

Three M1 flares this week brought solar activity to moderate levels. Region 1560 (N03, L=128, class/area=Eki/350 on 03 September) was the largest and most magnetically complex (beta-gamma-delta) of the week. It produced the first M-flare on September 6th at 0413Z before rotating around the west limb the next day. Region 1564 (S14, L=68, class/area=Esi/270 on 05 September) followed with a long-duration M1 event on September 8th at 1759Z and another on September 9th at 2236Z. None of the M1 flares were accompanied by significant radio emissions, or coronal mass ejections (CMEs).

The week began with the end of an energetic particle event. The 10 MeV proton flux was above the 10 pfu threshold on September 3rd and fell below on the 4th at 0625Z after reaching a maximum of 59 pfu three days earlier. Later, a coronal mass ejection from beyond the west limb was observed on September 8th, first visible in SOHO/LASCO C2 coronagraph imagery at 1000Z. The event that produced the CME was also believed to be responsible for a 10 MeV proton enhancement which began around 1200Z. The peak 10 MeV flux during the enhancement was 1 pfu.

The greater than 2 MeV electron flux at geosynchronous orbit was at moderate levels on September 7th and 8th and at high levels on September 9th. The remainder of the week was at background levels.

Geomagnetic activity was propelled to major storm levels this week by the arrival of three CMEs. The first arrived at 03/1214Z when a sudden impulse of 28 nT was observed at the Boulder magnetometer. The disturbed geomagnetic field reached minor storm levels (Kp=5, G1) by 03/1312Z, and major storm levels (Kp=6, G2) by 03/1500Z. Conditions decreased to active levels for two periods before rising again to minor storm levels at 04/0000Z. The geomagnetic field returned to quiet to active levels until September 5th when two CMEs observed on September 2nd arrived simultaneously. An interplanetary shock was observed at the ACE spacecraft at 04/2203Z. The subsequent arrival at earth caused the magnetic field to jump to major storm levels by 05/0144Z. Kp indices then decreased one level each synoptic period until reaching Kp=2 by 05/15Z. On both September 3rd and 5th, the College, AK magnetometer recorded a period of severe storm (K=7,G3) levels. A solar sector boundary change brought active conditions for one period on the 6th, but the remainder of the week was mostly quiet.

Space Weather Outlook

10 September - 06 October 2012

Solar activity is expected to be low with a chance for moderate activity through 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 high levels on 10-11, 18-20 and 24-27 September.

Geomagnetic field activity is expected to be mostly quiet to unsettled. Active conditions are



possible on 14-16 and 19-22 September, and again on 03-05 October associated with coronal hole high speed streams.



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
03 September	142	156	860	B6.7	10	0	0	18	0	0	0	0
04 September	138	150	590	B6.1	6	0	0	6	0	0	0	0
05 September	133	105	670	B5.4	8	0	0	9	0	0	0	0
06 September	128	112	550	B4.4	9	1	0	5	0	0	0	0
07 September	133	110	640	B5.3	6	0	0	6	0	0	0	0
08 September	129	70	470	B7.1	4	1	0	6	0	0	0	0
09 September	123	87	420	B5.4	2	1	0	2	1	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
	03 September	1.7e+08	1.0e+06	2.7e+03		5.0e+06
04 September	9.9e+07	3.9e+05	2.4e+03		2.3e+06	
05 September	7.9e+06	4.5e+04	2.3e+03		2.5e+06	
06 September	1.1e+06	1.5e+04	2.6e+03		2.5e+06	
07 September	1.7e+06	1.6e+04	2.9e+03		1.6e+07	
08 September	1.5e+06	2.7e+04	3.3e+03		2.1e+07	
09 September	6.7e+05	1.9e+04	2.9e+03		4.0e+07	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	03 September	23	3-2-4-3-5-4-3-4	52	3-4-7-4-6-5-5-4	32
04 September	14	3-3-4-2-3-2-2-3	39	4-3-6-6-5-4-4-2	13	3-3-4-2-2-2-2-3
05 September	24	5-5-4-4-2-3-3-2	49	5-7-6-5-4-4-3-2	28	6-5-4-3-2-2-3-2
06 September	12	4-3-1-2-2-3-3-1	8	4-3-1-1-0-2-2-1	11	4-3-1-1-1-3-3-1
07 September	8	1-2-3-2-2-2-2-2	25	2-2-4-5-4-5-4-2	9	2-3-2-2-2-2-3-3
08 September	7	2-2-2-2-2-2-2-2	19	2-2-3-4-5-3-3-3	8	2-2-2-2-2-2-2-2
09 September	6	1-0-2-2-3-1-2-1	6	2-2-3-2-1-2-1-0	5	1-1-2-1-2-1-1-1



Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
03 Sep 0251	EXTENDED WARNING: Geomagnetic K = 4	02/1935 - 03/0900
03 Sep 0814	EXTENDED WARNING: Geomagnetic K = 4	02/1935 - 03/1800
03 Sep 1134	WARNING: Geomagnetic Sudden Impulse expected	03/1206 - 1236
03 Sep 1138	WARNING: Geomagnetic K = 5	03/1145 - 1600
03 Sep 1231	SUMMARY: Geomagnetic Sudden Impulse	03/1214
03 Sep 1319	ALERT: Geomagnetic K = 5	03/1312
03 Sep 1445	EXTENDED WARNING: Geomagnetic K = 4	02/1935 - 03/2100
03 Sep 1446	EXTENDED WARNING: Geomagnetic K = 5	03/1145 - 2100
03 Sep 1448	WARNING: Geomagnetic K = 6	03/1448 - 1800
03 Sep 1503	ALERT: Geomagnetic K = 6	03/1500
03 Sep 1749	EXTENDED WARNING: Proton 10MeV Integral Flux > 10pfu	01/1152 - 04/0000
03 Sep 2036	EXTENDED WARNING: Geomagnetic K = 4	02/1935 - 04/0600
03 Sep 2302	WARNING: Geomagnetic K = 5	03/2300 - 04/0600
03 Sep 2323	EXTENDED WARNING: Proton 10MeV Integral Flux > 10pfu	01/1152 - 04/0700
03 Sep 2359	ALERT: Geomagnetic K = 5	04/0000
04 Sep 0553	EXTENDED WARNING: Geomagnetic K = 4	02/1935 - 04/1300
04 Sep 0645	EXTENDED WARNING: Proton 10MeV Integral Flux > 10pfu	01/1152 - 04/1300
04 Sep 1232	SUMMARY: Proton Event 10MeV Integral Flux >= 10pfu	01/1335 - 04/0625
05 Sep 0028	WARNING: Geomagnetic K = 4	05/0027 - 1200
05 Sep 0054	ALERT: Geomagnetic K = 4	05/0050
05 Sep 0135	WARNING: Geomagnetic K = 5	05/0130 - 0700
05 Sep 0148	ALERT: Geomagnetic K = 5	05/0144
05 Sep 0239	WARNING: Geomagnetic K = 6	05/0240 - 0700
05 Sep 0240	ALERT: Geomagnetic K = 6	05/0240
05 Sep 0647	EXTENDED WARNING: Geomagnetic K = 5	05/0130 - 1200
05 Sep 1154	EXTENDED WARNING: Geomagnetic K = 4	05/0027 - 1800
06 Sep 0140	WARNING: Geomagnetic K = 4	06/0140 - 1200

