

Solar activity was at low to moderate levels during the period. From 17 June through 22 June, the majority of the low level C-class activity was from Regions 1772 (S22, L=255, class/area Dko/260 on 22 Jun), 1775 (S26, L=223, class/area Dkc/410 on 18 Jun), and 1776 (N11, L=254, class/area Dai/220 on 22 Jun). On 21 June, new Region 1777 (S15, L=162, class/area Cso/200 on 22 Jun) produced an M2/1f flare at 21/0314 UTC. Associated with this flare was a Type IV radio sweep, a 6000 sfu Tenflare and a partial halo CME (estimated speed 1555 km/s). Conditions were again at moderate levels on 23 June as new Region 1778 (S16, L=129, class/area Hsx/110 on 22 Jun) produced an impulsive M2/1n flare at 23/2056 UTC. Minor low frequency radio emissions were observed with this event as well as material movement off the SE limb as seen in SDO/AIA 304 imagery. Additional imagery was not available at the time of this report to determine any Earth-directed CME component with this event.

A greater than 10 MeV proton enhancement began at approximately 21/1600 UTC in response to the 21 June M2 flare. The enhancement reached a peak of 6 pfu by 22/1700 UTC before decaying to 1 pfu by 22/0700 UTC. However, levels once again increased and passed the 10 pfu threshold at 23/2010 UTC, ending the period around 11 pfu.

The greater than 2 MeV electron flux at geosynchronous orbit was at normal to moderate levels the majority of the period. High levels were observed on 23 June in response to coronal hole high speed stream (CH HSS) activity.

Geomagnetic field activity was quiet to active levels. The period began with quiet levels on 17-19 June with solar wind speeds in the 250 km/s to 350 km/s range and total field (Bt) measurements near 5 nT. By late on 19 June, total field started to increase reaching a maximum value of 15 nT by 20/1830 UTC with the Bz component fluctuating between +10 nT and -11 nT. By approximately 20/2200 UTC, solar wind speeds had increased to around 500 km/s with a corresponding increase in temperature indicative of the onset of a recurrent CH HSS. The geomagnetic field responded with unsettled to active periods late on 20 June. Another increase in solar wind speed was observed beginning around 21/1900 UTC to around 600 km/s. At 23/0400 UTC, a small increase in total field from 4 nT to 8 nT with a corresponding increase in solar wind speed from 625 km/s to around 720 km/s occurred that was possibly indicative of a small shock arrival from the 21 June CME, however lower energy protons measured in the ACE/EPAM instrument continued to rise after the event. This could indicate further CME effects are still to come. The geomagnetic field responded with quiet to active periods with minor storm periods observed at high latitudes from 21-23 June. The period ended still under the influence of CH HSS activity with wind speeds near 570 km/s.

Space Weather Outlook

24 June - 20 July 2013

Solar activity is expected to be at very low to low levels with a chance for M-class flares on 24-25 June due to possible M-class activity from Region 1775. There is a chance for M-class



flares again on 01 July through 14 July with the return of old Region 1768 (S11, L=356) as it has been acitively flaring on the backside as seen in STEREO A/B EUVI 195 imagery.

The greater than 10 MeV proton event above the 10 pfu threshold that is currently on-going is likely to continue into 24 June with a chance for levels to remain above threshold on 25 June. After 25 June, no greater than 10 MeV proton events are expected.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at high levels on 24 June through 07 July and again on 19 July through 20 July due to CH HSS effects.

Geomagnetic field activity is expected to be unsettled to active on 24 June due to continuing CH HSS and possible effects from the 21 June CME. Quiet to unsettled conditions are expected on 25-26 June. Unsettled to active periods are expected from 27-28 June with quiet to unsettled periods on 29 June due to another recurrent CH HSS. Mostly quiet conditions are expected from 30 June to 04 July. By 05-06 July, quiet to unsettled conditions are expected with the arrival of another CH HSS. Quiet conditions are once again expected from 07-16 July. Quiet to unsettled conditions are expected on 17 July with unsettled to active levels from 18-20 July due to CH HSS acitivity once again.



