

Solar activity ranged from low to high levels. The period began with moderate (R1-minor) levels due to an M1/Sf flare at 31/0807 UTC from Region 2014 (S15, L=168, class/area Ehi/290 on 27 Mar). Associated with this event were Type IV radio emissions. By 01 April, solar activity decreased to low levels; the largest event was a C3 flare at 01/0050 UTC from Region 2022 (N16, L=059, class/area Hsx/060 on 28 March). At approximately 01/1430 UTC, an 8 degree long filament eruption (DSF), centered near N02E20, was observed in SDO/AIA 304 imagery. An associated faint, Earth-directed CME was detected in SOHO/LASCO C2 imagery.

Activity reached high levels on 02 April as Region 2027 (N12, L=014, class/area Cao/180 on 04 April) produced an M6/2b flare at 02/1405 UTC. Associated with this event were Type II (903 km/s), Type IV and 10cm (3700 sfu) radio emissions. In addition, an Earth-directed, partial-halo CME was visible in C2 and C3 LASCO imagery with an average speed of 1499 km/s through both fields.

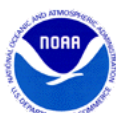
The remainder of the period from 03 - 06 April saw a return to low levels. During this time frame, the most significant activity occurred on 04 April. At 04/1348 UTC, Region 2027 produced a C8/1f flare with Type II (1803 km/s) and Type IV radio emissions. A faint, non Earth-directed, partial-halo CME was visible in LASCO C2 imagery associated with this event. Later in the day, Region 2021 (S13, L=075, class/area Dki/330 on 02 April) produced a C6 x-ray event with an associated faint, partial-halo CME that was determined to be non Earth-directed.

No proton events were observed at geosynchronous orbit. However, a slight enhancement in flux levels to about 1 pfu was detected beginning early on 05 April and extended through the remainder of the summary period. This enhancement was most likely due to a combination of the 01 April DSF and 02 April M6 flare and their associated CMEs.

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

Geomagnetic field activity ranged from quiet to active levels during the week. From 31 March through midday on 05 April, field activity was predominately quiet with isolated unsettled periods late on 31 March and again late on 01 April due to periods of sustained negative Bz to near -6 nT. Solar wind was at nominal levels, averaging about 400 km/s through midday on 05 April while Bt ranged from 1 to 7 nT. Other than the forementioned periods of negative Bz, the component generally did not vary much beyond +6 to -4 nT. The phi angle was in a predominate positive (away) sector through midday on the 5th when the field rotated to a more negative (towards) orientation.

Field activity increased to unsettled to active levels from midday on the 5th to early on the 6th. Weak perturbations in the solar wind field, coupled with a slow rise in low energy particles, suggested the passage of 01-02 April CMEs. Wind speed peaked at about 525 km/s by 05/1500 UTC. Bt approached 18 nT early on 06 April while the Bz component reached -7 nT at about 05/1100 UTC. These conditions persisted through early on 06 April when a return to more nominal conditions was observed.



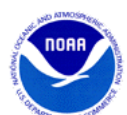
Space Weather Outlook
07 April - 03 May 2014

Solar activity is expected to be low with a chance for moderate levels through the forecast 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 levels through the forecast period.

Geomagnetic field activity is expected to be at predominately quiet levels through the forecast period. The exception will be periods of quiet to unsettled levels on 09 - 10 April and 17 - 19 April due to recurrent coronal hole high speed stream effects..



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
31 March	152	129	630	B9.1	6	1	0	17	0	0	0	0
01 April	153	124	540	B6.5	7	0	0	3	0	0	0	0
02 April	155	126	740	B7.0	9	1	0	12	0	1	0	0
03 April	153	137	800	B4.8	4	0	0	5	0	0	0	0
04 April	157	174	1180	B5.4	10	0	0	2	1	1	0	0
05 April	142	172	930	B3.9	3	0	0	0	0	0	0	0
06 April	141	127	560	B3.9	2	0	0	1	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
	31 March	2.3e+05	1.4e+04	2.4e+03		7.2e+05
01 April	1.3e+05	1.0e+04	2.5e+03		1.2e+05	
02 April	1.1e+05	1.0e+04	2.5e+03		1.8e+05	
03 April	1.4e+05	1.2e+04	2.5e+03		2.9e+05	
04 April	5.6e+05	1.7e+04	2.5e+03		3.5e+05	
05 April	4.2e+06	3.3e+04	2.4e+03		2.6e+05	
06 April	3.0e+06	5.6e+04	2.2e+03		1.2e+05	

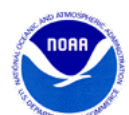
Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	31 March	8	1-1-1-1-3-4-2-1	8	1-1-1-1-4-3-2-0	7
01 April	5	1-1-0-2-2-2-1-2	4	1-0-1-0-1-3-1-1	6	1-1-1-1-2-2-1-3
02 April	6	1-1-1-2-2-2-2-2	2	1-1-0-1-0-1-1-1	5	1-1-1-1-2-1-1-2
03 April	7	1-1-1-3-3-2-1-1	9	1-1-1-3-4-3-1-1	6	1-2-1-2-2-1-1-2
04 April	5	1-1-1-2-2-2-1-1	3	0-1-2-1-2-0-0-0	6	1-2-2-2-2-2-1-1
05 April	11	1-0-2-3-3-3-3-3	17	1-1-2-5-5-3-2-2	14	2-1-2-4-4-3-3-3
06 April	3	2-0-0-1-2-1-1-1	2	2-1-0-0-0-1-0-1	5	3-1-1-1-1-1-0-2

