

Solar activity was at very low to low levels. Region 1450 (N16, L=324, class/area Esi/180 on 06 April) produced 4 C-class flares including a C1/Sf at 2110 UTC on 05 April with associated Type II (360 km/s) and Type IV radio sweeps along with a partial halo coronal mass ejection (CME) first seen in SOHO/LASCO C2 imagery at 05/2125 UTC. Region 1450 also produced several C-class flares from 04 to 05 April; the largest, a C3/1f at 1624 UTC on 05 April. Region 1452 (N18, L=285, class/area Dsi/040 on 04 April) was also responsible for a C2 flare that occurred at 1708 UTC on 07 April. Two filament eruptions were observed. The first was a filament eruption near N26E14 first observed in SOHO/LASCO C2 imagery beginning at 0224 UTC on 02 April. The CME was partially Earth-directed; however the majority of the ejecta were northerly. The second filament eruption occurred between 1825 - 1900 UTC on 07 April in the northwest quadrant near Region 1451 (N17, L=306, class/area Cro/020 on 30 March). The associated CME had an approximate plane of sky speed of 690 km/s with the majority of the ejecta directed southwest of the Earth.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit ranged between normal and moderate levels.

Geomagnetic field activity was quiet to unsettled during the period, with the sole exception of a single active period between 09-12 UTC on 05 April as the result of sustained southward Bz.

### **Space Weather Outlook** **09 April - 05 May 2012**

Solar activity is expected to be at very low to low levels throughout the period.

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 from 09-13 April. Flux values are forecast to increase to high levels from 14-18 April, due to CH high speed stream effects. Values should decrease to normal/moderate levels again for 19 April through 05 May.

Geomagnetic field activity is expected to begin the period at quiet to unsettled levels, and remain so from 09 April through 15 April, due to the combination of two anticipated CME arrivals from filament eruptions as well as anticipated CH effects. Conditions are expected to recover to mostly quiet levels from 16-22 April, before increasing to unsettled levels on 23-24 April. This increase is forecast as the result of an expected recurrent negative polarity coronal hole. Mostly quiet levels are anticipated from 25 April through the end of the period on 05 May.



### *Daily Solar Data*

Date	Radio Flux 10.7cm	Sun spot No.	Sunspot Area (10 <sup>-6</sup> hemi.)	X-ray Background Flux	Flares							
					X-ray			Optical				
					C	M	X	S	1	2	3	4
02 April	106	67	250	B2.4	0	0	0	2	0	0	0	0
03 April	104	62	220	B2.2	0	0	0	1	0	0	0	0
04 April	102	60	220	B1.5	1	0	0	1	0	0	0	0
05 April	101	50	180	B2.0	3	0	0	3	1	0	0	0
06 April	97	39	210	B1.6	0	0	0	1	0	0	0	0
07 April	99	38	110	B1.5	1	0	0	0	0	0	0	0
08 April	93	25	130	B1.2	0	0	0	7	0	0	0	0

### *Daily Particle Data*

Date	Proton Fluence (protons/cm <sup>2</sup> -day -sr)			Electron Fluence (electrons/cm <sup>2</sup> -day -sr)		
	>1 MeV	>10 MeV	>100 MeV	>0.6 MeV	>2MeV	>4 MeV
	02 April	9.5e+05	1.8e+04	2.7e+03		1.9e+06
03 April	6.5e+05	1.5e+04	3.1e+03		1.0e+07	
04 April	2.3e+05	1.3e+04	2.9e+03		6.0e+06	
05 April	3.1e+05	1.2e+04	2.6e+03		1.4e+06	
06 April	4.8e+05	1.6e+04	2.6e+03		3.0e+06	
07 April	6.5e+05	1.3e+04	3.2e+03		4.3e+06	
08 April	3.8e+05	1.2e+04	3.0e+03		1.0e+07	

### *Daily Geomagnetic Data*

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	02 April	9	3-2-2-1-3-2-2-2	17	2-4-3-4-5-2-1-1	8
03 April	4	1-2-1-0-2-1-1-2	4	1-2-1-2-2-0-1-1	5	2-2-1-0-1-1-1-2
04 April	6	2-2-1-1-2-2-2-2	5	2-2-0-1-1-2-2-2	6	2-2-0-1-1-2-2-3
05 April	11	2-2-3-3-3-2-3-2	35	2-4-4-7-4-5-1-1	13	3-3-3-4-3-3-2-2
06 April	3	1-1-1-0-1-0-1-2	2	1-1-0-0-0-0-1-1	4	1-1-1-1-1-1-0-2
07 April	3	1-1-0-0-0-0-0-0	24	2-3-4-6-5-1-1-2	10	2-3-2-3-3-1-0-2
08 April	0	0-0-0-0-0-0-0-0	6	2-1-0-4-1-1-1-0	5	2-1-1-2-2-1-1-1

