

Solar activity ranged from low to high levels during the period. Activity was low during 19 - 20 September with C-class flares from Regions 1295 (N22, L = 057, class/area Ekc/550 on 23 September), 1296 (N26, L = 040, class/area Dai/130 on 15 September), and 1301 (N19, L = 330, class/area Eso/210 on 21 September). Activity increased to moderate levels on 21 September due to an M1 x-ray flare at 21/1223Z. A further increase to high levels occurred on 22 September with an X1/2n flare at 22/1101Z from Region 1302 (N12, L = 282, class/area Fkc/1300 on 24 September) as it rotated into view. The X1 was associated with Types II/IV radio sweeps, a Tenflare, and a non-Earth-directed CME. Activity decreased to moderate levels on 23 September with low-level M-class flares from Regions 1295 and 1302. Activity returned to high levels on 24 September with three major flares from Region 1302: an X1/2b at 24/0940Z associated with Types II/IV radio sweeps, a Tenflare, and a halo-CME; an M7/1f at 24/1320Z, with a much faster partial halo CME that appears to overtake the previous CME; and an M5 at 24/2036Z. Finally, an M3 flare from Region 1302 at 24/1921Z had an associated Type II sweep, Tenflare, and partial-halo CME (estimated P.O.S. speed 632 km/s). Activity decreased to high levels on 25 September with Region 1302 and 1303 (S28, L = 034, class/area Cso/070 on 25 September) both producing multiple M-class events.

A greater than 10 MeV proton event at geosynchronous orbit began at 23/2255Z in response to the X1 flare on 22 September and was in progress at the close of the summary period.

The greater than 2 MeV electron flux at geosynchronous orbit was at normal to moderate levels during 19 - 21 September. Fluxes decreased to normal levels during 22 - 25 September.

Geomagnetic activity was at quiet levels during most of the period.

Space Weather Outlook **28 September - 24 October 2011**

Solar activity is expected to be at moderate to high levels with more major flare activity from Region 1302 until it crosses the west limb on 03 October. Activity is expected to decrease to low levels during 04 - 19 October. On 20 October, activity is expected to increase to low - moderate levels with the return of Region 1302 for the remainder of the forecast period.

There will be a chance for another proton flare from Region 1302 until it departs the visible disk on 04 October. No proton events are expected at geosynchronous orbit for the remainder of the period.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at normal to moderate levels during 28 September - 03 October. An increase to normal to high flux levels is expected during 04 - 05 October due to CH HSS effects. Normal to moderate fluxes are expected during 06 - 10 October as CH HSS effects subside. Fluxes are expected to rise to normal to high levels from 11 - 15 October due to CH HSS effects. 1A return to normal to moderate background levels is expected from 16 - 24 October.



Geomagnetic activity is expected to be at unsettled to active levels on 28 September as CME effects subside. A decrease to quiet levels is expected on 29 - 30 September. Activity is expected to increase to quiet to unsettled levels during 01-02 October due to a coronal hole high-speed stream (CH HSS). A return to quiet levels is expected during 02 - 07 October. Activity is expected to increase to quiet to active levels during 08 - 11 October as another CH HSS disturbs the field. A return to predominantly quiet levels is expected for the remainder of the period.



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
19 September	141	128	730	B8.0	4	0	0	7	0	0	0	0
20 September	144	101	600	B7.1	11	0	0	9	1	0	0	0
21 September	144	108	670	C1.0	9	1	0	17	0	1	0	0
22 September	151	86	970	C1.4	5	1	1	8	2	1	0	0
23 September	158	90	1520	C1.3	9	3	0	24	2	0	0	0
24 September	190	88	1930	C1.6	4	8	1	15	1	1	0	0
25 September	169	108	1400	C2.7	4	6	0	35	2	2	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
	19 September	2.3e+05	1.4e+04	3.9e+03		8.9e+06
20 September	1.8e+05	1.3e+04	3.5e+03		7.4e+06	
21 September	1.4e+05	1.3e+04	3.0e+03		5.6e+06	
22 September	2.4e+05	2.1e+04	3.9e+03		3.3e+06	
23 September	1.2e+06	4.6e+05	7.7e+03		3.2e+06	
24 September	3.4e+06	9.6e+05	4.1e+03		5.2e+06	
25 September	1.7e+07	1.3e+06	3.9e+03		6.8e+06	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	19 September	2	0-0-1-0-1-1-1-0	1	0-0-0-0-0-1-1-0	3
20 September	6	0-3-1-1-2-2-1-2	5	0-1-3-2-2-0-1-1	6	1-3-2-2-2-0-2-2
21 September	2	0-0-1-1-1-1-0-2	7	0-0-0-3-4-2-1-1	5	0-1-1-1-2-2-2-2
22 September	2	1-0-0-1-1-1-1-1	1	0-0-0-0-0-1-1-0	3	1-0-0-0-1-0-1-2
23 September	2	1-0-0-0-0-1-1-1	-1	0-1-0-0-0-0-0-0	3	1-0-0-0-1-1-1-1
24 September	3	0-0-0-2-2-1-1-1	4	0-0-0-2-3-1-1-1	4	0-0-0-1-2-1-2-2
25 September	4	0-1-0-2-1-3-1-1	2	0-0-0-1-1-1-1-0	4	1-0-0-2-1-2-1-2



Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
20 Sep 0438	WARNING: Geomagnetic K = 4	20/0436 - 0900
20 Sep 0539	ALERT: Geomagnetic K = 4	20/0538
20 Sep 0749	ALERT: Type II Radio Emission	20/0704
22 Sep 1043	ALERT: X-ray Flux exceeded M5	22/1043
22 Sep 1056	ALERT: Type II Radio Emission	22/1039
22 Sep 1058	ALERT: Type IV Radio Emission	22/1041
22 Sep 1137	SUMMARY: 10cm Radio Burst	22/1050 - 1104
22 Sep 1145	SUMMARY: X-ray Event exceeded X1	22/1029 - 1144
23 Sep 0448	WARNING: Proton 10MeV Integral Flux > 10pfu	23/0600 - 24/0000
23 Sep 2221	SUMMARY: 10cm Radio Burst	23/2200 - 2201
23 Sep 2318	ALERT: Proton Event 10MeV Integral Flux >= 10pfu	23/2255
23 Sep 2350	EXTENDED WARNING: Proton 10MeV Integral Flux > 10pfu	23/0600 - 24/1200
23 Sep 2359	SUMMARY: 10cm Radio Burst	23/2351 - 2351
24 Sep 0022	ALERT: Type II Radio Emission	23/2353
24 Sep 0052	ALERT: Type IV Radio Emission	24/0010
24 Sep 0937	ALERT: X-ray Flux exceeded M5	24/0936
24 Sep 1003	SUMMARY: 10cm Radio Burst	24/0934 - 0940
24 Sep 1005	SUMMARY: X-ray Event exceeded X1	24/0921 - 0948
24 Sep 1029	ALERT: Type II Radio Emission	24/0935
24 Sep 1032	ALERT: Type IV Radio Emission	24/0944
24 Sep 1133	EXTENDED WARNING: Proton 10MeV Integral Flux > 10pfu	23/0600 - 24/2359
24 Sep 1256	ALERT: X-ray Flux exceeded M5	24/1256
24 Sep 1416	SUMMARY: X-ray Event exceeded M5	24/1233 - 1410
24 Sep 1426	SUMMARY: 10cm Radio Burst	24/1232 - 1411
24 Sep 1438	SUMMARY: 10cm Radio Burst	24/1419 - 1424
24 Sep 1949	ALERT: Type II Radio Emission	24/1914
24 Sep 2038	ALERT: X-ray Flux exceeded M5	24/2036
24 Sep 2043	WATCH: Geomagnetic A >= 20	26/

