

Solar activity was at low to moderate levels. Low levels were observed on 07-10 January and again on 12 January. Moderate levels were observed on 11 and 13 January. At the beginning of the period, there were 12 numbered regions on the visible disk. Most of the regions were relatively stable producing low level C-class flares. The most magnetically complex spot group was Region 1652 (N17, L=184, class/area Fkc/320 on 07 January); a Fkc/BG spot group. By early 08 January, Region 1654 (N08, L=151, class/area Fki/1100 on 11 January) rotated around the NE limb. Both Regions 1652 and 1654 were responsible for the majority of the C-class activity that occurred through the rest of the period. By 11 January, moderate levels were reached as Region 1654 produced two M-class flares; an M1 at 11/0911 UTC with associated Type II (537 km/s) and Type IV radio bursts and an M1/1f at 11/1507 UTC. Other activity on 11 January included a 174 sfu Tenflare associated with a C1 flare from Region 1654 at 11/1846 UTC. Low levels returned on 12 January. By 13 January, moderate levels returned as Region 1652 produced two M-class flares; an M1 at 13/0050 UTC and another M1 at 13/0838 UTC with associated Type II (649 km/s) and Type IV radio sweeps as well as an Earth-directed CME. First seen in STEREO-A COR2 imagery at 13/0909 UTC (estimated speed of 371 km/s), the ejecta appeared in SOHO/LASCO imagery as a faint halo beginning at 13/1236 UTC.

No proton events were observed at geosynchronous orbit.

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

Geomagnetic field activity was quiet for the majority of the period through late on 13 January. The solar wind speed, measured at the ACE spacecraft, ranged from 272 km/s to 375 km/s while the Bz component of the interplanetary magnetic field (IMF) did not vary much beyond +/- 5 nT. By late on 10 January, the phi angle changed from predominantly negative (towards) to positive (away) indicative of a solar sector boundary crossing. By mid day on 13 January, solar wind speed began to increase from approximately 400 km/s to 510 km/s. An increase in temperature and total field strength (10 nT) was observed as a positive polarity coronal hole high speed stream became geoeffective. Unsettled periods were observed from 13/1800-2400 UTC.

Space Weather Outlook

14 January - 09 February 2013

Solar activity is expected to be at low to moderate levels until Region 1654 rotates around the west limb on 20 January. Very low to low levels are expected until Regions 1652 and 1654 return beginning on 31 January. A chance for M-class flares exists from 31 January through the end of 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 to moderate levels throughout the forecast period with possible high levels on 15-16 January and again on 19-20 January due to coronal hole high speed stream and CME effects.



Geomagnetic field activity is expected to be quiet to active on 14 January due to continued coronal hole high speed stream effects. Quiet levels are expected through mid-day on 17 January. By mid to late 17 January, a CME is expected to become geoeffective causing unsettled to active periods through 18 January. Conditions are expected to return to quiet levels by 19 January and continue until 09 February when a coronal hole high speed stream is expected to return.



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
07 January	150	196	1390	B6.6	8	0	0	1	0	0	0	0
08 January	156	144	940	B7.6	9	0	0	0	0	0	0	0
09 January	169	153	860	C1.0	4	0	0	0	0	0	0	0
10 January	174	145	1300	B9.5	10	0	0	2	0	0	0	0
11 January	172	166	1650	B9.0	11	2	0	2	1	0	0	0
12 January	169	156	1460	B7.4	10	0	0	7	0	0	0	0
13 January	156	126	1410	B8.3	10	2	0	7	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
07 January	2.5e+05	1.1e+04	2.7e+03		8.2e+05	
08 January	2.6e+05	1.1e+04	2.8e+03		9.3e+05	
09 January	1.4e+05	1.1e+04	3.0e+03		8.4e+05	
10 January	1.4e+05	1.2e+04	2.8e+03		9.5e+05	
11 January	2.4e+05	1.1e+04	2.7e+03		1.1e+06	
12 January	2.3e+05	1.2e+04	2.8e+03		6.6e+05	
13 January	3.2e+05	1.1e+04	2.8e+03		7.8e+05	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
07 January	3	0-0-1-1-2-2-1-1	0	0-0-1-0-0-0-0-0	3	1-0-1-0-1-1-1-1
08 January	3	0-1-0-1-2-1-1-2	1	0-0-0-0-0-1-1-0	3	0-1-0-0-1-1-1-2
09 January	3	1-1-0-1-1-2-1-1	2	0-0-1-3-0-0-0-0	3	2-0-0-1-1-0-1-1
10 January	2	0-0-1-1-1-1-1-0	1	0-0-0-2-0-0-0-0	3	1-0-0-1-0-1-1-0
11 January	3	0-1-0-1-2-1-1-2	1	0-0-0-2-0-0-0-0	2	0-0-0-1-1-0-1-2
12 January	2	1-1-0-0-1-1-1-0	1	0-0-0-1-1-0-0-0	3	1-1-0-1-1-0-1-0
13 January	10	3-1-2-0-2-2-3-4	11	1-0-2-1-4-4-2-3	9	2-1-2-1-2-2-3-3

