

Solar activity reached high levels on 10 May due to an M5.7/2b flare (R2-Moderate) at 10/1339UTC from Region 4436 (N19, L=330, class/area=Dao/beta on 10 May), the strongest of the period. Associated with the event was a Type II radio sweep (est. 650 km/s), Tenflare (550sfu), and a CME signature first observed in coronagraph imagery at 10/1348UTC towards the NE. Analysis and modeling of the event is ongoing at the time of this writing.

Region 4424 (N17, L=192, class/area=Eai/160 on 30 Apr) also produced an M-class event with an M1.8 flare (R1-Minor) observed at 04/0133 UTC. The other 10 numbered active regions on this visible disk were either mostly quiet or only produced C-class activity during the past week

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit was at normal to moderate levels throughout the summary period.

Geomagnetic field activity reached G2 (Moderate) geomagnetic storm levels on 04 May and G1 (Minor) levels on 05 May due to influence from a passing CME. Total magnetic field strength only reached a peak of 11 nT during that time but Bz rotated as far southward as -10 nT and was sustained southward from late on 04 May through midday on 05 May. Despite the influence of a positive polarity coronal hole beginning late on 07 May, the mostly northward Bz component results in only quiet to unsettled conditions through the end of the reporting period.

Space Weather Outlook

11 May - 06 June 2026

Solar activity is expected to be at low levels, with a chance for M-class activity (R1/R2-Minor/Moderate), and a slight chance for X-class (R3-Strong), throughout the outlook period due to the flare potential of several active regions both currently on the visible disk and those expected to return from the Sun's farside.

No proton events are expected at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at high levels on 17-20 May due to influence from a recurrent, negative polarity coronal hole. The remainder of the outlook period is likely to be at normal to moderate levels.

Geomagnetic field activity is likely to reach G1 (Minor) geomagnetic storm levels over 15-17 May; active conditions are likely on 18 May, 23 May, 27 May, and 03 Jun; unsettled conditions are likely over 11 May, 13 May, 21-22 May, and 28 May - 31 May. All enhancements in geomagnetic activity are due to the anticipated influence of multiple, recurrent, coronal hole HSSs. The remainder of the outlook period is likely to be at mostly quiet levels.



Daily Solar Data

Date	Radio Flux 10.7cm	Sun spot No.	Sunspot Area (10 ⁻⁶ hemi.)	X-ray Background Flux	Flares							
					X-ray			Optical				
					C	M	X	S	1	2	3	4
04 May	138	143	825	B7.7	3	1	0	0	0	0	0	0
05 May	128	119	680	B7.0	6	0	0	0	0	0	0	0
06 May	120	105	660	B5.3	2	0	0	2	0	0	0	0
07 May	117	59	430	B6.7	4	1	0	4	1	0	0	0
08 May	120	75	480	B6.3	12	0	0	7	4	1	0	0
09 May	122	81	660	B6.9	17	0	0	9	0	0	0	0
10 May	126	89	810	B6.8	12	1	0	7	0	1	0	0

Daily Particle Data

Date	Proton Fluence (protons/cm ² -day -sr)		Electron Fluence (electrons/cm ² -day -sr)	
	>1 MeV	>10 MeV	>2MeV	
	04 May	5.6e+05	1.8e+04	2.0e+07
05 May	9.5e+05	1.8e+04	1.4e+07	
06 May	2.4e+06	1.8e+04	2.2e+07	
07 May	3.2e+06	1.8e+04	2.3e+07	
08 May	2.1e+06	1.8e+04	1.6e+07	
09 May	6.3e+05	1.8e+04	1.4e+07	
10 May	8.1e+05	1.8e+04	1.6e+07	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	04 May	16	2-3-2-3-3-4-0-4	26	2-2-2-4-3-6-5-3	26
05 May	11	4-3-3-1-2-2-2-1	15	5-4-4-2-1-1-1-0	12	5-3-2-1-1-1-2-1
06 May	4	1-1-1-1-2-2-1-1	0	0-0-0-0-0-0-1-0	3	1-1-1-1-1-1-1-1
07 May	6	0-0-0-1-2-3-3-2	4	1-1-1-0-0-3-2-1	7	1-1-0-1-1-3-3-2
08 May	12	2-2-2-3-4-3-1-3	12	2-1-1-3-4-4-2-1	12	3-2-2-3-3-3-2-3
09 May	5	2-2-1-2-2-1-1-1	6	2-2-1-4-1-1-0-0	5	2-1-1-2-1-1-1-1
10 May	4	0-1-2-1-2-1-2-1	4	0-1-1-3-0-1-1-1	2	0-1-2-1-1-1-2-1

