

Solar activity was at moderate levels to begin the week. On 10 March, Region 2002 (S19, L=326 class/area Ekc/380 on 13 Mar) produced three M-class events, the largest an M1 at 10/1528 UTC. Region 1996 (N14, L=052 class/area Eac/220 on 12 Mar) also produced an M1/Sf that day at 10/2300 UTC followed by an M3/1f at 11/0348 UTC. Region 1991 (S24, L=093 class/area Eki/370 on 02 Mar) produced an M1 flare at 11/1207 UTC. Region 1996 produced two more M-class events on 12 Mar, to include an M9/Sb at 12/2234 UTC, bringing activity to high levels for that day. Moderate levels returned on 13 Mar when Region 1996 produced an M1 at 13/1919 UTC before rotating around the west limb. Solar activity was at low levels for the remainder of the period. The largest C-class event recorded during that time was a C7/Sf at 16/0645 UTC from Region 2003 (N05, L=013 class/area Eac/200 on 15 Mar). Between 13/0001 - 0154 UTC an approximately 6 degree long filament, centered near S18W60, lifted off the disk in SDO/AIA imagery but was determined not to be geoeffective. A 14 degree filament centered near N12E17 disappeared between 14/1454 - 1746 UTC, but was also determined not to be Earth-directed. Finally, a 30 degree filament centered near S22E50 erupted between 16/0235 - 0323 UTC but model data indicated it was too far south of the ecliptic to be geoeffective.

No proton events were observed at geosynchronous orbit.

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

Geomagnetic field activity was mostly quiet with the exception of 13 Mar. Minor storm levels were reached in the first synoptic period followed by active and then unsettled conditions for the first half of the day due to a solar sector boundary change and a positive polarity coronal hole high speed stream (CH HSS). Quiet conditions returned by midday 13 Mar and quiet levels prevailed for the rest of the period.

Space Weather Outlook **17 March - 12 April 2014**

Solar activity is expected to be low with a chance for M-class activity through 26 Mar. Moderate levels are likely with a slight chance for X-class activity from 26 Mar through the remainder of the period as old Region 1996 (N14, L=052) returns to the visible disk followed by the return of Region 2002 (S19, L=326).

No proton events are expected at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be

Geomagnetic field activity is expected to be quiet to unsettled on 17 - 18 Mar due to anticipated CH HSS activity. Mostly quiet conditions are expected from 19 - 29 Mar. Quiet to unsettled conditions are expected from 30 Mar to 01 Apr due to recurrent negative Bz. The remainder of



the period is expected to be quiet with the exception of 09 Apr, which is expected to see quiet to unsettled conditions due to effects from a recurrent CH HSS.



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
10 March	152	122	490	C1.4	8	4	0	22	0	1	0	0
11 March	165	108	540	C1.4	7	2	0	11	2	0	0	0
12 March	148	145	890	B7.4	3	2	0	11	0	0	0	0
13 March	148	130	850	B7.3	2	1	0	4	0	0	0	0
14 March	144	121	750	B8.0	4	0	0	4	0	0	0	0
15 March	139	141	1020	B5.9	7	0	0	5	0	0	0	0
16 March	136	139	930	B6.0	4	0	0	2	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	>100 MeV	>0.6 MeV	>2MeV	>4 MeV
	10 March	9.7e+05	1.2e+04	2.4e+03		3.8e+06
11 March	7.6e+05	1.2e+04	2.6e+03		2.6e+06	
12 March	4.7e+05	1.1e+04	2.4e+03		1.1e+06	
13 March	9.5e+04	1.0e+04	2.2e+03		2.7e+04	
14 March	6.1e+04	1.0e+04	2.3e+03		3.9e+04	
15 March	5.3e+04	1.0e+04	2.4e+03		8.5e+04	
16 March	5.5e+04	1.0e+04	2.3e+03		1.5e+05	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	10 March	4	1-1-1-2-2-1-1-0	7	0-0-0-5-2-0-0-0	6
11 March	4	0-0-0-2-2-3-1-1	2	0-0-1-1-2-1-0-0	4	0-0-1-2-1-1-1-1
12 March	0	2-0-1-2-0-0-0-0	2	1-0-0-0-1-0-1-1	6	2-1-1-1-1-1-2-3
13 March	7	0-0-0-0-0-2-0-3	14	3-4-3-4-3-2-1-1	13	5-4-3-2-2-1-2-1
14 March	2	0-0-0-0-0-0-1-2	11	0-0-0-4-4-2-1-0	5	1-2-2-1-2-2-1-1
15 March	26	5-5-5-1-1-1-1-5	2	1-0-2-1-0-0-0-0	4	2-1-1-1-0-0-1-1
16 March	11	2-1-1-1-1-1-3-5	1	0-0-2-0-0-0-0-0	3	1-1-1-0-0-0-1-0

