

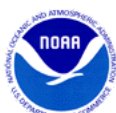
Solar activity was at low to moderate levels. Weak to mid-level C-class flares were observed on 15-17 Jun from Regions 2360 (N15, L=129, class/area Eac/220 on 12 Jun), 2367 (S20, L=002, class/area Ekc/400 on 15 Jun), 2268 (S06, L=100, class/area Bxo/010 on 14 Jun) and 2371 (N13, L=302, class/area Fkc/1180 on 21 Jun). Activity increased to moderate levels (R1-minor) on 18 Jun. Old Region 2365 (S13, L=079) produced a long duration event (LDE) M1 flare at 18/0127 UTC. At 18/1736 UTC, Region 2371 produced an M3/1n LDE with associated Type IV and Tenflare (2200 sfu) radio emissions. Associated with this event was an asymmetric, full-halo CME first visible in LASCO C2 imagery at 18/1724 UTC.

19 Jun saw a return to low levels with weak to high-level C-class flares observed from Region 2371. At about 19/0500 UTC, a large filament eruption was observed in the SSE quadrant of the disk. Associated with this eruption was a partial-halo CME, first observed in LASCO C2 imagery at 19/0845 UTC. Moderate levels returned on 20 Jun with an M1/if flare observed at 20/0648 UTC. 21 Jun saw a total of 4 M-class class flares. Region 2371 produced an M2/1n flare at 21/0142 UTC with associated Type II (682 km/s) and Type IV radio emissions. Also associated with this event was a full-halo CME. Shortly afterward, this same region produced an M2.6 x-ray event. At 21/0944 UTC, Region 2367 produced an M3/2b flare followed by an M1 x-ray event at 21/1820 UTC.

A pair of 10 MeV at greater than or equal to 10 pfu proton events were observed at geosynchronous orbit. The first event began at 18/1135 UTC, reached a maximum of 16 pfu at 18/1445 UTC and ended at 19/0230 UTC. This event was associated with the M1 flare from old Region 2365 observed at 18/0127 UTC. The second event began at 21/2035 UTC and reached at peak of near 50 pfu at the end of the summary period and was still rising. This event was associated with the M1 flare from Region 2367 observed at 21/1820 UTC.

The greater than 2 MeV electron flux at geosynchronous orbit reached high levels through the entire summary period.

Geomagnetic field activity was at quiet to active levels through the period. Quiet to unsettled levels were observed on 15-17 Jun with isolated active periods observed on 15 and 17 Jun. This activity was due to positive polarity coronal hole high speed stream (CH HSS) effects. Solar wind parameters, measured at the ACE satellite, indicated wind speeds of near 600 km/s early on 15 Jun decreasing to about 450 km/s by the end of the 17th. Total field ranged between 4-8 nT while the Bz component varied between +/- 5 nT. Phi angle was in a predominately positive (away) orientation. Predominately quiet conditions were observed on 18 Jun through late on 21 June. Solar wind speeds decreased from about 450 km/s early on 18 June to near 275 km/s by 21/1540 UTC. During this same time frame, total field ranged between 1-6 nT, Bz varied between +4 nT to -3 nT and phi remained mostly positive. After 21/1540 UTC, wind speed increased to about 360 km/s, Bt increased to 12 nT, Bz varied between +8 nT to -7 nT and phi briefly rotated to a negative (towards) sector. This deviation indicated a possible co-rotating interaction region in advance of an anticipated positive polarity CH HSS.



Space Weather Outlook 22 June - 18 July 2015

Solar activity is expected to be at moderate to high levels (R1-R2, minor-moderate). Active Regions 2367 and 2371, and the return of old Region 2365 on 30 Jun, are expected to keep activity levels enhanced through the outlook period.

The 10 MeV at greater than or equal to 10 pfu proton flux at geosynchronous orbit is expected to remain at the S1 (minor) to S2 (moderate) levels through 24 Jun. Effects from the 21 Jun M1 flare, coupled with multiple shocks from the 18, 19 and 21 Jun CMEs, are expected to keep proton flux above event levels.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at normal to moderate levels on 22 Jun through 06 Jul. Moderate to high levels are expected on 07-18 Jul due to CH HSS effects.

Geomagnetic field activity is expected to be at unsettled to severe storm levels (G1-G3, minor-strong) on 22-24 Jun. This activity is due to the expected arrival of the three CMEs from 18, 19 and 21 Jun. Unsettled to active periods are expected on 06-08 Jul, 12-13 Jul and 18 Jul, along with minor storm periods (G1-minor) on 05 and 11 Jul, due to CIR/CH HSS effects. Predominately quiet to unsettled levels are expected for the remainder of the outlook period.



