

Solar activity ranged from low to moderate levels during the period. Activity was moderate on 26 September with Region 1302 (N12, L=282, class/area Fkc/1300 on 24 September) producing a M4/1b event at 26/0508 UTC and a M2/2b event at 26/1443 UTC. Solar activity decreased to low levels on 27 September before increasing again to moderate levels on 28 September when Region 1302 produced a M1/1n event at 28/1328 UTC with an associated Tenflare (320 sfu). Another decrease to low levels occurred on 29 September before levels increased once again to moderate levels on 30 September through 02 October. Region 1305 (N12, L=249, class/area Dsi/190 on 2 October) produced a M1/1f event at 30/1906 UTC. Associated with this event was a Type II radio sweep with an estimated speed of 690 km/s as well as a 260 sfu Tenflare. Despite limited STEREO data, a slower CME is believed to be potentially geoeffective from this event. Region 1305 produced a M1/1n event at 01/0959 UTC, and produced a possible earth directed CME, with an associated Type II radio sweep (estimated speed of 850 km/s), Type IV radio sweep, and a 180 sfu Tenflare. On 02 October, Region 1305 produced a M3/1n event at 02/0050 UTC that was associated with an Earth directed CME visible in STEREO imagery with an estimated speed of 532 km/s. Finally, Region 1302 produced a M1/Sf event at 02/1723 UTC.

A greater than 10 MeV proton event at geosynchronous orbit began at 23/2255 UTC in response to an X1 flare on 22 September, reached a maximum of 35 pfu at 26/1155 UTC, and ended at 27/0430 UTC. Fluxes returned to background levels for the remainder of the period.

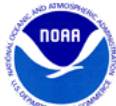
The greater than 2 MeV electron flux at geosynchronous orbit was at normal to moderate levels from 26 to 29 September. Fluxes increased to high levels on 30 September, returned to normal to moderate levels on 01 October, and back to high levels on 02 October.

Geomagnetic activity ranged from quiet to severe storm levels during the period. Increased activity on 26 - 28 September was due to effects of an expected CME from 24 September. Increased activity early on 29 September was due to nighttime sub-storms. Increased activity on 01 - 02 October was due to a solar sector boundary crossing (SSBC) prior to the onset of high speed stream (HSS) effects from a favorably positioned coronal hole (CH).

Space Weather Outlook **05 October - 31 October 2011**

Solar activity is expected to be at low to moderate levels during 05 - 15 October with a slight chance for M-class flare activity from Region 1305 until it crosses the west limb on 07 October, and the return of old Region 1295 (N24, L=57) on 08 October. A decrease to low levels is expected during 16 - 17 October after Region 1295 rotates off the west limb. During 18 - 25 October, activity is expected to increase to low to moderate levels with a slight chance for major flare activity as old Region 1302 rotates back onto the visible disk. Activity is expected to return to low levels for the remainder of the forecast period (26 - 31 October) after old Region 1302 rotates off the west limb.

No proton events are expected at geosynchronous orbit from 05 - 17 October. There is a slight chance for a proton enhancement from 18 - 27 October due to the return of old Region 1302. No



proton events are expected during 25 - 31 October.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at mostly normal to moderate levels. High levels are expected during 9 - 14 and 28 - 31 October due to influences from coronal hole high speed streams.

Geomagnetic field activity is expected to be mostly unsettled on 05 October due to a CME arrival. Activity is expected to increase to active levels on 06 October due to continued CME effects. Activity is expected to decrease to mostly unsettled levels during 07 - 09 October as effects from the CME subside and a negative polarity coronal hole moves into a geoeffective position. Activity is expected to continue to decrease to mostly quiet levels during 10 - 27 October. During 28 - 30 October, activity is expected to return to mostly unsettled levels due to a positive polarity coronal hole. Finally, activity is expected to decrease to mostly quiet levels on 31 October.



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
26 September	148	103	1170	C1.4	9	2	0	20	1	1	0	0
27 September	139	82	1110	B5.2	8	0	0	10	0	0	0	0
28 September	133	116	1240	B3.8	3	1	0	4	2	0	0	0
29 September	137	99	920	B4.0	3	0	0	7	0	0	0	0
30 September	138	89	970	B4.0	4	1	0	7	1	0	0	0
01 October	137	86	950	B5.6	3	1	0	6	1	0	0	0
02 October	131	92	760	B4.9	6	2	0	11	3	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
	26 September	8.3e+07	2.2e+06	3.4e+03		8.1e+06
27 September	2.9e+07	5.9e+05	2.4e+03		2.1e+07	
28 September	1.0e+07	2.3e+05	2.7e+03		1.8e+07	
29 September	5.7e+06	9.4e+04	2.9e+03		3.8e+07	
30 September	2.1e+06	2.7e+04	2.9e+03		7.5e+07	
01 October	7.5e+05	1.6e+04	3.1e+03		2.2e+07	
02 October	5.7e+05	1.3e+04	2.9e+03		4.7e+07	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	26 September	20	2-0-1-1-3-4-6-4	51	1-0-0-3-7-7-6-4	67
27 September	22	6-3-3-2-3-1-3-4	42	5-4-5-6-6-2-3-4	30	7-4-4-3-4-2-3-4
28 September	13	4-3-4-2-3-2-1-1	44	4-5-7-5-5-4-1-2	24	3-4-5-5-5-3-1-2
29 September	16	5-4-3-1-3-2-2-1	28	5-5-5-4-4-3-2-2	15	4-4-3-3-4-1-1-1
30 September	5	2-0-0-0-1-1-3-3	4	2-1-0-1-0-1-2-2	8	1-0-0-0-1-1-4-4
01 October	12	4-3-2-2-2-2-2-3	23	3-4-5-5-4-2-2-2	9	3-2-3-3-1-2-1-2
02 October	7	1-2-3-2-1-3-1-1	21	1-2-5-5-4-4-0-2	11	1-2-3-3-3-3-2-3



Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
26 Sep 0236	ALERT: Type IV Radio Emission	25/2345
26 Sep 0531	SUMMARY: 10cm Radio Burst	26/0506 - 0508
26 Sep 1200	WARNING: Geomagnetic Sudden Impulse expected	26/1240 - 1310
26 Sep 1210	ALERT: Type II Radio Emission	26/1128
26 Sep 1210	ALERT: Type IV Radio Emission	26/1127
26 Sep 1239	ALERT: Geomagnetic K = 4	26/1239
26 Sep 1241	WARNING: Geomagnetic K = 5	26/1250 - 2359
26 Sep 1252	SUMMARY: Geomagnetic Sudden Impulse	26/1237
26 Sep 1257	EXTENDED WARNING: Geomagnetic K = 4	25/1534 - 26/2359
26 Sep 1416	ALERT: Geomagnetic K = 5	26/1416
26 Sep 1634	WARNING: Geomagnetic K = 6	26/1635 - 2200
26 Sep 1644	ALERT: Geomagnetic K = 6	26/1640
26 Sep 1708	WARNING: Geomagnetic K \geq 7	26/1715 - 2100
26 Sep 2339	EXTENDED WARNING: Geomagnetic K = 4	25/1534 - 27/0600
26 Sep 2339	EXTENDED WARNING: Geomagnetic K = 5	26/1250 - 27/0300
26 Sep 2357	EXTENDED WARNING: Proton 10MeV Integral Flux > 10pfu	23/0600 - 28/0000
27 Sep 0159	WARNING: Geomagnetic K = 6	27/0158 - 0300
27 Sep 0200	ALERT: Geomagnetic K = 6	27/0158
27 Sep 0236	EXTENDED WARNING: Geomagnetic K = 4	25/1534 - 27/1500
27 Sep 0237	EXTENDED WARNING: Geomagnetic K = 5	26/1250 - 27/0900
27 Sep 1435	EXTENDED WARNING: Geomagnetic K = 4	25/1534 - 27/2100
27 Sep 1755	CANCELLATION: Proton 10MeV Integral Flux > 10pfu	
27 Sep 1815	SUMMARY: Proton Event 10MeV Integral Flux \geq 10pfu	23/2300 - 27/0430
27 Sep 2213	WARNING: Geomagnetic K = 4	27/2213 - 28/0600
27 Sep 2246	ALERT: Geomagnetic K = 4	27/2245
27 Sep 2302	WARNING: Geomagnetic K = 5	27/2305 - 28/0300
28 Sep 0232	ALERT: Geomagnetic K = 5	28/0231



Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
28 Sep 0243	EXTENDED WARNING: Geomagnetic K = 4	27/2213 - 28/1200
28 Sep 0244	EXTENDED WARNING: Geomagnetic K = 5	27/2305 - 28/0900
28 Sep 0825	WARNING: Geomagnetic K = 6	28/0825 - 1200
28 Sep 0826	EXTENDED WARNING: Geomagnetic K = 5	27/2305 - 28/1500
28 Sep 0945	EXTENDED WARNING: Geomagnetic K = 4	27/2213 - 28/1500
28 Sep 1248	SUMMARY: 10cm Radio Burst	28/1229 - 1230
28 Sep 1455	EXTENDED WARNING: Geomagnetic K = 4	27/2213 - 28/2100
28 Sep 2055	EXTENDED WARNING: Geomagnetic K = 4	27/2213 - 28/0300
28 Sep 2057	EXTENDED WARNING: Geomagnetic K = 4	27/2213 - 29/0300
29 Sep 0108	EXTENDED WARNING: Geomagnetic K = 4	27/2213 - 29/1200
29 Sep 0110	WARNING: Geomagnetic K = 5	29/0115 - 0600
29 Sep 0230	ALERT: Geomagnetic K = 5	29/0229
29 Sep 0240	WARNING: Geomagnetic K = 6	29/0242 - 0600
29 Sep 0242	ALERT: Geomagnetic K = 6	29/0242
29 Sep 0532	EXTENDED WARNING: Geomagnetic K = 5	29/0115 - 1200
29 Sep 1156	EXTENDED WARNING: Geomagnetic K = 4	27/2213 - 29/1800
29 Sep 1412	ALERT: Type II Radio Emission	29/1257
30 Sep 1401	ALERT: Electron 2MeV Integral Flux \geq 1000pfu	30/1340
30 Sep 1954	SUMMARY: 10cm Radio Burst	30/1859 - 1901
30 Sep 1955	ALERT: Type II Radio Emission	30/1908
30 Sep 2302	WARNING: Geomagnetic K = 4	30/2330 - 01/0600
01 Oct 0159	ALERT: Geomagnetic K = 4	01/0159
01 Oct 0521	EXTENDED WARNING: Geomagnetic K = 4	30/2330 - 01/0900
01 Oct 1015	ALERT: Type II Radio Emission	01/0906
01 Oct 1021	SUMMARY: 10cm Radio Burst	01/0947 - 0955
01 Oct 1022	ALERT: Type IV Radio Emission	01/0917
01 Oct 1027	ALERT: Type II Radio Emission	01/0955
02 Oct 1013	WARNING: Geomagnetic K = 4	02/1013 - 1500
02 Oct 1038	ALERT: Geomagnetic K = 4	02/1038

