

Solar activity ranged from very low to low levels throughout the period. C-class events were observed every day except for 02 April. Region 1181 (S26, L=157, class/area Hsx/20 on 27 March) produced a C1/Sf flare at 27/2326Z and Region 1178 (S15, L=172, class/area Dai/130 on 26 March) produced a C1/Sf flare at 31/2221Z with an associated partial halo CME that appeared to be directed southward below the ecliptic plane. Region 1183 (N15, L=135, class/area Eai/330 on 30 March) rotated on the disk on 27 March and contributed four C-class events, the largest a C1 at 30/2005Z. No X-ray sensor data was available at 27/0600Z when a CME was observed in LASCO C2 and C3 imagery. However, the CME was attributed to Region 1183 based on limited GOES 15 SXI imagery. Type II (651 km/s S.V.) and Type IV radio signatures were observed at 27/0511 associated with this event. Region 1176 (S15, L=196, class/area Eko/490 on 23 March) produced four C-class events and four CMEs during the period. The only CME that is potentially geoeffective was associated with a B8/Sf flare observed at 02/2347Z. At 03/0024Z, GOES-15 SXI imagery detected material movement from the SW limb that was later observed in SEREO-B COR2 imagery at 03/0109Z and STEREO-A COR2 imagery at 03/0409Z. Using this imagery, a plane-of-sky speed of approximately 650 km/s was assigned. This CME appeared to be directed southward out of the ecliptic plane but it was a very large event and has the potential to cause enhanced activity at Earth.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit was at moderate levels from 28 - 29 March and then decreased to normal levels from 30 March - 01 April. An increase to moderate levels was observed on 02 April and high levels were observed on 03 April. The 1000 pfu threshold was reached at 03/0735Z.

Geomagnetic field activity ranged from quiet to major storm levels throughout the period. Quiet conditions prevailed from 28 March through midday on 01 April. A weak geomagnetic Sudden Impulse (SI) was observed at 29/1604Z (8 nT as measured at the Boulder magnetometer). The SI likely represented the passage of a halo CME observed on 24 March. ACE solar wind data indicated increased velocities (313 to 398 km/s), as well as increases in density of (2 to 26 p/cc) and the total field (Bt 5 to 9 nT). Interplanetary Magnetic Field (IMF) Bz remained mostly northward following the passage. By midday on 01 April, ACE solar wind observations indicated the onset of a coronal hole high speed stream (CH HSS) at approximately 01/1600Z. Velocities steadily increased from about 360 km/s to a peak of 665 km/s at 02/2128Z. IMF changes associated with the CH HSS included increased Bt (peaks to 12 nT from 01/2000 - 2100Z) and intervals of southward Bz (maximum deflection of -10 nT at 01/1628Z). The geomagnetic field responded with periods of unsettled to active levels, including an isolated



minor storm period observed at high latitudes at 01/1500Z. These conditions persisted through 03 April with an isolated major storm period observed at high latitudes at 02/1200Z and another isolated minor storm at high latitudes at 03/1200Z.

Space Weather Outlook

06 April - 02 May 2011

Solar activity is expected to be very low to low for the majority of the period. A chance for M-class activity exists from 17 - 30 April due to the return of Region 1176.

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 from 06 - 07 April and then return to normal to moderate levels for the remainder of the period.

Geomagnetic field activity is expected to be quiet to unsettled from 07 - 08 April due to the effects of a recurrent CH HSS becoming geoeffective. Quiet conditions are expected from 09 - 16 April. A second CH HSS is expected to be geoeffective from 17 - 19 April bringing with it quiet to unsettled conditions. Mostly quiet conditions are expected from 20 - 27 April. Unsettled to active conditions with a chance for isolated minor storm periods at high latitudes are expected due to a third CH HSS that is expected to become geoeffective on 28 April. A return to quiet conditions is anticipated on 02 May as the effects from the CH HSS wane.



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
28 March	119	103	590	B3.3	1	0	0	7	0	0	0	0
29 March	116	108	470	B3.6	2	0	0	0	0	0	0	0
30 March	118	91	600	B3.1	1	0	0	0	0	0	0	0
31 March	113	76	300	B2.5	3	0	0	3	0	0	0	0
01 April	109	62	330	B2.3	2	0	0	1	0	0	0	0
02 April	108	66	280	B2.2	0	0	0	1	0	0	0	0
03 April	114	70	290	B3.9	1	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	>100 MeV	>0.6 MeV	>2MeV	>4 MeV
	28 March	2.3e+05	1.3e+04	3.2e+03		5.4e+06
29 March	4.6e+05	1.3e+04	3.2e+03		4.3e+06	
30 March	1.6e+05	1.3e+04	2.8e+03		8.3e+05	
31 March	8.2e+04	1.4e+04	3.4e+03		9.2e+05	
01 April	2.1e+05	1.3e+04	3.5e+03		1.4e+06	
02 April	2.5e+06	1.4e+04	2.8e+03		8.9e+06	
03 April	8.7e+05	1.4e+04	2.9e+03		3.7e+08	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	28 March	2	0-0-0-1-2-1-1-1	1	0-0-0-1-1-0-0-0	3
29 March	2	0-0-0-0-1-1-1-2	1	0-0-0-1-0-1-0-0	4	0-0-0-1-1-2-1-3
30 March	4	3-1-0-1-2-1-0-0	1	2-1-0-0-0-0-0-0	5	4-1-0-0-1-1-0-0
31 March	2	0-0-0-2-1-1-0-0	1	0-0-0-1-0-1-0-0	3	0-0-0-1-1-1-1-1
01 April	9	1-1-1-2-2-3-3-3	14	0-0-1-3-5-3-4-2	13	1-1-1-2-3-4-4-3
02 April	13	4-2-3-3-3-1-2-3	26	4-3-4-6-3-2-2-4	20	4-3-3-4-3-3-3-4
03 April	11	3-3-2-2-2-2-3-3	24	4-3-3-5-4-4-3-3	16	4-3-3-3-3-3-4-3

