

Solar activity was at very low levels. Region 2715 (N08, L=231, class/area Dao/070 on 23 Jun) was the only spotted region on the disk and was quiet throughout the summary period. No Earth-directed CMEs were observed.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit was at high levels throughout the period. A maximum flux of 5,570 pfu was observed at 28/1935 UTC.

Geomagnetic field activity was at quiet to isolated G1 (Minor) storm periods from late on 25 Jun through 26 Jun in response to an SSBC from a positive to a negative sector observed midday on 25 Jun. A CIR signature was evident early on 26 Jun in advance of an equatorial, negative polarity CH HSS. Total field (Bt) peaked at 14 nT, the Bz component reached a maximum negative extent of -9 nT and wind speeds increased from about 400 km/s to about 670 km/s; all during 26 Jun. For the remainder of the summary period, field conditions were at quiet levels with an isolated unsettled interval late on 27 Jun. By the end of the summary period, Bt and Bz were at nominal levels while wind speeds decreased to near 350 km/s.

Space Weather Outlook **02 July - 28 July 2018**

Solar activity is expected to be at very low levels through 10 Jul. With the return of old Region 2715 (N08, L=231) from 11-24 Jul, activity levels are expected to remain at very low levels, with a slight chance for C-class activity. A return to very low levels is expected from 25-28 Jul.

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 02-10 Jul and again on 21-28 Jul due to CH HSS influence. Normal to moderate levels are expected from 11-20 Jul.

Geomagnetic field activity is expected to be at unsettled to active levels on 15 Jul and 20-24 Jul with isolated G1 (Minor) geomagnetic storms likely on 23 Jul, all due to recurrent CH HSS activity. Mostly quiet levels are expected for the remainder of the outlook period.



Daily Solar Data

Date	Radio	Sun	Sunspot	X-ray		Flares							
	Flux	spot	Area	Background		X-ray			Optical				
	10.7cm	No.	(10 ⁻⁶ hemi.)	Flux		C	M	X	S	1	2	3	4
25 June	73	14	40	A6.4	0	0	0	0	0	0	0	0	0
26 June	71	12	20	A3.8	0	0	0	0	0	0	0	0	0
27 June	70	0	0	A2.9	0	0	0	1	0	0	0	0	0
28 June	70	0	0	A2.2	0	0	0	0	0	0	0	0	0
29 June	69	0	0	A1.8	0	0	0	0	0	0	0	0	0
30 June	69	0	0	A1.5	0	0	0	0	0	0	0	0	0
01 July	68	0	0	A1.4	0	0	0	0	0	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
25 June	9.9e+05	1.8e+04	4.1e+03		5.0e+07	
26 June	5.5e+05	1.8e+04	3.5e+03		4.2e+07	
27 June	5.0e+05	1.7e+04	3.7e+03		1.3e+08	
28 June	9.5e+05	1.9e+04	3.7e+03		2.2e+08	
29 June	8.9e+05	1.9e+04	3.7e+03		2.2e+08	
30 June	1.2e+06	1.8e+04	3.7e+03		2.3e+08	
01 July	1.5e+06	2.0e+04	3.8e+03		2.5e+08	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
25 June	10	2-1-1-2-2-2-3-4	15	1-1-1-2-5-4-3-3	12	1-1-1-2-2-2-3-5
26 June	17	5-3-3-3-3-2-3-2	33	5-4-4-5-5-4-4-3	20	5-3-3-4-3-3-3-2
27 June	7	1-3-2-1-2-1-2-2	11	2-3-2-4-3-1-2-2	7	1-2-2-2-2-1-1-3
28 June	5	1-1-1-1-2-2-2-1	5	2-1-1-1-2-1-1-2	5	2-1-1-1-2-1-2-1
29 June	3	1-2-0-1-1-1-1-1	2	2-1-1-1-0-1-0-0	4	1-2-1-1-1-1-0-0
30 June	3	0-0-1-2-2-1-1-1	2	0-1-0-1-1-1-1-1	4	0-1-1-1-1-1-0-1
01 July	4	1-1-1-2-2-1-1-1	0	1-0-0-0-0-0-0-0	2	0-1-1-1-1-0-0-1

