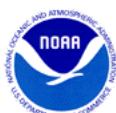


Solar activity was at moderate to high levels. Moderate levels were observed on 09 Sep while high levels were observed for the rest of the period. Region 2673 (S09, L=119, class/area Dkc/1060 on 08 Sep) quickly overtook Region 2674 (N14, L=103, class/area Fhc/930 on 03 Sep) in terms of area and magnetic complexity. Region 2673 maintained a very active beta-gamma-delta magnetic group from 04 Sep until it rotated onto the western limb on 10 Sep. This region managed to produce a total of 54 C-flares, 26 M-flares, and 4 X-flares. On 04 Sep, there was an M5/3b flare (R2-Moderate) at 04/2033 UTC with an associated 2100 sfu Tenflare, Type II (estimated velocity 1,472 km/s) radio sweep, and an asymmetric full halo CME first observed in SOHO/LASCO C2 imagery at 04/2048 UTC. On 06 Sep, there was an X9/2b flare (R3-Strong) that occurred at 06/1202 UTC with an associated 14,000 sfu Tenflare, Type II (estimated velocity 1,765 km/s) and Type IV radio sweeps, and an asymmetric full halo CME first observed in SOHO/LASCO C2 imagery at 06/1224 UTC. On 10 Sep, an X8 flare (R3-Strong) occurred at 10/1606 UTC with an associated 1,900 sfu Tenflare, Type II (estimated velocity 928 km/s) and Type IV radio sweeps and an asymmetric full halo CME first observed in SOHO/LASCO C2 imagery at 10/1600 UTC. A magnetic crochet was observed on solar-facing magnetometers during the X8 flare as well as an EIT wave propagating across the solar disk in SDO/EUV 193 imagery beginning at 10/1557 UTC. The CMEs observed on 04 and 06 Sep were determined to have Earth-directed components. The 10 Sep CME had an estimated plane-of-sky speed around 2,100 km/s; however the bulk of the CME was not Earth-directed. Analysis is still on-going for the event.

The M5 flare on 04 Sep and X9 flare on 06 Sep caused an enhancement in the greater than 10 MeV proton flux above the 100 pfu (S2-Moderate) threshold. The enhancement reached the 10 pfu (S1-Minor) threshold at 05/0040 UTC, crossed the 100 pfu threshold at 05/0715 UTC, reached a maximum of 844 pfu at 08/0035 UTC, crossed below the 100 pfu threshold at 08/0620 UTC, and ended at 09/0005 UTC. Another enhancement in the 10 MeV protons and 100 MeV protons occurred with the X8 flare on 10 Sep. The greater than 10 MeV protons increased above the 10 pfu threshold at 10/1645 UTC, crossed the 100 pfu threshold at 10/1705 UTC, and crossed the 1000 pfu (S3-Strong) threshold at 10/1840 UTC. The 100 MeV proton event above 1 pfu began at 10/1625 UTC and reached a maximum of 68 pfu at 10/2215 UTC. The greater than 10 MeV protons are currently above the 1000 pfu threshold at the time of this report.

The greater than 2 MeV electron flux at geosynchronous orbit reached high levels throughout the period with a maximum flux of 15,800 pfu observed at 04/1805 UTC.

Geomagnetic field activity ranged from quiet to severe (G4) storm levels. Solar wind parameters began the period under the diminishing influence of a positive polarity coronal hole high speed stream (CH HSS) from 04-06 Sep. Solar wind speed ranged from 430 to 680 km/s with total field between 3-9 nT. The geomagnetic field was at Quiet to G1 (Minor) storm levels on 04 Sep and quiet to active levels on 05-06 Sep. Late on 06 Sep, the first of two CMEs were observed. The first CME, associated with the M5 flare on 04 Sep, was first observed passing the DSCOVR



spacecraft at 06/2308 UTC. Total field increased to 16 nT at 06/2324 UTC and solar wind increased to a maximum of 610 km/s at 06/2309 UTC. The Bz component was mostly north for this event with minor fluctuations to -10 nT. Then on 07 Sep, the second CME reached the DSCOVR spacecraft further increasing total field to a maximum of 34 nT at 07/2254 UTC while the Bz component deflected southward for nearly 5 hrs. reaching a maximum of -32 nT. Solar wind increased to a maximum of 842 km/s at 08/0848 UTC before slowly decreasing to near 530 km/s by 10 Sep. Total field increased once more at 08/1121 UTC to a maximum of 18 nT while the Bz component went southward to a maximum of -17 nT. The Bz component stayed mostly negative throughout the rest of the day on 08 Sep. Geomagnetic sudden impulses of 21 nT (Fredericksburg magnetometer) were observed at 06/2348 UTC and 70 nT at 07/2304 UTC with the arrival of both CMEs. The geomagnetic field responded with quiet to G4 (severe) storm levels on 07 Sep, active to G4 (severe) storm levels on 08 Sep, quiet to unsettled levels on 09 Sep, and quiet to active levels on 10 Sep.

Space Weather Outlook

11 September - 07 October 2017

Solar activity is expected to be at R1-R2 (Minor to Moderate) levels on 11 Sep as Region 2673 rotates further around the west limb. A decrease to very low to low levels is expected from 12-21 Sep. Another increase to R1-R2 levels is likely with the return of old Region 2673 on the visible disk on 22 Sep-05 Oct followed by a decrease to very low to low levels on 06-07 Oct.

The greater than 10 MeV proton event in progress is likely to continue through 14 Sep while the greater than 100 MeV proton event is likely to drop below the 1 pfu threshold by 12 Sep barring any further enhancements. There is a chance for another greater than 10 MeV proton event above the 10 pfu (S1-Minor) level from 22 Sep-06 Oct due to the return of old Region 2673 to the visible disk.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at high levels on 11-12 Sep, 14-20 Sep, and 28 Sep-07 Oct due to CH HSS influence.

Geomagnetic field activity is expected to be at unsettled to active levels on 11-17 Sep and 27 Sep-02 Oct with G1 (Minor) levels likely on 13-16 Sep and 27-29 Sep due to recurrent CH HSS activity. G2 (Moderate) geomagnetic storm levels are likely on 13 Sep due to a combination of CH HSS activity and the possibility of a glancing blow enhancement from the 10 Sep CME.