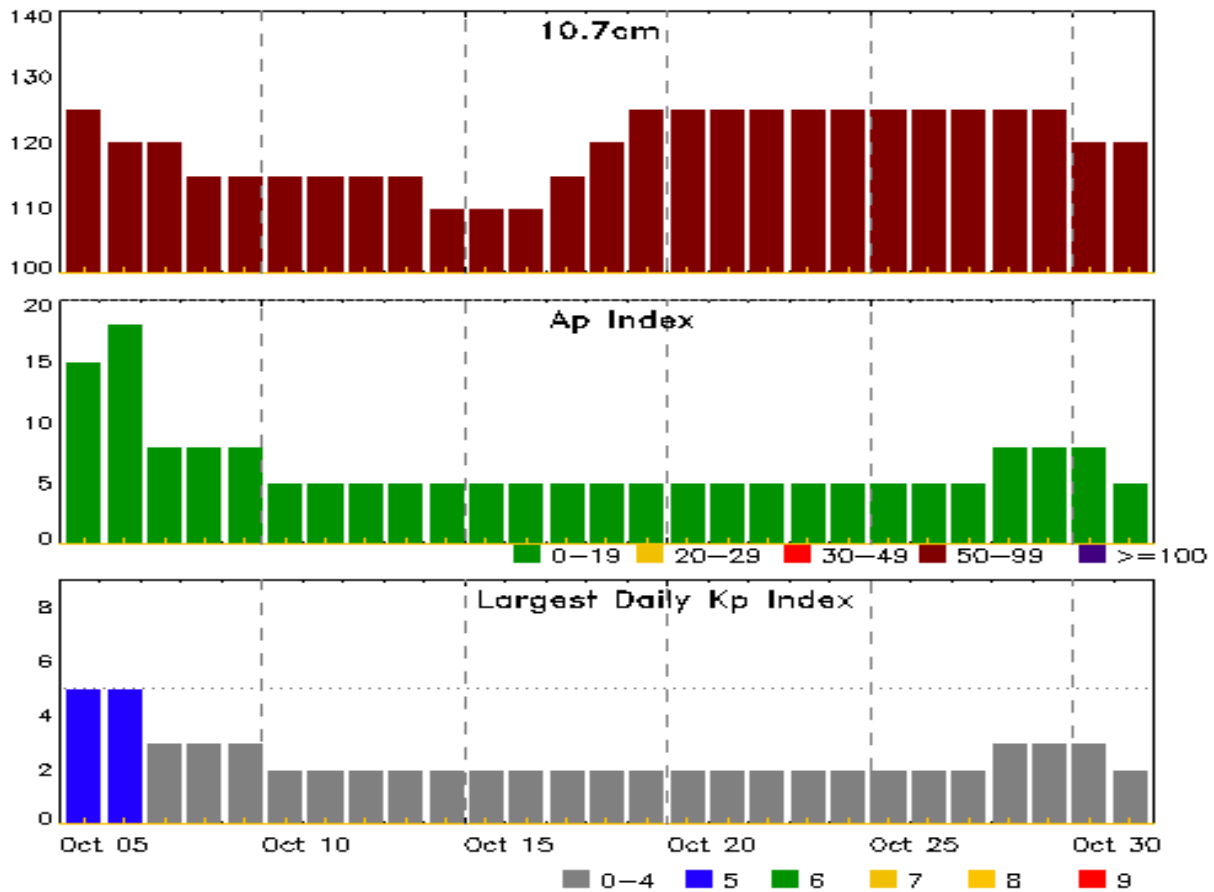


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
02 Oct 1411	ALERT: Electron 2MeV Integral Flux \geq 1000pfu	02/1355



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
05 Oct	125	15	5	19 Oct	125	5	2
06	120	18	5	20	125	5	2
07	120	8	3	21	125	5	2
08	115	8	3	22	125	5	2
09	115	8	3	23	125	5	2
10	115	5	2	24	125	5	2
11	115	5	2	25	125	5	2
12	115	5	2	26	125	5	2
13	115	5	2	27	125	5	2
14	110	5	2	28	125	8	3
15	110	5	2	29	125	8	3
16	110	5	2	30	120	8	3
17	115	5	2	31	120	5	2
18	120	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
26 Sep	0506	0508	0513	M4.0	0.014	1B	N13E34	1302		360		1
26 Sep	1437	1446	1502	M2.6	0.026	2B	N14E30	1302				
28 Sep	1324	1328	1330	M1.2	0.002	1N	N13E03	1302		110		
30 Sep	1855	1906	1915	M1.0	0.008	1F	N08E06	1305	220	260	1	
01 Oct	0856	0959	1017	M1.2	0.029	1N	N10W06	1305	540	180	1	2
02 Oct	0037	0050	0059	M3.9	0.028	1N	N09W12	1305	270			
02 Oct	1719	1723	1726	M1.3	0.003	SF	N09W56	1302				