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
15 June	135	107	520	B7.4	5	0	0	3	0	0	0	0
16 June	136	87	680	B8.6	8	0	0	13	0	0	0	0
17 June	136	94	940	B6.2	4	0	0	11	2	0	0	0
18 June	151	82	1120	B9.4	8	2	0	15	3	0	0	0
19 June	137	74	1320	B6.8	8	0	0	18	0	0	0	0
20 June	135	89	1410	B5.7	3	1	0	11	1	0	0	0
21 June	136	79	1410	*	5	4	0	19	2	1	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
	15 June	8.2e+05	1.0e+04	2.4e+03		6.4e+07
16 June	1.4e+05	1.2e+04	2.7e+03		7.3e+07	
17 June	1.4e+05	1.1e+04	2.6e+03		4.6e+07	
18 June	3.7e+06	7.3e+05	3.0e+03		4.9e+07	
19 June	6.3e+06	5.1e+05	2.8e+03		5.6e+07	
20 June	1.5e+06	1.0e+05	2.8e+03		7.9e+07	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	15 June	13	2-2-3-3-3-3-3-3	39	3-3-5-6-5-6-3-2	14
16 June	10	2-3-3-2-2-3-1-2	16	3-3-4-3-4-3-1-2	11	3-3-3-2-2-3-2-2
17 June	14	4-3-3-3-3-3-2-1	36	4-3-6-5-4-6-2-1	14	3-3-3-3-4-3-1-1
18 June	0	2-2-1-1-3-2-0-0	0	3-2-2-3-4-3-0-0	7	3-2-1-2-2-2-1-1
19 June	0	0-0-0-0-0-0-0-0	0	0-0-0-0-0-0-0-0	5	3-1-1-1-1-0-0-1
20 June	0	0-0-0-0-0-0-0-0	0	0-0-0-0-0-0-0-0	3	1-1-1-1-0-0-0-1
21 June	0	0-0-0-0-0-0-0-0	0	0-0-0-0-0-0-0-0	8	1-1-1-1-1-4-2-3



Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
15 Jun 1333	WARNING: Geomagnetic K = 4	15/1330 - 1700
15 Jun 1336	ALERT: Electron 2MeV Integral Flux \geq 1000pfu	15/1320
15 Jun 1427	ALERT: Geomagnetic K = 4	15/1427
15 Jun 1656	EXTENDED WARNING: Geomagnetic K = 4	15/1330 - 16/0600
15 Jun 1657	WATCH: Geomagnetic Storm Category G1 predicted	
16 Jun 0517	EXTENDED WARNING: Geomagnetic K = 4	15/1330 - 16/1400
16 Jun 0517	EXTENDED WARNING: Geomagnetic K = 4	15/1330 - 16/1400
16 Jun 1325	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	15/1320
16 Jun 1354	CANCELLATION: Geomagnetic Storm Category G1 predicted	
17 Jun 0243	WARNING: Geomagnetic K = 4	17/0243 - 1400
17 Jun 1326	EXTENDED WARNING: Geomagnetic K = 4	17/0243 - 1900
17 Jun 1433	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	15/1320
17 Jun 1444	ALERT: Geomagnetic K = 4	17/1443
17 Jun 1637	EXTENDED WARNING: Geomagnetic K = 4	17/0243 - 2300
17 Jun 1638	WARNING: Geomagnetic K = 5	17/1638 - 2100
18 Jun 0907	WARNING: Proton 10MeV Integral Flux $>$ 10pfu	18/0910 - 2300
18 Jun 1152	ALERT: Proton Event 10MeV Integral Flux \geq 10pfu	18/1135
18 Jun 1418	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	15/1320
18 Jun 1738	ALERT: Type IV Radio Emission	18/1657
18 Jun 1801	SUMMARY: 10cm Radio Burst	18/1703 - 1742
18 Jun 2210	EXTENDED WARNING: Proton 10MeV Integral Flux $>$ 10pfu	18/0910 - 19/2300
19 Jun 0855	WATCH: Geomagnetic Storm Category G1 predicted	
19 Jun 1703	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	15/1320
19 Jun 2210	SUMMARY: Proton Event 10MeV Integral Flux \geq 10pfu	18/1135 - 19/0230
20 Jun 1007	WATCH: Geomagnetic Storm Category G1 predicted	

