

**Space Weather Highlights
17 March - 23 March 2014**

**SWPC PRF 2012
24 March 2014**

Solar activity was at low to moderate levels. Low levels were observed from 17-19 March with the majority of the C-class flare activity originating from Regions 2010 (S15, L=202, class/area Dac/180 on 23 March) and 2014 (S14, L=169, class/area Dsc/190 on 23 March). Solar activity reached moderate levels on 20 March due to an isolated M1/1f flare at 20/0356 UTC from Region 2010. The event was associated with a Type II (572 km/s) and Type IV radio sweeps as well as a non Earth-directed coronal mass ejection (CME). Solar activity was once again at low levels on 21 March. By 22 March, moderate levels were reached again with an impulsive M1/1f flare at 22/0702 UTC from Region 2011 (S07, L=280, class/area Dho/300 on 22 March). Low levels returned on 23 March with multiple C-class flares observed including a long duration C5/Sf flare at 23/0348 UTC from Region 2014. Associated with this flare was a CME (estimated speed of 768 km/s) with the majority of the ejecta directed off the east limb, however there appeared to be an Earth-directed component that is expected to arrive late on 25 March to early on 26 March.

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 generally at quiet levels throughout the period with quiet to unsettled periods observed on 21 March due to prolonged periods of southward Bz. By 22 March, a rise in solar wind speed and temperature was observed at the ACE spacecraft just after a solar sector boundary change into a positive (away) sector. This was indicative of the onset of a positive polarity coronal hole high speed stream (CH HSS). Solar wind speed increased from approximately 350 km/s to 530 km/s and remained near 480 km/s through the end of the period. Total field measurements reached 10 nT initially during the onset of the CH HSS, however it decreased to near 5 nT by 23 March. Only quiet conditions were observed on 22-23 March.

**Space Weather Outlook
24 March - 19 April 2014**

Solar activity is expected to be at low levels with a chance for M-class flares through 25 March and again from 15-19 April. From 26 March through 14 April, moderate levels are likely with a chance for X-class flares as old Regions 1996 (N14, L=052) and 2002 (S19, L=326) return to the visible disk.

No proton events are expected at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at normal to moderate levels.

Geomagnetic field activity is expected to be at quiet to unsettled conditions on 24-25 March, 30



March-01 April, 09 April, and again on 17 April due to CH HSS activity and recurrent prolonged periods of the southward Bz component. Late on 25 March to early on 26 March, the 23 March CME is expected to deliver a glancing blow to the geomagnetic field causing quiet to active conditions on 26 March.



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
17 March	136	110	530	B5.9	7	0	0	6	0	0	0	0
18 March	138	125	520	B5.6	5	0	0	4	0	0	0	0
19 March	149	137	630	B7.5	11	0	0	14	4	0	0	0
20 March	151	137	880	B8.2	6	1	0	13	6	0	0	0
21 March	153	125	810	B6.1	6	0	0	5	0	0	0	0
22 March	155	159	980	B6.1	6	1	0	7	2	0	0	0
23 March	157	159	890	B7.1	14	0	0	2	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	>100 MeV	>0.6 MeV	>2MeV	>4 MeV
	17 March	1.1e+05	1.0e+04	2.5e+03		2.4e+05
18 March	4.0e+04	1.0e+04	2.4e+03		4.9e+04	
19 March	3.7e+04	1.0e+04	2.4e+03		3.5e+04	
20 March	7.9e+04	9.9e+03	2.4e+03		5.7e+04	
21 March	1.0e+05	1.0e+04	2.4e+03		3.5e+04	
22 March	1.6e+05	1.0e+04	2.3e+03		6.2e+04	
23 March	1.1e+05	9.9e+03	2.4e+03		6.1e+04	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	17 March	2	0-0-0-0-1-1-1-1	0	0-0-0-0-0-0-0-0	3
18 March	5	1-2-2-1-2-2-2-0	11	0-0-5-3-3-2-1-0	6	1-1-2-2-2-1-2-1
19 March	2	1-0-1-1-1-0-1-1	7	1-1-4-3-1-0-0-1	5	2-1-2-1-1-1-1-1
20 March	4	1-2-1-1-1-1-1-1	3	1-1-0-3-1-0-1-0	6	1-2-2-2-1-0-1-1
21 March	10	3-2-3-2-2-3-2-2	16	2-2-4-5-3-3-1-1	10	3-2-3-3-2-3-2-2
22 March	7	2-1-1-2-3-2-2-1	5	1-0-0-0-4-1-1-0	6	2-1-1-2-2-1-1-2
23 March	7	1-2-2-2-2-2-2-2	4	1-1-1-1-1-1-2-1	6	2-2-2-1-1-1-2-2