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
17 June	124	110	990	B4.6	4	0	0	6	0	0	0	0
18 June	125	120	770	B4.4	5	0	0	6	0	0	0	0
19 June	123	126	810	B4.2	5	0	0	6	0	0	0	0
20 June	126	128	660	B4.6	4	0	0	14	0	0	0	0
21 June	133	135	850	B5.5	8	1	0	17	1	0	0	0
22 June	130	137	1200	B5.0	3	0	0	9	0	0	0	0
23 June	128	118	800	B4.8	0	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
17 June	1.5e+05	1.0e+04	2.7e+03		2.2e+07	
18 June	1.0e+05	1.0e+04	2.6e+03		1.1e+07	
19 June	9.4e+04	1.1e+04	2.5e+03		3.3e+06	
20 June	7.7e+04	1.0e+04	2.6e+03		1.1e+06	
21 June	4.1e+05	5.1e+04	2.7e+03		2.7e+06	
22 June	4.0e+06	4.3e+05	3.0e+03		2.6e+07	
23 June	1.4e+07	4.1e+05	2.4e+03		4.5e+07	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
17 June	5	1-2-2-1-2-2-1-1	3	1-1-2-2-1-0-1-0	4	1-2-2-1-1-1-1-1
18 June	7	1-1-1-1-3-3-2-1	6	1-1-1-0-3-3-1-1	5	1-1-1-1-1-2-2-1
19 June	4	1-1-0-1-2-2-1-2	3	2-2-0-0-1-1-0-1	5	2-1-0-1-1-2-1-2
20 June	12	2-2-2-2-3-2-4-3	10	2-2-2-2-3-3-3-2	11	2-2-1-2-2-2-4-3
21 June	17	4-4-3-3-3-2-3-3	23	3-4-5-5-3-2-3-2	17	4-4-3-3-2-3-3-3
22 June	13	3-3-3-3-3-2-2-3	19	3-3-3-5-4-2-2-3	14	4-3-3-2-2-2-3-3
23 June	16	3-4-4-3-2-3-2-3	23	4-5-4-4-3-4-2-2	15	4-4-4-3-2-3-3-3