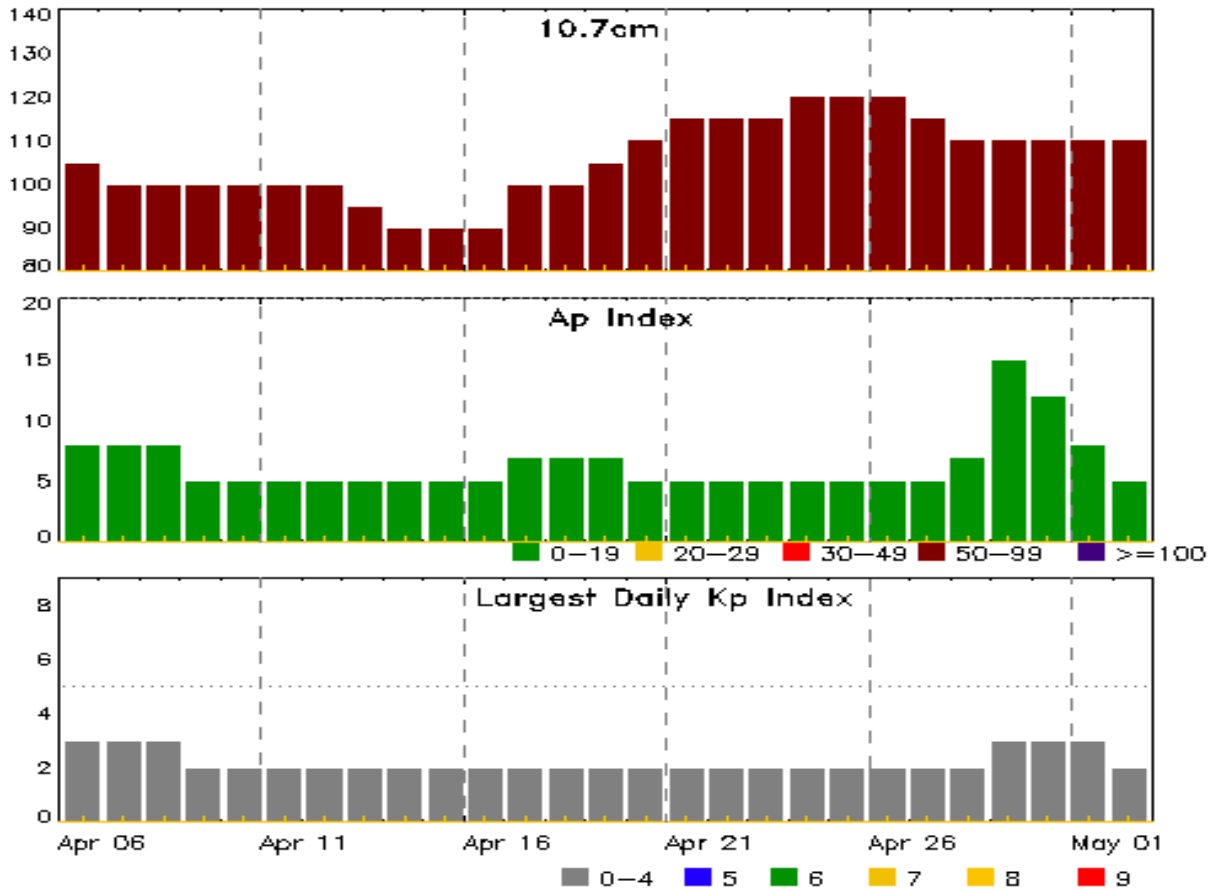


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
29 Mar 1537	WARNING: Geomagnetic Sudden Impulse expected	29/1545 - 1615
29 Mar 1610	SUMMARY: Geomagnetic Sudden Impulse	29/1604
30 Mar 0048	SUMMARY: Geomagnetic Sudden Impulse	30/0018
30 Mar 0052	WARNING: Geomagnetic K = 4	30/0055 - 0900
01 Apr 1646	WARNING: Geomagnetic K = 4	01/1650 - 02/0000
01 Apr 1759	ALERT: Geomagnetic K = 4	01/1757
01 Apr 2354	EXTENDED WARNING: Geomagnetic K = 4	01/1650 - 02/0600
02 Apr 0531	EXTENDED WARNING: Geomagnetic K = 4	01/1650 - 02/0900
02 Apr 0849	EXTENDED WARNING: Geomagnetic K = 4	01/1650 - 02/1200
02 Apr 1145	EXTENDED WARNING: Geomagnetic K = 4	01/1650 - 02/1800
02 Apr 2148	WARNING: Geomagnetic K = 4	02/2147 - 03/1600
02 Apr 2250	ALERT: Geomagnetic K = 4	02/2249
03 Apr 0800	ALERT: Electron 2MeV Integral Flux \geq 1000pfu	03/0735
03 Apr 2045	WARNING: Geomagnetic K = 4	03/2045 - 04/1600



