

After a relatively unspectacular start, solar activity reached moderate levels this week. The first four days saw only occasional C-class flares. Regions 1575 (N08, L=181, class/area=Eko/320 on 22 Sep) and 1577 (N08, L=162, class/area=Dai/100 on 23 Sep) were the most prolific regions, producing 11 and 9 C-class events, respectively. One of the events from Region 1577, a C3/1f flare at 27/2357 UTC, was associated with a filament eruption northwest of, and adjacent to the region. The CME was subsequently visible in LASCO C2 imagery at 28/0018 UTC and LASCO C3 imagery 12 minutes later. Radial velocity of the ejecta was estimated to be 872 km/s. By midday on the 28th, x-ray background began rising, signaling an increase in activity as Region 1583 began to grow rapidly. By 30 September at 0433 UTC, Region 1583 (N12, L=187, class/area=Dso/90 on 30 Sep) had produced an M1 flare. Later that day, Region 1575 produced the second largest flare of the week, a C9/Sf at 30/2339 UTC.

A 10 MeV integrated proton flux greater than 10 pfu event occurred in conjunction with the C3 flare mentioned above. Proton flux crossed the 10 pfu threshold on 28/0300 UTC, peaked at 28 pfu at 28/0445 UTC, and ended at 28/1040 UTC.

The greater than 2 MeV electron flux at geosynchronous orbit reached moderate levels each day of the week.

Geomagnetic field activity was quiet until the end of the week when it reached active levels. The CME from 28 September described above reached earth on the 30th. Two separate interplanetary shocks (IPS) were observed at the ACE spacecraft. The first was at 30/1025 UTC, followed by a 15nT geomagnetic sudden impulse (SI) observed at the Boulder magnetometer at 30/1138 UTC. A second IPS was observed at the ACE spacecraft at 30/2213 UTC followed by a 35nT SI at the Boulder magnetometer at 30/2307 UTC. The first sudden impulse was followed by unsettled conditions; the second, by active conditions. The Bz component of the interplanetary magnetic field reached -15 at 30/2225 UTC and continues to hover between -15 and -20 nT at the time of this report.

## **Space Weather Outlook**

### **01 October - 27 October 2012**

Solar activity is expected to be at low levels, with a chance for moderate activity, particularly for the first two days of the forecast period and again in mid-October.

No proton events are expected at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at background levels except for 7-9 October in association with a recurrent coronal hole.

Geomagnetic field activity is expected to begin the period ranging from minor to strong (G1-G3) levels due to the CME from 28 September. Conditions should quickly return to mostly quiet and for the period be generally quiet levels with the possible exceptions of 3-5 October and 15-17 October when coronal hole high speed streams are expected to be geoeffective.



### *Daily Solar Data*

Date	Radio Flux 10.7cm	Sun spot No.	Sunspot Area (10 <sup>-6</sup> hemi.)	X-ray Background Flux	Flares							
					X-ray			Optical				
					C	M	X	S	1	2	3	4
24 September	137	90	470	B5.2	2	0	0	2	0	0	0	0
25 September	140	121	560	B4.6	6	0	0	6	0	0	0	0
26 September	139	113	710	B3.7	1	0	0	0	0	0	0	0
27 September	133	97	600	B3.2	2	0	0	1	1	0	0	0
28 September	138	77	590	B3.8	0	0	0	1	0	0	0	0
29 September	136	70	830	B5.6	11	0	0	13	0	0	0	0
30 September	136	95	830	B5.7	12	1	0	12	0	0	0	0

