

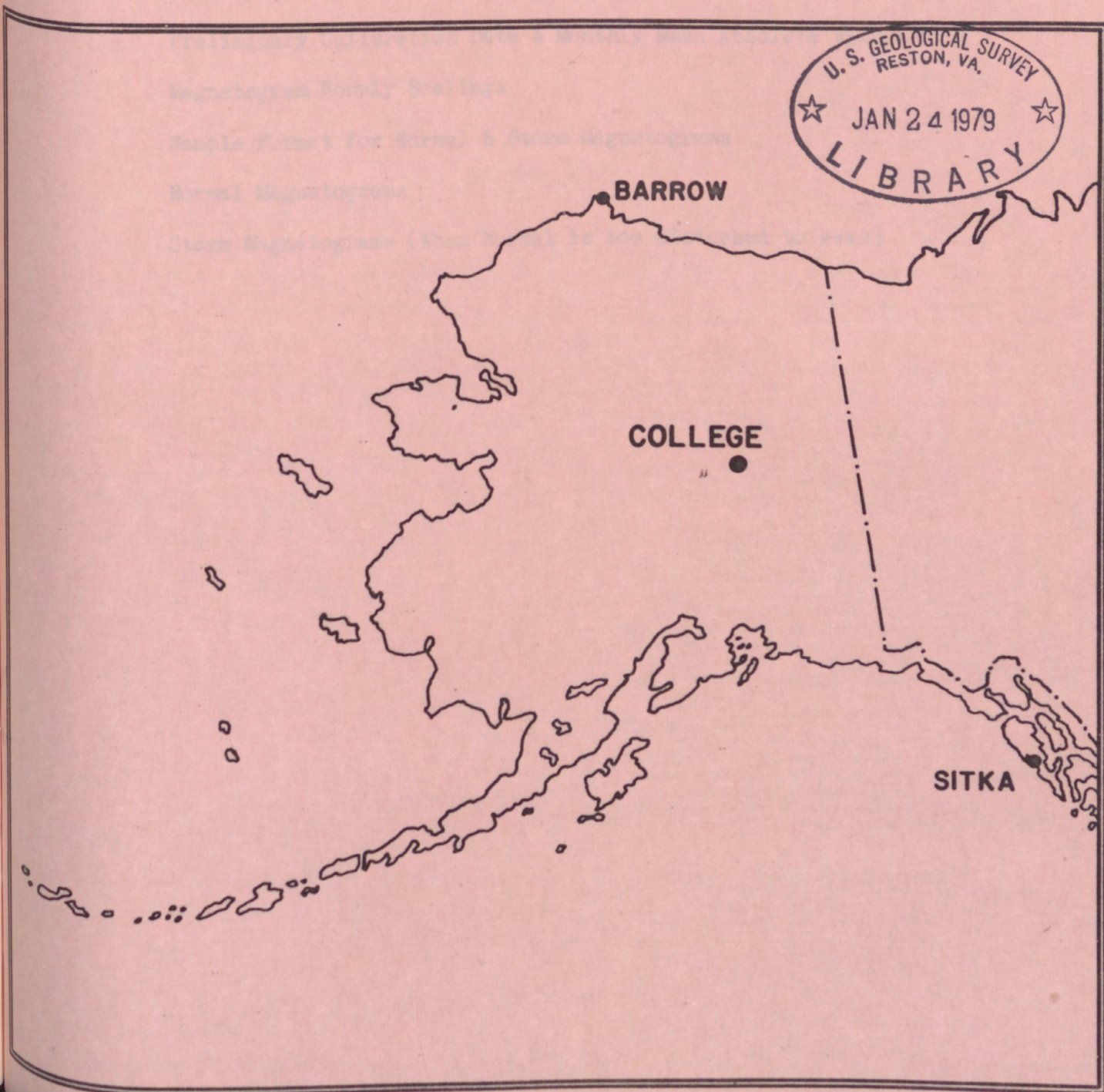
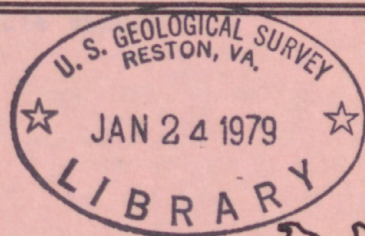
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

PRELIMINARY GEOMAGNETIC DATA
COLLEGE OBSERVATORY
FAIRBANKS, ALASKA

SEPTEMBER 1978

OPEN FILE REPORT 78-300I

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UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

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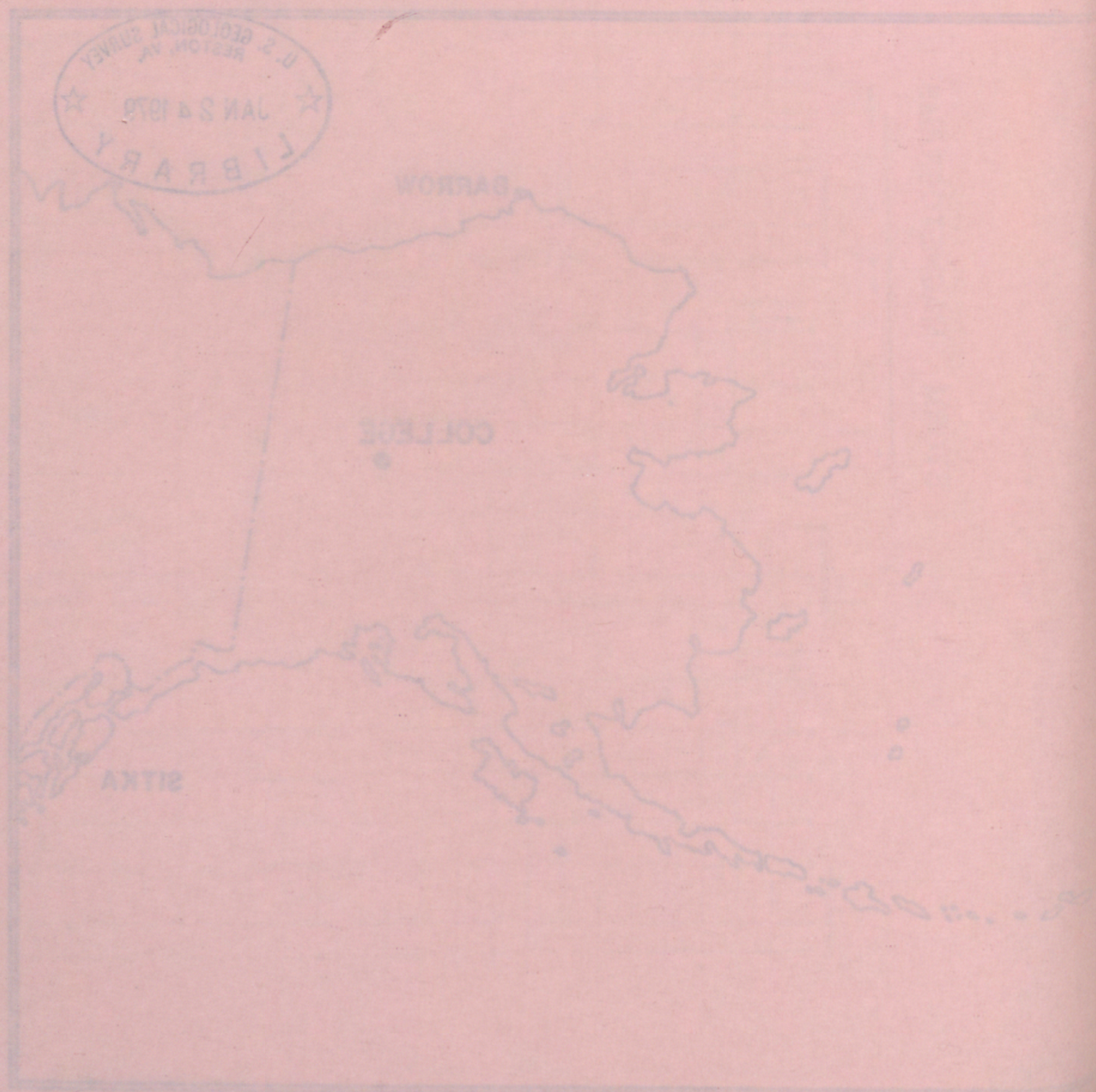
PRELIMINARY GEOMAGNETIC DATA

COLLEGE OBSERVATORY

FAIRBANKS, ALASKA

OPEN FILE REPORT 78-3001

SEPTEMBER 1978



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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. TOWNSHEND, CHIEF OF THE COLLEGE OBSERVATORY WITH THE ASSISTANCE OF OBSERVATORY STAFF MEMBERS J. E. PAPP, ASST. CHIEF, 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