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
06 Apr	105	8	3	20 Apr	110	5	2
07	100	8	3	21	115	5	2
08	100	8	3	22	115	5	2
09	100	5	2	23	115	5	2
10	100	5	2	24	120	5	2
11	100	5	2	25	120	5	2
12	100	5	2	26	120	5	2
13	95	5	2	27	115	5	2
14	90	5	2	28	110	7	2
15	90	5	2	29	110	15	3
16	90	5	2	30	110	12	3
17	100	7	2	01 May	110	8	3
18	100	7	2	02	110	5	2
19	105	7	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 #	245	2695	Intensity II

No Events Observed

Flare List

Date	Time			X-ray Class	Imp/ Brtns	Optical Location Lat CMD	Rgn #
	Begin	Max	End				
28 Mar	1130	1139	1146	C1.4			1176
28 Mar	1646	1647	1650		SF	S18E01	1176
28 Mar	1852	1856	1902	B9.0	SF	S18W01	1176
28 Mar	2207	2209	2211		SF	N13E57	1183
28 Mar	2217	2219	2231		SF	N13E56	1183
28 Mar	2241	2242	2245		SF	N13E57	1183
28 Mar	2254	2255	2258		SF	N13E55	1183
28 Mar	2336	2340	2343		SF	N15E55	1183
29 Mar	0027	0032	0034	B8.6			1176
29 Mar	0511	0515	0524	C1.1			1183
29 Mar	2121	2129	2159	C1.2			1183
30 Mar	0653	0701	0714	B9.6			1183
30 Mar	1138	1149	1206	B9.0			1176
30 Mar	1942	2005	2013	C1.9			1183
30 Mar	2206	2210	2220	B5.0			1176
31 Mar	0157	0202	0207	C1.2			1183
31 Mar	1526	1535	1546	C2.6	SF	S16W39	1176
31 Mar	2135	2139	2147	B7.0	SF	S17W41	1176
31 Mar	2207	2221	2232	C1.6	SF	S16W22	1178
01 Apr	0146	0156	0207	C3.4			1176
01 Apr	0348	0354	0359	C3.1			1176
01 Apr	2219	2223	2226	B6.8	SF	N17E10	1183
02 Apr	0322	0326	0329	B4.6			1183
02 Apr	1433	1438	1442	B4.1			1183
02 Apr	2234	2347	2355	B8.3	SF	S13W69	1176
03 Apr	0501	0519	0528	C1.2			1183



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 1176																							
21 Mar	S13E81	200	180	2	Hsx	1	A																
22 Mar	S14E69	198	340	10	Dho	3	B	2					2										
23 Mar	S15E58	196	490	11	Eko	12	BG	1	1				1										
24 Mar	S16E44	198	380	15	Eki	25	BG	4	1				3	2									
25 Mar	S16E30	198	440	13	Ehi	28	BG	3	1				2										
26 Mar	S16E16	199	420	16	Fki	28	BG	1					1										
27 Mar	S15E02	200	400	15	Eki	27	BG	1					1										
28 Mar	S17W11	200	250	17	Fki	22	BG	1					2										
29 Mar	S16W24	199	210	20	Fsi	21	BG																
30 Mar	S17W37	200	220	19	Fso	15	B																
31 Mar	S16W51	201	140	19	Fso	10	B	1					2										
01 Apr	S15W65	201	100	16	Fso	4	B	2															
02 Apr	S17W79	200	100	17	Fso	3	B						1										
03 Apr	S18W90	200	40	2	Hsx	1	A																
								16	3	0	15	2	0	0	0	0							

Still on Disk.

Absolute heliographic longitude: 200

Region 1177																							
23 Mar	N21E51	204	10	1	Axx	1	A																
24 Mar	N21E37	205	10	1	Bxo	3	B																
25 Mar	N21E24	204	40	4	Cao	6	B																
26 Mar	N20E11	204	30	4	Cro	5	B																
27 Mar	N19W02	204	30	4	Cro	5	B																
28 Mar	N19W17	206	10	2	Bxo	4	B																
29 Mar	N19W30	205	10	3	Bxo	4	B																
30 Mar	N19W43	206	plage																				
31 Mar	N19W57	207	plage																				
01 Apr	N19W71	208	plage																				
02 Apr	N19W85	208	plage																				
								0	0	0	0	0	0	0	0	0	0						

Crossed West Limb.

