

An X1/2b flare (R3 radio blackout) on Saturday, at 29/1748 UTC, brought solar activity to high levels for the week. Region 2017 (N10, L=143, class/area=Dsi/160 on 27 Mar) had evolved from a simple beta to a beta-delta spot the day before. By the 29th it had grown to a beta-gamma-delta magnetic configuration. The X-flare it produced was accompanied by several radio emissions including a Castelli-U signature with 110,000 sfu on 245 MHz, a 360 sfu Tenflare at 29/1746 UTC, and a Type II sweep at 28/1753 UTC. An asymmetrical halo coronal mass ejection (CME) was associated with the event and visible in LASCO/C2 coronagraph imagery beginning at 29/1812 UTC. Analysis of SOHO and STEREO coronagraph images suggested this CME was moving at 558 km/s with most ejecta directed north of the ecliptic.

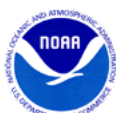
On Friday, Region 2017 produced an M2/Sn flare at 28/1918 UTC associated with a Type II sweep at 28/1918 UTC (528 km/s). The speed obtained through analysis of coronagraph imagery was consistent with the Type II estimate. Another M2/1n flare was observed from this region at 28/2351 UTC. It was also associated with a Type II sweep at 28/2350 UTC (857 km/s). Analysis of SOHO and STEREO coronagraph imagery suggested the CME was moving at approximately 600 km/s.

Finally, Region 2017 produced an M2/1n flare on Saturday at 30/1155 UTC accompanied by a Type II sweep at 30/1152 UTC (879 km/s). Analysis of SOHO and STEREO coronagraph imagery suggested the CME was moving at approximately 500 km/s. Region 2014 (S15, L=168, class/area=Ehi/290 on 27 Mar) was the largest of the 12 regions on the disk during the week, and was responsible for seven C-class events. Region 2010 (S13, L=203, class/area=Dac/230) was the second largest region on the disk and responsible for 12 C-class events, second only to Region 2017 in productivity.

No proton events were observed at geosynchronous orbit. However, the greater than 10 MeV proton flux at geosynchronous orbit was enhanced following the X1/2b flare on 29 March and reached a peak of 3.2 pfu at 29/2230 UTC. The flux was returning to normal levels at the time of this report.

The greater than 2 MeV electron flux at geosynchronous orbit was at normal levels all week.

Geomagnetic field activity remained at mostly quiet to unsettled levels during the week. The exception was a couple of active periods early on 26 March. A shock observed in ACE SWEPAM data at 25/1925 UTC announced the arrival of the 23 Mar CME. Solar wind speed increased from approximately 375 km/s to 500 km/s and the total field was enhanced from +2 nT to a maximum value of +13 nT. The Bz component turned southward following the arrival with a maximum southward deflection of -10 nT at 25/1938 UTC, and then became variable in the +9/-8 nT range. Solar wind speed reached a maximum of 554 km/s at 26/0049 UTC before decreasing to end of period values near 410 km/s. A geomagnetic sudden impulse was subsequently observed at the Hartland magnetometer (23 nT) at 25/2009 UTC. Unsettled conditions ensued from 25/1800-2400 UTC while active conditions (Below G1-Minor) occurred



during the 26/0000-0300 UTC and 26/0600-0900 UTC periods. Later in the week, a rare geomagnetic crochet was observed - a minor nT deviation (17 nT at Boulder) in the H-traces of the magnetometers which were in the sunlit portion of Earth during the X-flare on 29 March described earlier.

Space Weather Outlook 31 March - 26 April 2014

Solar activity is expected to be low with moderate events likely through the forecast period.

There is a slight chance the greater than 10 MeV proton flux will exceed 10 pfu during the first week of the forecast period as Region 2017 rotates around the west limb.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at normal levels through the forecast period.

The geomagnetic field is expected to be at unsettled to active levels on 1-3 April, with minor storm periods possible on 2 April in response to the arrival of the several CMEs described above. The remainder of the forecast period should see mostly quiet to unsettled conditions in the absence of any new transient features.