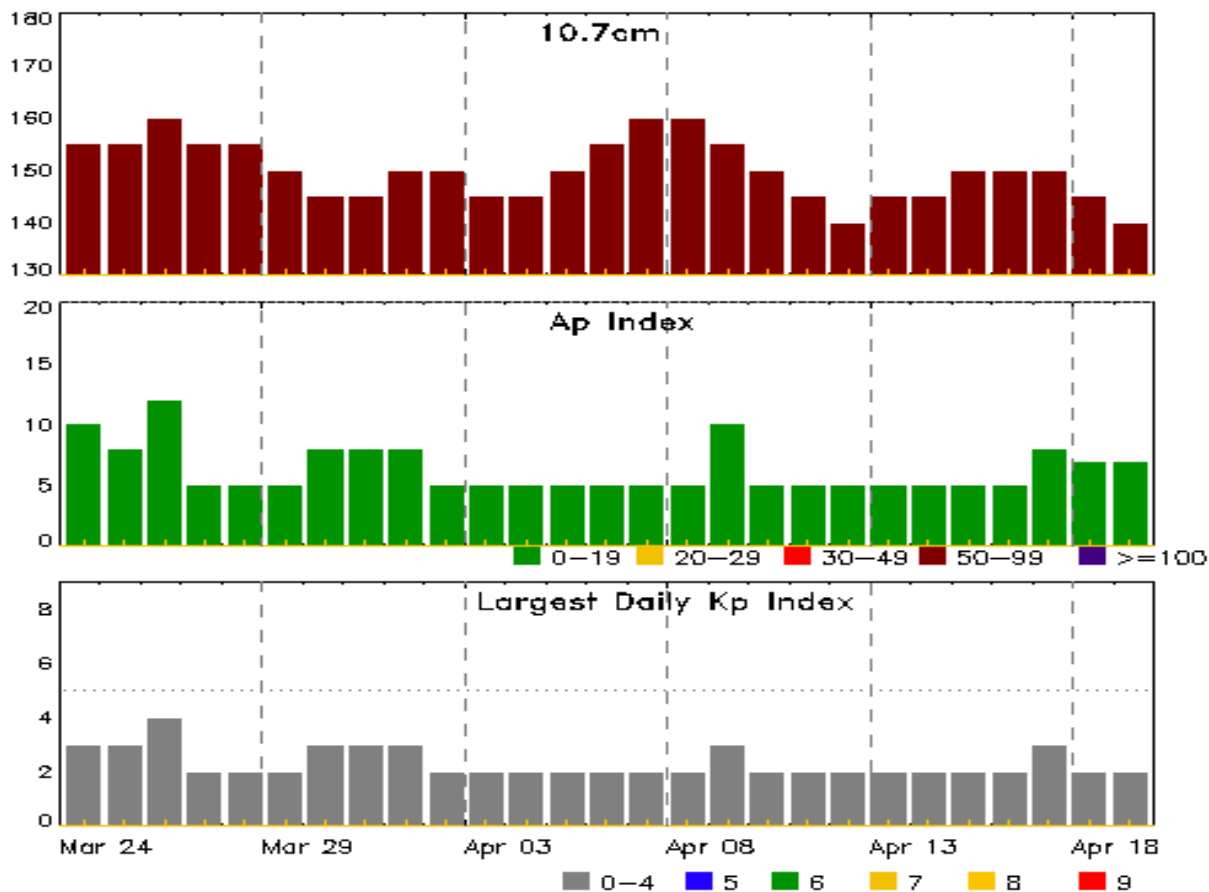


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
18 Mar 2326	ALERT: Type II Radio Emission	18/2253
19 Mar 0425	ALERT: Type II Radio Emission	19/0358
19 Mar 0443	ALERT: Type IV Radio Emission	19/0405
20 Mar 0428	ALERT: Type II Radio Emission	20/0352
20 Mar 0448	ALERT: Type IV Radio Emission	20/0407
20 Mar 1521	ALERT: Type IV Radio Emission	20/1415