Absolute heliographic longitude: 204



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 1178																		
24 Mar	S13E68	174	0	1	Axx	1	A											
25 Mar	S15E55	173	50	4	Cao	4	B											
26 Mar	S15E43	172	130	6	Dai	7	B											
27 Mar	S15E32	170	60	5	Dao	8	B											
28 Mar	S15E17	172	40	5	Dao	4	B											
29 Mar	S16E04	171	10	6	Bxo	6	B											
30 Mar	S17W10	172	10	8	Bxo	4	B											
31 Mar	S17W22	171	0		Axx	1	A	1				1						
01 Apr	S17W36	173	plage															
02 Apr	S17W50	173	plage															
03 Apr	S17W64	174	plage															
								1	0	0		1	0	0	0	0	0	
Still on Disk.																		
Absolute heliographic longitude: 171																		
Region 1179																		
24 Mar	N09W32	274	10	2	Bxo	4	B											
25 Mar	N09W46	274	20	4	Bxo	4	B											
26 Mar	N08W61	276	10	2	Bxo	2	B											
27 Mar	N09W74	276	0	1	Axx	1	A											
28 Mar	N09W87	276	plage															
								0	0	0		0	0	0	0	0	0	
Crossed West Limb.																		
Absolute heliographic longitude: 274																		
Region 1180																		
25 Mar	N26E66	162	30	2	Hsx	1	A											
26 Mar	N25E53	162	70	2	Hsx	1	A											
27 Mar	N24E40	162	50	2	Hsx	1	A											
28 Mar	N24E26	163	30	1	Hsx	1	A											
29 Mar	N24E12	162	20	1	Hrx	1	A											
30 Mar	N23W01	163	30	1	Hsx	1	A											
31 Mar	N24W13	162	10	1	Hrx	1	A											
01 Apr	N25W25	161	10		Hrx	1	A											
02 Apr	N24W38	160	20	1	Hsx	1	A											
03 Apr	N25W50	160	30	1	Hsx	1	A											
								0	0	0		0	0	0	0	0	0	
Still on Disk.																		
Absolute heliographic longitude: 163																		



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 1181																							
25 Mar	S25E69	159	10	2	Hsx	1	A																
26 Mar	S25E55	159	10	1	Axx	1	A																
27 Mar	S26E45	157	20	2	Hsx	1	A	1					1										
28 Mar	S26E31	158	10	2	Hrx	1	A																
29 Mar	S25E18	157	10	2	Axx	2	A																
30 Mar	S26E06	157	10	1	Axx	1	A																
31 Mar	S27W08	157	10		Hrx	1	A																
01 Apr	S27W22	159	plage																				
02 Apr	S27W36	159	plage																				
03 Apr	S27W50	160	plage																				
										1	0	0	1	0	0	0	0	0					

Still on Disk.

Absolute heliographic longitude: 157

Region 1182

27 Mar	N13E01	201	0	1	Axx	1	A														
28 Mar	N13W12	201	plage																		
29 Mar	N13W26	202	plage																		
30 Mar	N13W40	203	plage																		
31 Mar	N13W54	204	plage																		
01 Apr	N13W68	205	plage																		
02 Apr	N13W82	205	plage																		
										0	0	0	0	0	0	0	0	0			

Crossed West Limb.

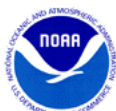
Absolute heliographic longitude: 201

Region 1183

27 Mar	N15E62	140	150	13	Eai	8	BG														
28 Mar	N15E54	135	250	12	Eac	11	BG						5								
29 Mar	N15E39	136	210	12	Eac	14	B	2													
30 Mar	N15E27	135	330	14	Eai	20	B	1													
31 Mar	N15E14	135	140	12	Eso	13	B	1													
01 Apr	N17E01	135	220	12	Esi	16	B						1								
02 Apr	N15W12	134	130	12	Eso	18	B														
03 Apr	N17W25	135	150	13	Eso	13	B	1													
										5	0	0	6	0	0	0	0	0			

Still on Disk.

Absolute heliographic longitude: 135



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 1184																				
01 Apr	N15E29		107	0		Axx	1	A												
02 Apr	N15E15		108	30	3	Bxo	4	B												
03 Apr	N18E01		109	70	6	Dso	15	B												
									0	0	0	0	0	0	0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 109