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
24 March	159	132	740	B6.8	4	0	0	4	1	0	0	0
25 March	153	114	650	Unk	4	0	0	2	0	0	0	0
26 March	153	123	520	Unk	6	0	0	5	1	0	0	0
27 March	145	145	620	B5.5	2	0	0	4	0	0	0	0
28 March	146	135	680	B5.0	6	2	0	7	0	0	0	0
29 March	143	132	470	B7.3	14	0	1	15	1	1	0	0
30 March	148	122	550	B8.9	11	1	0	2	1	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	>100 MeV	>0.6 MeV	>2MeV	>4 MeV
	24 March	2.2e+05	1.2e+04	2.4e+03		1.2e+05
25 March	8.4e+06	3.7e+04	2.3e+03		2.2e+05	
26 March	6.9e+06	2.0e+04	2.2e+03		5.6e+04	
27 March	1.1e+06	1.1e+04	2.4e+03		3.5e+04	
28 March	2.1e+05	9.9e+03	2.3e+03		9.9e+04	
29 March	2.4e+05	3.7e+04	2.8e+03		1.0e+06	
30 March	2.8e+05	3.4e+04	2.8e+03		9.0e+05	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	24 March	4	1-0-1-2-2-2-1-0	1	1-0-0-1-0-0-0-0	5
25 March	7	0-0-0-2-3-1-3-3	4	0-0-0-1-1-0-3-2	8	1-1-1-2-2-1-3-3
26 March	7	3-1-3-2-2-1-1-1	8	3-1-4-3-0-1-1-0	9	4-1-4-2-1-1-2-1
27 March	7	1-1-1-3-3-1-2-1	15	1-1-1-5-5-3-1-0	7	2-2-1-3-2-2-2-0
28 March	9	1-1-1-2-3-2-3-3	7	0-0-1-2-4-1-2-2	8	1-1-1-2-2-1-3-3
29 March	9	3-2-0-2-2-3-2-3	5	2-1-1-3-2-0-0-1	8	3-2-1-2-1-1-1-3
30 March	5	2-0-1-2-2-2-1-1	2	1-0-0-2-0-1-1-0	5	2-1-1-2-1-1-1-1

