

Solar activity ranged from very low to moderate levels during the period. Activity was at moderate levels on 28 February. Region 1164 (N24, L=165, class/area Fkc/770 on 05 March) produced an M1.1 flare at 28/1252UTC. Region 1164 also produced a C2.4/Sf flare with an associated Type II sweep, with an estimated shock velocity of 1038 km/s. Activity decreased to low levels for the rest of the period. Several C-class flares occurred; the most significant of these was a C5.4/1N at 03/1419 UTC from Region 1164.

No protons were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit was at normal to moderate levels during 28 February - 01 March. High levels occurred during 02- 06 March.

Geomagnetic field activity ranged from quiet to severe storm levels during the period. Activity was at quiet levels on 28 February. Activity increased to quiet to active levels, with isolated minor to severe levels on 01 March. Activity decreased to quiet to unsettled levels, with isolated active to major storm levels on 05 March. Activity decreased to quiet to unsettled levels, with isolated active levels to major storm levels at high latitudes on 04 March. The elevated activity was due to a co-rotating interaction region (CIR) and a following coronal hole high-speed stream (CH HSS). The Interplanetary magnetic field (IMF) Bt reached 17 nT at 01/0645 UTC, while the southward IMF Bz reached a maximum deflection of -15 nT at 01/0645 UTC, and wind velocities reached 703 km/s at 02/0314 UTC. Activity decreased to predominantly quiet levels during 05 - 06 March.

Space Weather Outlook **09 March - 04 April 2011**

Solar activity is expected to be at high levels on 09 March as Regions 1164 and 1165 (S20, L=184, class/area Fko/420 on 09 March) rotate around the west limb. Very low to low levels are expected, with a chance for M-class events during 10 - 22 March. Activity is expected to increase to low to moderate levels during 22 March - 04 April, as old Region 1165 returns.

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 on 09 - 10 March. Normal to moderate levels are expected during 11 - 18 March. High levels are expected to return on 19 - 21 March. Normal to moderate levels are expected from 22 March to 28 March. Normal to moderate levels are expected for the rest of the period.

Geomagnetic field activity is expected to be at unsettled to active levels, with isolated minor storm levels at high latitudes from 09 March to early on 11 March. The increase in activity is expected due to an Earth-directed CME observed on 07 March. Predominantly quiet levels are expected from late on 11 March through 27 March. Quiet to active levels, with isolated minor to major storm levels are expected on 29 March. Quiet to unsettled levels, with isolated minor storm levels at high latitudes are expected during 30 - 31 March. The increase in activity is



expected due to a recurrent CH HSS. Predominantly quiet levels are expected during 01 - 04 April.



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 February	96	54	380	B2.6	9	1	0	3	0	0	0	0
01 March	111	72	620	B3.7	7	0	0	2	0	0	0	0
02 March	113	83	440	B4.5	1	0	0	1	0	0	0	0
03 March	121	71	630	B4.2	6	0	0	5	1	0	0	0
04 March	127	104	1100	B4.8	2	0	0	2	0	0	0	0
05 March	135	114	1590	B6.6	15	0	0	4	0	0	0	0
06 March	143	118	1250	B9.6	23	0	0	13	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 February	2.4e+05	1.4e+04	3.2e+03		2.2e+07
01 March	4.1e+05	1.4e+04	3.3e+03		9.0e+05	
02 March	1.2e+06	1.3e+04	3.0e+03		9.2e+07	
03 March	8.7e+05	1.3e+04	3.1e+03		2.8e+08	
04 March	4.5e+05	1.4e+04	3.4e+03		3.7e+08	
05 March	5.8e+05	1.4e+04	3.3e+03		6.1e+08	
06 March	1.4e+06	1.3e+04	3.2e+03		7.8e+08	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	28 February	2	0-0-1-1-1-0-0-1	1	0-0-1-1-1-0-0-0	3
01 March	18	2-2-3-3-4-4-4-3	53	1-2-3-5-6-6-5-7	31	2-2-2-4-5-6-5-4
02 March	12	3-3-2-2-3-3-2-3	43	4-3-6-4-6-4-2-6	17	4-4-3-2-3-3-3-3
03 March	11	3-2-3-2-3-2-2-3	23	3-2-4-4-5-4-3-3	12	2-2-4-2-3-2-3-3
04 March	7	2-2-2-2-2-1-2-2	19	2-2-3-5-4-4-2-3	10	2-3-3-2-2-2-2-3
05 March	4	1-2-0-1-2-1-1-1	5	2-1-1-2-2-1-1-1	5	1-2-0-1-1-1-2-1
06 March	3	0-1-0-0-2-1-2-2	3	0-1-0-0-2-2-1-2	5	1-1-0-0-3-1-2-2