SEPTEMBER 1978

DATE	K-INDICES								AK	TIME SCALE ON MAGNETOGRAMS
	00-03	03-06	06-09	09-12	12-15	15-18	18-21	21-24		
										20 mm/hr
1	3	3	5	6	5	3	3	2	30	SUDDEN COMMENCEMENTS d h m
2	3	3	5	6	5	2	3	2	29	
3	3	2	4	4	4	3	2	2	24	
4	1	1	3	4	3	3	1	1	17	
5	1	2	2	1	3	2	1	2	14	
6	2	4	7	7	4	2	1	0	27	
7	0	1	0	3	1	1	2	3	11	
8	5	5	4	3	0	1	2	1	21	
9	3	3	3	6	5	6	4	3	33	
10	4	2	1	3	4	2	1	1	18	
11	1	0	0	1	6	6	2	1	17	
12	2	2	5	5	4	4	3	2	27	
13	2	2	3	4	1	2	1	1	16	
14	3	1	0	0	0	0	0	0	04	
15	0	0	0	4	3	0	0	1	08	
16	1	1	2	0	1	1	1	1	08	POSSIBLE SOLAR-FLARE EFFECTS BASED ON INSPECTION OF GRAMS ALONE (WITHOUT REFERENCE TO DATA FROM OTHER SOURCES)
17	1	2	5	2	0	0	0	1	11	
18	0	0	0	0	2	0	1	0	03	
19	0	0	0	0	0	0	0	0	00	
20	0	0	0	0	0	0	1	1	02	
21	1	4	3	1	2	2	0	1	14	
22	1	1	5	3	5	4	4	1	24	
23	1	1	3	4	4	3	2	1	19	
24	2	2	3	0	2	2	2	3	16	
25	2	4	5	7	5	6	4	3	36	
26	3	4	8	6	4	6	3	4	38	BEGIN d h m END d h m
27	5	4	5	5	4	6	5	5	39	
28	5	4	6	7	6	4	4	5	41	
29	4	5	8	8	7	7	4	2	45	
30	2	4	5	5	2	2	2	1	23	
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
SEPTEMBER

YEAR
1978

DATE	TIME U.T.	NATURE OF PHENOMENON ¹	REMARKS
5	23XX	Pg	
10	0103	Si	
10	20XX	Pc4	
29	0300	Si	

IDENTIFIED BY: JBT

VERIFIED BY:

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

NOAA FORM 86-500
(11/73)

PRINCIPAL MAGNETIC STORMS

Data from Individual Observatories:

COLLEGE OBSERVATORY, COLLEGE, ALASKA

SEPTEMBER

19 78

WDC-A FOR SOLAR-TERRESTRIAL PHYSICS
ENVIRONMENTAL DATA SERVICE, NOAA
BOULDER, COLORADO 80302 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	25	05XX	sc	26	3	8	354	2430	2010	29 20
								29	3,4	8				

SEPTEMBER

1978

NORMAL MAGNETOGRAPH

COMPONENT	PERIOD		CALIBRATION		
	FROM	TO	SCALE VALUE		BASLINE
D	0000 U.T., 9-1-78	2400 U.T., 9-30-78	1.0/mm	3.88/mm	27° 47.2 E
H	0000 U.T., 9-1-78	2400 U.T., 9-30-78	7.88/mm		127748
Z	0000 U.T., 9-1-78	2400 U.T., 9-30-78	7.88/mm		55117

STORM MAGNETOGRAPH

COMPONENT	PERIOD		CALIBRATION		
	FROM	TO	SCALE VALUE		BASLINE
D	0000 U.T., 9-1-78	2400 U.T., 9-30-78	7.9/mm	29.78/mm	24° 18.4 E
H	0000 U.T., 9-1-78	2400 U.T., 9-30-78	44.18/mm		115288
Z	0000 U.T., 9-1-78	2400 U.T., 9-30-78	48.88/mm		540208

RAPID RUN MAGNETOGRAPH

COMPONENT	PERIOD		CALIBRATION	
	FROM	TO	SCALE VALUE	
D				
H	DISCONTINUED OPERATION 4-1-78			
Z				

MONTHLY MEAN ABSOLUTE VALUES*

D	H	Z
28° 14.6 E	130348	553848

* COMPUTED FROM TEN QUIETEST DAYS DURING MONTH.

DAYS USED: SEP 5, 7, 14, 15, 16, 18, 19, 20, 21, 24

MAGNETOGRAM HOURLY SCALINGS
(UNIVERSAL TIME)U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATIONOBSY. YEAR MONTH ELEMENT
CO 78 SEP DValues are in tenths of mm. and are averages for successive periods of one hour beginning at midnight, Hour 01 of local day (1500 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	Ten	Q	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	SUM		
					01	206	199	241	223	299	282	261	408	290	270	246	119*	01	270*	264	374	391	403	411	388	354	309	239	220	217	6884
					02	220	218	221	258	267	229	212	533	188	214	231	184	02	245	292	287	330	383	397	318	208	153	120	139	179	6026
					03	188	219	253	243	298	319	331	262	90*	231	326	228	03	278	289	331	361	380	380	373	320	301	160	197	209	6567
					04	209	231	240	261	320	291	270	301	346	250	271	258	04	249	274	298	328	421	423	378	318	258	212	199	211	6817
					05	203	227	239	250	266	307	330	240	245	270	269	259	05	278	269	261	338	372	379	340	323	258	228	207	242	6600
					06	192	180	188	201	210	183	167	109	193*	98*	231	281	06	313	367	271	313	367	373	360	320	276	235	216	211	5855
					07	222	244	250	250	255	259	250	253	250	252	289	259	07	276	290	312	320	351	380	373	331	288	250	209	270	6674
					08	270	248	152	188	168	222	246	172	372	181	261	260	08	280	291	307	338	361	370	354	321	318	289	264	269	6502
					09	270	251	250	206	222	198	190	198	293	415	298	281	09	291	357	334	273*	678*	493	342	280	266	200	260	238	7084
					10	271	269	247	236	221	222	234	241	239	241	249	265	10	289	351	370	373	391	371	351	336	312	290	269	259	6897
					11	251	259	259	261	258	259	261	268	271	267	278	278	11	371	420	583*	741*	435	339	331	302	217	199	210	252	7570
					12	260	222	248	217	238	244	228	279	347	334	238	279	12	343	298	329	389	419	372	342	267	237	180	240	241	6791
					13	239	229	228	241	240	227	230	235	262	207	241	261	13	286	298	311	340	369	361	309	312	280	257	228	214	6405
					14	226	166	228	230	251	254	248	269	254	269	279	281	14	281	288	299	312	340	349	331	311	278	272	241	231	6488
					15	240	244	243	249	253	257	262	253	260	290	279	300	15	299	292	313	339	348	359	349	336	312	298	269	253	6897
					16	230	231	236	224	188	203	202	253	282	263	270	279	16	289	291	310	342	370	378	370	340	304	287	232	212	6586
					17	220	236	237	232	190	200	207	181	75*	267	257	270	17	301	292	318	347	356	363	349	330	292	262	249	238	6269
					18	240	247	248	242	250	260	268	269	270	270	270	281	18	288	308	311	331	358	368	383	350	318	291	265	256	6942
					19	253	259	249	241	242	250	259	269	269	270	276	280	19	289	291	299	320	337	343	338	320	297	269	260	249	6729
					20	237	231	230	237	241	250	257	261	259	267	277	278	20	287	297	305	322	337	343	350	361	336	269	182	213	6627
					21	235	242	228	209	194	151	210	239	238	248	261	290	21	322	307	311	310	330	307	320	313	281	261	253	250	6310
					22	241	242	242	230	241	238	248	238	318	277	280	287	22	331	449	533	521	369	350	289	201	237	188	230	228	7008
					23	256	258	252	240	229	240	221	247	221	248	251	339	23	351	341	292	358	351	322	310	240	277	227	271	260	6602
					24	253	261	241	250	271	270	218	224	248	240	248	260	24	281	278	279	341	361	397	374	324	332	307	291	182	6731
					25	187	207	203	221	220	243	69	3*	243*	81	13*	196*	25	178*	245	336	417	667	662*	284	262	217	209	229	192	4880
					26	232	240	218	192	181	280	161	39	132*	100*	161	360*	26	291	347	376	503*	645*	415*	411	350	312	162	191	252	6107
					27	247	286	231	189	201	328	229	238	156*	116*	37*	464*	27	379	332	371	391	448	514	336*	234	238	166	288	329	6130
					28	265	213	199	242	332	321	248*	59*	186*	122*	328*	233*	28	534*	353*	245	316	388	378	386	320	313	343	224	250	6748
					29	206	231	251	365	379	326	186*	248*	51*	648*	13*	98*	29	384*	368*	400*	209*	353*	431*	162	277	258	220	247	264	5273
					30	279	273	267	273	264	336	312	256	142	201	260	279	30	284	291	302	321	340	351	352	321	289	267	261	267	6790
					31													31													

SCALED

BY

SPT

CHECKED

BY

SEP, 387

SIGNS RE-

VIEWED BY

JBT

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 Mgph., converted to Normal Mgph.

[] 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

195789

MONTHLY MEAN

272

DATES WITH GAPS:

MAGNETOGRAM HOURLY SCALINGS
(UNIVERSAL TIME)U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATIONOBSY. YEAR MONTH ELE-
CO 78 SEP HValues are in tenths of mm. and are averages for successive periods of one hour beginning at midnight. Hour 01 of local day (1500 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	1/2 hr.	01	02	03	04	05	06	07	08	09	10	11	12	1/2 hr.	13	14	15	16	17	18	19	20	21	22	23	24	SUM
				340	397	369	386	417	360	390	360	382	305	48	-94*	01	-122*	171	173	269	340	339	319	286	281	290	313	380	6649
				361	326	351	339	338	383	444	279	374	419	334	3	02	-34	201	271	329	340	317	221	205	250	280	301	336	6968
				339	341	340	382	376	369	439	421	414	357	251	129	03	160	233	198	261	336	335	307	302	299	298	320	308	7515
				330	310	331	346	340	349	350	371	329	356	331	181	04	283	328	291	224	250	290	286	290	291	298	298	311	7364
				319	319	327	328	324	333	344	361	352	339	338	335	05	309	269	221	300	313	321	320	310	317	310	320	326	7655
				319	340	356	361	360	469	486	424	-258*	26*	259	224	06	174	124	334	369	340	338	321	318	310	310	309	311	6924
				320	322	330	336	334	329	330	331	339	350	339	370	07	336	330	321	299	310	308	294	296	299	301	303	381	7808
				397	443	650	798	624	548	360	324	169	376	340	336	08	341	341	342	330	324	314	310	311	315	321	318	316	9248
				303	314	323	349	340	357	397	450	389	-77*	-89*	-77*	09	-34	115	141	-316*	-59	-3	296	331	322	320	330	354	4782
				343	349	341	323	330	336	339	343	363	369	364	380	10	280	213	351	342	321	322	309	316	315	314	301	306	7870
				307	315	311	323	330	336	333	340	341	356	351	353	11	261	67	-366*	-270*	261	363	340	283	290	316	319	318	6178
				320	359	330	336	344	350	370	374	221	-93	70	213	12	171	200	21	153	271	291	220	289	309	313	336	346	6114
				329	339	357	327	324	361	369	361	384	239	384	350	13	339	334	319	309	295	303	320	306	301	300	310	318	7878
				321	397	319	321	330	339	336	336	340	340	347	347	14	344	331	332	330	329	321	310	304	309	310	309	313	7915
				316	320	326	330	331	340	340	339	339	347	355	287	15	341	351	340	340	336	330	320	316	315	311	323	329	7922
				319	321	329	347	368	367	401	369	339	340	341	341	16	389	340	331	330	323	313	310	310	316	314	304	319	8031
				324	329	339	349	379	389	419	433	132*	371	356	341	17	340	344	337	332	330	320	319	319	320	314	315	317	8068
				330	339	336	340	339	340	340	340	340	341	341	346	18	324	359	341	340	330	323	307	307	310	311	316	319	7959
				319	323	329	337	341	342	345	344	342	342	342	342	19	343	342	343	339	337	333	318	308	308	309	311	320	7959
				330	329	329	329	339	346	341	343	344	345	344	345	20	346	347	350	353	351	344	333	321	306	299	300	314	8028
				323	326	331	356	415	576	463	377	346	344	338	328	21	313	348	347	340	311	336	332	320	316	317	320	314	8437
				323	331	321	339	336	349	351	389	214	381	357	310	22	170	-55	24	36	214	97	179	300	323	333	340	329	6291
				320	324	327	341	349	367	381	360	403	363	310	241	23	183	180	346	290	270	221	316	316	331	341	341	343	7564
				346	340	353	331	377	411	471	454	349	330	339	331	24	340	330	293	291	299	303	337	336	311	320	271	279	8142
				337	352	370	399	442	512	841	850	888	575	-416*	-156*	25	-1	140	82	169	-21*	-31*	343	233	301	340	328	339	7216
				343	345	379	419	541	570	603	280*	-632*	275*	421	137	26	369	366	139	-258*	-366*	266	283	219	243	263	369	370	5944
				458	568	367	398	503	487	485	399	315	82*	-111*	124	27	160	208	123	255	140	-89*	14	145	-11	228	399	567	6214
				374	337	396	469	491	451	201*	144*	167*	36*	19*	-37*	28	-82*	-303*	198	349	342	271	237	296	289	263	297	423	5294
				411	329	340	474	396	513*	508*	-576*	-162*	-501*	-117*	139*	29	-496*	-21*	-89*	-609*	126	-195*	299	386	340	336	320	329	2480
				337	339	336	369	333	391	370	384	56	270	331	311	30	340	321	307	324	317	317	309	300	318	323	328	320	7681
																31													

SCALED BY	SPT	Preliminary base-line and scale values:		() Interpolated	[] Scaling uncertain because of magnetic storm.	MONTHLY SUM	214098
CHECKED BY	SEP, JBT	Interval Beginning	Base-line Value	Scale Value	[] Significant portion of hour interpolated.	MONTHLY MEAN	297
SIGNS REVIEWED BY	JBT			[] No record; or no values available because of faulty record.	<> Record off sheet for part or all of hour; if value is given, curve was estimated for missing part.	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 ADMINISTRATION

OBSY. YEAR MONTH ELEMENT

Values 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.

CO 78 SEP Z

C	Q or 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	383	383	411	417	450	410	367	144	206	221	326	538*	01	447	210	303	339	358	380	382	354	349	357	384	400	8519
				02	387	383	385	400	390	380	361	226	242	347	360	298	02	167	240	341	371	373	361	320	269	303	335	367	384	7990
				03	391	399	396	394	389	403	377	272	198	354	261	200	03	253	287	327	350	369	380	369	353	370	349	369	375	8185
				04	376	379	369	384	408	379	381	390	308	356	342	230	04	241	327	342	332	287	294	309	323	340	358	366	371	8192
				05	377	378	370	377	382	389	367	361	372	356	339	340	05	339	329	303	311	321	323	337	356	337	344	351	367	8426
				06	370	378	387	397	387	351	191	170	373*	480*	431	456	06	480	449	338	366	370	368	361	351	349	350	353	360	8866
				07	363	366	360	361	367	361	351	351	350	358	296	330	07	347	350	358	351	340	333	348	343	342	344	347	368	8385
				08	390	440	332	261	257	262	347	251	219	300	357	347	08	341	352	358	363	361	361	359	351	350	341	346	354	8000
				09	360	359	357	343	344	346	360	329	274	186	381	657	09	519	581	558	493*	253*	53	127	274	357	355	377	378	8621
				10	390	370	359	352	349	351	356	356	359	362	360	330	10	360	302	311	351	336	341	344	341	347	353	353	356	8389
				11	358	358	358	359	350	347	349	349	349	344	350	334	11	262	282	443*	77*	101	239	310	334	323	350	359	366	7651
				12	353	360	381	373	371	367	358	376	251	301	464	411	12	436	450	448	301	272	290	281	276	300	298	342	356	8416
				13	359	360	371	370	356	360	376	360	341	147	338	361	13	356	351	349	328	300	301	299	328	336	341	340	349	8077
				14	350	329	359	349	351	348	349	350	348	350	350	343	14	342	342	348	348	346	337	347	342	340	347	347	348	8310
				15	350	350	348	349	349	347	348	348	350	339	340	298	15	280	324	341	349	349	350	350	347	347	346	344	347	8190
				16	342	342	342	338	359	388	402	412	368	349	349	349	16	348	341	346	351	350	338	326	328	327	336	334	333	8398
				17	339	340	339	340	352	402	380	324	207	321	359	353	17	348	350	350	350	349	347	345	343	340	339	340	339	8196
				18	336	335	337	340	341	340	340	340	340	340	342	339	18	318	333	340	341	343	339	341	336	330	330	330	330	8081
				19	330	330	331	336	340	340	340	340	339	338	339	338	19	335	334	337	339	336	335	338	334	330	329	338	335	8061
				20	330	329	330	330	332	335	336	338	339	342	342	340	20	338	336	330	333	332	332	330	330	327	318	308	318	7955
				21	324	330	326	339	380	371	433	391	368	356	351	348	21	324	339	340	340	332	316	330	330	330	333	335	335	8311
				22	337	349	349	343	350	344	363	366	201	302	340	324	22	294	371	280	219	259	237	124	220	311	328	354	368	7333
				23	370	358	354	359	367	390	374	380	371	346	342	345	23	360	347	320	339	304	361	270	281	312	344	380	390	8364
				24	378	381	380	380	409	403	423	426	400	370	369	360	24	350	347	328	321	300	271	269	300	314	328	320	309	8436
				25	312	337	354	410	420	451	324	251	123	104	215*	298	25	453	489	731	693	559	128*	135	220	261	316	358	367	8299
				26	356	356	361	386	370	175	123	130	279*	190*	320	618*	26	482	390	477	668*	386*	147	269	267	272	218	299	339	7878
				27	361	437	393	353	381	317	353	373	289	86	176	353	27	361	420	313	261	246	252	256	263	311	324	418	389	7686
				28	392	388	360	361	329	371	272*	278	323	493*	600*	732*	28	550*	486*	289	307	333	349	337	328	351	429	457	403	9518
				29	408	429	400	394	109	115*	152*	83*	178*	883*	757*	640*	29	1248*	1179*	1097*	832*	725*	537*	219	347	383	381	390	382	12278
				30	381	376	379	380	383	369	281	360	281	334	369	371	30	389	383	376	379	389	381	273	364	353	349	352	369	8741
				31													31													

SCALED BY
CHECKED BY
SIGNS RE-VIEWED BY
PURCHES BY

SPT

SEP, 38T

JBT

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 Mgh., converted to Normal Mgh.