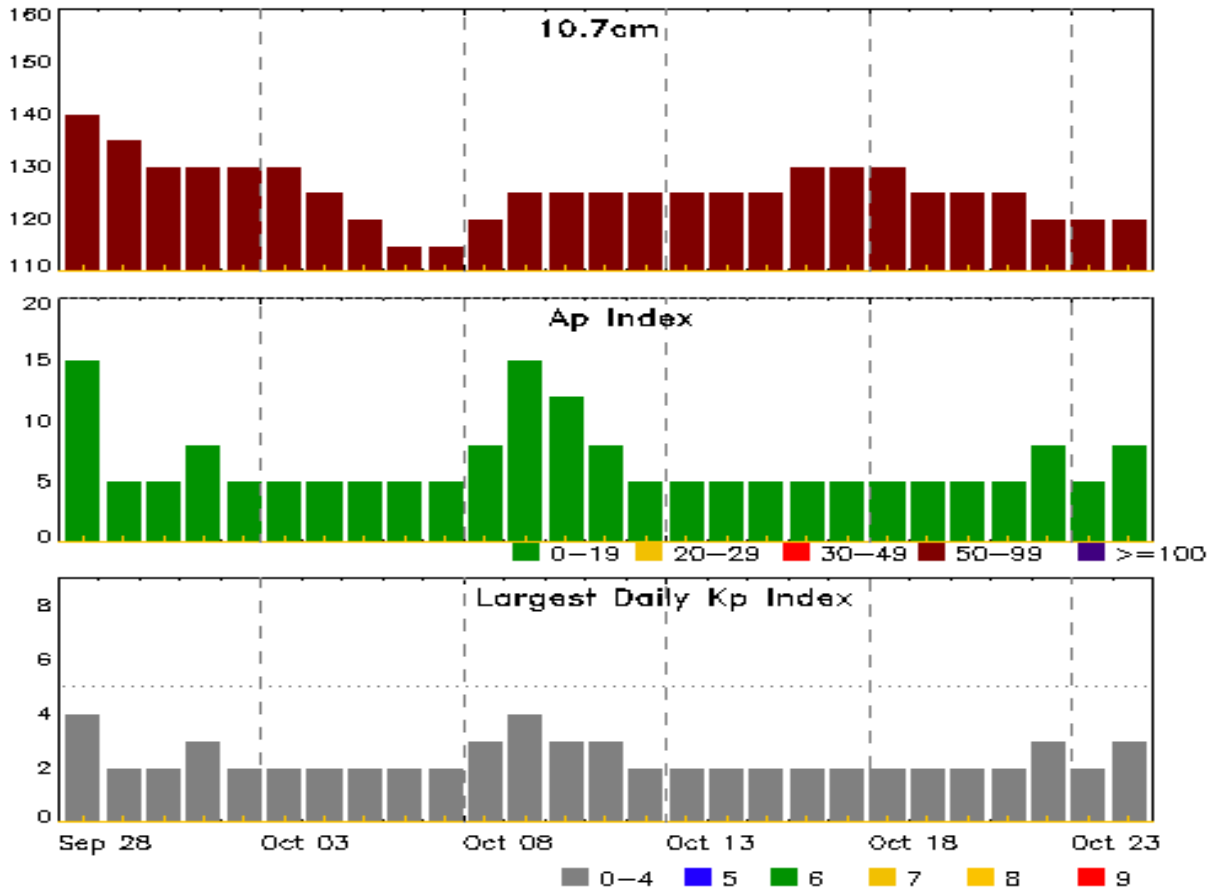


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
24 Sep 2140	EXTENDED WARNING: Proton 10MeV Integral Flux > 10pfu	23/0600 - 26/2359
24 Sep 2157	SUMMARY: X-ray Event exceeded M5	24/2029 - 2042
24 Sep 2303	ALERT: Type IV Radio Emission	24/2249
25 Sep 0104	SUMMARY: 10cm Radio Burst	25/0016 - 0024
25 Sep 0317	SUMMARY: 10cm Radio Burst	25/0239 - 0306
25 Sep 0444	ALERT: X-ray Flux exceeded M5	25/0444
25 Sep 0531	SUMMARY: X-ray Event exceeded M5	25/0431 - 0505
25 Sep 1127	SUMMARY: 10cm Radio Burst	25/0945 - 1016
25 Sep 1152	WARNING: Geomagnetic Sudden Impulse expected	25/1150 - 1250
25 Sep 1158	SUMMARY: Geomagnetic Sudden Impulse	25/1151
25 Sep 1535	WARNING: Geomagnetic K = 4	25/1534 - 26/1800
25 Sep 1549	SUMMARY: 10cm Radio Burst	25/1526 - 1534
25 Sep 1700	ALERT: Type IV Radio Emission	25/1635



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
28 Sep	140	15	4	12 Oct	125	5	2
29	135	5	2	13	125	5	2
30	130	5	2	14	125	5	2
01 Oct	130	8	3	15	125	5	2
02	130	5	2	16	130	5	2
03	130	5	2	17	130	5	2
04	125	5	2	18	130	5	2
05	120	5	2	19	125	5	2
06	115	5	2	20	125	5	2
07	115	5	2	21	125	5	2
08	120	8	3	22	120	8	3
09	125	15	4	23	120	5	2
10	125	12	3	24	120	8	3
11	125	8	3				



Energetic Events

Date	Time			X-ray		Optical Information			Peak		Sweep Freq	
	Begin	Max	Half	Class	Integ Flux	Imp/ Brtns	Location	Rgn #	Radio Flux		Intensity	
			Max						245	2695	II	IV
21 Sep	1204	1223	1245	M1.8	0.034			1302				
22 Sep	0953	1000	1009	M1.1	0.008			1302				
22 Sep	1029	1101	1144	X1.4	0.450			1302	970		2	
23 Sep	0147	0159	0210	M1.6	0.016	1N	N25W63	1295				
23 Sep	2154	2215	2234	M1.6	0.030	SF	N23W73	1295	190	210		
23 Sep	2348	2356	0004	M1.9	0.013	SF	N11E52	1302	170	220	3	
24 Sep	0921	0940	0948	X1.9	0.110	2B	N12E60	1302	33000	660	2	3
24 Sep	1233	1320	1410	M7.1	0.290			1302	4800	12000		
24 Sep	1719	1725	1731	M3.1	0.016			1302				
24 Sep	1759	1815	1824	M2.8	0.033	1B	N15E56	1302				
24 Sep	1909	1921	1941	M3.0	0.046			1302	2100	270	2	
24 Sep	2029	2036	2042	M5.8	0.024			1302	130			
24 Sep	1636	1659	1715	M1.7	0.032			1295				1
24 Sep	2345	2358	0009	M1.0	0.011	SF	S29W68	1303	190			2
24 Sep	2123	2127	2132	M1.2	0.007	SF	S29W67	1303				
25 Sep	0227	0233	0237	M4.4	0.014	SF	N12E49	1302				
25 Sep	0431	0450	0505	M7.4	0.096	2N	N11E47	1302	320	150		2
25 Sep	0846	0849	0852	M3.1	0.006	1N	N15E45	1302				
25 Sep	0925	0935	0953	M1.5	0.021			1303	100	250		
25 Sep	1526	1533	1538	M3.7	0.016	2B	N16E43	1302	1500	180		
25 Sep	1651	1658	1709	M2.2	0.017	SF	S28W75	1303				

Flare List

Date	Time			X-ray Class	Imp/ Brtns	Location	Rgn #
	Begin	Max	End				
19 Sep	0238	0241	0245		SF	N22W11	1295
19 Sep	0452	0459	0514	C2.4	SF	N24E03	1296
19 Sep	0524	0525	0531		SF	N24W48	1300
19 Sep	0719	0737	0914	C6.2			1296
19 Sep	1535	1541	1547	C6.9	SN	N24E68	1301
19 Sep	1834	1847	1854	C1.3	SF	N22E77	1301
19 Sep	2125	2126	2132		SF	N25W05	1296
19 Sep	2126	2129	2154		SF	N21W17	1295
20 Sep	0015	0019	0023	C1.4	SF	N25W06	1296
20 Sep	0225	0225	0229		SF	N22E60	1301