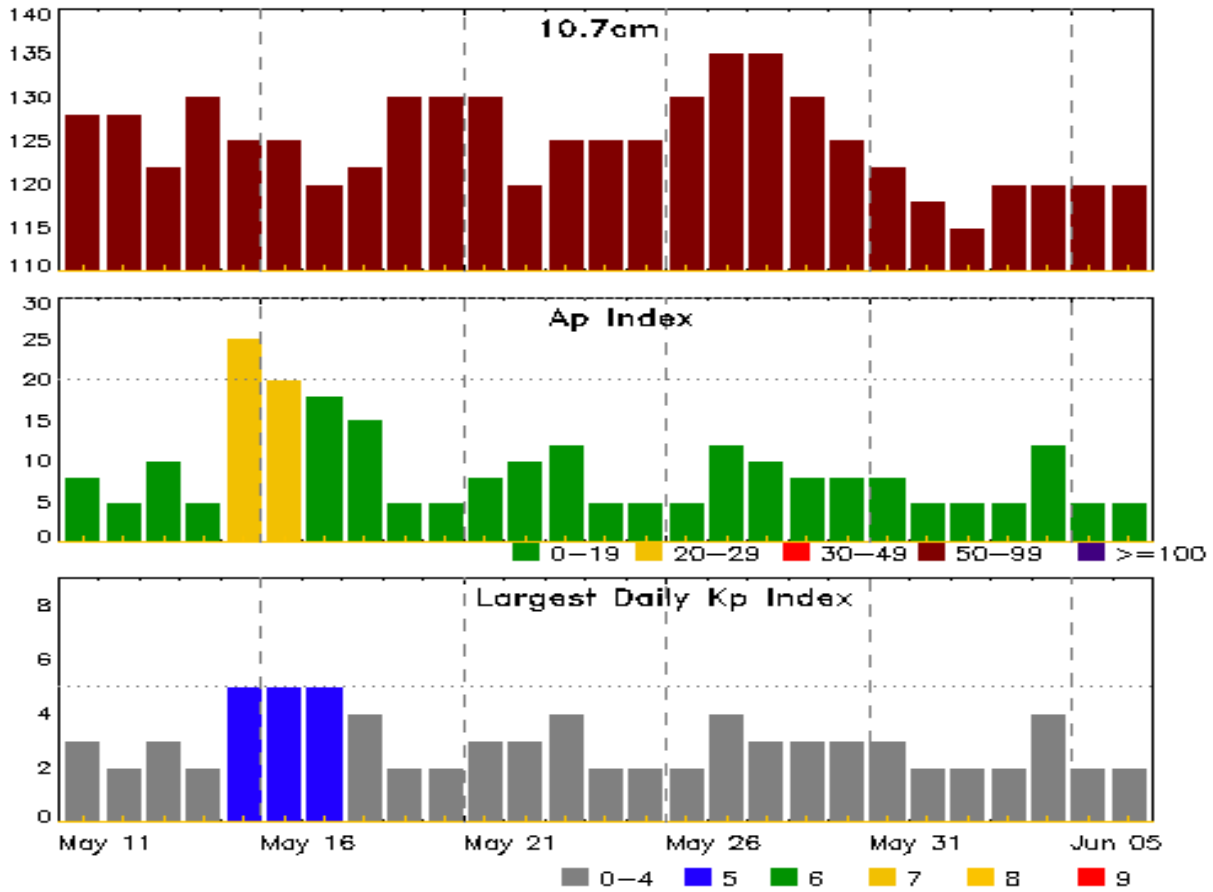


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
04 May 1649	WARNING: Geomagnetic K = 4	04/1645 - 05/0300
04 May 1649	ALERT: Geomagnetic K = 4	
04 May 1950	WARNING: Geomagnetic K = 5	04/1945 - 05/0000
04 May 1951	ALERT: Geomagnetic K = 5	
04 May 2031	WARNING: Geomagnetic K = 6	04/2031 - 05/0000
04 May 2032	ALERT: Geomagnetic K = 6	
04 May 2339	EXTENDED WARNING: Geomagnetic K = 4	04/1645 - 05/1200
04 May 2339	EXTENDED WARNING: Geomagnetic K = 5	04/1945 - 05/0900
04 May 2339	EXTENDED WARNING: Geomagnetic K = 6	04/2031 - 05/0600
04 May 2355	ALERT: Geomagnetic K = 5	
05 May 0249	ALERT: Geomagnetic K = 5	
07 May 1637	WARNING: Geomagnetic K = 4	07/1635 - 08/1500
08 May 1725	WARNING: Geomagnetic K = 4	08/1724 - 2359
10 May 1338	ALERT: X-ray Flux exceeded M5	10/1335
10 May 1347	ALERT: Type II Radio Emission	10/1329
10 May 1355	SUMMARY: 10cm Radio Burst	10/1328 - 1343
10 May 1414	SUMMARY: X-ray Event exceeded M5	10/1319 - 1402



Twenty-seven Day Outlook



Date	Radio Flux 10.7cm	Planetary A Index	Largest Kp Index	Date	Radio Flux 10.7cm	Planetary A Index	Largest Kp Index
11 May	128	8	3	25 May	125	5	2
12	128	5	2	26	130	5	2
13	122	10	3	27	135	12	4
14	130	5	2	28	135	10	3
15	125	25	5	29	130	8	3
16	125	20	5	30	125	8	3
17	120	18	5	31	122	8	3
18	122	15	4	01 Jun	118	5	2
19	130	5	2	02	115	5	2
20	130	5	2	03	120	5	2
21	130	8	3	04	120	12	4
22	120	10	3	05	120	5	2
23	125	12	4	06	120	5	2
24	125	5	2				