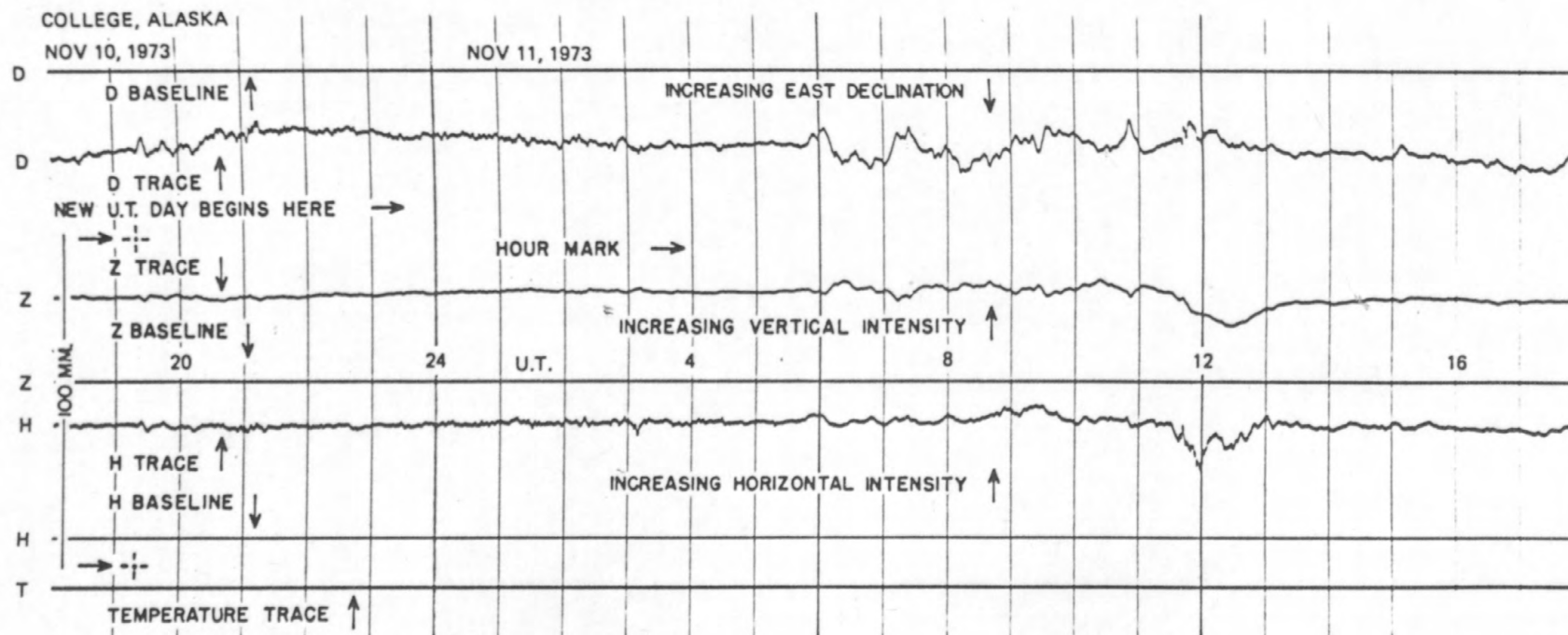
[] Scaling uncertain because
of magnetic storm.<> Record off sheet for part
or all of hour; if value is
given, curve was estimated
for missing part.

MONTHLY SUM 251752

MONTHLY MEAN 350

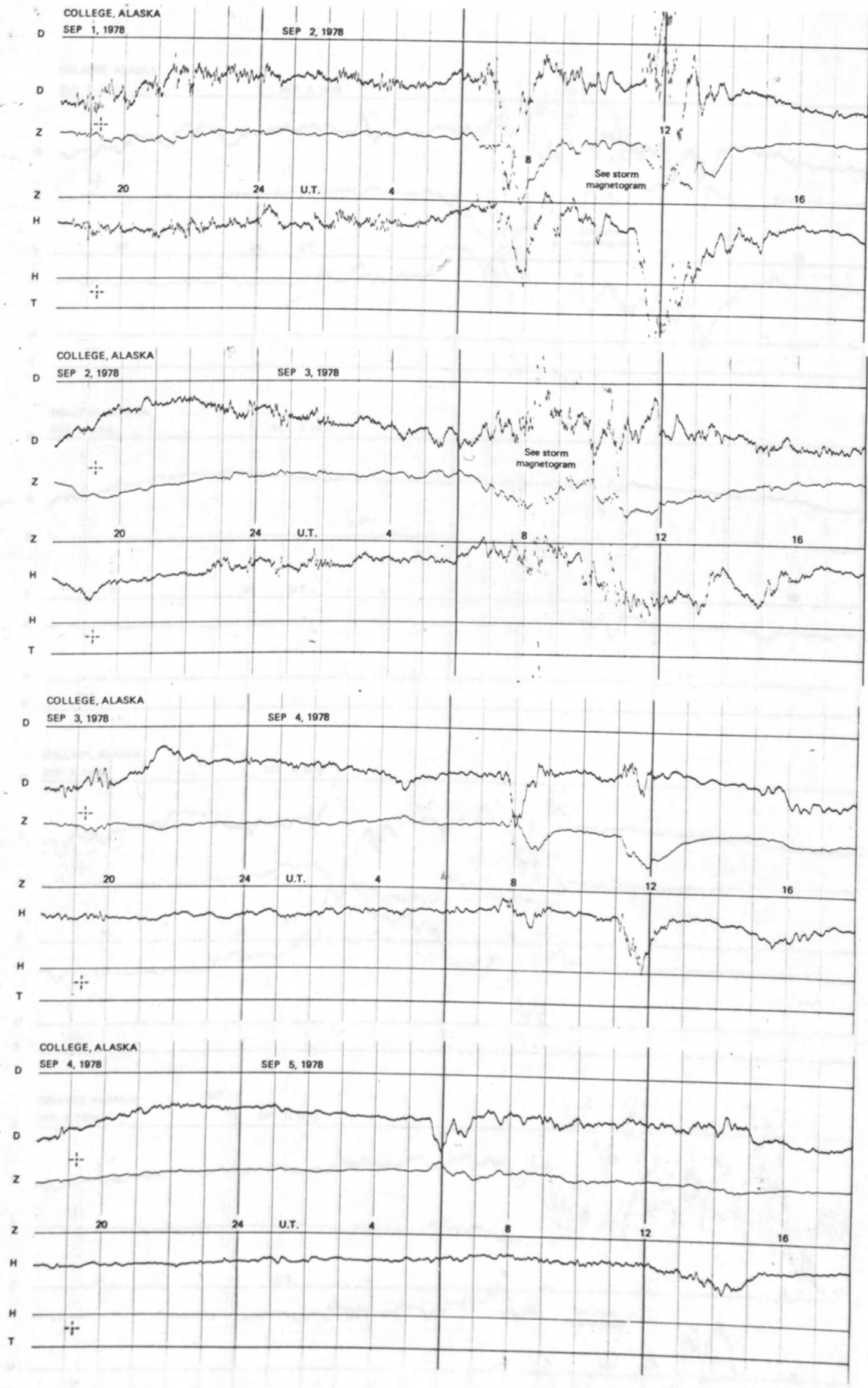
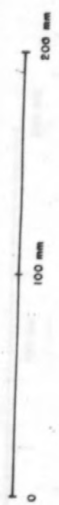
DATES WITH GAPS:

FORMAT FOR NORMAL & STORM MAGNETOGRAMS (SAMPLE ONLY)

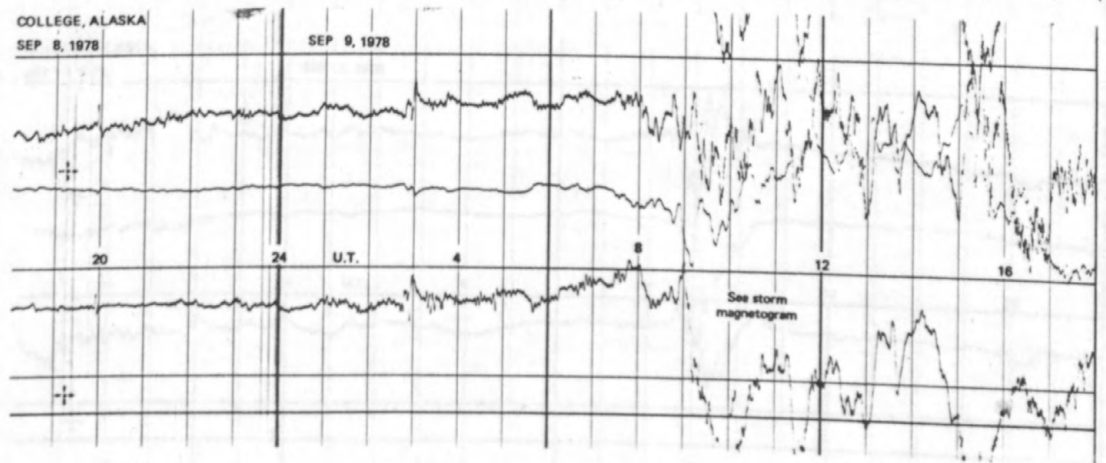
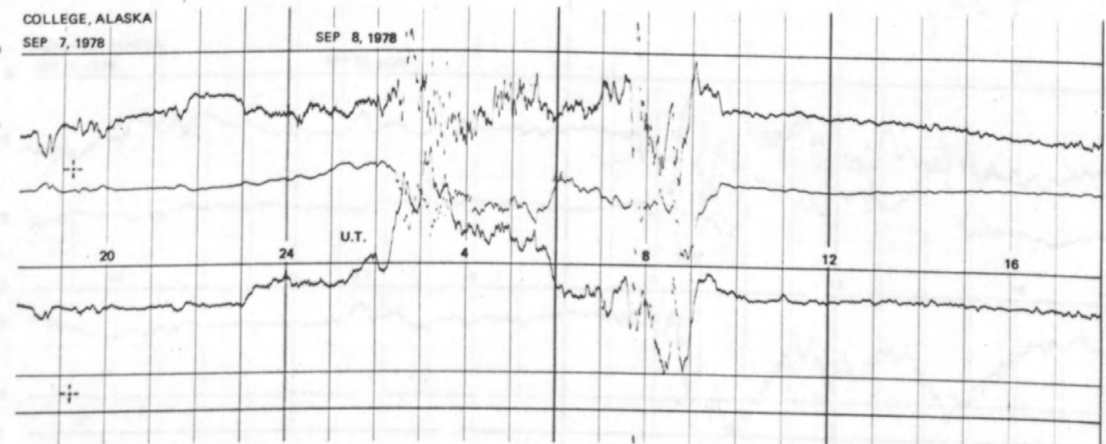
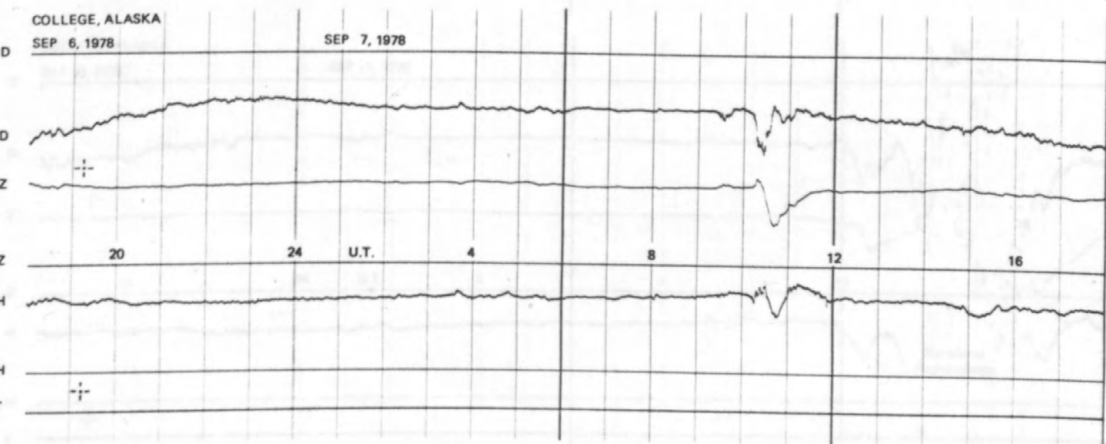
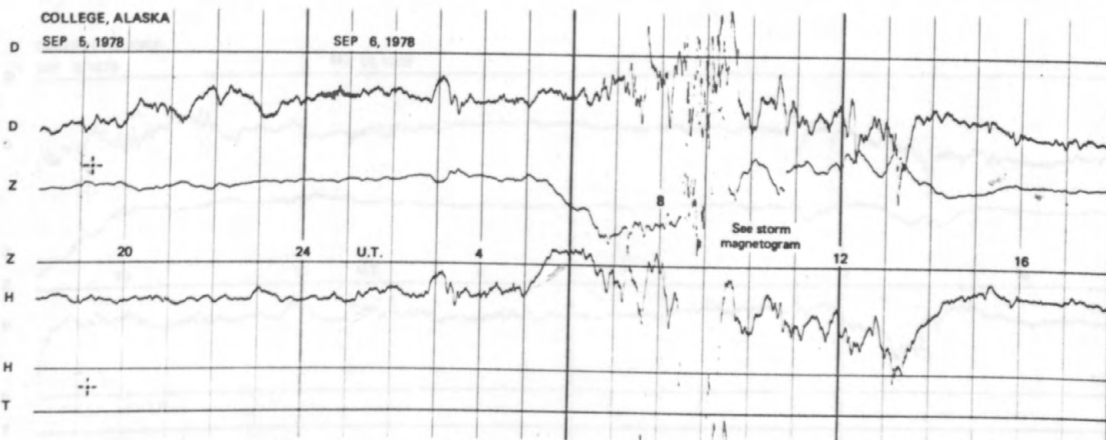