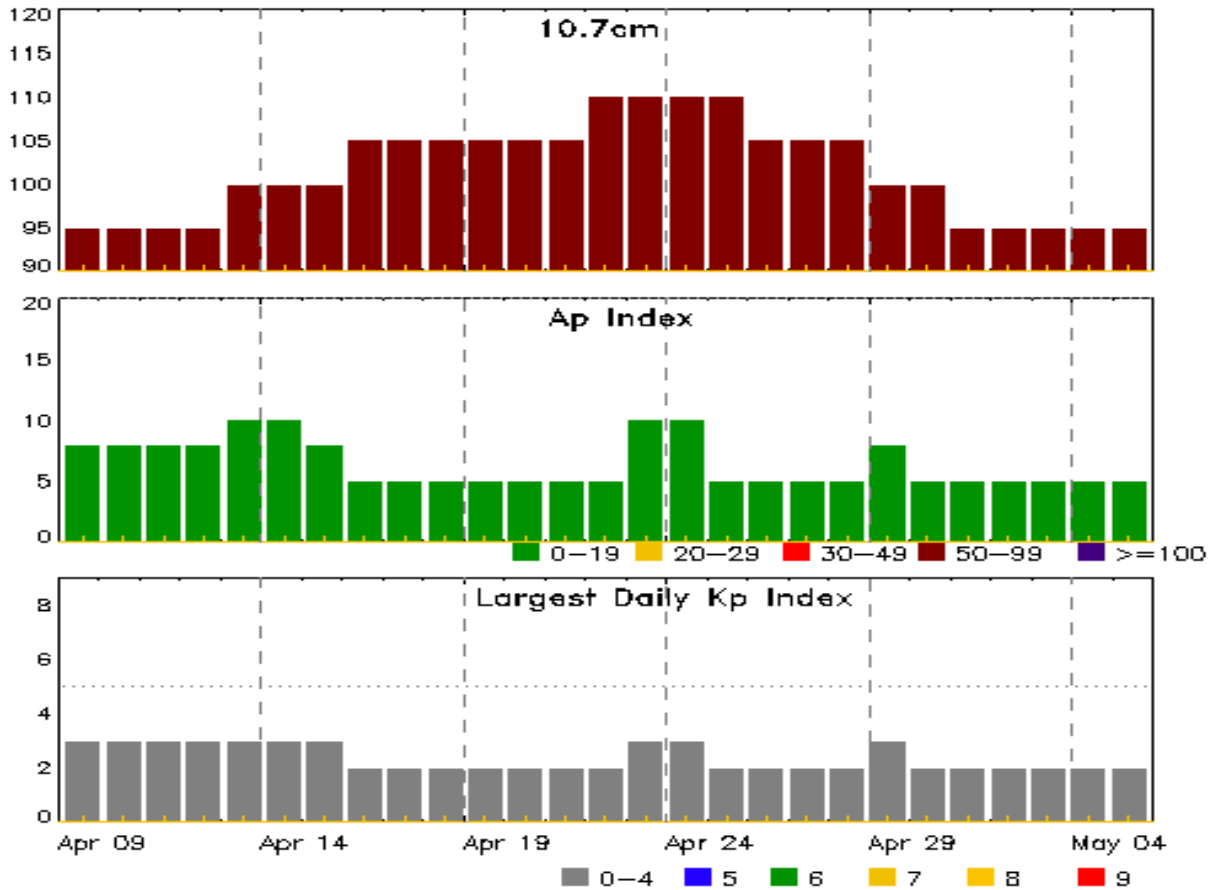


### *Alerts and Warnings Issued*

<b>Date &amp; Time of Issue UTC</b>	<b>Type of Alert or Warning</b>	<b>Date &amp; Time of Event UTC</b>
05 Apr 0921	WARNING: Geomagnetic K = 4	05/0921 - 1600
05 Apr 0947	ALERT: Geomagnetic K = 4	05/0947
05 Apr 2152	ALERT: Type II Radio Emission	05/2108
05 Apr 2158	ALERT: Type IV Radio Emission	05/2110
07 Apr 1008	WARNING: Geomagnetic K = 4	07/1008 - 1900



## 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 Apr	95	8	3	23 Apr	110	10	3
10	95	8	3	24	110	10	3
11	95	8	3	25	110	5	2
12	95	8	3	26	105	5	2
13	100	10	3	27	105	5	2
14	100	10	3	28	105	5	2
15	100	8	3	29	100	8	3
16	105	5	2	30	100	5	2
17	105	5	2	01 May	95	5	2
18	105	5	2	02	95	5	2
19	105	5	2	03	95	5	2
20	105	5	2	04	95	5	2
21	105	5	2	05	95	5	2
22	110	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		Intensity	
									245	2695	II	IV

