

Solar activity was at low to moderate levels. The summary period began at moderate levels due to an M1/Sn flare at 30/1548Z from Region 1536 (S22, L=173, class/area Eao/100 on 01 August). Later on 30 July, Region 1538 (S22, L=117, class/area Eso/220 on 04 August) produced a C6 x-ray event with Type II (730 km/s) and Type IV radio signatures and an associated non-Earth-directed CME. From 31 July through the remainder of the summary period, solar activity was at low levels. On 04 August, Region 1539 (S22, L=099, class/area Cro/030 on 02 August) produced a long duration event (LDE) that began at 04/1104Z, peaked at 04/1500Z and ended at 04/1649Z. Associated with this event was an Earth-directed, partial halo CME with an estimated velocity of 905 km/s. Other activity of note included an LDE from Region 1535 (N18, L=135, class/area Eai/150 on 01 August). At 31/1130Z, the region produced a C5/Sf with Type II (880 km/s) and Type IV radio signatures and an associated non-Earth-directed CME. Later in the day, Region 1536 produced a C4/Sf at 31/1727Z with a Type II (592 km/s) radio signature. On 02 August, a C1 x-ray event was recorded in the vicinity of old Region 1526 (S17, L=273) which rotated around the west limb on 01 August. Associated with this event was a non-Earth-directed CME. Region 1539 produced a C2/1f flare at 03/0600Z with a Type II (622 km/s) radio signature and a non-Earth-directed CME.

A greater than 10 MeV proton enhancement at geosynchronous orbit was observed late on 02 August through midday on 03 August with a peak of 1 pfu at 02/1820Z. This enhancement was most likely associated with the 02 August limb event.

The greater than 2 MeV electron flux at geosynchronous orbit was at moderate levels throughout the summary period.

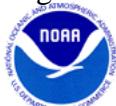
Geomagnetic field activity ranged from quiet to minor storm conditions. The period began at quiet to unsettled levels with isolated active intervals due to a period of sustained southward IMF Bz to -8 nT from about 30/ 0600 - 1800Z. From 31 July to midday on 02 August, quiet levels were observed. At about 02/1000Z, the 28 July CME arrived at the ACE spacecraft producing active to minor storm periods from 02/1200 - 2100Z. During this time frame, IMF Bz was negative multiple times, peaking at about -12 nT at 02/1220Z while solar wind readings indicated a slight increase from near 450 km/s to about 500 km/s. For the remainder of the summary period, quiet to unsettled conditions prevailed.

Space Weather Outlook

06 August - 01 September 2012

Solar activity is expected to be at low to moderate levels through 14 August as Regions 1539 and 1540 (S27, L=087, class/area Dso/110 on 05 August) rotate off the visible disk. From 15 - 20 August, mostly low levels are expected. A return to low to moderate levels is expected from 21 August - 01 September as Regions 1532 (S20, L=185, class/area Fho/510 on 28 July) and 1536 rotate back onto the visible disk.

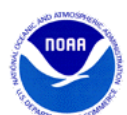
A greater than 10 MeV proton event at geosynchronous orbit is possible through 14 August as Regions 1539 and 1540 traverse the visible disk and again from 21 August - 01 September as



Regions 1532 and 1536 rotate back onto the visible disk.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at normal to moderate levels throughout the period.

Geomagnetic field activity is expected to be at predominately quiet levels from 06 - 07 August. Quiet to unsettled conditions with isolated active intervals are expected on 08 - 09 August due to glancing blow effects from the 04 August CME. Predominately quiet conditions are expected from 10 - 18 August, 21 - 23 August, and 27 August - 01 September. Quiet to unsettled conditions with isolated active intervals are expected from 19 - 20 August and again from 24 - 26 August due to weak 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
30 July	136	106	810	B5.6	13	1	0	16	1	0	0	0
31 July	140	116	790	B5.8	12	0	0	27	0	0	0	0
01 August	150	118	900	B6.3	10	0	0	20	0	0	0	0
02 August	135	126	890	B4.8	2	0	0	1	0	0	0	0
03 August	140	160	820	B5.6	4	0	0	10	1	0	0	0
04 August	139	140	880	B6.0	4	0	0	10	1	0	0	0
05 August	134	107	730	B6.2	2	0	0	2	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
	30 July	1.3e+06	6.9e+04	2.7e+03		1.1e+07
31 July	3.9e+05	4.3e+04	3.0e+03		1.6e+07	
01 August	4.5e+05	4.2e+04	2.6e+03		2.2e+07	
02 August	1.1e+06	4.1e+04	2.4e+03		1.6e+07	
03 August	5.8e+05	3.8e+04	2.5e+03		2.8e+06	
04 August	3.1e+05	2.0e+04	2.7e+03		5.7e+06	
05 August	2.0e+05	1.3e+04	2.4e+03		7.7e+06	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	30 July	11	1-2-4-2-3-3-2-2	34	2-2-5-3-6-6-4-2	13
31 July	5	1-2-1-2-2-1-1-2	5	2-2-1-0-3-1-1-1	6	2-2-1-1-2-2-1-2
01 August	7	2-2-1-2-2-2-2-2	5	2-2-1-2-2-1-1-1	6	2-2-1-1-1-2-1-2
02 August	16	1-0-1-2-5-4-4-3	21	1-0-0-1-6-5-3-3	16	1-1-1-2-4-5-4-3
03 August	8	2-3-1-2-3-2-1-1	8	3-3-3-3-1-1-0-0	7	3-3-2-1-2-2-1-1
04 August	6	1-1-1-2-2-2-2-2	4	1-1-2-1-1-2-1-1	7	1-1-2-1-2-2-2-3
05 August	6	1-0-2-2-2-2-2-2	3	2-0-1-2-0-0-0-1	6	1-1-1-2-2-2-2-2