### *Daily Particle Data*

Date	Proton Fluence (protons/cm <sup>2</sup> -day -sr)			Electron Fluence (electrons/cm <sup>2</sup> -day -sr)		
	>1 MeV	>10 MeV	>100 MeV	>0.6 MeV	>2MeV	>4 MeV
	24 September	9.0e+05	2.8e+04	2.8e+03		1.3e+07
25 September	1.4e+06	3.0e+04	2.8e+03		1.1e+07	
26 September	3.1e+06	3.4e+04	2.6e+03		1.0e+07	
27 September	1.5e+06	2.4e+04	2.5e+03		5.6e+06	
28 September	2.7e+06	7.1e+05	5.0e+03		9.5e+06	
29 September	3.1e+06	2.1e+05	3.2e+03		9.7e+06	
30 September	1.1e+07	7.4e+04	2.6e+03		3.8e+06	

### *Daily Geomagnetic Data*

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	24 September	2	0-0-0-0-1-1-1-1	0	0-0-0-0-0-0-0-0	2
25 September	2	1-1-0-1-1-1-0-0	0	0-0-0-0-1-0-0-0	2	1-0-0-1-1-1-0-0
26 September	6	1-1-1-1-2-1-3-2	2	0-0-0-0-1-0-2-2	6	1-1-1-1-2-1-3-2
27 September	3	1-2-0-1-2-1-0-0	2	2-1-0-0-0-0-0-1	5	2-2-1-1-1-1-1-1
28 September	2	0-0-0-1-1-1-1-0	0	0-0-0-0-0-0-0-0	2	1-0-0-1-1-1-0-0
29 September	4	0-1-1-2-2-1-1-1	0	0-0-0-1-0-0-0-0	4	0-1-1-2-1-1-1-1
30 September	9	1-1-1-3-3-2-2-3	13	1-0-0-1-3-5-2-4	10	1-1-1-3-3-3-2-4