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
04 September	140	122	1470	C1.6	8	7	0	17	4	0	1	0
05 September	121	122	1630	C1.2	7	5	0	16	2	0	0	0
06 September	133	79	1690	C1.9	2	3	2	8	1	1	1	0
07 September	129	94	1660	C1.2	8	4	1	11	3	1	0	0
08 September	117	89	1760	B8.6	16	5	0	12	2	2	0	0
09 September	107	49	1110	B6.7	10	3	0	14	1	0	0	0
10 September	100	38	420	B4.9	4	0	1	2	0	0	0	0

Daily Particle Data

Date	Proton Fluence (protons/cm ² -day -sr)			Electron Fluence (electrons/cm ² -day -sr)		
	>1 MeV	>10 MeV	>100 MeV	>0.6 MeV	>2MeV	>4 MeV
	04 September		8.9e+07	2.5e+04	3.4e+03	
05 September		1.1e+09	8.0e+06	4.4e+03		1.5e+08
06 September		1.2e+09	3.5e+06	1.2e+04		3.0e+08
07 September		1.1e+09	1.5e+07	4.9e+03		7.2e+07
08 September		8.1e+08	6.7e+06	3.0e+03		4.4e+07
09 September		2.7e+08	2.8e+05	3.7e+03		3.4e+08
10 September		5.7e+08	1.8e+07	1.1e+06		4.9e+08

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	04 September	16	4-3-2-2-2-2-4-4	16	2-1-2-5-4-3-2-3	18
05 September	11	3-3-3-2-2-3-2-2	14	3-3-3-4-4-1-1-1	12	4-3-3-2-2-3-2-2
06 September	18	2-2-2-4-5-3-1-4	9	1-1-2-4-2-2-0-3	11	2-2-2-3-3-2-0-4
07 September	23	2-3-3-3-4-3-2-6	60	3-5-7-7-4-3-3-6	38	3-4-4-4-3-2-2-8
08 September	50	6-4-4-4-7-5-4-4	110	6-6-4-5-9-7-6-4	96	8-5-4-5-8-7-6-5
09 September	6	3-2-2-1-1-1-1-1	3	3-1-1-1-1-0-0-0	6	3-2-2-1-1-1-1-1
10 September	12	1-1-1-1-2-5-3-3	3	0-0-0-0-0-1-1-3	4	1-0-1-1-1-3-2-4



Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
04 Sep 0134	WARNING: Geomagnetic K = 4	04/0134 - 0900
04 Sep 0213	ALERT: Geomagnetic K = 4	04/0213
04 Sep 0502	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	01/1350
04 Sep 1941	WARNING: Geomagnetic K = 4	04/1940 - 2359
04 Sep 1949	ALERT: Type IV Radio Emission	04/1938
04 Sep 2032	SUMMARY: 10cm Radio Burst	04/2011 - 2018
04 Sep 2035	ALERT: X-ray Flux exceeded M5	04/2033
04 Sep 2050	SUMMARY: X-ray Event exceeded M5	04/2028 - 2037
04 Sep 2103	ALERT: Geomagnetic K = 4	04/2059
04 Sep 2112	ALERT: Type II Radio Emission	04/2042
04 Sep 2136	SUMMARY: 10cm Radio Burst	04/2027 - 2119
04 Sep 2318	WARNING: Geomagnetic K = 5	04/2317 - 05/0600
04 Sep 2325	EXTENDED WARNING: Geomagnetic K = 4	04/1940 - 05/0900
05 Sep 0000	ALERT: Geomagnetic K = 5	04/2359
05 Sep 0030	WARNING: Proton 10MeV Integral Flux $>$ 10pfu	05/0030 - 1200
05 Sep 0039	ALERT: Proton Event 10MeV Integral Flux \geq 10pfu	05/0038
05 Sep 0601	ALERT: Type IV Radio Emission	05/0500
05 Sep 0732	ALERT: Proton Event 10MeV Integral Flux \geq 100pfu	05/0715
05 Sep 0826	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	01/1350
05 Sep 1137	EXTENDED WARNING: Proton 10MeV Integral Flux $>$ 10pfu	05/0030 - 2359
05 Sep 1221	ALERT: Type IV Radio Emission	05/1139
05 Sep 1313	WATCH: Geomagnetic Storm Category G2 predicted	
05 Sep 1714	WATCH: Geomagnetic Storm Category G3 predicted	
05 Sep 2139	EXTENDED WARNING: Proton 10MeV Integral Flux $>$ 10pfu	05/0030 - 07/0400
06 Sep 0501	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	01/1350
06 Sep 0620	SUMMARY: Proton Event 10MeV Integral Flux \geq 100pfu	05/0715 - 2350



Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
06 Sep 0912	ALERT: X-ray Flux exceeded M5	06/0904
06 Sep 0934	SUMMARY: 10cm Radio Burst	06/0903 - 0909
06 Sep 1008	SUMMARY: X-ray Event exceeded X1	06/0848 - 0959
06 Sep 1200	ALERT: X-ray Flux exceeded M5	06/1156
06 Sep 1209	SUMMARY: 10cm Radio Burst	06/1154 - 1157
06 Sep 1210	ALERT: Type IV Radio Emission	06/1201
06 Sep 1212	ALERT: Type II Radio Emission	06/1202
06 Sep 1245	SUMMARY: X-ray Event exceeded X1	06/1153 - 1210
06 Sep 1302	WARNING: Proton 100MeV Integral Flux > 1pfu	06/1305 - 2359
06 Sep 1800	ALERT: Type IV Radio Emission	06/1733
06 Sep 2126	WATCH: Geomagnetic Storm Category G3 predicted	
06 Sep 2301	EXTENDED WARNING: Proton 10MeV Integral Flux > 10pfu	05/0030 - 08/0600
06 Sep 2323	WARNING: Geomagnetic Sudden Impulse expected	06/2330 - 07/0010
06 Sep 2332	WARNING: Geomagnetic K = 4	06/2330 - 07/1200
06 Sep 2352	ALERT: Proton Event 10MeV Integral Flux >= 100pfu	06/2345
06 Sep 2357	ALERT: Geomagnetic K = 4	06/2355
06 Sep 2358	SUMMARY: Geomagnetic Sudden Impulse	06/2348
07 Sep 0002	WARNING: Geomagnetic K = 5	07/0003 - 0900
07 Sep 0501	CONTINUED ALERT: Electron 2MeV Integral Flux >= 1000pfu	01/1350
07 Sep 0857	EXTENDED WARNING: Geomagnetic K = 5	07/0003 - 1500
07 Sep 0902	EXTENDED WARNING: Geomagnetic K = 4	06/2330 - 07/1800
07 Sep 1008	SUMMARY: 10cm Radio Burst	07/0953 - 0954
07 Sep 1016	ALERT: Type IV Radio Emission	07/0954
07 Sep 1018	ALERT: X-ray Flux exceeded M5	07/1015
07 Sep 1029	SUMMARY: X-ray Event exceeded M5	07/1013 - 1020
07 Sep 1033	SUMMARY: 10cm Radio Burst	07/1014 - 1016
07 Sep 1123	ALERT: Type IV Radio Emission	07/1035
07 Sep 1421	ALERT: Type II Radio Emission	07/1345



Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
07 Sep 1426	EXTENDED WARNING: Geomagnetic K = 4	06/2330 - 08/0600
07 Sep 1426	EXTENDED WARNING: Geomagnetic K = 5	07/0003 - 08/0600
07 Sep 1435	ALERT: X-ray Flux exceeded M5	07/1433
07 Sep 1453	SUMMARY: 10cm Radio Burst	07/1434 - 1441
07 Sep 1511	SUMMARY: X-ray Event exceeded X1	07/1420 - 1455
07 Sep 1528	SUMMARY: 10cm Radio Burst	07/1446 - 1454
07 Sep 1912	ALERT: Type II Radio Emission	07/1831
07 Sep 2242	WARNING: Geomagnetic Sudden Impulse expected	07/2255 - 2330
07 Sep 2244	WARNING: Geomagnetic K = 6	07/2255 - 08/0600
07 Sep 2257	WARNING: Geomagnetic K \geq 7	07/2300 - 08/0600
07 Sep 2257	ALERT: Geomagnetic K = 5	07/2256
07 Sep 2306	ALERT: Geomagnetic K = 6	07/2302
07 Sep 2309	SUMMARY: Geomagnetic Sudden Impulse	07/2304
07 Sep 2325	ALERT: Geomagnetic K = 7	07/2325
07 Sep 2350	ALERT: Geomagnetic K = 8	07/2350
08 Sep 0022	ALERT: Geomagnetic K = 5	08/0022
08 Sep 0028	ALERT: Geomagnetic K = 6	08/0027
08 Sep 0116	ALERT: Geomagnetic K = 7	08/0116
08 Sep 0151	ALERT: Geomagnetic K = 8	08/0151
08 Sep 0452	ALERT: Geomagnetic K = 5	08/0452
08 Sep 0533	EXTENDED WARNING: Geomagnetic K = 4	06/2330 - 08/2359
08 Sep 0537	EXTENDED WARNING: Geomagnetic K = 6	07/2255 - 08/1500
08 Sep 0537	EXTENDED WARNING: Geomagnetic K = 5	07/0003 - 08/2359
08 Sep 0537	EXTENDED WARNING: Geomagnetic K \geq 7	07/2300 - 08/1500
08 Sep 0537	EXTENDED WARNING: Proton 10MeV Integral Flux > 10pfu	05/0030 - 08/2359
08 Sep 0616	SUMMARY: 10cm Radio Burst	08/0533 - 0544
08 Sep 0747	ALERT: X-ray Flux exceeded M5	08/0746
08 Sep 0859	SUMMARY: X-ray Event exceeded M5	08/0740 - 0758



Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
08 Sep 1201	ALERT: Geomagnetic K = 5	08/1159
08 Sep 1220	ALERT: Geomagnetic K = 5	08/1217
08 Sep 1227	ALERT: Geomagnetic K = 6	08/1224
08 Sep 1233	ALERT: Geomagnetic K = 7	08/1231
08 Sep 1306	ALERT: Geomagnetic K = 8	08/1304
08 Sep 1306	EXTENDED WARNING: Geomagnetic K = 6	07/2255 - 08/2359
08 Sep 1439	EXTENDED WARNING: Geomagnetic K \geq 7	07/2300 - 08/2100
08 Sep 1517	ALERT: Geomagnetic K = 5	08/1514
08 Sep 1544	ALERT: Geomagnetic K = 6	08/1542
08 Sep 1606	ALERT: Geomagnetic K = 7	08/1604
08 Sep 1821	ALERT: Geomagnetic K = 5	08/1819
08 Sep 1954	ALERT: Electron 2MeV Integral Flux \geq 1000pfu	08/1935
08 Sep 2018	ALERT: Geomagnetic K = 6	08/2014
08 Sep 2048	EXTENDED WARNING: Geomagnetic K = 4	06/2330 - 09/2359
08 Sep 2049	EXTENDED WARNING: Proton 10MeV Integral Flux $>$ 10pfu	05/0030 - 09/2359
08 Sep 2049	EXTENDED WARNING: Geomagnetic K = 5	07/0003 - 09/1500
08 Sep 2049	WATCH: Geomagnetic Storm Category G2 predicted	
08 Sep 2049	EXTENDED WARNING: Geomagnetic K = 6	07/2255 - 09/0900
09 Sep 0004	ALERT: Geomagnetic K = 5	08/2359
09 Sep 0501	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	08/1935
09 Sep 1427	CANCELLATION: Proton 10MeV Integral Flux $>$ 10pfu	
09 Sep 1427	SUMMARY: Proton Event 10MeV Integral Flux \geq 100pfu	05/0715 - 08/0620
09 Sep 1427	SUMMARY: Proton Event 10MeV Integral Flux \geq 10pfu	05/0040 - 09/0005
09 Sep 1507	CANCELLATION: Geomagnetic Storm Category G2 predicted	
09 Sep 2321	SUMMARY: 10cm Radio Burst	09/2244 - 2308
09 Sep 2354	ALERT: Type II Radio Emission	09/2252
10 Sep 0501	CONTINUED ALERT:	08/1935