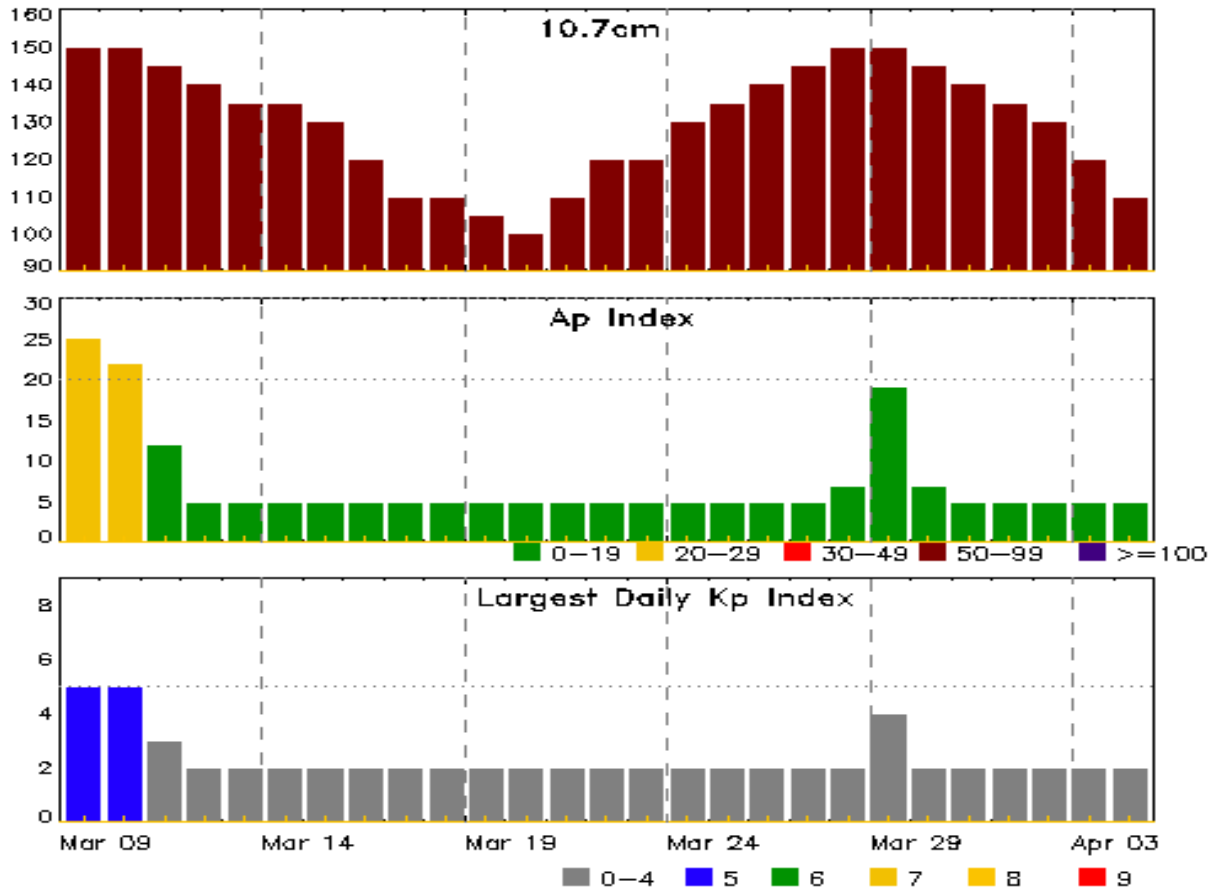


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
28 Feb 0804	ALERT: Type II Radio Emission	28/0741
01 Mar 0842	WARNING: Geomagnetic K = 4	01/0845 - 1600
01 Mar 1042	ALERT: Geomagnetic K = 4	01/1042
01 Mar 1143	WARNING: Geomagnetic K = 5	01/1145 - 1600
01 Mar 1320	ALERT: Geomagnetic K = 5	01/1321
01 Mar 1525	EXTENDED WARNING: Geomagnetic K = 4	01/0845 - 02/1600
01 Mar 1736	WARNING: Geomagnetic K = 5	01/1735 - 2359
01 Mar 1739	ALERT: Geomagnetic K = 5	01/1738
01 Mar 2349	EXTENDED WARNING: Geomagnetic K = 5	01/1735 - 02/1600
02 Mar 1420	ALERT: Electron 2MeV Integral Flux \geq 1000pfu	02/1405
03 Mar 0529	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	02/1405
03 Mar 0822	WARNING: Geomagnetic K = 4	03/0821 - 1600
03 Mar 0830	ALERT: Geomagnetic K = 4	03/0830
04 Mar 0612	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	02/1405
04 Mar 0944	WARNING: Geomagnetic K = 4	04/0945 - 1600
05 Mar 0523	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	02/1405
06 Mar 0502	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	02/1405