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
24 Mar	155	10	3	07 Apr	160	5	2
25	155	8	3	08	160	5	2
26	160	12	4	09	155	10	3
27	155	5	2	10	150	5	2
28	155	5	2	11	145	5	2
29	150	5	2	12	140	5	2
30	145	8	3	13	145	5	2
31	145	8	3	14	145	5	2
01 Apr	150	8	3	15	150	5	2
02	150	5	2	16	150	5	2
03	145	5	2	17	150	8	3
04	145	5	2	18	145	7	2
05	150	5	2	19	140	7	2
06	155	5	2				



Energetic Events

Date	Time			X-ray	Optical Information				Peak		Sweep Freq	
	Begin	Max	Half Max	Class	Integ Flux	Imp/ Brtns	Location	Rgn #	245	2695	II	IV
20 Mar	0342	0356	0408	M1.7	0.016	1F	S14E35	2010			1	1
22 Mar	0658	0702	0705	M1.1	0.002	1F	S10W71	2011				

Flare List

Date	Time			X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
	Begin	Max	End				
17 Mar	0041	0045	0048	C2.0			2002
17 Mar	0256	0300	0302	C1.0			2006
17 Mar	0306	0310	0313	C1.7	SF	S21W37	2002
17 Mar	0824	0829	0831	C1.5			2006
17 Mar	0844	0847	0850		SF	S21W40	2002
17 Mar	0855	0904	0913	C1.8	SF	S22W38	2002
17 Mar	1029	1030	1032		SF	S21W41	2002
17 Mar	1204	1211	1215		SF	S17E66	
17 Mar	1241	1300	1323	C1.2			2010
17 Mar	1752	1753	1755		SF	S11W24	2004
17 Mar	2303	2312	2322	C1.8			2010
18 Mar	0456	0506	0515	C3.4			2010
18 Mar	0607	0610	0612	C1.0			2002
18 Mar	0729	0730	0733		SF	S22W56	2002
18 Mar	1219	1233	1248	C1.0			2010
18 Mar	1526	1533	1546	C4.7	SF	S17E60	2010
18 Mar	1900	1906	1909		SF	S16E57	2010
18 Mar	2245	2252	2258	C4.7	SF	S17E56	2010
19 Mar	0337	0344	0351	C1.8			2010
19 Mar	0416	0416	0424		SF	S15E52	2010
19 Mar	0627	0652	0716	C1.7			2010
19 Mar	0629	0631	0636		SF	S15E52	2010
19 Mar	0654	0731	0828		1F	S13E50	2010
19 Mar	0726	0734	0739	C9.9	SN	S15E52	2010
19 Mar	1107	1111	1115	C1.2	SF	S15E49	2010
19 Mar	1119	1126	1143	C4.2	1N	S15E49	2010
19 Mar	1156	1156	1201		SF	S09E84	
19 Mar	1242	1246	1248	C1.6	SF	S10E84	2014
19 Mar	1249	1253	1256	C3.3			2014



Flare List

Date	Time			X-ray Class	Imp/ Brtns	Optical		Rgn #
	Begin	Max	End			Location Lat CMD		
19 Mar	1345	1345	1350		SF	S13E45		2010
19 Mar	B1441	1441	1444	C1.8	1F	S15E82		2014
19 Mar	1548	1550	1554		SF	S12E78		2014
19 Mar	1620	1624	1632	C3.3	1F	S12E78		2014
19 Mar	1733	1736	1738		SF	S03W32		2011
19 Mar	1741	1744	1748		SF	S12E78		2014
19 Mar	1841	1844	1851	C2.2	SF	S15E44		2010
19 Mar	1939	1950	1955	C3.1	SF	S12E76		2014
19 Mar	2158	2201	2207		SF	S06W37		2011
19 Mar	2210	2219	2236		SF	S06W37		2011
20 Mar	0019	0029	0037	C2.0				2014
20 Mar	0152	0157	0202	C8.3	1F	S11E75		2014
20 Mar	0235	0238	0240	C2.4				
20 Mar	0342	0356	0408	M1.7	1F	S14E35		2010
20 Mar	0350	0350	0359		SF	S12E75		2014
20 Mar	0400	0404	0407		SF	S12E75		2014
20 Mar	0551	0819	0903		1F	S09W43		2011
20 Mar	0603	0615	0640		SF	S10E73		2014
20 Mar	0606	0620	0629		SF	S14E36		2010
20 Mar	0658	0701	0715		SF	N14W14		2005
20 Mar	0810	0838	0846	C2.7	1F	S11E71		2014
20 Mar	0834	0837	0844		1F	S12E68		2014
20 Mar	1146	1147	1151		SF	S08W43		2011
20 Mar	1156	1159	1203		SF	S08W43		2011
20 Mar	1320	1325	1330		SF	S08W45		2011
20 Mar	1348	1352	1354	C2.9	1N	S12E69		2014
20 Mar	1414	1414	1418		SF	S11E67		2014
20 Mar	1512	1513	1516		SF	S12E68		2014
20 Mar	1526	1528	1538		SF	S12E68		2014
20 Mar	1603	1605	1613	C1.2	SF	S12E66		2014
20 Mar	1743	1744	1746		SF	S17E65		2014
21 Mar	0208	0208	0212		SF	S14E61		2014
21 Mar	0951	1038	1106	C2.7	SF	N18E40		2013
21 Mar	1131	1137	1142	C1.8				2014
21 Mar	1218	1219	1220	C1.3				2014
21 Mar	1350	U1355	A1358		SF	S11W61		2004
21 Mar	1458	1500	1505		SF	S11W62		2004
21 Mar	1513	1514	1520		SF	S10W60		2004