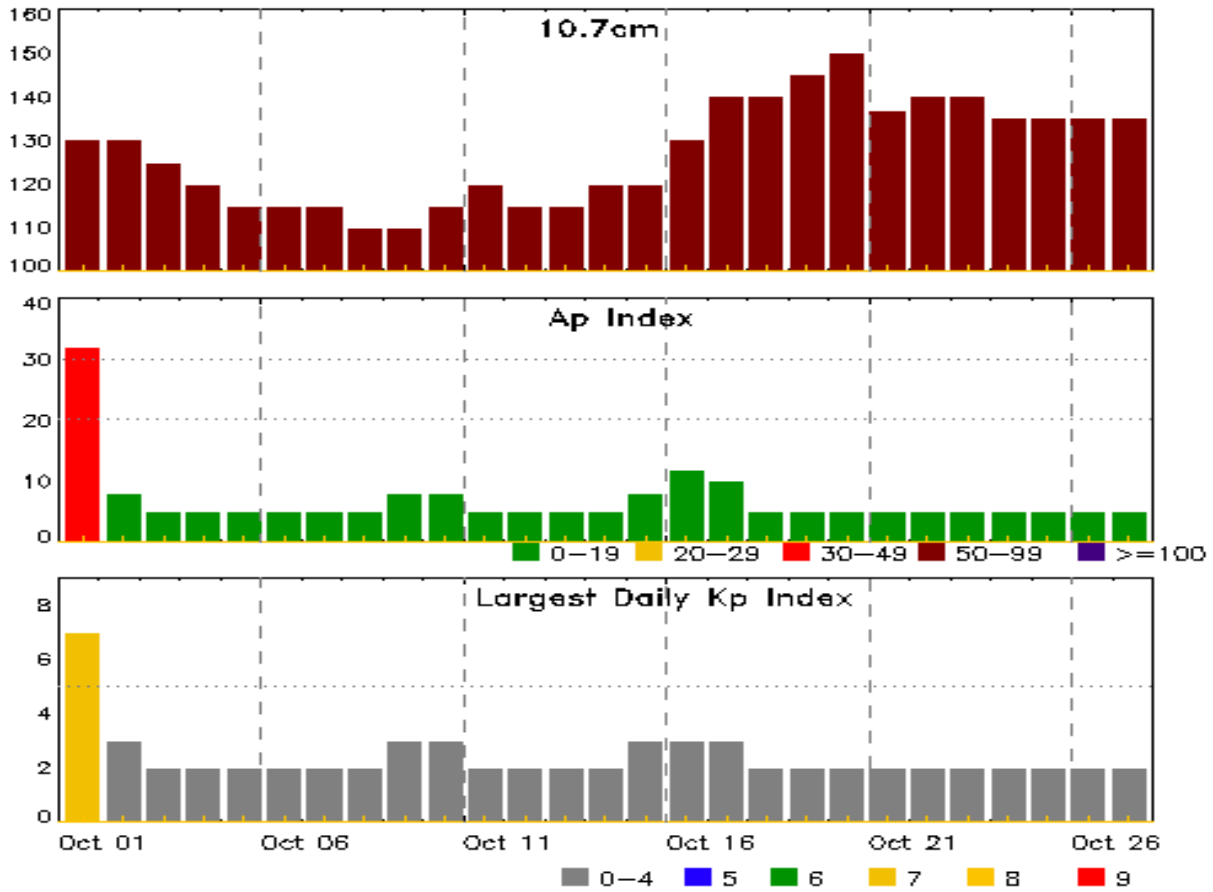


### *Alerts and Warnings Issued*

<b>Date &amp; Time of Issue UTC</b>	<b>Type of Alert or Warning</b>	<b>Date &amp; Time of Event UTC</b>
28 Sep 0147	WARNING: Proton 10MeV Integral Flux > 10pfu	28/0200 - 1400
28 Sep 0315	ALERT: Proton Event 10MeV Integral Flux >= 10pfu	28/0300
28 Sep 1455	SUMMARY: Proton Event 10MeV Integral Flux >= 10pfu	28/0300 - 1040
28 Sep 2027	WATCH: Geomagnetic Storm Category G2 predicted	
30 Sep 1041	WARNING: Geomagnetic Sudden Impulse expected	30/1140 - 1210
30 Sep 1148	SUMMARY: Geomagnetic Sudden Impulse	30/1138
30 Sep 2120	CANCELLATION: Geomagnetic Storm Category G2 predicted	
30 Sep 2121	WATCH: Geomagnetic Storm Category G1 predicted	
30 Sep 2221	WARNING: Geomagnetic Sudden Impulse expected	30/2300 - 2330
30 Sep 2226	WARNING: Geomagnetic K = 4	30/2230 - 01/1200
30 Sep 2311	ALERT: Geomagnetic K = 4	30/2308
30 Sep 2316	SUMMARY: Geomagnetic Sudden Impulse	30/2307



## 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
01 Oct	130	32	7	15 Oct	120	8	3
02	130	8	3	16	130	12	3
03	125	5	2	17	140	10	3
04	120	5	2	18	140	5	2
05	115	5	2	19	145	5	2
06	115	5	2	20	150	5	2
07	115	5	2	21	137	5	2
08	110	5	2	22	140	5	2
09	110	8	3	23	140	5	2
10	115	8	3	24	135	5	2
11	120	5	2	25	135	5	2
12	115	5	2	26	135	5	2
13	115	5	2	27	135	5	2
14	120	5	2				



