

NOTE: A power and communications outage, which began on 13 December 2014 at approximately 1200 UTC and lasted until approximately 14 December 2014 at 0101 UTC, resulted in the loss of ACE and GOES spacecraft data as well as ground-based magnetometer data. Additionally, a second communications outage from 14 December 2014 at 1405 UTC until 1725 UTC resulted in the loss of GOES-13 satellite data.

Solar activity reached moderate (R1 - minor on NOAA Scales) levels with an M1.5 flare from Region 2241 (S11, L=217, class/area=Dac/100 on 14 Dec) on 13 December at 0520 UTC, and an M1/Sf from Region 2242 (S20, L=238, class/area=Dac/100 on 14 Dec) on 14 December at 1933 UTC. Associated with the latter event was a Type II radio emission with an estimated shock velocity of 1028 km/s and a CME off the SE limb, first visible in LASCO C2 imagery at 14/2000 UTC. This event was not expected to be geoeffective, but analysis was underway at the time of this writing. Both Regions 2241 and 2242 contained beta-gamma magnetic configurations.

Type II radio emissions were also reported on 13 December at 2157 UTC (767 km/s) and earlier at 1448 UTC (955 km/s), both during the power and communications outage mentioned above. SDO/AIA 304 imagery from that time period and reports from ground-based observatories suggests the emissions were associated with activity from Region 2227 (S04, L=002, class/area=Cso/150 on 08 Dec) as it approached the west limb. SDO/EVE data indicated the 2157 UTC event may have been associated with an M-class flare. No Earth directed CMEs were observed in SOHO/LASCO Coronagraph imagery from these events.

The remainder of the week was characterized by C-class flares, almost a third of which originated from Region 2230 (S15, L=321, class/area=Dac/190 on 13 Dec). This region was also magnetically complex, maintaining a beta-gamma configuration for most of the week. Region 2222 (S19, L=85, class/area=Ekc/770 on 04 Dec) rotated off the visible disk on 08 December as the largest Region of the week.

None of the other CMEs observed during the week were judged to be Earth-directed.

No proton events meeting alert thresholds were observed at geosynchronous orbit. However, the greater than 10 MeV proton flux was enhanced, reaching a maximum flux value of 2.5 pfu at 14/1020 UTC. The enhancement was likely the result of significant flare activity from old Region 2222 (S19, L=102) behind the west limb.

The greater than 2 MeV electron flux at geosynchronous orbit reached high levels through 12 December. Insufficient data were available to characterize the environment on 13-14 December. The peak flux recorded was 9960 pfu on 08/1815 UTC.

Geomagnetic field activity briefly reached minor storm levels on 12 December, during the 12-15 UTC synoptic period, in response to a geoeffective positive polarity coronal hole high speed stream. Wind speed at the ACE spacecraft peaked in the 600-700 km/s range while Bz dipped to nearly - 11 nT. The high speed stream brought unsettled to minor storm conditions for all of 12



December. Earlier, a negative polarity coronal hole high speed stream kept geomagnetic activity at unsettled to active levels for the first two days of the week. Solar wind speed began the week at nearly 800 km/s, and remained above 600 km/s until early on 09 December. By 10 December, geomagnetic activity had relaxed to quiet to unsettled levels which persisted until the next high speed stream arrived on the 12th, and prevailed again on the 13th-14th as the positive polarity coronal hole high speed stream began to wane.

Space Weather Outlook 15 December - 10 January 2015

Solar activity is expected to be at low to moderate levels through the forecast period.

There is a slight chance for a proton event at geosynchronous orbit through the forecast period.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at moderate to high levels through 22 December. Moderate to high levels will also be possible 29-30 December, 03-05 January, and 08-10 January in response to recurrent high speed solar wind streams.

Geomagnetic field activity is expected to be at unsettled to active levels through 20 December. Unsettled to active levels, with a chance for minor storm conditions are expected on 28 December through 09 January in response to recurrent high speed solar wind features.