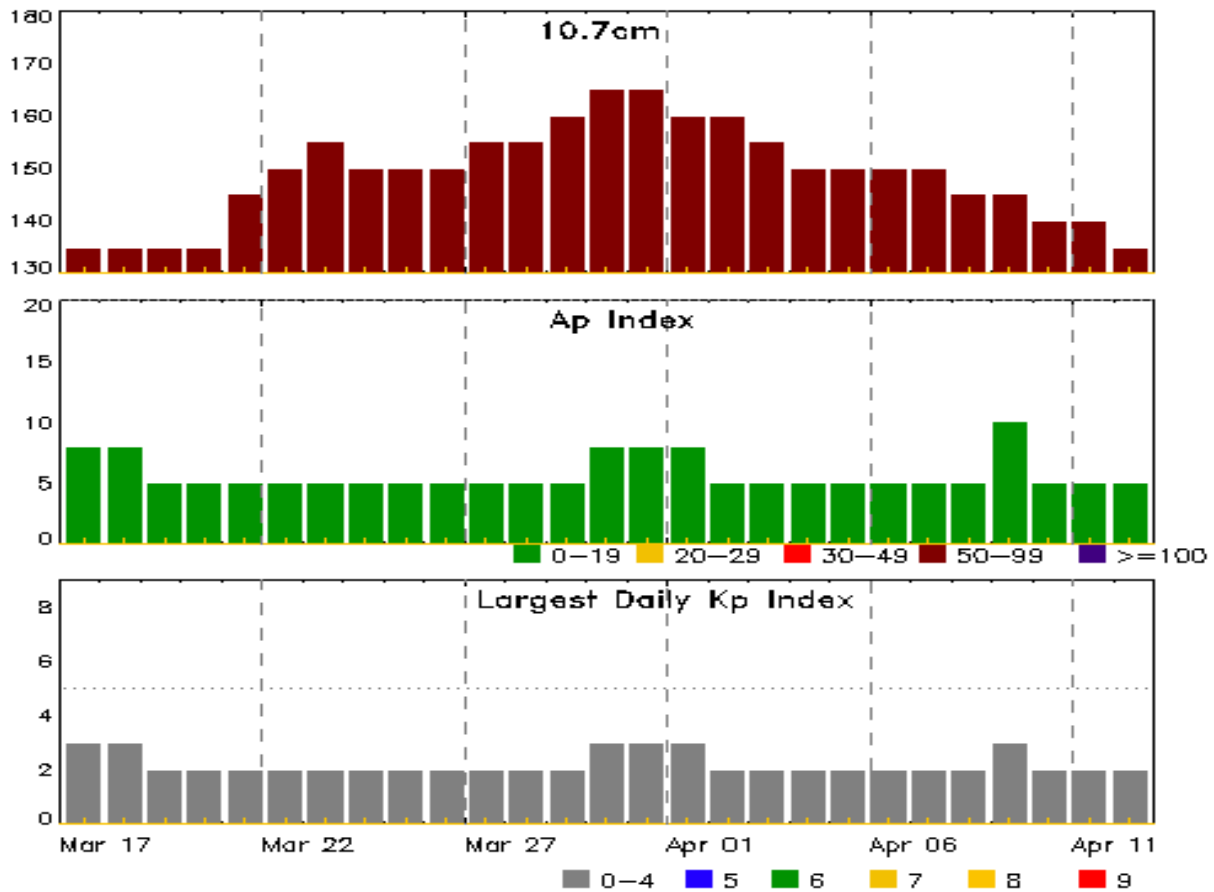


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
12 Mar 2235	ALERT: X-ray Flux exceeded M5	12/2233
12 Mar 2258	SUMMARY: X-ray Event exceeded M5	12/2228 - 2239
13 Mar 0033	WARNING: Geomagnetic K = 4	13/0035 - 0700
13 Mar 0037	ALERT: Geomagnetic K = 4	13/0028
13 Mar 0103	WARNING: Geomagnetic K = 5	13/0105 - 0700
13 Mar 0224	ALERT: Geomagnetic K = 5	13/0218
13 Mar 0642	EXTENDED WARNING: Geomagnetic K = 4	13/0035 - 1300



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
17 Mar	135	8	3	31 Mar	165	8	3
18	135	8	3	01 Apr	160	8	3
19	135	5	2	02	160	5	2
20	135	5	2	03	155	5	2
21	145	5	2	04	150	5	2
22	150	5	2	05	150	5	2
23	155	5	2	06	150	5	2
24	150	5	2	07	150	5	2
25	150	5	2	08	145	5	2
26	150	5	2	09	145	10	3
27	155	5	2	10	140	5	2
28	155	5	2	11	140	5	2
29	160	5	2	12	135	5	2
30	165	8	3				



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
10 Mar	0019	0026	0033	M1.1	0.006	SF	S19E52	2002				
10 Mar	0402	0408	0413	M1.0	0.004			2002				
10 Mar	1521	1528	1532	M1.7	0.007			2002				
10 Mar	2245	2300	2312	M1.4	0.016	SF	N14W51	1996				
11 Mar	0344	0350	0356	M3.5	0.013	1F	N13W55	1996		110		
