Space Weather Highlights
03 June - 09 June 2024

SWPC PRF 2545
10 June 2024

Solar activity ranged from moderate to high levels. Region 3697 (S18, L=350, class/area=Fkc/350 on 03 Jun) was the most active sunspot region this period and produced 14 (R1) Minor events and two R2 (Moderate) events; the largest of which was a long-duration M9.7/1f flare at 08/0149 UTC. Following the M9.7 flare, a SEP event commenced and a partial halo, Earth-directed CME was produced. Region 3697 also produced an M6.1/2b flare at 06/1506 UTC. Regions 3695 (N27, L=030, class/area=Cao/50 on 03 Jun), 3703 (S08, L=327, class/area=Dac/200 on 07 Jun), and 3709 (S10, L=218, class/area=Cai/140 on 09 Jun) each produced a single R1 event.

Solar radiation storm conditions were observed on 08-09 Jun, following the long-duration M9.7 flare at 08/0149 UTC from Region 3697. The greater than 100 MeV proton flux exceeded 1 pfu beginning at 08/0225 UTC, reached a peak flux of 8 pfu at 08/0625 UTC, and decreased below the 1 pfu threshold at 08/1455 UTC. The greater than 10 MeV proton flux exceeded the S1 (Minor) event threshold beginning at 08/0255 UTC, reached a peak flux of 1,030 pfu at 08/0800 UTC (S3/Strong), and decreased below S1 levels at 09/2125 UTC.

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

Geomagnetic field activity reached G1 (Minor) storm levels on 03 Jun due to positive polarity CH HSS influences. Quiet and unsettled levels were observed on 04-06 Jun. G2 (Moderate) storm levels were observed on 07 Jun, and active levels were observed on 08 Jun, due to CME activity. Quiet conditions prevailed on 09 Jun.

Space Weather Outlook
10 June - 06 July 2024

Solar activity is expected to reach moderate and high levels throughout the period. M-class flare activity is likely-to-expected with a varying chance for X-class flares.

No proton events are expected at geosynchronous orbit, barring significant flare activity.

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

Geomagnetic field activity is expected to reach G1-G2 (Minor-Moderate) storm levels on 10 Jun, and G1 levels on 11 Jun, due to the anticipated arrival of the 08 Jun CME. Quiet and quiet to unsettled levels are expected to prevail throughout 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
03 June	186	208	880	C1.8	10	4	0	11	3	1	0	0
04 June	192	224	680	C2.0	6	2	0	19	1	0	0	0
05 June	195	193	835	C2.2	7	2	0	9	4	0	0	0
06 June	191	149	760	C2.6	8	1	0	14	0	1	0	0
07 June	184	150	1030	C2.9	9	2	0	11	0	0	0	0
08 June	190	143	1010	C3.2	3	7	0	8	2	0	0	0
09 June	181	148	890	C1.9	5	3	0	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	>2MeV
03 June	1.0e+06	1.5e+04	1.2e+06
04 June	7.7e+05	1.5e+04	1.2e+06
05 June	5.9e+05	1.5e+04	1.5e+06
06 June	2.5e+05	1.5e+04	1.5e+06
07 June	2.0e+05	1.5e+04	1.4e+06
08 June	8.0e+07	2.7e+07	1.9e+06
09 June	7.2e+07	2.6e+06	1.2e+06

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
03 June	13	3-2-2-3-3-2-2-4	11	2-2-2-3-3-3-2-3	11	2-2-2-2-2-1-2-5
04 June	8	2-3-3-2-3-1-1-0	6	2-3-3-2-1-0-0-0	8	3-3-3-2-2-1-0-1
05 June	10	1-2-2-3-3-2-2-3	7	1-3-2-1-2-2-1-2	7	1-2-2-2-2-2-2-3
06 June	7	2-2-3-2-3-1-0-1	5	1-2-3-2-2-1-0-0	6	2-2-3-2-2-1-0-1
07 June	20	1-2-2-3-5-5-3-3	38	1-3-3-4-6-7-2-3	28	1-2-3-3-6-6-3-3
08 June	15	4-3-3-3-3-3-2-2	18	5-4-3-3-3-3-2-1	14	4-3-3-3-2-3-2-2
09 June	6	1-1-1-2-3-2-2-1	5	2-1-1-1-3-1-1-1	6	2-1-1-1-2-1-2-2

