

Solar activity was at very low levels with only B-class activity observed. On 13 May, an eruptive filament located near S60E10 was observed in H-alpha imagery starting to lift off at approximately 13/1300 UTC. An associated CME was observed in LASCO/C2 coronagraph imagery beginning at 13/1712 UTC. The majority of the ejecta appeared to have a southern trajectory; however, there was indication of an Earth-directed component. ENLIL modeling suggested an arrival at Earth late on 16 May.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit was at normal to moderate levels throughout the period.

Geomagnetic field activity was at quiet levels on 08-09 May and 13 May while quiet to unsettled levels were observed 10-12 May and 14 May. Mostly nominal solar wind conditions were observed throughout the period with an SSBC slightly enhancing the solar wind environment on 09 May.

Space Weather Outlook
15 May - 10 June 2017

Solar activity is expected to be very low throughout the forecast period.

No proton events are expected at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to range from normal to very high levels. Normal levels are likely on 19 Apr. Moderate levels are likely on 20 Apr, 05-06 May, and 08-14 May. High levels are likely on 18 Apr, 21-23 Apr, 29 Apr-04 May, and 07 May. Very high levels are likely 24-28 Apr. All enhancements in flux values are anticipated from multiple, recurrent, CH HSS influence.

Geomagnetic field activity is expected to range from quiet to G2 (Moderate) storm conditions over the outlook period. Active conditions are likely on 15 May due to an anticipated CIR late in the day. 16 May will likely observe G1 (Minor) storm conditions due to a positive polarity CH HSS. G2 (Moderate) conditions on 17 May are likely as CH HSS influence is forecast to combine with the 13 May CME. G1 (Minor) storm conditions are again likely with the onset of a negative polarity CH HSS on 18 May. Geomagnetic field activity is expected to increase to G2 (Moderate) storm levels on 19-20 May as wind speeds from the CH HSS peak. As the negative polarity CH HSS influence slowly wanes, G1 (Minor) storm levels on 21 May are likely to decrease to active on 22 May and finally to unsettled on 23 May. With the exception of a period of quiet to unsettled levels on 10 Jun, the remainder of the forecast period is expected to be at quiet levels.



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
08 May	71	11	20	A3.6	0	0	0	0	0	0	0	0
09 May	69	0	0	A3.5	0	0	0	0	0	0	0	0
10 May	69	0	0	A3.4	0	0	0	0	0	0	0	0
11 May	69	0	0	A3.5	0	0	0	0	0	0	0	0
12 May	69	0	0	A3.9	0	0	0	0	0	0	0	0
13 May	70	0	0	A4.2	0	0	0	0	0	0	0	0
14 May	71	0	0	A4.1	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
	08 May	2.1e+07	1.6e+04	4.2e+03	8.3e+06	
09 May	2.3e+07	1.6e+04	3.6e+03	9.3e+06		
10 May	3.3e+07	1.5e+04	3.5e+03	1.9e+07		
11 May	1.8e+07	1.5e+04	3.6e+03	1.0e+07		
12 May	2.7e+07	1.6e+04	3.9e+03	2.0e+07		
13 May	3.3e+07	1.6e+04	3.8e+03	3.1e+07		
14 May	4.0e+07	1.7e+04	3.9e+03	8.0e+06		

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	08 May	7	2-1-2-2-3-1-2-1	7	3-2-3-2-0-1-1-1	6
09 May	5	1-1-1-2-2-2-1-1	3	1-1-2-1-1-1-0-0	6	1-1-2-1-2-2-1-2
10 May	6	2-1-0-1-3-1-1-3	2	1-1-0-0-1-0-1-1	6	2-1-1-0-2-1-1-3
11 May	8	2-3-2-1-2-2-2-2	4	2-3-1-0-0-0-0-1	6	1-3-2-1-1-1-1-2
12 May	6	1-1-2-2-3-1-2-1	7	2-1-3-3-2-1-1-1	7	2-1-2-2-3-1-1-1
13 May	5	1-2-1-1-1-1-2-2	2	0-1-0-0-0-1-1-1	4	1-2-1-1-1-1-1-1
14 May	11	2-2-1-3-3-2-3-3	11	2-2-3-4-3-2-1-1	9	2-2-2-3-3-2-2-3