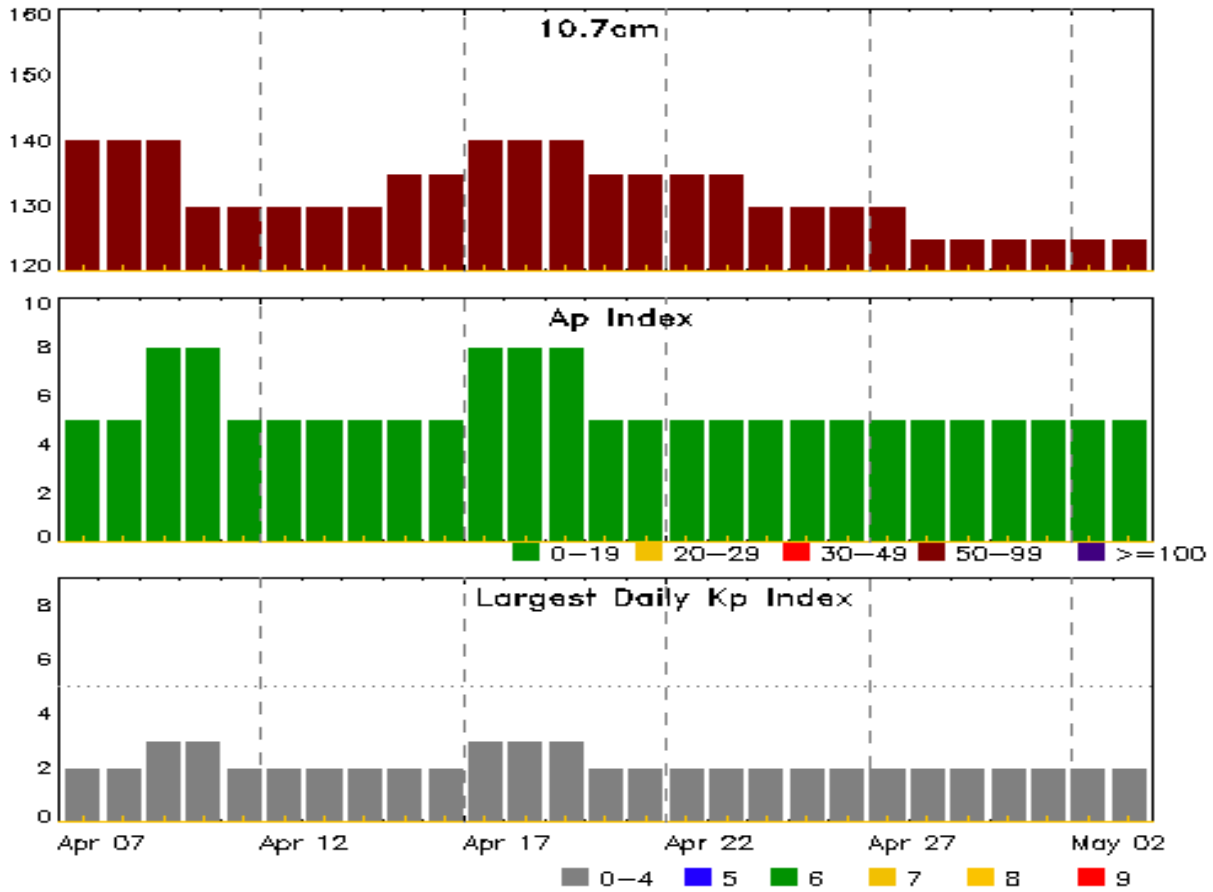


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
31 Mar 0901	ALERT: Type IV Radio Emission	31/0817
02 Apr 1352	ALERT: Type IV Radio Emission	02/1323
02 Apr 1356	ALERT: X-ray Flux exceeded M5	02/1355
02 Apr 1412	ALERT: Type II Radio Emission	02/1323
02 Apr 1417	SUMMARY: 10cm Radio Burst	02/1341 - 1407
02 Apr 1452	SUMMARY: X-ray Event exceeded M5	02/1318 - 1428
03 Apr 0424	WATCH: Geomagnetic Storm Category G1 predicted	
03 Apr 0537	WATCH: Geomagnetic Storm Category G1 predicted	
03 Apr 1758	WATCH: Geomagnetic Storm Category G1 predicted	
04 Apr 1358	ALERT: Type IV Radio Emission	04/1339
04 Apr 1419	ALERT: Type II Radio Emission	04/1339
05 Apr 1128	WARNING: Geomagnetic K = 4	05/1145 - 06/0100
05 Apr 1204	ALERT: Geomagnetic K = 4	05/1204



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
07 Apr	140	5	2	21 Apr	135	5	2
08	140	5	2	22	135	5	2
09	140	8	3	23	135	5	2
10	130	8	3	24	130	5	2
11	130	5	2	25	130	5	2
12	130	5	2	26	130	5	2
13	130	5	2	27	130	5	2
14	130	5	2	28	125	5	2
15	135	5	2	29	125	5	2
16	135	5	2	30	125	5	2
17	140	8	3	01 May	125	5	2
18	140	8	3	02	125	5	2
19	140	8	3	03	125	5	2
20	135	5	2				



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
31 Mar	0720	0807	0818	M1.4	0.019	SF	S15W77	2014				1
02 Apr	1318	1405	1428	M6.5	0.140	2B	N14E53	2027	520	3700	1	2