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
09 Mar	150	25	5	23 Mar	120	5	2
10	150	22	5	24	130	5	2
11	145	12	3	25	135	5	2
12	140	5	2	26	140	5	2
13	135	5	2	27	145	5	2
14	135	5	2	28	150	7	2
15	130	5	2	29	150	19	4
16	120	5	2	30	145	7	2
17	110	5	2	31	140	5	2
18	110	5	2	01 Apr	135	5	2
19	105	5	2	02	130	5	2
20	100	5	2	03	120	5	2
21	110	5	2	04	110	5	2
22	120	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 Feb	1238	1252	1303	M1.1	0.009			1164	100			

Flare List

Date	Time			X-ray Class	Imp/ Brtns	Optical Location Lat CMD	Rgn #
	Begin	Max	End				
28 Feb	0144	0150	0155	B5.0			1164
28 Feb	0210	0214	0218	B5.0			1164
28 Feb	0417	0428	0434	B7.9			1164
28 Feb	0524	0533	0540	C1.7			1164
28 Feb	0630	0638	0649	C1.1			1164
28 Feb	0701	0710	0716	C2.0			1164
28 Feb	0734	0738	0740	C2.4	SF	N23E45	1164
28 Feb	0938	0952	1003	C1.5			1164
28 Feb	1025	1029	1037	B5.5			1164
28 Feb	1202	1207	1218	C1.2			1164
28 Feb	1238	1252	1303	M1.1			1164
28 Feb	1544	1552	1559	C1.0			1164
28 Feb	2011	2016	2019	B7.3			1164
28 Feb	2115	2131	2146	C1.7	SF	N25E32	1164
28 Feb	2237	2238	2240		SF	N24E35	1164
28 Feb	2311	0005	0027	C1.6			1164
01 Mar	0230	0413	0440	C6.0	SF	N24E32	1164
01 Mar	0852	0918	0934	C2.9			1164
01 Mar	1435	1438	1440	C1.1			1164
01 Mar	1625	1647	1659	C1.0			1164
01 Mar	1742	1747	1754	C1.3	SF	N25E21	1164
01 Mar	1806	1819	1826	C1.0			1164
01 Mar	1851	1855	1858	B9.8			1164
01 Mar	1934	1957	2017	C1.6			1164
02 Mar	1002	1006	1010	B8.8			1164
02 Mar	1311	1318	1321	C1.4	SF	N24E14	1164
03 Mar	1129	1134	1143	C1.2			1164
03 Mar	1412	1420	1431	C5.4	1N	N22E01	1164
03 Mar	1924	1936	1944	C1.2			1164
03 Mar	2027	2050	2102	C2.7			1164
03 Mar	2031	2031	2035		SF	N26W00	1164



Flare List

Date	Time			X-ray Class	Imp/ Brtns	Optical		Rgn #
	Begin	Max	End			Location Lat CMD		
03 Mar	2039	2049	2103		SF	N22W04		1164
03 Mar	2104	2106	2109		SF	N22W07		1164
03 Mar	2324	2334	2346	C2.0	SF	N21W05		1164
03 Mar	2353	2358	0004	C2.1	SF	N23W08		1164
04 Mar	0126	0126	0139		SF	N21W06		1164
04 Mar	1357	1400	1403	C1.7				1164
04 Mar	1715	1719	1723	C1.0	SF	N18W31		1163
05 Mar	0000	0004	0006	B7.7				
05 Mar	0105	0110	0112	C2.2	SF	S19W43		1165
05 Mar	0240	0249	0258	C1.6	SF	S19W44		1165
05 Mar	0519	0522	0524	C1.2				1165
05 Mar	0541	0908	0918	C2.2				
05 Mar	A0901	U0908	A0915	C2.2	SF	S20W48		1165
05 Mar	1013	1017	1021	C1.4				1165
05 Mar	1142	1149	1158	C1.6				1165
05 Mar	1206	1210	1214	C1.2				1165
05 Mar	1224	1226	1229	C1.0				1165
05 Mar	1240	1241	1242	C1.0				1163
05 Mar	1246	1248	1253	C1.1				1163
05 Mar	1330	1341	1352	C1.3				1165
05 Mar	1422	1425	1430	C1.0				1165
05 Mar	2005	2010	2016	C1.4	SF	N24W31		1164
05 Mar	2051	2144	2153	C2.9				1169
06 Mar	0023	0026	0029	C1.6				
06 Mar	0129	0133	0137	C1.8	SF	N25W35		1164
06 Mar	0203	0208	0211	C2.1	SF	S20W57		1165
06 Mar	0337	0345	0351	C3.7	SF	S20W58		1165
06 Mar	0407	0415	0420	C1.8	SF	N24W36		1164
06 Mar	0433	0444	0448	C1.7	SF	N24W37		1164
06 Mar	0528	0532	0536	C4.6	SF	N21W34		1164
06 Mar	0611	0620	0628		SF	S20W60		1165
06 Mar	0659	0707	0709	C2.8	SF	N20W35		1164
06 Mar	0730	0733	0735	C2.4	SF	N20W35		1164
06 Mar	0830	0833	0837	C1.6				1165
06 Mar	0849	0904	0907	C2.6				1165
06 Mar	0954	1001	1006	C3.1				1164
06 Mar	1031	1040	1055	C7.5				1165
06 Mar	1156	1209	1212	C5.1				1166