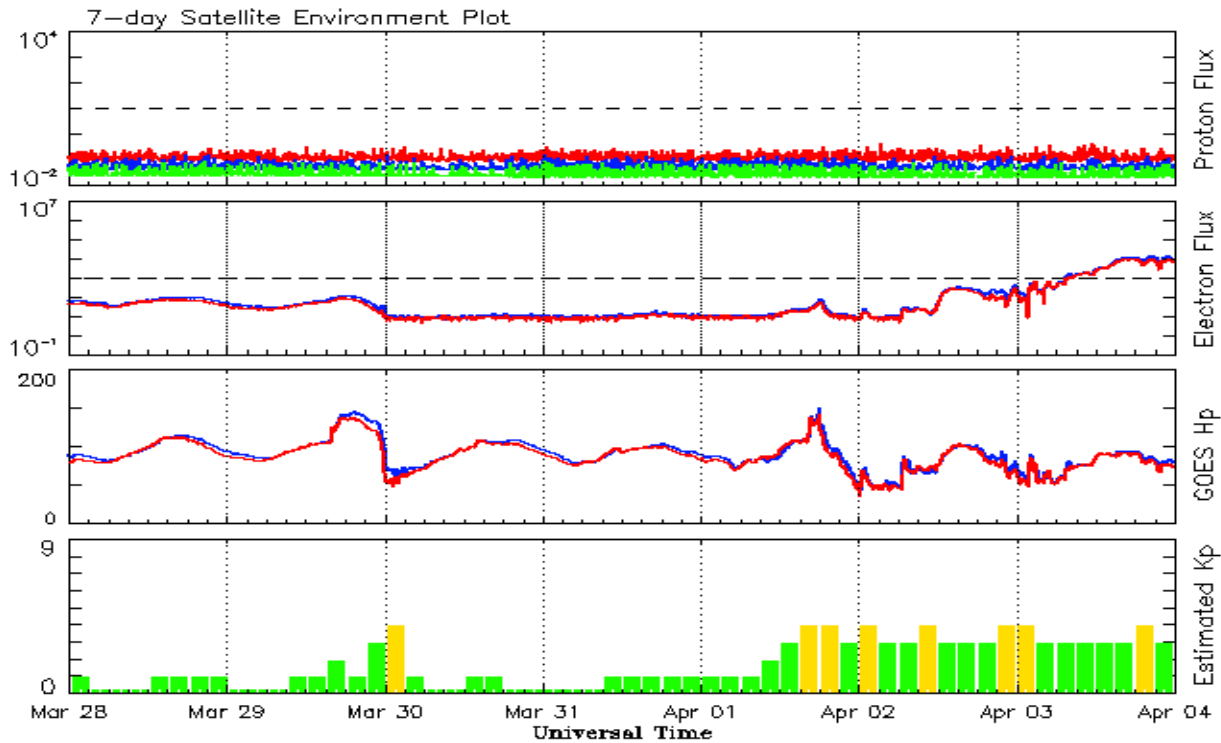


Recent Solar Indices (preliminary)
Observed monthly mean values

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
2009									
April	1.2	0.8	1.00	3.7	2.2	69.7	69.3	4	4.3
May	3.9	2.9	0.74	3.8	2.3	70.5	69.7	4	4.1
June	6.6	2.9	0.39	4.4	2.7	68.6	70.2	4	4.0
July	5.0	3.2	0.70	5.8	3.6	68.2	71.0	4	3.9
August	0.3	0.0	0.00	7.7	4.8	67.4	72.1	5	3.8
September	6.6	4.3	0.64	9.9	6.2	70.5	73.3	4	3.8
October	7.0	4.8	0.66	11.3	7.1	72.3	74.1	3	4.1
November	7.7	4.1	0.55	12.4	7.6	73.6	74.5	3	4.5
December	15.7	10.8	0.68	13.6	8.3	76.8	74.9	2	4.8
2010									
January	21.3	13.2	0.62	14.8	9.3	81.1	75.5	3	5.0
February	31.0	18.8	0.60	16.7	10.6	84.7	76.5	5	5.1
March	24.7	15.4	0.62	19.1	12.3	83.3	77.5	5	5.3
April	11.2	8.0	0.71	21.4	14.0	75.9	78.3	10	5.5
May	19.9	8.7	0.44	23.8	15.5	73.8	79.0	8	5.7
June	17.9	13.6	0.75	25.2	16.4	72.6	79.7	7	5.8
July	23.1	16.1	0.70	25.9	16.7	79.9	80.1	5	6.0
August	28.2	19.6	0.70	27.3	17.4	79.7	80.7	8	6.2
September	35.6	25.2	0.71	30.6	19.6	81.1	82.4	5	6.3
October	35.0	23.5	0.67			81.6		6	
November	36.1	21.5	0.60			82.5		5	
December	22.0	14.4	0.66			84.3		4	
2011									
January	32.1	19.0	0.59			83.7		6	
February	53.2	29.4	0.55			94.5		6	
March	81.0	56.2	0.69			115.3		7	

Note: Values are final except for the most recent 6 months which are considered preliminary. Cycle 23 started in May 1996 with an RI=8.0. Cycle 23 maximum was April 2000 with an RI=120.8. Solar minimum for Cycle 23 was December 2008.





*Weekly Geosynchronous Satellite Environment Summary
Week Beginning 28 March 2011*

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.

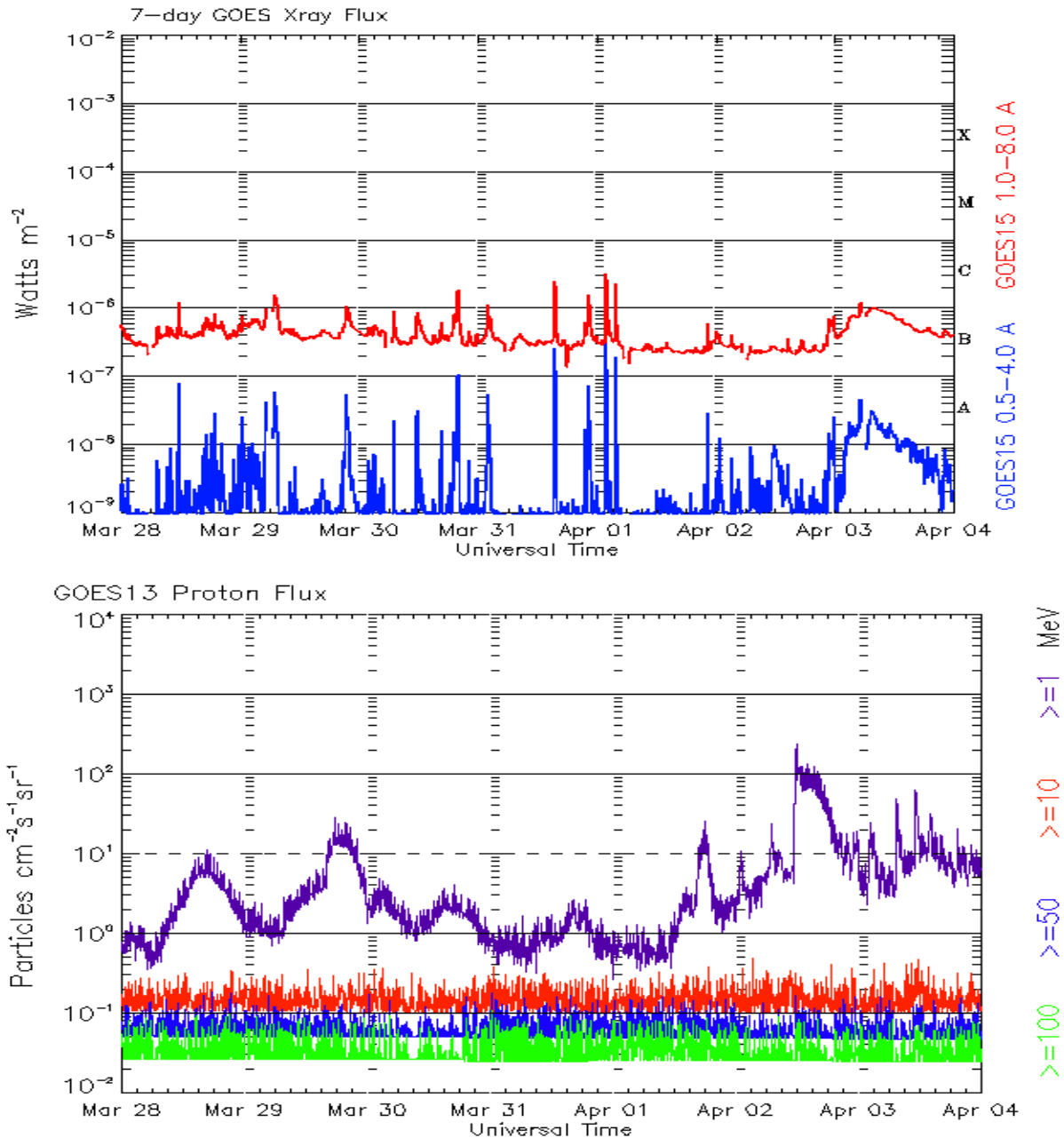
The electron flux plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV by the SWPC Primary GOES satellite.