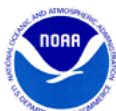
Flare List

Date	Time			X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
	Begin	Max	End				
26 Sep	0011	0011	0017		SF	S28W77	1303
26 Sep	0035	0047	0058	C5.2	SF	N16E33	1302
26 Sep	0107	0107	0113		SF	S28W78	1303
26 Sep	0134	0134	0140	C9.5	SF	S28W78	1303
26 Sep	0144	0146	0154		SF	N16E33	1302
26 Sep	0259	0302	0307		SF	S28W79	1303
26 Sep	0325	0326	0329		SF	S28W79	1303
26 Sep	0442	0444	0449		SF	N13E35	1302
26 Sep	0506	0508	0513	M4.0	1B	N13E34	1302
26 Sep	0728	0732	0738	C4.7			1302
26 Sep	0745	0750	0752	C8.8	SF	N13E33	1302
26 Sep	0940	0943	0946	C3.3	SF	N13E31	1302
26 Sep	0958	1001	1012	C3.3			
26 Sep	1326	1340	1357	C5.1	SF	N14E30	1302
26 Sep	1431	1443	1536	M2.6	2B	N14E30	1302
26 Sep	1634	1635	1640		SF	N15E28	1302
26 Sep	1643	1655	1706	C4.8	SF	N14E25	1302
26 Sep	1740	1750	1758		SF	N15E22	1302
26 Sep	1956	1956	2001		SF	N14E27	1302
26 Sep	2004	2007	2009	C1.8	SF	N14E24	1302
26 Sep	2029	2029	2034		SF	N15E27	1302
26 Sep	2112	2122	2142		SF	N15E27	1302
26 Sep	2300	2305	2315		SF	N14E24	1302
26 Sep	2321	2331	2339		SF	N15E21	1302



Flare List

Date	Time			X-ray Class	Optical		Rgn #
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	
27 Sep	0118	0121	0124	C1.1			
27 Sep	0442	0450	0519		SF	N14E21	1302
27 Sep	0740	0747	0754	C3.3	SF	N15E16	1302
27 Sep	0805	0813	0821	C2.4	SF	N10E17	1302
27 Sep	0829	0831	0835		SF	N10E19	1302
27 Sep	1012	1014	1016		SF	N14E18	1302
27 Sep	1049	1054	1057	C1.8			
27 Sep	1142	1147	1151	C1.3			
27 Sep	1509	1509	1518		SF	N16E11	1302
27 Sep	1528	1529	1543		SF	N25W28	1301
27 Sep	1531	1535	1544		SF	N15E16	1302
27 Sep	1805	1810	1822	C1.1	SF	N14E14	1302
27 Sep	2043	2054	A2121		SF	N12E10	1302
27 Sep	2044	2058	2111	C6.4			1302
27 Sep	2245	2250	2254	C1.7			
28 Sep	0225	0229	0232	B9.5			
28 Sep	0236	0244	0250	C2.0	SF	N11E07	1302
28 Sep	0820	0824	0827	C1.4	SF	N14E02	1302
28 Sep	1016	1022	1030	B9.7	SF	N16E06	1302
28 Sep	1226	1232	1238	C9.3	1N	N15W01	1302
28 Sep	1324	1328	1330	M1.2	1N	N13E03	1302
28 Sep	1349	1350	1353		SF	N13E39	1305
29 Sep	0001	0005	0009	B7.7			
29 Sep	0019	0022	0028	C1.0			
29 Sep	0623	0625	0642		SF	N16W12	1302
29 Sep	1019	1023	1025	C1.3	SF	N15E22	1305
29 Sep	1049	1049	1057		SF	N15W14	1302
29 Sep	1128	1130	1137		SF	N15W06	1302
29 Sep	1207	1247	1317	C2.7	SF	N10W11	1302
29 Sep	1348	1350	1405		SF	N10W11	1302
29 Sep	1802	1805	1835		SF	N11E17	1305
30 Sep	0246	0252	0258	C1.0	SF	N14W34	1302
30 Sep	0337	0400	0413	C7.7	SN	N08E10	1305
30 Sep	1232	1235	1239	B7.3			
30 Sep	1342	1349	1403	B7.6			
30 Sep	1446	1456	1507		SF	N14W24	1302
30 Sep	1633	1635	1704		SF	N11E05	1305
30 Sep	1842	1847	1853	C3.4			1307



Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/Brtns	Location Lat CMD	Rgn #
30 Sep	1852	1904	1935	M1.0	1F	N08E06	1305
30 Sep	2037	2042	2048	C1.1	SF	N15W30	1302
30 Sep	2149	U2207	A2216		SF	N18W29	1302
30 Sep	2349	2349	2358		SF	N23W48	
01 Oct	0350	0356	0404	C1.3			1305
01 Oct	0444	0450	0453	C4.1			1302
01 Oct	0856	0959	1017	M1.2	1N	N10W06	1305
01 Oct	1105	1105	1114		SF	N16E43	1307
01 Oct	1123	1124	1128		SF	N15W39	1302
01 Oct	1235	1239	1242	C1.0	SF	N10W39	1302
01 Oct	1431	1436	1447		SF	N13W40	1302
01 Oct	1739	1740	1754		SF	N15W40	1302
01 Oct	1754	1754	1757		SF	N10W10	1305
02 Oct	0037	0050	0059	M3.9	1N	N09W12	1305
02 Oct	0310	0349	0413	C1.5			1302
02 Oct	0626	0634	0646	C2.4	SF	N15W48	1302
02 Oct	0816	0823	0832	C1.0			
02 Oct	1101	1105	1108	B9.1			
02 Oct	1150	1150	1159		SF	N15W53	1302
02 Oct	1202	1204	1214		SF	N15W53	1302
02 Oct	1424	1425	1428		SF	N09W54	1302
02 Oct	1507	1511	1514	C2.6	SF	N10W52	1302
02 Oct	1551	1551	1600		SF	N16W56	1302
02 Oct	1624	1628	1633	B9.8	SF	N15W55	1302
02 Oct	1650	1655	1700	C1.3	SF	N15W56	1302
02 Oct	1719	1723	1726	M1.3	SF	N09W56	1302
02 Oct	1913	1918	1921	B8.4	SF	N09W23	1305
02 Oct	2120	2149	2205	C7.6	1F	N09W25	1305
02 Oct	2145	2147	2159		SF	N13W64	1302
02 Oct	2241	2317	A2240		1F	N15W59	1302