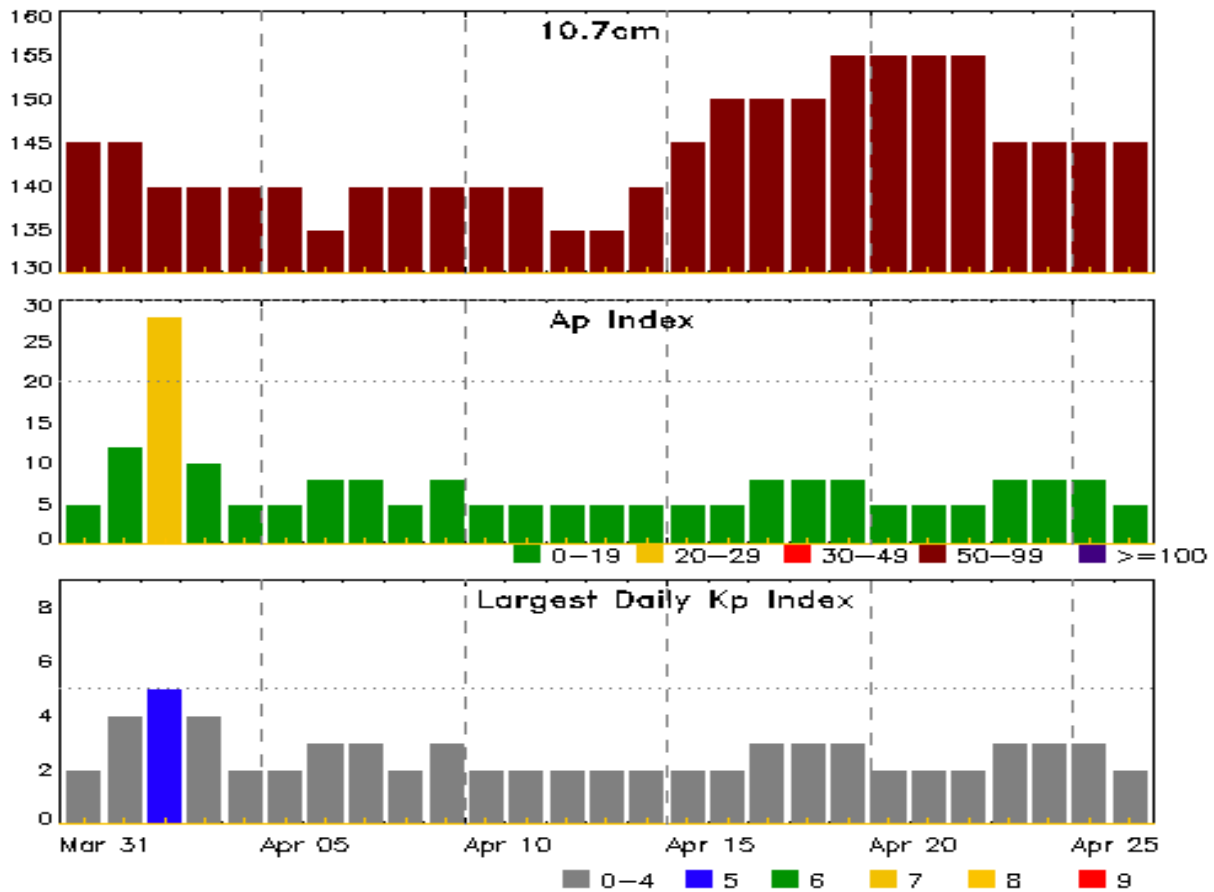


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
25 Mar 1936	WARNING: Geomagnetic Sudden Impulse expected	25/2010 - 2040
25 Mar 1943	WARNING: Geomagnetic K = 4	25/2030 - 26/0700
25 Mar 2015	SUMMARY: Geomagnetic Sudden Impulse	25/2009
26 Mar 0149	ALERT: Geomagnetic K = 4	26/0142
26 Mar 0647	EXTENDED WARNING: Geomagnetic K = 4	25/2030 - 26/1300
28 Mar 1949	ALERT: Type II Radio Emission	28/1918
29 Mar 0040	ALERT: Type II Radio Emission	28/2350
29 Mar 1747	ALERT: X-ray Flux exceeded M5	29/1746
29 Mar 1821	SUMMARY: X-ray Event exceeded X1	29/1735 - 1754
29 Mar 1821	ALERT: Type II Radio Emission	29/1753
29 Mar 1821	SUMMARY: 10cm Radio Burst	29/1745 - 1748
30 Mar 1230	ALERT: Type II Radio Emission	30/1152
30 Mar 1759	WATCH: Geomagnetic Storm Category G1 predicted	



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
31 Mar	145	5	2	14 Apr	140	5	2
01 Apr	145	12	4	15	145	5	2
02	140	28	5	16	150	5	2
03	140	10	4	17	150	8	3
04	140	5	2	18	150	8	3
05	140	5	2	19	155	8	3
06	135	8	3	20	155	5	2
07	140	8	3	21	155	5	2
08	140	5	2	22	155	5	2
09	140	8	3	23	145	8	3
10	140	5	2	24	145	8	3
11	140	5	2	25	145	8	3
12	135	5	2	26	145	5	2
13	135	5	2				



Energetic Events

Date	Time			X-ray	Optical Information				Peak		Sweep Freq	
	Begin	Max	Half Max	Class	Integ Flux	Imp/ Brtns	Location Lat CMD	Rgn #	Radio Flux 245	2695	Intensity II	IV
28 Mar	1904	1918	1927	M2.0	0.013	SN	N11W21	2017	250			2
28 Mar	2344	2351	2358	M2.6	0.013			2017	2100			2
29 Mar	1735	1748	1754	X1.0	0.042	2B	N11W32	2017	1e+05	360		3
30 Mar	1148	1155	1202	M2.1	0.015	1N	N08W43	2017	200	120		2

Flare List

Date	Time			X-ray Class	Optical		
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	Rgn #
24 Mar	0242	0247	0249	C3.5			2015
24 Mar	B1133	U1157	A1233	C2.3	SF	S11E19	2014
24 Mar	1341	1346	1352	C2.0	SF	S14E17	2014
24 Mar	B1355	U1402	1410		SF	S14W20	2010
24 Mar	1429	1445	1453	C1.9	SF	S14E17	2014
25 Mar	0521	0529	0544	C1.4			2015
25 Mar	0607	0610	0612	C1.2			2010
25 Mar	0752	U0801	0841		SF	S16W29	2010
25 Mar	0805	0808	0811	C1.1			2010
25 Mar	1529	1531	1532		SF	S15W36	2010
25 Mar	2345	2356	0005	C1.0			
26 Mar	0035	0054	0103	C1.1	SF	S14W42	2010
26 Mar	0318	0326	0339	C1.4			
26 Mar	0657	0701	0704	B8.7			
26 Mar	0803	0808	0809		SF	S14W07	2014
26 Mar	0935	0936	0937		SF	S15W46	2010
26 Mar	0957	1001	1010	C1.1	1F	S15W46	2010
26 Mar	1059	1102	1104	C1.5			2014
26 Mar	1424	1424	1426		SF	S16W45	2010
26 Mar	B2118	2131	2134	C1.2	SF	S13W52	2010
26 Mar	2203	2206	2212	C1.1			2010
27 Mar	0027	0037	0041	C1.3			2010
27 Mar	B1201	U1202	A1206		SF	S17W59	2010
27 Mar	B1241	U1242	A1246		SF	S17W59	2010
27 Mar	1457	1458	1459		SF	N03E02	2018
27 Mar	2020	2029	2038	C4.8	SF	S13W66	2010
28 Mar	1255	1312	1315	C1.1	SF	S12E57	2017