Energetic Events

Date	Time			X-ray	Optical Information			Peak		Sweep Freq		
	Begin	Max	Half	Class	Integ Flux	Imp/ Brtns	Location Lat CMD	Rgn #	Radio Flux		Intensity	
			Max						245	2695	II	IV
04 May	0113	0133	0144	M1.8	0.014				4424	100		
07 May	1420	1514	1540	M2.6	0.081							
10 May	1319	1339	1402	M5.7	0.085	2B	N19E62		4436	120	550	3

Flare List

Date	Time			X-ray Class	Imp/ Brtns	Optical		Rgn #
	Begin	Max	End			Location Lat CMD		
04 May	0113	0133	0144	M1.8				4424
04 May	1039	1051	1103	C1.2				4429
04 May	1133	1139	1142	C1.5				4425
04 May	2200	2206	2214	C1.5				4435
05 May	0419	0424	0430	C1.2				4433
05 May	0504	0512	0520	C1.3				4432
05 May	0521	0527	0537	C6.0				4424
05 May	0818	0827	0830	C1.1				4425
05 May	1409	1412	1415	C1.8				4425
05 May	1459	1509	1512	C1.2				4431
05 May	2000	2007	2012	B7.8				4429
06 May	0433	0446	0457	C1.0				4431
06 May	1637	1637	1641		SF	S17W18		4431
06 May	1719	1724	1729	C1.4	SF	S04W44		4429
07 May	0128	0215	0308	C4.5				
07 May	1035	1045	1053	C2.3				4431
07 May	1253	1259	1303	C1.5	SF	S18E21		4433
07 May	1341	1343	1346		SF	S13W26		4431
07 May	1420	1514	1540	M2.6				
07 May	1744	1757	1813	C6.0	1N	S17E19		4433
07 May	1750	1750	1755		SF	N12W11		4432
07 May	1824	1826	1828		SF	N12W11		4432
08 May	0149	0154	0156	C1.0				
08 May	0358	0403	0405	C1.1				4431
08 May	1113	1120	1122	C1.0				4432
08 May	B1250	1252	1254		SF	N13W23		4432
08 May	1320	1320	1325		SF	S15W38		4431
08 May	1539	1551	1601	C4.2	1N	N12W23		4432



Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/Brtns	Location Lat CMD	Rgn #
08 May	1623	1625	1630		SF	S15W40	4431
08 May	1656	1704	1713	B9.5			4432
08 May	1713	1716	1721	C1.0			4432
08 May	1742	1911	1911		1N	N11W25	4432
08 May	1756	1802	1809	C1.5			4432
08 May	1820	1825	1827	C1.1			4432
08 May	1901	1907	1909	C2.1			4432
08 May	1912	1920	2001	C1.2	1F	N11W27	4432
08 May	2005	2021	2100	C2.6	2N	N12W27	4432
08 May	2116	2118	2118		SF	N12W26	4432
08 May	2142	2145	2148		SF	N11W25	4432
08 May	2200	2201	2216	C1.0	SF	N12W28	4432
08 May	2233	2239	2240		SF	N12W28	4432
08 May	2319	2328	2339	C2.4	1F	N11W31	4432
09 May	0011	0021	0029	C1.3	SF	N12W30	4432
09 May	0141	0148	0156	C1.0			4432
09 May	0218	0228	0238	C2.1			4432
09 May	0321	0331	0339	C2.3			4432
09 May	0514	0521	0526	C1.4			4432
09 May	0622	0633	0642	C1.5	SF	N14W33	4432
09 May	0753	0802	0806	C1.6	SF	N13W34	4432
09 May	0919	0924	0926	C1.2			4432
09 May	1020	1021	1022		SF	S14W47	4431
09 May	1241	1242	1244		SF	N13W37	4432
09 May	1248	1248	1251		SF	N14W38	4432
09 May	1309	U1436	A1457	C1.3	SF	N14W37	4432
09 May	1359	1417	1422	C1.5			4432
09 May	1516	1526	1535	C1.5	SF	N14W38	4432
09 May	1620	1625	1627	C1.1			4432
09 May	1848	1855	1912	C1.2	SF	N11W39	4432
09 May	1912	1920	1930	C1.1			4432
09 May	2021	2029	2032	C1.2			4432
09 May	2137	2146	2157	C2.0			
09 May	2157	2203	2209	C2.1			
10 May	0227	0233	0236	C1.6			4436
10 May	0236	0240	0242	C2.0			4432
10 May	0356	0403	0408	C1.4			4432
10 May	0459	0504	0510	C2.0	SF	N16W47	4432



Flare List

Date	Time			X-ray Class	Optical			Rgn #
	Begin	Max	End		Imp/ Brtns	Location Lat CMD		
10 May	0632	0640	0646	C1.4				4436
10 May	0728	0734	0738	C2.0				4432
10 May	0915	0924	0928	C1.9				4432
10 May	0932	0939	0942	C3.7				4432
10 May	1036	1043	1047	C1.1	SF	N14W48		4432
10 May	1100	1114	1119		SF	N14W48		4432
10 May	1316	1317	1320		SF	N16W48		4432
10 May	1319	1339	1402	M5.7	2B	N19E62		4436
10 May	B1418	U1420	A1450		SF	N15W50		4432
10 May	B1500	U1506	A1511		SF	N23E66		4436
10 May	1633	1651	1751		SF	N12W45		4432
10 May	1927	1934	1943	C1.2				4432
10 May	2058	2109	2120	C1.3				
10 May	2311	2318	2323	C1.3				



Region Summary

Date	Location		Sunspot Characteristics				Flares											
	Lat CMD	Helio Lon	Area 10 ⁶ hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical							
								C	M	X	S	1	2	3	4			
Region 4424																		
24 Apr	N17E45	192	30	7	Cro	6	B											
25 Apr	N16E33	191	85	9	Dsi	11	B						3					
26 Apr	N17E19	191	130	10	Dsi	12	B	1										
27 Apr	N16E06	191	130	10	Dso	12	B											
28 Apr	N17W08	192	150	12	Eao	14	B	1				2						
29 Apr	N17W22	193	155	12	Eao	14	B	1				1						
30 Apr	N17W35	192	160	14	Eai	12	BG	1										
01 May	N17W49	193	140	13	Eai	12	B	1										
02 May	N17W62	193	140	13	Eai	7	B	3				1						
03 May	N17W78	196	110	10	Dao	5	B	2										
04 May	N17W92	197	110	10	Dao	5	B		1									
								10	1	0	7	0	0	0	0	0		

Crossed West Limb.