### *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
30 Sep	0427	0433	0442	M1.3	0.007			1583				

### *Flare List*

Date	Time			X-ray Class	Imp/ Brtns	Location	Rgn #
	Begin	Max	End				
24 Sep	0725	U0726	A0731		SF	N09E10	1575
24 Sep	0944	0949	0954	B9.6	SF	N09E09	1575
24 Sep	1539	1542	1545	C1.6			1578
24 Sep	1923	1931	1939	C1.9			1580
25 Sep	0151	0155	0159	C1.1			
25 Sep	0240	0247	0255	C1.7	SF	N08E01	1575
25 Sep	0424	0435	0449	C3.6	SF	N09E20	1577
25 Sep	0634	0658	0724	C1.0			1573
25 Sep	0637	0637	0640		SF	N09W04	1575
25 Sep	0637	0637	0640		SF	N19E78	1580
25 Sep	0655	U0655	A0702		SF	N19W42	1573
25 Sep	0937	0943	0951	C1.1			
25 Sep	1747	1753	1756	C4.5	SF	N20E71	1580
25 Sep	2205	2208	2211	B9.3			1573
26 Sep	1214	1240	1331	C1.2			1582
27 Sep	0653	0656	0659	B7.5			
27 Sep	1704	1720	1730	C4.4	SF	S18E39	1579
27 Sep	2336	2357	0034	C3.7	1F	N06W34	1577
28 Sep	0926	0927	0948		SF	N08W30	1577
28 Sep	2115	2118	2120	B8.5			1576
29 Sep	0120	0120	0125		SF	N11W63	
29 Sep	0329	0333	0337		SF	N13W63	
29 Sep	0405	0409	0420		SF	N13W63	
29 Sep	0501	0508	0512		SF	N13W64	
29 Sep	0617	0753	0759	C1.2	SF	N06W45	1575
29 Sep	0750	0753	0756	C1.2	SF	N09W66	1577
29 Sep	0852	0857	0905	C1.2	SF	N10W46	1577
29 Sep	1024	1030	1036	C1.2	SF	N21E25	1580
29 Sep	1044	1048	1056		SF	N21E25	1580
29 Sep	1323	1339	1349	C1.1			1577



## *Flare List*

Date	Time			X-ray Class	Optical		Rgn #
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	
29 Sep	1537	1547	1601	C1.6			1577
29 Sep	1709	1719	1723	C1.4			1575
29 Sep	1734	1738	1743	C1.2			1575
29 Sep	1746	1809	1821	C1.4			1575
29 Sep	1837	1847	1857	C1.2			1575
29 Sep	1942	1943	1945		SF	N11W89	1583
29 Sep	2055	2058	2104	C1.3			1577
29 Sep	2208	2211	2214		SF	N08W76	1575
29 Sep	2249	2250	2252		SF	N10W74	1575
29 Sep	2319	2320	2331		SF	N13W79	1583
30 Sep	0007	0010	0012	C1.0	SF	N09W77	1575
30 Sep	0042	0045	0048	C1.0			1577
30 Sep	0108	0111	0113	B8.5	SF	N12W77	1583
30 Sep	0336	0336	0340		SF	N08W74	1575
30 Sep	0427	0433	0442	M1.3			1583
30 Sep	0634	0637	0710	C2.9	SF	N04W62	1577
30 Sep	0657	0658	0703		SF	N07W77	1575
30 Sep	1050	1051	1055		SF	S20E37	
30 Sep	1229	1233	1236	C1.0			1584
30 Sep	B1328	U1331	A1359		SF	S23E37	
30 Sep	1421	1426	1433	C2.3	SF	N08W81	1575
30 Sep	1501	1510	1514	C2.5	SF	N09W89	1575
30 Sep	1705	1713	1715		SF	S23E36	1584
30 Sep	1753	1755	1757		SF	S23E36	1584
30 Sep	2004	2008	2010	C2.3			
30 Sep	2057	2101	2104	C1.6			
30 Sep	2116	2120	2123	C7.1			
30 Sep	2201	2206	2209	C2.8			
30 Sep	2239	2243	2247	C1.9			
30 Sep	2317	2339	2344	C9.9	SF	N09W89	1575