Flare List

Date	Time			X-ray Class	Imp/ Brtns	Optical		Rgn #
	Begin	Max	End			Location Lat CMD		
20 Sep	0500	0513	A0517	C9.5	1F	N25W08		1296
20 Sep	0505	0509	0521		SF	S16W69		1294
20 Sep	0644	0656	0700	C2.0	SF	N21E58		1301
20 Sep	1148	1152	1156	C1.6	SF	N26W13		1296
20 Sep	1215	1219	1226	C1.7				
20 Sep	1228	1234	1238	C1.7				1301
20 Sep	1244	1353	1422	C2.5				1301
20 Sep	1545	1633	1657	C1.5				
20 Sep	1652	1659	1707		SF	N22W32		1295
20 Sep	1735	1742	1750	C1.6				1295
20 Sep	1923	2000	2014	C2.7				1295
20 Sep	1932	1934	1942		SF	N23E62		1301
20 Sep	1954	1958	2004		SF	N23W32		1295
20 Sep	2138	2142	2146	C3.0				1295
20 Sep	2241	2243	2253		SF	N18W29		1298
21 Sep	0005	0008	0013		SF	N22W36		1295
21 Sep	0055	0107	0114	C2.7	SF	N22E56		1301
21 Sep	0225	0225	0228		SF	N22W35		1295
21 Sep	0545	0547	0549		SF	N24W37		1295
21 Sep	0603	U0611	A0633		SF	N22W39		1295
21 Sep	0731	0732	0734		SF	N22W40		1295
21 Sep	0737	0741	0747	C1.9	SF	N24W40		1295
21 Sep	B0740	0740	0747		SF	N27W21		1296
21 Sep	1117	1124	1128	C3.9	2F	N24E54		1301
21 Sep	1204	1223	1245	M1.8				1302
21 Sep	1421	1423	1426	C2.6	SF	N21W43		1295
21 Sep	1422	1423	1432		SF	N21W43		1295
21 Sep	1437	1438	1454	C2.7	SF	N24W44		1295
21 Sep	1521	1526	1530	C2.8	SF	N21W44		1295
21 Sep	1613	1616	1620	C2.3				
21 Sep	B1628	U1629	1640		SF	N22W45		1295
21 Sep	1647	1649	1651	C2.1				
21 Sep	2031	2036	2040	C2.0	SF	N24W48		1295
21 Sep	2059	2100	2104		SF	N19E49		1301
21 Sep	2120	2121	2125		SF	N14E92		
21 Sep	2216	2217	2229		SF	N17E39		1301
22 Sep	0420	0428	0441	C6.6	SF	N25W53		1295
22 Sep	0556	0556	0604		SF	N14E86		



Flare List

Date	Time			X-ray Class	Imp/ Brtns	Optical		Rgn #
	Begin	Max	End			Location Lat CMD		
22 Sep	0849	0905	0909	C8.9	1N	N15E83		1302
22 Sep	0953	1000	1009	M1.1				1302
22 Sep	1029	1101	1144	X1.4				1302
22 Sep	B1041	U1057	1227		2N	N13E78		1302
22 Sep	1546	1606	1651		1F	N24W58		1295
22 Sep	1558	1558	1601		SF	N20E33		1301
22 Sep	1930	1931	1935		SF	N22W57		1295
22 Sep	2014	2020	2033	C4.0	SF	N22W58		1295
22 Sep	2116	2117	2135		SF	N23W61		1295
22 Sep	2213	2229	2247	C5.5	SF	N24W63		1295
22 Sep	2310	2356	0013	C4.1	SF	N26W60		1295
23 Sep	0029	0033	0037	C9.6				
23 Sep	0136	0200	0239	M1.6	1N	N25W63		1295
23 Sep	0250	0252	0337		SF	N25W65		1295
23 Sep	0354	0356	0408		SF	N24W65		1295
23 Sep	0435	0435	0440		SF	N24W65		1295
23 Sep	0615	0620	0627		SF	N12E65		1302
23 Sep	0813	0819	0833	C2.7	SF	N24W67		1295
23 Sep	0840	0848	0853	C6.9	SF	N25W67		1295
23 Sep	0857	0911	0914		SF	N24W67		1295
23 Sep	1210	1223	1240	C3.2	SF	N28W52		1296
23 Sep	1336	1336	1342		SF	N22W68		1295
23 Sep	1501	1506	1508	C2.1	SF	N14E72		1302
23 Sep	1531	1531	1551		SF	N25W69		1295
23 Sep	1619	1621	1629		SF	N26W69		1295
23 Sep	1631	1633	1641		SF	N25W70		1295
23 Sep	1655	1658	1708		SF	N15E70		1302
23 Sep	1714	1715	1719		SF	N23W70		1295
23 Sep	1733	1738	1741		SF	N13E71		1302
23 Sep	1744	1747	1751		SF	N25W71		1295
23 Sep	1811	1822	1835	C3.0				
23 Sep	1906	1911	1916	C3.4	SF	N14E69		1302
23 Sep	2046	2049	2052	C2.2	SF	N24W72		1295
23 Sep	2129	2143	2148	C9.6	SF	N24W74		1295
23 Sep	2141	2354	A0020		1N	N13E55		1302
23 Sep	2154	2215	2234	M1.6	SF	N23W73		1295
23 Sep	2242	2356	0010		SF	N11E52		1302
23 Sep	2311	2311	2317		SF	N26W59		1296