Flare List

Date	Time			X-ray Class	Optical		Rgn #
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	
06 Mar	1331	1350	1416	C6.0			1169
06 Mar	1441	1444	1447	C8.6			1164
06 Mar	1521	1527	1530	C3.9			1166
06 Mar	1602	1619	1622	C4.7			1164
06 Mar	1625	1630	1633	C6.9			1164
06 Mar	1932	1937	1941	C2.3	SF	N23W41	1164
06 Mar	2117	2121	2125	C1.4			
06 Mar	2144	2145	2147		SF	S18W67	1165
06 Mar	2148	2150	2219	C1.4	SF	S18W67	1165
06 Mar	2331	2333	2339	C2.2	SF	S20W68	1165



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 1163																				
24 Feb	N18E72		176	200	1	Cro	2	B	2	1										
25 Feb	N17E60		177	120	8	Dai	10	BG	2											
26 Feb	N18E46		178	110	6	Dai	9	BG												
27 Feb	N18E32		179	10	1	Axx	1	A												
28 Feb	N18E19		178	10	1	Axx	1	A												
01 Mar	N17E05		179	10	3	Bxo	2	B												
02 Mar	N17W09		181	plage																
03 Mar	N17W23		182	plage																
04 Mar	N17W37		183	plage					1			1								
05 Mar	N17W51		184	plage					2											
06 Mar	N17W65		184	plage																
									7	1	0	1	0	0	0	0	0			

Still on Disk.

Absolute heliographic longitude: 179

Region 1164

25 Feb	N28E76		162	250	4	Hkx	1	A	1										
26 Feb	N28E60		164	200	10	Dao	7	BG	1										
27 Feb	N27E46		165	170	14	Eso	12	BG	1			3							
28 Feb	N26E33		164	350	12	Ehc	19	BG	8	1		3							
01 Mar	N25E20		165	550	14	Ekc	31	BGD	6			2							
02 Mar	N25E08		165	400	15	Ekc	41	BGD	1			1							
03 Mar	N25W06		164	470	14	Ekc	21	BG	5			5	1						
04 Mar	N25W19		164	570	14	Ekc	27	BGD	1			1							
05 Mar	N24W34		165	770	17	Fkc	28	BGD	1			1							
06 Mar	N24W46		165	640	12	Ekc	25	BGD	11			7							
									36	1	0	23	1	0	0	0	0		

Still on Disk.

Absolute heliographic longitude: 164



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 1165																		
26 Feb	S22E43	181	20	4	Bxo	3	B											
27 Feb	S21E29	181	10	1	Axx	1	A											
28 Feb	S21E14	183	20	3	Bxo	4	B											
01 Mar	S22E03	182	60	5	Cso	9	B											
02 Mar	S22W09	180	30	5	Bxo	11	B											
03 Mar	S19W26	184	10	6	Bxo	5	B											
04 Mar	S19W40	186	20	4	Bxo	6	B											
05 Mar	S21W52	183	160	10	Bxo	14	B	10				3						
06 Mar	S20W68	186	200	11	Eao	21	B	7				6						
								17	0	0		9	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 182

Region 1166																		
02 Mar	N10E77	95	10	1	Hrx	1	A											
03 Mar	N09E65	93	140	6	Dso	3	B											
04 Mar	N09E55	90	490	11	Eac	15	B											
05 Mar	N10E41	90	610	12	Eki	16	BG											
06 Mar	N11E27	91	360	11	Ekc	16	BG	2										
								2	0	0		0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 91