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 1301																		
18 Sep	N21E77	331	60	3	Dso	2	B	1										
19 Sep	N20E63	331	110	8	Dao	5	B	2				2						
20 Sep	N19E52	330	130	9	Dso	7	B	3				3						
21 Sep	N20E41	328	210	11	Eso	10	B	2				3		1				
22 Sep	N19E29	326	120	11	Eso	12	B					1						
23 Sep	N20E13	329	110	10	Dso	14	B											
24 Sep	N18W01	330	90	16	Fso	16	B											
25 Sep	N18W13	329	90	15	Esi	18	B					1						
26 Sep	N17W23	325	40	14	Cso	15	B											
27 Sep	N18W36	326	20	1	Hsx	1	A					1						
28 Sep	N18W51	327	30	8	Cro	8	B											
29 Sep	N16W64	327	20	2	Hsx	1	A											
30 Sep	N16W76	326	20	1	Hsx	1	A											
01 Oct	N16W90	327	plage															
								8	0	0	11	0	1	0	0			

Crossed West Limb.
 Absolute heliographic longitude: 330

Region 1302																		
22 Sep	N11E74	282	480	11	Eki	2	BG	1	1	1		1	1					
23 Sep	N13E59	283	840	15	Ekc	10	BG	2	1			6	1					
24 Sep	N12E47	282	1300	17	Fkc	12	BGD	1	5	1		3	1	1				
25 Sep	N12E36	279	980	16	Ekc	18	BGD	2	5			9	2	2				
26 Sep	N13E23	279	950	15	Ekc	25	BG	7	2			15	1	1				
27 Sep	N13E08	280	980	18	Fkc	26	BGD	4				9						
28 Sep	N13W04	280	1070	18	Fkc	37	BGD	3	1			3	2					
29 Sep	N13W16	279	750	18	Fkc	23	BGD	1				5						
30 Sep	N13W29	278	750	17	Fkc	25	BGD	2				4						
01 Oct	N16W41	277	700	16	Fkc	16	BGD	2				4						
02 Oct	N16W55	278	410	16	Fkc	14	BGD	4	1			10	1					
								29	17	2	68	9	5	0	0			

Still on Disk.
 Absolute heliographic longitude: 280



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 1303

24 Sep	S28W66	36	30	1	Csi	1	B		2		7						
25 Sep	S28W78	34	70	5	Cso	6	B	1	1		24						
26 Sep	S28W90	32	60	4	Hsx	1	A	1			5						
								2	3	0	36	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 36

Region 1304

24 Sep	N12E22	306	10	2	Bxo	2	B										
25 Sep	N12E07	309	20	4	Bxo	4	B										
26 Sep	N13W07	309	40	5	Dsi	10	B										
27 Sep	N12W20	309	10	4	Cro	3	B										
28 Sep	N13W33	309	10	3	Bxo	3	B										
29 Sep	N13W44	307	10	4	Bxo	2	B										
30 Sep	N13W58	309	plage														
01 Oct	N13W72	309	plage														
02 Oct	N13W86	310	plage														
								0	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 309

Region 1305

25 Sep	N12E70	246	60	2	Hsx	1	A				1						
26 Sep	N13E58	244	80	9	Cso	2	B										
27 Sep	N12E41	247	80	2	Hsx	1	A										
28 Sep	N12E28	248	60	2	Hsx	5	A				1						
29 Sep	N13E16	247	100	5	Cso	8	BG	1			2						
30 Sep	N12E01	248	130	5	Dso	9	BG	1	1		2	1					
01 Oct	N12W12	248	170	6	Dso	14	BG	1	1		1	1					
02 Oct	N12W26	249	190	6	Dsi	9	BG	1	1		1	2					
								4	3	0	8	4	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 248