## Region Summary

Date	Location		Sunspot Characteristics				Flares											
	Lat CMD	Helio Lon	Area 10 <sup>6</sup> hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical							
								C	M	X	S	1	2	3	4			
<b>Region 1571</b>																		
12 Sep	S12E57	279	110	6	Cso	1	B											
13 Sep	S13E46	277	130	8	Cso	3	B											
14 Sep	S12E33	277	100	6	Cso	2	B											
15 Sep	S13E19	277	100	5	Cso	3	B											
16 Sep	S13E06	277	90	7	Cso	6	B											
17 Sep	S13W08	279	60	2	Hsx	3	A											
18 Sep	S13W21	279	60	2	Hsx	2	A											
19 Sep	S14W35	280	30	2	Hsx	1	A											
20 Sep	S14W46	278	50	6	Cao	3	B											
21 Sep	S13W59	276	10	5	Bxo	3	B											
22 Sep	S13W72	277	plage															
23 Sep	S13W86	278	plage															
										0	0	0	0	0	0	0	0	0

Crossed West Limb.  
Absolute heliographic longitude: 277

<b>Region 1573</b>																		
15 Sep	N17E76	222	plage									1						
16 Sep	N17E62	222	10		Axx	1	A					1						
17 Sep	N16E48	222	0		Axx	1	A											
18 Sep	N19E36	221	10	3	Bxo	2	B											
19 Sep	N19E22	223	plage									1						
20 Sep	N19E08	224	plage															
21 Sep	N18W04	221	0	2	Axx	2	A					2						
22 Sep	N18W17	222	plage															
23 Sep	N18W31	223	plage															
24 Sep	N15W44	223	10	1	Axx	1	A											
25 Sep	N15W56	222	50	4	Cai	8	B	1				1						
26 Sep	N16W69	222	70	5	Cso	8	B											
27 Sep	N16W83	222	plage															
										1	0	0	6	0	0	0	0	0

Crossed West Limb.  
Absolute heliographic longitude: 221



**Region Summary - continued**

Date	Location		Sunspot Characteristics				Flares											
	Lat CMD	Helio Lon	Area 10 <sup>6</sup> hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical							
								C	M	X	S	1	2	3	4			
<b>Region 1575</b>																		
18 Sep	N07E75	185	140	4	Dao	2	B	1										
19 Sep	N10E62	183	220	12	Eao	4	B					1						
20 Sep	N07E50	182	280	12	Eko	6	B											
21 Sep	N08E37	180	250	12	Eko	4	B											
22 Sep	N08E24	181	320	12	Eko	10	BG											
23 Sep	N08E11	181	260	13	Eho	13	BG											
24 Sep	N09W03	182	200	13	Eso	13	BG					2						
25 Sep	N08W16	182	180	13	Eso	11	BG	1				2						
26 Sep	N08W29	182	170	9	Dso	7	BG											
27 Sep	N09W46	185	130	3	Hax	4	A											
28 Sep	N08W60	186	100	6	Hsx	6	A											
29 Sep	N07W73	186	100	2	Hsx	1	A	5				3						
30 Sep	N07W87	187	100	2	Hsx	1	A	4				6						
								13	0	0	14	0	0	0	0			

Still on Disk.

Absolute heliographic longitude: 182

<b>Region 1576</b>																		
19 Sep	S22E62	183	50	9	Dso	4	B	2				2						
20 Sep	S21E52	180	70	7	Dso	3	B											
21 Sep	S21E43	177	50	6	Dso	2	B											
22 Sep	S21E30	175	50	6	Dao	2	B											
23 Sep	S22E17	175	50	6	Dso	2	B											
24 Sep	S21E04	175	40	7	Dso	2	B											
25 Sep	S21W09	175	30	7	Cro	3	B											
26 Sep	S20W21	174	10	5	Bxo	2	B											
27 Sep	S20W35	174	5		Axx	1	A											
28 Sep	S21W47	173	0	1	Axx	1	A											
29 Sep	S21W61	174	plage															
30 Sep	S21W75	175	plage															
								2	0	0	2	0	0	0	0	0		

Still on Disk.