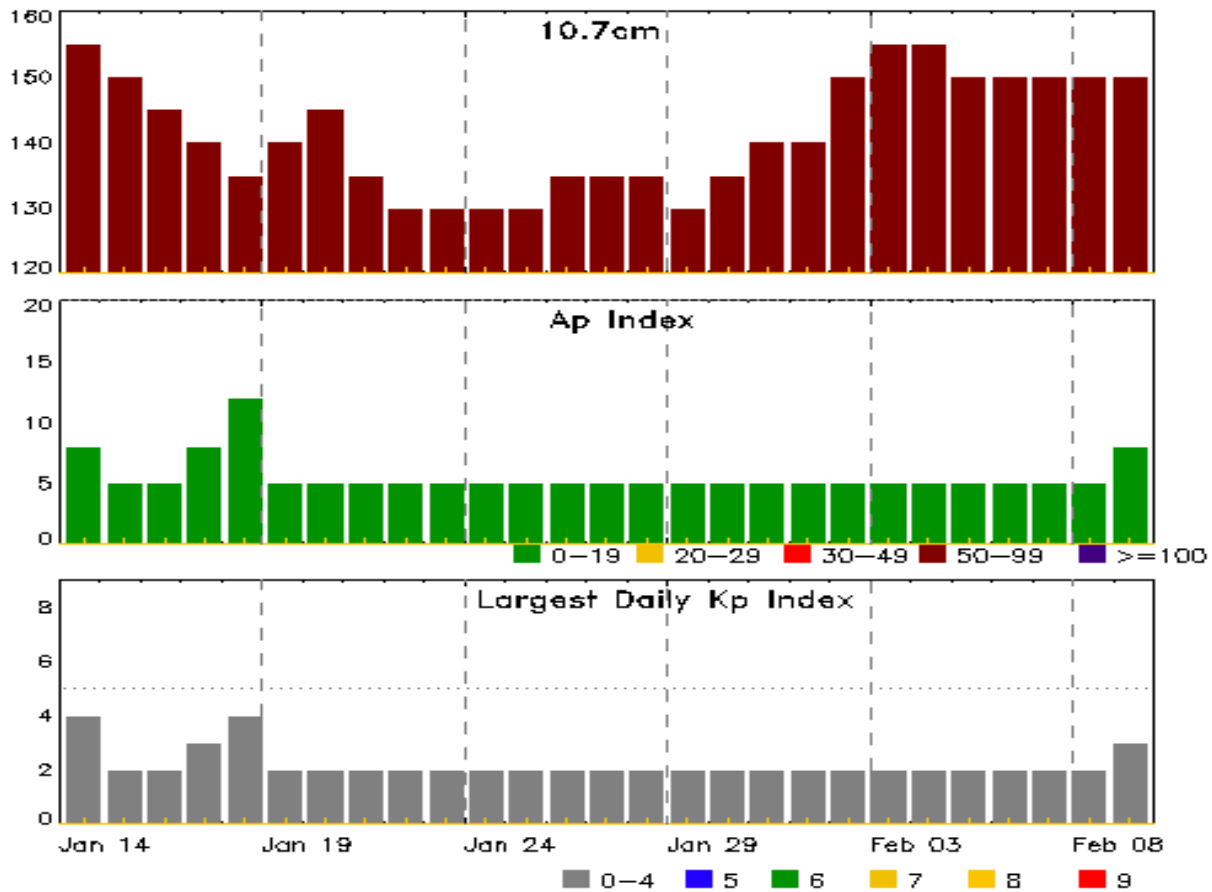


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
11 Jan 0940	ALERT: Type II Radio Emission	11/0914
11 Jan 1006	ALERT: Type IV Radio Emission	11/0930
11 Jan 1859	SUMMARY: 10cm Radio Burst	11/1845 - 1846
13 Jan 0918	ALERT: Type II Radio Emission	13/0839
13 Jan 0918	ALERT: Type IV Radio Emission	13/0845
13 Jan 2305	WARNING: Geomagnetic K = 4	13/2305 - 14/1000