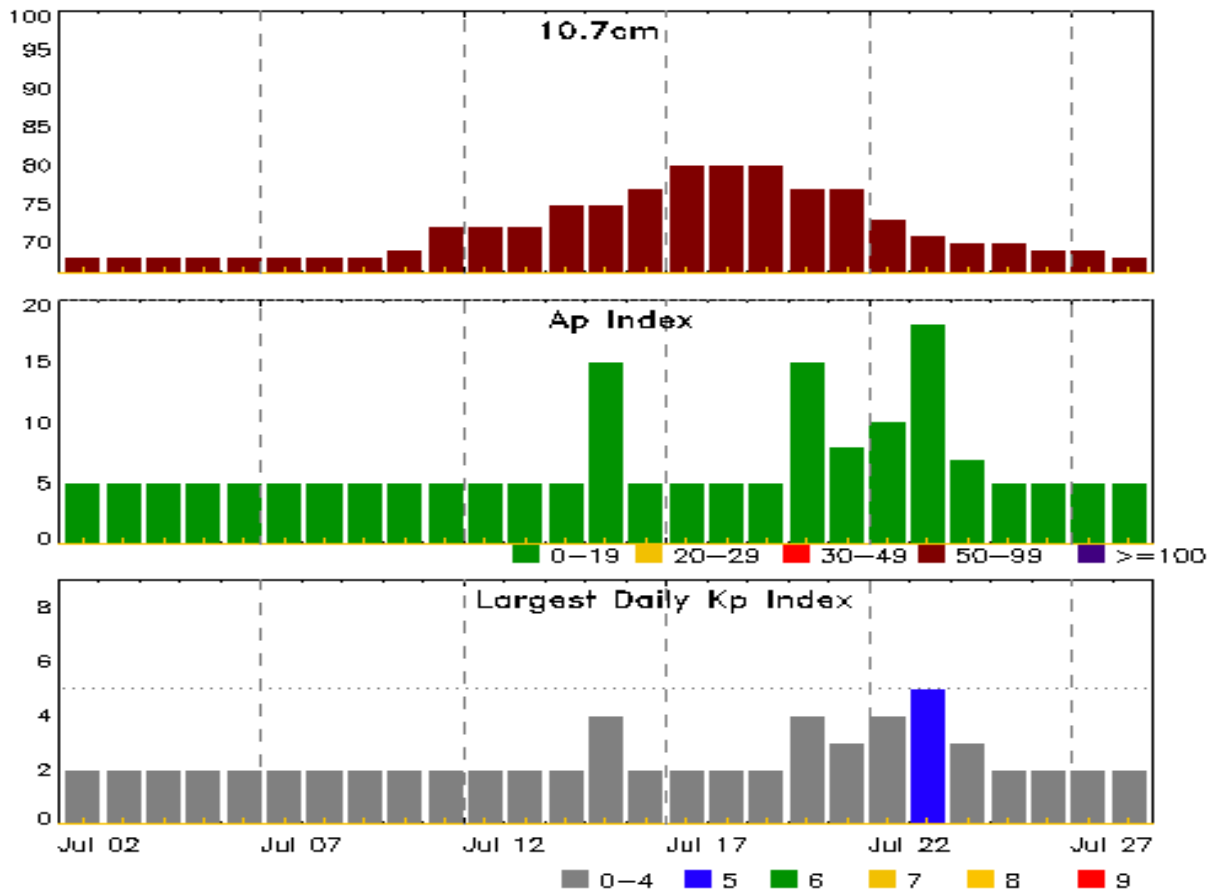


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
25 Jun 1455	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	24/1800
25 Jun 2040	WATCH: Geomagnetic Storm Category G1 predicted	
25 Jun 2217	WARNING: Geomagnetic K = 4	25/2216 - 26/0600
25 Jun 2218	ALERT: Geomagnetic K = 4	25/2218
25 Jun 2227	WARNING: Geomagnetic K = 5	25/2226 - 26/0600
25 Jun 2250	ALERT: Geomagnetic K = 5	25/2250
26 Jun 0239	ALERT: Geomagnetic K = 5	26/0239
26 Jun 0555	EXTENDED WARNING: Geomagnetic K = 4	25/2216 - 26/1200
26 Jun 1109	EXTENDED WARNING: Geomagnetic K = 4	25/2216 - 26/1800
26 Jun 1821	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	24/1800
26 Jun 1932	WARNING: Geomagnetic K = 4	26/1931 - 27/0300
27 Jun 1326	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	24/1800
27 Jun 1526	CANCELLATION: Geomagnetic Storm Category G1 predicted	
28 Jun 0859	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	24/1800
29 Jun 0901	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	24/1800
30 Jun 0905	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	24/1800
01 Jul 0900	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	24/1800