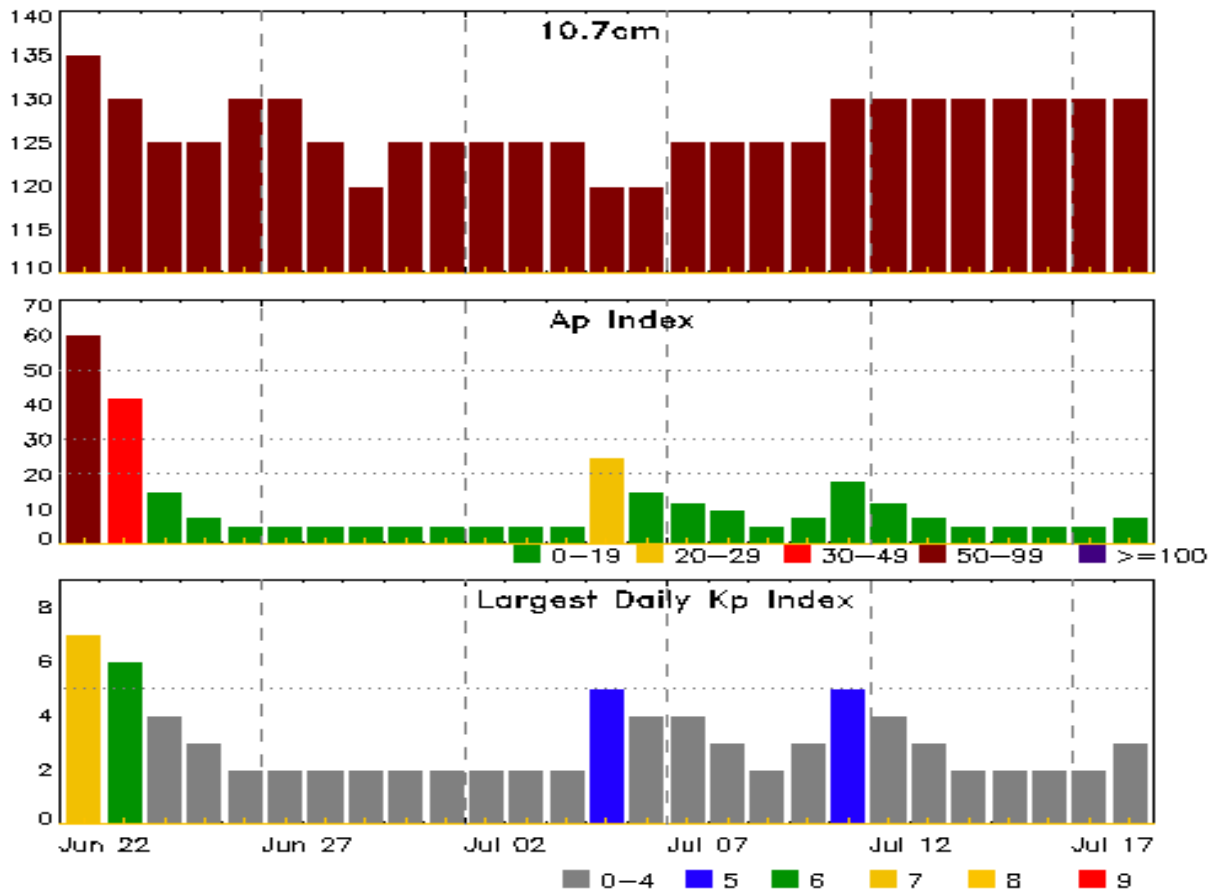


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
20 Jun 1305	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	15/1320
21 Jun 0205	SUMMARY: 10cm Radio Burst	21/0135 - 0139
21 Jun 0254	ALERT: Type IV Radio Emission	21/0224
21 Jun 0305	ALERT: Type II Radio Emission	21/0224
21 Jun 0346	SUMMARY: 10cm Radio Burst	21/0207 - 0314
21 Jun 1037	ALERT: Type IV Radio Emission	21/0942
21 Jun 1113	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	15/1320
21 Jun 1657	WARNING: Geomagnetic K = 4	21/1656 - 22/1700
21 Jun 1700	SUMMARY: Geomagnetic Sudden Impulse	21/1650
21 Jun 1714	WATCH: Geomagnetic Storm Category G3 predicted	
21 Jun 1755	ALERT: Geomagnetic K = 4	21/1755
21 Jun 1907	WARNING: Proton 10MeV Integral Flux $>$ 10pfu	21/1930 - 22/1900
21 Jun 2050	ALERT: Proton Event 10MeV Integral Flux \geq 10pfu	21/2035



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
22 Jun	135	60	7	06 Jul	120	15	4
23	130	42	6	07	125	12	4
24	125	15	4	08	125	10	3
25	125	8	3	09	125	5	2
26	130	5	2	10	125	8	3
27	130	5	2	11	130	18	5
28	125	5	2	12	130	12	4
29	120	5	2	13	130	8	3
30	125	5	2	14	130	5	2
01 Jul	125	5	2	15	130	5	2
02	125	5	2	16	130	5	2
03	125	5	2	17	130	5	2
04	125	5	2	18	130	8	3
05	120	25	5				

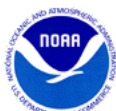


Energetic Events

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
18 Jun	0033	0127	0155	M1.2	0.040			2365				
18 Jun	1630	1736	1825	M3.0	0.087	1N	N15E50	2371	250	2200		2
20 Jun	0628	0648	0709	M1.0	0.018	1F	N13E25	2371				
21 Jun	0102	0142	0200	M2.0	0.032	1N	N12E13	2371	360	100	2	2
21 Jun	0206	0236	0302	M2.6				2371	1000	490		
21 Jun	0938	0944	0950	M3.8	0.016	2B	S21W57	2367		120		1
21 Jun	1810	1820	1828	M1.1	0.008	SF	S18W64	2367				