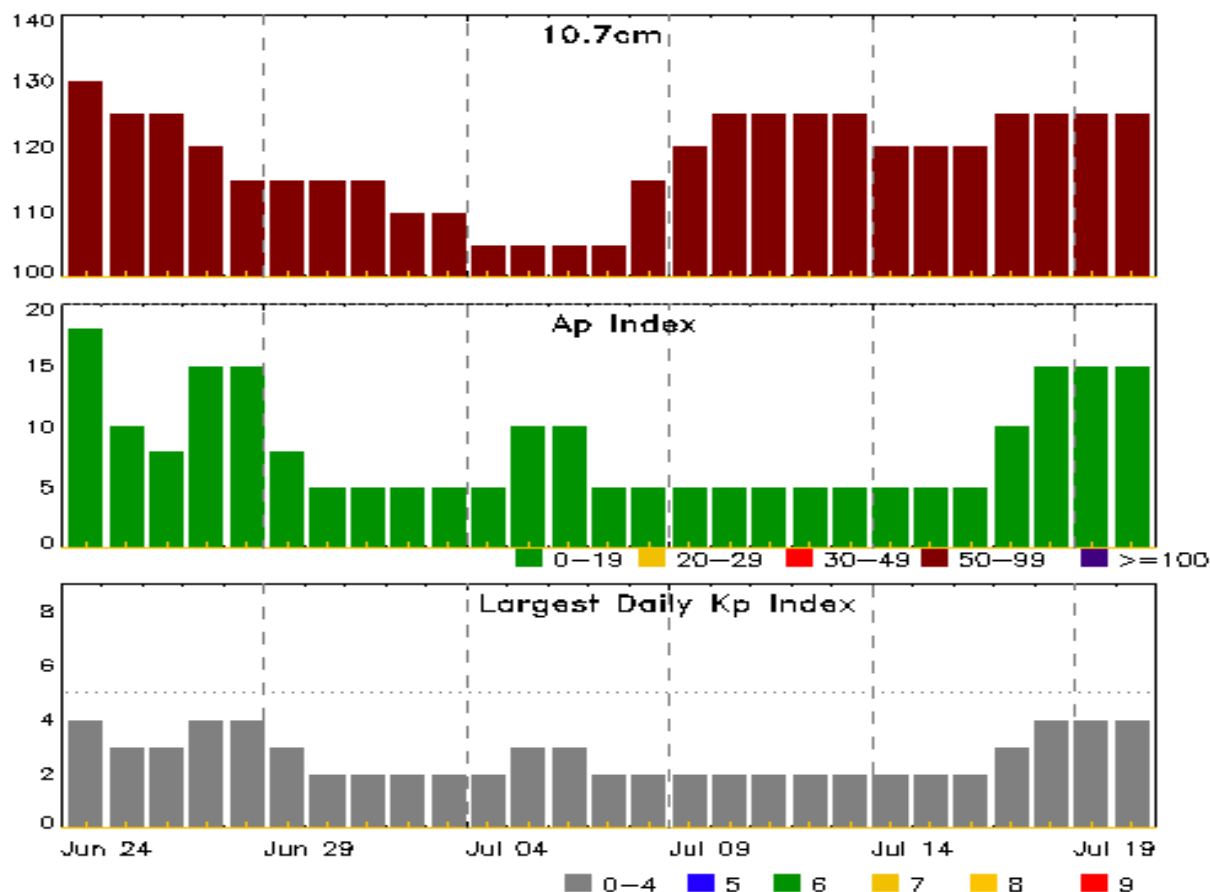


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
20 Jun 1554	WATCH: Geomagnetic Storm Category G1 predicted	
20 Jun 2057	WARNING: Geomagnetic K = 4	20/2055 - 21/2100
20 Jun 2104	ALERT: Geomagnetic K = 4	20/2059
21 Jun 0320	ALERT: Type IV Radio Emission	21/0256
21 Jun 0324	SUMMARY: 10cm Radio Burst	21/0308 - 0315
21 Jun 0347	CANCELLATION: 10cm Radio Burst	
21 Jun 0349	SUMMARY: 10cm Radio Burst	21/0308 - 0330
22 Jun 0142	WARNING: Geomagnetic K = 4	22/0143 - 0700
22 Jun 0149	ALERT: Geomagnetic K = 4	22/0150
22 Jun 0658	EXTENDED WARNING: Geomagnetic K = 4	22/0143 - 1300
23 Jun 0214	WARNING: Geomagnetic K = 4	23/0214 - 0700
23 Jun 0247	ALERT: Electron 2MeV Integral Flux \geq 1000pfu	23/0230
23 Jun 0305	ALERT: Geomagnetic K = 4	23/0259
23 Jun 0534	EXTENDED WARNING: Geomagnetic K = 4	23/0214 - 1900
23 Jun 1929	WARNING: Proton 10MeV Integral Flux $>$ 10pfu	23/1930 - 24/2100
23 Jun 2026	ALERT: Proton Event 10MeV Integral Flux \geq 10pfu	23/2010
23 Jun 2248	WARNING: Geomagnetic K = 4	23/2250 - 24/0700



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
24 Jun	130	18	4	08 Jul	115	5	2
25	125	10	3	09	120	5	2
26	125	8	3	10	125	5	2
27	120	15	4	11	125	5	2
28	115	15	4	12	125	5	2
29	115	8	3	13	125	5	2
30	115	5	2	14	120	5	2
01 Jul	115	5	2	15	120	5	2
02	110	5	2	16	120	5	2
03	110	5	2	17	125	10	3
04	105	5	2	18	125	15	4
05	105	10	3	19	125	15	4
06	105	10	3	20	125	15	4
07	105	5	2				



Energetic Events

Date	Time			X-ray		Optical Information			Peak		Sweep Freq	
	Begin	Max	Half	Class	Integ Flux	Imp/ Brtns	Location Lat CMD	Rgn #	Radio Flux		Intensity	
			Max						245	2695	II	IV
21 Jun	0230	0314	0343	M2.9	0.069	1F	S16E73	1777	1300	6000		1
23 Jun	2048	2056	2059	M2.9	0.009	1N	S15E62	1778	250	51		