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
14 Jan	155	8	4	28 Jan	135	5	2
15	150	5	2	29	130	5	2
16	145	5	2	30	135	5	2
17	140	8	3	31	140	5	2
18	135	12	4	01 Feb	140	5	2
19	140	5	2	02	150	5	2
20	145	5	2	03	155	5	2
21	135	5	2	04	155	5	2
22	130	5	2	05	150	5	2
23	130	5	2	06	150	5	2
24	130	5	2	07	150	5	2
25	130	5	2	08	150	5	2
26	135	5	2	09	150	8	3
27	135	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
11 Jan	0843	0911	0917	M1.2	0.009			1654	280		1	1
11 Jan	1451	1507	1524	M1.0	0.014	1F	N06E39	1654				
13 Jan	0045	0050	0052	M1.0	0.002			1652				
13 Jan	0835	0838	0840	M1.7	0.002			1652	10000	140	2	2

Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
07 Jan	0045	0102	0110	C1.1			1645
07 Jan	0350	0354	0403	C1.0			1653
07 Jan	0442	0452	0457	B8.0			1653
07 Jan	0635	0639	0646	C1.0			1640
07 Jan	0739	0747	0751	C1.3			1653
07 Jan	0844	0852	0857	C3.1	SF	N27W72	1640
07 Jan	0947	0954	1000	C1.1			1638
07 Jan	1814	1821	1824	C1.2			
07 Jan	2344	2357	0004	C2.2			1640
08 Jan	0117	0121	0124	C2.1			1654
08 Jan	0257	0304	0307	C1.5			
08 Jan	0453	0458	0501	C1.2			
08 Jan	0537	0542	0548	C1.1			1653
08 Jan	0718	0723	0726	C1.8			1652
08 Jan	1357	1402	1404	C1.3			1652
08 Jan	1417	1421	1429	C1.3			
08 Jan	1601	1604	1607	C1.4			1646
08 Jan	1904	1912	1919	C4.0			1640
09 Jan	0345	0352	0401	C1.0			1650
09 Jan	0810	0815	0821	C1.4			1641
09 Jan	0929	0956	1031	C2.5			1654
09 Jan	1117	1128	1140	C2.4			1654
10 Jan	0319	0326	0332	C2.2			1654
10 Jan	0401	0404	0408	C1.7			1654
10 Jan	0924	0933	0943	C2.3			1654
10 Jan	1215	1229	1245	C1.5			1654
10 Jan	1544	1602	1658	C3.0	SF	N07E54	1654



Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
10 Jan	1733	1746	1757	C8.0	SF	N04E56	1654
10 Jan	1945	1955	2018	C3.7			1654
10 Jan	2135	2138	2140	C1.7			1654
10 Jan	2318	2324	2327	C1.4			1654
10 Jan	2343	2347	2349	C1.4			1654
11 Jan	0047	0051	0054	C1.7			1654
11 Jan	0243	0249	0254	C4.3			1654
11 Jan	0351	0402	0416	C1.8			1654
11 Jan	0531	0536	0540	C3.5			1654
11 Jan	0607	0614	0618	C9.2			1654
11 Jan	0637	0641	0648	C3.8			1654
11 Jan	0813	0816	0818	C1.5			1654
11 Jan	0843	0911	0917	M1.2			1654
11 Jan	B1312	U1312	A1335		SF	N07E39	1654
11 Jan	B1343	U1344	A1419		SF	N06E39	1654
11 Jan	1421	1424	1427	C1.5			1654
11 Jan	1451	1507	1524	M1.0	1F	N06E39	1654
11 Jan	1842	1846	1850	C1.6			1654
11 Jan	1937	1946	2015	C4.5			1654
11 Jan	2103	2108	2114	C2.9			1654
12 Jan	0210	0224	0240	C5.3			1654
12 Jan	0323	0335	0346	C2.7			1654
12 Jan	0420	0425	0431	C2.1			1654
12 Jan	0935	U0935	0941		SF	N04E27	1654
12 Jan	1543	1554	1613	C2.0	SF	N11E23	1654
12 Jan	1653	1710	1727	C2.3	SF	N11E25	1654
12 Jan	1751	1752	1754	C1.5	SF	N18W14	1652
12 Jan	1926	1933	1938	C3.9	SF	N05E17	1654
12 Jan	1949	1952	1955	C1.1			1652
12 Jan	2133	2139	2154	C2.8	SF	N10E19	1654
12 Jan	2157	2158	2202	C3.1	SF	N19W16	1652
13 Jan	0045	0050	0052	M1.0			1652
13 Jan	0142	0148	0155	C1.9			1654
13 Jan	0653	0658	0701	C2.7			1652
13 Jan	0835	0838	0840	M1.7			1652
13 Jan	1136	1139	1142	C1.6	SF	N10E09	1654
13 Jan	1149	1153	1156	C1.7			1654
13 Jan	1548	1552	1555	C2.7	SF	N19W25	1652



Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
13 Jan	1604	1606	1609	C2.0			1654
13 Jan	1619	1620	1625	C2.0	SF	N19W25	1652
13 Jan	1715	1718	1723	C2.4	SF	N19W26	1652
13 Jan	1739	1742	1744	C2.7	SF	N19W26	1652
13 Jan	1830	1837	1843	C2.3	SF	N19W27	1652
13 Jan	2005	2010	2017		SF	N10E07	1654



Region Summary

Date	Location	Sunspot Characteristics						Flares							
	Lat CMD	Helio	Area 10 ⁻⁶ hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical				
		Lon						C	M	X	S	1	2	3	4
<i>Region 1638</i>															
27 Dec	N12E67	311	80	2	Hsx	1	A								
28 Dec	N12E56	311	150	3	Hsx	1	A								
29 Dec	N12E43	310	150	3	Hsx	1	A	1			1				
30 Dec	N12E31	309	150	3	Hsx	1	A								
31 Dec	N13E17	308	90	2	Cao	3	B								
01 Jan	N13E06	308	140	4	Dao	8	B								
02 Jan	N13W07	308	110	3	Cao	4	B								
03 Jan	N13W21	309	100	3	Hsx	2	A								
04 Jan	N13W34	308	80	2	Hsx	1	A								
05 Jan	N13W48	309	40	2	Hsx	1	A								
06 Jan	N13W61	309	50	2	Hsx	1	A								
07 Jan	N13W74	308	80	1	Hsx	1	A	1							
08 Jan	N13W87	307	60	2	Hsx	1	A								
								2	0	0	1	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 308

Region 1639															
27 Dec	S16E67	311	50	5	Dao	4	B								
28 Dec	S16E56	311	90	5	Dao	5	B								
29 Dec	S16E46	307	70	5	Cao	5	B								
30 Dec	S17E32	308	30	4	Cro	4	B								
31 Dec	S16E17	310	10	2	Cso	2	B								
01 Jan	S16E04	310	10	1	Axx	1	A								
02 Jan	S16W10	310	plage												
03 Jan	S16W24	312	plage												
04 Jan	S16W38	312	plage					1							
05 Jan	S16W52	313	plage												
06 Jan	S16W66	314	plage												
07 Jan	S16W80	315	plage												
								1	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 310



Region Summary - continued

Date	Location	Sunspot Characteristics						Flares								
	Lat CMD	Helio	Area 10 ⁻⁶ hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical					
		Lon						C	M	X	S	1	2	3	4	
Region 1640																
30 Dec	N28E20	320	40	6	Dso	2	B									
31 Dec	N28E06	320	80	8	Cao	11	B									
01 Jan	N28W06	320	180	10	Dai	23	B	1				2				
02 Jan	N28W21	320	220	12	Eai	18	B									
03 Jan	N28W35	323	240	13	Eai	28	BGD	1								
04 Jan	N28W48	322	320	13	Eki	24	BGD	1				1				
05 Jan	N28W62	323	330	13	Eki	11	BGD									
06 Jan	N28W75	323	360	13	Eho	4	B									
07 Jan	N28W87	322	300	12	Eho	5	B	3				1				
								6	0	0		4	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 320

Region 1641

31 Dec	N05E52	274	40	5	Cso	3	B								
01 Jan	N05E39	275	50	6	Cao	3	B								
02 Jan	N05E23	278	50	6	Cso	3	B								
03 Jan	N05E07	281	50	1	Hsx	1	A								
04 Jan	N04W05	279	40	8	Cao	2	B								
05 Jan	N04W20	281	40	2	Hsx	3	A								
06 Jan	N02W33	281	30	1	Hsx	1	A								
07 Jan	N02W48	280	10	1	Hrx	1	A								
08 Jan	N02W59	280	plage												
09 Jan	N02W74	282	plage					1							
10 Jan	N02W89	284	plage												
								1	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 279