Flare List

Date	Time			X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
	Begin	Max	End				
15 Jun	0749	0753	0755	C1.7	SF	S09W70	2368
15 Jun	1023	1032	1037	C2.5			
15 Jun	1345	1349	1415	C1.8			2360
15 Jun	1439	1442	1446	C1.4			
15 Jun	1532	1534	1540		SF	S19E26	2367
15 Jun	1604	1627	1650	C1.8			2360
15 Jun	1847	1913	2144		SF	N13E85	
16 Jun	0232	0327	0331	C2.2			2360
16 Jun	0332	0342	0350	C2.4			2360
16 Jun	0358	0406	0412	C2.7			2371
16 Jun	B0452	U0649	0656		SF	N15E79	2371
16 Jun	1000	1003	1006		SF	N16E81	2371
16 Jun	1109	1112	1114		SF	N14E78	2371
16 Jun	1226	1239	1249		SF	N13E78	2371
16 Jun	1302	1303	1307		SF	N16E80	2371
16 Jun	1326	1333	1337		SF	N16E80	2371
16 Jun	1549	1551	1553		SF	N13E75	2371
16 Jun	1633	1633	1637		SF	N14E75	2371
16 Jun	1706	1707	1711		SF	N13E73	2371
16 Jun	1813	1816	1842		SF	N13E73	2371
16 Jun	1849	1852	1855		SF	N13E73	2371
16 Jun	1919	1919	1923		SF	N12E71	2371
16 Jun	1927	1930	1936	C1.3	SF	N12E72	2371
16 Jun	2011	2016	2021	C1.9			2371



Flare List

Date	Time			X-ray Class	Optical		Rgn #
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	
16 Jun	2024	2032	2048	C1.7			2371
16 Jun	2057	2117	2127	C2.2			2371
16 Jun	2331	0001	0023	C3.2			2371
17 Jun	0546	0606	0635	C1.6	1F	S19E04	2367
17 Jun	B0808	U0830	A0842		SF	N15E67	2371
17 Jun	1231	1231	1238		SF	N13E64	2371
17 Jun	1239	1254	1259		SF	N13E64	2371
17 Jun	1302	1330	1401	C1.4	SF	N13E64	2371
17 Jun	1346	1349	1354		SF	S20W07	2367
17 Jun	1407	1407	1411		SF	N11E60	2371
17 Jun	1551	1553	1554		SF	S19W09	2367
17 Jun	1617	U1625	1629		SF	N15E63	2371
17 Jun	B1639	U1653	A1703	C1.0	SF	N15E63	2371
17 Jun	1704	1704	1716		SF	S20W03	2367
17 Jun	1710	U1718	1739		SF	N15E62	2371
17 Jun	2216	2250	2326	C5.3	1N	S19W11	2367
18 Jun	0018	0024	0028	C7.2			2367
18 Jun	0033	0127	0155	M1.2			2365
18 Jun	B0432	U0443	0532	C2.8	SF	N15E55	2371
18 Jun	B0618	U0635	A0639		SF	S19W16	2367
18 Jun	0624	U0704	0731		SF	N17E55	2371
18 Jun	0628	0631	0633	C2.3			2367
18 Jun	0708	0710	0725		SF	S19W16	2367
18 Jun	0941	0944	0947	C1.1			2371
18 Jun	B1250	1309	1403		1F	N15E52	2371
18 Jun	1305	1310	1315	C3.5	SN	N12E47	2371
18 Jun	1402	1407	1421	C1.7			2367
18 Jun	1403	1426	1454		SF	N15E52	2371
18 Jun	1404	1405	1410		SF	S20W16	2367
18 Jun	1454	1455	1504		SF	N13E51	2371
18 Jun	1553	1558	1604		SF	N16E49	2371
18 Jun	1609	1614	1619		SF	N16E48	2371
18 Jun	1629	1713	1905	M3.0	1N	N15E50	2371
18 Jun	1641	1642	1644		SF	S18W20	2367
18 Jun	1832	1834	1837		SF	S19W20	2367
18 Jun	2130	2144	2159	C3.2	SF	N15E50	2371
18 Jun	2239	2241	2243		SF	S20W23	2367
18 Jun	2326	2350	0005	C2.4	SF	N11E37	2371



Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/Brtns	Location Lat CMD	Rgn #
19 Jun	0000	0001	0007		SF	N14E44	2371
19 Jun	0044	0119	0139	C2.8			2371
19 Jun	0108	0112	0115		SF	S19W25	2367
19 Jun	0113	0120	A0206		SF	N14E44	2371
19 Jun	0135	0137	0138		SF	S19W25	2367
19 Jun	0236	0314	0321	C2.1			2371
19 Jun	0407	0419	0434	C1.7			2371
19 Jun	0436	0441	0458		SF	S21W27	2367
19 Jun	0437	0440	0443		SF	N15E40	2371
19 Jun	0629	0636	0642		SF	N12E37	2371
19 Jun	B0833	U0833	0836		SF	N12E36	2371
19 Jun	0919	0927	0938	C8.1	SN	N15E39	2371
19 Jun	1017	1044	1100	C1.8	SF	N13E35	2371
19 Jun	1153	1203	1222		SF	S20W31	2367
19 Jun	1531	1535	1538	C1.8	SF	N15E37	2371
19 Jun	1654	1654	1659		SF	S19W34	2367
19 Jun	1737	1742	1745	C1.1			2371
19 Jun	1759	1803	1807	C1.5	SF	N14E33	2371
19 Jun	1821	1821	1827		SF	N08E22	2371
19 Jun	1832	1835	1839		SF	N08E22	2371
19 Jun	1900	1900	1905		SF	N10E25	2371
19 Jun	1933	1933	1939		SF	N11E28	2371
20 Jun	0236	0242	0244	C2.3	SN	N14E27	2371
20 Jun	0310	0415	0439	C1.4	SF	N16E24	2371
20 Jun	0450	0451	0454		SF	S19W41	2367
20 Jun	0628	0648	0709	M1.0	1F	N13E25	2371
20 Jun	B0738	U0740	A0756		SF	N13E22	2371
20 Jun	B0811	U0813	A0828		SF	S21W44	2367
20 Jun	0817	0824	0831		SF	N16E23	2371
20 Jun	0903	0904	0910		SF	S21W44	2367
20 Jun	1008	1009	1017		SF	N14E22	2371
20 Jun	1104	1121	1142		SF	S20W46	2367
20 Jun	1447	1447	1455		SF	S24W47	2367
20 Jun	1907	1912	1919	C1.2			2367
20 Jun	2325	2326	2327		SF	N11E15	2371
21 Jun	0102	0142	0200	M2.0	1N	N12E13	2371
21 Jun	0206	0236	0302	M2.6			2371
21 Jun	B0653	U0657	A0701		SF	S26W48	2367



Flare List

Date	Time			X-ray Class	Imp/ Brtns	Optical	
	Begin	Max	End			Location Lat CMD	Rgn #
21 Jun	B0703	U0704	A0730		SF	N14E11	2371
21 Jun	B0735	U0737	A0831		SF	N15E09	2371
21 Jun	0813	0814	0819		SF	S21W57	2367
21 Jun	B0836	U0845	A0854		SF	N15E08	2371
21 Jun	0914	0921	0929		SF	N07E02	2371
21 Jun	B0924	0942	1031	M3.8	2B	S21W57	2367
21 Jun	B1045	1050	1111		1F	N13E07	2371
21 Jun	1113	U1115	A1120		SF	S17W55	2367
21 Jun	B1213	U1213	A1217		SF	S21W59	2367
21 Jun	1248	1252	1255		SF	S18W61	2367
21 Jun	1328	1333	1336	C1.3	SF	S22W61	2367
21 Jun	1414	1414	1417		SF	S18W61	2367
21 Jun	1429	1432	1434	C1.4	SF	S22W61	2367
21 Jun	B1442	1443	1452		SF	S21W60	2367
21 Jun	1535	1640	1744	C2.6	SF	S19W62	2367
21 Jun	1635	1636	1654		SF	N08W00	2371
21 Jun	1707	1736	1749		SF	S18W63	2367
21 Jun	1756	1819	1858	M1.1	SF	S18W64	2367
21 Jun	1920	1920	1924		SF	S18W64	2367
21 Jun	2009	2013	2015	C1.5			2371
21 Jun	2034	2041	2045		SF	S18W64	2367
21 Jun	2228	2240	2255	C6.5			



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 2360																	
03 Jun	N12E52	127	50	7	Dao	5	B	1			1						
04 Jun	N13E39	128	100	9	Dai	9	B				3						
05 Jun	N14E23	131	80	8	Dao	10	B										
06 Jun	N15E09	132	90	10	Dai	10	B										
07 Jun	N15W04	132	140	11	Eac	13	BG	2			1						
08 Jun	N15W17	131	130	11	Eac	20	BG										
09 Jun	N15W31	132	120	11	Eai	20	BG	1			2						
10 Jun	N15W43	131	70	12	Eai	20	BG	2			2						
11 Jun	N14W55	130	90	12	Eai	13	BG	4			6						
12 Jun	N15W68	129	220	12	Eac	16	BG	5			12	1					
13 Jun	N15W82	130	150	13	Eai	6	B	14	1		15						
14 Jun	N15W91	126	60	5	Cao	2	B	2	1		1						
								31	2	0	43	1	0	0	0		

Crossed West Limb.
Absolute heliographic longitude: 132

Region 2361																	
04 Jun	N16E64	101	80	4	Dai	3	B	2			4						
05 Jun	N16E51	103	90	5	Dai	9	B	5			5						
06 Jun	N16E36	105	110	5	Dai	16	B	1			2						
07 Jun	N16E22	106	80	5	Dai	7	B	1									
08 Jun	N17E10	103	40	6	Cao	5	B										
09 Jun	N17W04	105	40	4	Cao	5	B										
10 Jun	N17W16	104	20	9	Cso	3	B	1									
11 Jun	N17W30	105	10	1	Axx	1	A	1			3						
12 Jun	N18W46	106	plage														
13 Jun	N18W60	108	plage														
14 Jun	N18W74	109	plage														
15 Jun	N18W88	110	plage														
								11	0	0	14	0	0	0	0	0	