Flare List

Date	Time			X-ray Class	Imp/ Brtns	Optical Location Lat CMD	Rgn #
	Begin	Max	End				
31 Mar	0031	0032	0034		SF	S13E81	2026
31 Mar	0136	0141	0145	C1.9			2026
31 Mar	0401	0411	0429	C3.3	SF	S13W71	2014
31 Mar	0650	0652	0657		SF	S08E75	2026
31 Mar	0720	0807	0818	M1.4			2014
31 Mar	0736	0746	0755		SF	S08E75	2026
31 Mar	0756	0801	0821		SF	S15W77	2014
31 Mar	0832	0840	0850		SF	S15W75	2014
31 Mar	1126	1127	1129		SF	S08E74	2026
31 Mar	1217	1217	1222		SF	S08E73	2026
31 Mar	1250	1252	1301		SF	N18E35	2022
31 Mar	1314	1315	1317		SF	S08E73	2026
31 Mar	1332	1333	1335		SF	S11E70	2026
31 Mar	1341	1342	1346		SF	S13E17	2021
31 Mar	1405	1415	1421	C3.6	SF	S09E72	2026
31 Mar	1425	1431	1435		SF	S09E72	2026
31 Mar	1501	1502	1504		SF	S13E17	2021
31 Mar	1510	1511	1548		SF	S08E71	2026
31 Mar	1752	1753	1802		SF	S10E67	2026
31 Mar	2034	2037	2041	C1.2			2026
31 Mar	2245	2249	2256	C1.2			2017
31 Mar	2308	2311	2313	C1.2			2026
01 Apr	0043	0050	0055	C3.3			2022
01 Apr	0445	0448	0450	B9.4			2014
01 Apr	1041	1046	1049		SF	S13E05	2021
01 Apr	1146	1158	1208		SF	N18E22	2022
01 Apr	1147	1203	1215		SF	S12E05	2021
01 Apr	1712	1715	1717	C1.2			2026
01 Apr	1836	1841	1845	C1.2			2027



Flare List

Date	Time			X-ray Class	Optical		Rgn #
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	
01 Apr	1930	1938	1948	C2.7			2022
01 Apr	2028	2032	2034	C2.9			2029
01 Apr	2222	2230	2240	C2.5			2027
01 Apr	2332	2335	2337	C1.0			2026
02 Apr	0114	0118	0120	C1.7			2026
02 Apr	0218	0222	0224	C1.1			2026
02 Apr	0557	0608	0617	C3.5	SF	S10E45	2026
02 Apr	0621	0625	0629	C3.2	SF	S12E49	2026
02 Apr	0728	0732	0740	B9.3			
02 Apr	1004	1010	1021	C1.7			2030
02 Apr	1218	1225	1228	C1.6			2027
02 Apr	1247	1250	1253	C1.2	SF	S09E44	2026
02 Apr	1318	1405	1428	M6.5	2B	N14E53	2027
02 Apr	1440	1441	1448		SF	N09E61	2030
02 Apr	1501	1506	1527		SF	N10E61	2030
02 Apr	1530	1534	1548		SF	N13E61	2030
02 Apr	1550	1553	1559		SF	N13E60	2030
02 Apr	1731	1733	1735		SF	N09E61	2030
02 Apr	1815	1818	1820	C5.3	SF	N09E60	2030
02 Apr	1942	2001	2011		SF	N10E56	2030
02 Apr	2042	2051	2100		SF	N10E56	2030
02 Apr	2106	2107	2109		SF	N10E56	2030
02 Apr	2348	2351	2353	C1.8			2027
03 Apr	0107	0107	0111		SF	S12W16	2021
03 Apr	0404	0414	0426	C5.5	SF	N10E50	2030
03 Apr	0500	0501	0504		SF	N10E51	2030
03 Apr	1008	1017	1020	C1.8			2030
03 Apr	1516	1520	1528	C1.2	SF	S12E30	2026
03 Apr	1930	1934	1955	C1.0	SF	S12E28	2026
04 Apr	0108	0113	0121	C1.1			2030
04 Apr	0343	0347	0352	C3.6	SF	S11E23	2026
04 Apr	0616	0622	0628	C1.2			2030
04 Apr	1024	1027	1034	B8.6			
04 Apr	1112	1116	1119	C1.2			2030
04 Apr	1334	1348	1356	C8.3	1F	N13E26	2027
04 Apr	1352	1352	1353		2F	S15W20	2021
04 Apr	1447	1454	1500	C6.2			2021
04 Apr	1731	1738	1744	C1.1			2030



Flare List

Date	Time			X-ray Class	Imp/ Brtns	Optical		Rgn #
	Begin	Max	End			Location Lat CMD		
04 Apr	2015	2021	2031	C1.5	SF	N10E56		2030
04 Apr	2144	2151	2155	C1.0				2029
04 Apr	2357	0001	0021	C1.0				2026
05 Apr	0950	0957	1014	C1.6				2026
05 Apr	1040	1050	1100	C1.9				2026
05 Apr	1226	1230	1237	B5.6				2026
05 Apr	1240	1244	1247	B6.1				2021
05 Apr	1356	1405	1410	B6.1				2026
05 Apr	1442	1448	1453	B5.2				2030
05 Apr	1821	1827	1832	C1.0				2021
06 Apr	0556	0607	0614	B5.4				2027
06 Apr	0838	0935	1004	B5.7				2021
06 Apr	1417	1432	1441	B5.3				2030
06 Apr	1540	1604	1621	B6.1				
06 Apr	1821	1830	1838	C1.0				
06 Apr	2054	2101	2111	C3.8	SF	N02W23		2031



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 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											
24 Mar	S13E08	167	210	11	Esc	16	BG	3				3											
25 Mar	S13W05	167	240	11	Esc	22	BG																
26 Mar	S14W19	168	200	12	Esi	26	BG	1				1											
27 Mar	S15W32	168	290	15	Ehi	35	BG																
28 Mar	S15W46	169	290	15	Ehi	22	BG																
29 Mar	S14W60	170	210	9	Cso	13	BG	1															
30 Mar	S13W78	175	200	4	Cso	5	B	2				1											
31 Mar	S13W91	175	150	4	Cao	3	B	1	1			3											
								26	1	0		22	6	0	0	0							

Crossed West Limb.

