

Solar activity reached moderate levels on 26 and 28 Mar with low levels observed on 23-25, 27, and 29 Mar.

Region 4405 (N26, L=178, class/area=Ehi/330 on 28 Mar) was the most active of the period, producing nine C-class flares and a long-duration M1.3 flare at 28/0416 UTC that was accompanied by a Type II radio sweep (estimated velocity 868 km/s) and a CME first seen in LASCO C2 imagery at 28/0336 UTC. Region 4403 (N16, L=206, class/area=Hsx/120 on 28 Mar) was responsible for the most powerful event of the period, an M3.9/1n flare at 26/0623 UTC, which was associated with a Type II radio sweep (estimated velocity 607 km/s), a 1,600 sfu radio burst at 245 MHz, and a CME first visible in LASCO C2 imagery at 26/0648 UTC. Neither CME was determined to have an Earth-directed component.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit reached high levels throughout the period 23-29 Mar with peak of 12,800 pfu observed at 27/1515 UTC.

Geomagnetic field activity ranged from quiet to G1 (Minor) storm levels. G1 storm conditions were observed 23 Mar due to negative polarity coronal hole high speed stream (-CH HSS) influences. Active levels were observed on 24 Mar under the continuing -CH HSS. On 25 Mar, G1 storming levels were reached again; while residual -CH HSS effects were present, the activity was primarily driven by the arrival of a CME likely associated with a filament eruption on 22 Mar. Conditions waned to unsettled levels on 26 Mar and quiet levels on 27 Mar as HSS influences subsided. Activity remained quiet to unsettled on 28 Mar. On 29 Mar, the field returned to active levels preceding a solar sector boundary crossing (SSBC) and the onset of a positive polarity CH HSS (+CH HSS).

Space Weather Outlook **30 March - 25 April 2026**

Solar activity is expected to be is expected to be at low levels, with a varying chance for M-class (R1-R2/Minor-Moderate) flares through 25 Apr.

No proton events are expected at geosynchronous orbit, barring any significant, non-recurrent solar activity.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to reach high levels on 30-31 Mar, 04-09 Apr, 11-16 Apr, and 18-25 Apr. Normal to moderate flux levels are expected to prevail throughout the remainder of the period.

Geomagnetic field activity is expected to reach G1 (Minor) geomagnetic storm levels on 30 March due to the influence of a positive polarity CH HSS (+CH HSS). Periods of G1 storming



are likely on 04 April in response to a negative polarity CH HSS (-CH HSS). Further G1 storm periods are anticipated on 09 and 11 Apr, with likely G2 (Moderate) storm levels on 10 April, due to + CH HSS influences. The field is expected to reach G2 storm levels again on 18 Apr, followed by G1 storm periods on 19 Apr, due to -CH HSS influences. Unsettled to active conditions are likely during the onset and waning phases of these streams.



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
23 March	124	94	730	B6.8	7	0	0	0	0	0	0	0
24 March	128	113	750	B5.9	2	0	0	0	0	0	0	0
25 March	140	103	735	B8.3	5	0	0	2	0	0	0	0
26 March	152	113	760	C1.0	8	1	0	1	1	0	0	0
27 March	156	152	1130	C1.1	11	0	0	3	0	0	0	0
28 March	162	116	1100	C1.0	3	1	0	0	0	0	0	0
29 March	158	125	620	B8.4	4	0	0	0	0	0	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
	23 March	5.5e+06	2.7e+04
24 March	1.3e+06	2.4e+04	5.0e+08
25 March	1.2e+06	1.8e+04	4.7e+08
26 March	3.7e+06	1.7e+04	4.8e+08
27 March	1.5e+06	1.7e+04	3.1e+08
28 March	8.7e+05	1.6e+04	5.0e+07
29 March	5.4e+05	1.6e+04	4.6e+07