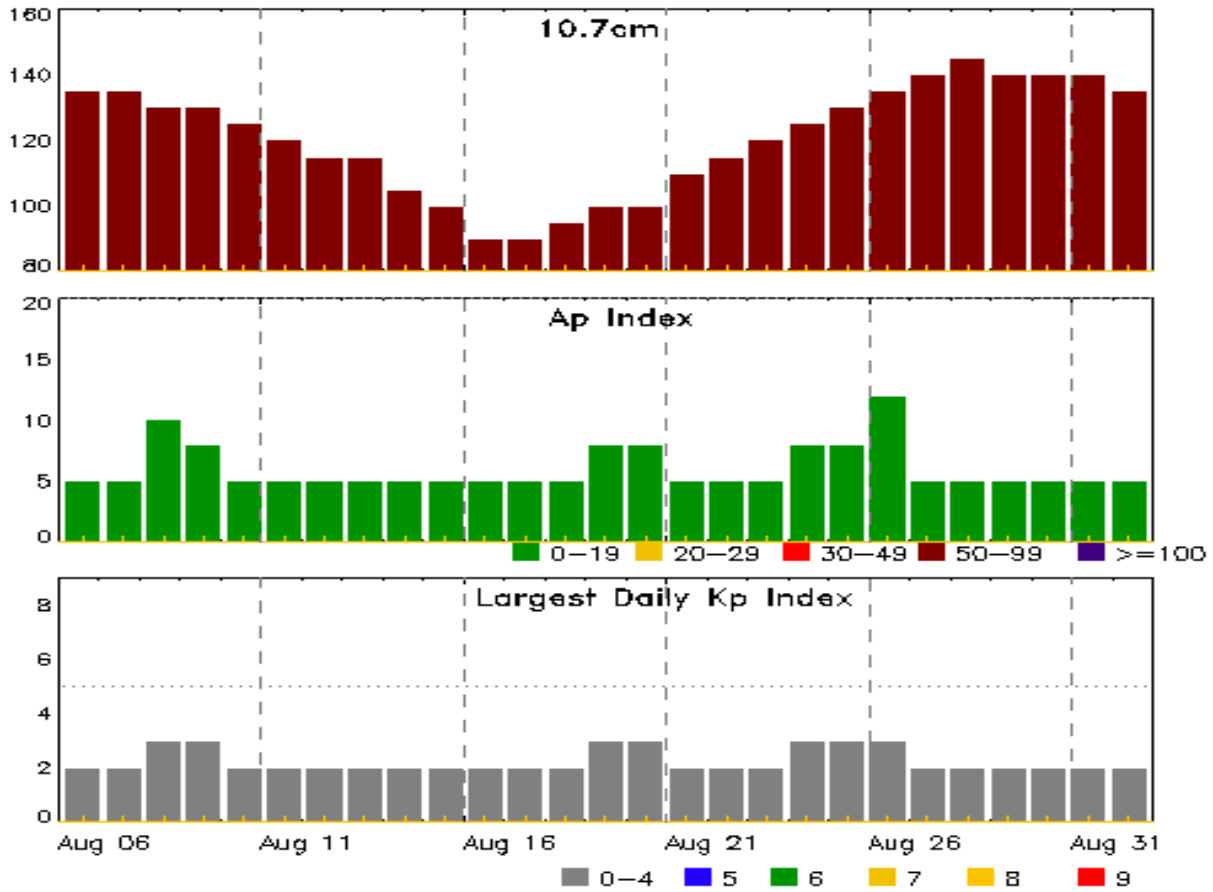


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
30 Jul 1103	ALERT: Type IV Radio Emission	30/0833
30 Jul 1717	WARNING: Geomagnetic K = 4	30/1716 - 31/0100
30 Jul 1802	ALERT: Geomagnetic K = 4	30/1759
31 Jul 0048	ALERT: Type II Radio Emission	31/0000
31 Jul 0100	ALERT: Type IV Radio Emission	31/0011
31 Jul 1158	ALERT: Type II Radio Emission	31/1104
31 Jul 1338	ALERT: Type IV Radio Emission	31/1104
31 Jul 1756	ALERT: Type II Radio Emission	31/1725
31 Jul 2246	ALERT: Type II Radio Emission	31/2209
01 Aug 1619	SUMMARY: 10cm Radio Burst	01/1538 - 1538
02 Aug 1433	WARNING: Geomagnetic K = 4	02/1432 - 1800
02 Aug 1438	ALERT: Geomagnetic K = 4	02/1431
02 Aug 1604	WARNING: Geomagnetic K = 5	02/1603 - 2100
02 Aug 1656	ALERT: Geomagnetic K = 5	02/1643
02 Aug 1755	EXTENDED WARNING: Geomagnetic K = 4	02/1432 - 2100
03 Aug 0715	ALERT: Type II Radio Emission	03/0602



Twenty-seven Day Outlook



Date	Radio Flux 10.7cm	Planetary A Index	Largest Kp Index	Date	Radio Flux 10.7cm	Planetary A Index	Largest Kp Index
06 Aug	135	5	2	20 Aug	100	8	3
07	135	5	2	21	110	5	2
08	130	10	3	22	115	5	2
09	130	8	3	23	120	5	2
10	125	5	2	24	125	8	3
11	120	5	2	25	130	8	3
12	115	5	2	26	135	12	3
13	115	5	2	27	140	5	2
14	105	5	2	28	145	5	2
15	100	5	2	29	140	5	2
16	90	5	2	30	140	5	2
17	90	5	2	31	140	5	2
18	95	5	2	01 Sep	135	5	2
19	100	8	3				



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
30 Jul	1539	1548	1553	M1.1	0.005	SN	S22E28	1536			