Absolute heliographic longitude: 167

Region 2017

22 Mar	N09E58	145	30	3	Cao	5	B					2									
23 Mar	N09E45	144	100	5	Dai	9	BG	5													
24 Mar	N12E33	142	130	7	Dao	6	BG														
25 Mar	N10E20	142	130	9	Dsi	9	B														
26 Mar	N09E07	142	120	8	Dsi	16	B														
27 Mar	N10W07	143	160	9	Dsi	16	B														
28 Mar	N10W20	143	150	9	Dao	14	BD	5	2			5									
29 Mar	N10W34	144	100	10	Dao	11	BGD	7		1		10	1	1							
30 Mar	N10W49	146	130	9	Dac	10	BG	1	1			1	1								
31 Mar	N10W64	148	60	7	Cai	7	B	1													
01 Apr	N10W78	149	10	2	Axx	2	A														
02 Apr	N10W92	150	plage																		
								19	3	1		18	2	1	0	0					

Crossed West Limb.

Absolute heliographic longitude: 142



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

Region 2018

24 Mar	N03E38	137	10	2	Bxo	3	B										
25 Mar	N02E25	137	30	6	Cro	4	B										
26 Mar	N03E10	138	30	5	Cao	9	B										
27 Mar	N03W04	140	70	5	Dsi	9	B				1						
28 Mar	N03W16	139	30	6	Cro	8	B										
29 Mar	N03W29	139	10	6	Bxo	4	B										
30 Mar	N04W44	141	plage														
31 Mar	N04W59	143	plage														
01 Apr	N04W74	145	plage														
02 Apr	N04W89	147	plage														
									0	0	0	1	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 140

Region 2020

27 Mar	S14E28	108	10	2	Bxo	5	B										
28 Mar	S14E14	109	plage														
29 Mar	S14W00	110	plage														
30 Mar	S13W11	108	10	3	Bxo	3	B										
31 Mar	S13W25	109	10	2	Bxo	2	B										
01 Apr	S13W39	110	plage														
02 Apr	S13W53	111	plage														
03 Apr	S13W67	111	plage														
04 Apr	S13W81	112	plage														
									0	0	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 110



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 2021																							
28 Mar	S15E50		73	40	4	Dao	7	B					1										
29 Mar	S15E36		74	50	5	Dao	12	BG															
30 Mar	S15E22		75	100	7	Dai	16	BG															
31 Mar	S14E09		75	160	7	Dai	18	BG					2										
01 Apr	S14W05		76	220	7	Dai	18	BG					2										
02 Apr	S13W17		75	330	7	Dki	12	BG															
03 Apr	S13W30		74	320	8	Dki	14	B					1										
04 Apr	S13W44		75	320	8	Dkc	29	BGD	1										1				
05 Apr	S13W56		74	310	8	Dki	28	B	1														
06 Apr	S13W68		73	90	7	Dso	8	B															
									2	0	0	6	0	1	0	0							

Still on Disk.

Absolute heliographic longitude: 76

Region 2022

28 Mar	N16E64		59	60	3	Hsx	1	A													
29 Mar	N16E50		60	50	2	Hax	1	A													
30 Mar	N16E36		61	40	1	Hsx	1	A													
31 Mar	N17E24		60	30	1	Hsx	1	A					1								
01 Apr	N17E10		61	30	1	Hsx	1	A	2				1								
02 Apr	N17W03		61	20	1	Hsx	1	A													
03 Apr	N18W17		61	10	1	Hrx	1	A													
04 Apr	N17W31		62	10	6	Axx	3	A													
05 Apr	N17W44		62	0	1	Axx	1	A													
06 Apr	N17W58		63	plage																	
									2	0	0	2	0	0	0	0	0				

Still on Disk.

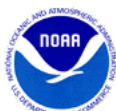
Absolute heliographic longitude: 61

Region 2023

29 Mar	S16W79		189	30	4	Cao	7	B	1				3								
30 Mar	S16W91		188	10	1	Axx	1	A	1												
									2	0	0	3	0	0	0	0	0				

Crossed West Limb.

Absolute heliographic longitude: 189



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

Region 2024

29 Mar	N17E19	91	10	1	Axx	1	A	1				1					
30 Mar	N17E05	92	plage														
31 Mar	N17W09	93	plage														
01 Apr	N17W23	94	plage														
02 Apr	N17W37	95	plage														
03 Apr	N17W51	95	plage														
04 Apr	N17W65	96	plage														
05 Apr	N17W79	97	plage														
								1	0	0	1	0	0	0	0	0	

Crossed West Limb.
Absolute heliographic longitude: 92

Region 2025

30 Mar	S24W20	117	30	3	Dro	3	B										
31 Mar	S24W33	117	20	4	Cro	4	B										
01 Apr	S24W47	118	plage														
02 Apr	S24W61	119	plage														
03 Apr	S24W75	119	plage														
04 Apr	S24W89	120	plage														
								0	0	0	0	0	0	0	0	0	