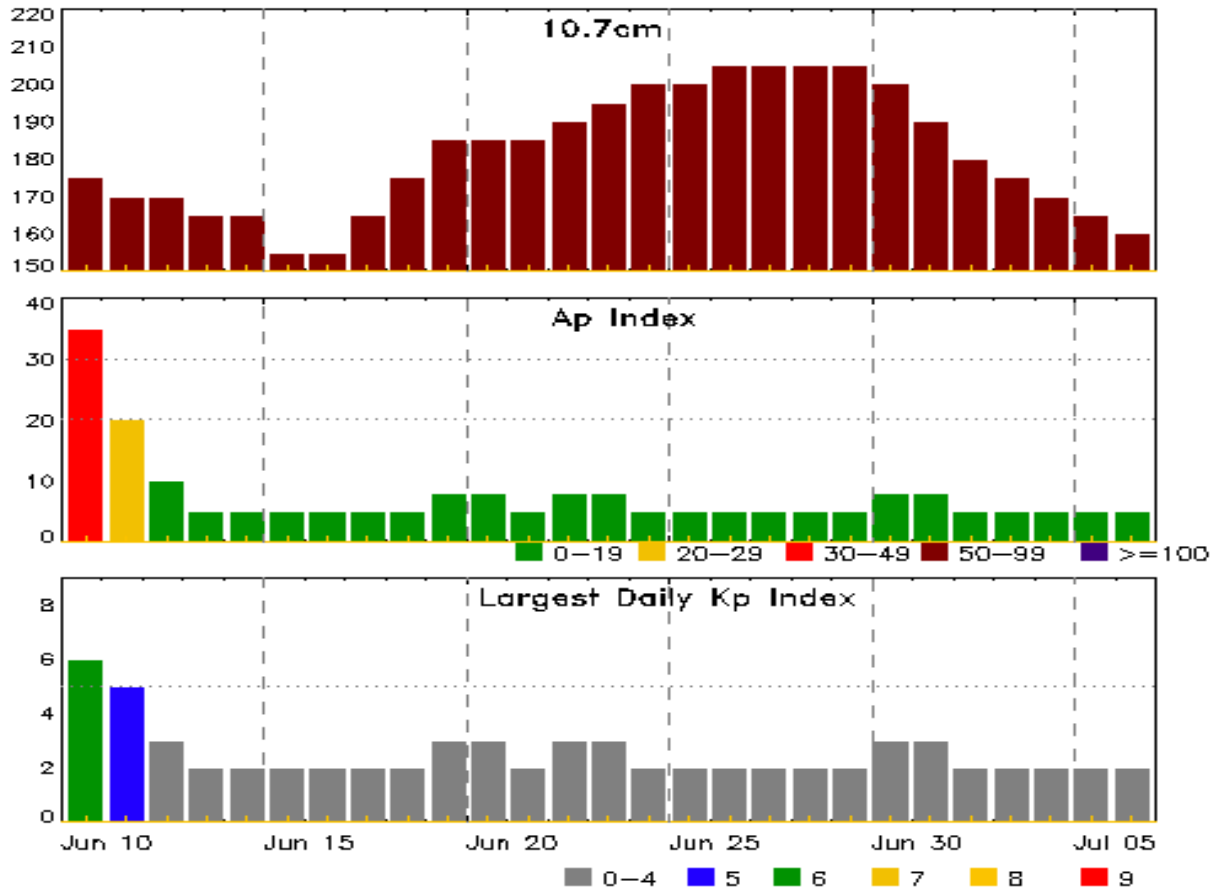
Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
03 Jun 1209	SUMMARY: 10cm Radio Burst	03/1152 - 1153
03 Jun 2152	WARNING: Geomagnetic K = 4	03/2151 - 04/0600
03 Jun 2204	WARNING: Geomagnetic Sudden Impulse expected	03/2202 - 2230
03 Jun 2206	WARNING: Geomagnetic K = 5	03/2210 - 04/0300
03 Jun 2230	CANCELLATION: Geomagnetic Sudden Impulse expected	
03 Jun 2231	WARNING: Geomagnetic Sudden Impulse expected	03/2230 - 2330
03 Jun 2308	ALERT: Geomagnetic K = 4	
03 Jun 2310	SUMMARY: Geomagnetic Sudden Impulse	03/2300
04 Jun 0555	EXTENDED WARNING: Geomagnetic K = 4	03/2151 - 04/1500
06 Jun 1505	ALERT: X-ray Flux exceeded M5	06/1503
06 Jun 1512	SUMMARY: 10cm Radio Burst	06/1500 - 1502
06 Jun 1534	SUMMARY: X-ray Event exceeded M5	06/1450 - 1522
07 Jun 1149	WARNING: Geomagnetic K = 4	07/1148 - 2359
07 Jun 1341	ALERT: Geomagnetic K = 4	
07 Jun 1342	WARNING: Geomagnetic K = 5	07/1342 - 1800
07 Jun 1424	ALERT: Geomagnetic K = 5	
07 Jun 1502	WARNING: Geomagnetic K = 6	07/1502 - 1800
07 Jun 1503	ALERT: Geomagnetic K = 6	
07 Jun 1521	ALERT: Geomagnetic K = 5	
07 Jun 1717	EXTENDED WARNING: Geomagnetic K = 6	07/1502 - 2100
07 Jun 1717	EXTENDED WARNING: Geomagnetic K = 5	07/1342 - 2359
07 Jun 1801	ALERT: Geomagnetic K = 6	
07 Jun 2354	EXTENDED WARNING: Geomagnetic K = 4	07/1148 - 08/0900
08 Jun 0137	ALERT: X-ray Flux exceeded M5	08/0135
08 Jun 0154	ALERT: Type II Radio Emission	08/0128
08 Jun 0159	WARNING: Geomagnetic K = 5	08/0200 - 1200
08 Jun 0200	SUMMARY: 10cm Radio Burst	08/0126 - 0146
08 Jun 0204	EXTENDED WARNING: Geomagnetic K = 4	07/1148 - 08/1500

Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
08 Jun 0219	ALERT: Type IV Radio Emission	08/0157
08 Jun 0222	WARNING: Proton 100MeV Integral Flux > 1pfu	08/0225 - 1200
08 Jun 0232	ALERT: Proton Event 100MeV Integral Flux > 1pfu	08/0225
08 Jun 0237	SUMMARY: X-ray Event exceeded M5	08/0123 - 0219
08 Jun 0243	WARNING: Proton 10MeV Integral Flux > 10pfu	08/0242 - 2359
08 Jun 0303	ALERT: Proton Event 10MeV Integral Flux >= 10pfu	08/0255
08 Jun 0503	ALERT: Proton Event 10MeV Integral Flux >= 100pfu	08/0500
08 Jun 0813	ALERT: Proton Event 10MeV Integral Flux >= 1000pfu	08/0800
08 Jun 1025	WATCH: Geomagnetic Storm Category G2 predicted	
08 Jun 1155	EXTENDED WARNING: Proton 100MeV Integral Flux > 1pfu	08/0225 - 1800
08 Jun 1758	EXTENDED WARNING: Proton 100MeV Integral Flux > 1pfu	08/0225 - 2359
08 Jun 2007	SUMMARY: Proton Event 10MeV Integral Flux >= 1000pfu	08/0800 - 0805
08 Jun 2355	EXTENDED WARNING: Proton 10MeV Integral Flux > 10pfu	08/0242 - 09/2359
09 Jun 0122	SUMMARY: Proton Event 10MeV Integral Flux >= 100pfu	08/0455 - 2255
09 Jun 0122	SUMMARY: Proton Event 100MeV Integral Flux > 1pfu	08/0225 - 1455
09 Jun 2337	EXTENDED WARNING: Proton 10MeV Integral Flux > 10pfu	08/0242 - 10/1200

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
10 Jun	175	35	6	24 Jun	200	5	2
11	170	20	5	25	200	5	2
12	170	10	3	26	205	5	2
13	165	5	2	27	205	5	2
14	165	5	2	28	205	5	2
15	155	5	2	29	205	5	2
16	155	5	2	30	200	8	3
17	165	5	2	01 Jul	190	8	3
18	175	5	2	02	180	5	2
19	185	8	3	03	175	5	2
20	185	8	3	04	170	5	2
21	185	5	2	05	165	5	2
22	190	8	3	06	160	5	2
23	195	8	3				