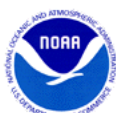
Flare List

Date	Time			X-ray Class	Optical		Rgn #
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	
23 Sep	2311	2312	2319		SF	N23W73	1295
23 Sep	2348	2356	0004	M1.9			1302
24 Sep	0650	0656	0709	C5.9	SF	N24W76	1295
24 Sep	0712	0712	0717		SF	N24W76	1295
24 Sep	0720	0723	0727	C3.1			
24 Sep	0838	0843	0855	C2.2	SF	N25W77	1295
24 Sep	0921	0940	0948	X1.9			1302
24 Sep	0923	U0925	A0929		SF	N24W77	1295
24 Sep	0934	U0936	1010		2B	N12E60	1302
24 Sep	B1120	U1129	A1212		SF	N14E47	1302
24 Sep	1125	1131	1137	C2.7			1302
24 Sep	1233	1320	1410	M7.1			1302
24 Sep	1341	1804	2204		1B	N15E56	1302
24 Sep	1636	1659	1715	M1.7			1295
24 Sep	1657	1707	1749		SF	S28W62	1303
24 Sep	1719	1725	1731	M3.1			1302
24 Sep	1750	1800	1836		SF	S28W62	1303
24 Sep	1759	1815	1824	M2.8			1302
24 Sep	1837	1927	1956		SF	S29W64	1303
24 Sep	1909	1921	1941	M3.0			1302
24 Sep	2015	2018	2020		SF	S29W66	1303
24 Sep	2029	2036	2042	M5.8			1302
24 Sep	2042	2056	2102		SF	S29W66	1303
24 Sep	2103	2123	2145	M1.2	SF	S29W67	1303
24 Sep	2255	2303	2343		SF	N16E53	1302
24 Sep	2316	2317	2320		SF	N22W89	1295
24 Sep	2338	2354	0015	M1.0	SF	S29W68	1303
24 Sep	2353	2353	0001		SF	N16E52	1302
25 Sep	0227	0233	0237	M4.4			1302
25 Sep	0228	0236	0248		SF	S27W70	1303
25 Sep	0231	0233	0302		SF	N12E49	1302
25 Sep	0327	0332	0338	C7.9	SF	N14E51	1302
25 Sep	0400	0403	0406		SF	N10E49	1302
25 Sep	0431	0450	0505	M7.4	2N	N11E47	1302
25 Sep	0523	0525	0534		SF	S27W69	1303
25 Sep	0606	0608	0610		SF	S27W70	1303
25 Sep	0656	0700	0715		SF	S31W65	1303
25 Sep	0733	0733	0736		SF	S27W70	1303



Flare List

Date	Time			X-ray Class	Imp/ Brtns	Optical		Rgn #
	Begin	Max	End			Location Lat CMD		
25 Sep	0747	0753	0759		SF	S27W71		1303
25 Sep	0809	0855	0903		SF	S27W73		1303
25 Sep	0846	0849	0852	M3.1	1N	N15E45		1302
25 Sep	0912	0915	0924		SF	S27W73		1303
25 Sep	0925	0935	0953	M1.5				1303
25 Sep	1012	1012	1024		SF	N13E47		1302
25 Sep	1050	U1051	1059		SF	S30W70		1303
25 Sep	1113	1114	1118		SF	N14E38		1302
25 Sep	1126	1129	1134	C5.7	SF	N15E43		1302
25 Sep	1139	1142	1154		1F	N17E45		1302
25 Sep	1202	1202	1205		SF	S29W72		1303
25 Sep	1210	1210	1215		SF	N16E45		1302
25 Sep	1221	1222	1233		SF	S30W72		1303
25 Sep	1348	1352	1354		SF	S30W73		1303
25 Sep	1400	1531	1843	M3.7	2B	N16E43		1302
25 Sep	1610	1613	1632		SF	S28W75		1303
25 Sep	1633	1650	1700	M2.2	SF	S28W75		1302
25 Sep	1722	1722	1726		SF	S28W74		1303
25 Sep	1727	1729	1740		SF	S28W76		1303
25 Sep	1747	1749	1802		SF	S28W76		1303
25 Sep	1846	1851	1856		SF	S28W76		1303
25 Sep	1900	1901	1904		SF	S28W77		1303
25 Sep	1932	1933	1942		SF	S28W77		1303
25 Sep	1951	1952	2008		SF	N16E32		1302
25 Sep	2048	2048	2054		SF	N13E78		1305
25 Sep	2055	2058	2132		SF	N15E40		1302
25 Sep	2106	2107	2110		SF	S28W79		1303
25 Sep	2146	2149	2152		SF	S28W79		1303
25 Sep	2214	2219	2229	C8.6				
25 Sep	2217	2219	2226	C8.6	SF	S28W77		1303
25 Sep	2231	2233	2235		SF	S28W77		1303
25 Sep	2332	2333	2344		SF	N17W09		1301