Flare List

Date	Time			X-ray Class	Imp/ Brtns	Optical		Rgn #
	Begin	Max	End			Location Lat CMD		
28 Mar	B1305	U1305	A1314		SF	S12E57		2021
28 Mar	1603	1610	1613	C1.0				2017
28 Mar	1730	1741	1747	C1.2				2017
28 Mar	1756	1759	1806	C2.3	SF	N10W21		2017
28 Mar	1811	1815	1818		SF	N10W18		2017
28 Mar	1904	1918	1927	M2.0	SN	N11W21		2017
28 Mar	2057	2100	2108	C1.0				2010
28 Mar	2314	2324	2330	C1.0	SF	N11W23		2017
28 Mar	2337	2338	2340		SF	S16W66		
28 Mar	2344	2351	2358	M2.6				2017
29 Mar	0154	0211	0245	C2.4	SF	N18E36		2024
29 Mar	0406	0414	0420	C1.0				2010
29 Mar	0500	0502	0504	C1.0				2010
29 Mar	0554	0604	0606		SF	S17W59		2010
29 Mar	0556	0556	0600		SF	S17W70		2023
29 Mar	0557	0614	0620	C1.4				2010
29 Mar	0613	0613	0619		SF	N09W27		2017
29 Mar	0750	0800	0818	C2.1	SF	N09W27		2017
29 Mar	0845	0846	0856		SF	N09W26		2017
29 Mar	0953	1000	1007	C1.4	SF	N09W26		2017
29 Mar	1048	1059	1113	C1.7	SF	N10W29		2017
29 Mar	1131	1134	1137	C1.2	SF	S18W71		2023
29 Mar	1241	1248	1253	C1.5	SF	N09W31		2017
29 Mar	1257	1301	1309		SF	N09W31		2017
29 Mar	1318	1318	1325	C1.0	SF	N10W31		2017
29 Mar	1359	1359	1413		SF	N10W32		2017
29 Mar	1401	1405	1407		SF	S16W73		2023
29 Mar	1426	1432	1437	C3.3	1N	N09W28		2017
29 Mar	1620	1624	1626	C1.1	SF	N11W34		2017
29 Mar	1735	1748	1754	X1.0	2B	N11W32		2017
29 Mar	1939	1942	1947	C1.1				2026
29 Mar	2141	2248	2345	C2.1				2014
30 Mar	0002	0003	0006		SF	S13W62		2014
30 Mar	0420	0426	0434	C1.3				2026
30 Mar	0502	0504	0506	C2.1				2026
30 Mar	0547	0555	0624	C1.3				2026
30 Mar	0636	0639	0642		SF	N09W37		2017
30 Mar	0710	0718	0723	C1.0				2014



Flare List

Date	Time			X-ray Class	Optical		Rgn #
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	
30 Mar	0726	0731	0735	C1.0			2014
30 Mar	0807	0826	0831	C1.2			2023
30 Mar	1147	1150	1224	M2.1	1N	N08W43	2017
30 Mar	1746	1800	1809	C1.5			2026
30 Mar	1820	1824	1830	C1.5			2026
30 Mar	1948	2001	2014	C1.2			2026
30 Mar	2110	2115	2117	C7.6			2017
30 Mar	2214	2220	2228	C2.9			2026



Region Summary

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 2005																							
12 Mar	N12E68	265	100	2	Hsx	1	A																
13 Mar	N12E57	264	170	3	Hsx	1	A																
14 Mar	N12E43	265	180	3	Hsx	1	A																
15 Mar	N13E32	263	220	3	Hsx	1	A																
16 Mar	N13E19	263	250	3	Cho	3	B	1				1											
17 Mar	N13E05	264	250	5	Cho	4	B																
18 Mar	N13W09	264	250	5	Cho	3	B																
19 Mar	N13W23	265	250	3	Hhx	1	A																
20 Mar	N13W37	266	250	3	Hhx	1	A					1											
21 Mar	N13W47	265	200	3	Hsx	1	A																
22 Mar	N12W60	263	190	3	Hsx	1	A	1						1									
23 Mar	N12W74	263	160	3	Hsx	1	A																
24 Mar	N13W86	261	80	3	Hax	1	A																
								2	0	0		2	1	0	0	0							

Crossed West Limb.
 Absolute heliographic longitude: 264

Region 2007																							
14 Mar	N09E60	248	30	2	Hax	1	A																
15 Mar	N10E49	246	40	1	Hax	1	A																
16 Mar	N11E37	245	30	1	Hax	2	A																
17 Mar	N11E23	245	10	3	Bxo	3	B																
18 Mar	N11E09	246	10	1	Axx	1	A																
19 Mar	N11W05	247	plage																				
20 Mar	N11W19	248	plage																				
21 Mar	N11W33	249	plage																				
22 Mar	N11W47	250	plage																				
23 Mar	N11W61	250	plage																				
24 Mar	N11W75	251	plage																				
25 Mar	N11W89	252	plage																				
								0	0	0		0	0	0	0	0							

Crossed West Limb.
 Absolute heliographic longitude: 247



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 2008																		
15 Mar	S11E72	223	30	2	Hsx	1	A											
16 Mar	S11E59	223	40	2	Hax	1	A											
17 Mar	S11E45	223	20	2	Cro	2	B											
18 Mar	S11E31	224	10	1	Hrx	1	A											
19 Mar	S11E17	225	30	4	Cro	6	B											
20 Mar	S11E03	226	50	5	Dai	11	B											
21 Mar	S10W19	228	50	6	Dai	11	B	2										
22 Mar	S11W30	233	30	8	Dro	8	B	1				1						
23 Mar	S07W47	236	30	7	Cro	6	B											
24 Mar	S07W61	237	plage															
25 Mar	S07W75	238	plage															
26 Mar	S07W89	239	plage															
								3	0	0	1	0	0	0	0	0		