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
08 December	133	77	860	B5.7	3	0	0	2	0	0	0	0
09 December	140	80	510	B8.3	12	0	0	14	3	0	0	0
10 December	150	97	670	B7.2	4	0	0	5	0	0	0	0
11 December	148	115	780	B7.2	7	0	0	7	0	0	0	0
12 December	154	132	850	B7.3	6	0	0	7	0	0	0	0
13 December	160	121	890	*	7	1	0	11	2	0	0	0
14 December	166	175	1020	B8.3	15	1	0	26	2	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
	08 December	1.5e+06	1.0e+04	2.4e+03		2.4e+08
09 December	8.6e+05	1.0e+04	2.6e+03		1.2e+08	
10 December	2.4e+05	1.1e+04	2.6e+03		8.3e+07	
11 December	4.8e+05	1.2e+04	2.7e+03		1.5e+08	
12 December	5.7e+05	1.2e+04	3.0e+03		2.8e+07	
13 December	1.2e+05	9.1e+03	2.2e+03		1.3e+07	
14 December	6.2e+05	7.4e+04	5.0e+03		4.2e+07	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	08 December	11	3-2-2-2-3-3-2-3	29	3-3-3-5-5-5-4-3	17
09 December	12	4-2-3-2-2-1-3-3	23	3-2-4-5-5-3-3-2	15	4-3-3-2-3-2-4-3
10 December	6	2-2-1-3-1-2-1-1	9	2-2-3-4-2-2-0-1	9	3-3-2-3-2-1-1-1
11 December	4	2-0-1-1-1-2-1-2	2	0-0-1-1-0-1-2-0	6	2-1-1-1-1-1-2-3
12 December	15	2-2-3-2-5-3-3-2	43	2-2-6-5-6-6-4-3	21	3-3-4-3-5-4-4-3
13 December	0	1-2-0-0-0-0-0-0	0	2-2-3-0-0-0-0-0	9	2-3-2-0-0-0-0-0
14 December	9	1-2-2-2-3-2-3-2	21	2-2-4-4-5-4-3-2	11	2-3-2-2-3-3-3-2