Crossed West Limb.
Absolute heliographic longitude: 105



Region Summary - continued

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 2362																							
04 Jun	N07E69	98	90	6	Dao	3	B																
05 Jun	N07E55	99	150	4	Dao	7	B																
06 Jun	N07E41	100	210	8	Dai	10	B																
07 Jun	N05E27	101	140	8	Dao	8	B	2				1											
08 Jun	N06E14	100	120	8	Dao	11	B																
09 Jun	N06W01	102	100	8	Dso	11	B																
10 Jun	N06W13	101	50	8	Cso	7	B																
11 Jun	N06W26	101	30	8	Cso	6	B																
12 Jun	N08W39	100	20	6	Cro	3	B																
13 Jun	N08W51	99	10	1	Hrx	1	A																
14 Jun	N07W63	98	10	1	Hrx	1	A																
15 Jun	N07W78	100	plage																				
								2	0	0		1	0	0	0	0	0						

Crossed West Limb.
 Absolute heliographic longitude: 102

Region 2364																							
06 Jun	S05E64	77	10	2	Bxo	3	B					1											
07 Jun	S06E49	79	10	3	Bxo	5	B																
08 Jun	S05E35	79	10	4	Bxo	5	B																
09 Jun	S07E24	77	10	1	Axx	3	A	1					1										
10 Jun	S07E11	77	10	1	Axx	2	A																
11 Jun	S07W04	79	plage										1										
12 Jun	S07W19	80	plage										1										
13 Jun	S07W34	82	plage																				
14 Jun	S07W49	84	plage																				
15 Jun	S07W64	86	plage																				
16 Jun	S07W79	87	plage																				
								1	0	0		3	1	0	0	0	0						

Crossed West Limb.
 Absolute heliographic longitude: 79



Region Summary - continued

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 2365																		
06 Jun	S13E64	77	70	4	Cso	3	B	1										
07 Jun	S13E48	80	90	6	Cso	5	B											
08 Jun	S13E36	78	70	6	Cao	6	B					1						
09 Jun	S13E22	79	60	6	Cao	6	B											
10 Jun	S13E07	81	60	3	Cao	4	B	2				1						
11 Jun	S12W05	80	100	5	Cso	8	B											
12 Jun	S13W18	79	140	7	Cao	10	B											
13 Jun	S15W33	81	90	7	Cao	7	B											
14 Jun	S15W47	82	100	6	Cao	9	B	1										
15 Jun	S13W61	83	90	5	Cso	4	B											
16 Jun	S12W74	81	60	2	Cao	2	B											
17 Jun	S13W88	82	60	2	Hsx	1	A											
								4	0	0	2	0	0	0	0	0		

Crossed West Limb.
 Absolute heliographic longitude: 80

Region 2366																		
07 Jun	N17E45	83	20	5	Cro	3	B											
08 Jun	N17E33	81	20	6	Cro	4	B											
09 Jun	N17E19	82	20	6	Cro	5	B											
10 Jun	N17E05	83	40	5	Dao	9	B	1				1						
11 Jun	N17W08	83	60	8	Dao	8	BG											
12 Jun	N17W20	81	50	9	Dai	8	BG											
13 Jun	N17W33	81	60	9	Cai	10	BG											
14 Jun	N16W45	80	10	7	Bxo	6	B											
15 Jun	N16W57	79	0		Axx	1	A											
16 Jun	N16W71	79	plage															
17 Jun	N16W85	80	plage															
								1	0	0	1	0	0	0	0	0		

Crossed West Limb.
 Absolute heliographic longitude: 83



Region Summary - continued

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 2367																		
10 Jun	S19E84		5	plage					3									
11 Jun	S19E70		5	30	5	Dro	5	B	14	1		9	1					
12 Jun	S18E58		3	200	9	Dao	9	B	5			7	2					
13 Jun	S20E44		4	300	11	Eki	12	B				4						
14 Jun	S20E34		1	340	11	Ekc	15	BG	1									
15 Jun	S20E20		2	400	12	Ekc	29	B				1						
16 Jun	S20E05		2	360	11	Ehc	22	BG										
17 Jun	S20W07		2	340	11	Ekc	21	BG	2			3	2					
18 Jun	S20W21		3	300	14	Eki	23	BG	3			6						
19 Jun	S20W35		4	300	14	Eki	23	BG				5						
20 Jun	S20W49		5	290	12	Eki	34	BG	1			5						
21 Jun	S18W64		6	230	8	Dac	17	BG	3	2		14		1				
									32	3	0	54	5	1	0	0		

Still on Disk.

Absolute heliographic longitude: 2

Region 2368

13 Jun	S06W52		100	plage														
14 Jun	S06W65		100	10	3	Bxo	4	B										
15 Jun	S06W79		101	0		Axx	1	A	1			1						
									1	0	0	1	0	0	0	0	0	

Crossed West Limb.