Crossed West Limb.
 Absolute heliographic longitude: 226

Region 2010																		
17 Mar	S14E64	203	10	4	Bxo	3	B	2										
18 Mar	S15E53	201	30	9	Cro	6	B	4				3						
19 Mar	S15E39	203	100	7	Dai	13	B	6				6	2					
20 Mar	S15E25	204	130	7	Dai	16	BG		1			1	1					
21 Mar	S15E13	203	130	8	Dac	13	BG											
22 Mar	S15W00	203	160	9	Dac	26	BG	2										
23 Mar	S15W13	202	180	9	Dac	26	BGD	5									1	
24 Mar	S14W27	203	230	10	Dac	22	BGD					1	1					
25 Mar	S14W40	202	170	9	Dai	17	BG	2				2						
26 Mar	S14W54	204	130	9	Dai	21	BG	4				4	1					
27 Mar	S15W68	204	80	10	Dao	17	BG	2				3						
28 Mar	S14W80	203	80	9	Dao	10	BG	1										
29 Mar	S13W90	200	10	2	Bxo	3	B	3				1						
								31	1	0	21	5	1	0	0			

Crossed West Limb.
 Absolute heliographic longitude: 203



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 2011																		
18 Mar	S07W22	277	10		3	Bxo	3	B										
19 Mar	S07W36	278	70		6	Dao	9	B				3						
20 Mar	S07W50	279	230		8	Dai	26	B				3	1					
21 Mar	S07W63	279	220		9	Dao	12	B										
22 Mar	S07W77	280	300		9	Dho	12	B		1		3	1					
23 Mar	S06W92	280	110		9	Cao	4	B										
									0	1	0	9	2	0	0	0	0	

Crossed West Limb.
Absolute heliographic longitude: 277

Region 2012																		
18 Mar	S09E61	193	10		1	Axx	2	A										
19 Mar	S09E47	195	10		1	Axx	2	A										
20 Mar	S09E33	196	plage															
21 Mar	S09E19	197	plage															
22 Mar	S09E05	198	plage															
23 Mar	S09W09	198	plage															
24 Mar	S09W23	199	plage															
25 Mar	S09W37	200	plage															
26 Mar	S09W51	201	plage															
27 Mar	S09W65	202	plage															
28 Mar	S09W79	202	plage															
									0	0	0	0	0	0	0	0	0	

Crossed West Limb.
Absolute heliographic longitude: 198



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 2013																		
18 Mar	N13E70	184	30	2	Hsx	1	A											
19 Mar	N13E56	186	30	2	Hsx	1	A											
20 Mar	N13E42	187	30	2	Hsx	1	A											
21 Mar	N13E30	186	30	2	Hax	1	A	1				1						
22 Mar	N13E16	187	30	1	Hax	1	A											
23 Mar	N14E03	186	20	2	Cao	2	B											
24 Mar	N15W11	187	10	2	Hrx	1	A											
25 Mar	N15W25	188	10	1	Axx	1	A											
26 Mar	N15W39	188	plage															
27 Mar	N15W53	190	plage															
28 Mar	N15W67	190	plage															
29 Mar	N15W81	191	plage															
									1	0	0	1	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 186

Region 2014																		
19 Mar	S15E74	168	50	5	Cso	4	B	5				3	2					
20 Mar	S15E60	169	140	8	Dso	7	B	5				8	4					
21 Mar	S15E47	169	150	9	Dao	12	BG	3				1						
22 Mar	S14E35	168	170	9	Dso	9	BG	1										
23 Mar	S14E20	169	190	8	Dsc	16	BG	4				2						
24 Mar	S13E08	167	210	11	Esc	16	BG	3				3						
25 Mar	S13W05	167	240	11	Esc	22	BG											
26 Mar	S14W19	168	200	12	Esi	26	BG	1				1						
27 Mar	S15W32	168	290	15	Ehi	35	BG											
28 Mar	S15W46	169	290	15	Ehi	22	BG											
29 Mar	S14W60	170	210	9	Cso	13	BG	1										
30 Mar	S13W78	175	200	4	Cso	5	B	2				1						
								25	0	0	19	6	0	0	0	0		

Still on Disk.
Absolute heliographic longitude: 167



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 2015

22 Mar	S14W28	231	60	3	Dac	5	B	1				1					
23 Mar	S14W42	231	90	4	Cao	4	BD										
24 Mar	S12W55	231	60	1	Dac	2	BD	1									
25 Mar	S12W69	231	70	1	Dac	1	BD	1									
26 Mar	S12W83	232	40	1	Cao	1	B										
								3	0	0	1	0	0	0	0	0	

Crossed West Limb.