Flare List

Date	Time			X-ray Class	Imp/ Brtns	Optical Location Lat CMD	Rgn #
	Begin	Max	End				
30 Jul	0047	0054	0101	C1.5	SF	N16W16	1528
30 Jul	0138	0147	0203	C1.1	SF	S21E33	1532
30 Jul	0416	0424	0428	C2.4			1528
30 Jul	0418	0419	0422		SF	S21E24	1532
30 Jul	0423	0423	0442		SF	N15W19	1528
30 Jul	B0432	U0432	0443		SF	N15W16	1528
30 Jul	0513	0516	0523	C1.3	SF	N20E81	1535
30 Jul	0528	0529	0552		SF	S20E31	1532
30 Jul	0603	0612	0622	C4.0	SF	N20E78	1535
30 Jul	0626	0626	0635		SF	S17W59	1526
30 Jul	0656	0656	0701		SF	N20E78	1535
30 Jul	0706	0710	0716	C2.4	SF	N18E76	1535
30 Jul	0733	0736	0749		SF	S19E32	1532
30 Jul	0754	0758	0801	C1.6			
30 Jul	0821	0826	0831	C2.1			1528
30 Jul	1006	1019	1038		SF	S20E31	1532
30 Jul	1028	1035	1041	C2.3			
30 Jul	1104	1107	1109	C1.5	SF	S21E21	1532
30 Jul	1355	1403	1405	C8.8	1N	S21E20	1532
30 Jul	1539	1548	1553	M1.1	SN	S22E28	1536
30 Jul	2019	2023	2027	B9.4			
30 Jul	2310	2318	2328	C1.8	SF	S18W67	1526
30 Jul	2350	2358	0004	C6.3			1538
31 Jul	0148	0151	0154	C1.8	SF	S19E13	1532
31 Jul	0158	0203	0210		SF	S23E24	1536
31 Jul	0251	0255	0301		SF	S21E23	1536
31 Jul	0303	0303	0309		SF	S22E25	1536
31 Jul	0323	0325	0334	C1.0	SF	S23E23	1536
31 Jul	0358	0402	0407		SF	N15W29	1528
31 Jul	0416	0423	0428		SF	S22E24	1536



Flare List

Date	Time			X-ray Class	Optical		Rgn #
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	
31 Jul	0712	0723	0751		SF	S22E83	1538
31 Jul	0827	0828	0830		SF	S22E83	1538
31 Jul	0920	U0921	0930		SF	S22E72	1538
31 Jul	0935	0940	0957	C1.1			1535
31 Jul	1034	1037	1041		SF	S23E84	1538
31 Jul	1046	1130	1226	C5.7	SF	N19E59	1535
31 Jul	1126	1128	1141		SF	S25E26	1536
31 Jul	1134	1141	1149		SF	S23E85	1538
31 Jul	1216	1222	1234		SF	S23E85	1538
31 Jul	1324	1328	1331		SF	S23E81	1538
31 Jul	1354	1357	1408		SF	S23E78	1538
31 Jul	1417	1425	1430	C5.0	SF	S24E78	1538
31 Jul	1446	1453	1459		SF	S23E78	1538
31 Jul	1506	1512	1518		SF	S23E78	1538
31 Jul	1510	1515	1522	C1.6			1536
31 Jul	1510	1513	1517		SF	S24E78	1538
31 Jul	1512	1515	1522		SF	S25E22	1536
31 Jul	1554	1602	1607	C1.3	SF	S24E78	1538
31 Jul	1710	1727	1732	C4.0			1536
31 Jul	1714	1714	1716		SF	S25E78	1538
31 Jul	1724	1725	1737		SF	S25E21	1536
31 Jul	1727	1727	1732		SF	S25E77	1538
31 Jul	1925	1930	1935	C1.2			1535
31 Jul	2159	2205	2208	C2.4	SF	N15W40	1528
31 Jul	2329	2333	2336	C1.3			1538
31 Jul	2354	2359	0004	C1.3			1536
01 Aug	0120	0131	0135	C1.0			
01 Aug	0208	0208	0214		SF	S19W02	1532
01 Aug	0213	0233	0255		SF	S22E11	1536
01 Aug	0234	0240	0249		SF	S24E67	1538
01 Aug	0320	0321	0329		SF	S22E66	1538
01 Aug	0352	0353	0356		SF	S26E16	1536
01 Aug	0357	0402	0406	C2.4			1538
01 Aug	0526	0529	0532	C1.0	SF	S23E65	1538
01 Aug	0618	0621	0628	C1.0	SF	S20E02	1532
01 Aug	0635	0636	0641		SF	S25E14	1536
01 Aug	0650	0658	0701		SF	N13W43	1528
01 Aug	0734	0812	0828		SF	S22E70	1538



Flare List

Date	Time			X-ray Class	Imp/ Brtns	Optical		Rgn #
	Begin	Max	End			Location Lat CMD		
01 Aug	0844	0845	0849		SF	S22E67		1538
01 Aug	0945	0950	1003	C1.5				1528
01 Aug	1208	1209	1212		SF	S23W29		1530
01 Aug	1227	1229	1236		SF	S22E66		1538
01 Aug	1247	1252	1258	C2.3	SF	N21E45		1535
01 Aug	1401	1404	1409	C1.1	SF	S23E64		1538
01 Aug	1419	1423	1427	C1.1	SF	S19E65		1538
01 Aug	1446	1448	1453	B8.6				
01 Aug	1609	1609	1618		SF	S19W06		1532
01 Aug	1636	1636	1647		SF	S25E07		1536
01 Aug	1840	1846	1854	C1.8	SF	S19W06		1532
01 Aug	1941	1945	2001		SF	S19W32		1530
01 Aug	2339	2345	2349	C1.2				1535
02 Aug	0453	0456	0459	C1.5				1532
02 Aug	0847	0851	0901		SF	S21W13		1532
02 Aug	1210	1310	1335	C1.5				
02 Aug	1517	1529	1535	B9.6				
03 Aug	0452	0456	0504	B8.7	SF	S20E46		1538
03 Aug	0533	0545	0604		SF	S20E46		1538
03 Aug	0546	0555	0632		SF	S24E68		
03 Aug	0551	0600	0608	C2.8	1F	S22E55		1539
03 Aug	0752	0811	0823	C1.4	SF	S20E42		1538
03 Aug	1205	1213	1250		SF	S21W26		1532
03 Aug	1209	1214	1241		SF	S20W25		1536
03 Aug	1422	1422	1425		SF	S15E70		
03 Aug	1517	1519	1526		SF	S25E64		
03 Aug	1605	1627	1649	C1.4	SF	S27E63		1540
03 Aug	2120	2127	2131	C3.0	SF	N18E14		1535
04 Aug	0125	0130	0134	C1.3	SF	N18E12		1535
04 Aug	0208	0208	0211		SF	S22W50		
04 Aug	0354	0357	0401		SF	N18E10		1535
04 Aug	0413	0418	0422	C2.7	1F	N19E11		1535
04 Aug	0603	0608	0611	C1.3	SF	N20E12		1535
04 Aug	0701	0713	0723		SF	N19E09		1535
04 Aug	1104	1500	1649	C3.5				1539
04 Aug	1151	1152	1206		SF	S19E41		1539
04 Aug	1217	1219	1222		SF	S24E53		1540
04 Aug	1259	1313	1324		SF	S24E52		1540



Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
04 Aug	1417	1418	1424		SF	S19E38	1539
04 Aug	1459	1503	1514		SF	S19E39	1539
05 Aug	0220	0230	0233	C1.8	SF	S19W51	1532
05 Aug	0257	0257	0304		SF	N18W02	1535
05 Aug	0546	0625	0803	C1.1			1539



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 1526																							
20 Jul	S17E63	268	10	5	Bxo	3	B																
21 Jul	S18E52	266	10	4	Bxo	3	B	1															
22 Jul	S18E39	265	10	3	Bxo	3	B																
23 Jul	S17E26	265	10	3	Bxo	3	B																
24 Jul	S17E11	267	0	1	Axx	1	A																
25 Jul	S17W00	265	10	3	Cro	3	B																
26 Jul	S17W14	266	20	4	Cro	3	B																
27 Jul	S17W28	267	20	4	Cro	3	B																
28 Jul	S17W45	267	plage																				
29 Jul	S17W59	270	plage																				
30 Jul	S17W73	272	plage					1				2											
31 Jul	S17W87	273	plage					2	0	0		2	0	0	0	0	0						

Crossed West Limb.
 Absolute heliographic longitude: 265

Region 1527																							
23 Jul	N27E64	227	10	1	Axx	1	A	1					1										
24 Jul	N27E53	225	0	1	Axx	1	A																
25 Jul	N27E39	226	plage																				
26 Jul	N27E25	227	plage																				
27 Jul	N27E11	228	plage																				
28 Jul	N27W03	228	plage																				
29 Jul	N27W17	229	plage																				
30 Jul	N27W31	230	plage																				
31 Jul	N27W45	231	plage																				
01 Aug	N27W59	231	plage																				
02 Aug	N27W73	232	plage																				
03 Aug	N27W87	233	plage																				
								1	0	0		0	1	0	0	0							

Crossed West Limb.
 Absolute heliographic longitude: 228



Region Summary - continued

Date	Location		Sunspot Characteristics				Flares											
	Lat CMD	Helio Lon	Area 10 ⁶ hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical							
								C	M	X	S	1	2	3	4			
Region 1528																		
23 Jul	N17E67	224	60	3	Hsx	1	A											
24 Jul	N17E53	225	80	3	Hsx	1	A											
25 Jul	N17E39	226	80	3	Cso	6	B						1					
26 Jul	N17E25	227	40	2	Cso	3	B						1					
27 Jul	N17E11	226	30	2	Hsx	2	A	1					3					
28 Jul	N17W02	227	40	2	Hsx	1	A											
29 Jul	N17W15	226	40	2	Hsx	2	A											
30 Jul	N17W28	227	30	2	Cso	2	B	3					3					
31 Jul	N17W42	228	10	1	Hrx	2	A	1					2					
01 Aug	N17W56	228	10	1	Hrx	1	A	1					1					
02 Aug	N17W70	229	20	1	Hrx	1	A											
03 Aug	N15W81	227	10	4	Bxo	4	B											
								6	0	0	11	0	0	0	0	0		

Crossed West Limb.
 Absolute heliographic longitude: 227

Region 1529																		
23 Jul	S12E71	220	60	3	Hsx	1	A											
24 Jul	S12E57	221	70	2	Hsx	1	A											
25 Jul	S11E43	222	80	2	Hsx	2	A											
26 Jul	S11E30	222	80	2	Hsx	2	A											
27 Jul	S11E16	223	80	2	Hsx	2	A											
28 Jul	S10E03	221	60	2	Hsx	1	A											
29 Jul	S11W10	221	70	2	Hsx	1	A											
30 Jul	S11W23	222	60	2	Hsx	2	A											
31 Jul	S11W37	223	60	1	Hsx	1	A											
01 Aug	S11W50	223	40	1	Hsx	1	A											
02 Aug	S11W62	221	30	1	Hsx	1	A											
03 Aug	S11W76	222	40	1	Hsx	1	A											
04 Aug	S10W88	221	30	1	Hsx	1	A											
								0	0	0	0	0	0	0	0	0	0	

Crossed West Limb.
 Absolute heliographic longitude: 221



Region Summary - continued

Date	Location		Sunspot Characteristics					Flares												
	Lat	CMD	Helio Lon	Area 10 ⁶ hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical								
									C	M	X	S	1	2	3	4				
Region 1530																				
23 Jul	S19E82		210	plage																
24 Jul	S19E68		210	90	4	Hsx	1	A												
25 Jul	S19E54		211	130	4	Cso	4	B												
26 Jul	S19E40		212	140	5	Cso	3	B												
27 Jul	S19E28		209	130	4	Cso	3	B	2				2							
28 Jul	S19E13		211	140	5	Cso	3	B	1				2							
29 Jul	S17W00		212	170	4	Cso	3	B					3							
30 Jul	S18W13		212	150	3	Hsx	1	A												
31 Jul	S18W27		213	150	2	Hsx	1	A												
01 Aug	S18W41		213	120	2	Hsx	1	A					2							
02 Aug	S19W53		212	120	2	Hsx	1	A												
03 Aug	S18W66		212	100	2	Hsx	2	A												
04 Aug	S18W78		211	100	1	Hsx	1	A												
05 Aug	S18W90		210	120	7	Hsx	1	A												
									9	0	0	9	0	0	0	0	0			