Crossed West Limb.
Absolute heliographic longitude: 117

Region 2026

29 Mar	S11E90	21	plage					1									
30 Mar	S11E76	21	30	3	Bxo	3	B	7									
31 Mar	S11E64	20	120	10	Dai	13	B	4			11						
01 Apr	S11E50	21	130	10	Dai	28	BG	2									
02 Apr	S11E38	20	210	12	Eai	24	BG	5			3						
03 Apr	S11E25	19	230	11	Eac	30	BG	2			2						
04 Apr	S11E11	20	480	12	Ekc	37	BG	2			1						
05 Apr	S11W02	20	260	12	Eki	40	B	2									
06 Apr	S10W17	22	100	14	Esi	14	B										
								25	0	0	17	0	0	0	0	0	

Still on Disk.
Absolute heliographic longitude: 20



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 2027																		
31 Mar	N13E69		15	80	4	Hsx	1	A										
01 Apr	N13E55		16	100	3	Hsx	1	A	2									
02 Apr	N12E42		16	100	3	Hax	1	A	2	1					1			
03 Apr	N13E29		15	110	4	Cao	4	B										
04 Apr	N12E17		14	180	6	Cao	5	B	1					1				
05 Apr	N12E04		14	150	4	Cso	7	B										
06 Apr	N12W10		15	150	4	Cso	7	B										
									5	1	0	0	0	1	1	0	0	

Still on Disk.

Absolute heliographic longitude: 14

Region 2028																		
01 Apr	S08E62		9	30	5	Dao	3	B										
02 Apr	S08E51		7	30	1	Cro	3	B										
03 Apr	S08E37		7	20	8	Cro	2	B										
04 Apr	S07E23		8	10	9	Bxo	6	B										
05 Apr	S08E10		8	10	3	Axx	5	A										
06 Apr	S08W04		9	10	3	Bxo	3	B										
									0	0	0	0	0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 9

Region 2029																		
01 Apr	N18E42		29	20	1	Hrx	1	A	1									
02 Apr	N17E28		30	30	5	Cao	8	B										
03 Apr	N17E16		28	60	6	Dao	8	B										
04 Apr	N17E01		30	80	7	Dao	8	B	1									
05 Apr	N17W11		29	70	6	Cso	3	B										
06 Apr	N18W25		30	40	2	Hax	2	A										
									2	0	0	0	0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 30



Region Summary - continued

Date	Location		Sunspot Characteristics				Flares										
	Lat CMD	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 2030																	
02 Apr	N10E57		1	20	4	Cro	7	B	2			9					
03 Apr	N11E43		1	50	8	Dao	8	BG	2			2					
04 Apr	N11E30		1	100	9	Dai	16	BG	5			1					
05 Apr	N11E18		359	130	11	Eao	18	B									
06 Apr	N11E04		1	130	11	Dao	18	B									
									9	0	0	12	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 1

Region 2031

06 Apr	N03W25		30	40	4	Cro	5	B	1			1					
									1	0	0	1	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 30

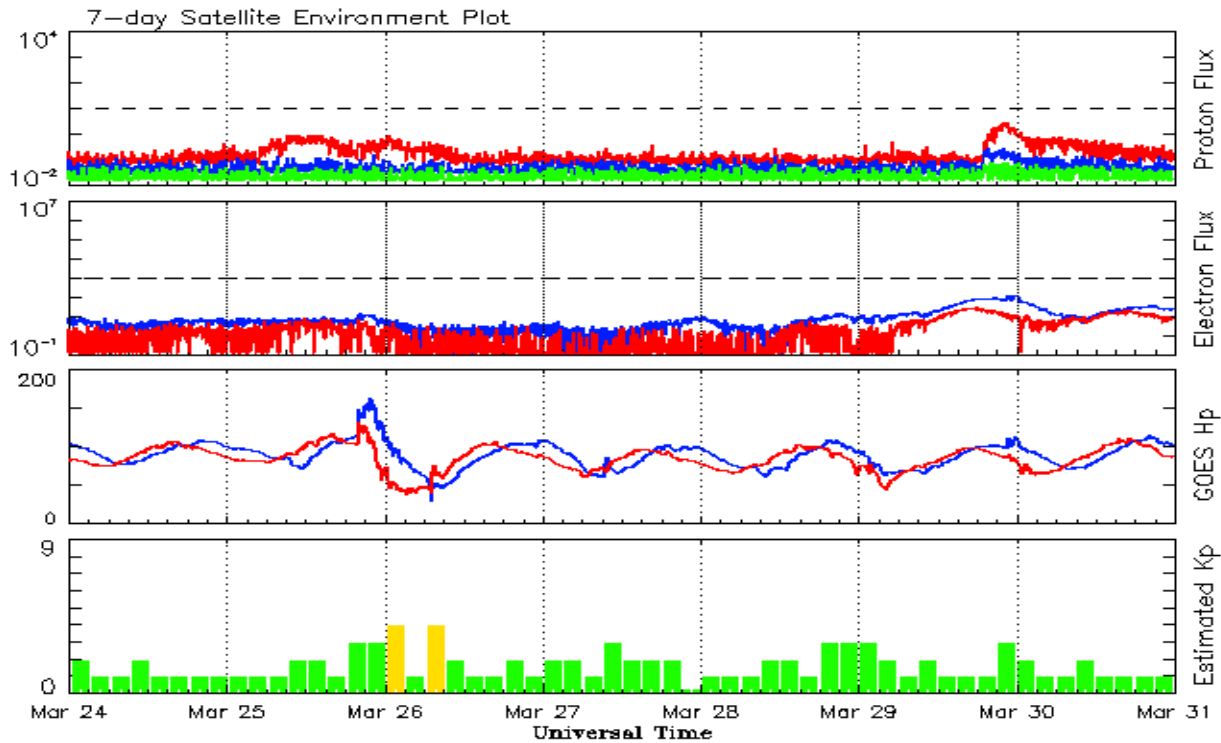


Recent Solar Indices (preliminary)
Observed monthly mean values

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									
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	111.0	73.1	102.7	132.3	5	7.8
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	
March	141.1	92.2	0.65			149.9		6	

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 31 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.

