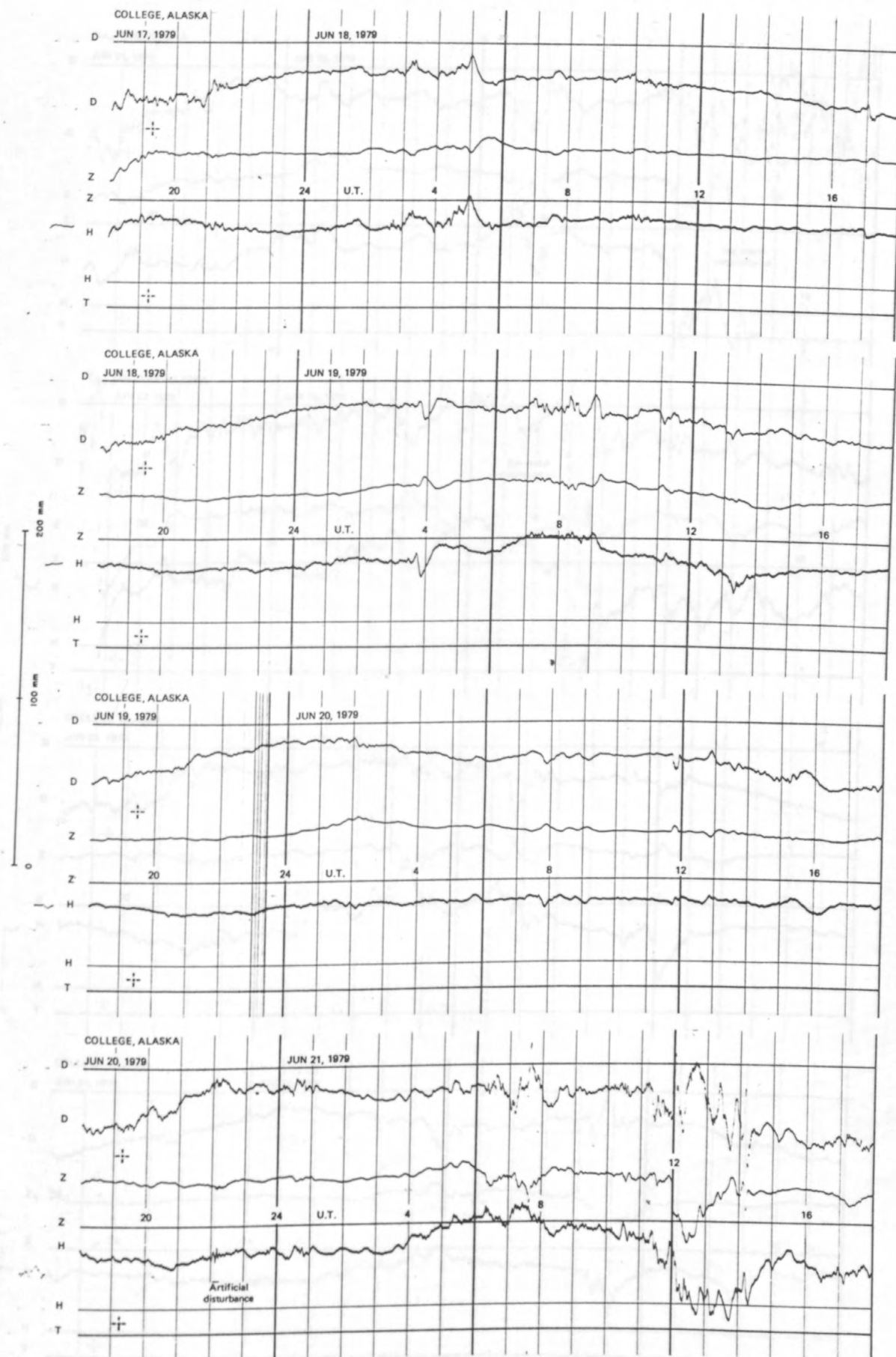
NORMAL MAGNETOGRAMS



NORMAL MAGNETOGRAMS



NORMAL MAGNETOGRAMS



NORMAL MAGNETOGRAMS

200 mm
100 mm
0

COLLEGE, ALASKA

JUN 21, 1979

JUN 22, 1979

D

Z

H

T

20

24

U.T.

4

8

See storm magnetogram

12

16

COLLEGE, ALASKA

JUN 22, 1979

JUN 23, 1979

D

Z

H

T

20

24

U.T.