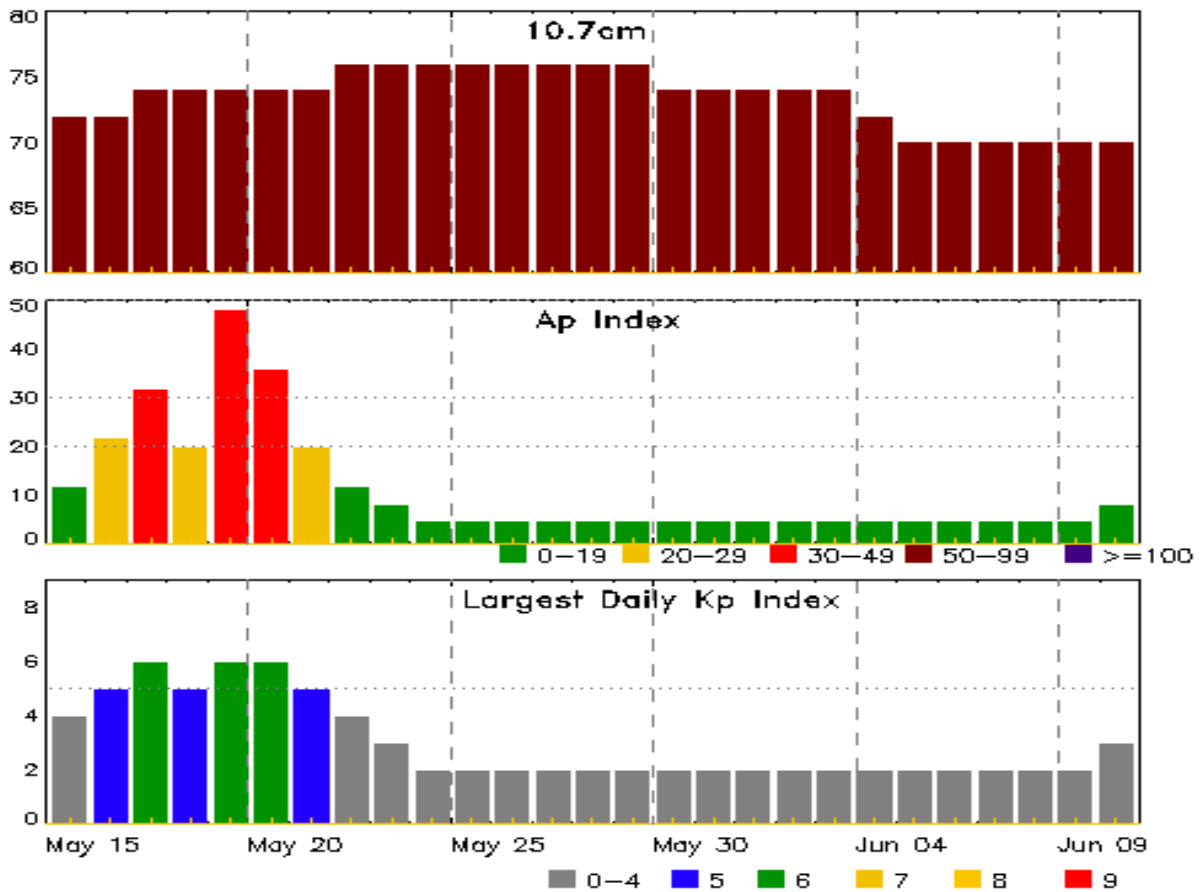


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
13 May 1929	WATCH: Geomagnetic Storm Category G1 predicted	
14 May 2027	WATCH: Geomagnetic Storm Category G2 predicted	



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
15 May	72	12	4	29 May	76	5	2
16	72	22	5	30	74	5	2
17	74	32	6	31	74	5	2
18	74	20	5	01 Jun	74	5	2
19	74	48	6	02	74	5	2
20	74	36	6	03	74	5	2
21	74	20	5	04	72	5	2
22	76	12	4	05	70	5	2
23	76	8	3	06	70	5	2
24	76	5	2	07	70	5	2
25	76	5	2	08	70	5	2
26	76	5	2	09	70	5	2
27	76	5	2	10	70	8	3
28	76	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 245	Radio Flux 2695	Intensity II

No Events Observed

Flare List

Date	Time			X-ray Class	Optical			Rgn #
	Begin	Max	End		Imp/ Brtns	Location Lat CMD		

No Flares Observed



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

Region 2654

28 Apr	N10E52	316	10	1	Axx	2	A										
29 Apr	N11E38	317	10	1	Axx	1	A										
30 Apr	N11E25	317	10	1	Axx	1	A										
01 May	N11E11	317	plage														
02 May	N11E01	314	60	5	Dao	4	B										
03 May	N12W12	314	70	5	Dso	5	B										
04 May	N11W25	314	80	6	Dso	5	B										
05 May	N11W38	314	40	5	Cso	5	B										
06 May	N11W53	316	30	1	Hsx	1	A										
07 May	N11W66	315	20	1	Hsx	1	A										
08 May	N11W82	318	20	1	Axx	1	A										
									0	0	0	0	0	0	0	0	0