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
02 Jul	68	5	2	16 Jul	77	5	2
03	68	5	2	17	80	5	2
04	68	5	2	18	80	5	2
05	68	5	2	19	80	5	2
06	68	5	2	20	77	15	4
07	68	5	2	21	77	8	3
08	68	5	2	22	73	10	4
09	68	5	2	23	71	18	5
10	69	5	2	24	70	7	3
11	72	5	2	25	70	5	2
12	72	5	2	26	69	5	2
13	72	5	2	27	69	5	2
14	75	5	2	28	68	5	2
15	75	15	4				

Energetic Events

Date	Time			X-ray		Optical Information			Peak		Sweep Freq	
	Begin	Max	Half	Class	Integ Flux	Imp/	Location Lat CMD	Rgn #	Radio Flux		Intensity	
			Max			Brtns			245	2695	II	IV

No Events Observed

Flare List

Date	Time			X-ray Class	Optical		
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	Rgn #
25 Jun	0231	0235	0238	B2.5			2713
27 Jun	0401	0408	0413	B1.6	SF	N08W24	2715
27 Jun	0517	0538	0616	B2.3			2715



Region Summary

Location		Sunspot Characteristics						Flares							
Date	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 2715															
19 Jun	N07E32	231	30	3	Cro	4	B					2			
20 Jun	N08E20	230	110	6	Dai	12	B					9			
21 Jun	N08E06	230	110	6	Dao	5	B	1				1			
22 Jun	N08W08	231	110	5	Dac	15	B								
23 Jun	N08W21	231	120	5	Dac	8	BD					1			
24 Jun	N07W34	231	100	5	Dac	6	B					2			
25 Jun	N08W48	231	40	4	Cai	4	BG								
26 Jun	N07W61	231	20	1	Hrx	2	A								
27 Jun	N07W74	233	plage									1			
								1	0	0	16	0	0	0	0

Died on Disk.