Flare List

Date	Time			X-ray Class	Optical		Rgn #
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	
21 Mar	1550	1605	1629	C1.0			2008
21 Mar	1757	1812	1819	C1.2			2014
21 Mar	2220	2224	2226	C1.5			2008
22 Mar	0658	0702	0705	M1.1	1F	S10W71	2011
22 Mar	B0844	0907	1027		1F	N12W48	2005
22 Mar	0850	0851	0854		SF	S08W68	2011
22 Mar	0850	0925	1004	C4.8			2005
22 Mar	0902	0902	0908		SF	S08W68	2011
22 Mar	0926	0928	0937		SF	N12E69	2017
22 Mar	1129	1131	1142		SF	S09W27	2008
22 Mar	1259	1303	1306	C1.4	SF	S14W21	2015
22 Mar	1340	1344	1347		SF	N11E67	2017
22 Mar	1342	1342	1345		SF	S09W72	2011
22 Mar	1655	1724	1750	C1.9			2008
22 Mar	1938	1948	2002	C1.1			2010
22 Mar	2004	2010	2015	C1.3			2010
22 Mar	2054	2110	2128	C1.5			2014
23 Mar	0120	0126	0132	C1.7			2017
23 Mar	0138	0145	0153	C1.4			2017
23 Mar	0227	0237	0245	C3.1	SF	S13E34	2014
23 Mar	0305	0348	0430	C5.0	SF	S12E40	2014
23 Mar	0535	0547	0552	C2.6			2017
23 Mar	B0801	U0904	A0931	C2.9	2F	S14W06	2010
23 Mar	1032	1057	1101	C1.5			2010
23 Mar	1113	1119	1127	C2.3			2014
23 Mar	1303	1311	1323	C1.1			2010
23 Mar	1409	1448	1455	C1.3			2017
23 Mar	1837	1841	1845	C1.3			2017
23 Mar	2008	2012	2019	C1.5			2010
23 Mar	2235	2239	2245	C1.5			2010
23 Mar	2333	0010	0051	C4.5			2014



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

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

Crossed West Limb.
Absolute heliographic longitude: 0

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									
17 Mar	S18W58	326	220	14	Eac	21	BG	3			4						
18 Mar	S18W72	327	130	13	Cao	10	B	1			1						
19 Mar	S18W86	328	30	4	Cao	2	B										
								29	6	0	43	2	1	0	0		

Crossed West Limb.
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		

Crossed West Limb.
Absolute heliographic longitude: 12



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 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																
17 Mar	S10W31	299	10	4	Bxo	3	B						1										
18 Mar	S10W45	300	40	4	Cao	8	B																
19 Mar	S10W59	301	60	5	Dao	9	B																
20 Mar	S10W73	302	50	5	Cao	5	B																
21 Mar	S09W85	301	30	5	Cao	5	B						3										
								0	0	0			5	0	0	0	0						

Crossed West Limb.
Absolute heliographic longitude: 301

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																
								2	0	0			2	1	0	0	0						

Still on Disk.
Absolute heliographic longitude: 264

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						

Crossed West Limb.
Absolute heliographic longitude: 9



Region Summary - continued

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

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														
									0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 247

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										
									3	0	0	1	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 226

Region 2009

16 Mar	N14W02	284	10	4	Bxo	4	B										
17 Mar	N14W16	284	10	5	Bxo	4	B										
18 Mar	N14W30	285	plage														
19 Mar	N14W44	286	plage														
20 Mar	N14W58	287	plage														
21 Mar	N14W72	288	plage														
22 Mar	N14W86	289	plage														
									0	0	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 284



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 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		
								19	1	0	10	3	1	0	0		

Still on Disk.