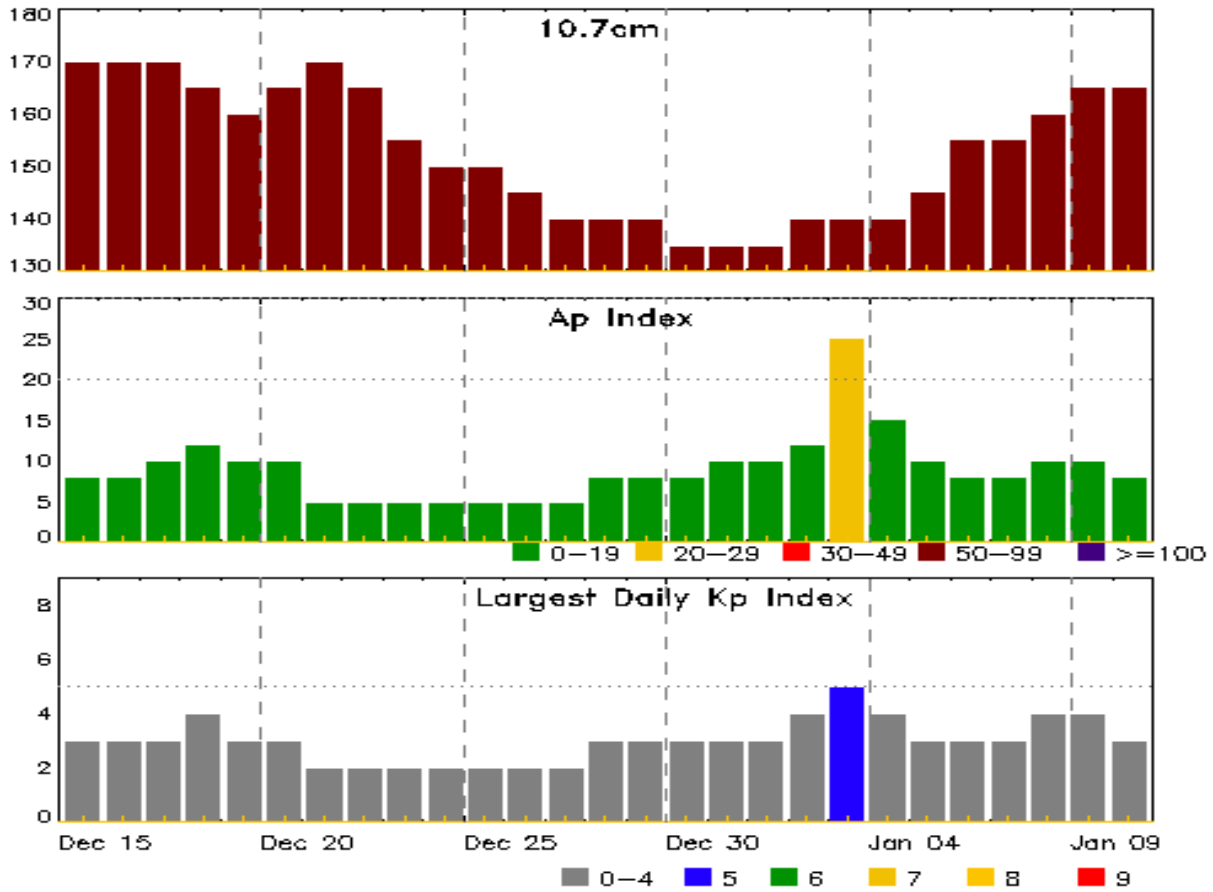


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
08 Dec 0056	SUMMARY: 10cm Radio Burst	08/0037 - 0038
08 Dec 1000	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	07/0231
08 Dec 1753	EXTENDED WARNING: Geomagnetic K = 4	06/1020 - 09/0700
08 Dec 1753	WARNING: Geomagnetic K = 5	08/1751 - 2300
09 Dec 0655	EXTENDED WARNING: Geomagnetic K = 4	06/1020 - 09/1900
09 Dec 1211	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	07/0231
09 Dec 1923	WARNING: Geomagnetic K = 4	09/1922 - 10/0700
09 Dec 1958	ALERT: Geomagnetic K = 4	09/1957
10 Dec 0655	EXTENDED WARNING: Geomagnetic K = 4	09/1922 - 10/1300
10 Dec 1126	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	07/0231
11 Dec 1021	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	07/0231
12 Dec 0832	WARNING: Geomagnetic K = 4	12/0832 - 1800
12 Dec 0900	ALERT: Geomagnetic K = 4	12/0859
12 Dec 1303	EXTENDED WARNING: Geomagnetic K = 4	12/0832 - 2300
12 Dec 1304	WARNING: Geomagnetic K = 5	12/1304 - 1900
12 Dec 1310	ALERT: Geomagnetic K = 5	12/1310
12 Dec 1344	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	07/0231
12 Dec 1858	EXTENDED WARNING: Geomagnetic K = 5	12/1304 - 13/1300
12 Dec 1858	EXTENDED WARNING: Geomagnetic K = 4	12/0832 - 13/1900
14 Dec 0139	ALERT: Type II Radio Emission	13/2157
14 Dec 1701	WARNING: Geomagnetic K = 4	14/1700 - 15/1400
14 Dec 1959	ALERT: Type II Radio Emission	14/1929



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
15 Dec	170	8	3	29 Dec	140	8	3
16	170	8	3	30	135	8	3
17	170	10	3	31	135	10	3
18	165	12	4	01 Jan	135	10	3
19	160	10	3	02	140	12	4
20	165	10	3	03	140	25	5
21	170	5	2	04	140	15	4
22	165	5	2	05	145	10	3
23	155	5	2	06	155	8	3
24	150	5	2	07	155	8	3
25	150	5	2	08	160	10	4
26	145	5	2	09	165	10	4
27	140	5	2	10	165	8	3
28	140	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 #	245	2695	II	IV
13 Dec	0513	0520	0525	M1.5	0.006			2241				
14 Dec	1925	1933	1939	M1.6	0.007	SF	S19E44	2242				2

Flare List

Date	Time			X-ray Class	Imp/ Brtns	Optical Location Lat CMD	Rgn #
	Begin	Max	End				
08 Dec	0034	0039	0045	C2.2	SF	S19W69	2222
08 Dec	0333	0341	0345	C1.0			2231
08 Dec	1452	1455	1457	B9.6			
08 Dec	B1749	1756	1802	C1.3	SF	S14E40	2230
09 Dec	0038	0040	0042		SF	S15E37	2230
09 Dec	0233	0237	0240	C1.3	SF	S15E37	2230
09 Dec	0317	0354	0407	C2.0	SF	S14E35	2230
09 Dec	0407	0419	0431		SF	S15E35	2230
09 Dec	0451	0501	0507		SF	S15E35	2230
09 Dec	0456	0515	0539	C1.4	SF	S15E35	2230
09 Dec	0530	0531	0604		SF	S15E35	2230
09 Dec	0619	0624	0633		SF	S15E35	2230
09 Dec	0638	0648	0648		SF	S15E34	2230
09 Dec	0822	0830	0859	C8.1	1F	S14E31	2230
09 Dec	0927	0927	0929		SF	S14E31	2230
09 Dec	0934	0936	0938		SF	S14E31	2230
09 Dec	0957	1009	A1048	C8.6	1F	S15E31	2230
09 Dec	1213	1213	1218		SF	S16E31	2230
09 Dec	1228	1233	1307	C5.4	1F	S16E30	2230
09 Dec	1343	1348	1356	C4.5	SF	S16E29	2230
09 Dec	1521	1528	1533	C6.2			2230
09 Dec	1712	1718	1723	C2.5			2230
09 Dec	1837	1848	1855	C5.3			2230
09 Dec	1946	1949	1952	C1.4			2230
09 Dec	2322	2327	2332	C1.3	SF	S15E23	2230
10 Dec	0146	0200	0203	C1.4	SF	S16E23	2230
10 Dec	0204	0209	0225		SF	S16E23	2230
10 Dec	0851	0924	0939	C1.6			
10 Dec	1504	1513	1527	C1.6	SF	N04E23	