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	23 March	15	3-3-0-2-4-4-3-3	37	4-5-0-6-5-5-4-3	28
24 March	12	2-4-3-3-3-1-2-2	25	3-4-5-5-4-3-3-2	16	3-4-3-4-3-2-3-3
25 March	12	3-3-4-3-2-1-2-1	21	2-3-6-4-3-2-3-1	17	3-3-5-4-2-1-3-1
26 March	7	1-1-2-2-2-3-2-2	21	2-2-4-5-4-5-1-1	10	3-2-3-2-2-3-2-2
27 March	6	1-2-2-2-2-2-1-2	16	2-2-1-1-5-5-2-1	7	2-2-2-2-1-2-2-2
28 March	8	2-1-2-3-2-1-1-3	15	3-2-5-4-2-2-1-1	11	3-2-3-3-2-2-1-3
29 March	11	3-3-3-2-2-3-1-2	18	3-3-3-5-3-4-1-1	22	4-4-3-2-3-3-1-2



Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
23 Mar 0107	ALERT: Geomagnetic K = 5	
23 Mar 1201	CONTINUED ALERT: Electron 2MeV Integral Flux >= 1000pfu	22/1430
23 Mar 1413	WARNING: Geomagnetic K = 4	23/1410 - 24/0300
23 Mar 1441	WARNING: Geomagnetic K = 5	23/1440 - 2359
23 Mar 1500	ALERT: Geomagnetic K = 5	
23 Mar 1752	ALERT: Geomagnetic K = 5	
23 Mar 2058	EXTENDED WARNING: Geomagnetic K = 5	23/1440 - 24/0600
23 Mar 2058	EXTENDED WARNING: Geomagnetic K = 4	23/1410 - 24/1200
24 Mar 0420	EXTENDED WARNING: Geomagnetic K = 5	23/1440 - 24/1200
24 Mar 0420	EXTENDED WARNING: Geomagnetic K = 4	23/1410 - 24/2359
24 Mar 0500	CONTINUED ALERT: Electron 2MeV Integral Flux >= 1000pfu	22/1430
25 Mar 0440	WARNING: Geomagnetic K = 4	25/0440 - 0900
25 Mar 0459	CONTINUED ALERT: Electron 2MeV Integral Flux >= 1000pfu	22/1430
25 Mar 0805	ALERT: Geomagnetic K = 4	
25 Mar 0805	WARNING: Geomagnetic K = 5	25/0805 - 1200
25 Mar 0806	EXTENDED WARNING: Geomagnetic K = 4	25/0440 - 26/1500
25 Mar 0822	CANCELLATION: Geomagnetic K = 4	
25 Mar 0823	WARNING: Geomagnetic K = 4	25/0820 - 1500
25 Mar 0826	ALERT: Geomagnetic K = 5	
25 Mar 1558	WATCH: Geomagnetic Storm Category G1 predicted	
26 Mar 0459	CONTINUED ALERT: Electron 2MeV Integral Flux >= 1000pfu	22/1430
26 Mar 1221	ALERT: Type II Radio Emission	26/0617
27 Mar 0500	CONTINUED ALERT: Electron 2MeV Integral Flux >= 1000pfu	22/1430
28 Mar 0218	WARNING: Geomagnetic K = 4	28/0218 - 1200
28 Mar 0808	ALERT: Type II Radio Emission	28/0736