Absolute heliographic longitude: 203

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		

Still on Disk.

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														
								0	0	0	0	0	0	0	0		

Still on Disk.

Absolute heliographic longitude: 198



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 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										
									1	0	0		1	0	0	0	0	0

Still on Disk.

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					
									18	0	0		14	6	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 169

Region 2015

22 Mar	S14W28		231	60	3	Dac	5	B	1				1					
23 Mar	S14W42		231	90	4	Cao	4	BD										
									1	0	0		1	0	0	0	0	0

Still on Disk.

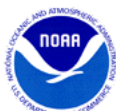
Absolute heliographic longitude: 231

Region 2016

22 Mar	S29E06		197	10	2	Bxo	2	B										
23 Mar	S28W07		196	10	1	Axx	1	A										
									0	0	0		0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 197



Region Summary - continued

Date	Location		Sunspot Characteristics					Flares												
	Lat CMD	Lon	Heli 10 ⁻⁶	Area hemi.	Extent (heli)	Spot Class	Spot Count	Mag Class	X-ray			Optical								
									C	M	X	S	1	2	3	4				
<i>Region 2017</i>																				
22 Mar	N09E58	145	30	3	Cao	5	B					2								
23 Mar	N09E45	144	100	5	Dai	9	BG	5												
								5	0	0	2	0	0	0	0	0				

Still on Disk.

Absolute heliographic longitude: 144

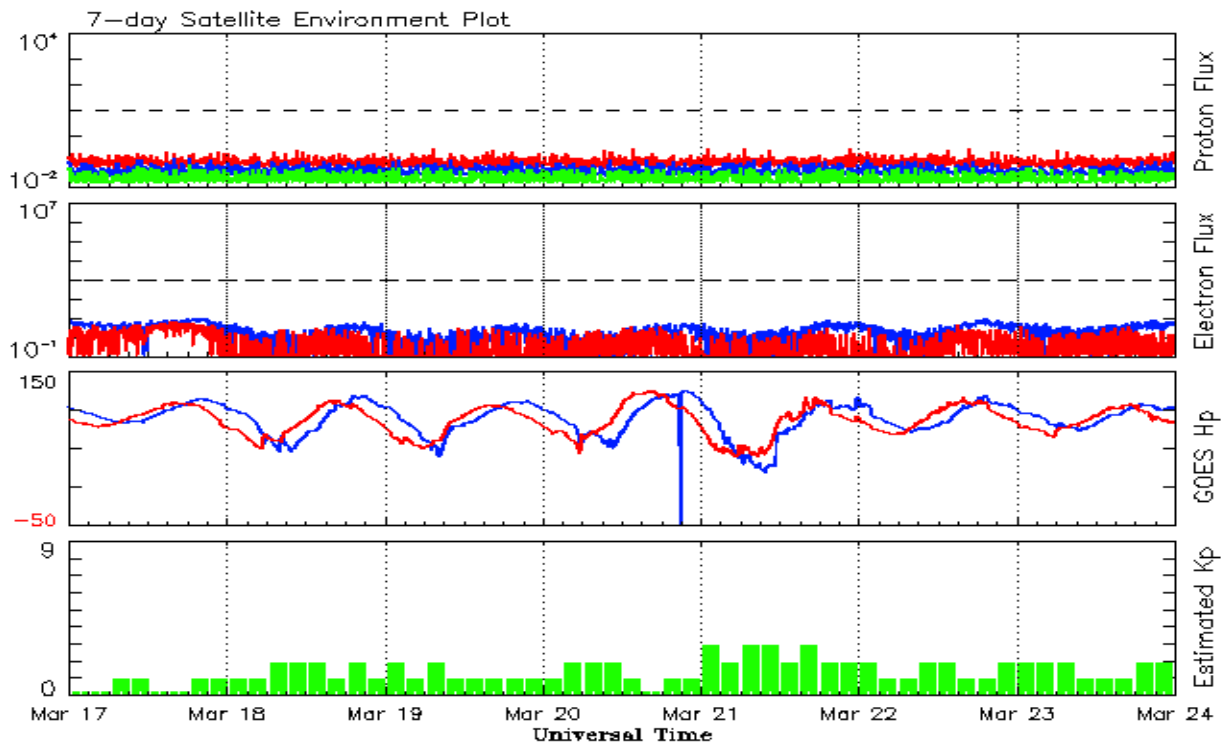


Recent Solar Indices (preliminary)
Observed monthly mean values

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 17 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.