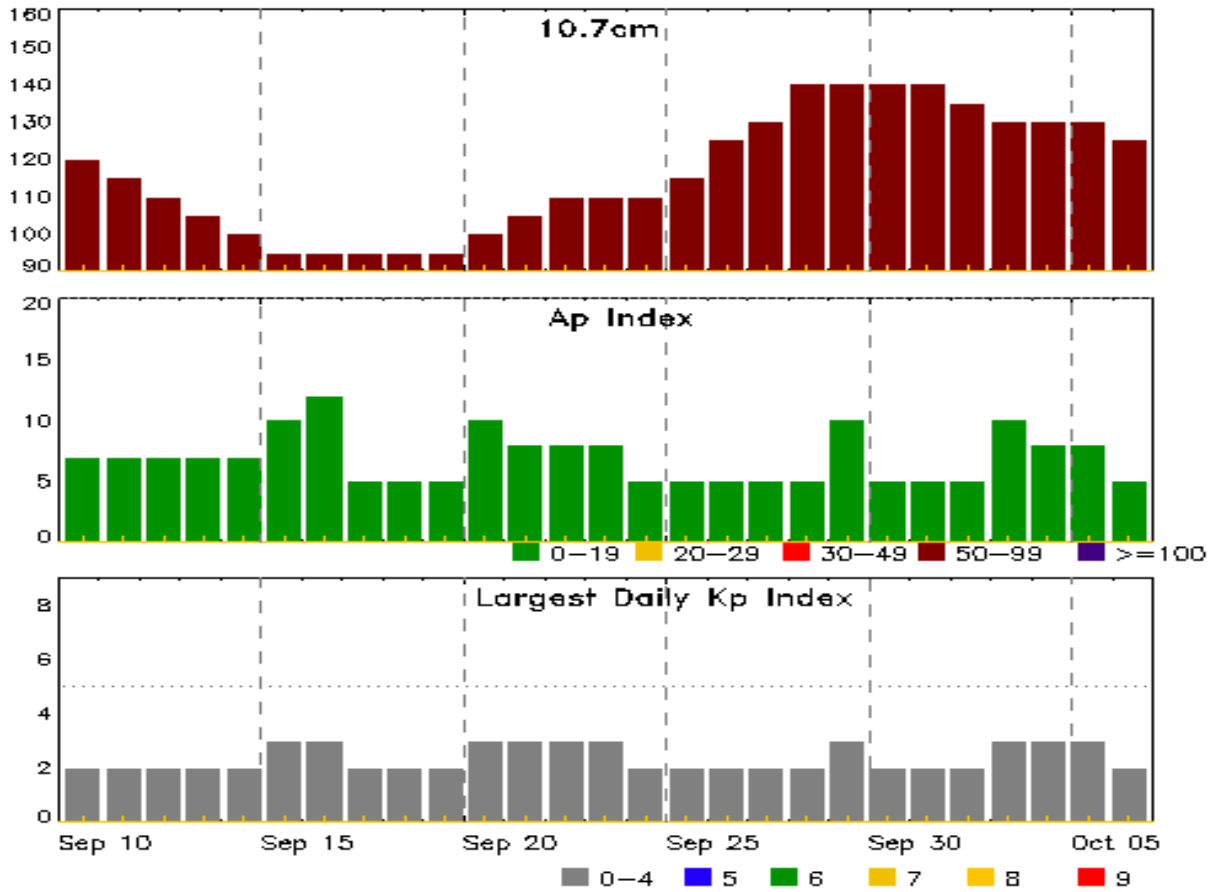


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
06 Sep 0204	ALERT: Geomagnetic K = 4	06/0201
09 Sep 1540	ALERT: Electron 2MeV Integral Flux \geq 1000pfu	09/1520



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
10 Sep	120	7	2	24 Sep	110	5	2
11	115	7	2	25	115	5	2
12	110	7	2	26	125	5	2
13	105	7	2	27	130	5	2
14	100	7	2	28	140	5	2
15	95	10	3	29	140	10	3
16	95	12	3	30	140	5	2
17	95	5	2	01 Oct	140	5	2
18	95	5	2	02	135	5	2
19	95	5	2	03	130	10	3
20	100	10	3	04	130	8	3
21	105	8	3	05	130	8	3
22	110	8	3	06	125	5	2
23	110	8	3				



Energetic Events

Date	Time			X-ray		Optical Information			Peak		Sweep Freq	
	Begin	Max	Half Max	Class	Integ Flux	Imp/ Brtns	Location	Rgn #	245	2695	II	IV
06 Sep	0406	0413	0420	M1.6	0.007							
08 Sep	1735	1759	1820	M1.4	0.028							
09 Sep	2150	2236	2256	M1.2	0.036	1F	S15W52	1564				