4

8

12

16

See storm magnetogram

COLLEGE, ALASKA

JUN 23, 1979

JUN 24, 1979

D

Z

H

T

20

24

U.T.

4

8

12

16

COLLEGE, ALASKA

JUN 24, 1979

JUN 25, 1979

D

Z

H

T

20

24

U.T.

4

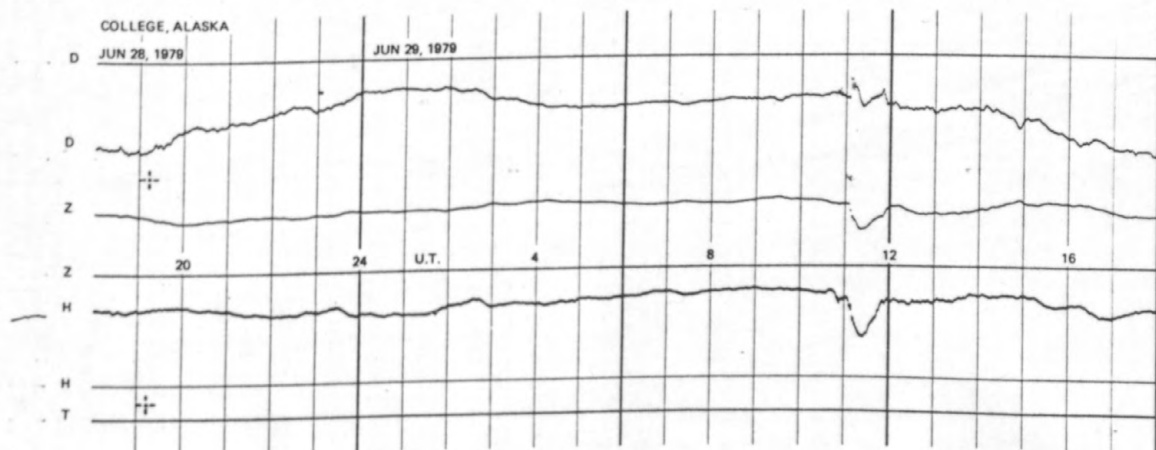