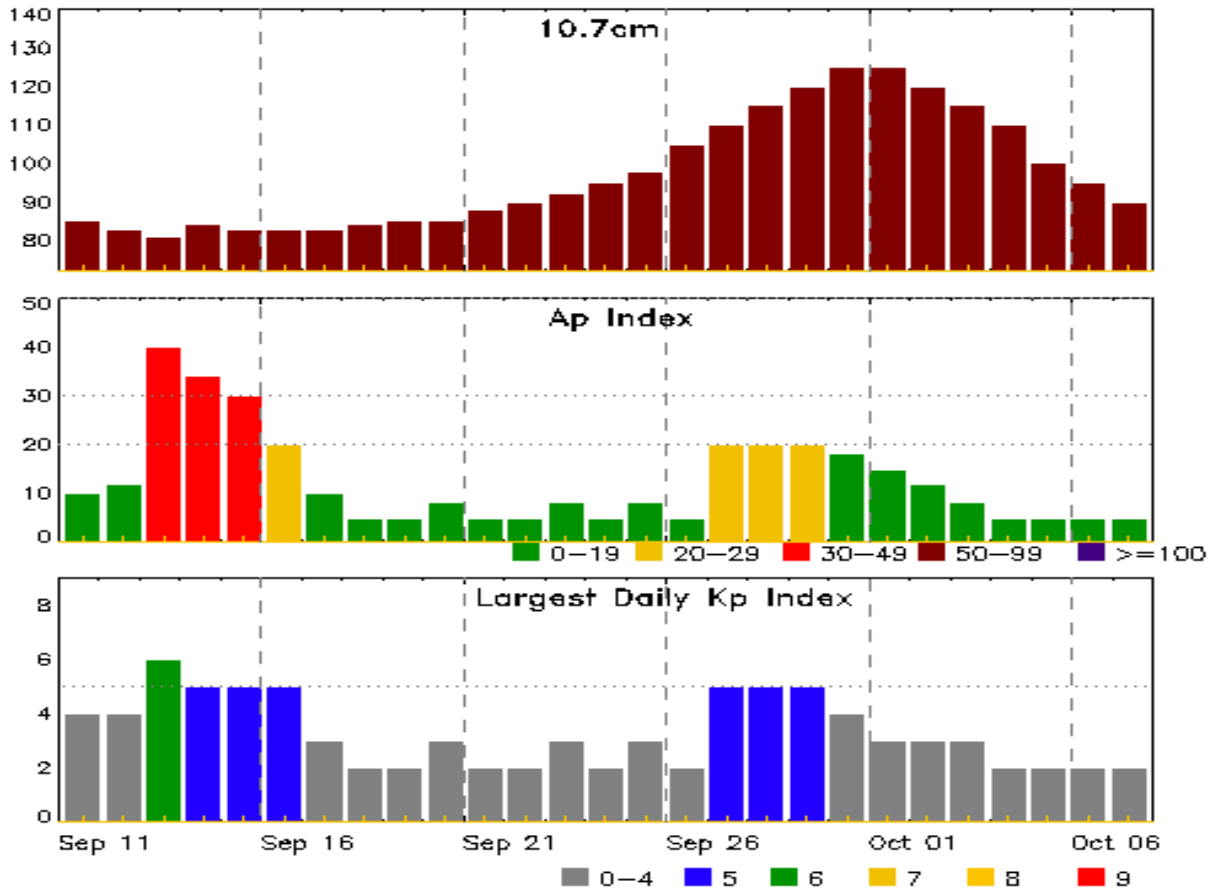


Alerts and Warnings Issued

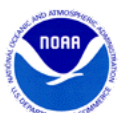
Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
-	Electron 2MeV Integral Flux \geq 1000pfu	-
10 Sep 1558	ALERT: X-ray Flux exceeded M5	10/1553
10 Sep 1632	WARNING: Proton 100MeV Integral Flux $>$ 1pfu	10/1630 - 2359
10 Sep 1632	WARNING: Proton 10MeV Integral Flux $>$ 10pfu	10/1630 - 2359
10 Sep 1640	ALERT: Proton Event 100MeV Integral Flux $>$ 1pfu	10/1625
10 Sep 1647	ALERT: Type II Radio Emission	10/1608
10 Sep 1647	ALERT: Type IV Radio Emission	10/1608
10 Sep 1701	ALERT: Proton Event 10MeV Integral Flux \geq 10pfu	10/1645
10 Sep 1711	ALERT: Proton Event 10MeV Integral Flux \geq 100pfu	10/1705
10 Sep 1720	EXTENDED WARNING: Proton 10MeV Integral Flux $>$ 10pfu	10/1630 - 11/2359
10 Sep 1722	SUMMARY: 10cm Radio Burst	10/1550 - 1706
10 Sep 1813	SUMMARY: X-ray Event exceeded X1	10/1535 - 1631
10 Sep 1846	ALERT: Proton Event 10MeV Integral Flux \geq 1000pfu	10/1840
10 Sep 2341	WARNING: Geomagnetic K = 4	10/2340 - 11/1800
10 Sep 2342	EXTENDED WARNING: Proton 100MeV Integral Flux $>$ 1pfu	10/1630 - 11/2359



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
11 Sep	85	10	4	25 Sep	98	8	3
12	83	12	4	26	105	5	2
13	81	40	6	27	110	20	5
14	84	34	5	28	115	20	5
15	83	30	5	29	120	20	5
16	83	20	5	30	125	18	4
17	83	10	3	01 Oct	125	15	3
18	84	5	2	02	120	12	3
19	85	5	2	03	115	8	3
20	85	8	3	04	110	5	2
21	88	5	2	05	100	5	2
22	90	5	2	06	95	5	2
23	92	8	3	07	90	5	2
24	95	5	2				



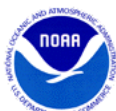
Energetic Events

Date	Time			X-ray		Optical Information			Peak		Sweep Freq	
	Begin	Max	Half Max	Class	Integ Flux	Imp/ Brtns	Location Lat CMD	Rgn #	Radio Flux		Intensity	
									245	2695	II	IV
04 Sep	0536	0549	0605	M1.2	0.015	1F	S10W04	2673				
04 Sep	1511	1530	1533	M1.5	0.006	1N	S06W13	2673	130		100	
04 Sep	1805	1822	1831	M1.0	0.011			2673				
04 Sep	1846	1937	1952	M1.7	0.045			2673				1
04 Sep	1959	2002	2006	M1.5	0.004			2673				
04 Sep	2028	2033	2037	M5.5	0.018	3B	S11W16	2673				
04 Sep	2210	2214	2219	M2.1	0.008			2673				
05 Sep	0103	0108	0111	M4.2	0.010			2673				
05 Sep	0342	0351	0404	M1.0	0.011			2673				
05 Sep	0433	0453	0507	M3.2	0.051			2673				2
05 Sep	0633	0640	0643	M3.8	0.010			2673				
05 Sep	1737	1743	1751	M2.3	0.012	1N	S09W24	2673				
06 Sep	0857	0910	0917	X2.2	0.130	SF	S07W33	2673			410	
06 Sep	1153	1202	1210	X9.3	0.570	2B	S08W33	2673	3200	14000	2	2
06 Sep	1551	1556	1603	M2.5	0.014	3N	S09W38	2673				
06 Sep	1921	1930	1935	M1.4	0.009			2673				
06 Sep	2333	2339	2344	M1.2	0.005			2673				
07 Sep	0459	0502	0508	M2.4	0.007	1F	S07W45	2673				
07 Sep	0949	0954	0958	M1.4	0.004	1N	S08W47	2673	25000		260	2
07 Sep	1011	1015	1018	M7.3	0.014			2673	91000		810	
07 Sep	1420	1436	1455	X1.3	0.120	2B	S11W49	2673	670	1600	1	
07 Sep	2350	2359	0014	M3.9	0.036	2B	S09W50	2673				2
08 Sep	0219	0224	0229	M1.3	0.004	1F	S09W54	2673				
08 Sep	0339	0343	0345	M1.2	0.002	SF	S06W55	2673	15000			
08 Sep	0740	0749	0758	M8.1	0.047	2B	S10W57	2673			69	
08 Sep	1509	1547	1604	M2.9	0.053	1N	S08W68	2673	450			
08 Sep	2333	2345	2356	M2.1	0.017			2673				1
09 Sep	0414	0428	0443	M1.1	0.013	SF	S13W69	2673				
09 Sep	1050	1104	1142	M3.7	0.071	SF	S14W74	2673	100			
09 Sep	2204	2353	0041	M1.1	0.069	SF	S07W74	2673			450	2
10 Sep	1535	1606	1631	X8.2	1.400			2673	670	1900	1	2