Flare List

Date	Time			X-ray Class	Optical		Rgn #
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	
10 Dec	1707	1922	2030	C5.9			
10 Dec	1856	1856	1903		SF	N10E41	2232
10 Dec	2230	2239	2308		SF	N04E19	2234
11 Dec	0121	0124	0126	C1.8			2236
11 Dec	0316	0316	0324		SF	N05E16	2234
11 Dec	0325	0331	0345	C1.7	SF	N05E16	2234
11 Dec	0441	0445	0450		SF	N05E14	2234
11 Dec	0559	0602	0606	C1.5			2232
11 Dec	0716	0716	0726		SF	S13E06	2230
11 Dec	0809	0810	0811		SF	N04E09	2234
11 Dec	0829	0833	0842		SF	S12E64	2235
11 Dec	0848	0856	0904	C3.8	SF	N05E11	2234
11 Dec	1151	1155	1159	C1.4			2235
11 Dec	1309	1317	1323	C1.8			2230
11 Dec	1424	1427	1429	C1.4			2234
12 Dec	0302	0306	0310	C1.0	SF	S17W03	2230
12 Dec	0342	0457	0643	C1.2			
12 Dec	0943	0948	0952	C1.5	SF	S07E48	2235
12 Dec	B0959	U1009	A1241		SF	S16W08	2230
12 Dec	B1049	U1052	A1055		SF	S06W49	2227
12 Dec	B1109	U1109	1127		SF	S06W50	2227
12 Dec	B1138	U1158	A1221		SF	S06W50	2227
12 Dec	1435	1440	1442	C4.0	SF	N04W04	2234
12 Dec	1923	1928	1930	C2.8			2236
12 Dec	2303	2313	2322	C2.5			
13 Dec	0004	0012	0020	C2.6	SF	S19E64	2237
13 Dec	0245	0249	0321	C2.7	SF	S05E27	2227
13 Dec	0442	0443	0445		SF	N12E10	2232
13 Dec	0513	0520	0525	M1.5			2241
13 Dec	0555	0559	0605	C5.4	1N	S05E27	2227
13 Dec	0656	0703	0709	C2.2			2241
13 Dec	0838	0846	0850	C6.0			2241
13 Dec	1003	1010	1016	C4.0	SF	S06W67	2227
13 Dec	1049	1053	1056	C3.8			2241
13 Dec	1256	1307	1324		1F	S08E81	2227
13 Dec	1324	1324	1328		SF	S08W69	2227
13 Dec	1442	1444	A1450		SF	S05W69	2227
13 Dec	1644	1646	1654		SF	S19E54	2237



Flare List

Date	Time			X-ray Class	Imp/ Brtns	Optical	
	Begin	Max	End			Location Lat CMD	Rgn #
13 Dec	1747	1749	1751		SF	S09E80	2241
13 Dec	2150	2157	2200		SF	S02W71	2227
13 Dec	2257	2301	2302		SF	S10E76	2241
13 Dec	2324	2328	2329		SF	S10E76	2241
14 Dec	0001	0001	0018		SF	N29E55	2236
14 Dec	0044	0045	0049		SF	S00W73	2227
14 Dec	0117	0117	0123		SF	S21E53	2237
14 Dec	0124	0129	0135	C3.4	SF	S10E71	2241
14 Dec	0147	0153	0158	C2.1	SF	S03W75	2227
14 Dec	0201	0205	0231	C1.9	SF	S10E71	2241
14 Dec	0326	0338	0344		SF	S12W31	2230
14 Dec	0342	0344	0346		SF	S11E74	2241
14 Dec	0348	0350	0408		SF	S11E74	2241
14 Dec	0417	0433	0441	C8.6	1F	S11E74	2241
14 Dec	0541	0541	0544		SF	S11E74	2241
14 Dec	0548	0553	0600	C2.9	SF	S03W79	2227
14 Dec	0602	0603	0609		SF	S11E74	2241
14 Dec	0619	0621	0624		SF	S02W79	2227
14 Dec	0619	0626	0631		SF	S20E51	2237
14 Dec	0641	0641	0645		SF	S13W34	2230
14 Dec	0801	0801	0804		SF	S11E69	2241
14 Dec	B0802	0834	0845	C3.1	1F	S20E51	2237
14 Dec	B0817	U0833	0843	C8.5	SF	S18E49	2242
14 Dec	B1200	U1214	A1236		SF	S18E48	2237
14 Dec	1253	1259	1304	C1.9	SF	S19E47	2237
14 Dec	B1331	U1337	A1355	C2.3	SF	S08E67	2241
14 Dec	1626	1636	1640	C1.5			2242
14 Dec	1821	1826	1830	C2.5			2242
14 Dec	1925	1933	1939	M1.6	SF	S19E44	2242
14 Dec	1947	1952	2000	C4.7			2242
14 Dec	2012	2016	2018	C4.0	SF	S19E44	2242
14 Dec	2145	2148	2220	C2.2	SF	S19E40	2242
14 Dec	2205	2209	2215	C3.6			2242
14 Dec	2251	2333	2347		SF	S10E65	2241
14 Dec	2301	2302	2304		SF	N14E29	2239
14 Dec	2313	2315	2326		SF	N11W11	2232