Still on Disk.
Absolute heliographic longitude: 212

Region 1532																				
26 Jul	S20E67		185	60	2	Cao	3	B	1											
27 Jul	S20E53		186	60	2	Cso	3	B	1	1		1								
28 Jul	S22E47		183	510	20	Fho	21	B		1		4		1						
29 Jul	S21E33		180	500	21	Fko	20	B	4	1		13	2							
30 Jul	S19E14		184	350	7	Dkc	14	B	3			6	1							
31 Jul	S19E01		185	310	7	Dki	15	B	1			1								
01 Aug	S19W14		186	280	7	Dko	9	B	2			4								
02 Aug	S18W28		187	230	6	Cso	5	B	1			1								
03 Aug	S18W41		187	230	6	Cso	6	B				1								
04 Aug	S19W53		186	240	9	Cso	4	B												
05 Aug	S19W66		186	210	5	Hsx	1	A	1			1								
									14	3	0	32	3	1	0	0				

Still on Disk.
Absolute heliographic longitude: 185



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 1533																	
27 Jul	S28E18	220	40	6	Cao	5	B										
28 Jul	S29E05	219	10	6	Bxo	8	B										
29 Jul	S28W07	219	30	8	Cso	3	B										
30 Jul	S28W21	220	10	9	Bxo	3	B										
31 Jul	S28W35	221	plage														
01 Aug	S28W49	221	plage														
02 Aug	S28W63	222	plage														
03 Aug	S28W77	223	plage														
								0	0	0	0	0	0	0	0	0	0

Died on Disk.

Absolute heliographic longitude: 219

Region 1534																	
28 Jul	N17E55	170	10	1	Axx	1	A										
29 Jul	N17E41	171	plage														
30 Jul	N17E27	172	plage														
31 Jul	N17E13	173	plage														
01 Aug	N17W01	173	plage														
02 Aug	N17W15	174	plage														
03 Aug	N23W26	172	0	1	Axx	1	A										
04 Aug	N23W40	173	plage														
05 Aug	N23W54	173	plage														
								0	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 173

Region 1535																	
30 Jul	N18E64	135	110	10	Dai	7	B					4					
31 Jul	N18E51	135	130	10	Dai	8	BG	3				1					
01 Aug	N18E37	135	150	11	Eai	12	BG	2				1					
02 Aug	N17E24	135	120	9	Dso	10	BG										
03 Aug	N18E09	135	100	9	Cso	7	B	1				1					
04 Aug	N18W02	135	100	8	Cso	10	B	3				4	1				
05 Aug	N18W15	135	90	4	Cso	6	B					1					
								9	0	0	12	1	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 135



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 1536																							
30 Jul	S23E26	173	100	10	Dao	7	B		1			1											
31 Jul	S22E13	173	90	9	Dao	6	B	4				8											
01 Aug	S22W01	173	100	12	Eao	7	B					4											
02 Aug	S23W13	172	70	13	Eao	6	B																
03 Aug	S23W26	172	30	13	Cro	5	BG					1											
04 Aug	S25W38	171	30	13	Cso	3	B																
05 Aug	S25W52	171	plage																				
								4	1	0		14	0	0	0	0	0	0	0	0	0		

Still on Disk.

Absolute heliographic longitude: 173

Region 1537																							
31 Jul	N12E76	110	10	1	Axx	1	A																
01 Aug	N12E64	108	40	3	Hsx	1	A																
02 Aug	N12E50	109	50	2	Hsx	1	A																
03 Aug	N12E35	111	40	2	Hsx	1	A																
04 Aug	N12E23	110	50	2	Hsx	1	A																
05 Aug	N13E09	109	40	1	Hsx	1	A																
								0	0	0		0	0	0	0	0	0	0	0	0	0		

Still on Disk.

Absolute heliographic longitude: 109

Region 1538																							
30 Jul	S23E82	118	plage									1											
31 Jul	S23E68	118	30	4	Dro	2	B	2				15											
01 Aug	S22E54	118	160	8	Dao	6	B	4				8											
02 Aug	S23E43	116	220	9	Dao	7	B																
03 Aug	S22E28	118	220	10	Dao	6	B	1				3											
04 Aug	S22E16	117	220	11	Eso	8	BG																
05 Aug	S22E02	117	140	9	Dso	8	B																
								8	0	0		26	0	0	0	0	0	0	0	0	0		

Still on Disk.

Absolute heliographic longitude: 117



Region Summary - continued

Date	Location		Sunspot Characteristics				Flares											
	Lat	CMD	Helio Lon	Area 10 ⁶ hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical						
									C	M	X	S	1	2	3	4		
Region 1539																		
02 Aug	S22E60		99	30	3	Cro	4	B										
03 Aug	S23E45		101	10	6	Bxo	3	B	1					1				
04 Aug	S22E31		102	20	3	Cro	3	B	1				3					
05 Aug	S23E18		101	10	1	Hrx	1	A	1									
									3	0	0		3	1	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 101

Region 1540																		
03 Aug	S27E60		86	30	7	Cro	3	B	1									
04 Aug	S27E46		87	90	7	Cao	8	B					2					
05 Aug	S27E32		87	110	6	Dso	8	B										
									1	0	0		2	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 87

Region 1541																		
03 Aug	S15E64		82	10	1	Hrx	1	A										
04 Aug	S15E50		83	0	1	Axx	1	A										
05 Aug	S16E38		81	10		Axx	1	A										
									0	0	0		0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 81