Absolute heliographic longitude: 175





### *Region Summary - continued*

Date	Location		Sunspot Characteristics				Flares											
	Lat CMD	Helio Lon	Area 10 <sup>6</sup> hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical							
								C	M	X	S	1	2	3	4			
<b>Region 1577</b>																		
22 Sep	N08E43	162	20	3	Cao	4	B											
23 Sep	N08E30	162	100	6	Dai	12	B											
24 Sep	N09E17	161	80	8	Dao	8	B											
25 Sep	N09E03	163	60	8	Cso	7	B	1				1						
26 Sep	N09W12	165	40	10	Dso	5	B											
27 Sep	N09W26	165	15	4	Cso	3	B	1					1					
28 Sep	N08W41	167	10	3	Bxo	4	B					1						
29 Sep	N09W54	167	90	6	Dao	8	B	5				2						
30 Sep	N09W68	168	90	6	Dao	8	B	2				1						
								9	0	0	5	1	0	0	0	0		

Still on Disk.

Absolute heliographic longitude: 163

#### **Region 1578**

24 Sep	N21E10	169	20	3	Cro	5	B	1										
25 Sep	N21W04	170	10	4	Bxo	3	B											
26 Sep	N21W17	170	plage															
27 Sep	N21W31	169	5	1	Axx	1	A											
28 Sep	N21W45	171	plage															
29 Sep	N21W59	172	plage															
30 Sep	N21W75	174	10	4	Cao	2	B											
								1	0	0	0	0	0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 170

#### **Region 1579**

24 Sep	S09E70	109	120	3	Hax	1	A											
25 Sep	S09E58	108	180	7	Cso	3	B											
26 Sep	S09E45	108	160	6	Cso	3	B											
27 Sep	S10E33	106	160	3	Hsx	2	A	1										
28 Sep	S09E20	106	200	4	Cso	3	B											
29 Sep	S08E05	106	190	5	Cso	5	B											
30 Sep	S09W08	107	180	2	Cso	4	B											
								1	0	0	0	0	0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 106



### *Region Summary - continued*

Date	Location		Sunspot Characteristics				Flares										
	Lat CMD	Lon	Helio 10 <sup>6</sup> hemi.	Area	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical					
									C	M	X	S	1	2	3	4	
<b>Region 1580</b>																	
25 Sep	N17E67	99	30	5	Cro	3	B	1			2						
26 Sep	N17E53	100	30	6	Cro	4	B										
27 Sep	N17E40	100	20	9	Cso	3	B										
28 Sep	N19E28	98	0	1	Axx	2	A										
29 Sep	N19E14	99	plage					1			2						
30 Sep	N19W00	100	plage														
								3	0	0	4	0	0	0	0	0	

Still on Disk.  
Absolute heliographic longitude: 100

<b>Region 1581</b>																	
25 Sep	N22E03	163	20	4	Cao	3	B										
26 Sep	N22W10	163	30	5	Cao	3	B										
27 Sep	N22W24	163	5	1	Axx	2	A										
28 Sep	N22W38	164	plage														
29 Sep	N22W52	165	plage														
30 Sep	N22W66	166	plage														
								0	0	0	0	0	0	0	0	0	0

Still on Disk.  
Absolute heliographic longitude: 163

<b>Region 1582</b>																	
26 Sep	S12E68	85	200	4	Hsx	1	A	1									
27 Sep	S13E55	84	260	4	Hhx	1	A										
28 Sep	S12E42	84	280	4	Hhx	1	A										
29 Sep	S11E28	85	360	4	Hhx	1	A										
30 Sep	S12E15	84	350	3	Hhx	1	A										
								1	0	0	0	0	0	0	0	0	0

Still on Disk.  
Absolute heliographic longitude: 84

<b>Region 1583</b>																	
29 Sep	N13W75	188	90	8	Dso	5	B				2						
30 Sep	N12W88	187	90	5	Dso	6	B		1		1						
								0	1	0	3	0	0	0	0	0	