Region Summary - continued

Date	Location	Sunspot Characteristics						Flares							
	Lat CMD	Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical				
		Lon	10 ⁻⁶ hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4
<i>Region 1642</i>															
31 Dec	S24E71	255	50	2	Hax	2	A								
01 Jan	S23E62	252	90	2	Hsx	1	A								
02 Jan	S23E48	253	140	2	Hsx	1	A								
03 Jan	S24E34	254	80	2	Hsx	1	A								
04 Jan	S24E22	252	100	2	Hsx	1	A								
05 Jan	S24E10	251	80	3	Hsx	1	A								
06 Jan	S25W04	252	90	2	Hsx	1	A								
07 Jan	S25W16	251	120	2	Hsx	1	A								
08 Jan	S25W29	250	80	2	Hsx	1	A								
09 Jan	S25W41	249	50	2	Hsx	1	A								
10 Jan	S24W56	250	60	2	Hsx	1	A								
11 Jan	S25W70	252	110	3	Hsx	1	A								
12 Jan	S25W84	253	110	3	Hsx	1	A								
								0	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 252

Region 1643															
02 Jan	S14E45	256	10	4	Bxo	2	B								
03 Jan	S14E31	257	plage												
04 Jan	S14E17	257	plage												
05 Jan	S14E03	258	plage												
06 Jan	S14W11	259	plage												
07 Jan	S14W25	260	plage												
08 Jan	S14W39	261	plage												
09 Jan	S14W53	261	plage												
10 Jan	S14W67	262	plage												
11 Jan	S14W81	263	plage												
								0	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 258



Region Summary - continued

Date	Location	Sunspot Characteristics						Flares							
	Lat CMD	Helio	Area 10 ⁻⁶ hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical				
		Lon						C	M	X	S	1	2	3	4
Region 1644															
02 Jan	N15E66	235	80	12	Eso	2	B								
03 Jan	N14E48	240	60	1	Hsx	2	A								
04 Jan	N15E35	239	40	2	Hsx	1	A								
05 Jan	N15E20	241	50	4	Cso	4	B								
06 Jan	N15E09	239	40	4	Cso	3	B								
07 Jan	N15W06	240	60	1	Hsx	1	A								
08 Jan	N15W19	239	40	2	Hax	1	A								
09 Jan	N13W31	239	20	1	Hax	1	A								
10 Jan	N15W44	238	20	1	Hsx	1	A								
11 Jan	N15W58	240	20	1	Hsx	1	A								
12 Jan	N15W72	241	20	1	Hsx	1	A								
13 Jan	N15W86	242	plage												
								0	0	0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 240

Region 1645															
03 Jan	S13W05	293	30	4	Dro	11	B								
04 Jan	S13W18	292	50	5	Dao	8	B								
05 Jan	S14W32	293	30	8	Cso	5	B	1			1				
06 Jan	S13W45	293	10	4	Bxo	4	B								
07 Jan	S14W58	293	10	3	Bxo	2	B	1							
08 Jan	S14W72	292	30	5	Cro	5	B								
09 Jan	S14W85	293	30	5	Cro	2	B								
								2	0	0	1	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 293



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 1646

03 Jan	N13E57	231	80	1	Hsx	1	A								
04 Jan	N14E45	229	30	1	Hax	1	A								
05 Jan	N14E31	230	30	2	Hsx	1	A								
06 Jan	N13E17	231	40	1	Hsx	1	A								
07 Jan	N13E04	230	60	1	Hsx	1	A								
08 Jan	N13W09	229	30	2	Hrx	3	A	1							
09 Jan	N13W23	231	plage												
10 Jan	N13W37	232	plage												
11 Jan	N13W51	233	plage												
12 Jan	N13W64	233	plage												
13 Jan	N13W78	234	plage												
								1	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 230

Region 1647

04 Jan	N16W55	329	30	5	Cao	4	B								
05 Jan	N15W69	330	30	6	Cao	3	B								
06 Jan	N16W81	329	20	7	Cro	3	B								
								0	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 329