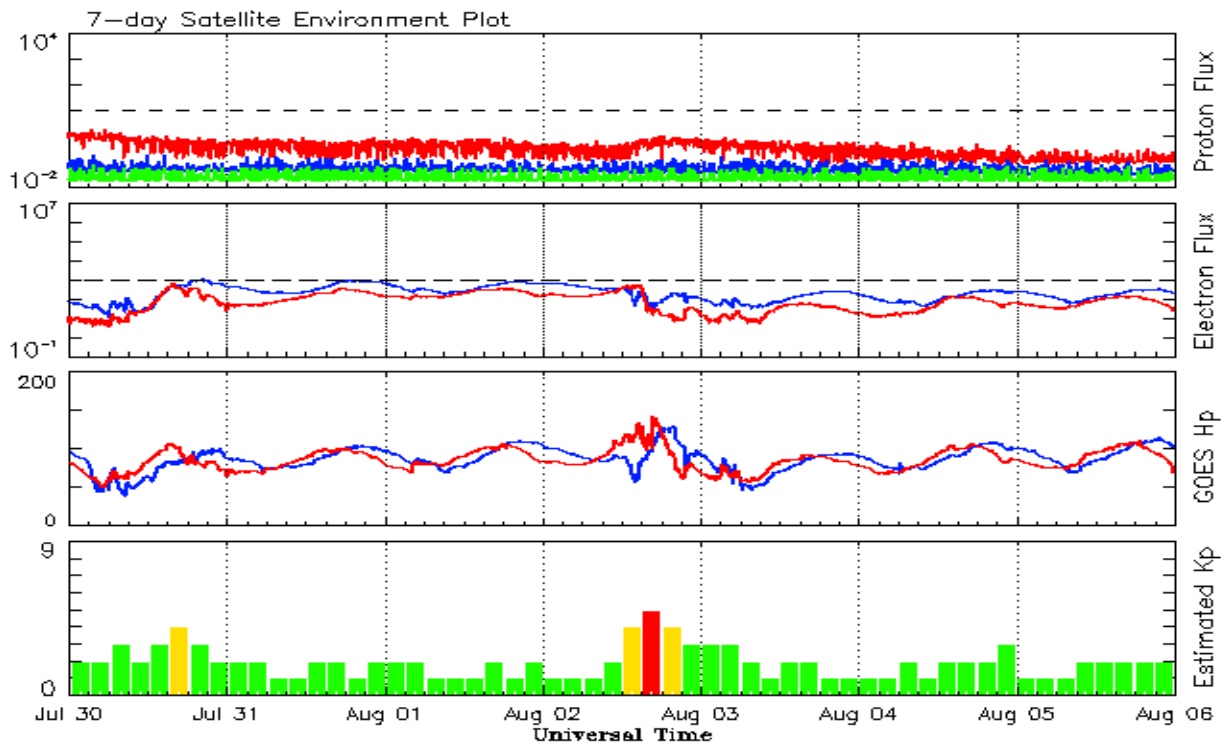


Recent Solar Indices (preliminary)
Observed monthly mean values

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
2010									
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	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	84.6	59.9	137.2	118.4	7	8.0
November	133.1	96.7	0.73	86.3	61.1	153.1	119.5	3	8.0
December	106.3	73.0	0.69	89.2	63.4	141.2	121.6	3	8.0
2012									
January	91.3	58.3	0.64	92.0	65.5	133.1	124.4	6	8.3
February	50.1	32.9	0.66			106.7		7	
March	77.9	64.3	0.82			115.1		14	
April	84.4	55.2	0.65			113.1		9	
May	99.5	69.0	0.69			121.5		8	
June	88.6	64.5	0.73			120.5		10	
July	99.6	66.5	0.67			135.6		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 30 July 2012*

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.

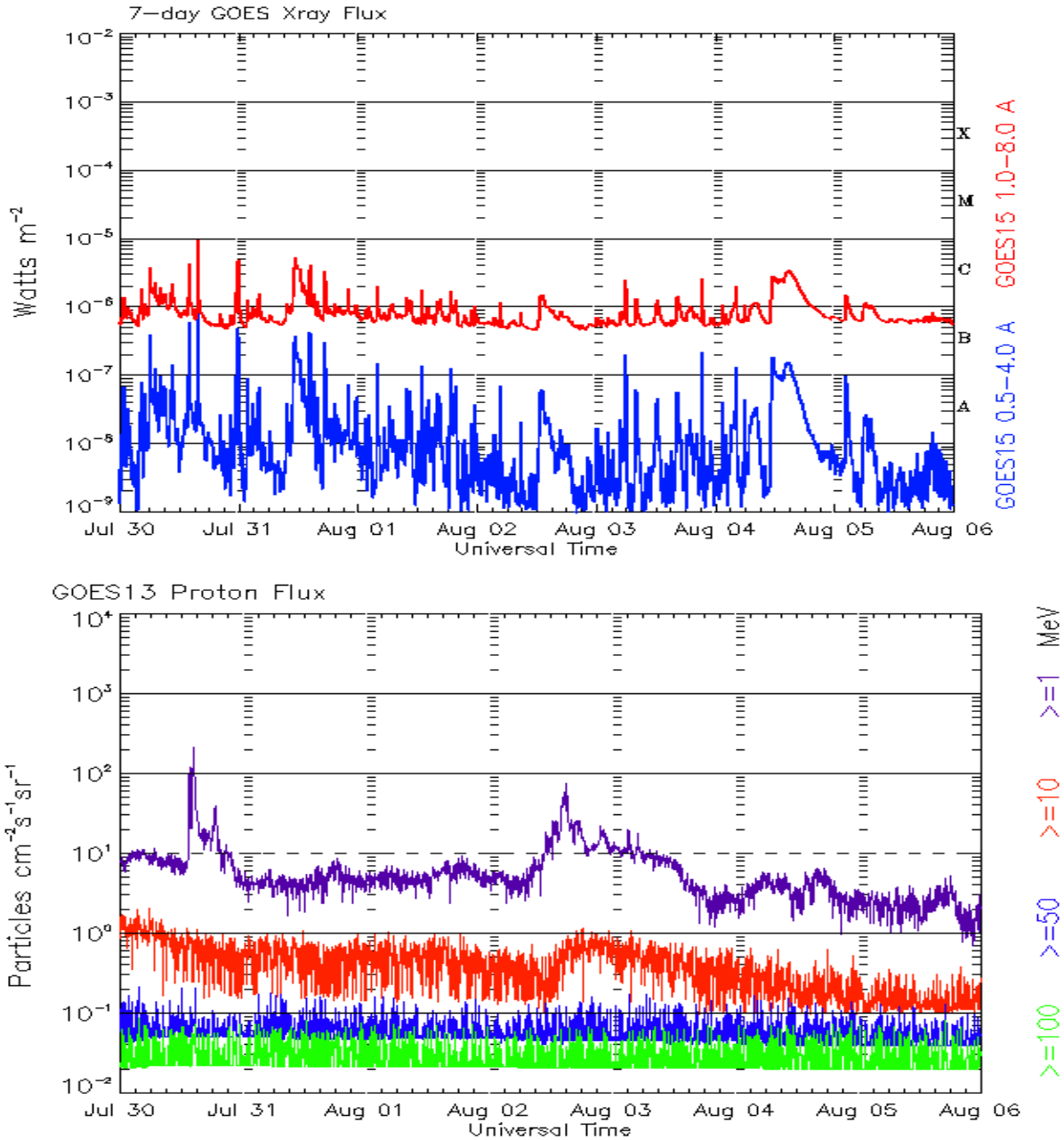
The electron flux plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV by the SWPC Primary GOES satellite.