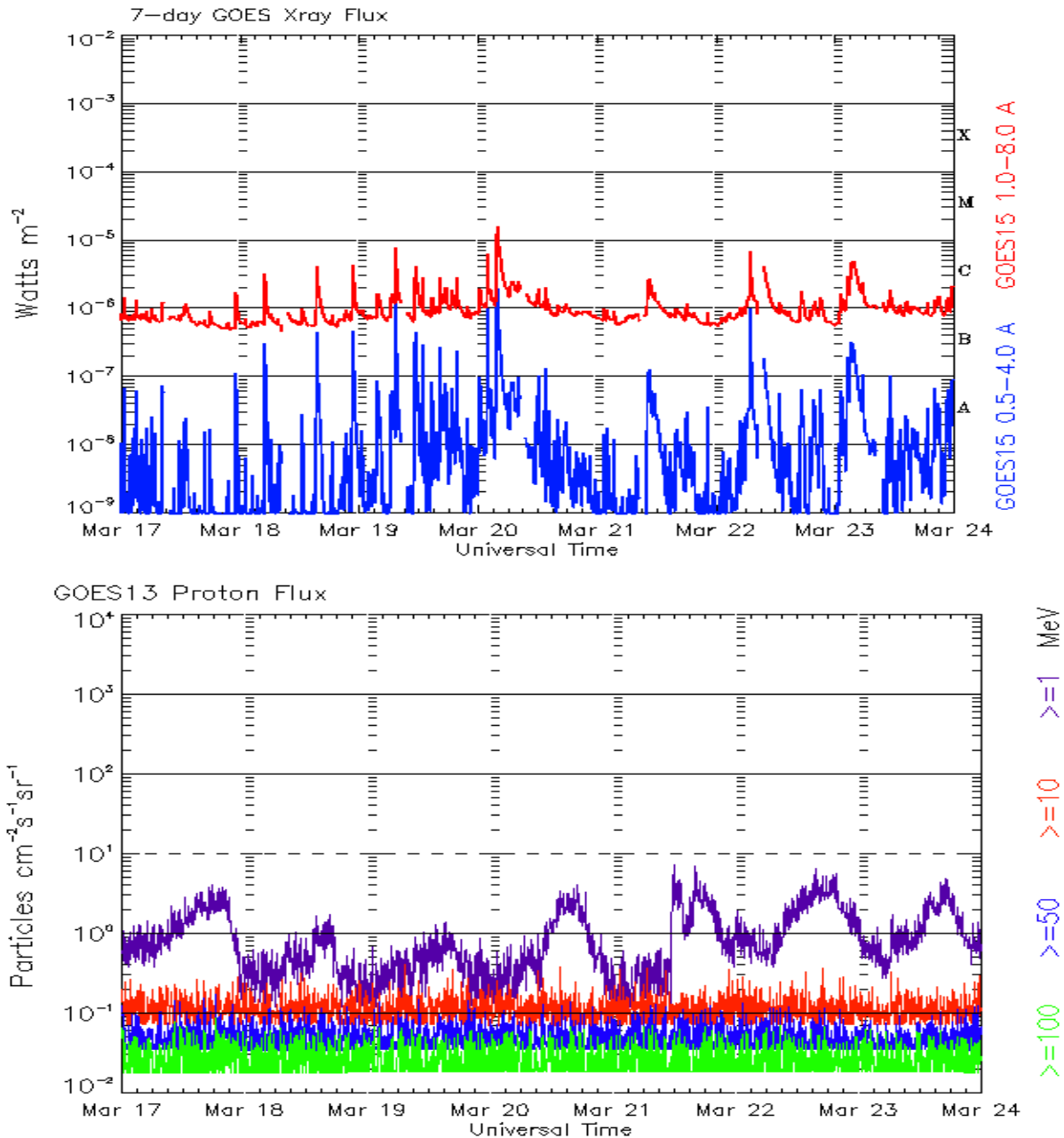
The electron flux plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV by the SWPC Primary GOES satellite.

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.

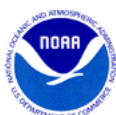




*Weekly GOES Satellite X-ray and Proton Plots
Week Beginning 17 March 2014*

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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