SEE PRELIMINARY CALIBRATION DATA FOR SCALE VALUES & BASELINE VALUES

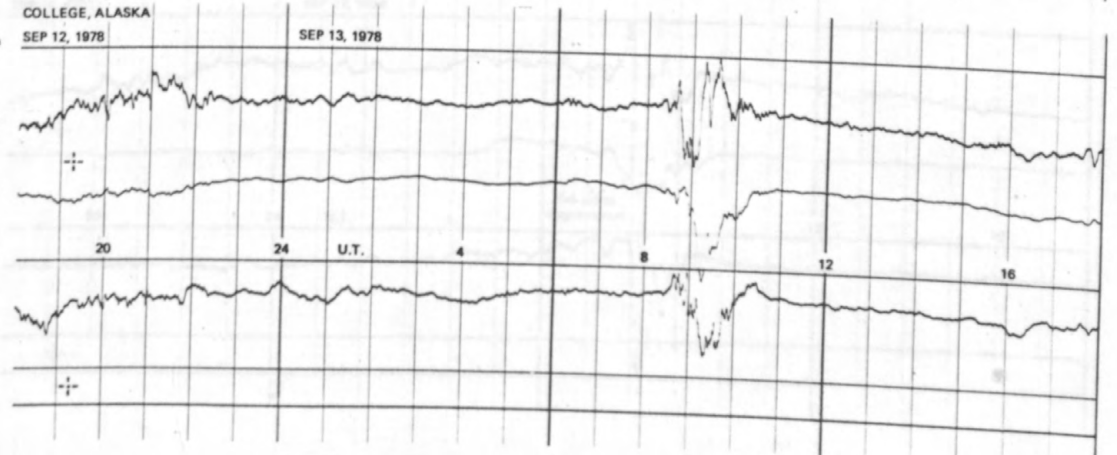
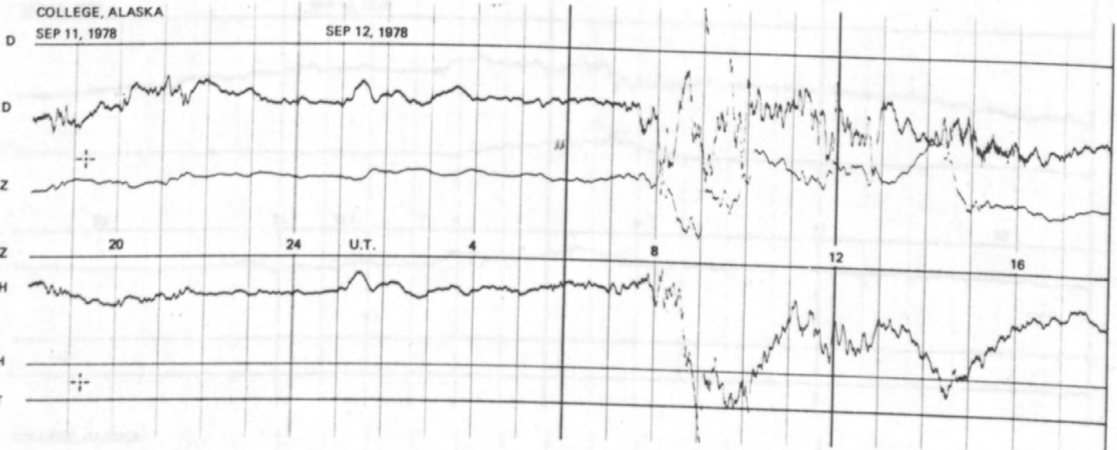
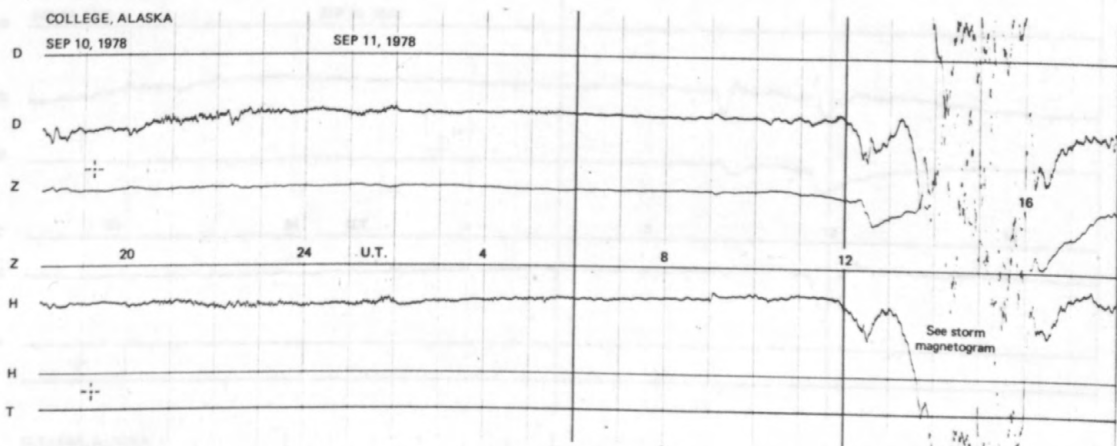
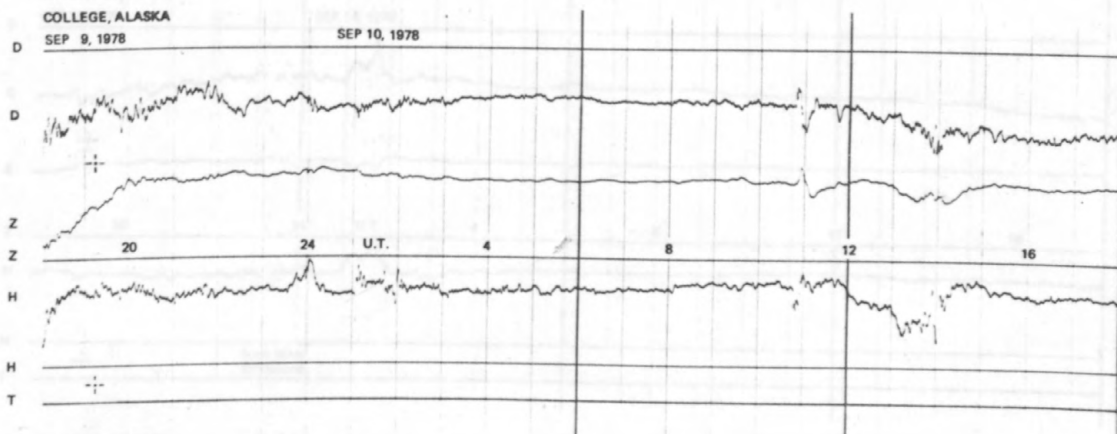
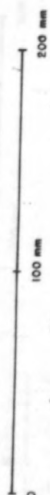
NORMAL MAGNETOGRAMS