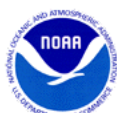
Region Summary

Date	Location		Sunspot Characteristics					Flares															
	Lat CMD	Lon	Helio 10 ⁻⁶ hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical												
								C	M	X	S	1	2	3	4								
Region 2221																							
26 Nov	N04E70		81	30	4	Dro	4	B															
27 Nov	N04E56		84	160	8	Dai	10	B															
28 Nov	N04E43		84	200	11	Eac	16	BG					1										
29 Nov	N04E29		84	200	11	Eac	18	BG	1				3										
30 Nov	N04E16		84	160	9	Dsi	14	BG	2				2										
01 Dec	N03E05		82	70	12	Cao	15	B															
02 Dec	N06W11		84	70	9	Cao	8	B															
03 Dec	N05W26		86	30	3	Cro	9	B															
04 Dec	N05W40		88	20	5	Cro	6	B															
05 Dec	N05W54		88	plage																			
06 Dec	N05W67		88	plage																			
07 Dec	N05W82		90	plage																			
										3	0	0	6	0	0	0	0	0					

Crossed West Limb.
 Absolute heliographic longitude: 82

Region 2222																							
26 Nov	S20E70		82	30	1	Hrx	1	A	3				2										
27 Nov	S20E59		81	120	10	Dai	10	BG	7				26	2									
28 Nov	S20E44		83	330	11	Ehc	17	BG	4				16										
29 Nov	S21E30		83	540	13	Ekc	26	BG	5				10	1									
30 Nov	S20E17		83	680	13	Ekc	30	BG	3				4										
01 Dec	S21E03		84	650	14	Eki	20	BG		1				1									
02 Dec	S19W10		83	620	14	Eki	27	BG	6				8										
03 Dec	S20W22		82	570	14	Ekc	22	BG	5				8										
04 Dec	S19W37		85	770	14	Ekc	32	BG	3	3			6	1	1								
05 Dec	S20W51		85	560	14	Eki	23	BG	7	1			6	1									
06 Dec	S20W64		85	650	13	Cko	6	BG	8				11	1									
07 Dec	S19W80		88	640	9	Hkx	4	A	3				2										
08 Dec	S19W91		86	450	7	Hkx	3	A	1				1										
										55	5	0	100	7	1	0	0						

Crossed West Limb.
 Absolute heliographic longitude: 84



Region Summary - continued

Date	Location		Sunspot Characteristics				Flares													
	Lat CMD	Lon	Helio 10 ⁶ hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical									
								C	M	X	S	1	2	3	4					
Region 2225																				
30 Nov	S17E56		44	10	1	Axx	1	A												
01 Dec	S17E43		44	10	5	Bxo	4	B												
02 Dec	S17E30		43	10	1	Bxo	3	B												
03 Dec	S17E17		43	10	1	Bxo	3	B												
04 Dec	S15E05		43	10	8	Bxo	7	B												
05 Dec	S15W08		42	10	8	Bxo	4	B				1								
06 Dec	S15W21		42	plage																
07 Dec	S15W34		42	plage																
08 Dec	S15W48		43	plage																
09 Dec	S15W62		44	plage																
10 Dec	S15W76		45	plage																
11 Dec	S15W90		45	plage																
													0	0	0	1	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 43

Region 2227																				
02 Dec	S03E71		2	60	5	Hsx	1	A												
03 Dec	S05E59		1	110	1	Hsx	1	A												
04 Dec	S04E45		3	80	1	Hsx	1	A												
05 Dec	S03E32		2	120	2	Hsx	1	A												
06 Dec	S04E18		3	100	3	Hsx	1	A												
07 Dec	S04E07		1	100	4	Hax	2	A				1								
08 Dec	S04W07		2	150	3	Cso	3	B												
09 Dec	S04W21		3	150	3	Cso	3	B												
10 Dec	S03W34		1	120	5	Cao	4	B												
11 Dec	S03W47		1	120	5	Cao	7	B												
12 Dec	S04W60		2	140	2	Hsx	1	A				3								
13 Dec	S04W72		1	150	2	Hsx	1	A	3			5	2							
14 Dec	S04W87		3	80	2	Hax	1	A	2			4								
													5	0	0	13	2	0	0	0

Still on Disk.
Absolute heliographic longitude: 1



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 2228																					
04 Dec	N09W16	64	10	2	Bxo	3	B														
05 Dec	N08W31	65	10	3	Bxo	3	B														
06 Dec	N08W44	65	plage																		
07 Dec	N08W58	66	plage																		
08 Dec	N08W72	67	plage																		
09 Dec	N08W86	68	plage																		