Flare List

Date	Time			X-ray Class	Imp/ Brtns	Optical		Rgn #
	Begin	Max	End			Location	Lat CMD	
03 Sep	0038	0047	0106	C1.2				1560
03 Sep	0146	0152	0159	C1.8				1564
03 Sep	0240	0247	0252	C4.0	SF	S14E39		1564
03 Sep	0703	0704	0709		SF	S22W76		1553
03 Sep	B0742	0742	0745		SF	S25W72		1553
03 Sep	0746	0746	0750		SF	S13E40		1564
03 Sep	B0818	U0819	A0822		SF	S25W71		1553
03 Sep	0935	0942	0958	C1.9	SF	S13E37		1564
03 Sep	1015	1015	1018		SF	S25W76		1553
03 Sep	1029	1046	1059	C2.6	SF	S14E39		1564
03 Sep	1306	1318	1331	C2.7	SF	S15E34		1564
03 Sep	1335	1335	1339		SF	S21W76		1553
03 Sep	1446	1446	1450		SF	N00W24		1560
03 Sep	1515	1516	1517		SF	N00W24		1560
03 Sep	1524	1526	1529		SF	S25W78		1553
03 Sep	1540	1540	1543		SF	S25W78		1553
03 Sep	1630	1635	1640	C1.3	SF	N08W30		1560
03 Sep	1825	1829	1837	B9.6				1560
03 Sep	1841	1842	1847		SF	N02W26		1560
03 Sep	2022	2027	2030	C1.3				1560
03 Sep	2157	2210	2219	C2.3	SF	S15E30		1564
03 Sep	2321	2331	2342	C2.9	SF	S15E30		1564
04 Sep	0457	0507	0514	C2.7				1564
04 Sep	0541	U0557	0607		SF	S16E31		1564
04 Sep	0611	U0638	0650	C1.7	SF	S14E28		1564
04 Sep	0709	0715	0720	C2.3	SF	N10E20		1565
04 Sep	0731	0734	0738	C1.2				1565
04 Sep	0942	0947	0954	C1.5	SF	S15E25		1564



Flare List

Date	Time			X-ray Class	Optical		Rgn #
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	
04 Sep	1400	U1401	1406		SF	S13E22	1564
04 Sep	1537	1540	1550		SF	S14W50	1561
04 Sep	2310	0004	0022	C1.3			1553
05 Sep	0155	0234	0313	C1.5			1560
05 Sep	0338	0347	0402	C6.1	SF	S14E15	1564
05 Sep	0415	0415	0417		SF	N04W48	1560
05 Sep	0518	0544	0639		SF	S14E15	1564
05 Sep	0521	0521	0529		SF	S04W47	1560
05 Sep	0530	0551	0631	C1.9			1564
05 Sep	0702	0806	0833	C7.2			1564
05 Sep	0727	0729	0732		SF	N04W49	1560
05 Sep	0734	0739	0852		SN	S17E11	1564
05 Sep	B0829	U0830	0856		SF	S12E14	1564
05 Sep	1614	1618	1623	C1.1	SF	N03W52	1560
05 Sep	1919	1922	1925	B7.3			
05 Sep	2000	2009	2018	C1.1			
05 Sep	2028	2032	2038	C1.0			
05 Sep	2350	2356	0004	C1.1	SF	N03W59	1560
06 Sep	0108	0114	0119	C1.2			1560
06 Sep	0151	0206	0215	C1.9			1560
06 Sep	0232	0241	0244	C2.4	SF	S13E01	1564
06 Sep	0311	0316	0320	C1.8	SN	N03W60	1560
06 Sep	0406	0413	0420	M1.6			1560
06 Sep	0652	0653	0655		SF	S12E01	1564
06 Sep	0740	0751	0800	C3.0			1564
06 Sep	0743	0749	0845		SN	S13W02	1564
06 Sep	0951	0956	1008	C1.3			1560
06 Sep	1154	1158	1200	C1.0			1560
06 Sep	1513	1521	1530	C8.0			1560
06 Sep	1727	1731	1734	C1.4	SF	S17W08	1564
06 Sep	2141	2145	2148	B8.4			1560
07 Sep	0017	0028	0036	C1.6			1560
07 Sep	0036	0045	0053	C3.7			
07 Sep	1024	U1028	1053		SF	S13W16	1564
07 Sep	1026	U1032	1044		SF	S24W54	1562
07 Sep	1218	1219	1225		SF	S21W52	1562
07 Sep	1251	1258	1310		SF	N02W80	1560
07 Sep	1705	1711	1716	C1.3	SF	S19W57	1562