11 Mar	1158	1207	1214	M1.7	0.010			1991				
12 Mar	1055	1105	1111	M2.5	0.012	SN	N13W69	1996				
12 Mar	2228	2234	2239	M9.3	0.031	SB	N15W78	1996		140		
13 Mar	1903	1919	1930	M1.2	0.012			1996				

Flare List

Date	Time			X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
	Begin	Max	End				
10 Mar	0019	0026	0033	M1.1	SF	S19E52	2002
10 Mar	0144	0147	0150	C3.7			2002
10 Mar	0402	0408	0413	M1.0			2002
10 Mar	0614	0624	0630	C2.2	SF	N13W40	1996
10 Mar	0729	0747	0806	C3.9	SF	N16W39	1996
10 Mar	0756	0756	0802		SF	S18E48	2002
10 Mar	0841	0844	0905		SF	S19E48	2002
10 Mar	0915	0916	A0925		SF	S18E49	2002
10 Mar	1032	1043	1102	C6.1			2002
10 Mar	1129	1142	1149	C6.0	SF	N12W47	1996
10 Mar	B1150	U1151	1153		SF	S06E70	2004
10 Mar	B1228	U1230	A1243		SF	S18E45	2002
10 Mar	1252	1254	1258		SF	N12W49	1996
10 Mar	1311	U1312	A1327		SF	S18E47	2002
10 Mar	B1340	1527	1646		2N	S20E43	2002
10 Mar	1342	U1350	A1451	C2.8	SF	S18E43	2002
10 Mar	1422	1423	1427		SF	N07W05	2003
10 Mar	B1505	U1507	A1511		SF	S17E42	2002
10 Mar	1521	1528	1532	M1.7			2002
10 Mar	1809	1825	1838	C5.6			1996
10 Mar	1814	1814	1820		SF	N14W49	1996
10 Mar	1821	1824	1833		SF	N14W48	1996