Region 1167																		
03 Mar	N14E31	126	10	2	Bxo	2	B											
04 Mar	N15E20	125	20	7	Bxo	5	B											
05 Mar	N14E05	126	20	5	Bxo	4	B											
06 Mar	N09W09	127	20	4	Bxo	2	B											
								0	0	0		0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 126

Region 1168																		
04 Mar	N24W73	218	0	1	Axx	1	A											
05 Mar	N23W84	215	30	1	Hax	2	A											
								0	0	0		0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 218



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 1169																	
05 Mar	N22E70	62	plage						1								
06 Mar	N21E56	62	30	4	Bxo	4	B	1									
								2	0	0	0	0	0	0	0	0	0

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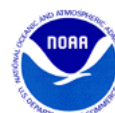
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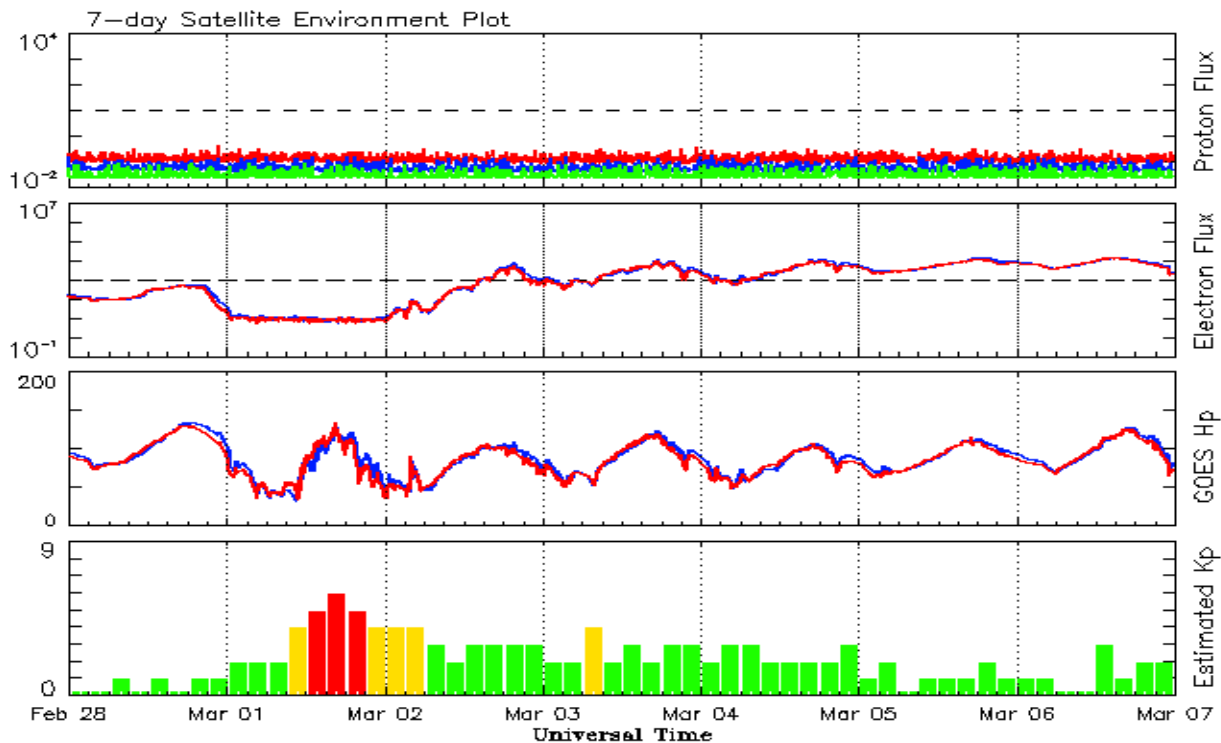


Recent Solar Indices (preliminary)
Observed monthly mean values

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									
March	0.7	0.7	1.00	3.4	2.0	69.2	69.0	5	4.6
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	16.8	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			81.1		5	
October	35.0	23.5	0.67			81.6		6	
November	36.1	21.6	0.60			82.5		5	
December	22.0	14.5	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		5	

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 February 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.