Flare List

Date	Time			X-ray Class	Optical		Rgn #
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	
07 Sep	1752	1803	1849	C1.2			1562
07 Sep	2046	2051	2058	C1.8	SF	S13W25	1564
07 Sep	2237	2250	2258	C2.1			1564
08 Sep	0559	0600	0604		SF	S13W31	1564
08 Sep	0636	0730	0811	C2.8	SF	S14W29	1564
08 Sep	0756	0801	0802		SF	S14W31	1564
08 Sep	0945	0946	0956		SF	S14W29	1564
08 Sep	1232	1244	1250		SF	N21E48	
08 Sep	1449	1449	1505		SF	S15W36	1564
08 Sep	1652	1657	1707	C1.3			
08 Sep	1735	1759	1820	M1.4			1564
08 Sep	1957	2018	2027	C1.2			
08 Sep	2104	2222	2248	C1.8			1564
09 Sep	0652	0700	0708	C3.7	SF	S15W47	1564
09 Sep	1451	1458	1505	C1.7	SF	S11W20	1568
09 Sep	1914	1920	1928	B8.9			1564
09 Sep	2124	2128	2134	B8.9			
09 Sep	2150	2236	2256	M1.2	1F	S15W52	1564



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 1553																	
23 Aug	S23E50	192	150	2	Hsx	1	A										
24 Aug	S22E46	182	90	2	Hsx	1	A										
25 Aug	S21E33	181	150	3	Cso	3	B										
26 Aug	S21E18	183	110	5	Cso	6	B										
27 Aug	S18E05	184	120	9	Dso	4	B										
28 Aug	S21W07	183	110	5	Cso	3	B										
29 Aug	S21W20	182	130	6	Cso	5	B	1									
30 Aug	S21W30	179	150	5	Dso	7	B										
31 Aug	S21W47	182	180	5	Dao	9	B										
01 Sep	S22W57	179	150	5	Dai	8	B	2				9					
02 Sep	S22W69	179	140	7	Dai	5	B	2				4					
03 Sep	S21W82	177	90	3	Dso	3	B					7					
								5	0	0	20	0	0	0	0	0	

Crossed West Limb.
Absolute heliographic longitude: 184

Region 1555																	
25 Aug	N09E69	145	160	6	Dao	6	B										
26 Aug	N08E56	146	310	7	Dko	7	B					1					
27 Aug	N08E43	146	320	7	Dho	10	B										
28 Aug	N08E29	147	180	7	Dai	13	B					1					
29 Aug	N08E15	147	100	8	Dsi	15	B					1					
30 Aug	N08E01	146	30	6	Cso	11	B					1					
31 Aug	N08W12	147	30	6	Cso	4	B										
01 Sep	N08W26	149	plage														
02 Sep	N08W40	149	plage														
03 Sep	N08W54	150	plage														
04 Sep	N08W68	151	plage														
05 Sep	N08W82	152	plage														
								0	0	0	4	0	0	0	0	0	

Crossed West Limb.
Absolute heliographic longitude: 146



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

Region 1557

27 Aug	N17E38	150	10	3	Bxo	2	B										
28 Aug	N17E24	152	plage														
29 Aug	N17E10	152	plage														
30 Aug	N17W04	153	plage														
31 Aug	N17W18	154	plage														
01 Sep	N17W32	155	plage														
02 Sep	N17W46	155	plage														
03 Sep	N17W60	156	plage														
04 Sep	N17W74	157	plage														
05 Sep	N17W88	158	plage														
									0	0	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 153