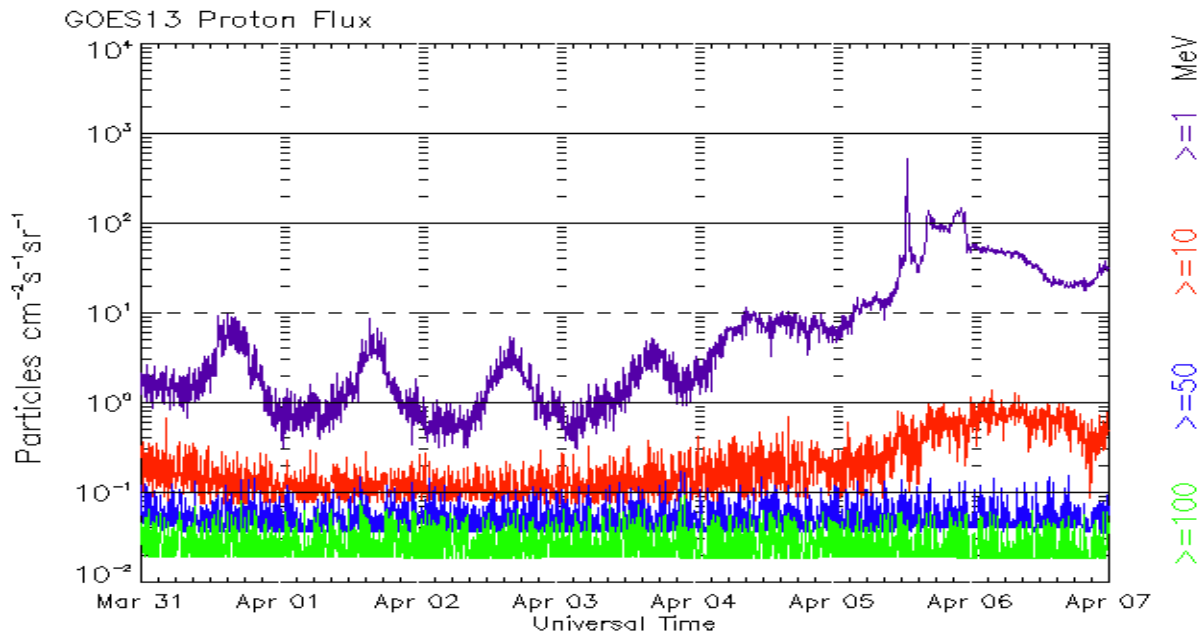
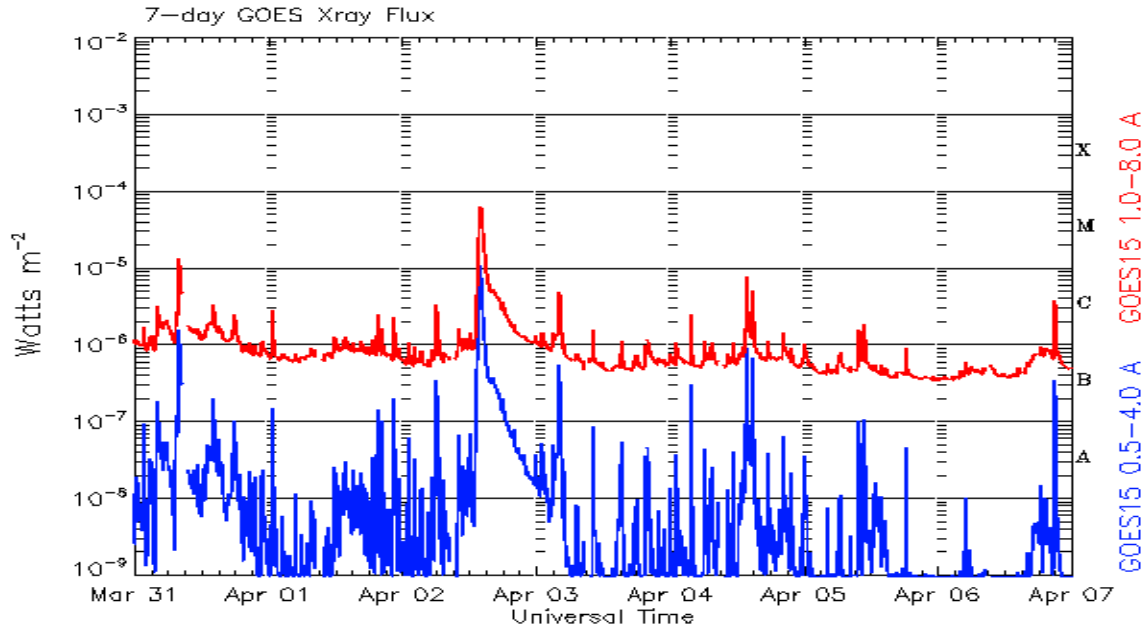
The electron flux plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV by the SWPC Primary GOES satellite.