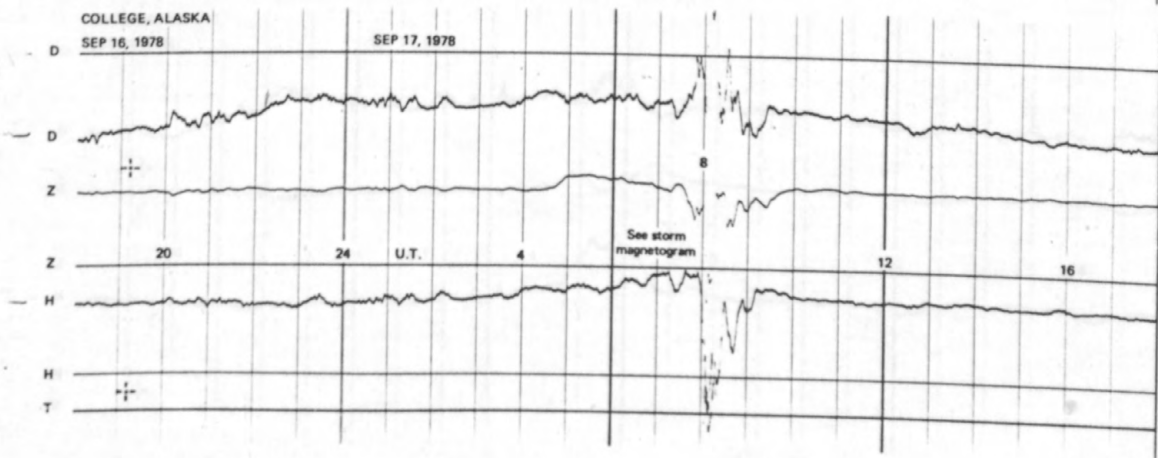
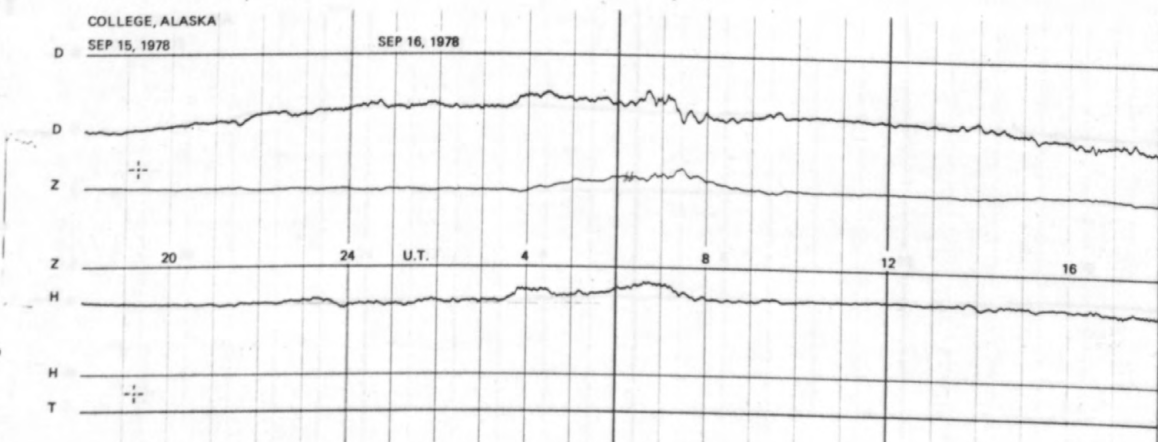
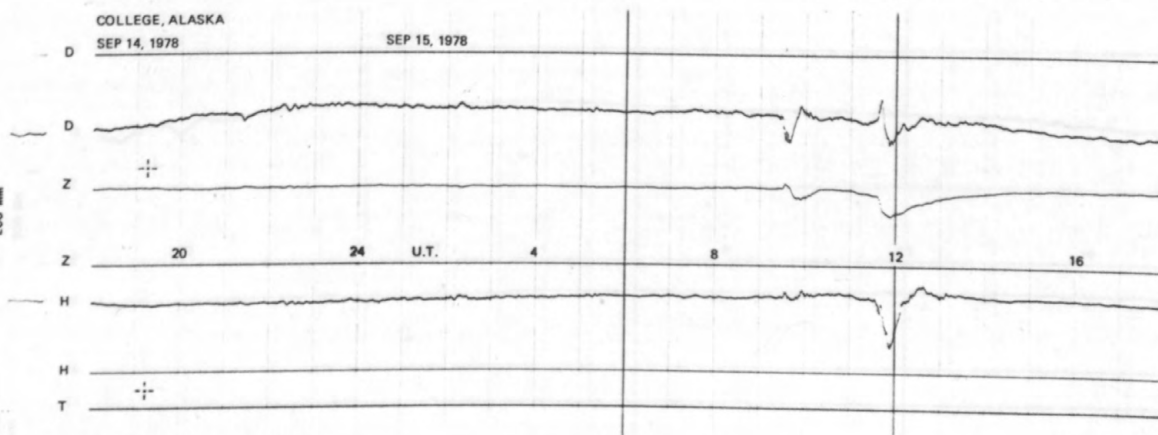
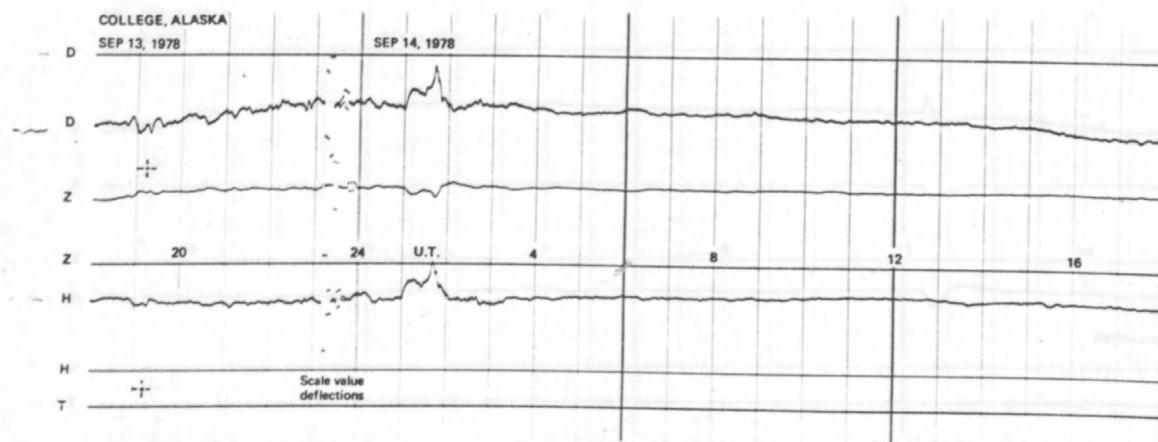
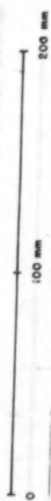
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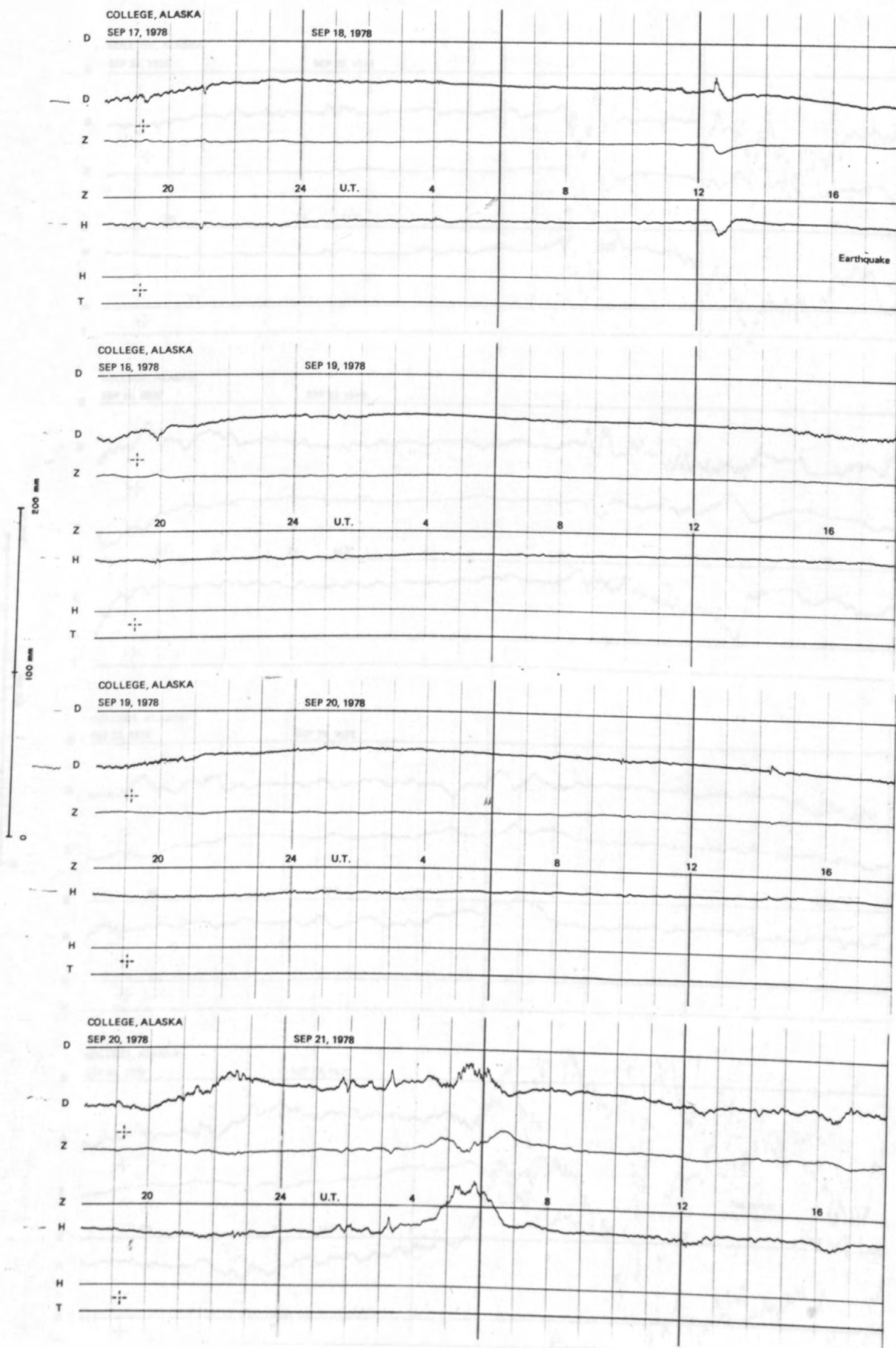
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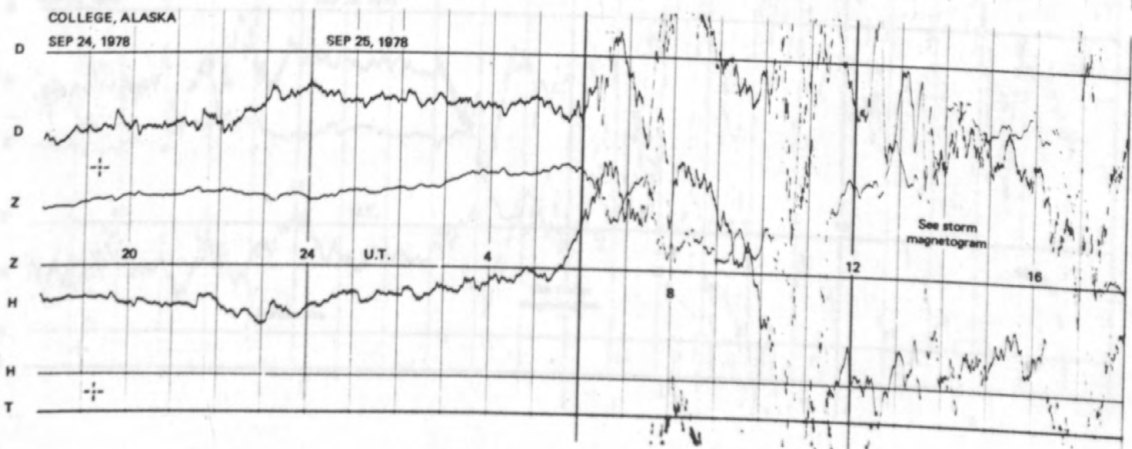
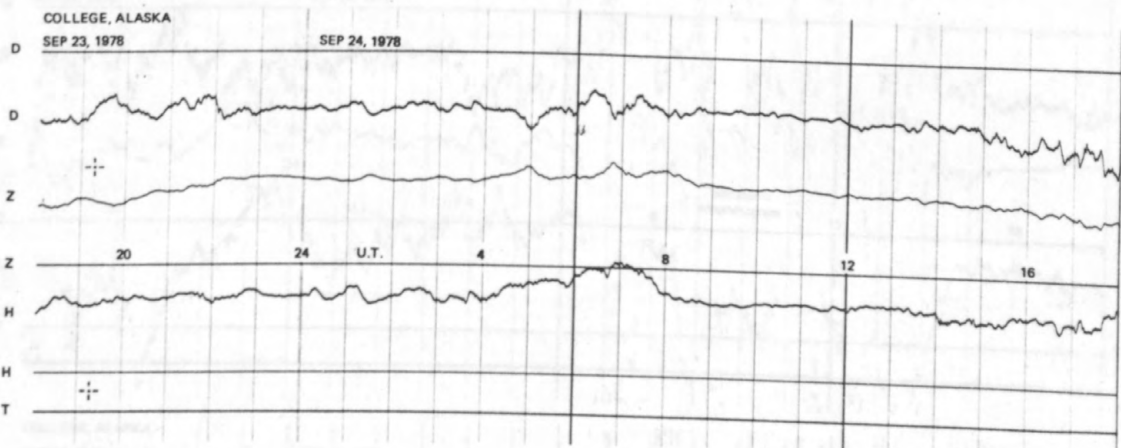
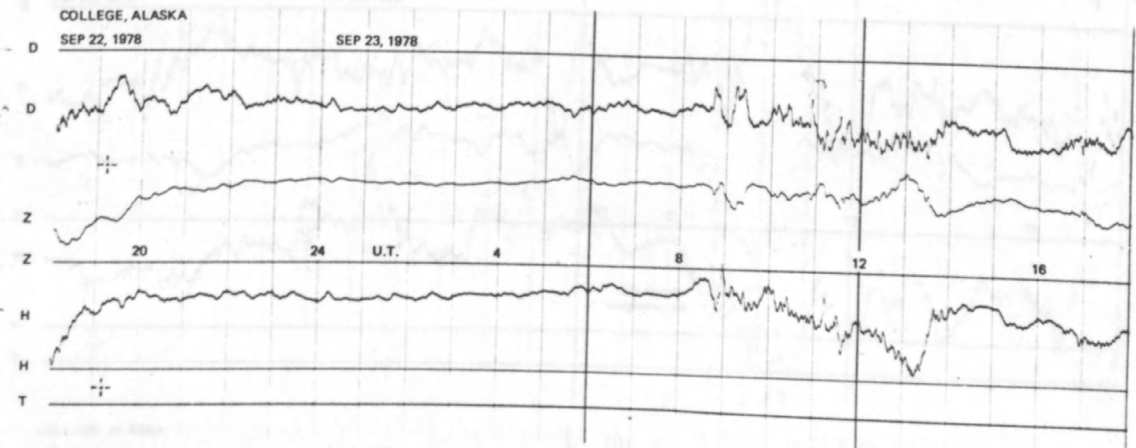
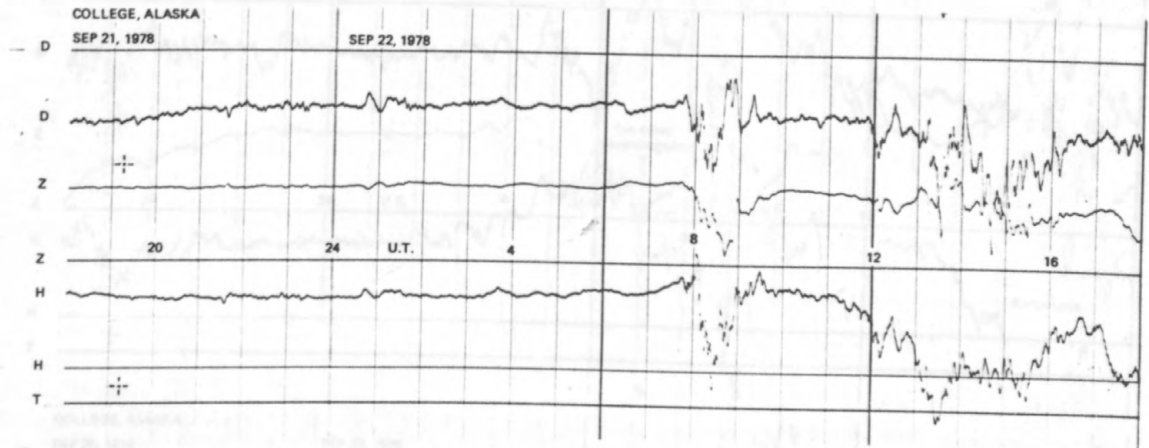
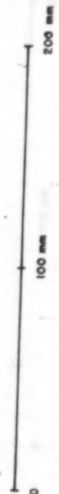
NORMAL MAGNETOGRAMS