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 1289																							
06 Sep	N24E78	129	190	3	Hsx	1	A																
07 Sep	N23E66	128	280	6	Cho	3	B																
08 Sep	N21E51	129	370	6	Cho	4	B	1					1										
09 Sep	N22E37	130	380	5	Dho	6	B						1										
10 Sep	N23E24	129	450	6	Dho	11	B	1															
11 Sep	N22E12	128	430	6	Dko	16	B																
12 Sep	N22W00	128	300	5	Cko	6	B																
13 Sep	N23W08	126	350	7	Cko	10	B						1										
14 Sep	N24W25	126	400	6	Cho	9	B																
15 Sep	N22W39	128	300	5	Cho	5	B																
16 Sep	N22W51	126	310	7	Cko	5	B	1															
17 Sep	N22W67	128	380	4	Hhx	5	A																
18 Sep	N23W79	127	310	4	Hhx	4	A																
19 Sep	N23W93	128	120	3	Hsx	1	A																
								3	0	0	3	0	0	0	0	0							

Crossed West Limb.

Absolute heliographic longitude: 128

Region 1292																							
11 Sep	N08E66	74	40	4	Bxo	2	B																
12 Sep	N08E52	76	10	4	Bxo	3	B	2															
13 Sep	N09E38	76	50	6	Cao	5	B																
14 Sep	N08E24	77	30	4	Cro	2	B																
15 Sep	N10E08	79	20	1	Hrx	1	A																
16 Sep	N09W04	78	20	1	Hrx	1	A																
17 Sep	N10W17	78	20	1	Hrx	1	A																
18 Sep	N10W31	80	plage																				
19 Sep	N10W45	81	plage																				
20 Sep	N10W59	82	plage																				
21 Sep	N10W73	82	plage																				
22 Sep	N10W87	83	plage																				
								2	0	0	0	0	0	0	0	0							

Crossed West Limb.

Absolute heliographic longitude: 78



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 1294																			
12 Sep	S18E27	101	10	4	Bxo	2	B												
13 Sep	S18E13	102	20	5	Cso	5	B												
14 Sep	S17W02	103	50	6	Cso	7	B												
15 Sep	S17W14	102	20	6	Cro	7	B												
16 Sep	S16W31	105	20	5	Cro	1	B												
17 Sep	S16W45	106	10	1	Hrx	1	A												
18 Sep	S16W59	108	plage																
19 Sep	S16W73	109	plage																
20 Sep	S16W87	110	plage									1							
												0	0	0	1	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 103

Region 1295																			
12 Sep	N21E72	56	30	1	Hsx	1	A	2											
13 Sep	N21E58	57	30	1	Cso	2	B	1				1							
14 Sep	N20E51	57	50	4	Cso	4	B	2				2							
15 Sep	N22E30	57	130	6	Dai	16	B												
16 Sep	N22E17	57	240	8	Dai	23	BG	1				3							
17 Sep	N22E04	57	210	10	Dai	17	B					1							
18 Sep	N22W12	60	300	8	Dhc	26	BG	3				4							
19 Sep	N22W23	58	300	10	Dhc	24	BG					2							
20 Sep	N23W35	57	310	10	Dhc	18	BG	3				2							
21 Sep	N22W47	56	380	11	Ehc	26	BG	5				12							
22 Sep	N22W62	58	350	13	Ekc	19	BG	4				6	1						
23 Sep	N24W74	57	550	11	Ekc	14	BG	4	2			16	1						
24 Sep	N26W84	54	500	11	Ekc	7	BG	2	1			5							
25 Sep	N25W98	54	180	5	Hsx	1	A												
												27	3	0	54	2	0	0	0

Still on Disk.

Absolute heliographic longitude: 57



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 1296																		
13 Sep	N27E70	44	50	8	Dso	2	B											
14 Sep	N26E55	45	60	9	Dso	3	B	1				3						
15 Sep	N27E40	45	130	7	Dai	8	B	1				3						
16 Sep	N26E31	43	130	7	Dao	8	B	1				1						
17 Sep	N25E19	41	130	7	Cao	9	B											
18 Sep	N25E06	41	100	5	Dso	11	B					1						
19 Sep	N26W05	40	50	3	Hsx	8	A	2				2						
20 Sep	N27W16	38	30	3	Cro	5	B	3				2	1					
21 Sep	N26W29	38	20	3	Cro	4	B					1						
22 Sep	N26W44	39	10	1	Axx	1	A											
23 Sep	N26W56	38	10	1	Axx	1	A	1				2						
24 Sep	N26W70	40	plage															
25 Sep	N26W84	41	plage															
								9	0	0	15	1	0	0	0	0		

Still on Disk.

Absolute heliographic longitude: 40

Region 1298																		
14 Sep	N16E52	49	40	4	Cso	4	B					1						
15 Sep	N16E38	50	40	7	Dso	5	B											
16 Sep	N15E23	50	70	9	Dso	7	B											
17 Sep	N15E09	51	100	8	Dso	3	B											
18 Sep	N15W06	54	30	7	Cro	7	B											
19 Sep	N14W22	57	20	4	Hrx	2	A											
20 Sep	N15W36	58	20	4	Dro	3	B					1						
21 Sep	N16W47	55	10	1	Bxo	2	B											
22 Sep	N16W61	57	plage															
23 Sep	N16W75	58	plage															
24 Sep	N16W89	59	plage															
								0	0	0	2	0	0	0	0	0		

Crossed West Limb.