Flare List

Date	Time			X-ray Class	Optical		Rgn #
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	
04 Sep	0009	0010	0012		SF	S08W02	2673
04 Sep	0016	0020	0022		SF	S16W07	2673
04 Sep	0218	0222	0229	C1.1			2674
04 Sep	0251	0254	0305		SF	S10W01	2673
04 Sep	0333	0338	0342	C1.2	SF	S10W03	2673
04 Sep	0405	0411	0417	C1.8	SF	S09W03	2673
04 Sep	0536	0549	0605	M1.2	1F	S10W04	2673
04 Sep	B0609	U0618	0625		SF	S10W02	2673
04 Sep	0743	0910	A1004		1F	S09W07	2673
04 Sep	0808	0819	0824	C2.9			2673
04 Sep	0906	0911	0917		SF	S09W06	2673
04 Sep	B0954	U0959	1003		SF	S09W07	2673
04 Sep	1005	1005	1006		SF	S09W07	2673
04 Sep	1031	1032	1051		SF	S09W08	2673
04 Sep	1133	1138	1142	C2.4	SF	S08W08	2673
04 Sep	1154	1222	1400	C8.3	1F	S07W08	2673
04 Sep	1343	2033	A2359		3B	S11W16	2673
04 Sep	1412	1413	1418		SF	S08W10	2673
04 Sep	1511	1530	1533	M1.5	1N	S06W13	2673
04 Sep	1614	1616	1624		SF	S08W12	2673
04 Sep	1623	1637	1658		SF	N17E57	2677
04 Sep	1629	1646	1650	C4.1			2673
04 Sep	1630	U1640	A1645		SF	S09W10	2673
04 Sep	1720	1739	1748	C6.0			2673
04 Sep	1751	1752	1756		SF	S12W60	2676
04 Sep	1805	1822	1831	M1.0			2673
04 Sep	1846	1937	1952	M1.7			2673
04 Sep	1959	2002	2006	M1.5			2673
04 Sep	2028	2033	2037	M5.5			2673
04 Sep	2210	2214	2219	M2.1			2673
04 Sep	2257	2258	2259		SF	S06W15	2673
05 Sep	0000	0010	A0017		1F	S11W16	2673
05 Sep	0030	0035	0041	C9.8			2673
05 Sep	0103	0108	0111	M4.2			2673
05 Sep	0342	0351	0404	M1.0			2673
05 Sep	0433	0453	0507	M3.2			2673
05 Sep	0633	0640	0643	M3.8			2673
05 Sep	1013	1019	1025	C5.4			2673



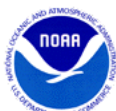
Flare List

Date	Time			X-ray Class	Imp/ Brtns	Optical		Rgn #
	Begin	Max	End			Location Lat CMD		
05 Sep	B1026	U1030	1036		SF	S10W18		2673
05 Sep	1038	1038	1042		SF	S10W18		2673
05 Sep	1048	1049	1051		SF	S09W19		2673
05 Sep	1103	1106	1108		SF	S08W21		2673
05 Sep	1141	1147	1150		SF	S09W21		2673
05 Sep	1153	1201	1203		SF	S09W20		2673
05 Sep	1207	1217	1224		SF	S09W21		2673
05 Sep	1230	1234	1239	C2.2	SF	S10W21		2673
05 Sep	1325	1330	1419	C6.9	SF	S10W21		2673
05 Sep	B1408	U1418	1453		SF	S09W22		2673
05 Sep	1458	1509	1539		SF	S09W23		2673
05 Sep	1609	1618	1628	C3.7	SF	S09W22		2673
05 Sep	1709	1714	1721	C4.6	SF	S09W24		2673
05 Sep	1737	1743	1751	M2.3	1N	S09W24		2673
05 Sep	2000	2112	2120	C1.5	SF	S08W25		2673
05 Sep	2058	2059	2104		SF	S07W32		2673
05 Sep	2111	2112	2116		SF	S07W32		2673
06 Sep	0358	0401	0403		SF	S08W29		2673
06 Sep	0617	0622	0629	C1.6	SF	S11W30		2673
06 Sep	0706	0707	0712		SF	S12W32		2673
06 Sep	0720	0721	0723		SF	S09W32		2673
06 Sep	0729	0734	0748	C2.7	SF	S08W33		2673
06 Sep	0803	0803	0809		SF	S08W33		2673
06 Sep	0811	0813	0815		SF	S08W33		2673
06 Sep	0830	0830	0844		SF	S07W33		2673
06 Sep	0852	U1159	A1553		2B	S08W33		2673
06 Sep	0857	0910	0917	X2.2				2673
06 Sep	1153	1202	1210	X9.3				2673
06 Sep	1354	1554	1752	M2.5	3N	S09W38		2673
06 Sep	1753	1925	A2359		1F	S07W44		2673
06 Sep	1921	1930	1935	M1.4				2673
06 Sep	2333	2339	2344	M1.2				2673
07 Sep	B0000	0000	A0058		SF	S07W44		2673
07 Sep	B0224	0224	A0309		SF	S07W43		2673
07 Sep	0459	0502	0508	M2.4	1F	S07W45		2673
07 Sep	B0554	U0625	0927	C8.2	1F	S08W46		2673
07 Sep	0916	0920	0924	C2.3				2673
07 Sep	B0935	U0954	A1128	M1.4	1N	S08W47		2673