Region 1558

27 Aug	N18E78	110	10	3	Bxo	2	B										
28 Aug	N13E65	111	10	1	Axx	1	A					1					
29 Aug	N13E51	111	10	1	Axx	1	A										
30 Aug	N13E37	112	plage														
31 Aug	N13E24	112	plage														
01 Sep	N13E10	113	plage									1					
02 Sep	N13W04	113	plage														
03 Sep	N13W23	118	10	2	Axx	3	A										
04 Sep	N13W37	120	plage														
05 Sep	N13W51	121	plage														
06 Sep	N13W65	122	plage														
07 Sep	N13W79	122	plage														
									0	0	0	2	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 113



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 1559																	
28 Aug	N18E63	113	10	1	Axx	1	A										
29 Aug	N17E49	113	30	2	Hrx	2	A										
30 Aug	N17E37	111	10	2	Axx	2	A										
31 Aug	N17E24	111	10	2	Axx	1	A										
01 Sep	N17E10	113	plage														
02 Sep	N17W04	113	plage														
03 Sep	N17W18	113	plage														
04 Sep	N15W30	112	50	7	Dso	7	B										
05 Sep	N15W44	114	plage														
06 Sep	N13W55	112	10	2	Bxo	3	B										
07 Sep	N13W69	112	plage														
08 Sep	N13W83	113	plage														
									0	0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 113

Region 1560																	
29 Aug	N04E36	126	40	4	Dao	6	B										
30 Aug	N03E22	125	50	5	Dao	8	B						1				
31 Aug	N04E09	125	180	6	Dai	15	BG	3					5				
01 Sep	N03W05	127	220	8	Dai	19	BG						6	1			
02 Sep	N03W17	126	260	11	Ehi	21	BG	2					7				
03 Sep	N03W33	128	350	13	Eki	23	BGD	3					4				
04 Sep	N04W47	129	170	11	Eai	15	BGD										
05 Sep	N04W58	128	230	11	Eai	13	BGD	3					5				
06 Sep	N04W73	129	160	13	Eai	10	BG	6	1				1				
07 Sep	N05W89	131	10	2	Bxo	2	B	1					1				
								18	1	0			30	1	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 127



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 1563																							
29 Aug	S25E85		78		plage							1											
30 Aug	S25E71		78	10		1	Axx	1	A	3	1			1									
31 Aug	S24E58		77	40		8	Dso	4	B	2				4									
01 Sep	S25E43		78	70		7	Dso	4	B														
02 Sep	S26E29		81	50		7	Dao	4	B														
03 Sep	S26E15		80	70		8	Dro	5	B														
04 Sep	S24E03		80	10		8	Bxo	5	B														
05 Sep	S24W10		80		plage																		
06 Sep	S24W24		81		plage																		
07 Sep	S24W37		81		plage																		
08 Sep	S24W51		81		plage																		
09 Sep	S24W65		82		plage																		
										6	1	0	5	0	0	0	0	0					

Still on Disk.

Absolute heliographic longitude: 80

Region 1564

31 Aug	S13E70		65	60		5	Dao	3	B	2												
01 Sep	S14E56		66	90		8	Dao	9	B	1				1								
02 Sep	S15E41		68	150		10	Dao	13	B	1				6								
03 Sep	S16E26		69	220		12	Esi	19	BG	7				7								
04 Sep	S14E14		68	160		13	Esi	29	BG	3				4								
05 Sep	S14E01		68	270		12	Esi	32	BG	3				4								
06 Sep	S14W13		70	180		13	Esi	25	B	3				4								
07 Sep	S13W28		71	200		13	Esi	35	B	2				2								
08 Sep	S13W39		69	140		12	Eai	19	BG	2	1			5								
09 Sep	S13W53		70	140		12	Eai	19	BG	1	1			1	1							
										25	2	0	34	1	0	0	0	0				

Still on Disk.