Flare List

Date	Time			Optical			Rgn #
	Begin	Max	End	X-ray Class	Imp/Brtns	Location Lat CMD	
10 Mar	1830	1832	1837		SF	S20E41	2002
10 Mar	2022	2114	2119	C3.5			1996
10 Mar	2042	2044	2046		SF	N13W50	1996
10 Mar	2048	2049	2053		SF	N13W50	1996
10 Mar	2109	2109	2121		SF	N13W50	1996
10 Mar	2245	2300	2312	M1.4	SF	N14W51	1996
10 Mar	2327	2341	2350		SF	N13W49	1996
11 Mar	0007	0009	0022		SF	S19E40	2002
11 Mar	0147	0148	0153		SF	N12W54	1996
11 Mar	0341	0348	0429	M3.5	1F	N13W55	1996
11 Mar	0602	0605	0608	C2.4			2002
11 Mar	0711	0753	0803		SF	S18E31	2002
11 Mar	0908	0912	0925		SF	S18E31	2002
11 Mar	1007	1017	1021	C6.7			
11 Mar	1158	1207	1214	M1.7			1991
11 Mar	1347	1347	1350		SF	S18E31	2002
11 Mar	1411	1421	1431	C3.3			1991
11 Mar	1449	1456	1457		SF	N17W58	1996
11 Mar	1547	1623	1707	C9.7	1F	S18E31	2002
11 Mar	1750	1751	1800		SF	N15W61	1996
11 Mar	1816	1822	1835		SF	N15W61	1996
11 Mar	1841	1843	1849		SF	N15W62	1996
11 Mar	1912	1946	2002	C8.0	SF	S19E26	2002
11 Mar	2140	2156	2212	C6.9	SF	N17W68	1996
11 Mar	2352	2357	0003	C2.2			2002
12 Mar	0026	0026	0031		SF	N07W26	2003
12 Mar	0230	0251	0328	C1.4			2002
12 Mar	0231	0232	0234		SF	S20E25	2002
12 Mar	0721	0757	0810	C7.2	SF	N12W69	1996
12 Mar	0822	U0826	0852		SF	S19E20	2002
12 Mar	0946	0947	0951		SF	N12W68	1996
12 Mar	1055	1105	1111	M2.5	SN	N13W69	1996
12 Mar	1125	1125	1127		SF	S18E19	2002
12 Mar	1315	1315	1318		SF	S19E17	2002
12 Mar	1315	1335	1355		SF	S19W67	1999
12 Mar	1720	1740	1754	C5.3	SF	N16W74	1996
12 Mar	2228	2234	2239	M9.3	SB	N15W78	1996
13 Mar	0900	0900	0910		SF	N04W43	2003



Flare List

Date	Time			X-ray Class	Imp/ Brtns	Optical		Rgn #
	Begin	Max	End			Location Lat CMD		
13 Mar	0925	0927	0932		SF	N05W43		2003
13 Mar	1127	1133	1159		SF	N03W47		2003
13 Mar	1339	1344	1351	C1.7	SF	N04W47		2003
13 Mar	1709	1715	1724	C1.7				2003
13 Mar	1903	1919	1930	M1.2				1996
14 Mar	0302	0320	0333	C4.1				1996
14 Mar	0356	0357	0359		SF	S16W00		2002
14 Mar	0429	0433	0436	C2.4				1996
14 Mar	0500	0500	0503		SF	N11W51		2006
14 Mar	0546	0552	0558	C4.7	SF	N03W54		2003
14 Mar	0832	1021	1042	C5.0				1996
14 Mar	B1159	U1204	A1211		SF	N09W56		2006
15 Mar	0020	0026	0030	C3.1				2002
15 Mar	0252	0256	0302	C1.5				2003
15 Mar	0318	0321	0330	C1.3				2003
15 Mar	0508	0513	0520	C1.3				2003
15 Mar	0658	0701	0706		SF	N02W67		2003
15 Mar	0930	0940	0955	C5.0				2003
15 Mar	1431	1437	1444	C1.2	SF	S11E71		1998
15 Mar	1448	1448	1451		SF	N12W69		2006
15 Mar	1706	1715	1733	C6.1	SF	N05W72		2003
15 Mar	1858	1858	1901		SF	N12W71		2006
16 Mar	0557	0604	0613	C1.9				1998
16 Mar	0637	0645	0652	C7.3	SF	N04W80		2003
16 Mar	0806	0813	0831	C2.2	SF	N14E42		2005
16 Mar	2116	2120	2122	C1.4				2002