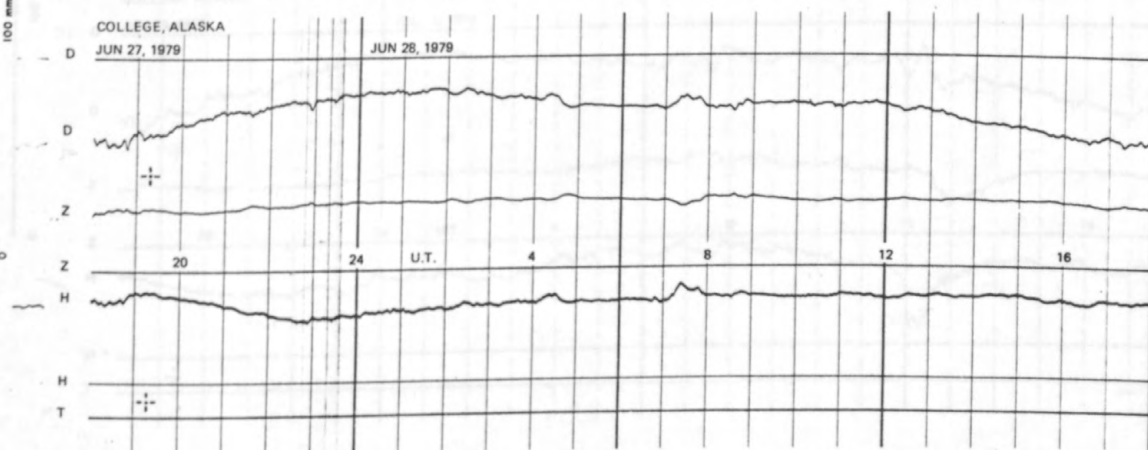
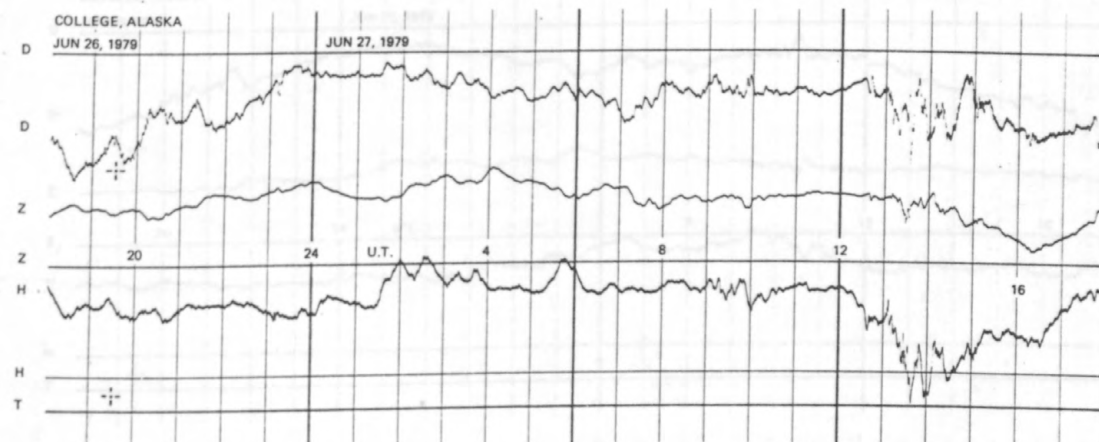
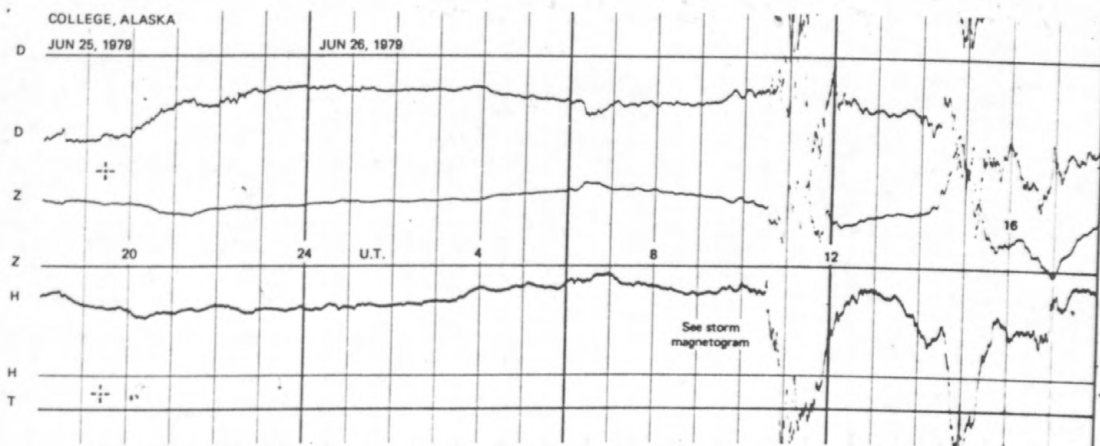
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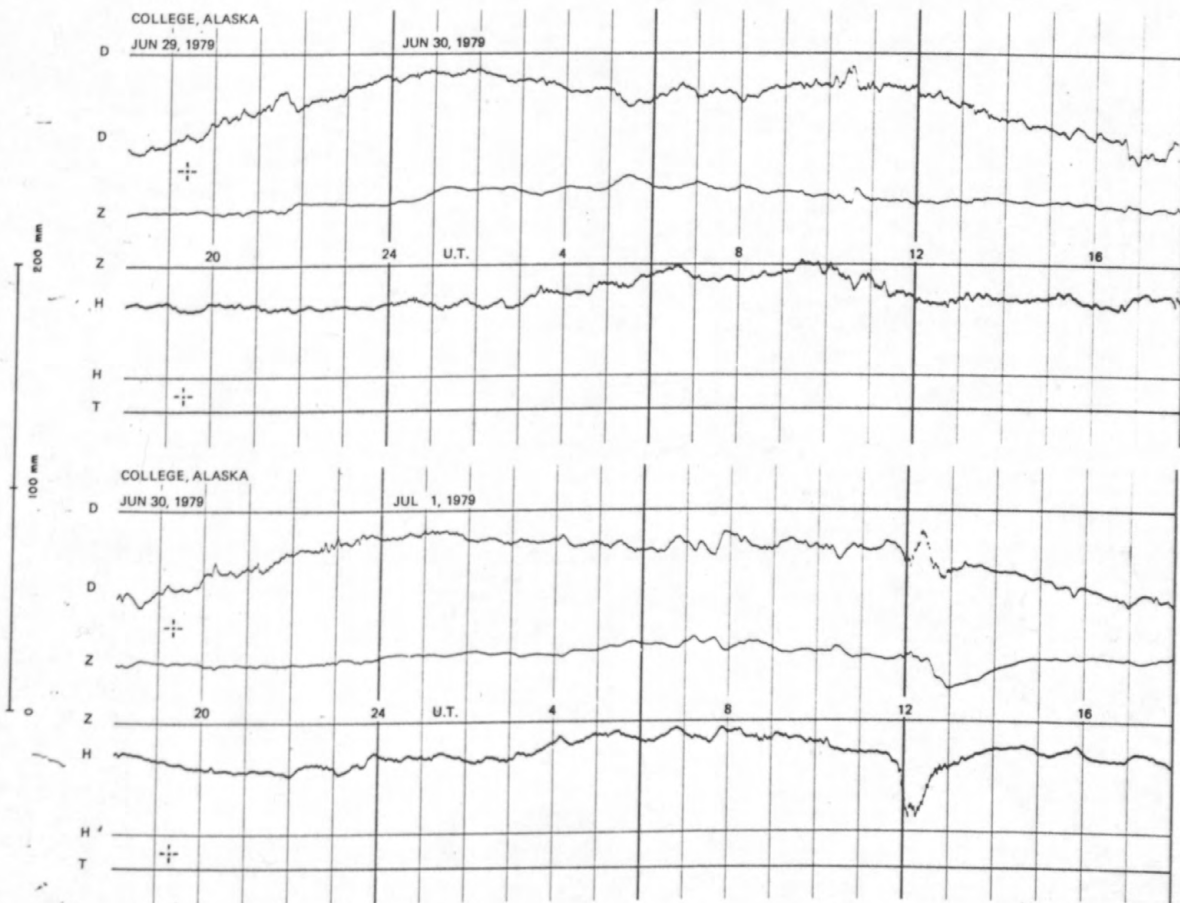
16