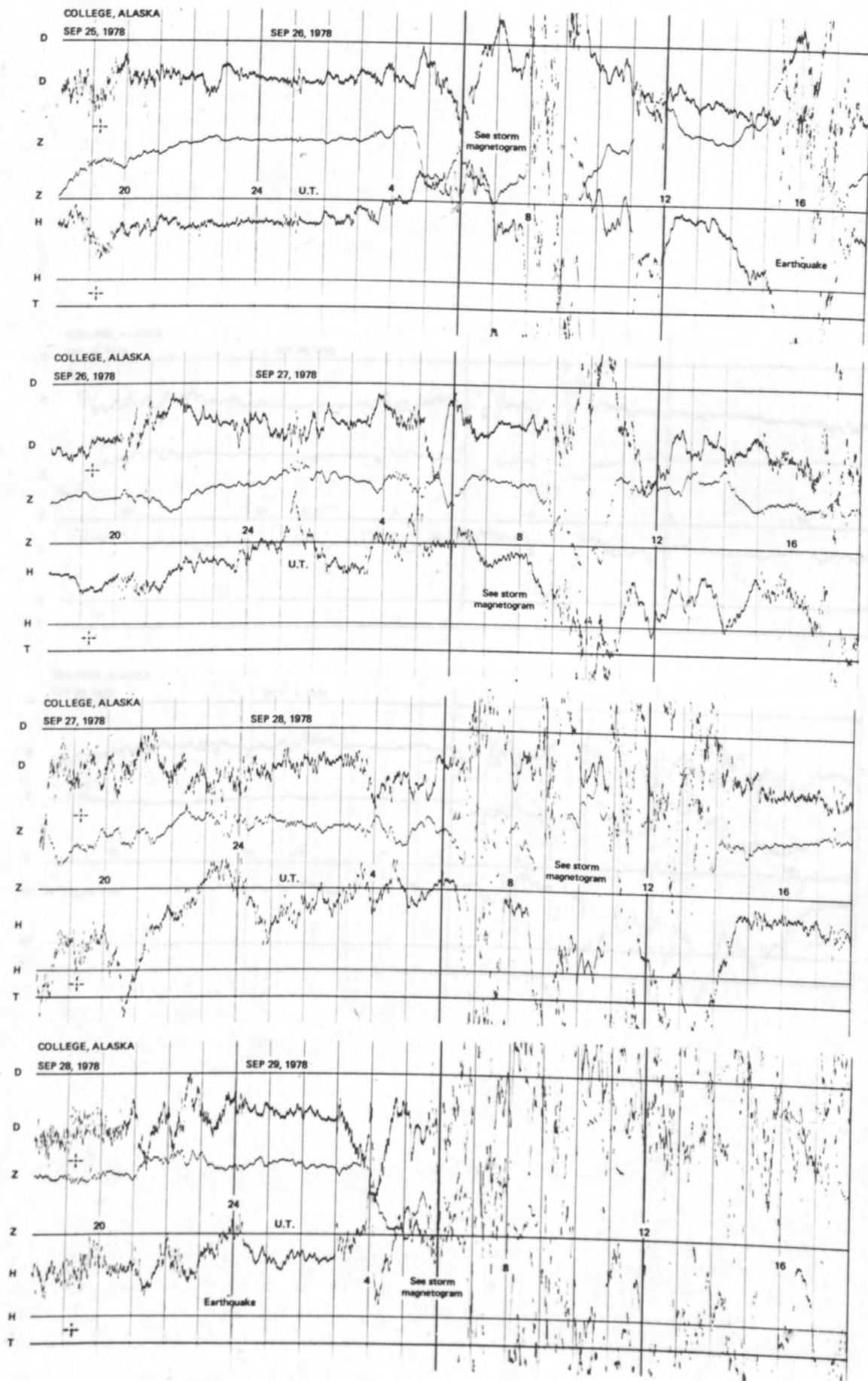
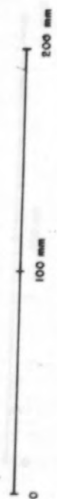
NORMAL MAGNETOGRAMS