Absolute heliographic longitude: 68



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 1565																		
03 Sep	N11E21	74	40	7	Dao	6	B											
04 Sep	N10E07	75	80	4	Dso	5	B	2				1						
05 Sep	N10W05	74	40	4	Dso	4	B											
06 Sep	N10W19	75	30	4	Cso	5	B											
07 Sep	N11W32	74	10	2	Axx	3	A											
08 Sep	N11W46	76	plage															
09 Sep	N11W60	77	plage															
								2	0	0		1	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 74

Region 1566																		
03 Sep	N24E76	20	60	1	Hax	1	A											
04 Sep	N22E64	18	60	5	Hax	1	A											
05 Sep	N22E50	18	60	4	Hsx	1	A											
06 Sep	N22E39	18	70	3	Hsx	2	A											
07 Sep	N23E26	16	70	1	Cao	2	B											
08 Sep	N22E12	17	60	2	Hsx	1	A											
09 Sep	N23E01	15	60	2	Hsx	1	A											
								0	0	0		0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 15

Region 1567																		
07 Sep	N17E56	347	10	2	Bxo	2	B											
08 Sep	N17E39	350	50	5	Dao	4	B											
09 Sep	N17E27	349	50	7	Dao	8	B											
								0	0	0		0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 349

Region 1568																		
09 Sep	S11W28	44	50	3	Dso	8	BG	1				1						
								1	0	0		1	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 44

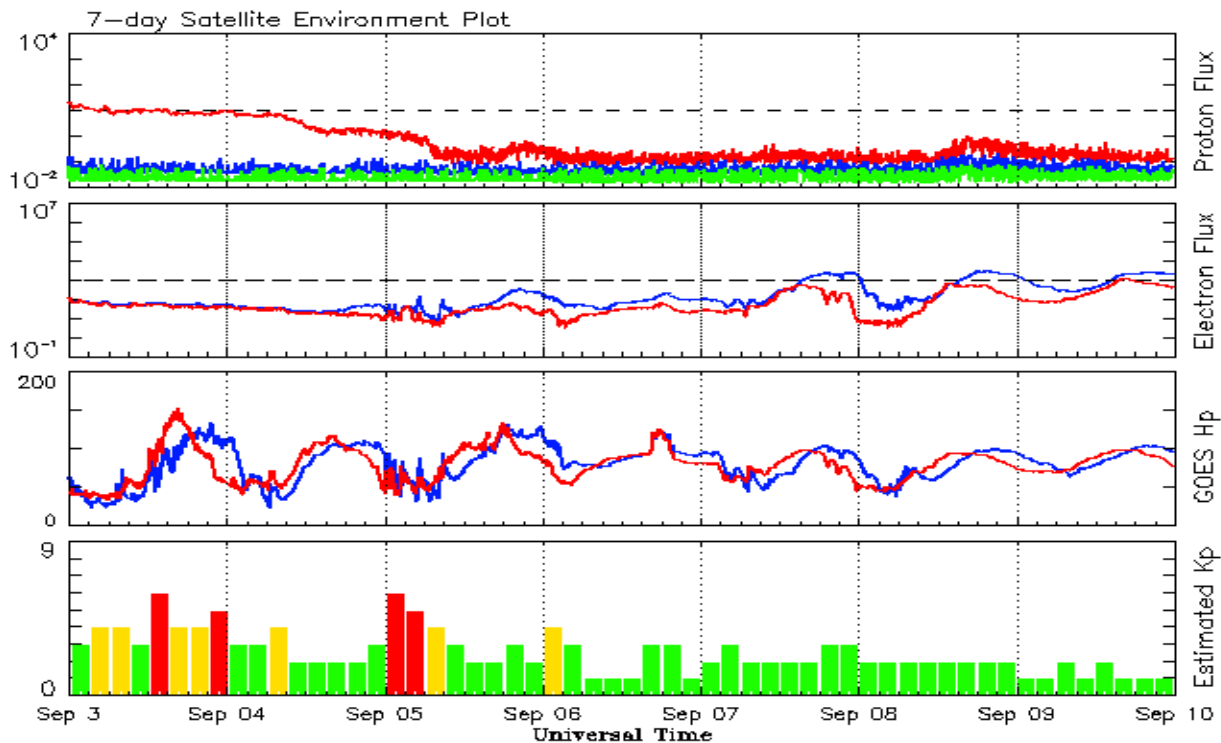


Recent Solar Indices (preliminary)
Observed monthly mean values

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									
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	94.2	66.9	106.7	126.7	7	8.4
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	
August	85.8	63.1	0.74			115.7		7	

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 03 September 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.