NORMAL MAGNETOGRAMS

200 mm
100 mm
0

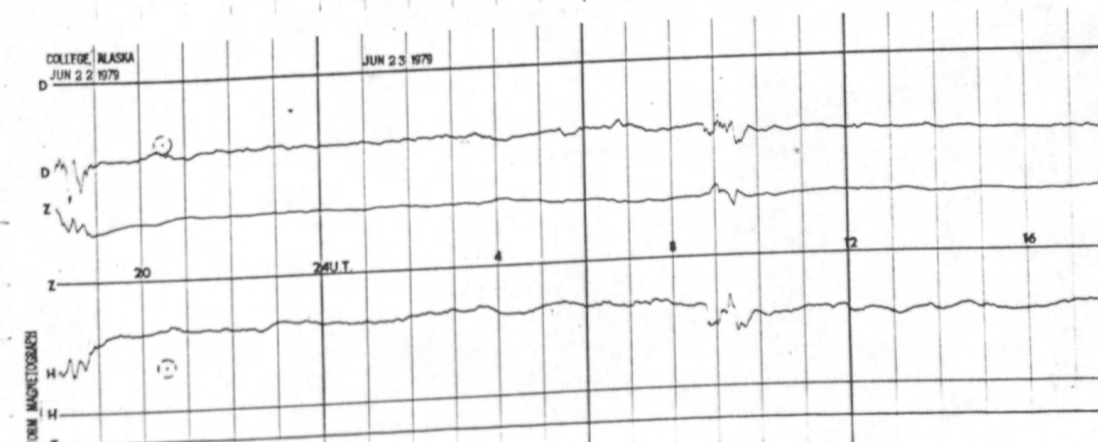
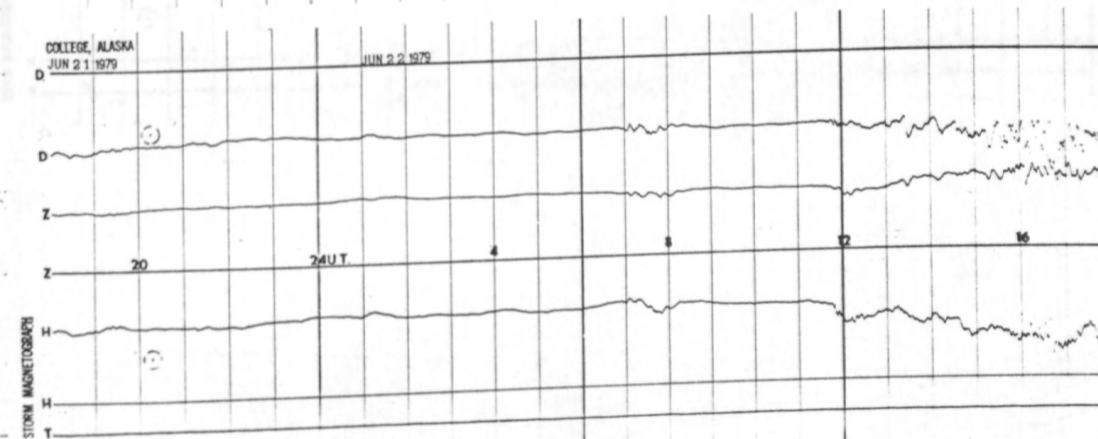
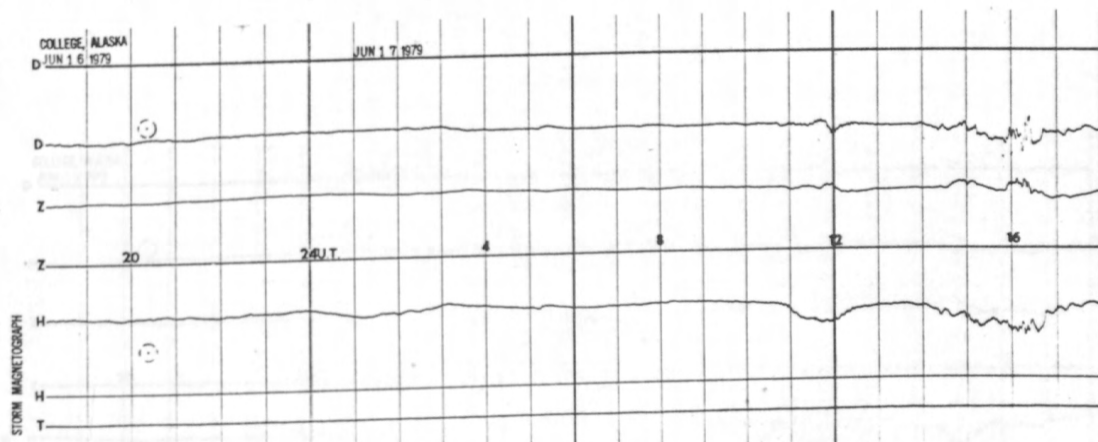