**No Events Observed**

## *Flare List*

Date	Time			X-ray Class	Imp/ Brtns	Optical Location Lat CMD	Rgn #
	Begin	Max	End				
02 Apr	0228	0234	0241	B7.9			1451
02 Apr	0824	0827	0830		SF	N16E15	1450
02 Apr	0846	0846	0850		SF	N19E55	
02 Apr	2153	2220	2253	B4.9			1450
03 Apr	1225	1228	1235	B4.2	SF	N16E03	1450
03 Apr	1516	1535	1550	B3.7			1451
03 Apr	2115	2123	2138	B4.3			1451
04 Apr	0323	0350	0403	B4.1			1451
04 Apr	0530	0557	0631	B7.0			1450
04 Apr	1617	1627	1651	C1.2	SF	N15W11	1450
05 Apr	1011	1030	1049	B6.9			1450
05 Apr	1318	1327	1341	B9.8			1450
05 Apr	1351	1356	1357		SF	N13W28	1450
05 Apr	1616	1624	1632	C3.1	1F	N14W30	1450
05 Apr	2015	2016	2018		SF	N17W25	1450
05 Apr	2049	2110	2157	C1.5	SF	N18W29	1450
05 Apr	2350	0000	0005	C1.1			1450
06 Apr	0358	0409	0425	B5.7	SF	N15W34	1450
07 Apr	0021	0026	0035	B3.0			1452
07 Apr	0822	0827	0835	B2.1			1452
07 Apr	0927	0936	0941	B7.4			1450
07 Apr	1659	1708	1715	C2.4			1452
07 Apr	1908	1955	2016	B6.8			1451
08 Apr	0101	0105	0111	B3.7			
08 Apr	0151	0153	0201		SF	N14W58	1450
08 Apr	0249	0254	0301	B3.7			1452
08 Apr	1126	1129	1132	B7.1			1450
08 Apr	1419	1424	1427	B2.7	SF	N18W64	1450
08 Apr	1453	1547	1607	B7.2			1451
08 Apr	1457	1457	1502		SF	N19W30	1452
08 Apr	1539	1554	1610		SF	N23W40	1451



### *Flare List*

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
08 Apr	1611	1614	1617		SF	N22W41	1451
08 Apr	1846	1853	1900	B6.8	SF	N21W42	1451
08 Apr	2016	2023	2029	B3.7			
08 Apr	2334	2340	2349	B4.1	SF	N22W44	1451



## Region Summary

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

### Region 1442

22 Mar	N13E49	67	10	1	Axx	1	A										
23 Mar	N13E36	67	plage														
24 Mar	N13E22	69	plage														
25 Mar	N13E08	70	plage														
26 Mar	N12W01	65	30	2	Cso	3	B	2				4					
27 Mar	N12W13	64	50	5	Dai	9	B	1				1					
28 Mar	N12W25	63	70	6	Dao	8	B										
29 Mar	N13W41	66	50	6	Dso	7	B					1					
30 Mar	N12W54	66	70	6	Dao	5	B										
31 Mar	N12W66	65	50	4	Dso	4	B										
01 Apr	N12W80	66	plage														
								3	0	0		6	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 65

### Region 1443

22 Mar	N16E62	54	10	1	Axx	1	A										
23 Mar	N18E51	53	10	1	Axx	1	A										
24 Mar	N18E37	54	10	1	Axx	1	A										
25 Mar	N16E25	53	0		Axx	1	A										
26 Mar	N16E11	54	plage														
27 Mar	N16W03	55	plage														
28 Mar	N16W17	56	plage														
29 Mar	N12W28	53	10	5	Cso	2	B										
30 Mar	N13W44	56	10	4	Bxo	2	B										
31 Mar	N13W60	59	30	2	Cro	3	B										
01 Apr	N14W74	60	20	2	Cro	2	B										
02 Apr	N14W88	61	plage														
								0	0	0		0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 55



### *Region Summary - continued*

Date	Location		Sunspot Characteristics				Flares											
	Lat CMD	Lon	Helio 10 <sup>6</sup> hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical							
								C	M	X	S	1	2	3	4			
<b>Region 1444</b>																		
23 Mar	N19E38		65	10	2	Bxo	4	B										
24 Mar	N20E25		66	50	7	Cao	7	B										
25 Mar	N19E11		67	60	7	Cao	7	B	2			1	1					
26 Mar	N21W04		68	40	4	Cso	5	B					1					
27 Mar	N21W17		68	plage					1			1	1					
28 Mar	N21W31		70	plage					1			2						
29 Mar	N21W45		70	plage								1						
30 Mar	N21W58		70	plage														
31 Mar	N21W72		71	plage									1					
01 Apr	N21W86		72	plage														
									4	0	0	6	3	0	0	0	0	

Crossed West Limb.