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.

Kp plot contains the estimated planetary 3-hour K-index (derived by the Air Force Weather Agency) in real time from magnetometers at Meanook, Canada; Sitka, AK; Glenlea, Canada; St. Johns, Canada; Ottawa, Canada; Newport, WA; Fredericksburg, VA; Boulder, CO; Fresno, CA and Hartland, UK. These data are made available through cooperation from the Geological Survey of Canada (GSC), British Geological Survey (BGS) and the US Geological Survey. These may differ from the final Kp values derived from a more extensive network of magnetometers.

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 28 March 2011*

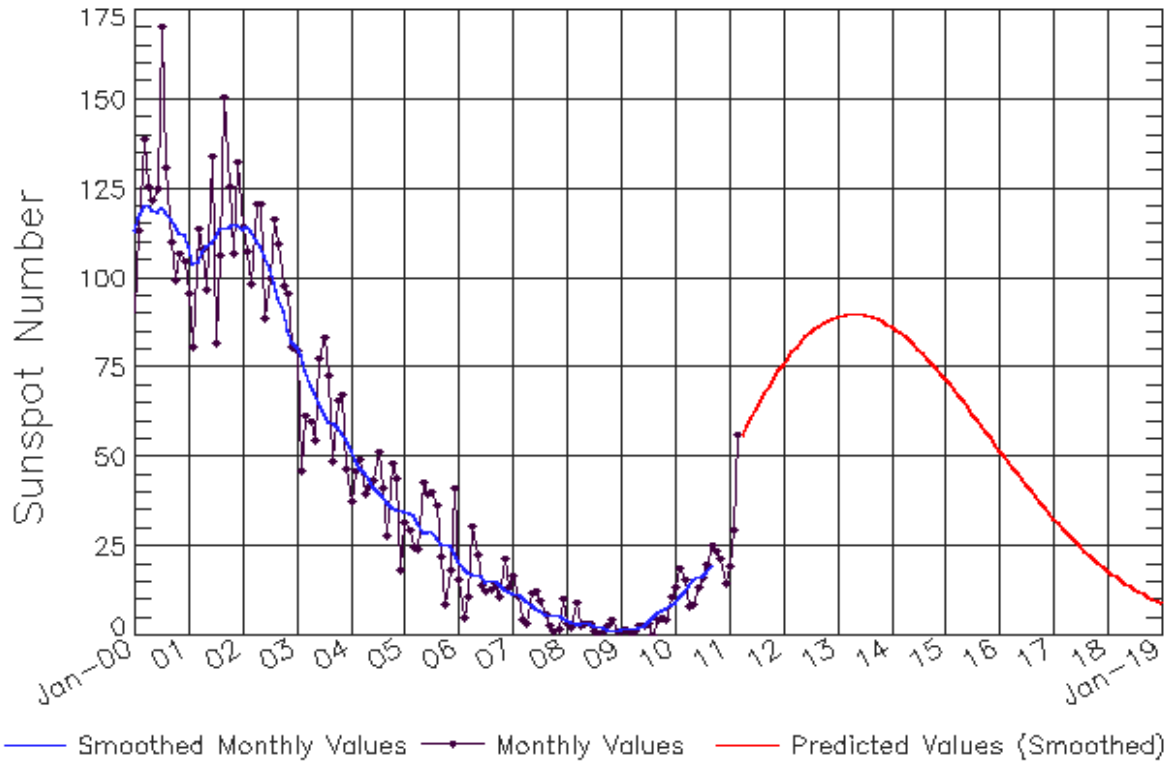
The x-ray plots contains five-minute averages x-ray flux (Watt/m²) as measure by the SWPC primary GOES X-ray satellite, usually at West 105 longitude, in two wavelength bands, 0.05 - 0.4 and 0.1 - 0.8 nm. The letters A, B, C, M and X refer to x-ray event levels for the 0.1 - 0.8 nm band.