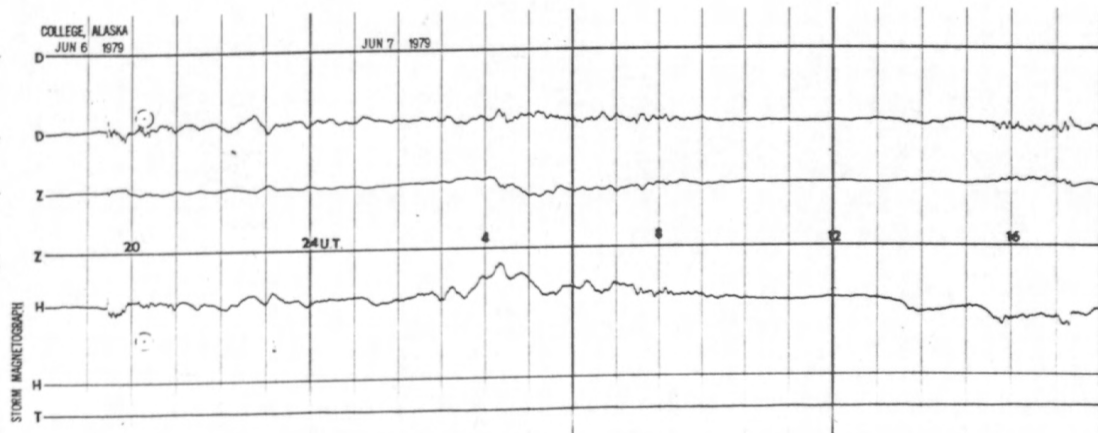


NORMAL MAGNETOGRAMS



STORM MAGNETOGRAMS

200 mm
100 mm
0



STORM MAGNETOGRAMS