Flare List

Date	Time			X-ray Class	Imp/ Brtns	Optical		Rgn #
	Begin	Max	End			Location Lat CMD		
17 Jun	0253	0347	0410	C1.2				1775
17 Jun	0429	0452	0459	C1.0	SF	S25E58		1775
17 Jun	0719	0812	0901	C1.7	SF	S20E23		1772
17 Jun	0849	0857	0903		SF	S24E20		1769
17 Jun	1306	1306	1311		SF	N04E46		1773
17 Jun	1337	1337	1349		SF	N04E48		1773
17 Jun	1501	1504	1507		SF	N04E45		1773
17 Jun	2233	2238	2250	C1.2				1772
18 Jun	0053	0207	0323	C2.4				
18 Jun	0535	0540	0546	C1.3	SF	S20E49		1775
18 Jun	0648	0718	0728	C2.2				1775
18 Jun	0707	0721	0749		SF	S23E45		1775
18 Jun	0720	0721	0724		SF	S24E43		1775
18 Jun	1144	1147	1149		SF	S17E46		1775
18 Jun	1514	1521	1524	B9.4	SF	S23E03		1769
18 Jun	1533	1557	1633	C1.1				1769
18 Jun	1635	1654	1659	B9.4				1769
18 Jun	1848	1907	1920	B6.0				1772
18 Jun	2020	2040	2054	B9.9	SF	N11E06		1776
18 Jun	2255	2304	2315	C1.6				
19 Jun	0050	0101	0112	C2.3	SF	N10E03		1776
19 Jun	0720	0729	0737	C3.5	SF	N11W01		1776
19 Jun	0728	0728	0733		SF	S26E30		1775
19 Jun	0933	0954	1025	C8.4				
19 Jun	0941	0945	0954		SF	N11W02		1776
19 Jun	1149	1156	1202	C1.5	SF	N03E18		1773
19 Jun	1646	1709	1727	C1.0	SF	N11W06		1776
20 Jun	0703	0703	0714		SF	N10W13		1776
20 Jun	0726	0730	0739		SF	N10W13		1776



Flare List

Date	Time			X-ray Class	Optical		Rgn #
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	
20 Jun	0913	0920	0925	C1.9			1777
20 Jun	0928	0933	0933		SF	N10W14	1776
20 Jun	0938	0938	0949		SF	N10W14	1776
20 Jun	1007	1014	1023		SF	N10W14	1776
20 Jun	1044	1047	1052	B7.9	SF	N10W15	1776
20 Jun	1118	1119	1125		SF	S26E20	1775
20 Jun	1134	1137	1140	B7.8	SF	N10W15	1776
20 Jun	1350	1354	1440		SF	N11W17	1776
20 Jun	1400	1405	1409	C1.3	SF	S27E13	1775
20 Jun	1554	1556	1621	C1.3	SF	S27E12	1775
20 Jun	1710	1712	1715		SF	N10W18	1776
20 Jun	1743	1750	1753		SF	N12W18	1776
20 Jun	1949	1959	2010	B9.2	SF	N11W19	1776
20 Jun	2014	2027	2036	C1.3			1775
21 Jun	0230	0314	0343	M2.9	1F	S16E73	1777
21 Jun	0632	0633	0636		SF	S23W28	1772
21 Jun	0744	0745	0751		SF	S26W30	1772
21 Jun	0912	0919	1001	C1.6	SF	S23W29	1772
21 Jun	0925	0931	0935	C3.1			
21 Jun	1019	1033	1036	C1.3	SF	S23W30	1772
21 Jun	1111	1111	1115		SF	S23W30	1772
21 Jun	1159	1206	1209	C1.3	SF	S23W30	1772
21 Jun	1214	1216	1218		SF	S23W30	1772
21 Jun	1219	1222	1224	C1.1	SF	S23W31	1772
21 Jun	1411	1415	1418		SF	S22W32	1772
21 Jun	1445	1447	1449		SF	S22W33	1772
21 Jun	1532	1536	1537		SF	S22W33	1772
21 Jun	1637	1639	1642		SF	S22W34	1772
21 Jun	1643	1647	1651	B9.3			
21 Jun	1802	1806	1809	C1.0	SF	N12W33	1776
21 Jun	1845	1851	1908		SF	S21W36	1772
21 Jun	1920	1938	1947		SF	S21W35	1772
21 Jun	2100	2217	2239	C2.1	SF	S22W37	1772
21 Jun	2323	2327	2330	C1.5	SF	S22W37	1772
22 Jun	0041	0045	0050	B9.9	SF	S21W39	1772
22 Jun	0500	0506	0516	C1.3			1775
22 Jun	0548	0549	0608		SF	S24W42	1772
22 Jun	0646	0648	0730		SF	S24W43	1772



Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
22 Jun	0902	0910	0917	C1.1	SF	S24W44	1772
22 Jun	1030	1033	1035	B7.6	SF	S24W43	1772
22 Jun	1220	1223	1226		SF	S24W46	1772
22 Jun	1346	1348	1354		SF	S24W47	1772
22 Jun	1418	1422	1423		SF	S24W47	1772
22 Jun	1731	1736	1746	C1.5	SF	N05W27	1773
23 Jun	1202	1232	1259	B8.0			1772
23 Jun	1438	1440	1458		SF	N10W59	1776
23 Jun	1621	1621	1636		SF	N11W61	1776
23 Jun	2048	2056	2059	M2.9	1N	S15E62	1778



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 1767

09 Jun	S17E42	334	10	5	Bxo	2	B								
10 Jun	S17E28	334	plage												
11 Jun	S17E14	336	plage												
12 Jun	S17W00	337	plage												
13 Jun	S17W14	337	plage												
14 Jun	S17W28	338	plage												
15 Jun	S17W42	339	plage												
16 Jun	S17W56	340	plage												
17 Jun	S17W70	340	plage												
18 Jun	S17W84	341	plage												
								0	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 337

Region 1768

12 Jun	S11W19	354	50	4	Dao	6	B								
13 Jun	S11W32	355	90	6	Dai	12	B				3				
14 Jun	S11W46	356	320	6	Dko	13	B				2				
15 Jun	S11W59	355	270	7	Dko	6	B								
16 Jun	S12W71	354	260	7	Dko	7	B								
17 Jun	S12W85	355	260	7	Dko	7	B								
								0	0	0	5	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 354



Region Summary - continued

Date	Location	Sunspot Characteristics						Flares							
	Lat CMD	Helio	Area 10 ⁻⁶ hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical				
		Lon						C	M	X	S	1	2	3	4
Region 1769															
13 Jun	S23E61	261	10	2	Bxo	2	B	1							
14 Jun	S22E49	261	20	7	Cro	3	B					2			
15 Jun	S22E35	260	20	6	Cro	2	B								
16 Jun	S23E24	258	10	1	Hsx	2	A	1				1			
17 Jun	S23E11	259	plage									1			
18 Jun	S23W03	260	plage					1				1			
19 Jun	S22W17	261	plage												
20 Jun	S22W31	262	plage												
21 Jun	S22W45	262	plage												
22 Jun	S22W59	263	plage												
23 Jun	S22W73	264	plage												
								3	0	0	5	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 260

Region 1770

13 Jun	S13E67	254	30	1	Hsx	1	A								
14 Jun	S13E53	257	40	2	Hsx	1	A								
15 Jun	S14E41	255	60	2	Hsx	1	A								
16 Jun	S13E27	255	50	2	Hsx	1	A								
17 Jun	S14E16	253	80	2	Hsx	1	A								
18 Jun	S15E02	254	80	2	Hsx	1	A								
19 Jun	S15W12	256	80	2	Hsx	1	A								
20 Jun	S14W23	254	40	1	Hsx	1	A								
21 Jun	S14W36	252	70	1	Hsx	2	A								
22 Jun	S14W50	253	30	1	Hsx	1	A								
23 Jun	S15W63	254	20	1	Hsx	2	A								
								0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 254



Region Summary - continued

Date	Location	Sunspot Characteristics						Flares							
	Lat CMD	Helio	Area 10 ⁻⁶ hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical				
		Lon						C	M	X	S	1	2	3	4
<i>Region 1771</i>															
14 Jun	S12E64	246	20	1	Hrx	1	A								
15 Jun	S11E51	245	10	1	Axx	1	A								
16 Jun	S15E42	241	plage												
17 Jun	S15E28	242	plage												
18 Jun	S15E14	243	plage												
19 Jun	S15W00	244	plage												
20 Jun	S15W14	245	plage												
21 Jun	S15W28	245	plage												
22 Jun	S15W42	246	plage												
23 Jun	S15W56	247	plage												
								0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 244