The proton plot contains the five-minue 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.



ISES Solar Cycle Sunspot Number Progression

Observed data through Mar 2011



Updated 2011 Apr 6

NOAA/SWPC Boulder, CO USA

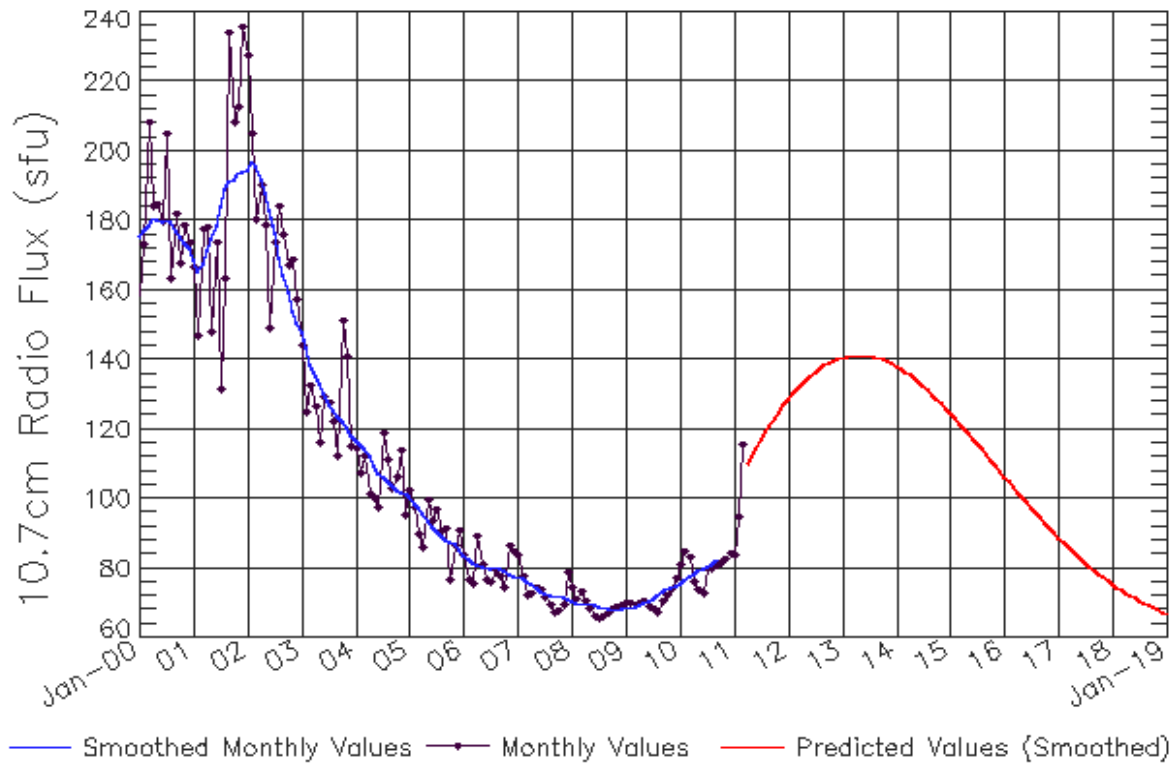
Smoothed Sunspot Number Prediction

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2010	9 (***)	11 (***)	12 (***)	14 (***)	16 (***)	16 (***)	17 (***)	17 (***)	20 (***)	23 (1)	27 (2)	31 (3)
2011	35 (5)	39 (5)	43 (6)	47 (7)	51 (7)	55 (8)	60 (9)	65 (9)	68 (10)	70 (10)	72 (10)	74 (10)
2012	76 (10)	78 (10)	79 (10)	81 (10)	82 (10)	84 (10)	85 (10)	86 (10)	87 (10)	88 (10)	88 (10)	89 (10)
2013	89 (10)	90 (10)	90 (10)	90 (10)	90 (10)	90 (10)	90 (10)	89 (10)	89 (10)	89 (10)	88 (10)	87 (10)
2014	86 (10)	86 (10)	85 (10)	84 (10)	83 (10)	81 (10)	80 (10)	79 (10)	78 (10)	76 (10)	75 (10)	73 (10)
2015	72 (10)	70 (10)	69 (10)	67 (10)	65 (10)	64 (10)	62 (10)	60 (10)	59 (10)	57 (10)	55 (10)	54 (10)
2016	52 (10)	50 (10)	49 (10)	47 (10)	45 (10)	44 (10)	42 (10)	40 (10)	39 (10)	37 (10)	36 (10)	34 (10)
2017	33 (10)	31 (10)	30 (10)	29 (10)	27 (10)	26 (10)	25 (10)	24 (10)	23 (10)	21 (10)	20 (10)	19 (10)
2018	18 (10)	17 (10)	16 (10)	15 (10)	15 (10)	14 (10)	13 (10)	12 (10)	12 (10)	11 (10)	10 (10)	10 (10)
2019	9 (10)	8 (10)	8 (10)	7 (10)	7 (10)	6 (10)	6 (10)	6 (10)	5 (10)	5 (10)	4 (10)	4 (10)