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 30 July 2012*

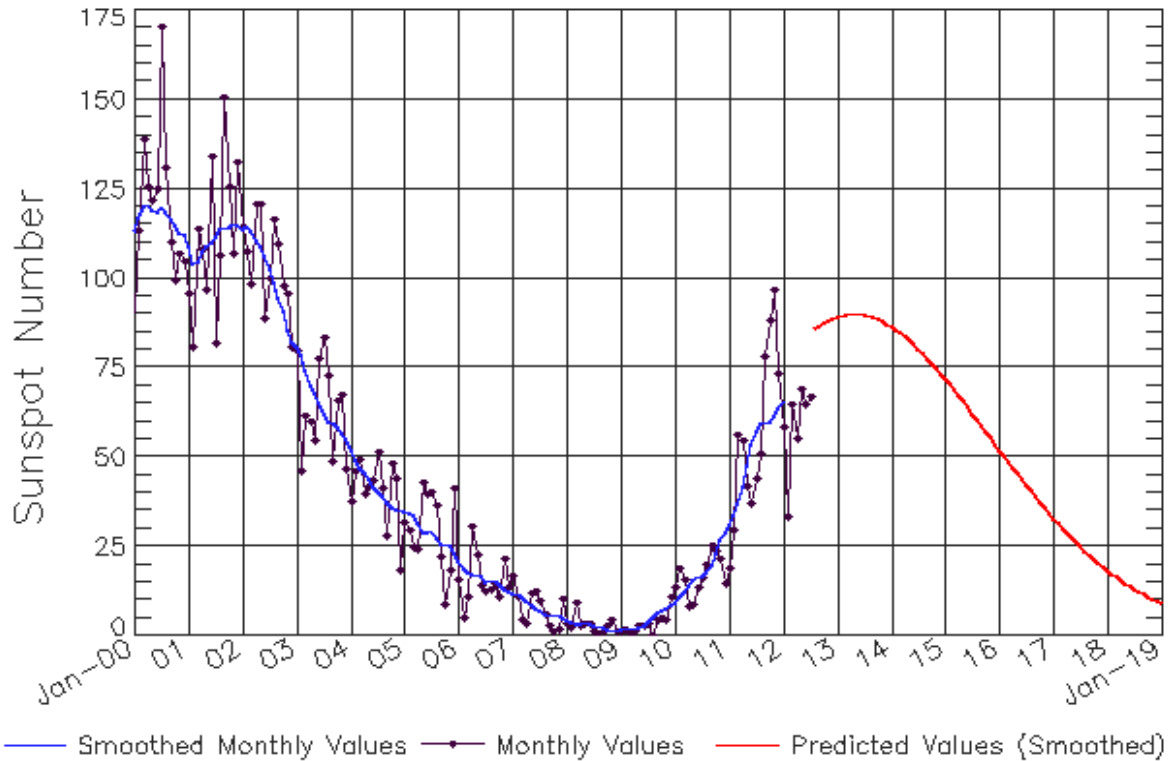
The x-ray plots contains five-minute averages x-ray flux (Watt/m²) as measure by the SWPC primary GOES X-ray satellite, usually at West 105 longitude, in two wavelength bands, 0.05 - 0.4 and 0.1 - 0.8 nm. The letters A, B, C, M and X refer to x-ray event levels for the 0.1 - 0.8 nm band.