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 31 March 2014*

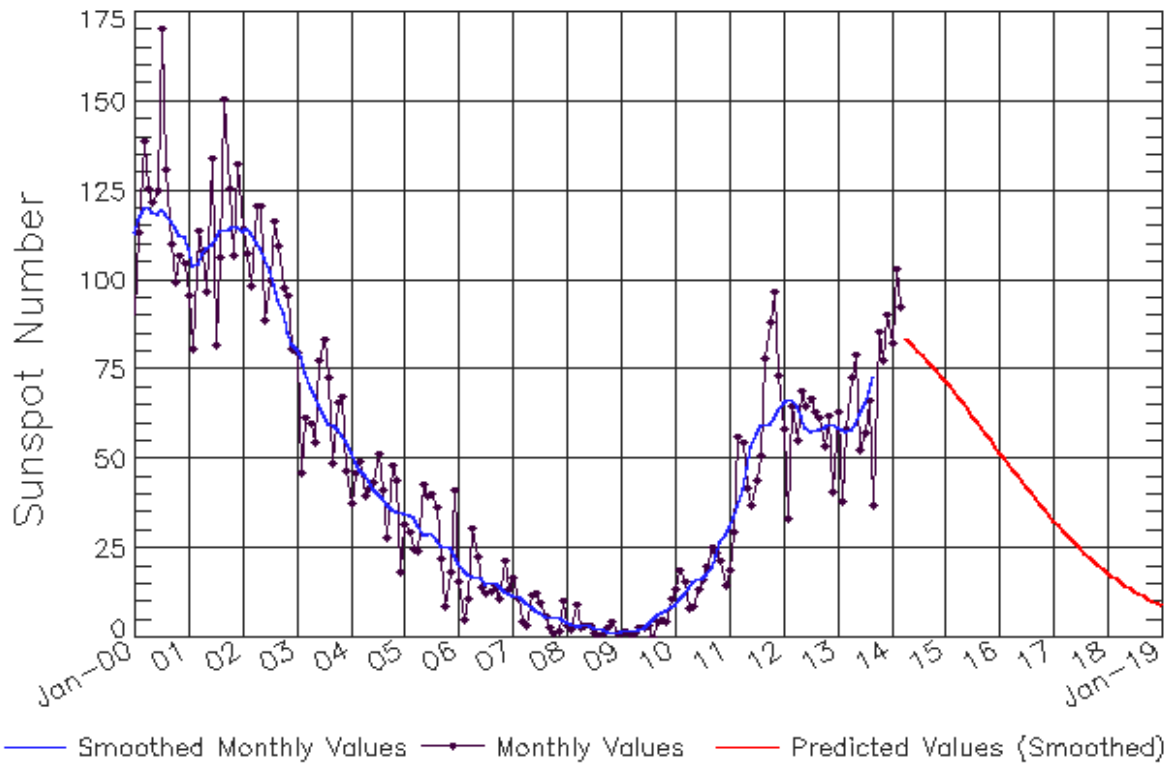
The x-ray plots contains five-minute averages x-ray flux (Watt/ m^2) as measure by the SWPC primary GOES X-ray satellite, usually at West 105 longitude, in two wavelength bands, 0.05 - 0.4 and 0.1 - 0.8 nm. The letters A, B, C, M and X refer to x-ray event levels for the 0.1 - 0.8 nm band.

The proton plot contains the five-minute averaged integral 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.