Still on Disk.  
Absolute heliographic longitude: 188



**Region Summary - continued**

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

**Region 1584**

30 Sep	S23E28	71	10	2	Cao	3	B	1			2						
								1	0	0	2	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 71

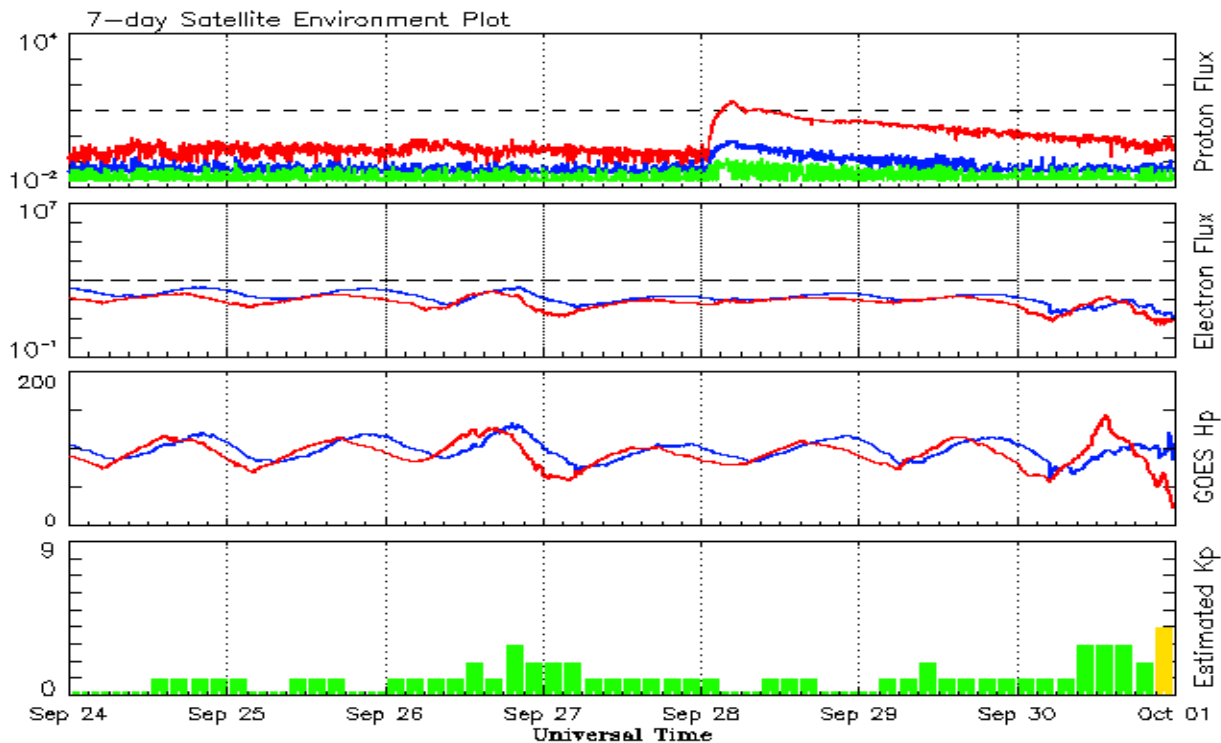


**Recent Solar Indices (preliminary)**  
**Observed monthly mean values**

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
<b>2010</b>									
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
<b>2011</b>									
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
<b>2012</b>									
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		115.1	126.8	14	8.1
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	
September	84.0					123.2		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 24 September 2012*

The proton flux plot contains the five-minute averaged integral proton flux (protons/cm<sup>2</sup>-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.