Absolute heliographic longitude: 68

<b>Region 1445</b>																		
23 Mar	S24E76		29	90	13	Eao	4	B		1		1						
24 Mar	S24E62		29	100	15	Eao	4	B	1			3						
25 Mar	S24E52		26	280	16	Fho	8	B	1			2						
26 Mar	S23E40		24	210	17	Fao	7	B										
27 Mar	S22E25		25	210	15	Eso	6	B										
28 Mar	S23E13		25	200	15	Eso	5	B										
29 Mar	S23W00		24	220	16	Fso	9	B										
30 Mar	S22W13		25	180	16	Cso	4	B										
31 Mar	S23W26		25	130	12	Cso	3	B										
01 Apr	S23W45		31	120	3	Hsx	1	A										
02 Apr	S22W59		32	120	3	Hsx	1	A										
03 Apr	S22W71		30	110	5	Hsx	1	A										
04 Apr	S21W87		32	90	1	Hsx	1	A										
									2	1	0	6	0	0	0	0	0	

Crossed West Limb.

Absolute heliographic longitude: 24





**Region Summary - continued**

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

**Region 1448**

28 Mar	S18E55	342	10	3	Axx	1	A										
29 Mar	S17E41	343	30	2	Dao	2	B										
30 Mar	S17E29	343	30	7	Cao	3	B										
31 Mar	S17E15	344	10	3	Bxo	3	B										
01 Apr	S17E01	345	plage														
02 Apr	S17W13	346	plage														
03 Apr	S17W27	346	plage														
04 Apr	S17W41	347	plage														
05 Apr	S17W55	348	plage														
06 Apr	S17W69	349	plage														
07 Apr	S17W83	350	plage														
										0	0	0	0	0	0	0	0

Crossed West Limb.  
Absolute heliographic longitude: 345

**Region 1449**

29 Mar	S18W17	41	20	4	Dro	4	B										
30 Mar	S18W31	43	40	3	Cao	3	B										
31 Mar	S18W47	46	30	5	Cro	4	B										
01 Apr	S18W60	46	40	6	Dso	3	B										
02 Apr	S18W74	47	40	6	Dso	3	B										
03 Apr	S18W88	47	plage														
										0	0	0	0	0	0	0	0

Crossed West Limb.  
Absolute heliographic longitude: 41

**Region 1450**

31 Mar	N15E38	321	20	5	Cro	5	B										
01 Apr	N17E22	324	20	2	Bxo	4	B					1					
02 Apr	N16E07	324	40	6	Dso	7	B					1					
03 Apr	N16W04	322	60	9	Dsi	13	B					1					
04 Apr	N17W19	324	80	10	Dsi	11	B	1				1					
05 Apr	N15W31	323	130	12	Esi	14	BG	3				3	1				
06 Apr	N16W45	324	180	13	Esi	15	BG					1					
07 Apr	N15W59	326	100	14	Csi	14	BG										
08 Apr	N15W75	328	120	4	Hsx	1	A					2					
										4	0	0	10	1	0	0	0

Still on Disk.  
Absolute heliographic longitude: 322



### *Region Summary - continued*

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

#### *Region 1451*

29 Mar	N17E82	306	plage						4								
30 Mar	N17E67	306	20	4	Cro	4	B	1			1						
31 Mar	N17E53	306	20	2	Cro	4	B										
01 Apr	N17E39	307	plage														
02 Apr	N17E25	308	plage														
03 Apr	N17E11	308	plage														
04 Apr	N17W03	309	plage														
05 Apr	N17W17	310	plage														
06 Apr	N17W31	311	plage														
07 Apr	N17W45	312	plage														
08 Apr	N17W59	312	plage									4					
								5	0	0		5	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 309

#### *Region 1452*

02 Apr	N19E47	285	30	3	Dso	2	B										
03 Apr	N18E33	285	30	5	Dso	3	B										
04 Apr	N18E19	285	40	6	Dsi	6	B										
05 Apr	N18E05	287	30	7	Dro	5	B										
06 Apr	N18W08	288	30	6	Cro	4	B										
07 Apr	N17W23	289	10	4	Bxo	4	B	1									
08 Apr	N17W37	290	10	4	Bxo	4	B					1					
								1	0	0		1	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 287

#### *Region 1453*

02 Apr	S17E02	330	20	4	Cso	4	B										
03 Apr	S17W11	330	20	5	Bxo	5	B										
04 Apr	S17W28	333	10	1	Axx	2	A										
05 Apr	S17W42	335	plage														
06 Apr	S17W56	336	plage														
07 Apr	S17W70	337	plage														
08 Apr	S17W84	337	plage														
								0	0	0		0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 330