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 1990																							
24 Feb	S15E77	108	250	3	Hkx	2	A	2	2														
25 Feb	S12E64	107	180	3	Hkx	2	A				1	2									1		
26 Feb	S12E50	108	210	3	Dkc	3	BD																
27 Feb	S14E38	108	250	6	Dkc	7	BD	1				1											
28 Feb	S14E24	107	250	3	Dkc	4	BD					1											
01 Mar	S14E11	108	210	6	Dac	9	BD					1											
02 Mar	S13W04	110	190	6	Dac	5	BD	1				1											
03 Mar	S12W17	110	210	7	Dac	7	B																
04 Mar	S12W28	107	190	5	Cso	6	B																
05 Mar	S12W41	106	190	3	Dso	4	B	2															
06 Mar	S12W55	107	180	6	Dso	11	B																
07 Mar	S13W68	107	200	6	Cso	9	B																
08 Mar	S12W82	109	110	2	Hsx	2	A																
09 Mar	S12W94	108	60	3	Hsx	1	A																
								6	2	1	6	0	1	0	0								

Crossed West Limb.
 Absolute heliographic longitude: 110

Region 1991																							
26 Feb	S25E65	93	120	7	Dso	4	B					4											
27 Feb	S25E52	94	280	9	Dko	11	B	7				10											
28 Feb	S25E38	93	320	11	Eko	18	BG		1			2											
01 Mar	S25E26	93	290	11	Eko	10	BG	1															
02 Mar	S24E13	93	370	12	Eki	13	BG	1				5											
03 Mar	S23W00	93	330	12	Eki	33	BG	1															
04 Mar	S24W13	92	240	11	Eac	25	BGD	4				1	1										
05 Mar	S24W25	90	240	13	Eac	24	B	2	1			2											
06 Mar	S25W38	90	110	13	Eso	19	B																
07 Mar	S24W51	90	90	13	Eao	7	B																
08 Mar	S26W61	88	40	2	Cao	5	B	1					1										
09 Mar	S26W75	89	plage																				
10 Mar	S26W89	89	plage																				
								17	2	0	24	2	0	0	0								

Crossed West Limb.
 Absolute heliographic longitude: 93



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 1993																		
26 Feb	N16E57	101	10	5	Bxo	4	B											
27 Feb	N16E45	101	30	6	Cro	7	B											
28 Feb	N16E31	100	30	8	Dri	17	B	2				4						
01 Mar	N16E16	103	110	8	Dai	13	B	1				2						
02 Mar	N16E04	102	80	7	Dai	15	B					2						
03 Mar	N16W11	102	30	6	Cao	8	B											
04 Mar	N16W23	102	50	4	Cso	3	B											
05 Mar	N16W36	101	50	5	Bxo	10	B											
06 Mar	N16W51	102	10	6	Bxo	8	B	1				1						
07 Mar	N17W61	100	10	1	Axx	1	A											
08 Mar	N17W75	102	plage															
09 Mar	N17W89	103	plage									2						
								4	0	0		11	0	0	0	0	0	

Crossed West Limb.
 Absolute heliographic longitude: 102

Region 1996																		
02 Mar	N13E55	51	40	4	Cao	6	B											
03 Mar	N14E42	51	60	8	Cai	7	B											
04 Mar	N13E29	50	60	7	Csi	14	B											
05 Mar	N14E15	52	120	6	Cso	20	B	1				3						
06 Mar	N15E02	50	50	8	Dso	13	B											
07 Mar	N15W10	49	110	8	Dai	21	B											
08 Mar	N15W23	50	80	8	Dai	16	B											
09 Mar	N14W37	51	80	11	Eai	19	BG	2				7						
10 Mar	N14W51	51	150	11	Eai	19	BG	5	1			11						
11 Mar	N14W64	51	190	11	Eac	17	BG	1	1			6	1					
12 Mar	N14W78	52	220	12	Eac	16	BG	2	2			5						
13 Mar	N16W90	51	60	2	Dao	3	BG		1									
								11	5	0		32	1	0	0	0	0	

Crossed West Limb.
 Absolute heliographic longitude: 50

Region 1998																		
06 Mar	S10E51	1	100	4	Cao	3	B					1						
13 Mar	S08W40	1	20	2	Cao	6	B											
16 Mar	S07W79	1	0	1	Axx	1	A	1										
								2	0	0		3	0	0	0	0	0	