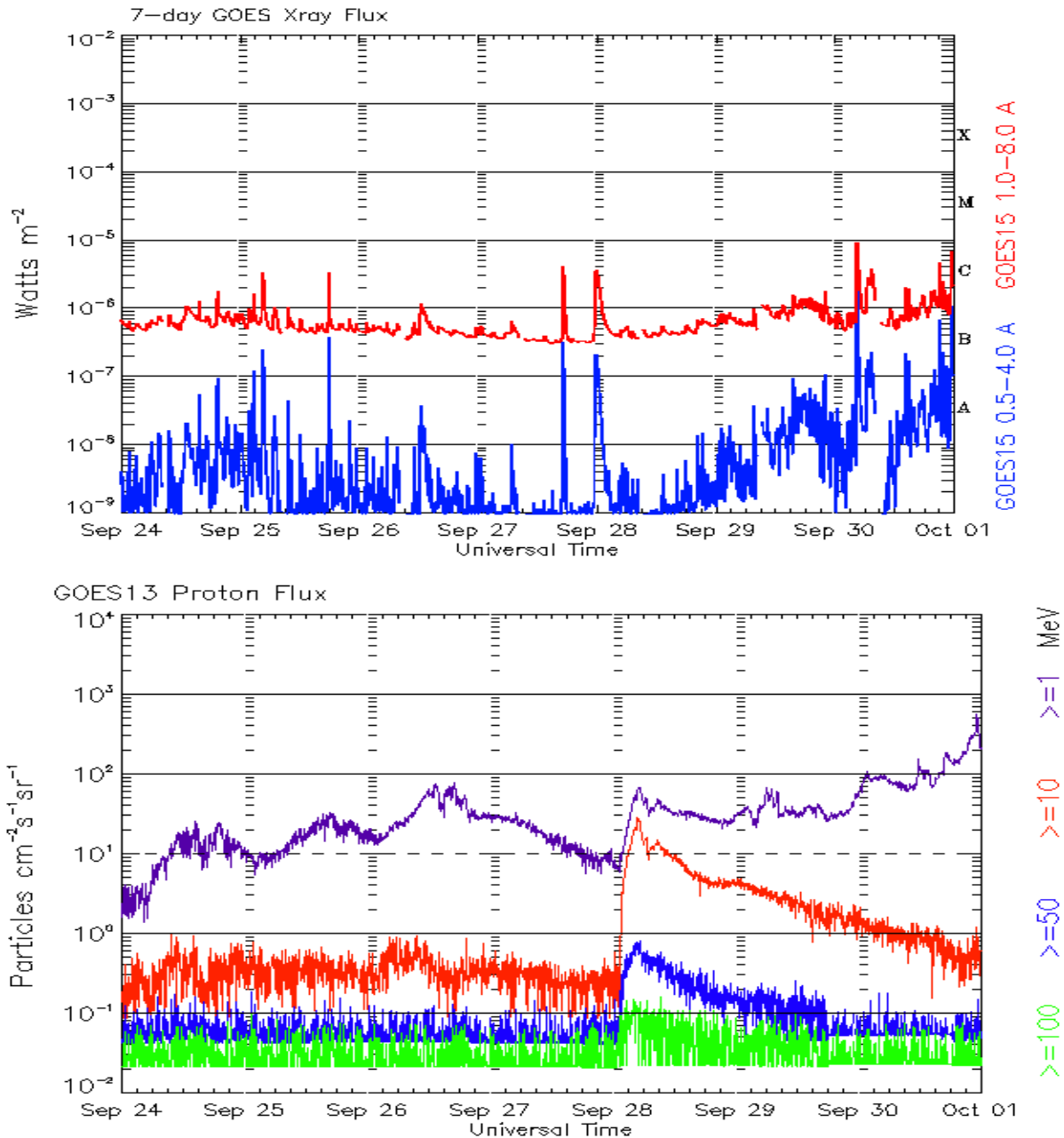
The electron flux plot contains the five-minute averaged integral electron flux (electrons/cm<sup>2</sup>-sec -sr) with energies greater than 2 MeV by the SWPC Primary GOES satellite.

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 24 September 2012*

The x-ray plots contains five-minute averages x-ray flux (Watt/m<sup>2</sup>) 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/cm<sup>2</sup> -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)***

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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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