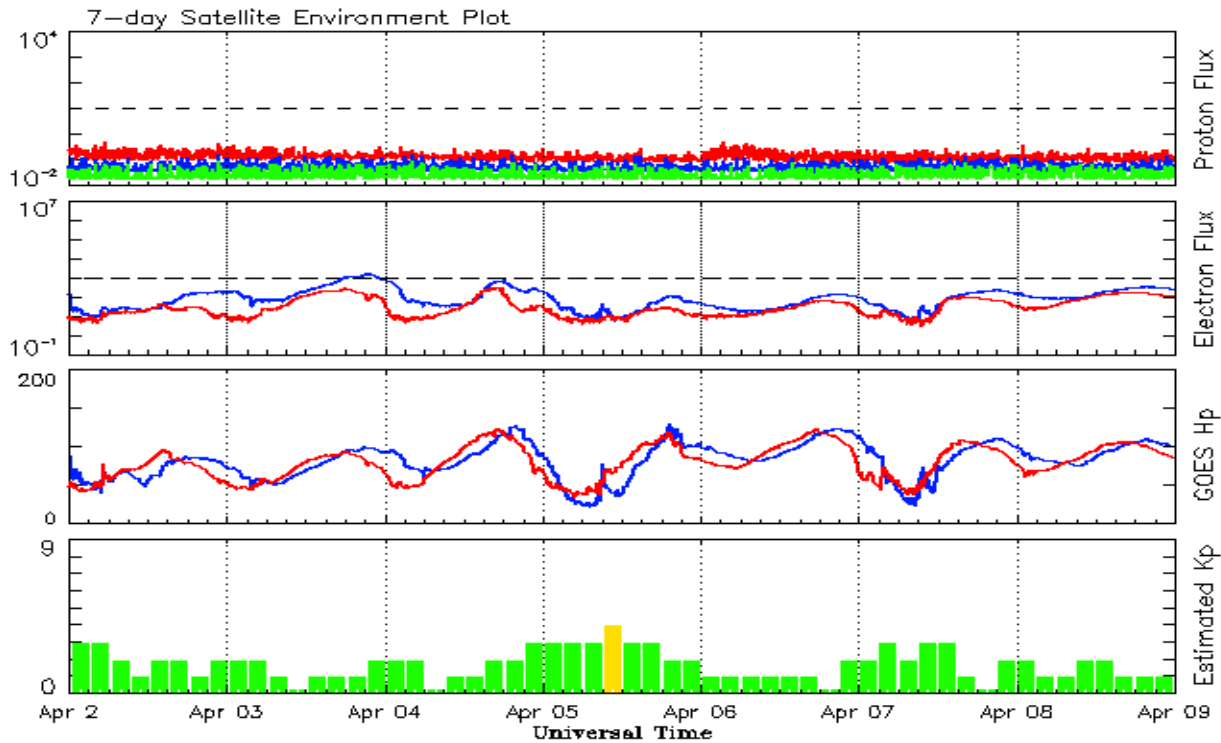


**Recent Solar Indices (preliminary)**  
**Observed monthly mean values**

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
<b>2010</b>									
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	35.9	23.2	81.6	85.3	6	6.4
November	36.1	21.5	0.60	40.5	26.5	82.5	87.7	5	6.4
December	22.0	14.4	0.66	43.8	28.8	84.3	89.6	4	6.5
<b>2011</b>									
January	32.1	18.8	0.59	47.2	30.9	83.7	91.2	6	6.7
February	53.2	29.6	0.55	50.6	33.4	94.5	92.7	6	6.8
March	81.0	55.8	0.69	55.2	36.9	115.3	95.8	7	7.2
April	81.7	54.4	0.67	61.5	41.8	112.6	100.4	9	7.5
May	61.4	41.5	0.68	69.0	47.6	95.9	105.6	9	7.5
June	55.5	37.0	0.67	76.5	53.2	95.8	110.9	8	7.4
July	67.0	43.8	0.66	82.5	57.2	94.2	115.4	9	7.3
August	66.1	50.6	0.77	84.9	59.0	101.7	117.9	8	7.4
September	106.4	78.0	0.73	84.6	59.5	134.5	118.4	13	7.7
October	116.8	88.0	0.75			137.2		7	
November	133.1	96.7	0.73			153.1		3	
December	106.3	73.0	0.69			141.2		3	
<b>2012</b>									
January	91.3	58.3	0.64			133.1		6	
February	50.1	33.1	0.66			106.7		7	
March	77.9	64.2	0.82			115.1		14	

**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 02 April 2012*

The proton flux plot contains the five-minute averaged integral proton flux (protons/cm<sup>2</sup>-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.