Region 1648

04 Jan	N05E53	221	20	3	Cro	2	B								
05 Jan	N05E40	221	40	7	Cao	3	B								
06 Jan	N05E26	222	30	6	Cro	6	B								
07 Jan	N05E10	224	10	1	Axx	1	A								
08 Jan	N05W03	224	plage												
09 Jan	N05W14	222	10	4	Axx	3	A								
10 Jan	N05W27	222	plage												
11 Jan	N05W42	224	plage												
12 Jan	N05W55	224	plage												
13 Jan	N05W70	226	plage												
								0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 224



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 1649

04 Jan	S14E74	200	60	2	Hsx	1	A								
05 Jan	S15E60	201	80	2	Hsx	1	A								
06 Jan	S15E46	202	70	2	Hsx	1	A								
07 Jan	S16E32	202	140	2	Hsx	1	A								
08 Jan	S15E18	202	80	2	Hsx	1	A								
09 Jan	S15E05	202	70	2	Hsx	1	A								
10 Jan	S15W07	201	60	2	Hsx	1	A								
11 Jan	S16W21	203	60	3	Cao	3	B								
12 Jan	S16W35	204	60	3	Cao	3	B								
13 Jan	S16W49	205	60	3	Cao	3	B								
								0	0	0	0	0	0	0	0

Still on Disk.

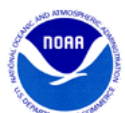
Absolute heliographic longitude: 202

Region 1650

04 Jan	S26E77	197	50	2	Hsx	1	A	1							
05 Jan	S28E63	198	190	11	Eao	5	B	4			2				
06 Jan	S29E54	194	240	14	Eao	9	B								
07 Jan	S30E42	193	250	13	Eho	22	B								
08 Jan	S30E30	192	120	12	Eao	7	B								
09 Jan	S30E16	192	100	13	Eao	7	B	1							
10 Jan	S29E01	194	120	12	Eao	8	B								
11 Jan	S28W16	198	110	5	Cao	2	B								
12 Jan	S28W30	199	60	3	Cao	3	B								
13 Jan	S28W44	200	60	3	Cao	3	B								
								6	0	0	2	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 194



Region Summary - continued

Date	Location	Sunspot Characteristics						Flares							
	Lat CMD	Helio	Area 10 ⁻⁶ hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical				
		Lon						C	M	X	S	1	2	3	4
Region 1651															
04 Jan	N19E48	225	10	1	Axx	1	A								
05 Jan	N20E35	226	10	1	Axx	1	A								
06 Jan	N20E23	225	10	1	Axx	1	A								
07 Jan	N20E09	226	plage												
08 Jan	N20W05	227	plage												
09 Jan	N20W19	227	plage												
10 Jan	N20W33	228	plage												
11 Jan	N20W47	229	plage												
12 Jan	N20W60	229	plage												
13 Jan	N20W74	230	plage												
								0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 227

Region 1652

04 Jan	N20E88	187	plage								1				
05 Jan	N20E74	187	60	3	Hsx	1	A	1	1						
06 Jan	N20E61	187	120	8	Dao	8	B	1							
07 Jan	N17E50	184	320	17	Fkc	34	BG								
08 Jan	N19E38	183	210	17	Fac	19	BG	2							
09 Jan	N19E25	183	200	13	Eac	18	BG								
10 Jan	N20E11	183	230	13	Eac	29	BG								
11 Jan	N19W00	182	210	13	Eai	16	BG								
12 Jan	N19W14	183	210	13	Eai	16	BG	3			2				
13 Jan	N19W28	184	210	4	Cao	16	BG	6	2		5				
								14	3	0	7	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 182



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 1653

05 Jan	N09E78	183	20	5	Hrx	1	A	1							
06 Jan	N09E63	185	30	5	Cso	3	B	4							
07 Jan	N07E49	185	30	7	Cro	6	B	2							
08 Jan	N09E35	185	30	6	Cro	4	B	1							
09 Jan	N09E21	186	20	3	Cso	2	B								
10 Jan	N11E06	188	10	1	Hsx	1	A								
11 Jan	N09W08	190	10		Cao	2	B								
12 Jan	N09W21	190	10	1	Cao	2	B								
13 Jan	N09W35	191	plage												
								8	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 188

Region 1654

08 Jan	N08E71	149	260	5	Hhx	2	A	1							
09 Jan	N10E60	148	350	14	Eki	15	B	2							
10 Jan	N08E47	147	770	16	Fki	21	BG	10			2				
11 Jan	N08E31	151	1100	17	Fki	36	BG	11	2		2	1			
12 Jan	N08E18	151	950	17	Fkc	31	BG	7			5				
13 Jan	N08E04	152	950	17	Fkc	31	BG	4			2				
								35	2	0	11	1	0	0	0

Still on Disk.