Absolute heliographic longitude: 191

Region 4425

24 Apr	N06E76	161	75	7	Dso	5	B											
25 Apr	N05E66	158	130	11	Eac	6	BG	5	1		1							
26 Apr	N05E50	160	140	12	Esc	14	BGD	7	2		8	1						
27 Apr	N05E36	161	300	15	Ekc	19	BGD	5	1		3							
28 Apr	N05E22	162	320	13	Ekc	27	BD	4			5	1						
29 Apr	N05E10	161	300	12	Ekc	27	B	4			4							
30 Apr	N05W03	161	285	11	Ekc	23	B											
01 May	N05W19	163	200	8	Dao	10	B											
02 May	N05W31	162	220	9	Cao	5	B	1			1							
03 May	N05W48	165	190	5	Cao	4	B											
04 May	N05W61	166	170	5	Hsx	2	A	1										
05 May	N06W75	167	180	5	Hsx	4	A	2										
06 May	N05W88	165	180	2	Hsx	2	A											
								29	4	0	22	2	0	0	0	0		

Crossed West Limb.

Absolute heliographic longitude: 161



Region Summary - continued

Date	Location		Sunspot Characteristics				Flares										
	Lat CMD	Lon	Helio 10 ⁶ hemi.	Area	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical					
									C	M	X	S	1	2	3	4	
Region 4427																	
25 Apr	S30E67	157	10	1	Axx	1	A										
26 Apr	S30E53	158	10	1	Axx	1	A										
27 Apr	S31E40	157	10	1	Axx	1	A										
28 Apr	S31E27	157	10	1	Axx	1	A										
29 Apr	S30E13	158	5	1	Axx	1	A										
30 Apr	S29W00	157	plage														
01 May	S29W14	158	plage														
02 May	S29W28	159	plage														
03 May	S29W42	160	plage														
04 May	S29W56	161	plage														
05 May	S29W70	161	plage														
06 May	S29W84	162	plage														
								0	0	0	0	0	0	0	0	0	0

Crossed West Limb.
 Absolute heliographic longitude: 157

Region 4428																	
28 Apr	S24E13	171	20	3	Cro	6	B	1				2					
29 Apr	S24W00	171	80	6	Dai	12	B	2				1					
30 Apr	S24W13	170	90	8	Dai	13	B										
01 May	S23W27	171	130	9	Dai	18	B	1									
02 May	S23W39	170	200	9	Dai	20	B	3				2					
03 May	S24W51	169	210	10	Dai	18	B										
04 May	S23W65	169	220	11	Eao	9	B										
05 May	S23W78	169	140	11	Eso	3	B										
06 May	S23W92	170	140	11	Eso	3	B										
								7	0	0	5	0	0	0	0	0	0

Crossed West Limb.
 Absolute heliographic longitude: 171



Region Summary - continued

Date	Location		Sunspot Characteristics				Flares							
	Lat CMD	Helio Lon	Area 10 ⁶ hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical			
								C	M	X	S	1	2	3

Region 4429

30 Apr	S04E35	122	30	4	Cro	4	B											
01 May	S04E20	124	60	5	Dso	8	B	2				1						
02 May	S04E06	125	120	8	Dsi	8	B	4				2						
03 May	S04W07	125	120	8	Dai	15	B	1										
04 May	S05W20	125	75	8	Cai	16	B	1										
05 May	S05W33	125	50	8	Cai	13	BG											
06 May	S05W47	125	10	6	Bxi	8	B	1				1						
07 May	S05W62	127	plage															
08 May	S05W77	129	plage															
								9	0	0	4	0	0	0	0	0		

Died on Disk.

Absolute heliographic longitude: 125

Region 4430

01 May	N16W31	175	20	2	Dao	2	B											
02 May	N17W45	176	10	1	Axx	1	A											
03 May	N17W58	176	10	1	Axx	1	A											
04 May	N17W72	177	plage															
05 May	N17W86	177	plage															
								0	0	0	0	0	0	0	0	0		

Crossed West Limb.