Crossed West Limb.
 Absolute heliographic longitude: 314

Region 2655

04 May	N13E37	252	10	3	Bxo	4	B										
05 May	N14E25	251	30	3	Dro	6	B				7						
06 May	N13E11	252	20	3	Cro	5	B				1						
07 May	N14W04	253	10	5	Bxo	2	B										
08 May	N16W17	252	plage														
09 May	N16W31	254	plage														
10 May	N16W45	255	plage														
11 May	N16W59	255	plage														
12 May	N16W73	256	plage														
13 May	N16W87	257	plage														
14 May	N16W99	258	plage														
									0	0	0	8	0	0	0	0	0

Still on Disk.
 Absolute heliographic longitude: 253

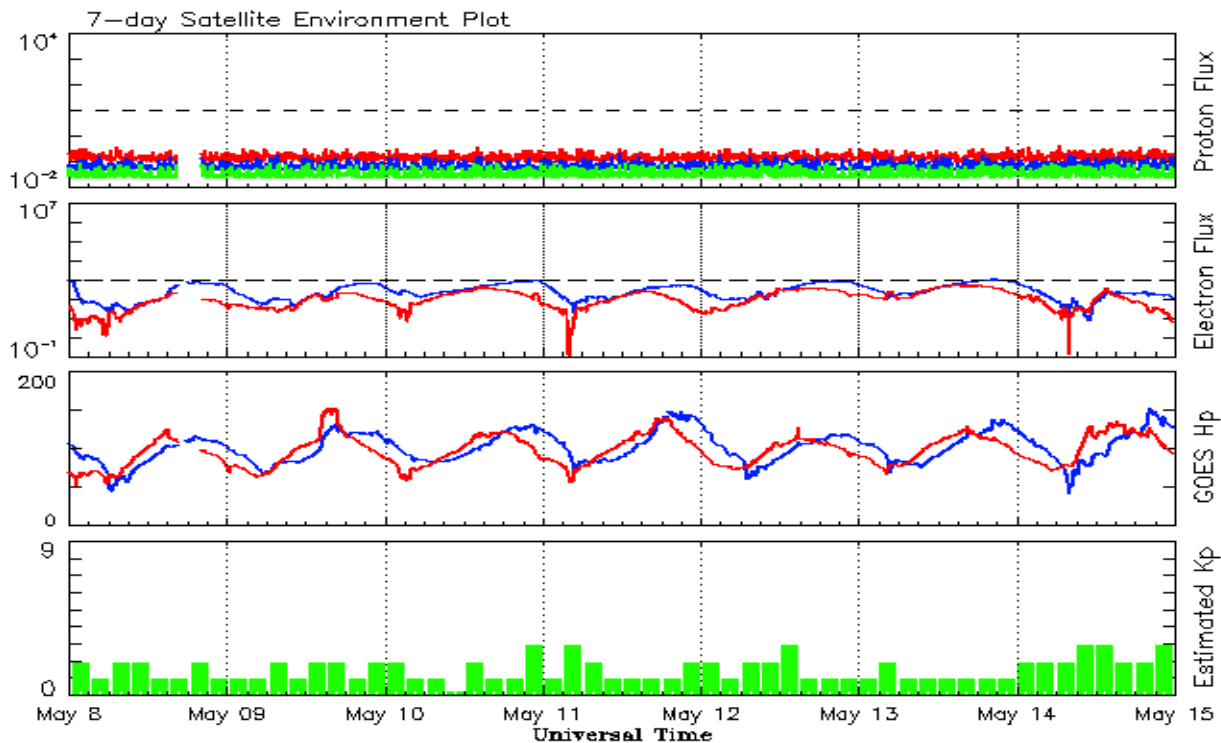


Recent Solar Indices (preliminary)
Observed monthly mean values

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									
May	83.0	53.3	0.71	77.5	45.7	120.1	123.3	9	12.7
June	77.3	39.9	0.53	73.1	43.3	123.2	119.5	14	13.0
July	68.4	39.5	0.58	68.2	41.0	107.0	116.0	10	13.1
August	61.6	38.6	0.63	65.5	39.8	106.2	113.3	16	13.1
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	18.8	86.1	82.5	16	11.6
November	22.4	12.8	0.57			78.7		10	
December	17.6	11.1	0.64			75.1		10	
2017									
January	28.1	15.5	0.55			77.4		10	
February	22.0	15.7	0.71			76.9		10	
March	25.4	10.6	0.42			74.6		15	
April	30.4	19.6	0.64			80.9		13	

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 08 May 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.