Absolute heliographic longitude: 152

Region 1655

09 Jan	S22W02	210	10	3	Bxo	3	B								
10 Jan	S21W11	207	30	4	Cso	3	B								
11 Jan	S21W24	206	10	5	Cro	2	B								
12 Jan	S21W37	206	10	5	Bxo	2	B								
13 Jan	S21W51	207	plage												
								0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 210



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 1656

11 Jan	N22E52	130	10		Axx	1	A								
12 Jan	N22E39	130	30	7	Cro	7	B								
13 Jan	N22E25	131	30	7	Cro	7	B								
								0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 131

Region 1657

11 Jan	S17E23	159	10	2	Cro	2	B								
12 Jan	S17E09	160	plage												
13 Jan	S17W05	161	plage												
								0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 161

Region 1658

13 Jan	S12E63	90	100	4	Cso	6	B								
								0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 90

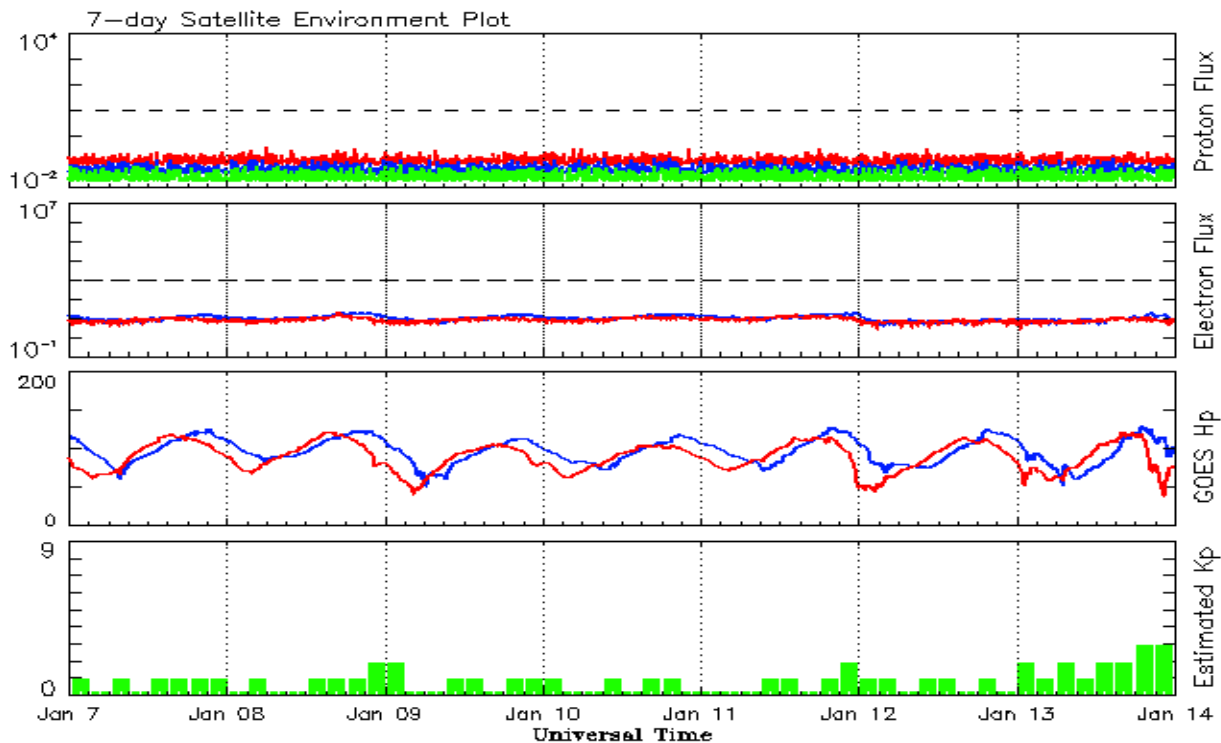


Recent Solar Indices (preliminary)
Observed monthly mean values

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
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	41.6	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	57.3	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	94.2	66.9	106.7	126.7	7	8.4
March	77.9	64.3	0.82	94.1	66.8	115.1	126.8	14	8.1
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			135.6		13	
August	85.8	63.1	0.74			115.7		7	
September	84.0	61.5	0.73			123.2		8	
October	73.5	53.3	0.73			123.3		9	
November	89.2	61.4	0.69			120.9		6	
December	60.4	40.8	0.68			108.4		3	