Absolute heliographic longitude: 175

Region 4431

01 May	S16E53	91	130	8	Dao	8	B	2										
02 May	S16E38	93	170	10	Dso	9	B	1										
03 May	S16E24	94	170	10	Dso	7	B											
04 May	S16E12	93	110	11	Eso	5	B											
05 May	S16W01	92	100	11	Eso	5	B	1										
06 May	S16W15	93	140	11	Cao	7	B	1				1						
07 May	S16W30	95	150	10	Cao	4	B	1				1						
08 May	S16W48	100	120	2	Hsx	1	A	1				2						
09 May	S16W61	100	100	2	Hsx	1	A					1						
10 May	S16W76	101	90	2	Hsx	1	A											
								7	0	0	5	0	0	0	0	0		

Still on Disk.

Absolute heliographic longitude: 92



Region Summary - continued

Date	Location		Sunspot Characteristics				Flares											
	Lat CMD	Lon	Helio 10 ⁶ hemi.	Area	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical						
									C	M	X	S	1	2	3	4		
Region 4432																		
01 May	N11E68		76	20	3	Bxo	2	B										
02 May	N12E55		76	10	5	Bxo	2	B										
03 May	N12E40		78	10	3	Bxo	3	B										
04 May	N13E27		78	10	5	Cai	6	B										
05 May	N13E12		79	40	7	Cai	8	B	1									
06 May	N13W01		78	30	8	Cri	8	B										
07 May	N14W14		79	50	7	Cai	10	B				2						
08 May	N14W29		81	140	9	Dai	18	B	10			5	4	1				
09 May	N14W42		81	200	9	Dai	22	B	15			8						
10 May	N14W56		81	430	12	Ekc	28	BG	8			6						
									34	0	0	21	4	1	0	0		

Still on Disk.

Absolute heliographic longitude: 78

Region 4433

03 May	S16E68		50	110	8	Dso	5	B										
04 May	S16E57		47	90	9	Dso	8	B										
05 May	S16E43		48	120	9	Dso	4	B	1									
06 May	S16E30		48	120	8	Dso	6	B										
07 May	S17E16		49	170	8	Cao	4	B	2			1	1					
08 May	S16E03		49	150	8	Cao	4	B										
09 May	S17W10		49	110	3	Cao	4	B										
10 May	S17W25		50	50	5	Cao	5	B										
									3	0	0	1	1	0	0	0		

Still on Disk.

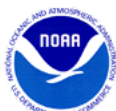
Absolute heliographic longitude: 49

Region 4434

04 May	N12E50		54	10	1	Axx	1	A										
05 May	N12E36		55	10	1	Axx	1	A										
06 May	N12E22		55	plage														
07 May	N12E08		57	plage														
08 May	N14W04		56	10	1	Axx	1	A										
09 May	N14W18		56	plage														
10 May	N14W32		57	plage														
									0	0	0	0	0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 56



Region Summary - continued

Date	Location		Sunspot Characteristics					Flares															
	Lat CMD	Lon	Helio 10 ⁻⁶ hemi.	Area	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical											
									C	M	X	S	1	2	3	4							
Region 4435																							
04 May	N23E64		41	30	2	Hsx	1	A	1														
05 May	N23E51		41	40	2	Hsx	1	A															
06 May	N23E38		41	40	2	Hsx	1	A															
07 May	N23E24		41	60	2	Hsx	1	A															
08 May	N23E11		41	60	2	Hsx	1	A															
09 May	N23W01		40	50	2	Hsx	1	A															
10 May	N23W15		40	40	2	Hsx	1	A															
									1	0	0	0	0	0	0	0	0	0	0	0	0		

Still on Disk.

Absolute heliographic longitude: 40

Region 4436																							
09 May	N18E69		330	200	5	Dso	3	B															
10 May	N19E55		330	200	6	Dao	4	B	2	1		1		1									
									2	1	0	1	0	1	0	1	0	0	0	0	0		

Still on Disk.

Absolute heliographic longitude: 330



Preliminary Report and Forecast of Solar Geophysical Data (The Weekly)

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Notice: The 27-day Outlook, Satellite Environment, X-ray and Proton plots have been redesigned. Comments and suggestions are welcome SWPC.Webmaster@noaa.gov

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<https://www.swpc.noaa.gov/products/weekly-highlights-and-27-day-forecast> --

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<https://www.ngdc.noaa.gov/stp/satellite/goes-r.html> -- NCEI GOES data
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<https://www.swpc.noaa.gov/products/solar-cycle-progression> -- Solar Cycle
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