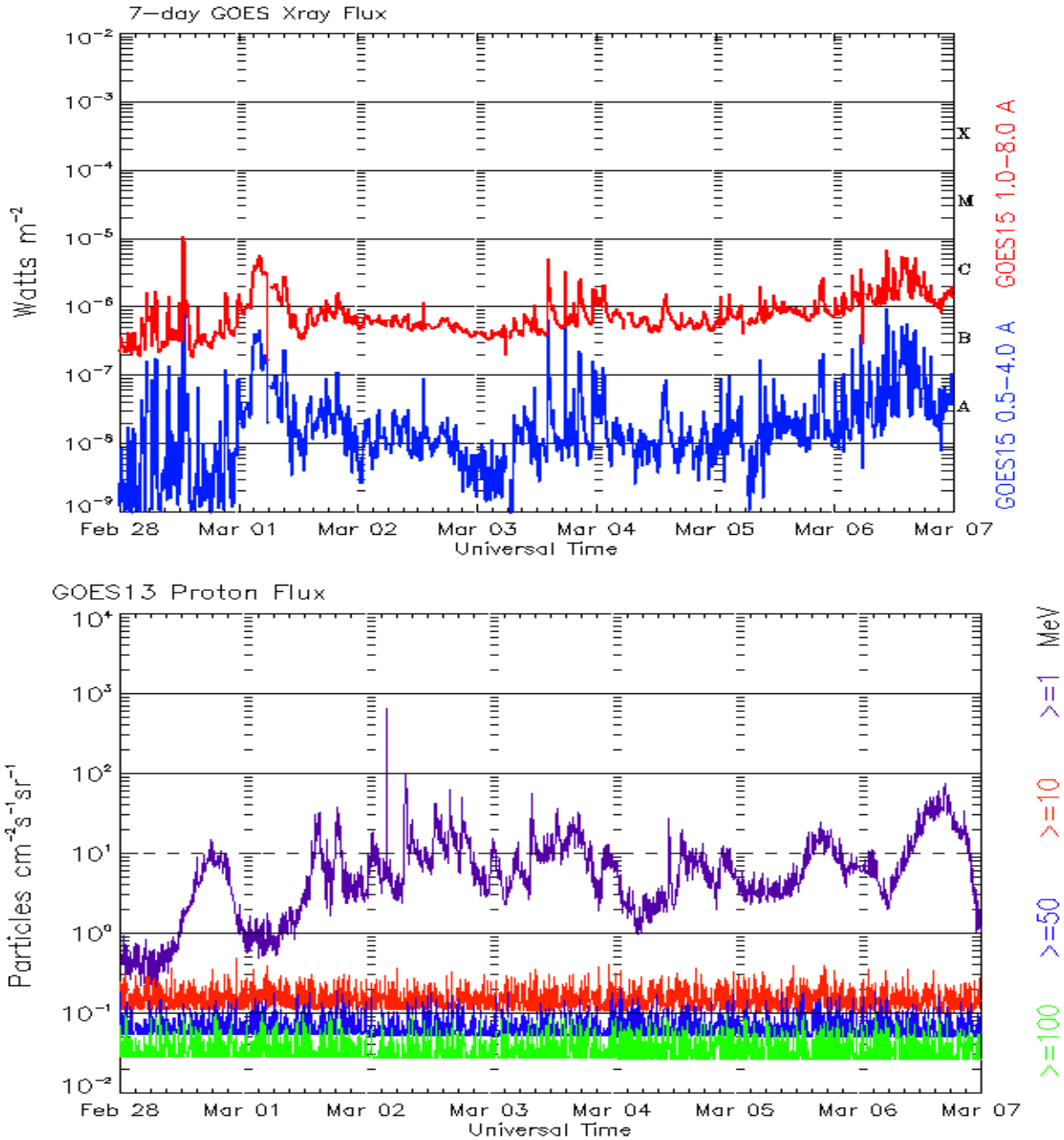
The electron flux plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV by the SWPC Primary GOES satellite.