Absolute heliographic longitude: 100

Region 2369

13 Jun	N06E55		353	0	1	Axx	1	A										
14 Jun	N06E40		355	plage														
15 Jun	N06E33		349	10	1	Bxo	2	B										
16 Jun	N06E16		351	60	3	Hsx	6	A										
17 Jun	N07E03		352	10	4	Bxo	5	B										
18 Jun	N06W12		354	10	2	Bxo	3	B										
19 Jun	N06W27		356	plage														
20 Jun	N06W42		358	plage														
21 Jun	N06W57		359	plage														
									0	0	0	0	0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 352

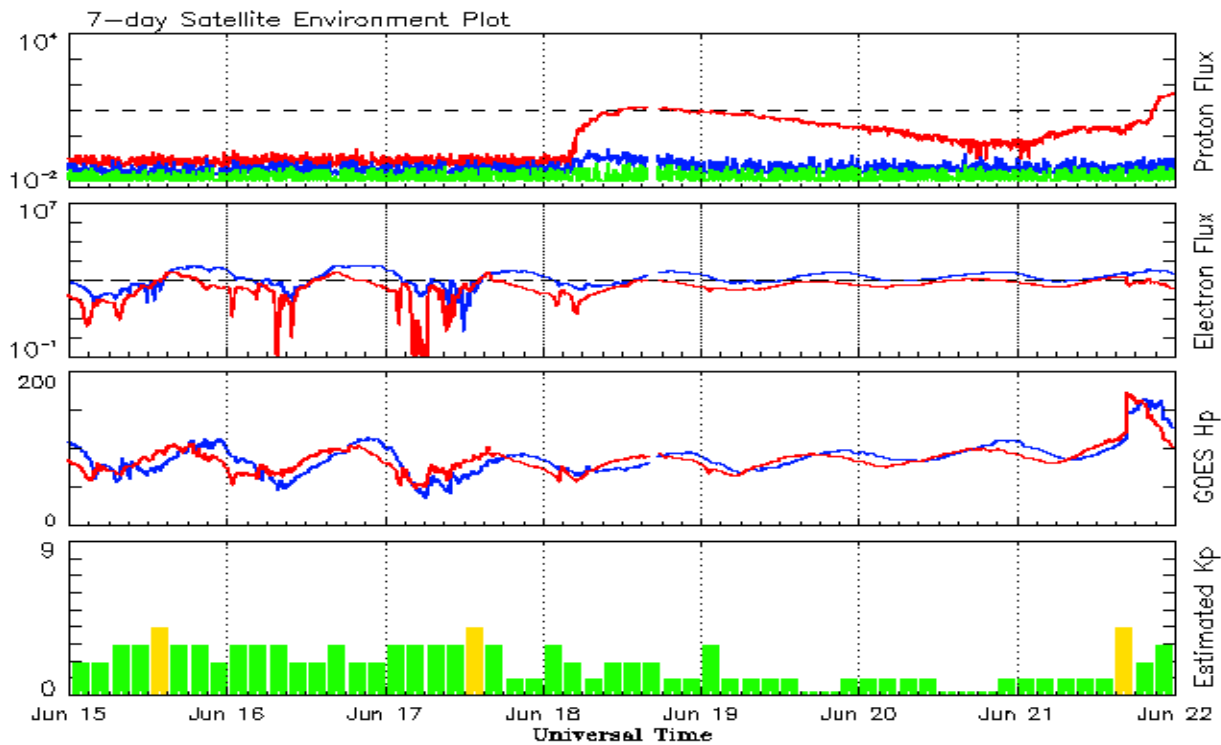


Recent Solar Indices (preliminary)
Observed monthly mean values

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
2013									
June	80.1	52.5	0.66	94.4	62.6	110.2	120.9	13	7.1
July	86.1	57.0	0.66	97.9	65.5	115.6	123.9	9	7.3
August	90.2	66.0	0.73	103.7	68.9	114.7	127.9	9	7.6
September	55.0	37.0	0.67	111.0	73.0	102.7	132.3	5	7.8
October	127.1	85.6	0.67	114.3	74.9	132.3	134.7	7	7.8
November	125.7	77.6	0.62	114.6	75.3	148.4	135.4	5	7.9
December	118.2	90.3	0.76	115.4	75.9	147.7	135.9	5	7.5
2014									
January	125.9	81.8	0.65	117.7	77.3	158.6	137.3	6	7.1
February	174.6	102.3	0.59	119.5	78.3	170.3	138.6	12	6.9
March	141.1	91.9	0.65	123.2	80.8	149.9	140.8	6	7.2
April	130.5	84.7	0.65	124.8	81.9	144.3	143.5	9	7.5
May	116.8	75.2	0.64	122.3	80.5	130.0	144.7	7	7.9
June	107.7	71.0	0.66	121.4	79.7	122.2	145.5	7	8.4
July	113.6	72.4	0.64	120.4	78.5	137.3	145.2	5	8.8
August	106.2	74.6	0.70	115.1	75.5	124.7	142.8	9	8.9
September	127.4	87.6	0.69	107.4	70.8	146.1	140.1	11	9.3
October	92.0	60.6	0.66	101.7	67.3	153.7	138.4	10	9.9
November	101.8	70.2	0.69	97.9	65.4	155.3	137.4	10	10.1
December	120.0	76.7	0.65			158.7		12	
2015									
January	101.2	67.0	0.66			141.7		10	
February	70.6	44.8	0.63			128.8		10	
March	61.7	38.4	0.62			126.0		17	
April	72.5	54.4	0.75			129.2		12	
May	83.0	58.8	0.71			120.1		9	