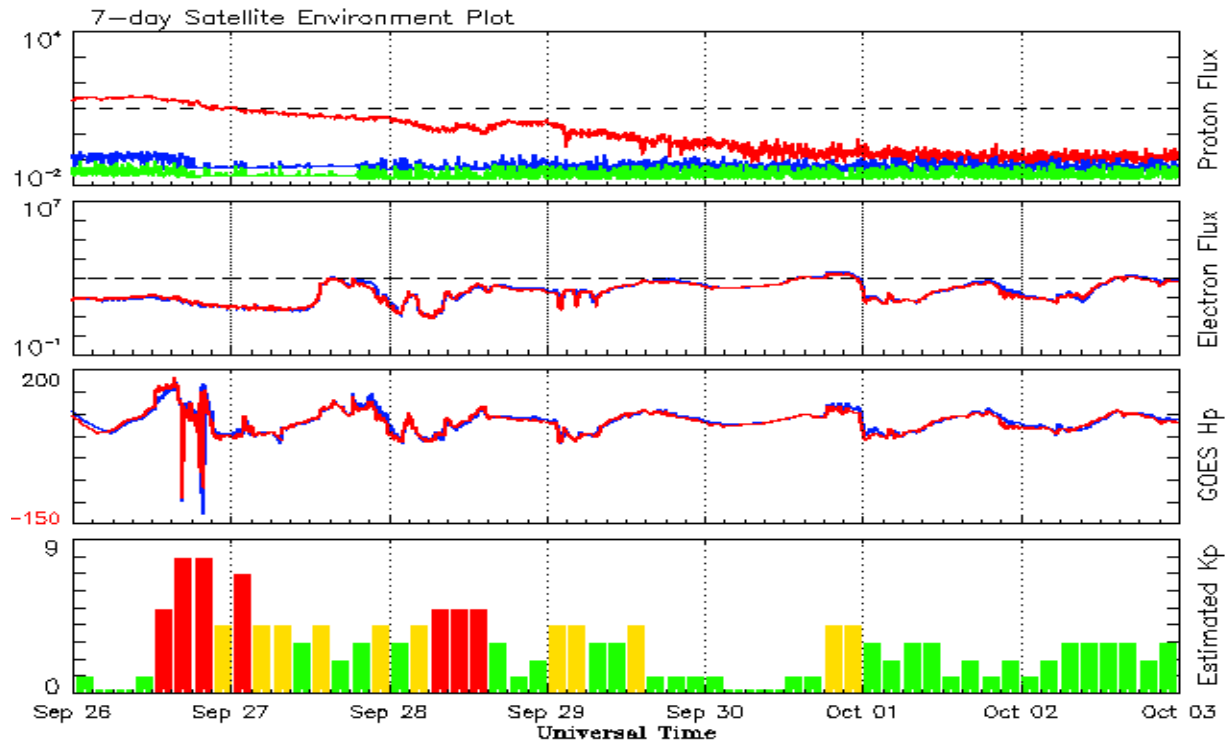


Recent Solar Indices (preliminary)
Observed monthly mean values

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									
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	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
2011									
January	32.1	18.8	0.59	47.2	31.0	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			112.6		9	
May	61.4	41.6	0.68			95.9		9	
June	55.5	37.0	0.67			95.8		8	
July	67.0	43.9	0.66			94.2		9	
August	66.1	50.6	0.77			101.7		8	
September	106.4	78.0	0.73			134.5		13	

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 26 September 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.

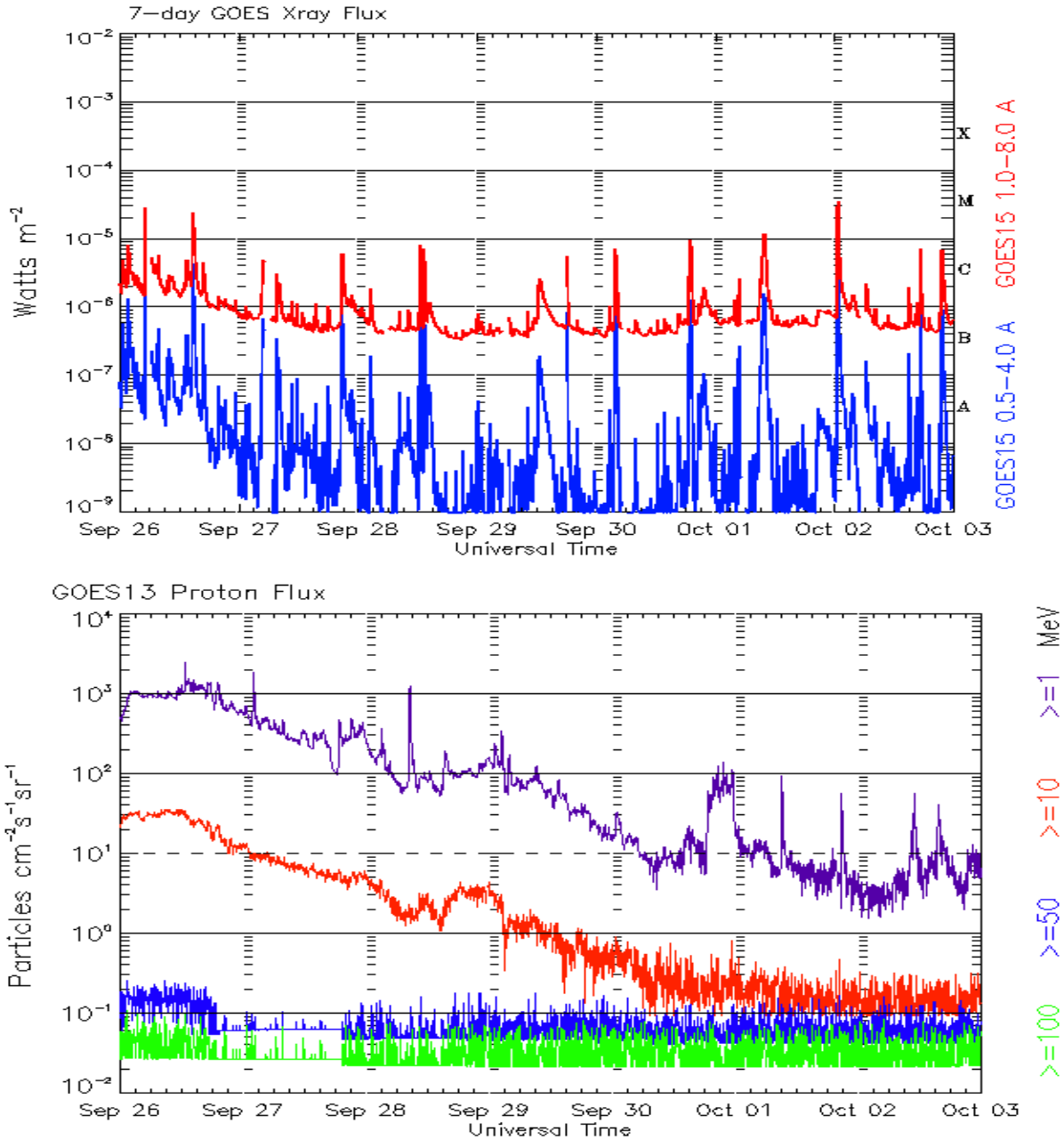
The electron flux plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV by the SWPC Primary GOES satellite.