Flare List

Date	Time			X-ray Class	Optical		Rgn #
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	
07 Sep	1011	1015	1018	M7.3			2673
07 Sep	B1145	U1206	A1245	C3.0	SF	S08W48	2673
07 Sep	1256	1256	1300		SF	S12W51	2673
07 Sep	1319	1319	1321		SF	S12W51	2673
07 Sep	1335	1335	1338		SF	S12W51	2673
07 Sep	1345	1350	1353		SF	S08W50	2673
07 Sep	1420	1436	1455	X1.3	2B	S11W49	2673
07 Sep	1659	1659	1703		SF	N13W37	2674
07 Sep	1804	1828	1836	C5.2			2673
07 Sep	1840	1844	1849	C4.5			2673
07 Sep	2054	2057	2059	C2.5			2673
07 Sep	2124	2137	2147	C5.4			2673
07 Sep	2206	2209	2225		SF	N18W29	2674
07 Sep	2255	2255	2303	C2.7	SF	N16E11	2677
07 Sep	2314	2315	2318		SF	S06W53	2673
07 Sep	2350	2359	0014	M3.9	2B	S09W50	2673
08 Sep	0136	0140	0142	C5.3	SF	S07W55	2673
08 Sep	0151	0151	0155		SF	S07W55	2673
08 Sep	0210	0213	0215	C1.2			2673
08 Sep	0219	0224	0229	M1.3	1F	S09W54	2673
08 Sep	0330	0334	0337	C1.4			2673
08 Sep	0339	0343	0345	M1.2	SF	S06W55	2673
08 Sep	0531	0548	0553	C8.3	SF	S09W59	2673
08 Sep	0624	0627	0629	C2.9			2673
08 Sep	0635	0638	0641	C1.7	SF	S08W61	2673
08 Sep	0704	0708	0710	C6.0	SF	S07W57	2673
08 Sep	0726	0729	0733		SF	S08W58	2673
08 Sep	0740	0749	0758	M8.1	2B	S10W57	2673
08 Sep	0936	0939	0941	C1.3			2673
08 Sep	1045	1049	1051	C1.6			2673
08 Sep	1121	1127	1134	C1.7			2673
08 Sep	1209	1213	1215	C5.9			2673
08 Sep	1229	1233	1240	C1.2			2673
08 Sep	1420	1438	1458		SF	S10W62	2673
08 Sep	1509	1547	1604	M2.9	1N	S08W68	2673
08 Sep	1714	1715	1724		SF	N17W37	2674
08 Sep	1806	1807	1815		SF	S09W63	2673
08 Sep	1815	1818	1820	C1.7			2673



Flare List

Date	Time			X-ray Class	Imp/ Brtns	Optical		Rgn #
	Begin	Max	End			Location Lat CMD		
08 Sep	2010	2014	2016	C1.7	SF	S07W66		2673
08 Sep	2032	2033	2036		SF	S08W66		2673
08 Sep	2218	2224	2230	C2.4				2673
08 Sep	2316	2321	2323	C2.0				2673
08 Sep	2333	2345	2356	M2.1				2673
09 Sep	0036	0039	0046	C1.0				2673
09 Sep	0302	0309	0325	C6.3	SF	S11W69		2673
09 Sep	0357	0401	0407	C4.2				2673
09 Sep	0414	0428	0443	M1.1	SF	S13W69		2673
09 Sep	0537	0538	0543		SF	S13W69		2673
09 Sep	0602	U0651	A0750		SF	S06W74		2673
09 Sep	0623	0629	0640	C1.4	SF	S10W70		2673
09 Sep	0651	0656	0658	C1.7	1F	S10W70		2673
09 Sep	0717	0727	0740	C1.5				2673
09 Sep	0925	U0926	0932		SF	S06W76		2673
09 Sep	1050	1104	1142	M3.7	SF	S14W74		2673
09 Sep	1322	1323	1324		SF	S09W73		2673
09 Sep	1422	1422	1424		SF	S10W75		2673
09 Sep	1449	1453	1458	C1.4				2673
09 Sep	1509	1512	1518		SF	S10W75		2673
09 Sep	1520	1520	1529		SF	N15W47		2674
09 Sep	1619	1625	1631	C1.7	SF	S08W78		2673
09 Sep	1909	1915	1920	C1.8				2673
09 Sep	1947	2017	A2030		SF	S10W78		2673
09 Sep	2100	2111	2125	C4.7				2673
09 Sep	2204	2353	0041	M1.1	SF	S07W74		2673
10 Sep	0240	0309	0325	C9.0	SF	S07W74		2673
10 Sep	0857	0908	0916	C2.9	SF	S09W84		2673
10 Sep	1419	1423	1425	C1.6				2673
10 Sep	1523	1526	1528	C1.0				2673
10 Sep	1535	1606	1631	X8.2				2673



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 2673																							
29 Aug	S08E62	119	70	1	Hsx	1	A																
30 Aug	S08E48	120	70	1	Hsx	1	A																
31 Aug	S08E36	119	80	2	Hsx	1	A																
01 Sep	S08E23	119	80	2	Hsx	1	A																
02 Sep	S10E09	119	60	4	Cso	4	B																
03 Sep	S10W02	117	130	7	Dsc	12	BG	1				11											
04 Sep	S08W16	119	680	7	Dkc	28	BGD	7	7			15	4								1		
05 Sep	S09W30	119	880	9	Dkc	33	BGD	7	5			16	2										
06 Sep	S09W45	120	960	11	Ekc	24	BGD	2	2	2		8	1	1	1								
07 Sep	S09W58	120	1000	11	Ekc	21	BGD	7	4	1		8	3	1									
08 Sep	S09W70	119	1060	10	Dkc	19	BGD	16	5			11	2	2									
09 Sep	S09W83	119	530	10	Dkc	8	BGD	10	3			13	1										
10 Sep	S09W96	119	plage					4		1		2											
								54	26	4		84	13	4	2	0							

Still on Disk.

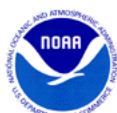
Absolute heliographic longitude: 117

Region 2674

29 Aug	N11E70	111	260	4	Dko	1	B	3				8										
30 Aug	N14E64	104	490	13	Eko	5	B	3				12	1									
31 Aug	N13E53	102	770	14	Eho	10	B					2										
01 Sep	N13E38	104	770	16	Fhi	15	BG	3				7										
02 Sep	N14E25	103	810	16	Fhc	18	BG	2				9										
03 Sep	N14E12	103	930	17	Fhc	21	B	1				5										
04 Sep	N14W01	104	740	18	Fhi	34	B	1														
05 Sep	N14W14	103	680	19	Fhi	23	B															
06 Sep	N14W28	104	680	19	Fki	10	B															
07 Sep	N14W41	103	600	20	Fko	13	B					2										
08 Sep	N13W54	103	650	18	Fko	9	B					1										
09 Sep	N13W67	103	560	18	Fko	7	B					1										
10 Sep	N13W80	103	300	18	Fko	4	B															
								13	0	0		47	1	0	0	0						

Still on Disk.