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 15 June 2015*

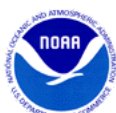
The proton flux plot contains the five-minute averaged integral proton flux (protons/cm²-sec -sr) as measured by the SWPC Primary GOES satellite, near West 75, for each of three energy thresholds: greater than 10, 50, and 100 MeV.

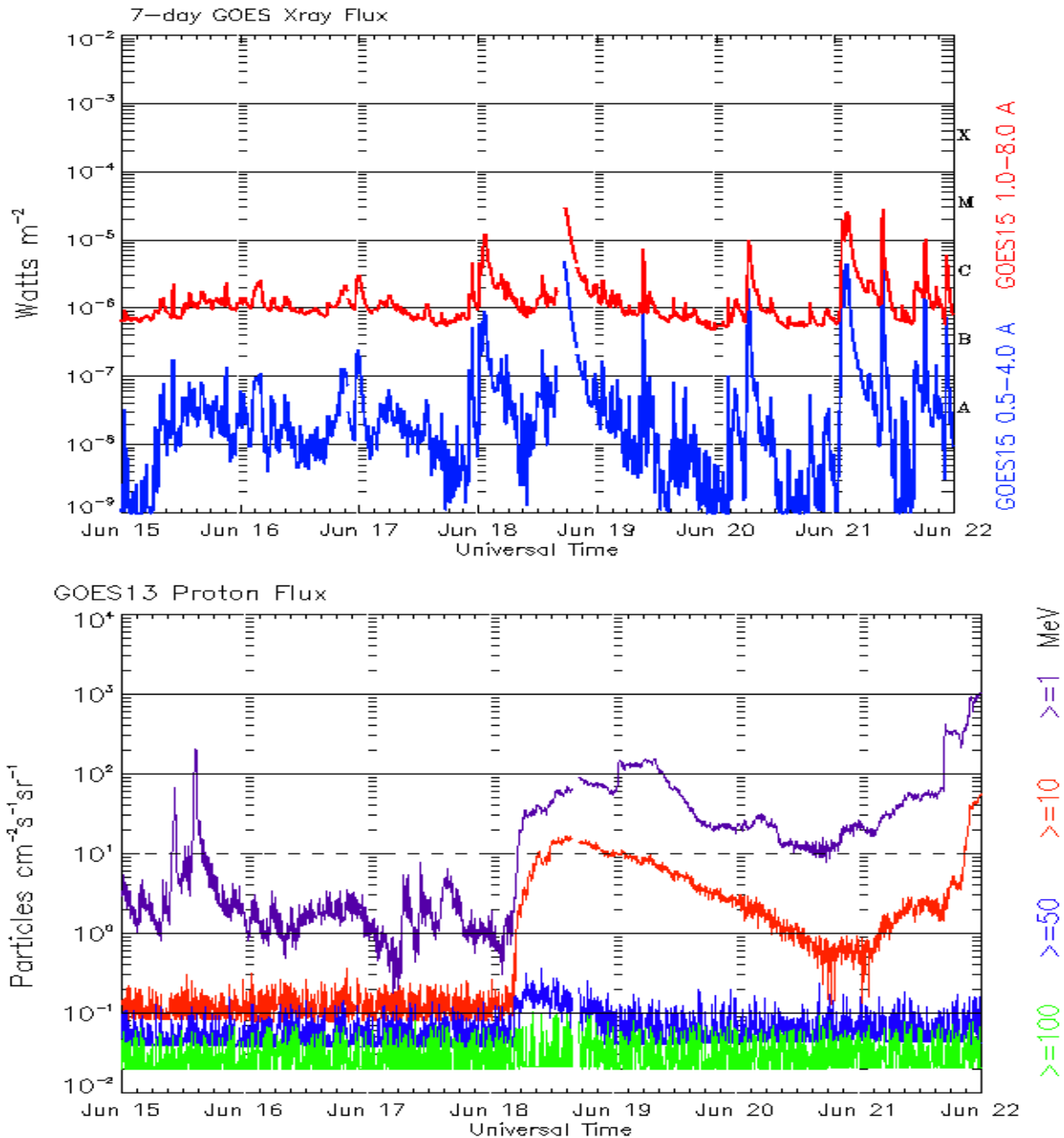
The electron flux plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV by the SWPC Primary GOES satellite.

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 15 June 2015*

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.



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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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