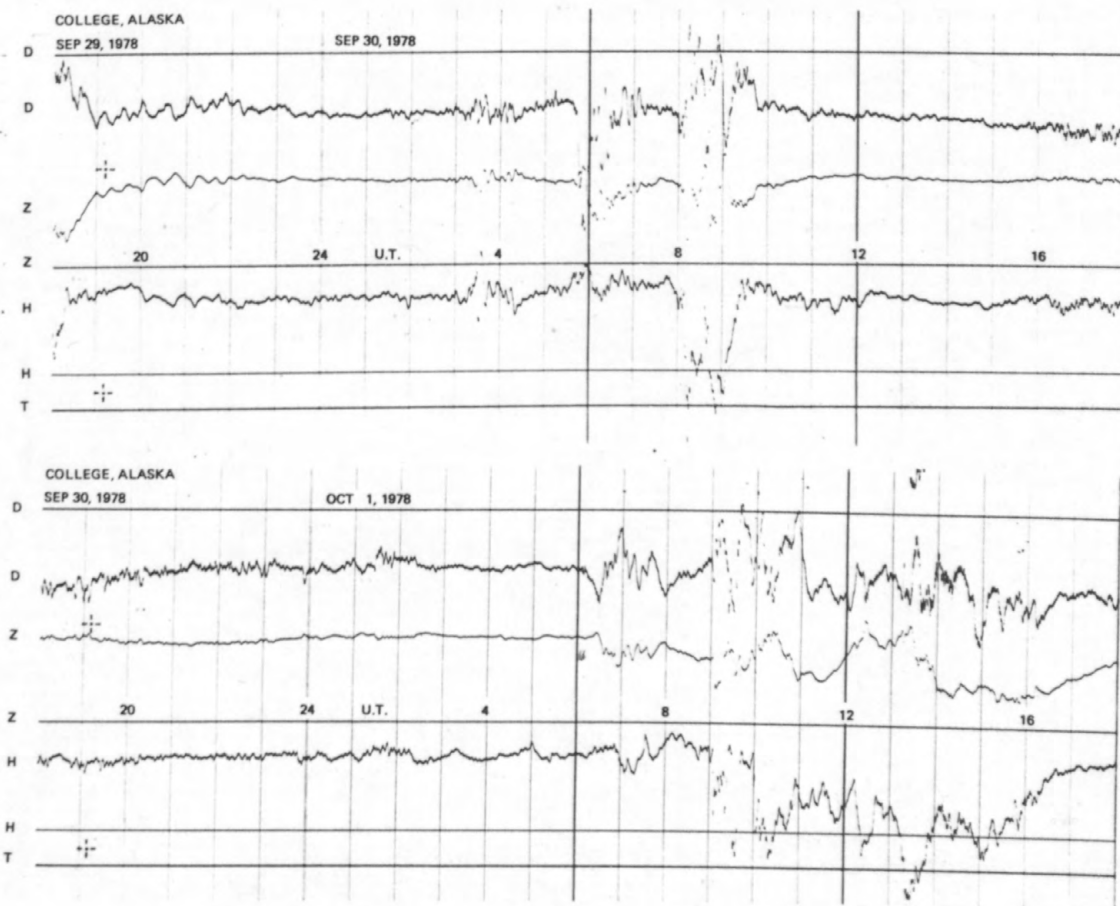
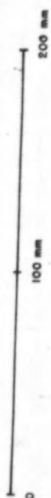
NORMAL MAGNETOGRAMS



NORMAL MAGNETOGRAMS



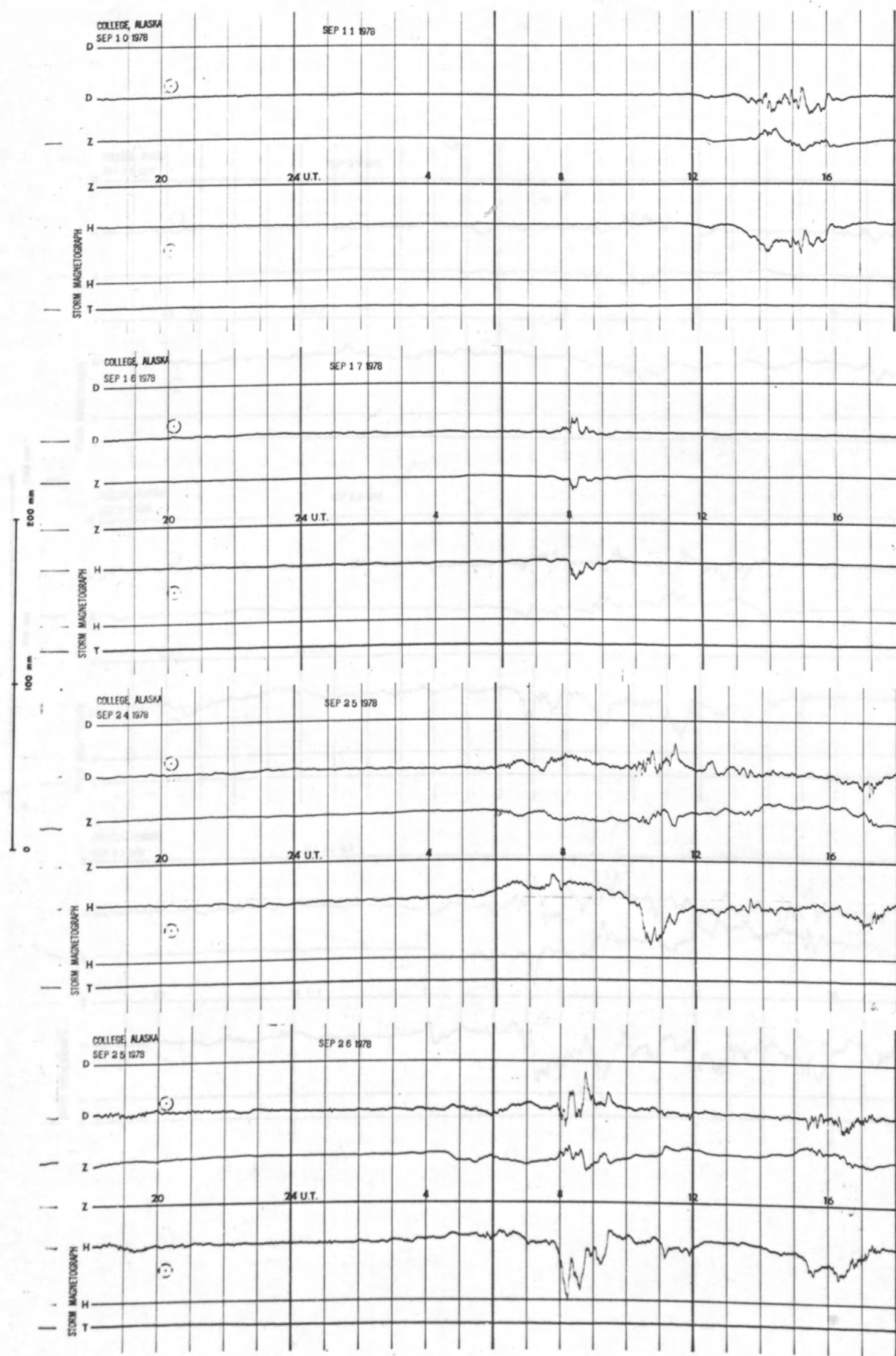
NORMAL MAGNETOGRAMS



STORM MAGNETOGRAMS



STORM MAGNETOGRAMS



STORM MAGNETOGRAMS