Absolute heliographic longitude: 104



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 2675																		
31 Aug	S07W24	179	30	3	Dro	4	B											
01 Sep	S08W37	179	30	6	Cro	4	B											
02 Sep	S08W51	179	30	6	Cro	4	B											
03 Sep	S07W63	178	50	7	Cro	5	B					2						
04 Sep	S02W76	179	10	5	Bxo	4	B											
05 Sep	S07W82	171	10	5	Bxo	1	B											
									0	0	0	2	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 179

Region 2676																		
02 Sep	S10W36	164	20	4	Bxo	5	B											
03 Sep	S11W51	166	20	6	Bxo	6	B											
04 Sep	S09W65	168	30	8	Cro	4	B					1						
05 Sep	S09W76	165	30	7	Bxo	2	B											
06 Sep	S09W90	166	plage															
									0	0	0	1	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 164

Region 2677																		
03 Sep	N19E64	51	10	1	Axx	2	A											
04 Sep	N19E51	52	10	1	Axx	2	A					1						
05 Sep	N18E39	50	20	1	Axx	1	A											
06 Sep	N18E25	51	10	1	Axx	1	A											
07 Sep	N17E12	50	10	2	Bxo	3	B	1				1						
08 Sep	N17W02	51	10	3	Axx	3	A											
09 Sep	N17W15	51	plage															
10 Sep	N17W28	51	plage															
									1	0	0	2	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 51



Region Summary - continued

Date	Location		Sunspot Characteristics				Flares									
	Lat	CMD	Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical				
			Lon	10 ⁻⁶ hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4
Region 2678																
05 Sep	N11E45		44	10	4	Bxo	2	B								
06 Sep	N11E31		45	40	4	Cso	4	B								
07 Sep	N11E18		44	40	4	Hax	3	A								
08 Sep	N11E05		44	30	5	Cro	5	B								
09 Sep	N11W07		43	20	5	Cro	4	B								
10 Sep	N11W22		45	20	3	Cro	3	B								
									0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 44

Region 2679																
07 Sep	N14W27		89	10	3	Bxo	4	B								
08 Sep	N15W41		90	10	3	Bxo	3	B								
09 Sep	N15W54		90	plage												
10 Sep	N16W71		93	plage												
									0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 89

Region 2680																
10 Sep	N09E66		317	100	2	Hsx	1	A								
									0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 317