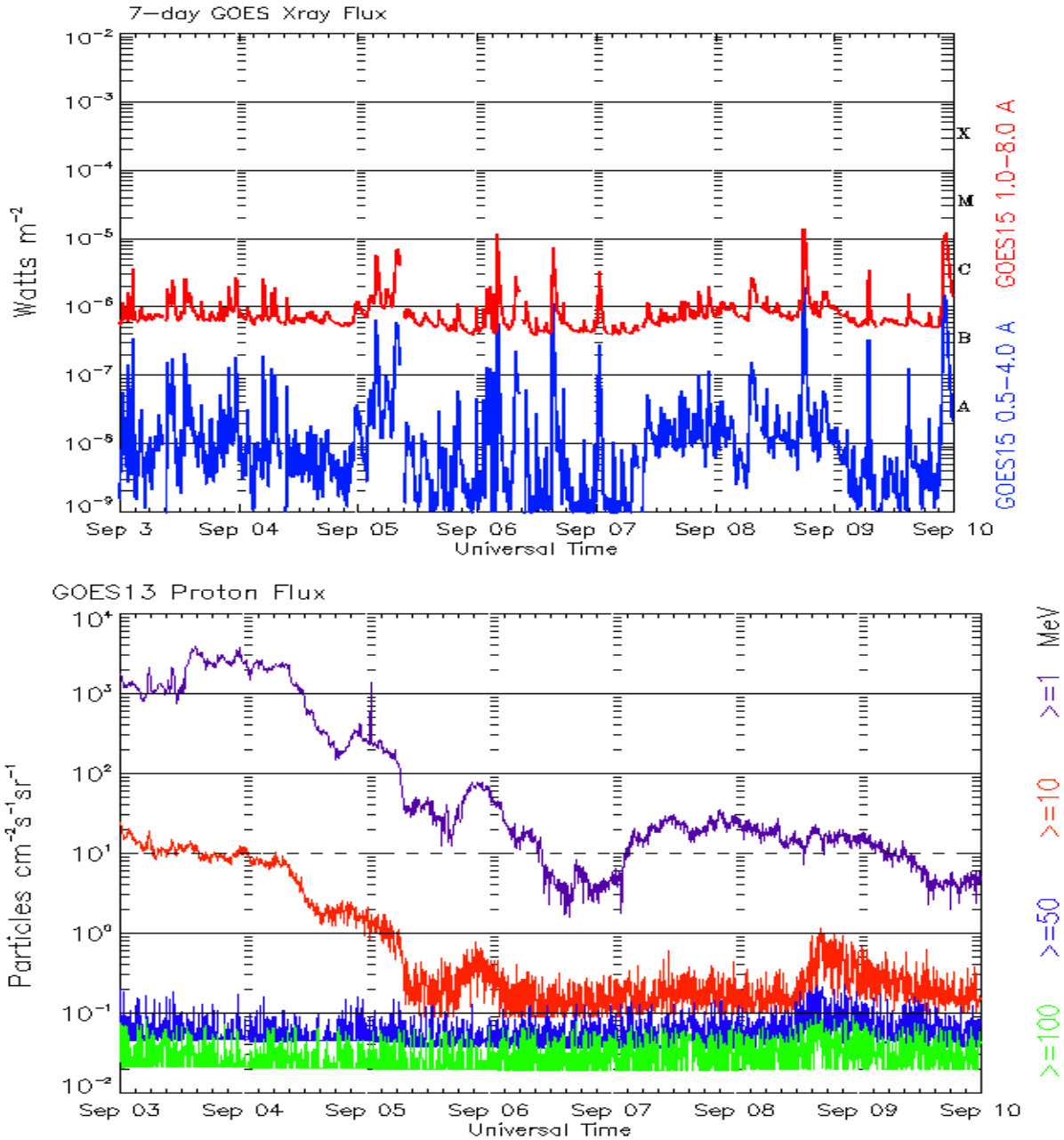
The electron flux plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV by the SWPC Primary GOES satellite.

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 03 September 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.



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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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