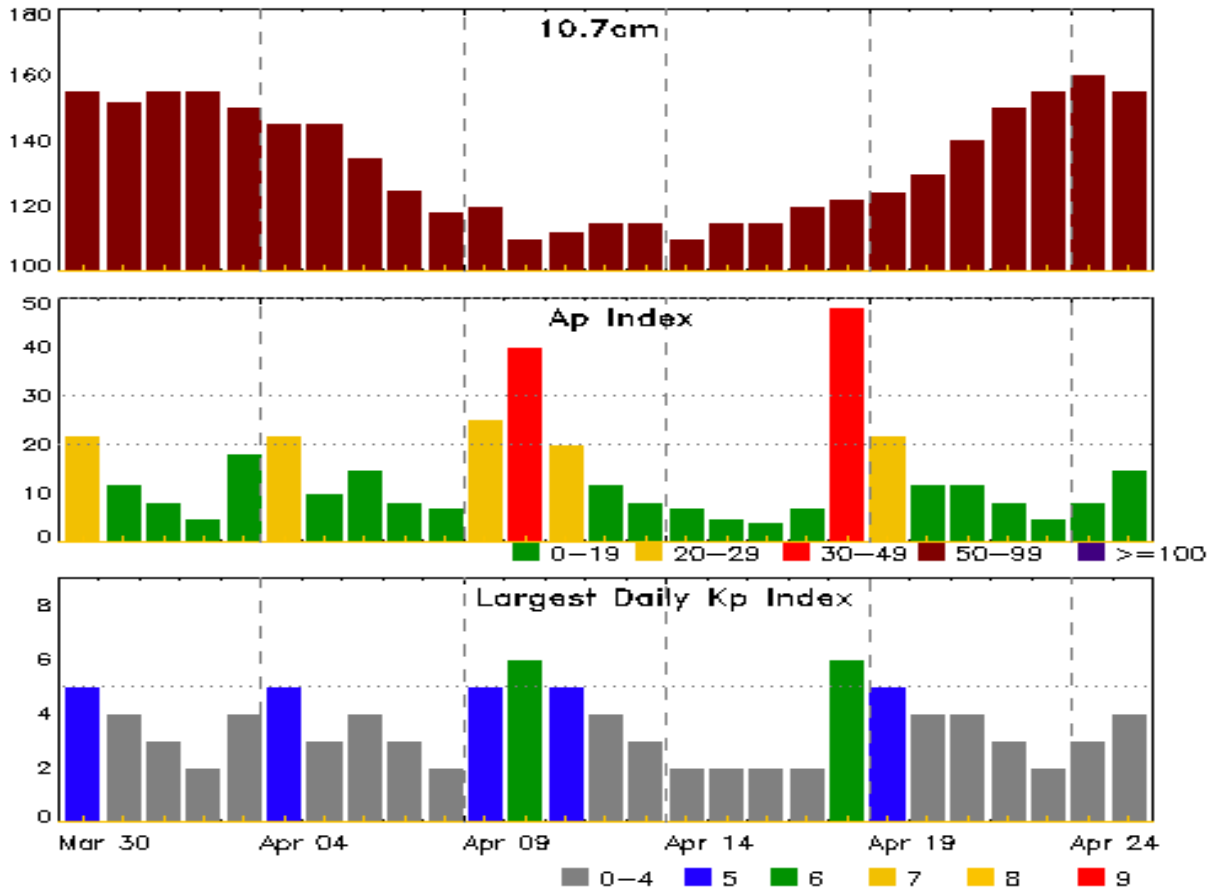


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
28 Mar 1455	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	22/1430
28 Mar 1632	WATCH: Geomagnetic Storm Category G1 predicted	
29 Mar 0207	WARNING: Geomagnetic K = 4	29/0207 - 1200
29 Mar 0300	ALERT: Geomagnetic K = 4	
29 Mar 1247	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	22/1430
29 Mar 1548	WARNING: Geomagnetic K = 4	29/1546 - 30/0900



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
30 Mar	155	22	5	13 Apr	115	8	3
31	152	12	4	14	110	7	2
01 Apr	155	8	3	15	115	5	2
02	155	5	2	16	115	4	2
03	150	18	4	17	120	7	2
04	145	22	5	18	122	48	6
05	145	10	3	19	124	22	5
06	135	15	4	20	130	12	4
07	125	8	3	21	140	12	4
08	118	7	2	22	150	8	3
09	120	25	5	23	155	5	2
10	110	40	6	24	160	8	3
11	112	20	5	25	155	15	4
12	115	12	4				

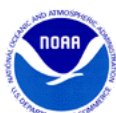


Energetic Events

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
26 Mar	0611	0623	0631	M3.9	0.029	1N	N13E59	4403	1600	110	2	
28 Mar	0216	0416	0535	M1.3	0.093			4405				