Absolute heliographic longitude: 231

Region 2016

22 Mar	S29E06	197	10	2	Bxo	2	B										
23 Mar	S28W07	196	10	1	Axx	1	A										
24 Mar	S28W21	197	10	1	Axx	1	A										
25 Mar	S28W35	199	plage														
26 Mar	S28W49	199	plage														
27 Mar	S28W63	200	plage														
28 Mar	S28W77	200	30	5	Cro	3	B										
								0	0	0	0	0	0	0	0	0	

Died on Disk.

Absolute heliographic longitude: 197

Region 2017

22 Mar	N09E58	145	30	3	Cao	5	B					2					
23 Mar	N09E45	144	100	5	Dai	9	BG	5									
24 Mar	N12E33	142	130	7	Dao	6	BG										
25 Mar	N10E20	142	130	9	Dsi	9	B										
26 Mar	N09E07	142	120	8	Dsi	16	B										
27 Mar	N10W07	143	160	9	Dsi	16	B										
28 Mar	N10W20	143	150	9	Dao	14	BD	5	2		5						
29 Mar	N10W34	144	100	10	Dao	11	BGD	7		1	10	1	1				
30 Mar	N10W49	146	130	9	Dac	10	BG	1	1		1	1					
								18	3	1	18	2	1	0	0		

Still on Disk.

Absolute heliographic longitude: 142



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 2018

24 Mar	N03E38	137	10	2	Bxo	3	B										
25 Mar	N02E25	137	30	6	Cro	4	B										
26 Mar	N03E10	138	30	5	Cao	9	B										
27 Mar	N03W04	140	70	5	Dsi	9	B				1						
28 Mar	N03W16	139	30	6	Cro	8	B										
29 Mar	N03W29	139	10	6	Bxo	4	B										
30 Mar	N04W44	141	plage														
								0	0	0	1	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 140

Region 2019

27 Mar	S10W76	212	10	5	Bxo	3	B										
28 Mar	S10W90	213	plage														
								0	0	0	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 212

Region 2020

27 Mar	S14E28	108	10	2	Bxo	5	B										
28 Mar	S14E14	109	plage														
29 Mar	S14W00	110	plage														
30 Mar	S13W11	108	10	3	Bxo	3	B										
								0	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 110

Region 2021

28 Mar	S15E50	73	40	4	Dao	7	B				1						
29 Mar	S15E36	74	50	5	Dao	12	BG										
30 Mar	S15E22	75	100	7	Dai	16	BG										
								0	0	0	1	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 75



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 2022

28 Mar	N16E64	59	60	3	Hsx	1	A										
29 Mar	N16E50	60	50	2	Hax	1	A										
30 Mar	N16E36	61	40	1	Hsx	1	A										
								0	0	0	0	0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 61

Region 2023

29 Mar	S16W79	189	30	4	Cao	7	B	1				3					
30 Mar	S16W91	188	10	1	Axx	1	A	1									
								2	0	0	3	0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 189

Region 2024

29 Mar	N17E19	91	10	1	Axx	1	A	1				1					
30 Mar	N17E05	92	plage														
								1	0	0	1	0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 92

Region 2025

30 Mar	S24W20	117	30	3	Dro	3	B										
								0	0	0	0	0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 117

Region 2026

29 Mar	S11E90	21	plage					1									
30 Mar	S11E76	21	30	3	Bxo	3	B	7									
								8	0	0	0	0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 21