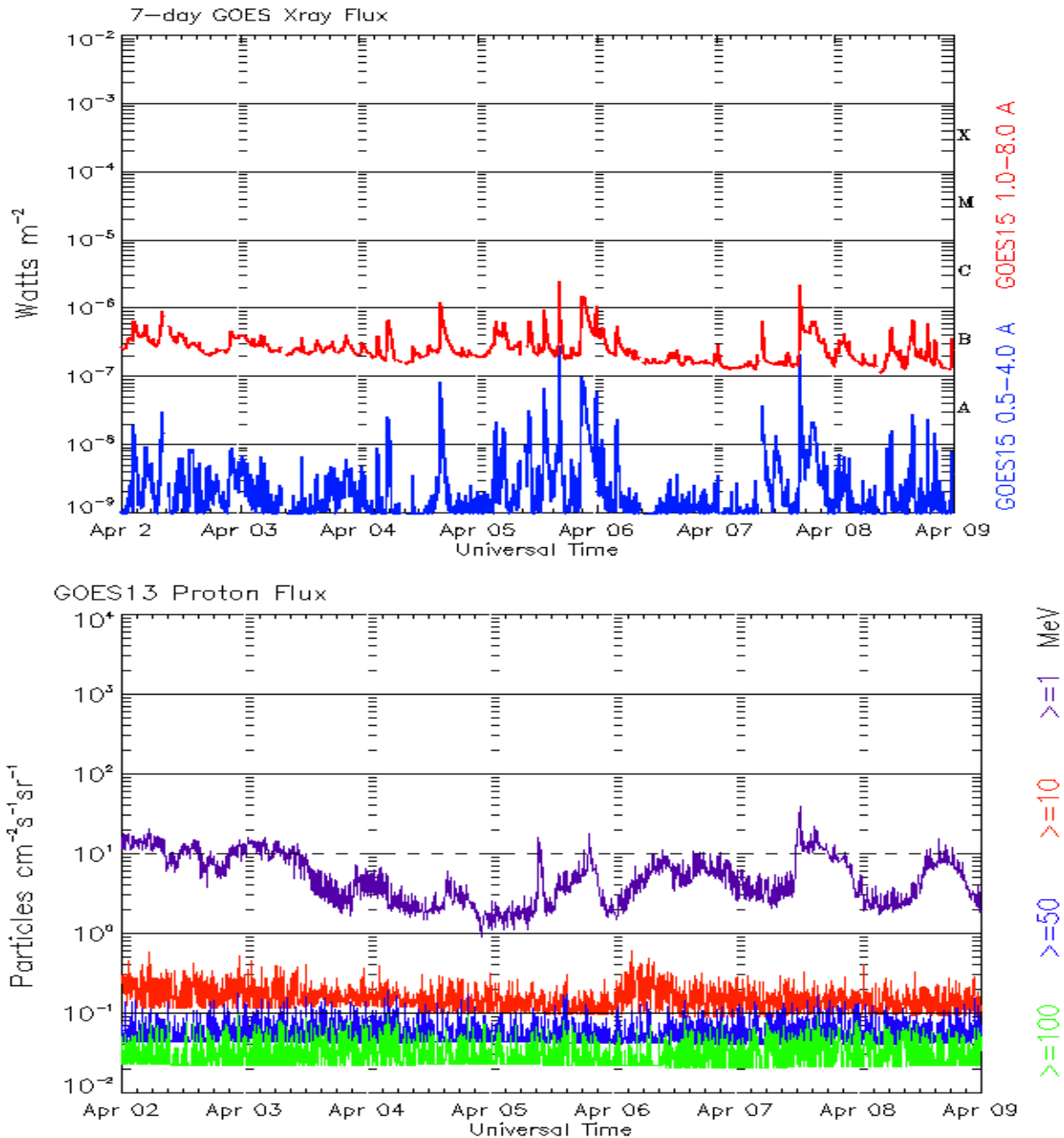
The electron flux plot contains the five-minute averaged integral electron flux (electrons/cm<sup>2</sup>-sec -sr) with energies greater than 2 MeV by the SWPC Primary GOES satellite.