Flare List

Date	Time			X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
	Begin	Max	End				
23 Mar	0024	0029	0035	C3.2			4392
23 Mar	0945	0950	0953	C1.3			4401
23 Mar	1107	1115	1129	C1.9			4401
23 Mar	1420	1428	1452	C1.0			
23 Mar	1528	1534	1541	C1.1			4402
23 Mar	1705	1711	1717	C1.2			4398
23 Mar	1742	1750	1801	C1.2			4402
24 Mar	0817	0828	0845	B9.0			4402
24 Mar	1718	1754	1825	C7.2			4403
24 Mar	2147	2156	2205	C2.3			4401
25 Mar	0014	0030	0037	C3.7			4400
25 Mar	0410	0424	0433	C2.2			4403
25 Mar	0555	0605	0611	C1.5	SF	N24E37	4401
25 Mar	0906	0916	0922	C1.8			4403
25 Mar	1109	1109	1112		SF	N23E33	4401
25 Mar	1304	1312	1321	C2.2			4403
26 Mar	0546	0555	0609	C1.8			
26 Mar	0611	0623	0631	M3.9	1N	N13E59	4403
26 Mar	0652	0658	0701	C3.3			
26 Mar	0838	0847	0857	C5.3			
26 Mar	1004	1029	1039	C3.5			
26 Mar	1245	1257	1320	C2.3			
26 Mar	1320	1329	1331	C1.8			
26 Mar	1518	1520	1532	C1.5			
26 Mar	1750	1757	1800	C2.0			4405
26 Mar	1946	1947	1951		SF	N23E14	4401
27 Mar	0255	0301	0305	C3.6			4403
27 Mar	0353	0400	0403	C2.8			4405
27 Mar	0647	0656	0703	C3.6			4405



Flare List

Date	Time			X-ray Class	Optical		Rgn #
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	
27 Mar	0807	0814	0818	C2.3			4405
27 Mar	0840	0844	0847	C1.6			4405
27 Mar	0924	0946	0949	C2.2			4405
27 Mar	0949	1002	1013	C5.4			4405
27 Mar	1336	1341	1346	C1.9			4401
27 Mar	1359	1405	1410	C2.1	SF	S13W85	4400
27 Mar	1817	1826	1834	C3.5	SF	N17E45	4403
27 Mar	1905	1913	1922	C2.5	SF	N24E03	4401
28 Mar	0216	0416	0535	M1.3			4405
28 Mar	1118	1135	1157	C4.1			4404
28 Mar	2017	2025	2034	C1.9			4405
28 Mar	2100	2110	2117	C2.1			4404
29 Mar	0542	0547	0553	C1.6			4401
29 Mar	1557	1700	1831	C2.1			4401
29 Mar	1954	1959	2003	C2.5			4405
29 Mar	2129	2133	2136	C1.5			4407



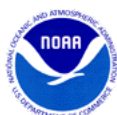
Region Summary

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 4392																		
11 Mar	S15E79	18	80	2	Hsx	1	A											
12 Mar	S16E65	19	80	2	Hsx	1	A	1				1						
13 Mar	S15E54	17	120	6	Cso	3	B	2					1					
14 Mar	S15E41	17	90	4	Cso	3	B											
15 Mar	S16E28	16	170	5	Cso	9	B		1			1						
16 Mar	S16E15	17	160	6	Csi	12	BG	1	1									
17 Mar	S16E01	18	200	7	Csi	16	BG		1			1						
18 Mar	S17W12	17	170	4	Csi	13	BG	5	1				1					
19 Mar	S17W26	18	170	4	Csi	12	BG	1				2						
20 Mar	S16W40	19	130	5	Cso	5	B											
21 Mar	S17W52	17	110	4	Cso	3	B											
22 Mar	S18W65	17	120	3	Cso	3	B	1				2						
23 Mar	S17W77	16	120	3	Cao	3	B	1										
24 Mar	S17W90	16	90	3	Cao	2	B											
								12	4	0	7	2	0	0	0	0		