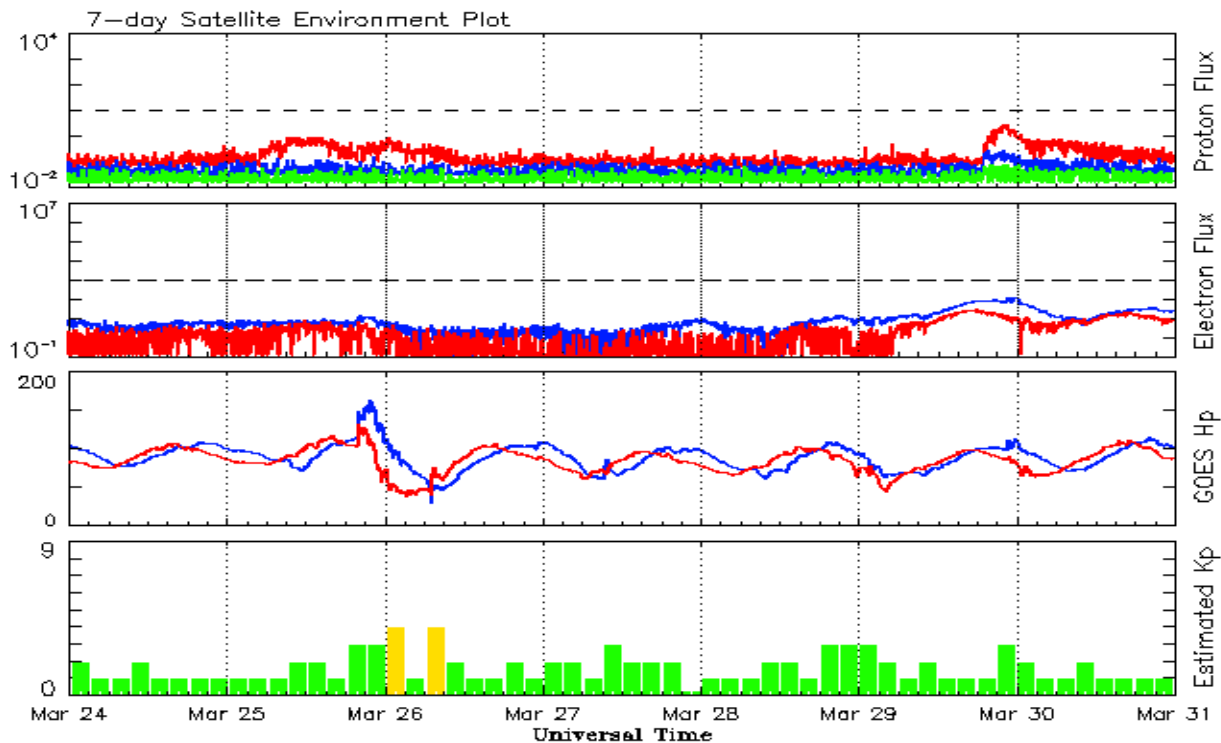


Recent Solar Indices (preliminary)
Observed monthly mean values

Month	Sunspot Numbers					Radio Flux		Geomagnetic	
	Observed values		Ratio	Smooth values		Penticton	Smooth	Planetary	Smooth
	SEC	RI	RI/SEC	SEC	RI	10.7 cm	Value	Ap	Value
2012									
March	77.9	64.3	0.82	94.1	66.8	115.1	126.8	14	8.1
April	84.4	55.2	0.65	91.3	64.6	113.1	125.8	9	8.0
May	99.5	69.0	0.69	87.7	61.7	121.5	123.8	8	8.2
June	88.6	64.5	0.73	83.9	58.9	120.5	121.1	10	8.3
July	99.6	66.5	0.67	82.4	57.8	135.6	119.5	13	8.3
August	85.8	63.0	0.74	83.1	58.2	115.7	119.2	7	8.1
September	84.0	61.4	0.73	83.7	58.1	123.2	118.9	8	7.8
October	73.5	53.3	0.73	85.0	58.6	123.3	119.2	9	7.4
November	89.2	61.8	0.69	87.3	59.7	120.9	120.1	6	7.3
December	60.4	40.8	0.68	88.0	59.6	108.4	120.1	3	7.5
2013									
January	99.8	62.9	0.63	87.1	58.7	127.1	118.9	4	7.5
February	60.0	38.1	0.63	86.7	58.4	104.4	118.0	5	7.4
March	81.0	57.9	0.71	85.7	57.6	111.2	117.1	9	7.4
April	112.8	72.4	0.64	86.7	57.9	125.0	116.6	5	7.2
May	125.5	78.7	0.63	90.5	59.9	131.3	118.1	10	7.0
June	80.1	52.5	0.66	94.4	62.6	110.2	120.9	13	7.1
July	86.1	57.0	0.66	97.9	65.5	115.6	123.9	9	7.3
August	90.2	66.0	0.73	103.7	69.0	114.7	127.9	9	7.6
September	55.0	37.0	0.67			102.7		5	
October	127.1	85.6	0.67			132.3		7	
November	125.7	77.6	0.62			148.4		5	
December	118.2	90.3	0.76			147.7		5	
2014									
January	125.9	82.0	0.65			158.6		6	
February	174.6	102.8	0.59			170.3		12	

Note: Values are final except for the most recent 6 months which are considered preliminary. Cycle 24 started in Dec 2008 with an RI=1.7.





*Weekly Geosynchronous Satellite Environment Summary
Week Beginning 24 March 2014*

The proton flux plot contains the five-minute averaged integral proton flux (protons/cm²-sec -sr) as measured by the SWPC Primary GOES satellite, near West 75, for each of three energy thresholds: greater than 10, 50, and 100 MeV.