ISES Solar Cycle Sunspot Number Progression

Observed data through Mar 2014



Updated 2014 Apr 7

NOAA/SWPC Boulder, CO USA

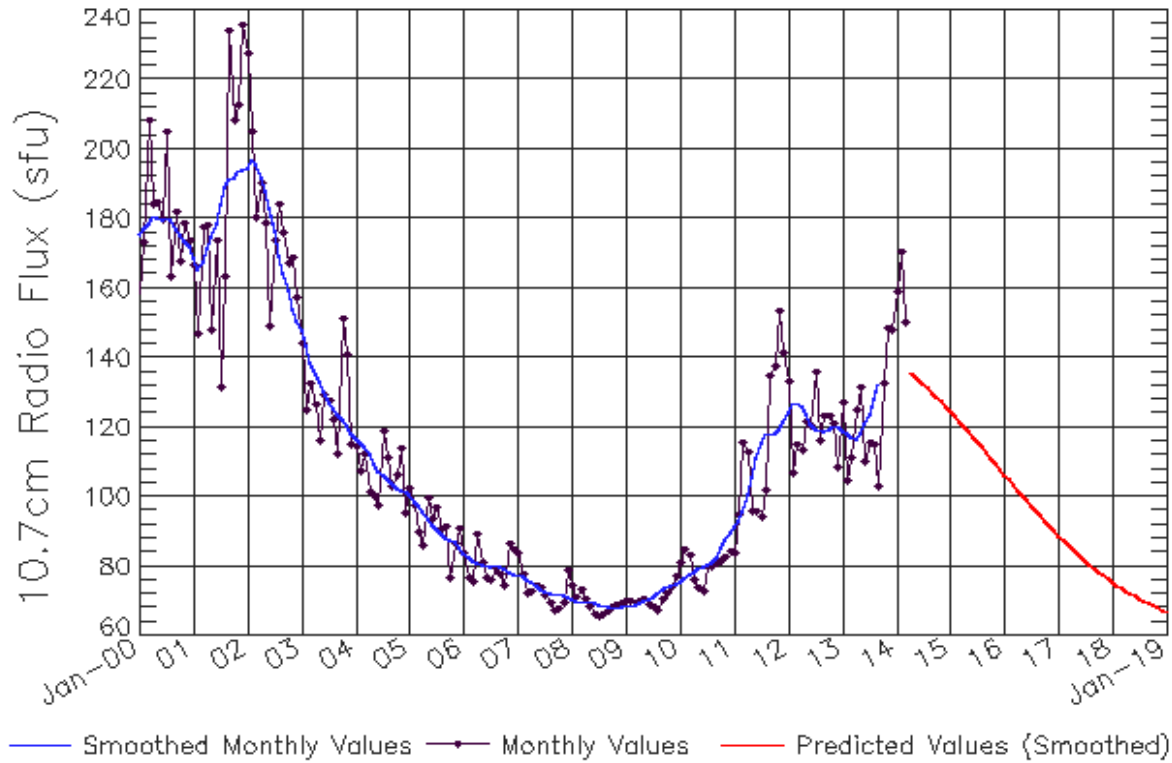
Smoothed Sunspot Number Prediction

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 (***)	60 (***)	61 (***)	63 (***)
2012	66 (***)	67 (***)	67 (***)	65 (***)	62 (***)	59 (***)	58 (***)	58 (***)	58 (***)	59 (***)	60 (***)	60 (***)
2013	59 (***)	58 (***)	58 (***)	58 (***)	60 (***)	63 (***)	66 (***)	69 (***)	73 (***)	75 (1)	76 (2)	77 (3)
2014	79 (5)	81 (5)	83 (6)	84 (7)	84 (7)	83 (8)	82 (9)	80 (9)	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 2014



Updated 2014 Apr 7

NOAA/SWPC Boulder, CO USA

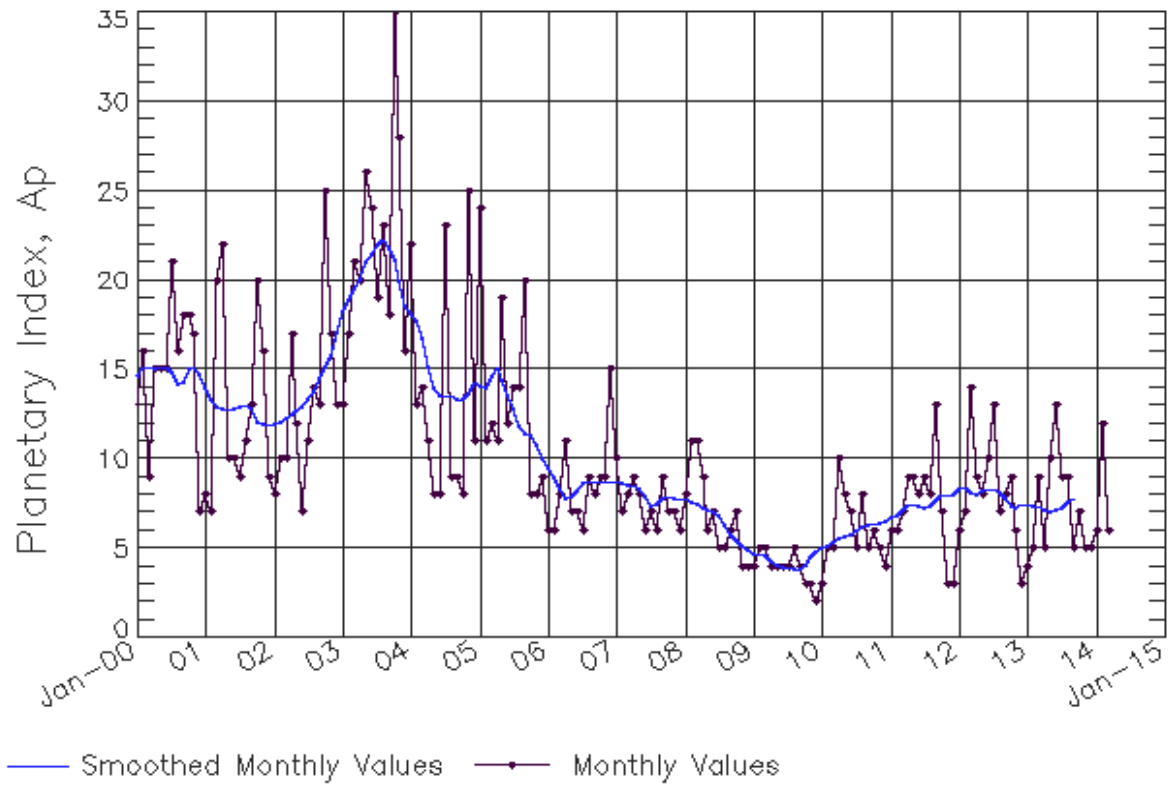
Smoothed F10.7cm Radio Flux Prediction

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 (**)	118 (**)	120 (**)	122 (**)
2012	124 (**)	127 (**)	127 (**)	126 (**)	124 (**)	121 (**)	120 (**)	119 (**)	119 (**)	119 (**)	120 (**)	120 (**)
2013	119 (**)	118 (**)	117 (**)	117 (**)	118 (**)	121 (**)	124 (**)	128 (**)	132 (**)	134 (1)	135 (1)	136 (2)
2014	138 (3)	139 (4)	141 (4)	142 (5)	141 (6)	139 (7)	137 (8)	133 (8)	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 2014



Updated 2014 Apr 7

NOAA/SWPC Boulder, CO USA

Solar Cycle Comparison charts are temporarily unavailable.



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

Published every Monday by the Space Weather Prediction Center.

U.S. Department of Commerce
NOAA / National Weather Service
Space Weather Prediction Center
325 Broadway, Boulder CO 80305

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.

<http://spaceweather.gov/weekly/> -- Current and previous year

<http://spaceweather.gov/ftpmenu/warehouse.html> -- Online archive from 1997

<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