Crossed West Limb.
 Absolute heliographic longitude: 18

Region 4394																		
14 Mar	S12E44	14	10	1	Axx	1	A											
15 Mar	S12E31	14	10	1	Axx	1	A											
16 Mar	S12E17	15	plage															
17 Mar	S12E04	15	plage															
18 Mar	S12W10	15	plage															
19 Mar	S12W24	16	plage															
20 Mar	S12W38	17	plage															
21 Mar	S12W52	18	plage															
22 Mar	S12W66	18	plage															
23 Mar	S12W80	19	plage															
								0	0	0	0	0	0	0	0	0	0	

Crossed West Limb.
 Absolute heliographic longitude: 15



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

Region 4395

14 Mar	S04E53	5	10	3	Bxo	3	B	1									
15 Mar	S05E41	4	40	5	Cro	4	B	1				1					
16 Mar	S05E27	5	30	5	Dro	6	B										
17 Mar	S06E13	6	30	5	Cro	10	B										
18 Mar	S06W01	6	10	5	Bxo	7	B										
19 Mar	S06W15	6	plage														
20 Mar	S06W28	7	plage														
21 Mar	S06W43	8	plage														
22 Mar	S06W58	10	plage														
23 Mar	S06W73	12	plage														
24 Mar	S06W87	13	plage														
									2	0	0	1	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 6

Region 4396

15 Mar	N20E55	349	10	4	Bxo	7	B										
16 Mar	N20E38	354	10	1	Axx	1	A										
17 Mar	N20E27	351	plage														
18 Mar	N20E14	352	plage														
19 Mar	N20W01	353	plage														
20 Mar	N20W15	354	plage														
21 Mar	N20W29	355	plage														
22 Mar	N20W43	355	plage														
23 Mar	N20W57	356	plage														
24 Mar	N20W71	357	plage														
25 Mar	N20W85	357	plage														
									0	0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 353



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	4		
Region 4397																	
18 Mar	N17E69	296	30	6	Cro	8	B	2									
19 Mar	N17E55	297	30	6	Cao	6	B										
20 Mar	N18E42	297	30	5	Cao	3	B										
21 Mar	N16E27	298	20	2	Cro	2	B										
22 Mar	N16E14	298	20	4	Cro	2	B										
23 Mar	N16W01	300	20	2	Cro	2	B										
24 Mar	N15W12	298	10	4	Bxo	5	B										
25 Mar	N15W27	299	5	1	Axx	2	A										
26 Mar	N15W39	298	10	2	Bxo	4	B										
27 Mar	N15W53	299	plage														
28 Mar	N15W67	300	plage														
29 Mar	N15W81	301	plage														
								2	0	0	0	0	0	0	0	0	0

Still on Disk.
 Absolute heliographic longitude: 300

Region 4398																	
21 Mar	S14E26	299	10	3	Cro	2	B										
22 Mar	S15E13	299	20	6	Cro	5	B										
23 Mar	S16W01	300	30	5	Csi	5	B	1									
24 Mar	S17W12	298	40	6	Dao	10	B										
25 Mar	S17W27	299	30	4	Dro	6	B										
26 Mar	S17W40	300	25	3	Dro	4	B										
27 Mar	S17W55	301	10	1	Axx	1	A										
28 Mar	S16W69	302	plage														
29 Mar	S16W83	303	plage														
								1	0	0	0	0	0	0	0	0	0

Still on Disk.
 Absolute heliographic longitude: 300



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 4399

21 Mar	S17E82	243	120	2	Hsx	1	A	1									
22 Mar	S17E68	244	170	5	Hax	3	A										
23 Mar	S18E54	245	170	3	Cao	2	B										
24 Mar	S18E42	244	170	3	Cao	4	B										
25 Mar	S17E28	245	170	2	Hax	2	A										
26 Mar	S17E15	246	170	2	Hax	2	A										
27 Mar	S17E02	244	120	5	Cso	6	B										
28 Mar	S17W13	246	80	2	Hsx	2	A										
29 Mar	S17W26	246	50	5	Hsx	1	A										
									1	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 244