Region 1772															
14 Jun	S20E55	255	10	5	Bxo	5	B								
15 Jun	S20E40	255	30	8	Cri	8	B								
16 Jun	S20E29	255	60	9	Dai	10	B								
17 Jun	S20E15	255	100	9	Dai	17	B	2			1				
18 Jun	S22E02	254	110	7	Dai	13	B								
19 Jun	S22W12	256	120	7	Dai	16	B								
20 Jun	S20W25	256	70	8	Dai	17	B								
21 Jun	S22W38	255	140	9	Dac	23	BG	6			16				
22 Jun	S22W52	255	260	9	Dko	15	BG	1			8				
23 Jun	S22W66	257	140	9	Cao	5	B								
								9	0	0	25	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 254



Region Summary - continued

	Location		Sunspot Characteristics					Flares							
		Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical				
Date	Lat CMD	Lon	10 ⁻⁶ hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4
Region 1773															
15 Jun	N04E64	232	30	1	Hrx	1	A								
16 Jun	N04E51	233	40	3	Cao	8	B								
17 Jun	N04E37	232	90	7	Dai	13	B				3				
18 Jun	N03E24	232	90	9	Cai	23	B								
19 Jun	N03E10	234	120	9	Dai	20	B	1			1				
20 Jun	N03W04	235	80	8	Cao	12	B								
21 Jun	N03W21	237	30	4	Hax	6	A								
22 Jun	N04W34	238	50	7	Dso	8	B	1			1				
23 Jun	N04W47	238	10	10	Bxo	5	B								
								2	0	0	5	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 235

Region 1774															
15 Jun	S18E58	238	30	3	Bxo	1	B	1							
16 Jun	S19E46	238	30	3	Cro	2	B								
17 Jun	S18E31	239	80	4	Cso	3	B								
18 Jun	S19E16	240	70	4	Cao	4	B								
19 Jun	S19E02	242	50	2	Hax	3	A								
20 Jun	S16W10	241	30	3	Cso	4	B								
21 Jun	S17W23	239	40	3	Hax	5	A								
22 Jun	S16W37	241	30	4	Cao	7	B								
23 Jun	S17W50	241	20	4	Hrx	4	A								
								1	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 242



Region Summary - continued

	Location		Sunspot Characteristics					Flares							
		Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical				
Date	Lat CMD	Lon	10 ⁻⁶ hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4
Region 1775															
15 Jun	S25E74	223	60	2	Hax	1	A								
16 Jun	S26E59	223	40	5	Dko	4	B				2				
17 Jun	S26E48	222	380	7	Dko	9	BD	2			1				
18 Jun	S26E34	223	410	7	Dkc	18	B	2			4				
19 Jun	S26E20	224	400	7	Dkc	17	BD				1				
20 Jun	S26E06	225	300	5	Dkc	11	BD	3			3				
21 Jun	S26W06	223	270	6	Dkc	9	BD								
22 Jun	S26W19	223	300	10	Dhc	11	BG	1							
23 Jun	S26W32	223	180	6	Dsc	6	BG								
								8	0	0	11	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 225

Region 1776

18 Jun	N11E05	252	10	1	Axx	1	A				1				
19 Jun	N11W09	253	40	3	Dao	9	B	3			4				
20 Jun	N10W24	254	70	8	Dai	12	B				11				
21 Jun	N11W36	253	170	8	Dao	17	B	1			1				
22 Jun	N11W50	254	220	8	Dai	11	BG								
23 Jun	N11W63	254	160	10	Dso	11	BG				2				
								4	0	0	19	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 252

Region 1777

20 Jun	S16E66	165	70	3	Hsx	1	A	1							
21 Jun	S15E56	162	130	3	Cao	3	B		1		1				
22 Jun	S15E42	162	200	3	Cso	3	B								
23 Jun	S15E29	162	170	3	Hsx	1	A								
								1	1	0	0	1	0	0	0

Still on Disk.

Absolute heliographic longitude: 162

Region 1778

22 Jun	S16E75	129	110	2	Hsx	1	A								
23 Jun	S16E61	130	100	3	Cao	4	B		1		1				
								0	1	0	0	1	0	0	0

Still on Disk.