Absolute heliographic longitude: 230

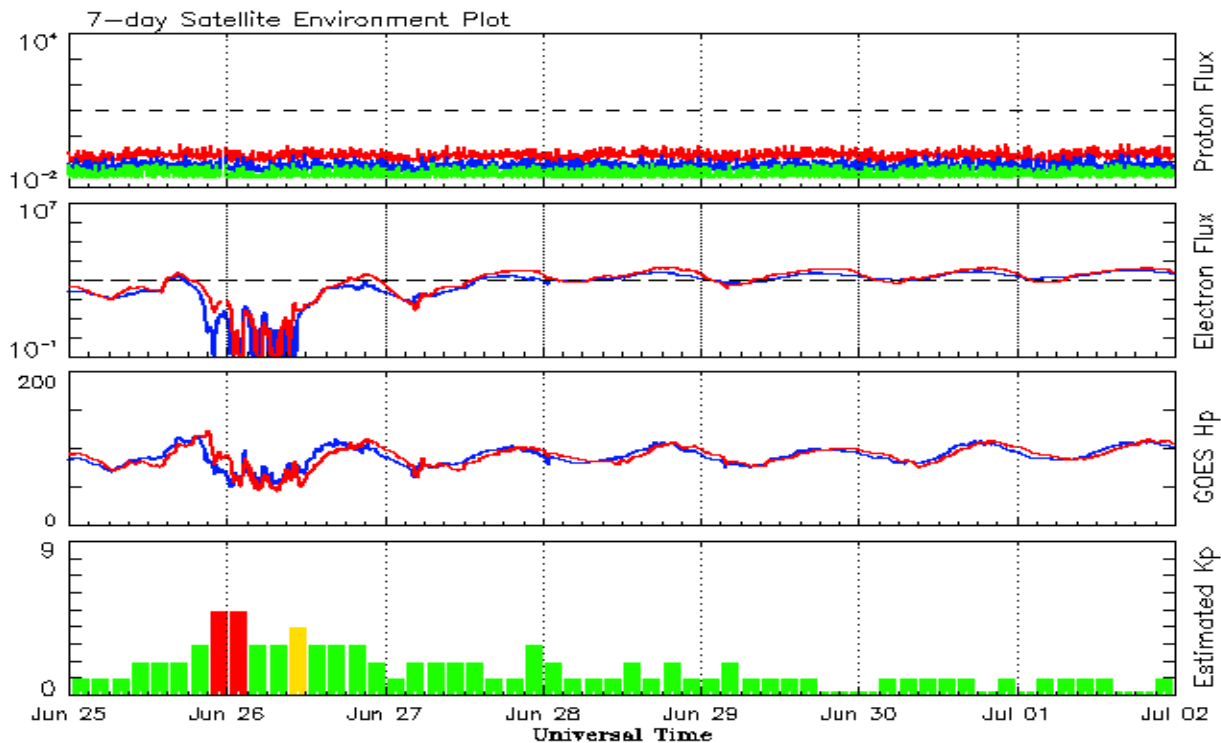


Recent Solar Indices (preliminary)
Observed monthly mean values

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
2016									
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	15.9	76.9	78.7	10	11.3
March	25.4	10.6	0.42	24.6	15.4	74.6	78.6	15	11.5
April	30.4	19.4	0.64	24.3	14.9	80.9	78.4	13	11.5
May	18.1	11.3	0.62	23.1	14.0	73.5	77.7	9	11.3
June	18.0	11.5	0.64	22.0	13.3	74.8	77.3	7	11.3
July	18.8	10.7	0.59	20.8	12.6	77.7	76.8	9	11.0
August	25.0	19.6	0.80	19.7	11.7	77.9	76.3	12	10.7
September	42.2	26.2	0.62	18.6	10.9	92.0	75.9	19	10.3
October	16.0	7.9	0.49	16.8	10.0	76.4	75.1	11	9.8
November	7.7	3.4	0.44	15.7	9.2	72.1	74.6	11	9.5
December	7.6	4.9	0.64	15.7	9.1	71.5	74.4	8	9.4
2018									
January	7.8	4.0	0.51			70.0		6	
February	16.0	6.4	0.40			72.0		7	
March	6.0	1.5	0.25			68.4		8	
April	7.0	5.3	0.76			70.0		7	
May	15.0	7.9	0.53			70.9		8	
June	19.7	9.5	0.48			72.5		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 25 June 2018*