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 07 January 2013*

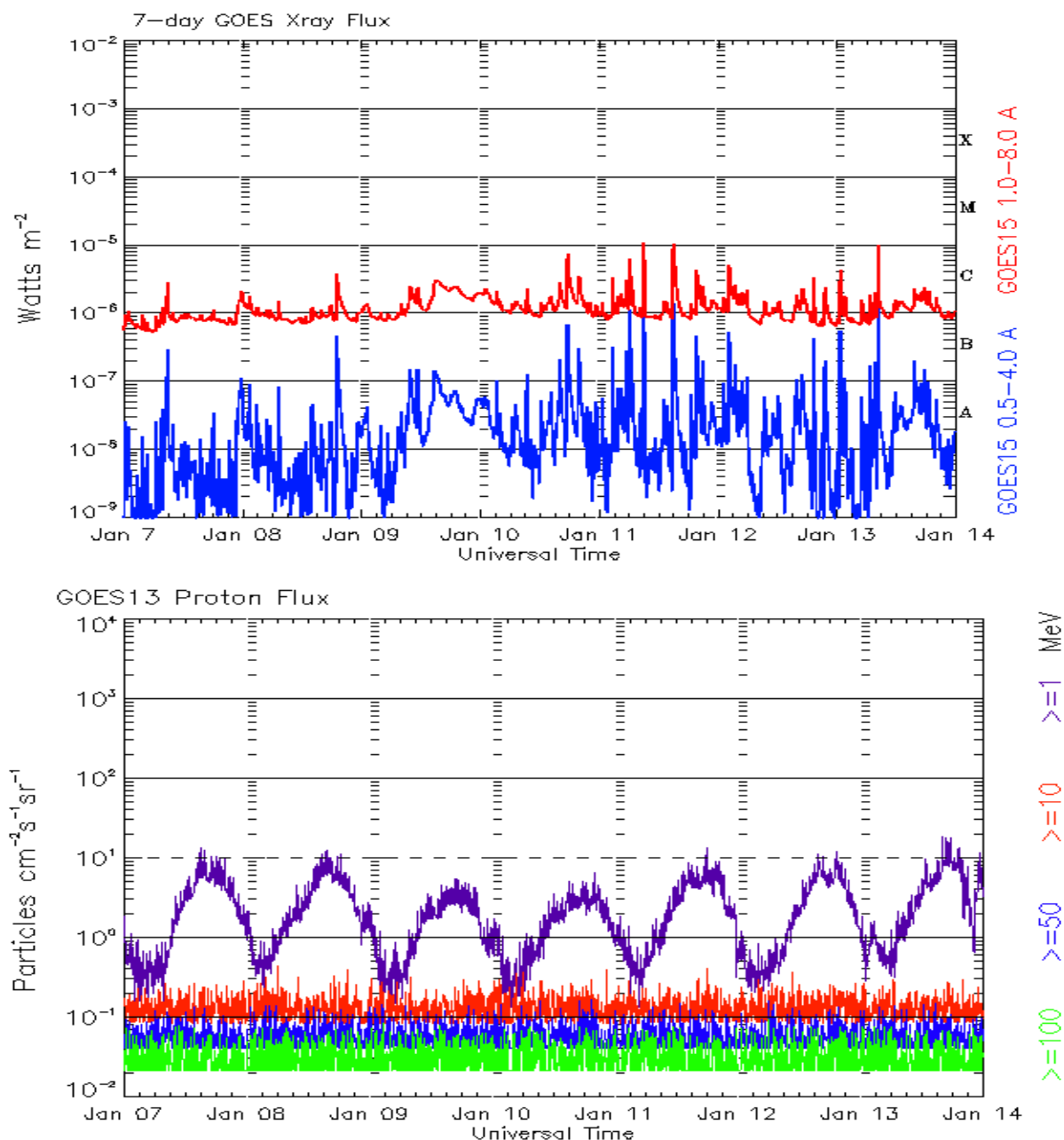
The proton flux plot contains the five-minute averaged integral proton flux (protons/cm²-sec -sr) as measured by the SWPC Primary GOES satellite, near West 75, for each of three energy thresholds: greater than 10, 50, and 100 MeV.

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 07 January 2013*

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 ($\text{pfu} = \text{protons/cm}^2\text{-sec -sr}$) 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.

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