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 02 April 2012*

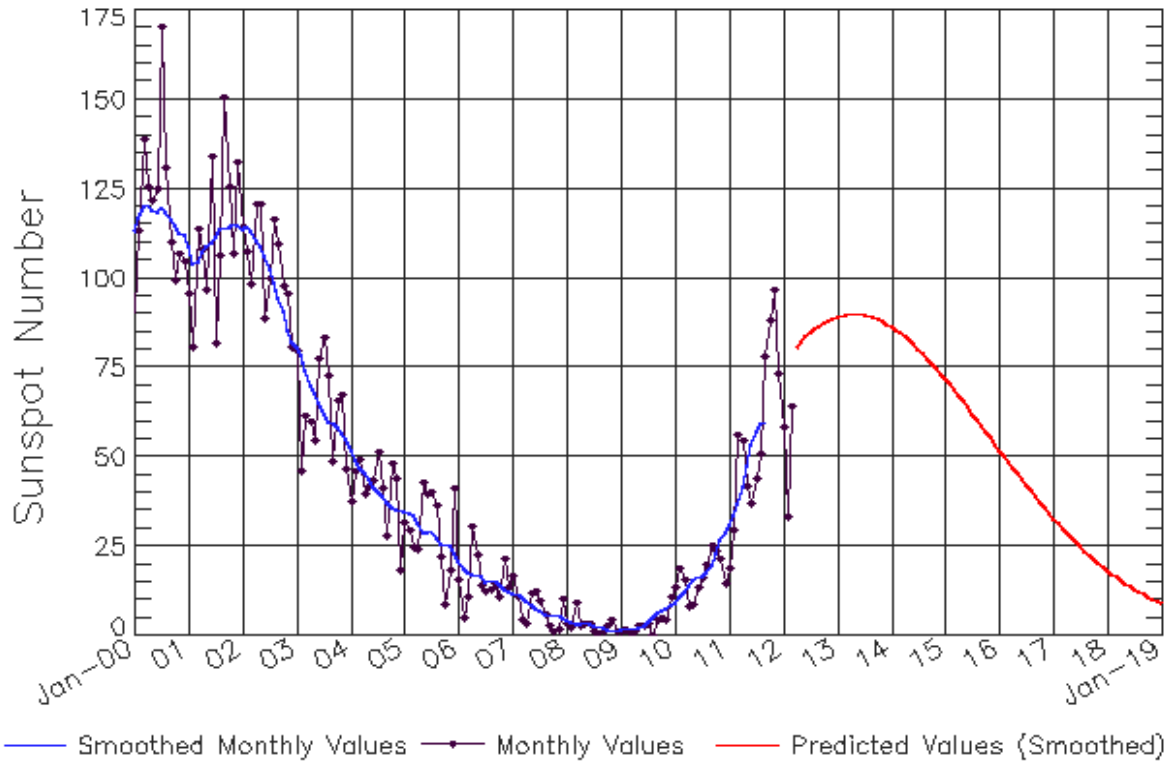
The x-ray plots contains five-minute averages x-ray flux (Watt/m<sup>2</sup>) as measure by the SWPC primary GOES X-ray satellite, usually at West 105 longitude, in two wavelength bands, 0.05 - 0.4 and 0.1 - 0.8 nm. The letters A, B, C, M and X refer to x-ray event levels for the 0.1 - 0.8 nm band.

The proton plot contains the five-minute averaged intergral flux units (pfu = protons/cm<sup>2</sup> -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 2012