Still on Disk.
 Absolute heliographic longitude: 0



Region Summary - continued

Date	Location		Sunspot Characteristics				Flares									
	Lat CMD	Lon	Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical				
			10 ⁶	hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4
Region 1999																
05 Mar	S17E22		45	40	6	Dro	6	B								
06 Mar	S18E07		45	40	5	Dso	6	B								
07 Mar	S16W06		45	60	6	Dso	12	B								
08 Mar	S16W19		46	10	4	Bxo	2	B								
09 Mar	S16W29		43	0	1	Axx	1	A								
10 Mar	S16W43		43	plage												
11 Mar	S16W57		44	plage												
12 Mar	S18W74		48	10	5	Bxo	3	B				1				
13 Mar	S17W86		47	20	5	Cro	3	B								
									0	0	0	1	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 45

Region 2000

06 Mar	S10E41		11	20	3	Cso	2	B								
07 Mar	S11E27		12	70	4	Cso	8	B								
08 Mar	S11E13		13	40	6	Cao	7	B								
09 Mar	S11W00		14	10	6	Bxo	7	B								
10 Mar	S11W14		14	plage												
11 Mar	S11W28		15	plage												
12 Mar	S11W42		16	plage												
13 Mar	S09W61		22	20	4	Cro	5	B								
14 Mar	S09W75		23	plage												
15 Mar	S08W87		22	0	1	Axx	1	A								
									0	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 14

Region 2001

06 Mar	N19W37		89	10	3	Bxo	3	B								
07 Mar	N18W51		90	60	5	Bxo	5	B								
08 Mar	N19W65		92	50	7	Cao	4	B				1				
09 Mar	N19W78		92	40	7	Dso	8	B				1				
10 Mar	N19W92		92	40	4	Dso	8	B								
									0	0	0	2	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 89



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 2002																	
08 Mar	S19E64	323	50	5	Cao	5	B	2	1		3						
09 Mar	S19E51	323	90	8	Dac	12	BGD	12	2		16	1					
10 Mar	S19E37	323	150	10	Dac	19	BGD	3	3		9		1				
11 Mar	S19E26	321	210	11	Eac	27	BGD	4			5	1					
12 Mar	S18E09	324	380	12	Ekc	25	BGD	1			4						
13 Mar	S19W05	326	380	12	Ekc	26	BGD										
14 Mar	S18W18	326	330	13	Ehc	33	BG				1						
15 Mar	S18W32	327	300	13	Ekc	33	B	1									
16 Mar	S18W44	326	280	12	Ekc	24	BG	1									
								25	6	0	38	2	1	0	0		

Still on Disk.

Absolute heliographic longitude: 326

Region 2003

10 Mar	N06W12	12	60	5	Dso	7	B				1						
11 Mar	N06W25	12	70	6	Dao	9	B										
12 Mar	N06W39	12	130	7	Dac	20	B				1						
13 Mar	N06W51	12	180	8	Dac	16	BG	2			4						
14 Mar	N06W64	12	140	6	Dao	12	BG	1			1						
15 Mar	N05W78	13	200	12	Eac	13	BG	5			2						
16 Mar	N05W91	13	120	6	Dao	5	B	1			1						
								9	0	0	10	0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 12

Region 2004

10 Mar	S08E64	296	30	3	Cro	4	B				1						
11 Mar	S08E51	296	10	1	Axx	1	A										
12 Mar	S09E36	297	10	1	Axx	1	A										
13 Mar	S09E22	299	plage														
14 Mar	S09E08	300	plage														
15 Mar	S09W06	301	plage														
16 Mar	S10W17	299	10	4	Bxo	4	B										
								0	0	0	1	0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 301



Region Summary - continued

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

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						
								1	0	0	1	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 263

Region 2006

14 Mar	N11W61	9	40	3	Cao	9	B				2						
15 Mar	N12W75	10	220	6	Dsi	10	B				2						
16 Mar	N11W89	11	190	7	Dsi	5	B										
								0	0	0	4	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 9

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										
								0	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 245

Region 2008

15 Mar	S11E72	223	30	2	Hsx	1	A										
16 Mar	S11E59	223	40	2	Hax	1	A										
								0	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 223