Absolute heliographic longitude: 130

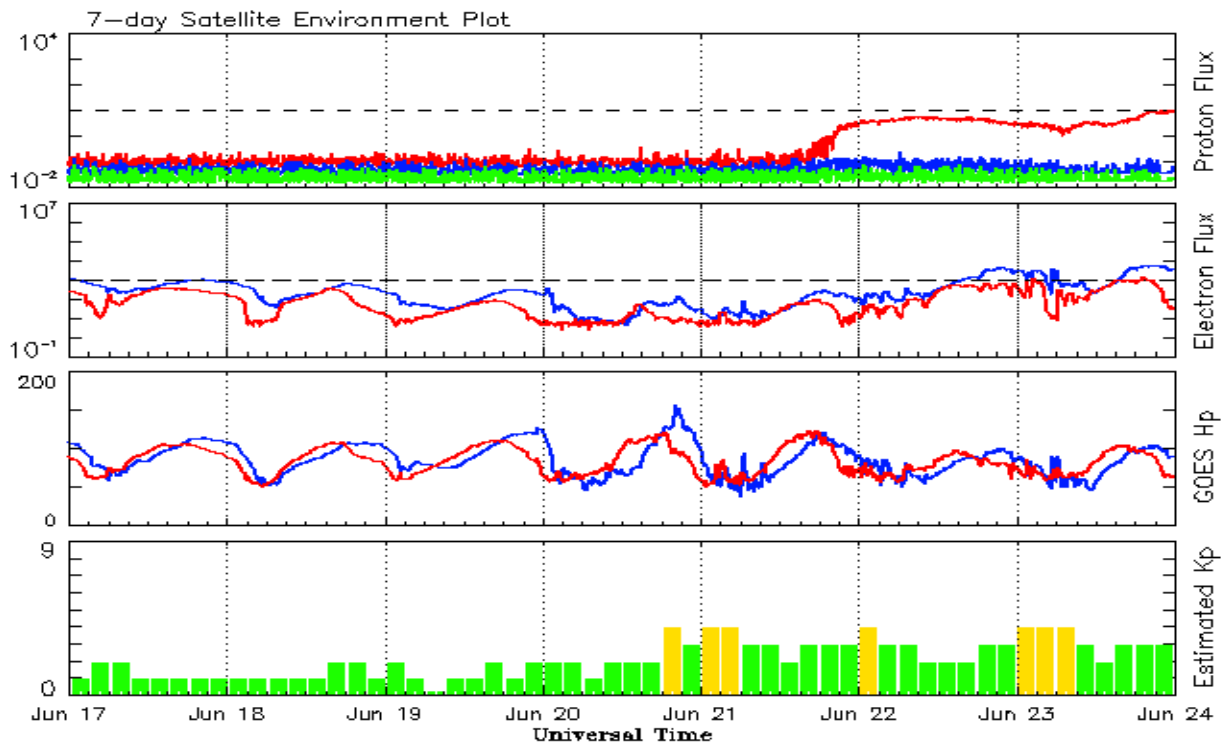


Recent Solar Indices (preliminary)
Observed monthly mean values

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
2011									
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	57.3	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	94.1	66.8	115.1	126.8	14	8.1
April	84.4	55.2	0.65	91.3	64.6	113.1	125.8	9	8.0
May	99.5	69.0	0.69	87.7	61.7	121.5	123.8	8	8.2
June	88.6	64.5	0.73	83.9	58.9	120.5	121.1	10	8.3
July	99.6	66.5	0.67	82.4	57.8	135.6	119.5	13	8.3
August	85.8	63.0	0.74	83.1	58.2	115.7	119.2	7	8.1
September	84.0	61.4	0.73	83.7	58.1	123.2	118.9	8	7.8
October	73.5	53.3	0.73	85.0	58.6	123.3	119.2	9	7.4
November	89.2	61.8	0.69	87.3	59.7	120.9	120.1	6	7.3
December	60.4	40.8	0.68			108.4		3	
2013									
January	99.8	62.9	0.63			127.1		4	
February	60.0	38.0	0.63			104.4		5	
March	81.0	57.9	0.71			111.2		9	
April	112.8	72.4	0.64			125.0		5	
May	125.5	78.7	0.63			131.3		10	