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 26 September 2011*

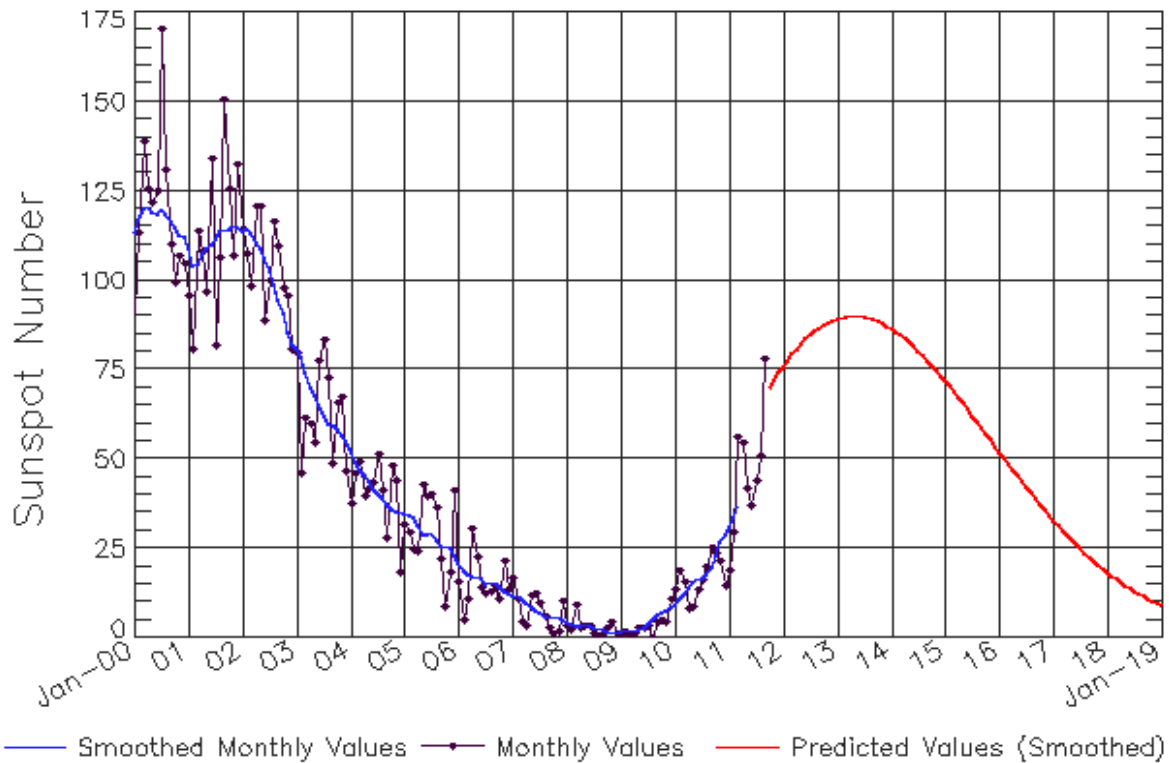
The x-ray plots contains five-minute averages x-ray flux (Watt/m²) as measure by the SWPC primary GOES X-ray satellite, usually at West 105 longitude, in two wavelength bands, 0.05 - 0.4 and 0.1 - 0.8 nm. The letters A, B, C, M and X refer to x-ray event levels for the 0.1 - 0.8 nm band.

The proton plot contains the five-minute averaged intergral flux units (pfu = protons/cm² -sec -sr) as measured by the primary SWPC GOES Proton satellite for each of the energy thresholds: >1, >10, >30, and >100 MeV. The P10 event threshold is 10 pfu at greater than 10 MeV.