Region 2009

16 Mar	N14W02	284	10	4	Bxo	4	B										
								0	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 284

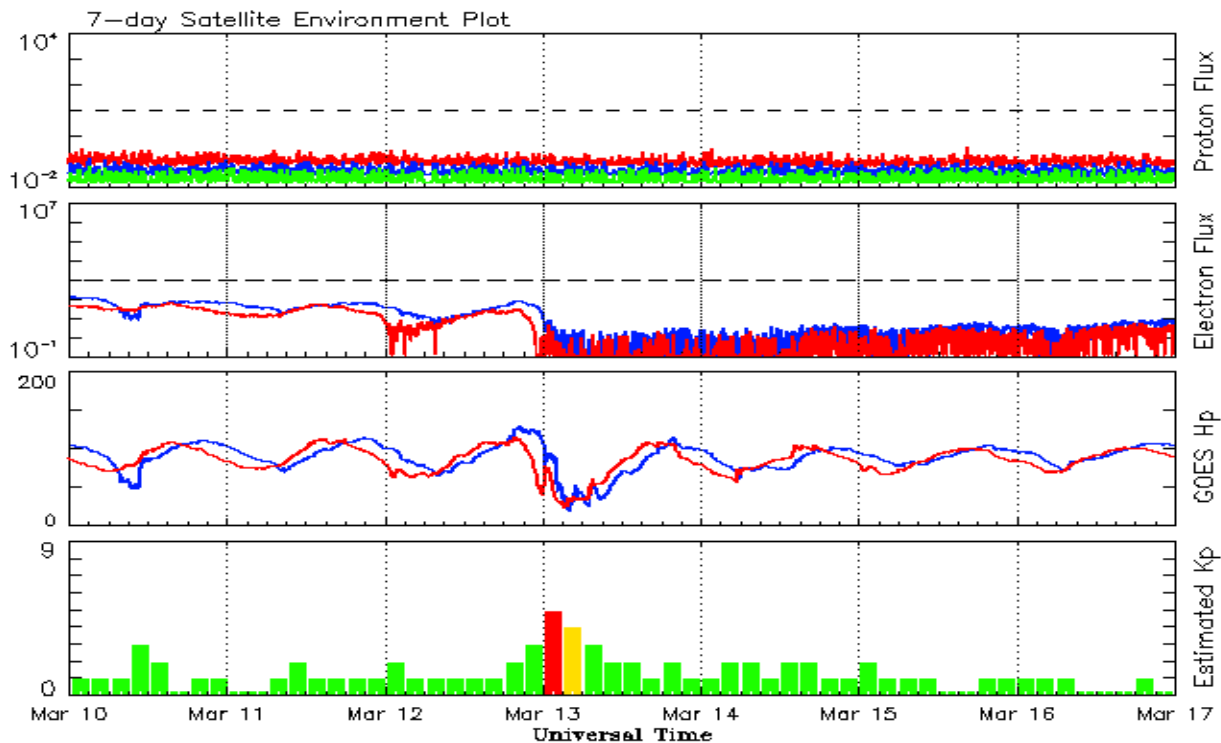


Recent Solar Indices (preliminary)
Observed monthly mean values

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 10 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.