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 February 2011*

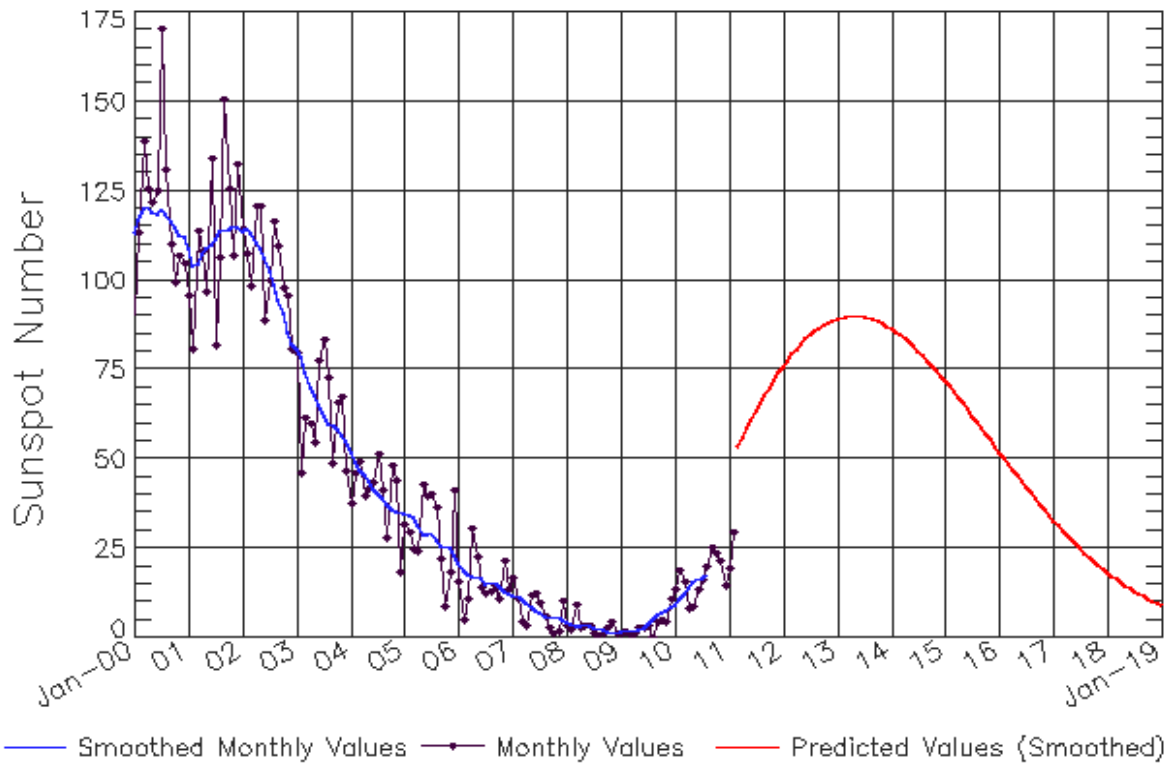
The x-ray plots contains five-minute averages x-ray flux (Watt/m²) as measure by the SWPC primary GOES X-ray satellite, usually at West 105 longitude, in two wavelength bands, 0.05 - 0.4 and 0.1 - 0.8 nm. The letters A, B, C, M and X refer to x-ray event levels for the 0.1 - 0.8 nm band.