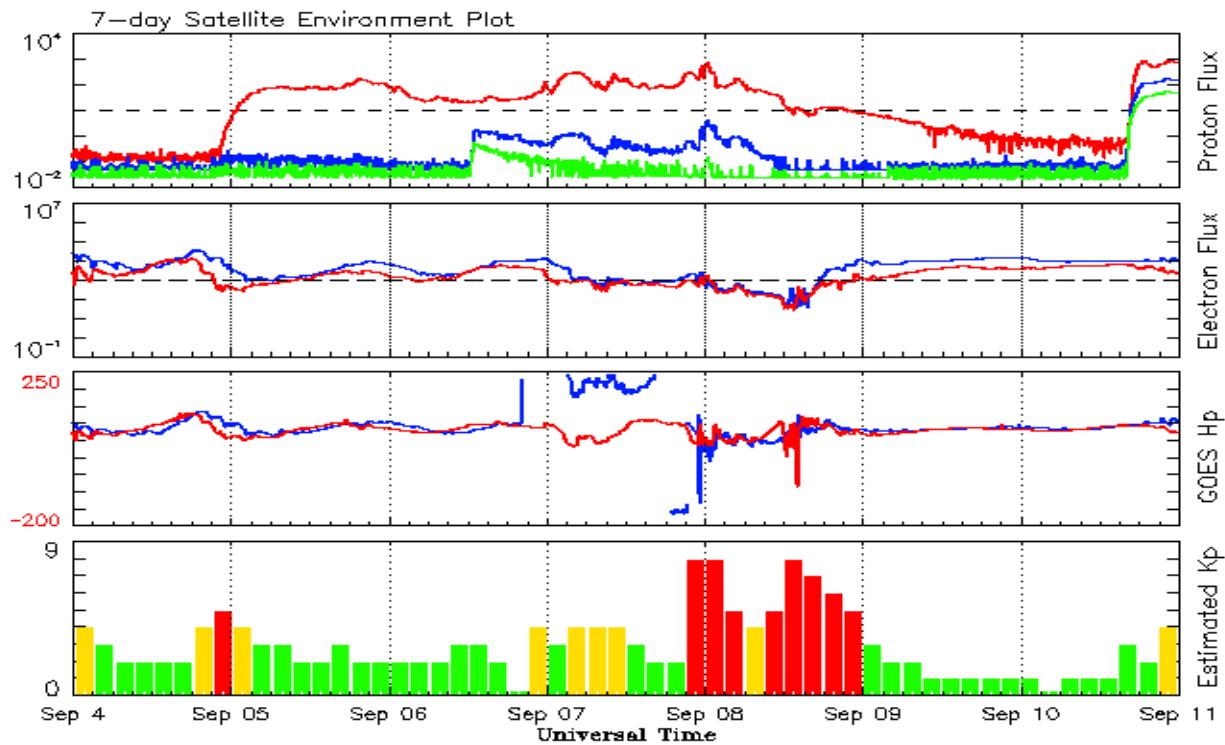


Recent Solar Indices (preliminary)
Observed monthly mean values

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
2015									
September	72.5	47.2	0.65	64.0	39.5	102.1	110.8	16	12.8
October	59.5	38.2	0.62	61.8	38.6	104.1	107.9	15	12.5
November	61.8	37.3	0.61	59.0	36.7	109.6	105.3	13	12.5
December	54.1	34.8	0.64	55.1	34.7	112.8	102.5	15	12.5
2016									
January	50.4	34.2	0.67	51.4	32.6	103.5	99.9	10	12.3
February	56.0	33.8	0.61	49.6	31.5	103.5	98.1	10	12.0
March	40.9	32.5	0.80	47.7	30.2	91.6	96.6	11	11.8
April	39.2	22.7	0.58	45.0	28.7	93.4	95.3	10	11.8
May	48.9	30.9	0.64	42.1	26.9	93.1	93.2	12	11.7
June	19.3	12.3	0.65	39.0	24.9	81.9	90.4	9	11.4
July	36.8	19.4	0.53	36.5	23.1	85.9	87.7	10	11.2
August	50.4	30.1	0.60	34.2	21.6	85.0	85.5	10	11.2
September	37.4	26.8	0.72	32.1	19.9	87.8	83.7	16	11.3
October	30.0	20.0	0.67	31.1	18.9	86.1	82.5	16	11.6
November	22.4	12.8	0.57	29.4	17.9	78.7	81.1	10	11.6
December	17.6	11.1	0.64	28.1	17.1	75.1	80.0	10	11.4
2017									
January	28.1	15.7	0.55	27.3	16.7	77.4	79.4	10	11.3
February	22.0	15.8	0.71	25.5	16.0	76.9	78.7	10	11.3
March	25.4	10.6	0.42			74.6		15	
April	30.4	19.6	0.64			80.9		13	
May	18.1	11.3	0.62			73.5		9	
June	18.0	11.6	0.64			74.8		7	
July	18.8	11.0	0.59			77.7		9	
August	25.0	19.9	0.80			77.9		12	

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 04 September 2017*

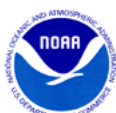
The proton flux plot contains the five-minute averaged integral proton flux (protons/cm²-sec -sr) as measured by the SWPC Primary GOES satellite, near West 75, for each of three energy thresholds: greater than 10, 50, and 100 MeV.

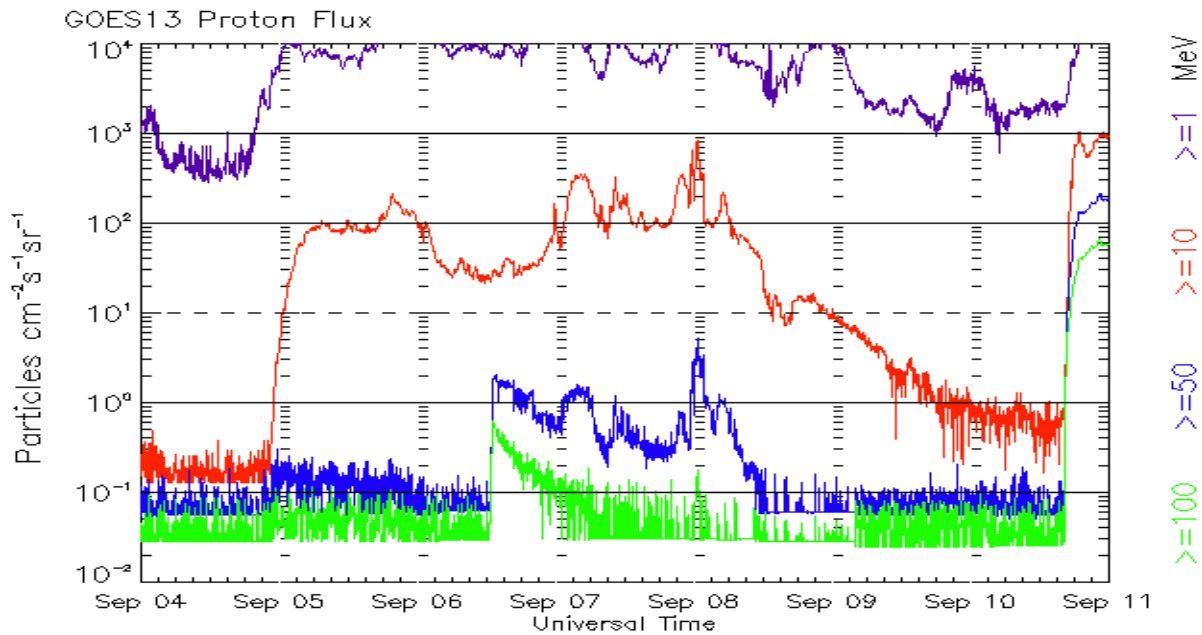
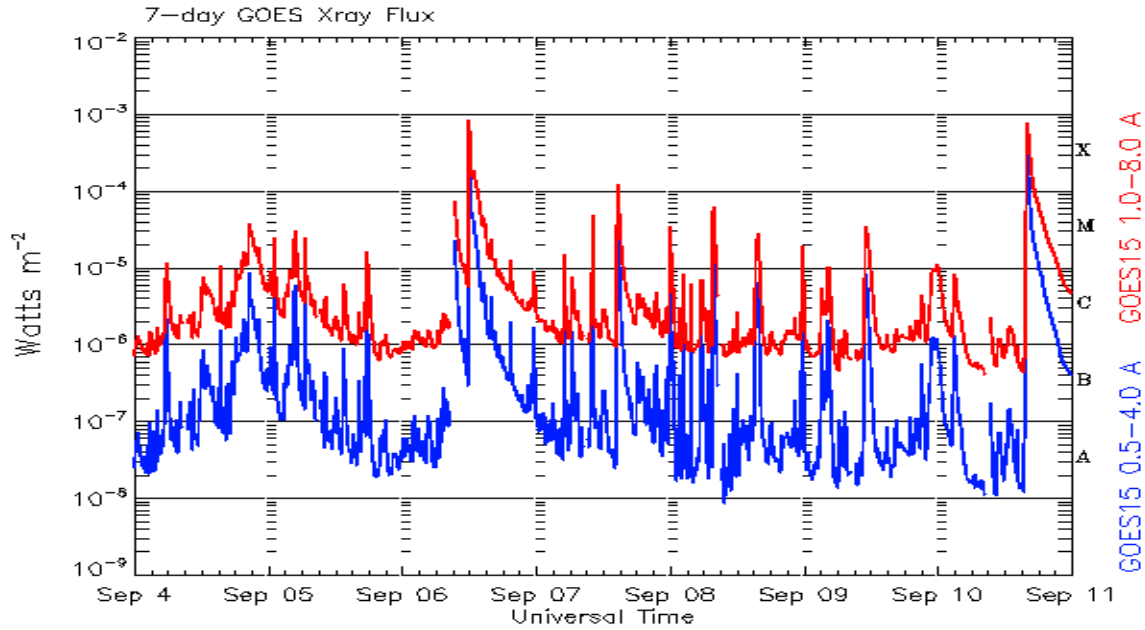
The electron flux plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV by the SWPC Primary GOES satellite.

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 04 September 2017*

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.



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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