Region 4400

22 Mar	S12W25	337	40	5	Dai	7	BGD										
23 Mar	S12W40	339	70	5	Dao	5	BD										
24 Mar	S14W52	338	80	5	Dao	5	B										
25 Mar	S12W65	338	50	5	Dao	5	BG	1									
26 Mar	S12W77	337	50	7	Dai	7	B										
27 Mar	S12W92	338	50	7	Dai	7	B	1			1						
								2	0	0	1	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 337

Region 4401

22 Mar	N24E63	249	100	7	Dao	5	B										
23 Mar	N24E52	247	170	9	Dao	4	B	2									
24 Mar	N25E38	248	210	12	Eai	15	BG	1									
25 Mar	N25E24	248	230	11	Eai	13	B	1			2						
26 Mar	N25E11	248	275	13	Ekc	19	B				1						
27 Mar	N25W02	248	370	12	Ekc	28	BG	2			1						
28 Mar	N25W15	248	350	12	Ekc	15	BG										
29 Mar	N25W27	247	150	12	Eai	12	B	2									
								8	0	0	4	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 248



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 4402																							
22 Mar	N14E68	244	80	6	Hax	1	A																
23 Mar	N17E56	243	150	8	Dao	3	B	2															
24 Mar	N17E45	241	150	9	Dso	2	B																
25 Mar	N17E32	241	140	10	Dso	4	B																
26 Mar	N16E18	241	120	8	Cso	6	B																
27 Mar	N18E08	238	70	4	Cao	5	B																
28 Mar	N19W04	237	50	2	Hsx	5	A																
29 Mar	N18W18	238	30	5	Cso	5	B																
								2	0	0	0	0	0	0	0	0	0	0	0	0	0		

Still on Disk.

Absolute heliographic longitude: 237

Region 4403																							
24 Mar	N16E82	205	plage					1															
25 Mar	N16E67	205	110	3	Hsx	1	A	3															
26 Mar	N15E54	205	110	3	Hsx	1	A		1				1										
27 Mar	N16E40	206	120	3	Hsx	2	A	2				1											
28 Mar	N16E27	206	120	3	Hsx	3	A																
29 Mar	N16E14	206	70	3	Hsx	2	A																
								6	1	0	1	1	0	0	0	0	0	0	0	0	0		

Still on Disk.

Absolute heliographic longitude: 206

Region 4404																							
27 Mar	N15E63	183	50	7	Cso	3	B																
28 Mar	N14E46	187	50	2	Hsx	1	A	2															
29 Mar	N14E33	187	30	2	Hsx	1	A																
								2	0	0	0	0	0	0	0	0	0	0	0	0	0		

Still on Disk.

Absolute heliographic longitude: 187

Region 4405																							
26 Mar	S24E82	178	plage					1															
27 Mar	S25E66	180	270	11	Eho	9	B	6															
28 Mar	S26E55	178	330	11	Ehi	8	BG	1	1														
29 Mar	S27E44	176	180	13	Eao	8	BG	1															
								9	1	0	0	0	0	0	0	0	0	0	0	0	0		

Still on Disk.

Absolute heliographic longitude: 176



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

Region 4406

27 Mar	N09E62	184	70	2	Hsx	1	A											
28 Mar	N09E52	181	80	2	Hsx	1	A											
29 Mar	N09E38	182	50	2	Hsx	1	A											
									0	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 182

Region 4407

28 Mar	N17E56	177	40	1	Hsx	1	A											
29 Mar	N18E45	175	10	2	Bxo	4	B	1										
								1	0	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 175

Region 4408

29 Mar	N09E64	156	50	2	Hsx	1	A											
								0	0	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 156



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> --

Current

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<https://www.ngdc.noaa.gov/stp/satellite/goes-r.html> -- NCEI GOES data
textarchive

<https://www.swpc.noaa.gov/products/solar-cycle-progression> -- Solar Cycle
Progression web site

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