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 17 June 2013*

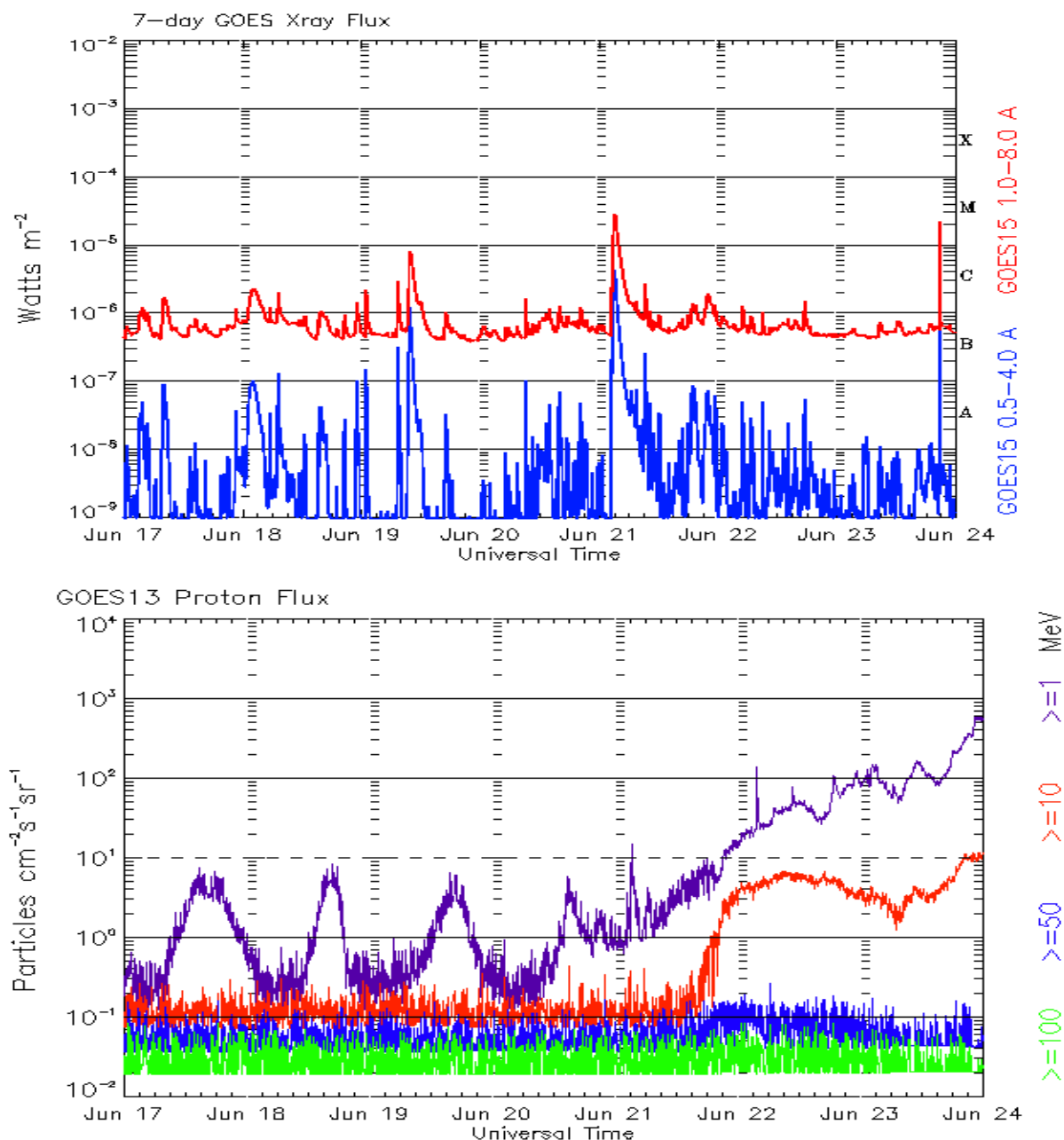
The proton flux plot contains the five-minute averaged integral proton flux (protons/cm²-sec -sr) as measured by the SWPC Primary GOES satellite, near West 75, for each of three energy thresholds: greater than 10, 50, and 100 MeV.

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 17 June 2013*

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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