ISES Solar Cycle Sunspot Number Progression

Observed data through Sep 2011



Updated 2011 Oct 4

NOAA/SWPC Boulder, CO USA

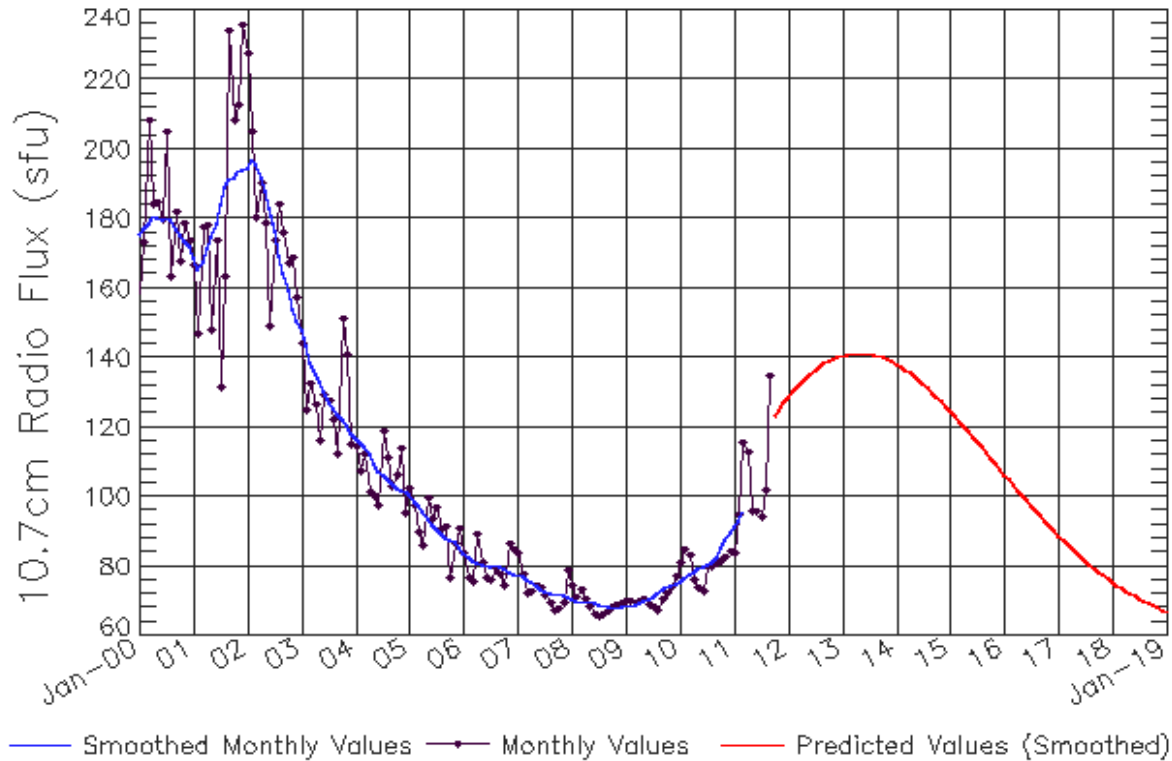
Smoothed Sunspot Number Prediction

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 (***)	41 (1)	45 (2)	50 (3)	55 (5)	59 (5)	62 (6)	64 (7)	67 (7)	70 (8)
2012	74 (9)	77 (9)	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 Sep 2011



Updated 2011 Oct 4

NOAA/SWPC Boulder, CO USA

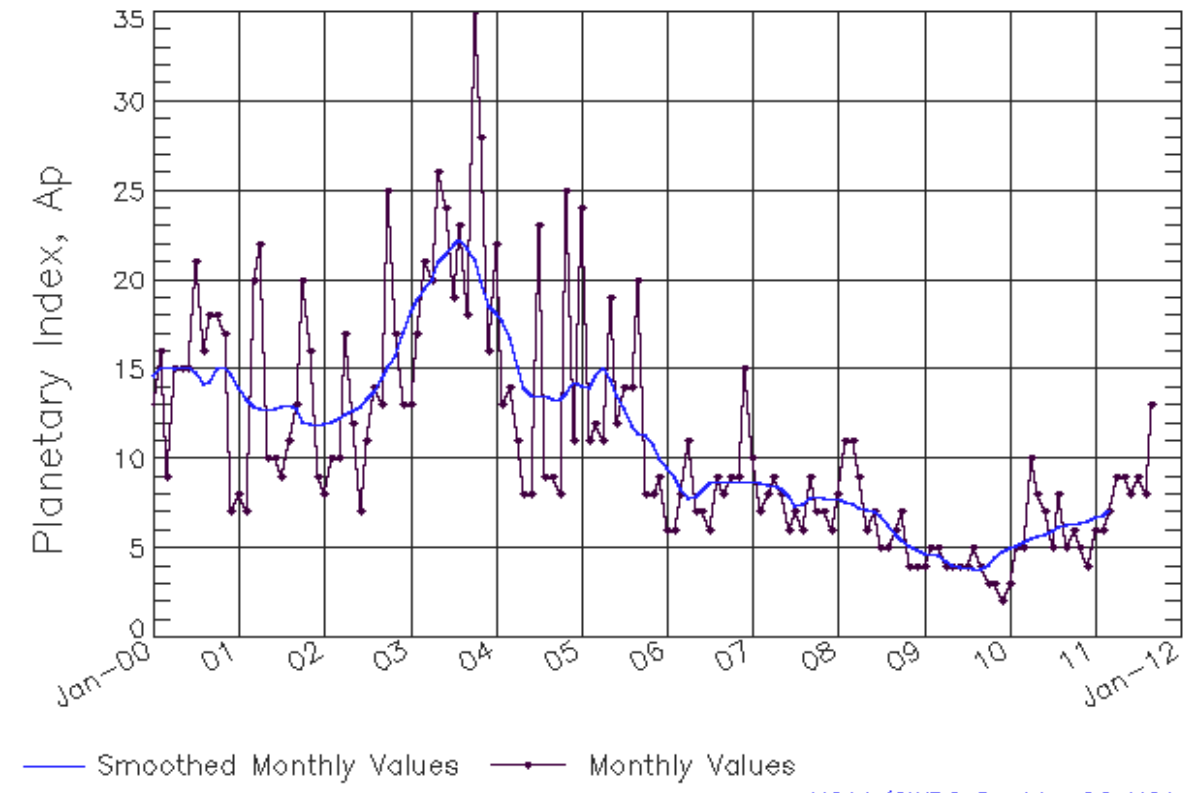
Smoothed F10.7cm Radio Flux Prediction

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 (1)	103 (1)	107 (2)	110 (3)	114 (4)	116 (4)	117 (5)	120 (6)	123 (7)
2012	127 (8)	130 (8)	131 (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 Sep 2011



Updated 2011 Oct 4

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