Crossed West Limb.
Absolute heliographic longitude: 64

Region 2229																					
06 Dec	S23E22	359	10	3	Bxo	3	B														
07 Dec	S23E09	359	plage																		
08 Dec	S23W05	360	plage																		
09 Dec	S23W19	360	plage																		
10 Dec	S23W32	360	plage																		
11 Dec	S23W45	360	plage																		
12 Dec	S23W59	1	plage																		
13 Dec	S23W73	2	plage																		
14 Dec	S23W87	3	plage																		

Still on Disk.
Absolute heliographic longitude: 360

Region 2230																					
06 Dec	S14E57	324	10	2	Axx	1	A														
07 Dec	S14E43	325	plage																		
08 Dec	S15E36	322	30	3	Cri	5	B	1			1										
09 Dec	S14E22	319	100	5	Dao	8	BG	12			14	3									
10 Dec	S15E08	319	130	7	Dai	20	BG	1			2										
11 Dec	S16W06	320	170	7	Dac	23	BG	1			1										
12 Dec	S16W19	321	180	8	Dac	18	BG	1			2										
13 Dec	S15W32	321	190	7	Dac	21	BG														
14 Dec	S15W45	321	160	7	Dsc	8	B				2										
								16	0	0	22	3	0	0	0						

Still on Disk.
Absolute heliographic longitude: 320



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 2231																	
07 Dec	S05E13	355	40	5	Dao	8	B	2			2						
08 Dec	S05W01	356	50	6	Dai	11	B	1									
09 Dec	S03W13	355	10	6	Bxo	5	B										
10 Dec	S03W28	357	plage														
11 Dec	S03W43	358	plage														
13 Dec	S03W73	2	plage														
14 Dec	S03W88	4	plage														
								3	0	0	2	0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 356

Region 2232																	
07 Dec	N10E76	292	80	5	Dao	4	B										
08 Dec	N11E60	295	180	8	Dsi	5	B										
09 Dec	N10E49	293	240	9	Dai	11	B										
10 Dec	N10E37	290	240	9	Dao	7	B				1						
11 Dec	N10E23	291	120	9	Dao	9	B	1									
12 Dec	N10E10	292	50	8	Cao	11	B										
13 Dec	N10W02	291	30	8	Cro	9	B				1						
14 Dec	N09W17	293	10	7	Bxo	4	B				1						
								1	0	0	3	0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 291

Region 2233																	
09 Dec	N02E14	328	10	2	Axx	3	A										
10 Dec	N03E02	325	10	1	Bxo	2	B										
11 Dec	N03W13	328	plage														
12 Dec	N03W28	330	plage														
13 Dec	N03W43	332	plage														
14 Dec	N03W58	334	plage														
								0	0	0	0	0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 325



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 2234																					
10 Dec	N05E18	309	30	2	Cro	3	B					1									
11 Dec	N04E03	311	30	6	Dac	11	BG	3				5									
12 Dec	N04W12	314	110	8	Dao	9	BG	1				1									
13 Dec	N04W27	316	100	7	Cao	9	B														
14 Dec	N04W43	319	110	3	Cso	4	B														
								4	0	0		7	0	0	0	0	0				

Still on Disk.
 Absolute heliographic longitude: 311

Region 2235																					
10 Dec	S07E63	265	140	4	Hsx	1	A														
11 Dec	S12E55	260	220	9	Dsc	3	B	1				1									
12 Dec	S08E35	267	90	3	Hsx	1	A	1				1									
13 Dec	S08E23	266	100	3	Hsx	1	A														
14 Dec	S08E09	267	130	3	Cso	4	B														
								2	0	0		2	0	0	0	0	0				

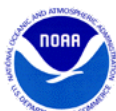
Still on Disk.
 Absolute heliographic longitude: 267

Region 2236																					
11 Dec	N29E72	243	120	7	Dso	2	B	1													
12 Dec	N29E61	241	180	6	Dao	5	B	1													
13 Dec	N30E48	241	200	9	Dao	3	B														
14 Dec	N30E34	242	180	6	Cao	6	B					1									
								2	0	0		1	0	0	0	0	0				

Still on Disk.
 Absolute heliographic longitude: 242

Region 2237																					
12 Dec	S14E52	250	90	9	Dso	4	B														
13 Dec	S15E41	248	120	14	Eso	7	B	1				2									
14 Dec	S14E28	248	60	8	Cso	4	B	2				4	1								
								3	0	0		6	1	0	0	0	0				

Still on Disk.
 Absolute heliographic longitude: 248



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 2238

12 Dec	N01E56	245	10	2	Bxo	3	B										
13 Dec	N01E41	248	plage														
14 Dec	N01E26	250	plage														
								0	0	0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 250

Region 2239

14 Dec	N14E25	251	50	6	Cai	9	B				1						
								0	0	0	1	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 251

Region 2240

14 Dec	N11E58	218	40	2	Hax	2	A										
								0	0	0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 218

Region 2241

13 Dec	S11E72	217	plage					3	1		3						
14 Dec	S11E59	217	100	7	Dac	7	BG	4			8	1					
								7	1	0	11	1	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 217