Updated 2012 Apr 9

NOAA/SWPC Boulder, CO USA

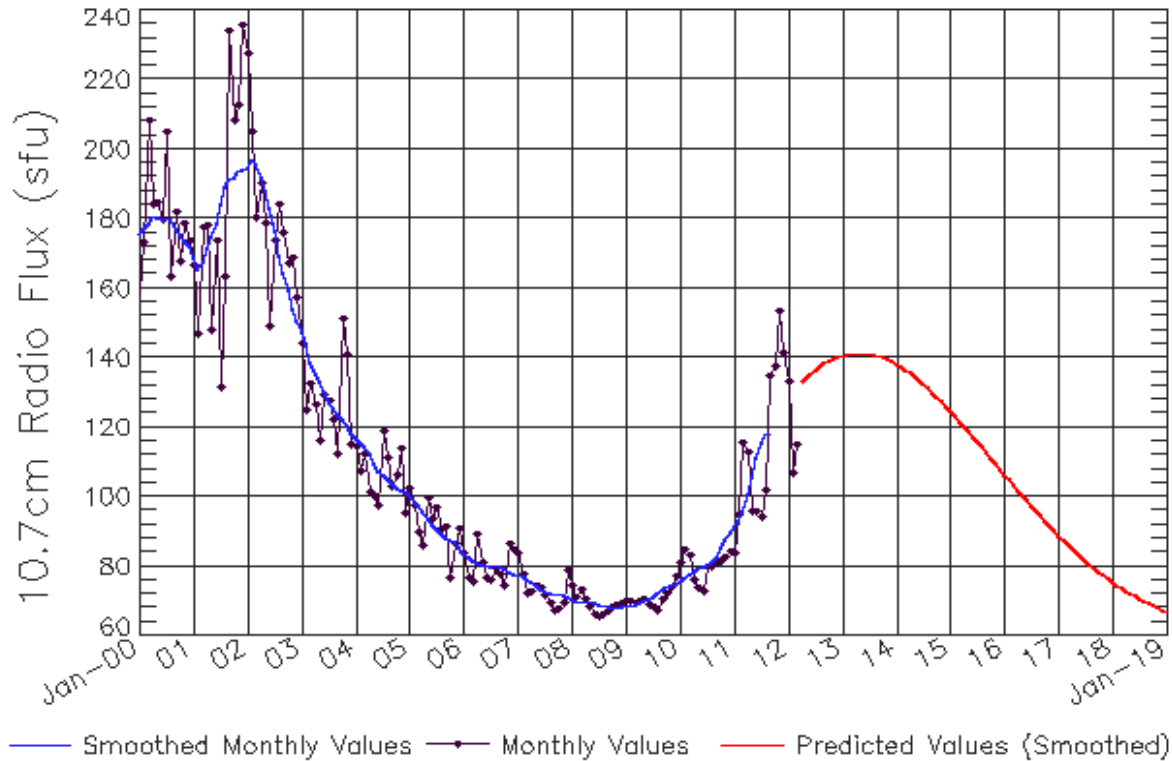
## *Smoothed Sunspot Number Prediction*

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2010	9 (***)	11 (***)	12 (***)	14 (***)	16 (***)	16 (***)	17 (***)	17 (***)	20 (***)	23 (***)	27 (***)	29 (***)
2011	31 (***)	33 (***)	37 (***)	42 (***)	48 (***)	53 (***)	57 (***)	59 (***)	60 (***)	61 (1)	64 (2)	67 (3)
2012	71 (5)	74 (5)	76 (6)	76 (7)	76 (7)	76 (8)	78 (9)	82 (9)	85 (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 2012



Updated 2012 Apr 9

NOAA/SWPC Boulder, CO USA

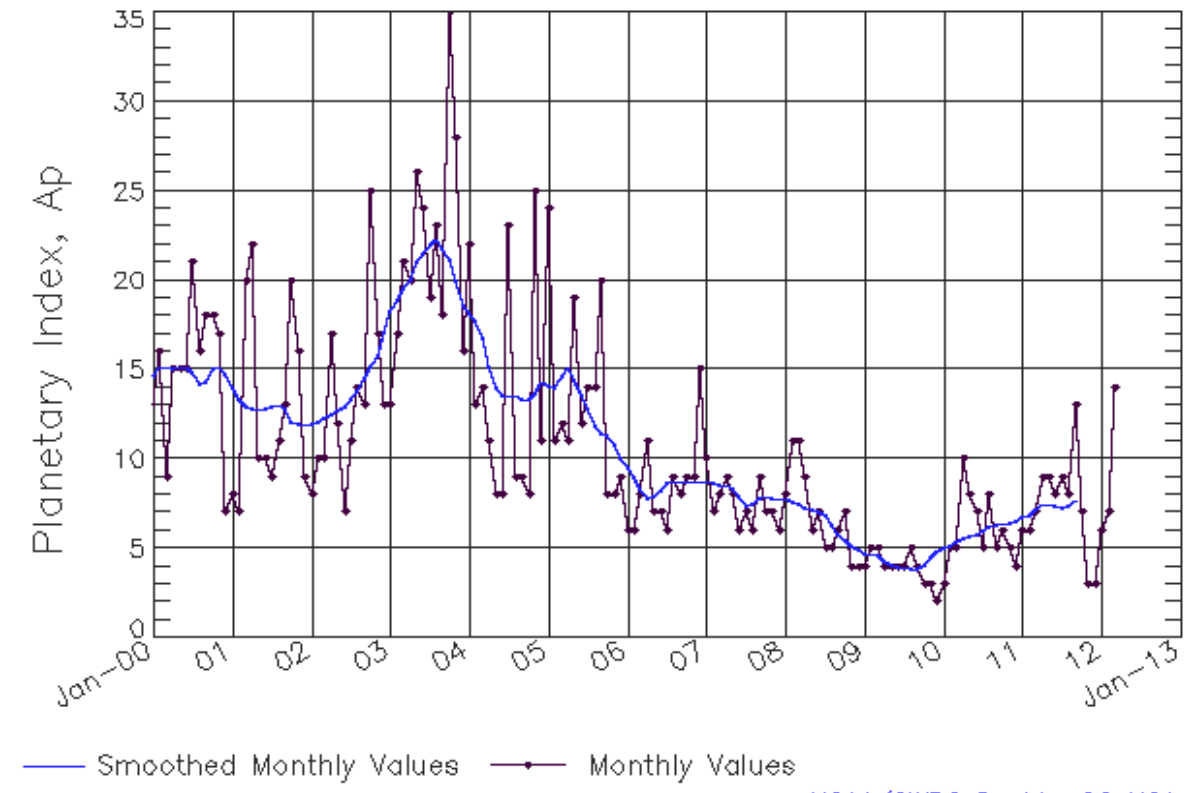
## *Smoothed F10.7cm Radio Flux Prediction*

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2010	76 (***)	77 (***)	78 (***)	78 (***)	79 (***)	80 (***)	80 (***)	81 (***)	82 (***)	85 (***)	88 (***)	90 (***)
2011	91 (***)	93 (***)	96 (***)	100 (***)	106 (***)	111 (***)	115 (***)	118 (***)	118 (***)	119 (1)	122 (1)	125 (2)
2012	128 (3)	132 (4)	133 (4)	134 (5)	133 (6)	132 (7)	133 (8)	134 (8)	137 (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 2012



Updated 2012 Apr 9

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*Solar Cycle Comparison charts are temporarily unavailable.*





## ***Preliminary Report and Forecast of Solar Geophysical Data (The Weekly)***

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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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