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 Jul 2012



Updated 2012 Aug 6

NOAA/SWPC Boulder, CO USA

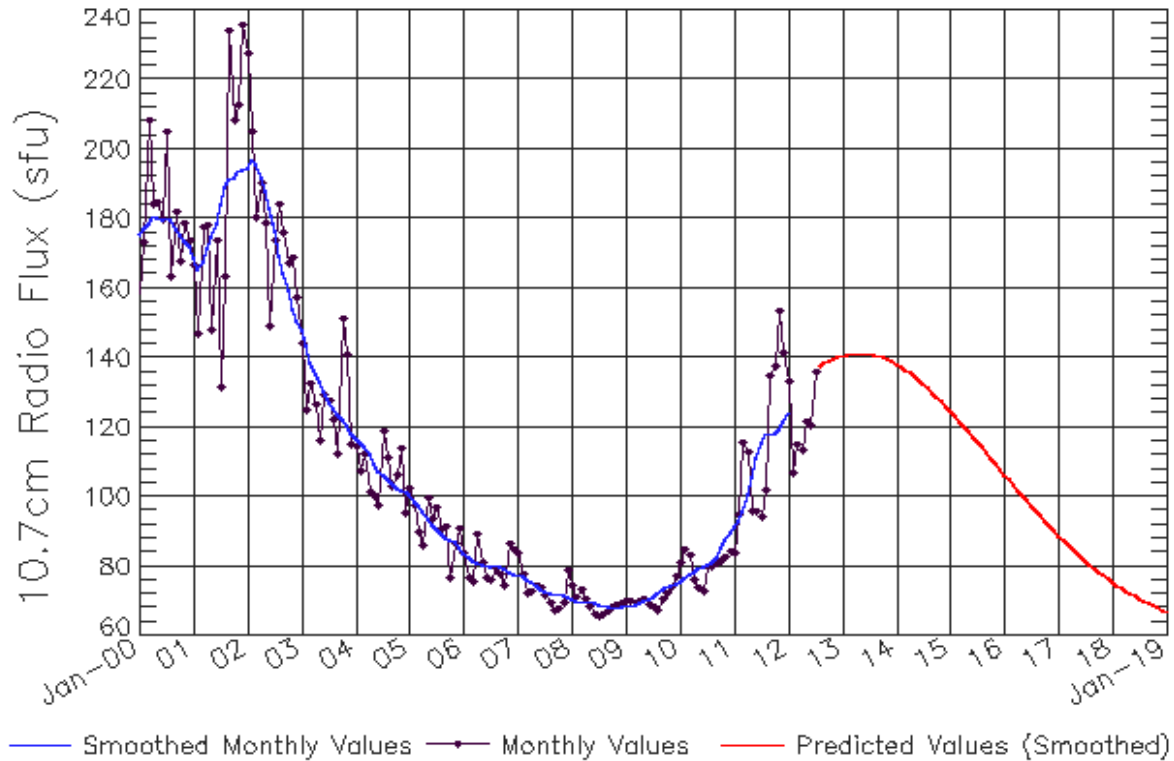
Smoothed Sunspot Number Prediction

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2010	9 (***)	11 (***)	12 (***)	14 (***)	16 (***)	16 (***)	17 (***)	17 (***)	20 (***)	23 (***)	27 (***)	29 (***)
2011	31 (***)	33 (***)	37 (***)	42 (***)	48 (***)	53 (***)	57 (***)	59 (***)	60 (***)	60 (***)	61 (***)	63 (***)
2012	66 (***)	68 (1)	70 (2)	70 (3)	70 (5)	70 (5)	72 (6)	76 (7)	79 (7)	82 (8)	84 (9)	86 (9)
2013	88 (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 Jul 2012



Updated 2012 Aug 6

NOAA/SWPC Boulder, CO USA

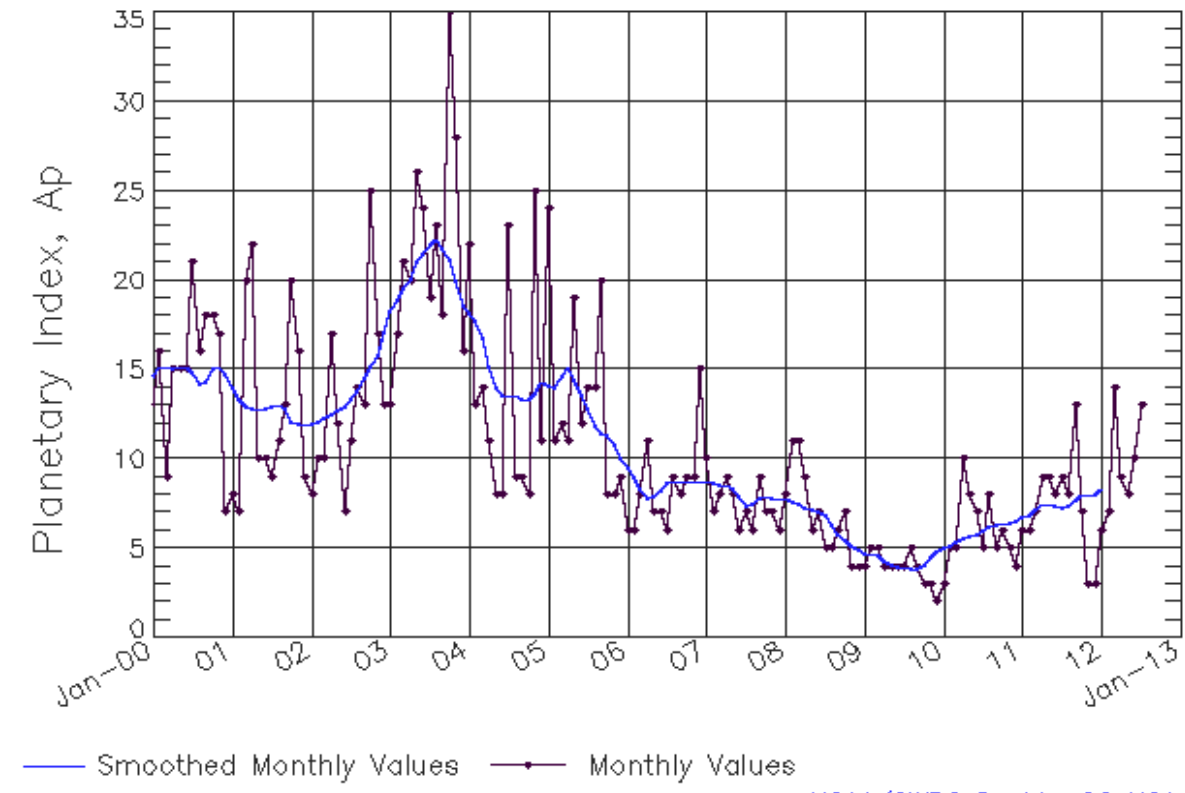
Smoothed F10.7cm Radio Flux Prediction

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2010	76 (**)	77 (**)	78 (**)	78 (**)	79 (**)	80 (**)	80 (**)	81 (**)	82 (**)	85 (**)	88 (**)	90 (**)
2011	91 (**)	93 (**)	96 (**)	100 (**)	106 (**)	111 (**)	115 (**)	118 (**)	118 (**)	118 (**)	120 (**)	122 (**)
2012	124 (**)	128 (1)	129 (1)	130 (2)	129 (3)	128 (4)	129 (4)	130 (5)	133 (6)	135 (7)	137 (8)	139 (8)
2013	140 (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 Jul 2012



Updated 2012 Aug 6

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

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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