Absolute heliographic longitude: 54



Region Summary - continued

Date	Location		Sunspot Characteristics				Flares								
	Lat CMD	Lon	Helio 10 ⁶ hemi.	Area	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical			
									C	M	X	S	1	2	3

Region 1299

16 Sep	S21E11	62	30	7	Cro	8	B											
17 Sep	S20W02	63	40	6	Dso	6	B					1						
18 Sep	S20W15	60	110	8	Dai	17	B											
19 Sep	S19W28	63	60	6	Dao	13	B											
20 Sep	S20W40	62	40	5	Dao	7	B											
21 Sep	S20W53	62	20	5	Cro	4	B											
22 Sep	S19W64	59	10	3	Bxo	2	B											
23 Sep	S20W81	63	10	1	Axx	1	A											
24 Sep	S20W95	65	plage															
										0	0	0	1	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 63

Region 1300

18 Sep	N24W45	93	90	5	Cso	7	B											
19 Sep	N24W58	93	70	5	Cso	5	B					1						
20 Sep	N24W73	95	70	1	Hsx	1	A											
21 Sep	N24W86	95	30	1	Cso	2	B											
										0	0	0	1	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 93

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							
								8	0	0	10	0	1	0	0			

Still on Disk.

Absolute heliographic longitude: 330



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 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									
								6	13	2		18	5	4	0	0							

Still on Disk.
Absolute heliographic longitude: 279

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											
								1	3	0		31	0	0	0	0							

Still on Disk.
Absolute heliographic longitude: 36

Region 1304																							
24 Sep	N12E22	306	10	2	Bxo	2	B																
25 Sep	N12E07	309	20	4	Bxo	4	B																
								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											
								0	0	0		1	0	0	0	0							

Still on Disk.
Absolute heliographic longitude: 246

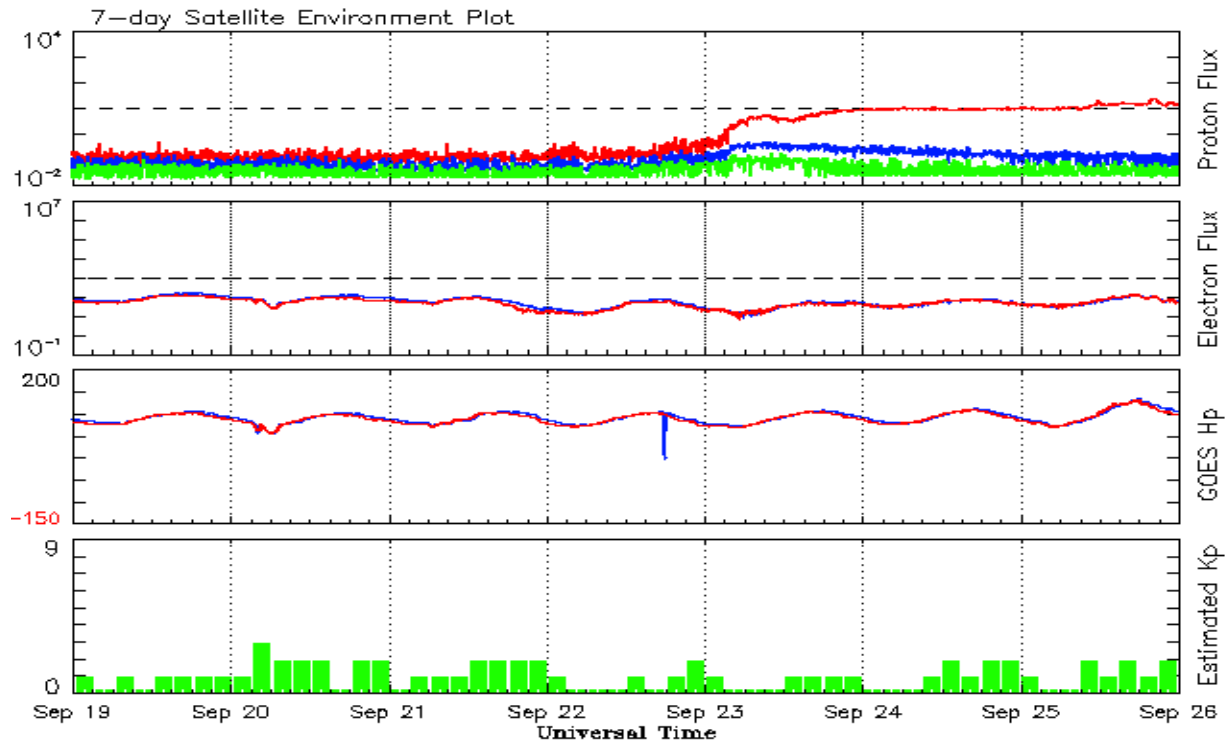


Recent Solar Indices (preliminary)
Observed monthly mean values

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									
September	6.6	4.3	0.64	9.9	6.2	70.5	73.3	4	3.8
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			115.3		7	
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	

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 19 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.