ISES Solar Cycle F10.7cm Radio Flux Progression

Observed data through Mar 2011



Updated 2011 Apr 6

NOAA/SWPC Boulder, CO USA

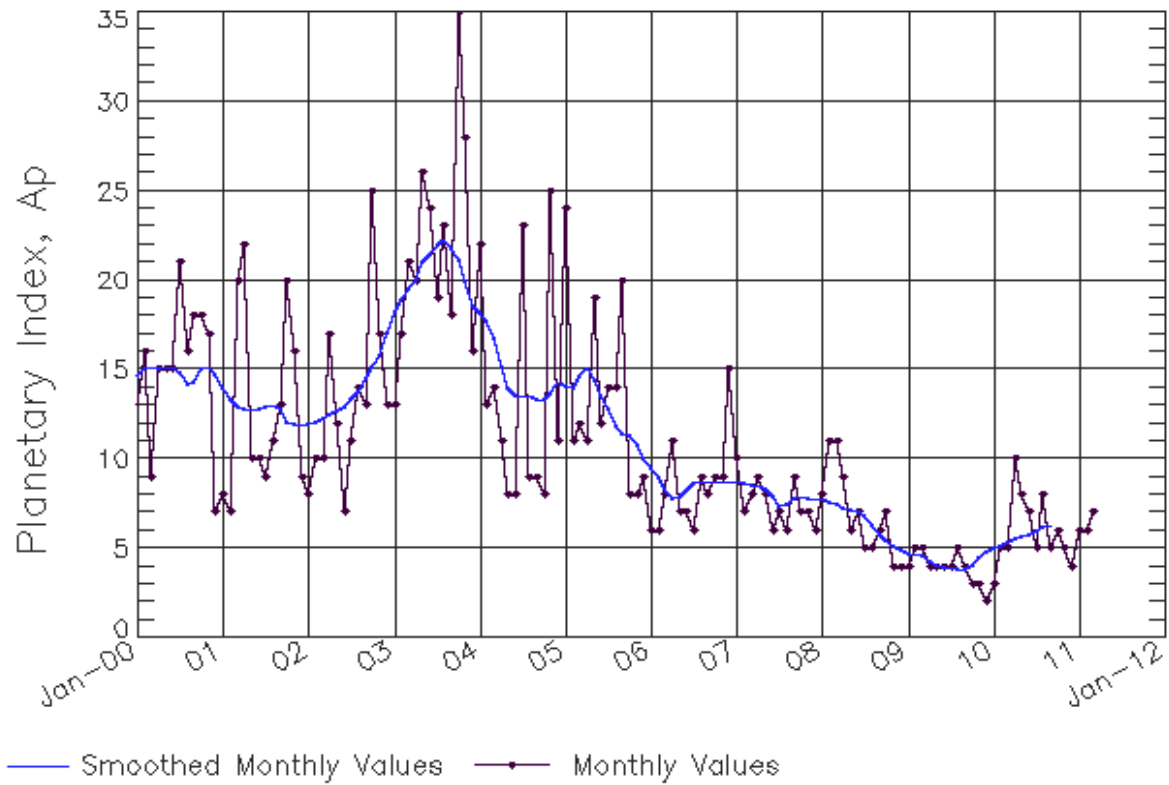
Smoothed F10.7cm Radio Flux Prediction

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2010	76 (***)	77 (***)	78 (***)	78 (***)	79 (***)	80 (***)	80 (***)	81 (***)	82 (***)	85 (1)	88 (1)	92 (2)
2011	95 (3)	98 (4)	101 (4)	105 (5)	108 (6)	112 (7)	115 (8)	119 (8)	121 (9)	123 (9)	125 (9)	127 (9)
2012	128 (9)	130 (9)	132 (9)	133 (9)	134 (9)	135 (9)	136 (9)	137 (9)	138 (9)	139 (9)	140 (9)	140 (9)
2013	141 (9)	141 (9)	141 (9)	141 (9)	141 (9)	141 (9)	141 (9)	141 (9)	140 (9)	140 (9)	139 (9)	139 (9)
2014	138 (9)	137 (9)	136 (9)	136 (9)	135 (9)	134 (9)	132 (9)	131 (9)	130 (9)	129 (9)	127 (9)	126 (9)
2015	125 (9)	123 (9)	122 (9)	120 (9)	119 (9)	117 (9)	116 (9)	114 (9)	113 (9)	111 (9)	110 (9)	108 (9)
2016	106 (9)	105 (9)	103 (9)	102 (9)	100 (9)	99 (9)	97 (9)	96 (9)	94 (9)	93 (9)	92 (9)	90 (9)
2017	89 (9)	88 (9)	86 (9)	85 (9)	84 (9)	83 (9)	82 (9)	80 (9)	79 (9)	78 (9)	77 (9)	76 (9)
2018	75 (9)	75 (9)	74 (9)	73 (9)	72 (9)	71 (9)	71 (9)	70 (9)	69 (9)	69 (9)	68 (9)	67 (9)
2019	67 (9)	66 (9)	66 (9)	65 (9)	65 (9)	65 (9)	64 (9)	64 (9)	63 (9)	63 (9)	63 (9)	63 (9)



ISES Solar Cycle Ap Progression

Observed data through Mar 2011



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Solar Cycle Comparison charts are temporarily unavailable.



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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

The Weekly has been published continuously since 1951 and is available online since 1997.

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<http://spaceweather.gov/ftpmenu/> -- Some content as ascii text

<http://spaceweather.gov/SolarCycle/> -- Solar Cycle Progression web site

<http://spaceweather.gov/contacts.html> -- Contact and Copyright information

http://spaceweather.gov/weekly/Usr_guide.pdf -- User Guide