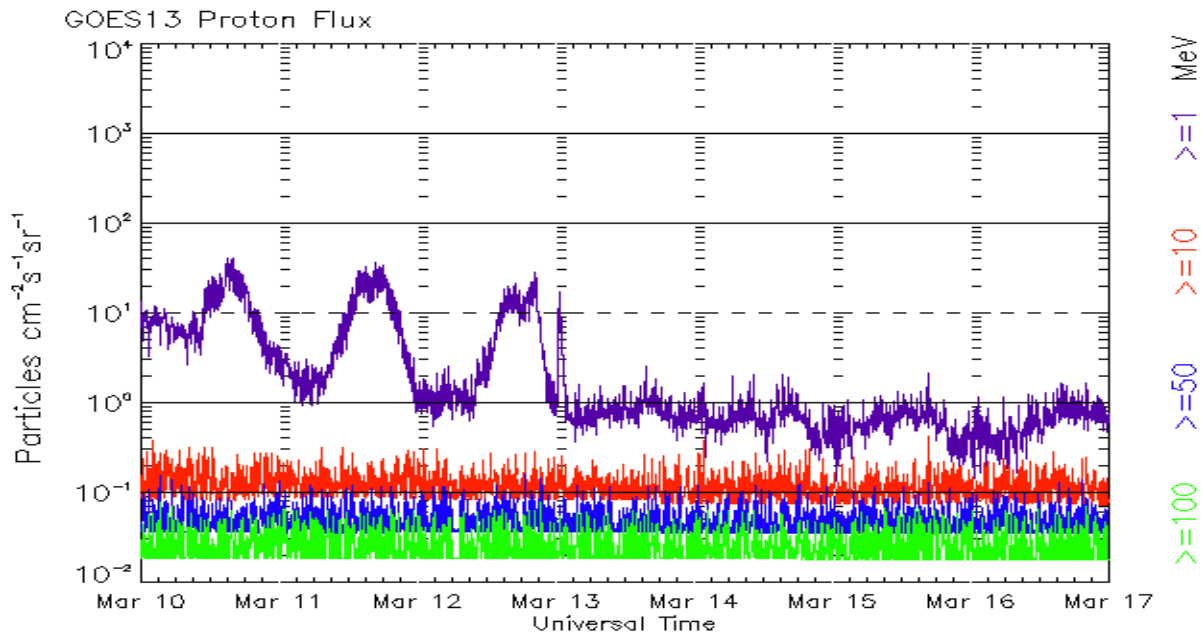
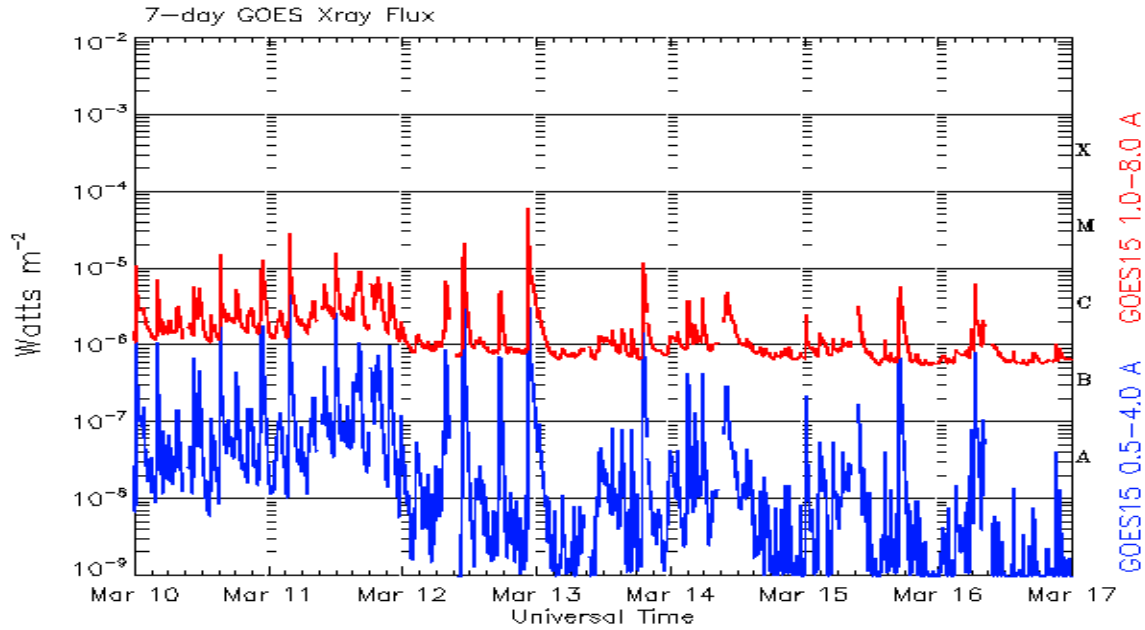
The electron flux plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV by the SWPC Primary GOES satellite.

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 10 March 2014*

The x-ray plots contains five-minute averages x-ray flux ($Watt/m^2$) 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/ cm^2 -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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