Region 2242

14 Dec	S20E38	238	100	6	Dac	16	BG	7	1		4						
								7	1	0	4	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 238

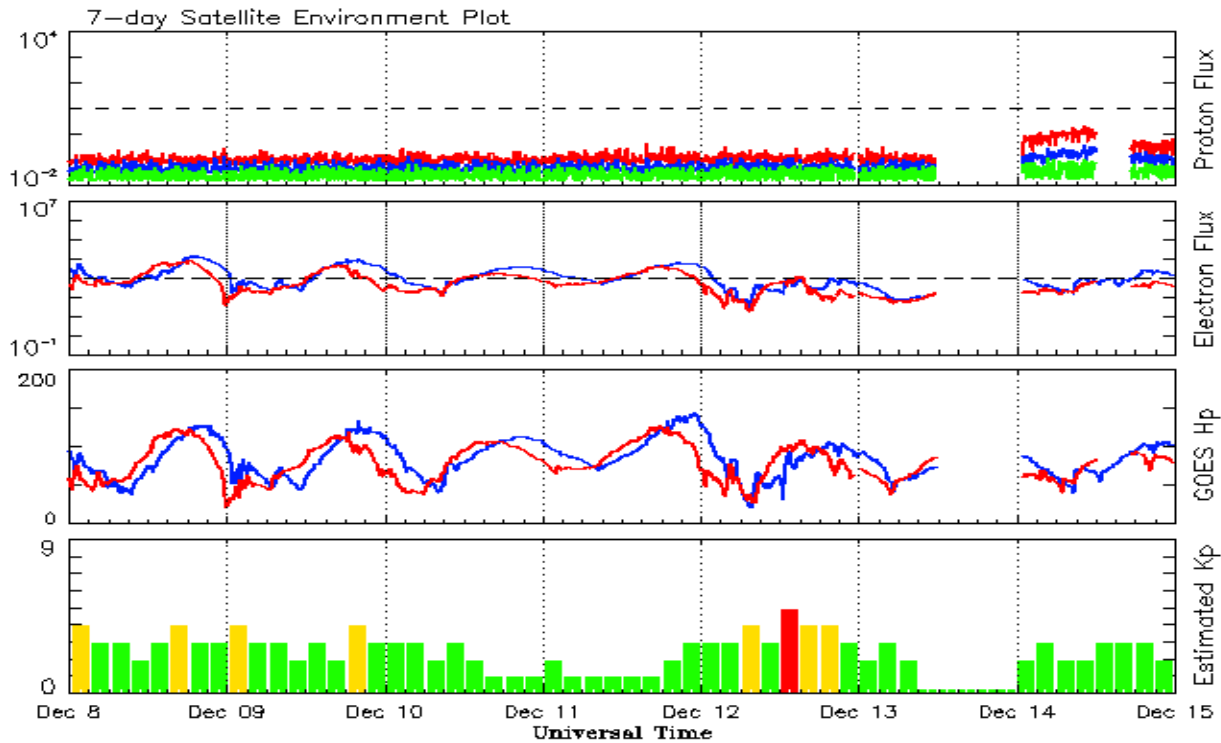


Recent Solar Indices (preliminary)
Observed monthly mean values

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									
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	68.9	114.7	127.9	9	7.6
September	55.0	37.0	0.67	111.0	73.0	102.7	132.3	5	7.8
October	127.1	85.6	0.67	114.3	74.9	132.3	134.7	7	7.8
November	125.7	77.6	0.62	114.6	75.3	148.4	135.4	5	7.9
December	118.2	90.3	0.76	115.4	75.9	147.7	135.9	5	7.5
2014									
January	125.9	81.8	0.65	117.7	77.3	158.6	137.3	6	7.1
February	174.6	102.3	0.59	119.5	78.4	170.3	138.6	12	6.9
March	141.1	91.9	0.65	123.2	80.8	149.9	140.8	6	7.2
April	130.5	84.7	0.65	124.8	81.9	144.3	143.5	9	7.5
May	116.8	75.2	0.64	122.3	80.5	130.0	144.7	7	7.9
June	107.7	71.0	0.66			122.2		7	
July	113.6	72.5	0.64			137.3		5	
August	106.2	74.7	0.70			124.7		9	
September	127.4	87.6	0.69			146.1		11	
October	92.0	60.6	0.66			153.7		10	
November	101.8	70.1	0.69			155.3		10	

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 08 December 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.