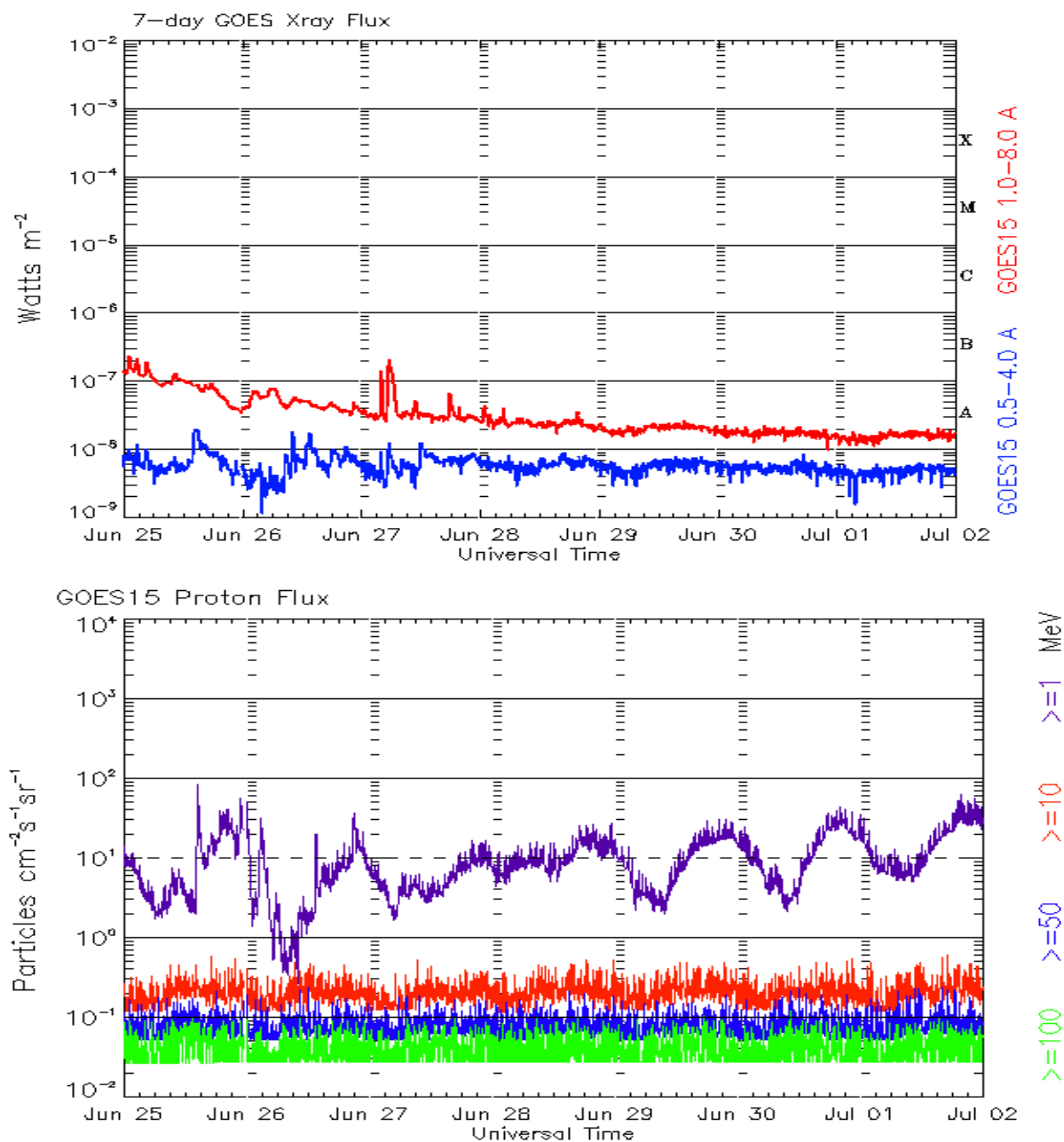
The proton flux plot contains the five-minute averaged integral proton flux (protons/cm²-sec -sr) as measured by the SWPC Primary GOES satellite, near West 75, for each of three energy thresholds: greater than 10, 50, and 100 MeV.

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 25 June 2018*

The x-ray plots contains five-minute averages x-ray flux (Watt/m^2) as measure by the SWPC primary GOES X-ray satellite, usually at West 105 longitude, in two wavelength bands, 0.05 - 0.4 and 0.1 - 0.8 nm. The letters A, B, C, M and X refer to x-ray event levels for the 0.1 - 0.8 nm band.

The proton plot contains the five-minute averaged intergral flux units (pfu = protons/ cm^2 -sec -sr) as measured by the primary SWPC GOES Proton satellite for each of the energy thresholds: >1 , >10 , >30 , and >100 MeV. The P10 event threshold is 10 pfu at greater than 10 MeV.



Preliminary Report and Forecast of Solar Geophysical Data (The Weekly)

Published every Monday by the Space Weather Prediction Center.

U.S. Department of Commerce
NOAA / National Weather Service
Space Weather Prediction Center
325 Broadway, Boulder CO 80305

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

The Weekly has been published continuously since 1951 and is available online since 1997.

<http://spaceweather.gov/weekly/> -- Current and previous year

<http://spaceweather.gov/ftpmenu/warehouse.html> -- Online archive from 1997

<http://spaceweather.gov/ftpmenu/> -- Some content as ascii text

<http://spaceweather.gov/SolarCycle/> -- Solar Cycle Progression web site

<http://spaceweather.gov/contacts.html> -- Contact and Copyright information

http://spaceweather.gov/weekly/Usr_guide.pdf -- User Guide