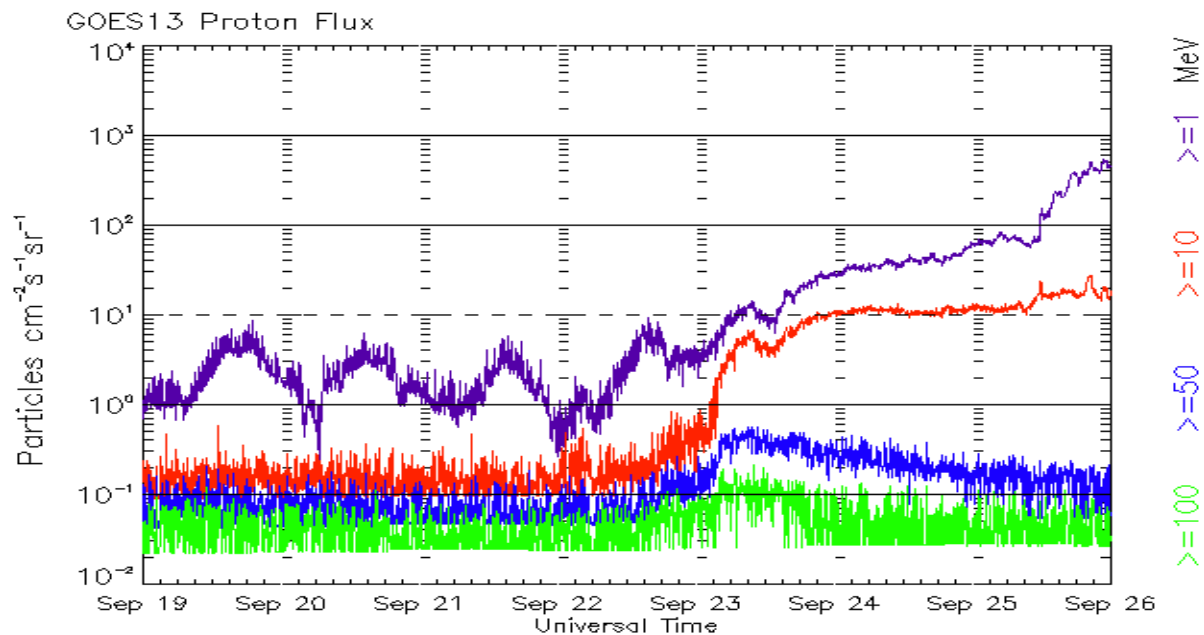
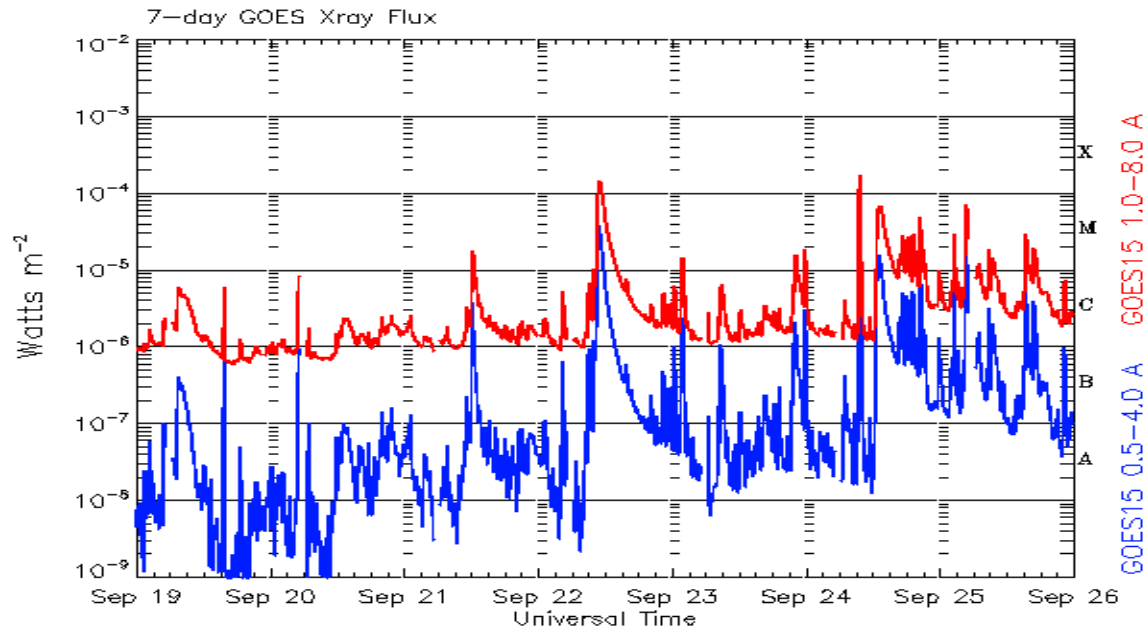
The electron flux plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV by the SWPC Primary GOES satellite.

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.

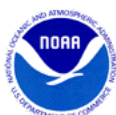




*Weekly GOES Satellite X-ray and Proton Plots
Week Beginning 19 September 2011*

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 integral 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.



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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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