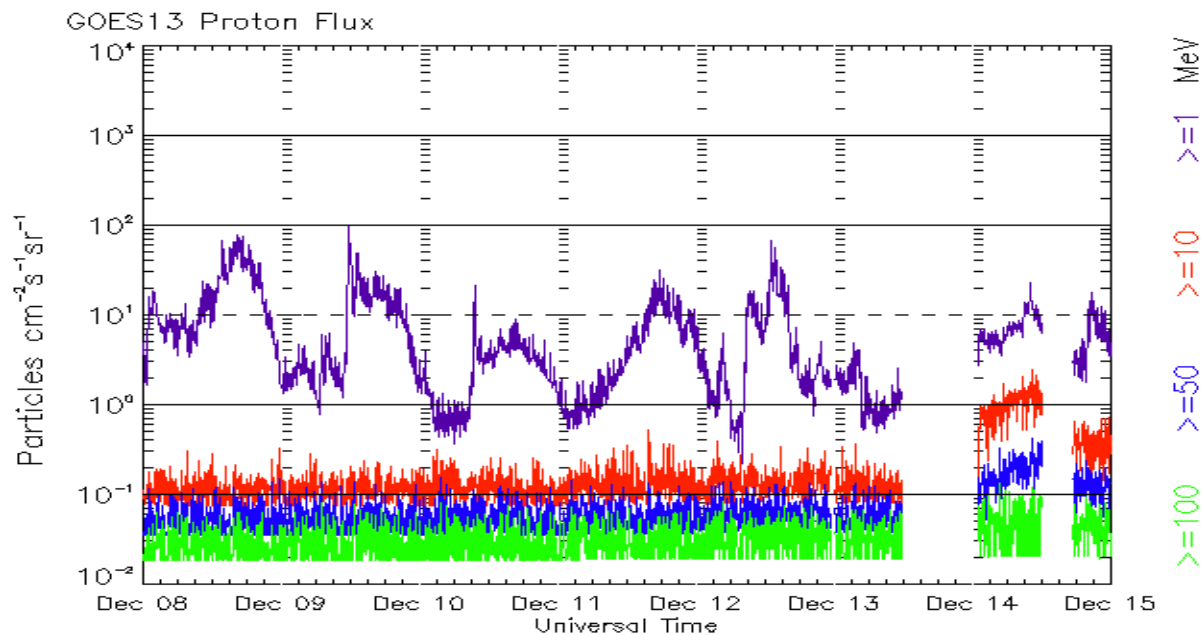
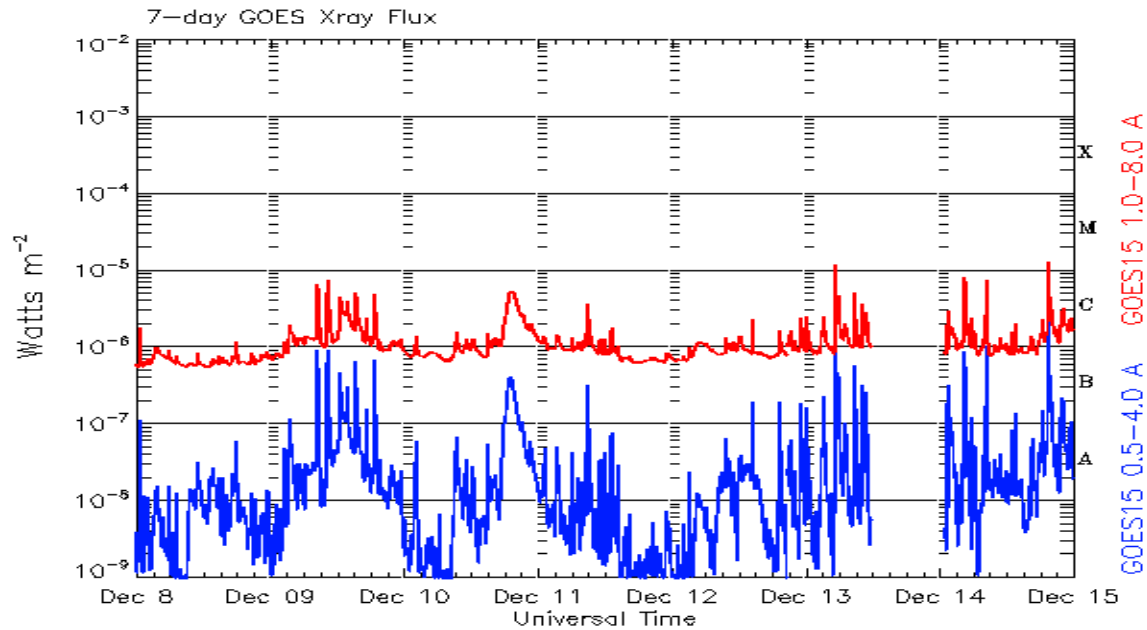
The electron flux plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV by the SWPC Primary GOES satellite.

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 08 December 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.



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Notice: The 27-day Outlook, Satellite Environment, X-ray and Proton plots have been redesigned. Comments and suggestions are welcome SWPC.Webmaster@noaa.gov

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