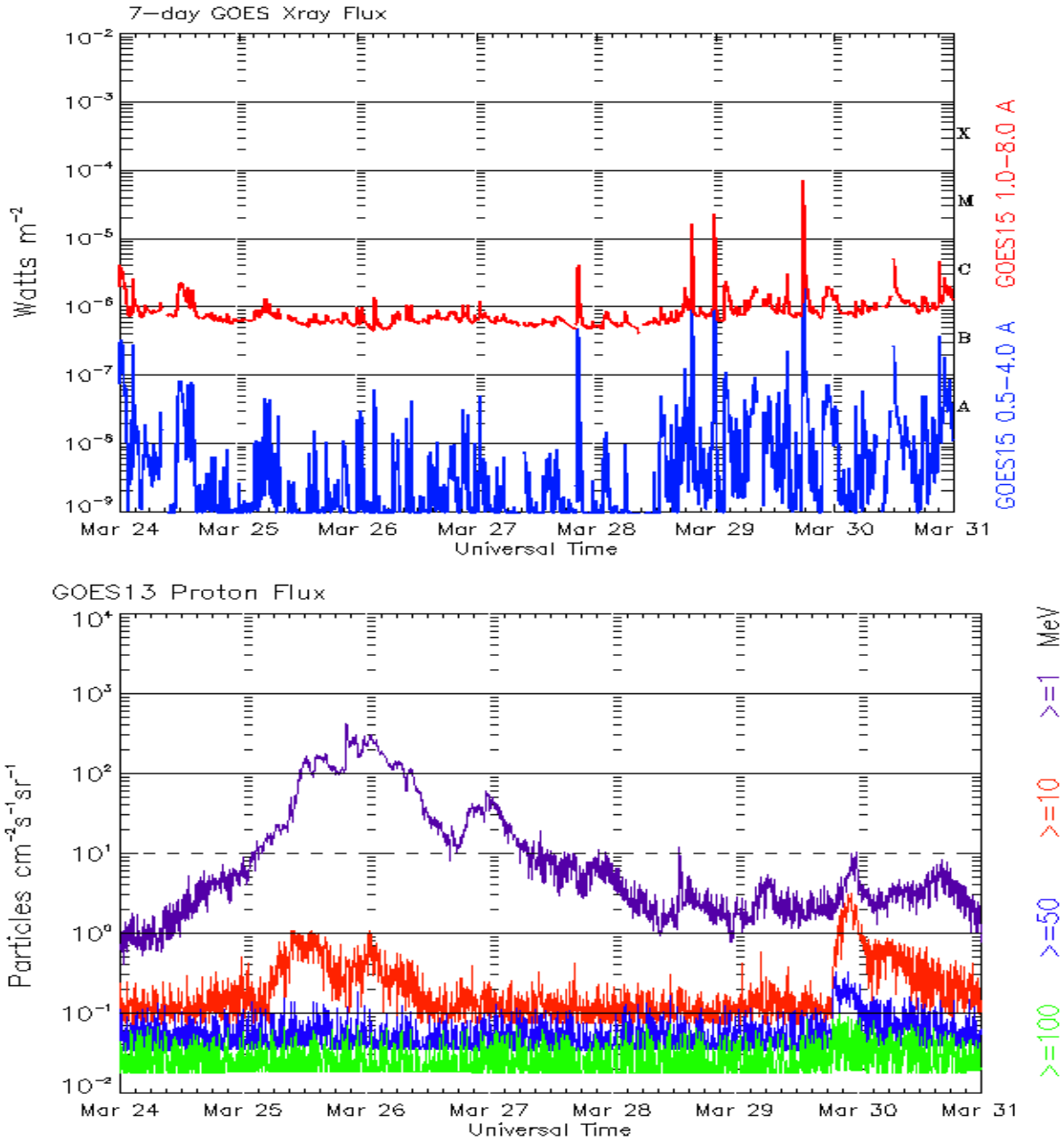
The electron flux plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV by the SWPC Primary GOES satellite.

The Hp plot contains the five minute averaged Hp magnetic field component in nanoteslas (nT) as by the SWPC Primary GOES satellite. The Hp component is parallel to the spin axis of the satellite, which is nearly parallel to the Earth's rotation axis.

The Estimated 3-hour Planetary Kp-index is derived at the NOAA Space Weather Prediction Center using data from the following ground-based magnetometers: Boulder, Colorado; Chambon la Foret, France; Fredericksburg, Virginia; Fresno, California; Hartland, UK; Newport, Washington; Sitka, Alaska. These data are made available thanks to the cooperative efforts between SWPC and data providers around the world, which currently includes the U.S. Geological Survey, the British Geological Survey, and the Institut de Physique du Globe de Paris.

The data included here are those now available in real time at the SWPC and are incomplete in that they do not include the full set of parameters and energy ranges known to cause satellite operating anomalies. The proton and electron fluxes and Kp are 'global' parameters that are applicable to a first order approximation over large areas. H parallel is subject to more localized phenomena and the measurements generally are applicable to within a few degrees of longitude of the measuring satellite.





*Weekly GOES Satellite X-ray and Proton Plots
Week Beginning 24 March 2014*

The x-ray plots contains five-minute averages x-ray flux (Watt/m²) as measure by the SWPC primary GOES X-ray satellite, usually at West 105 longitude, in two wavelength bands, 0.05 - 0.4 and 0.1 - 0.8 nm. The letters A, B, C, M and X refer to x-ray event levels for the 0.1 - 0.8 nm band.

The proton plot contains the five-minute averaged intergral flux units (pfu = protons/cm² -sec -sr) as measured by the primary SWPC GOES Proton satellite for each of the energy thresholds: >1, >10, >30, and >100 MeV. The P10 event threshold is 10 pfu at greater than 10 MeV.



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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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