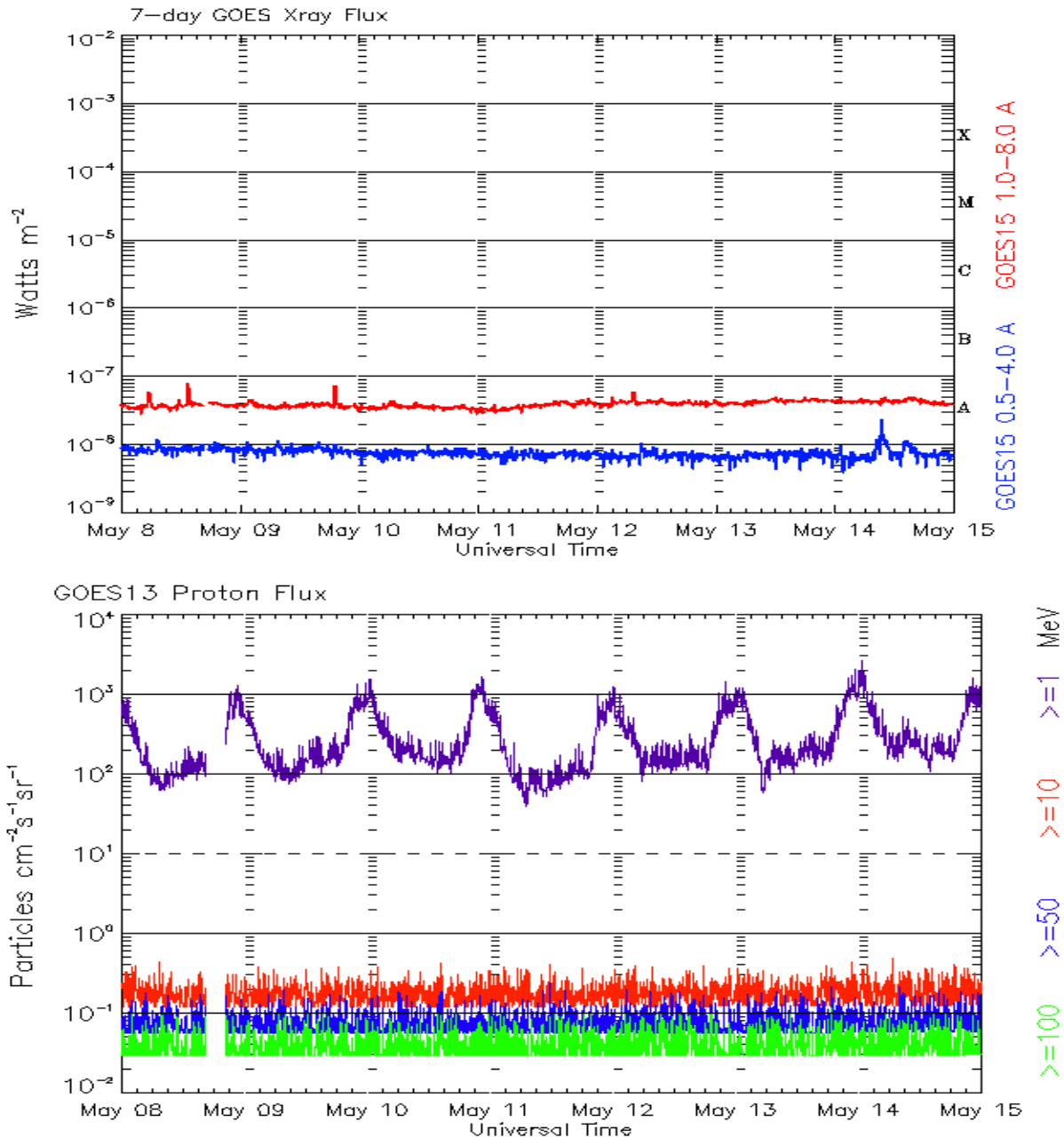
The electron flux plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV by the SWPC Primary GOES satellite.

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.

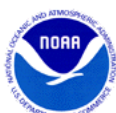




*Weekly GOES Satellite X-ray and Proton Plots
Week Beginning 08 May 2017*

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 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.



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