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 Feb 2011



Updated 2011 Mar 9

NOAA/SWPC Boulder, CO USA

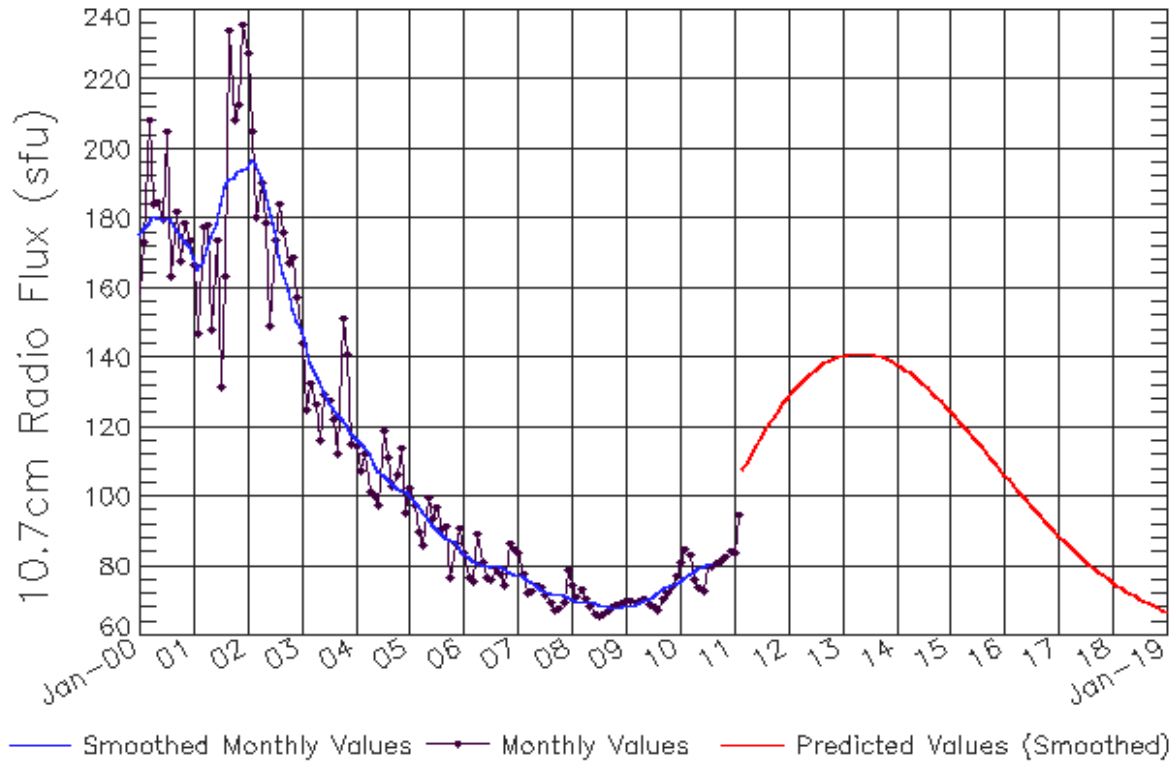
Smoothed Sunspot Number Prediction

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2010	9 (***)	11 (***)	12 (***)	14 (***)	16 (***)	16 (***)	17 (***)	17 (***)	20 (1)	23 (2)	27 (3)	31 (5)
2011	35 (5)	39 (6)	43 (7)	46 (7)	50 (8)	55 (9)	60 (9)	64 (10)	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 Feb 2011



Updated 2011 Mar 9

NOAA/SWPC Boulder, CO USA

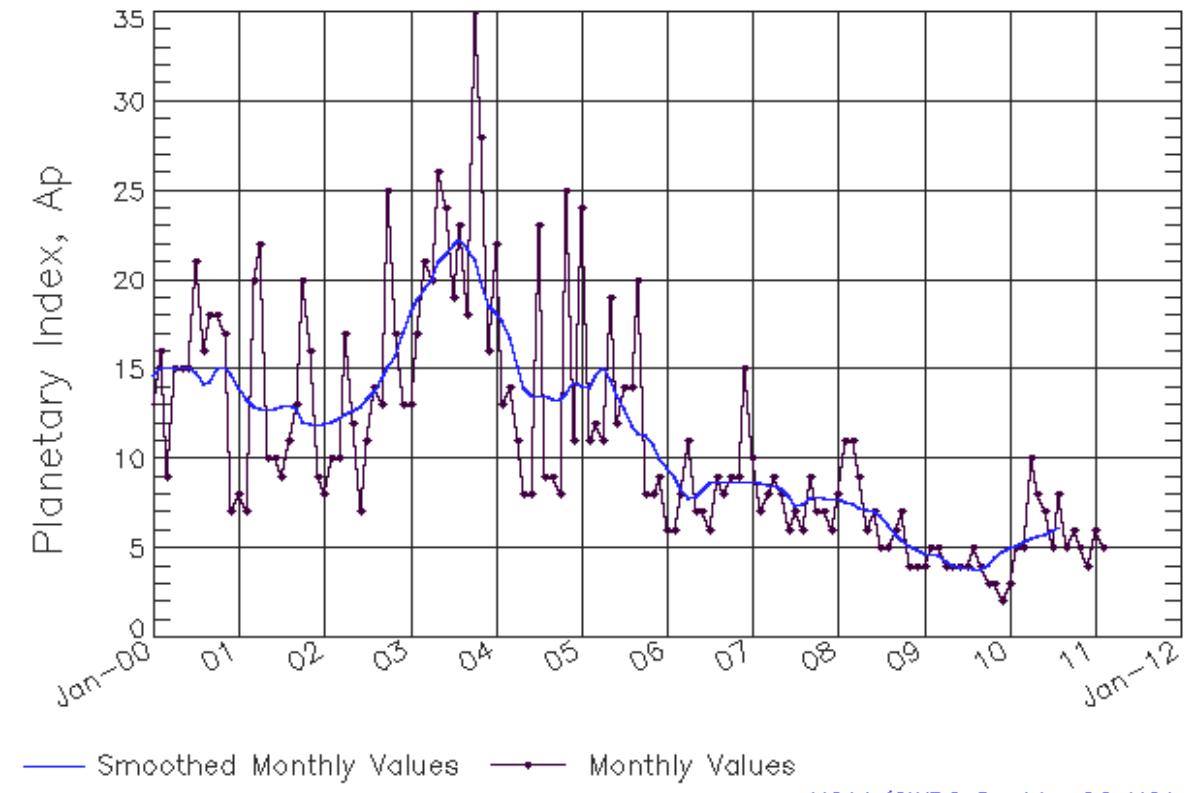
Smoothed F10.7cm Radio Flux Prediction

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2010	76 (***)	77 (***)	78 (***)	78 (***)	79 (***)	80 (***)	80 (***)	81 (***)	82 (1)	85 (1)	88 (2)	91 (3)
2011	94 (4)	97 (4)	101 (5)	104 (6)	108 (7)	111 (8)	115 (8)	118 (9)	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 Feb 2011



Updated 2011 Mar 9

NOAA/SWPC Boulder, CO USA

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