Energetic Events

	Time			X-ray		Optical Information			Peak Radio Flux		Sweep Freq Intensity	
Date	Begin	Max	Half Max	Class	Integ Flux	Imp/ Brtns	Location Lat CMD	Rgn #	245	2695	II	IV
03 Jun	0459	0517	0527	M1.0	0.012			3697				
03 Jun	1149	1155	1200	M3.2	0.013			3697		910		
03 Jun	1218	1227	1231	M2.8	0.009	SF	S18W01	3697				
03 Jun	1358	1411	1423	M4.8	0.044	2N	N28W42	3695	130			
04 Jun	0609	0631	0651	M2.4	0.042	1N	S20W09	3697				
04 Jun	0857	0904	0908	M1.6	0.005	SN	S19W12	3697		180		
05 Jun	0832	0856	0914	M3.4	0.046	1F	S21W25	3697				
05 Jun	0952	1007	1017	M2.6	0.029	1N	S21W25	3697				
06 Jun	1450	1506	1522	M6.1	0.067	2B	S20W41	3697		350		
07 Jun	0852	0913	0930	M4.0	0.060	SF	S10E84	3709				
07 Jun	1611	1622	1642	M1.2	0.020	SF	S20W50	3697				
08 Jun	0018	0028	0035	M1.8	0.010	SF	S13E47	3709				
08 Jun	0039	0051	0057	M3.3	0.024	1F	S18W53	3697				
08 Jun	0123	0149	0219	M9.7	0.230	1F	S18W53	3697	560	460	3	2
08 Jun	0517	0528	0538	M1.5	0.013	SF	S21W61	3697				
08 Jun	0834	0844	0854	M1.2	0.013			3697				
08 Jun	0854	0858	0902	M1.2	0.006	SF	S21W76	3697				
08 Jun	2053	2102	2107	M1.0	0.005			3703	100			
09 Jun	0649	0701	0716	M1.6	0.017	SF	S15W80	3697		110		
09 Jun	0802	0819	0832	M1.2	0.018			3709				
09 Jun	1950	2017	2029	M1.0	0.018			3697				

Flare List

	Time			Optical			
Date	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
03 Jun	0019	0030	0034	C8.9	1B	S17E06	3697
03 Jun	0126	0127	0134		SF	S17E04	3697
03 Jun	0202	0216	0231	C3.0			3702
03 Jun	0459	0517	0527	M1.0			3697
03 Jun	0641	0650	0654	C5.5			3697
03 Jun	0755	0759	0803	C2.5	SF	S19E01	3697
03 Jun	0805	0815	0822	C3.2			
03 Jun	0842	0846	0851	C3.0	1F	S17E02	3697
03 Jun	0923	0930	0934	C4.9	SF	S19E01	3697
03 Jun	1133	1143	1149	C5.1			3697

Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
03 Jun	1149	1155	1200	M3.2			3697
03 Jun	B1151	U1153	A1158		1N	S19W01	3697
03 Jun	1218	1227	1231	M2.8	SF	S18W01	3697
03 Jun	1247	1247	1251		SF	N26W42	3695
03 Jun	1341	1345	1356		SF	N22W10	3698
03 Jun	1358	1411	1423	M4.8	2N	N28W42	3695
03 Jun	1401	1407	1502		SF	N27W50	3691
03 Jun	B1514	U1544	1556		SF	N26W49	3691
03 Jun	1540	1540	1544		SF	S20E04	3697
03 Jun	1934	1935	1939		SF	S06E22	3703
03 Jun	2118	2149	2205	C8.3	SF	S19W04	3697
03 Jun	2205	2208	2212	C8.1			3697
04 Jun	0042	0053	0103	C3.8	SF	S03E05	3701
04 Jun	0148	0204	0217	C2.9			3695
04 Jun	0339	0347	0351	C8.3			3697
04 Jun	B0446	U0449	A0522		SF	S06E13	3703
04 Jun	0537	U0539	0542		SF	S22W11	3697
04 Jun	0606	0609	0620		SF	N21W19	3698
04 Jun	0607	U0618	0736	M2.4	1N	S20W09	3697
04 Jun	0625	0625	0630		SF	N26W49	3691
04 Jun	0711	U0712	0713		SF	S05W01	3701
04 Jun	0712	U0712	0722		SF	N26W49	3691
04 Jun	0806	0808	0813		SF	S06E14	3703
04 Jun	0815	0815	0833		SF	N23W19	3698
04 Jun	0857	0904	0908	M1.6	SN	S19W12	3697
04 Jun	0933	0938	0949		SF	S17W03	3697
04 Jun	1016	1028	1040		SF	S17W03	3697
04 Jun	1129	1133	1137		SF	S21W12	3697
04 Jun	1240	1247	1254	C4.8	SF	S17W04	3697
04 Jun	1312	1312	1319		SF	S07E11	3703
04 Jun	1347	1355	1417		SF	N21W23	3698
04 Jun	1404	1405	1410		SF	S17W04	3697
04 Jun	1504	1506	1513		SF	N23W63	3691
04 Jun	1529	1538	1552	C4.7			3695
04 Jun	2043	2053	2106	C3.1			3697
04 Jun	2126	2128	2132		SF	S07E06	3703
05 Jun	0313	0326	0345	C6.0			
05 Jun	0520	0530	0542	C3.3			3701

Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
05 Jun	0611	0618	0621	C3.0			3697
05 Jun	0621	0626	0635	C3.1			
05 Jun	0832	0856	0914	M3.4	1F	S21W25	3697
05 Jun	B0926	0934	0939		1F	S21W25	3697
05 Jun	B0951	U1010	1037	M2.6	1N	S21W25	3697
05 Jun	B0956	U0956	A1009		SF	S08W01	3703
05 Jun	1051	1052	1110		SF	S08W02	3703
05 Jun	1127	1133	1139	C3.9	1F	S07W02	3703
05 Jun	1154	1204	1213	C4.7	SF	N22W35	3698
05 Jun	1237	1238	1251		SF	N22W35	3698
05 Jun	1258	1258	1303		SF	S21W19	3697
05 Jun	1432	1432	1439		SF	S07W02	3703
05 Jun	1459	1501	1511		SF	S08W04	3703
05 Jun	1611	1615	1617		SF	S18W20	3697
05 Jun	1618	1629	1638		SF	S18W20	3697
05 Jun	1859	1910	1918	C6.8			
06 Jun	0001	0014	0029	C9.5			
06 Jun	0337	0349	0406	C4.3			3697
06 Jun	0422	0422	0429		SF	N20W42	3698
06 Jun	0449	0457	0503	C6.3	SF	N27W72	3695
06 Jun	0833	0835	0837		SF	N28W75	3695
06 Jun	0835	0850	0854	C8.1	SF	S21W38	3697
06 Jun	0851	0854	0856		SF	N21W44	3698
06 Jun	0854	0858	0902	C8.1			3697
06 Jun	0920	0924	0932		SF	S21W38	3697
06 Jun	1001	1002	1005		SF	N22W46	3698
06 Jun	1003	1010	1034	C4.9	SF	S20W35	3697
06 Jun	1417	1419	1421		SF	S20W40	3697
06 Jun	1450	1506	1522	M6.1	2B	S20W41	3697
06 Jun	1528	1529	1536		SF	S10W15	3703
06 Jun	1558	1602	1617		SF	N21W50	3698
06 Jun	1942	1952	1959	C7.8			3695
06 Jun	2034	2041	2046	C8.7	SF	S19W41	3697
06 Jun	2112	2116	2120		SF	S19W39	3697
06 Jun	2209	2209	2222		SF	S17W52	3697
07 Jun	0025	0032	0040	C7.5	SF	S19W47	3697
07 Jun	0123	0130	0135	C5.7			3709
07 Jun	0301	0307	0314	C5.9			3697

Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
07 Jun	0339	0348	0359	C6.8			3708
07 Jun	0508	0515	0522	C5.0			3697
07 Jun	0646	0646	0701		SF	S20W45	3697
07 Jun	0707	0718	0728	C7.7	SF	S21W53	3697
07 Jun	0852	0913	0930	M4.0	SF	S10E84	3709
07 Jun	1042	1042	1044		SF	S15E56	3707
07 Jun	1204	1219	1243	C7.0			
07 Jun	B1303	1308	1341		SF	S17W52	3697
07 Jun	1542	1555	1606		SF	S21W52	3697
07 Jun	1611	1622	1642	M1.2	SF	S20W50	3697
07 Jun	1750	1751	1757		SF	S18W58	3697
07 Jun	1858	1905	1911	C7.0	SF	S17W66	3697
07 Jun	2206	2213	2218	C3.9			3697
07 Jun	2219	2220	2228		SF	S17W60	3697
08 Jun	0018	0028	0035	M1.8	SF	S13E47	3709
08 Jun	0039	0048	0107	M3.3	1F	S18W53	3697
08 Jun	0123	0149	0219	M9.7	1F	S18W53	3697
08 Jun	B0454	U0525	0703	M1.5	SF	S21W61	3697
08 Jun	0734	0738	0747		SF	S10E69	3709
08 Jun	0825	0840	0853		SN	S10E69	3709
08 Jun	0834	0844	0854	M1.2			3697
08 Jun	0854	0858	0902	M1.2	SF	S21W76	3697
08 Jun	1054	1104	1131	C5.0			
08 Jun	1248	1251	1257		SF	S10W41	3703
08 Jun	1457	1458	1501		SF	S23W65	3697
08 Jun	1556	1601	1618		SF	S08W45	3703
08 Jun	1715	1726	1732	C5.7			3697
08 Jun	2040	2045	2049	C4.4			3697
08 Jun	2053	2102	2107	M1.0			3703
09 Jun	0016	0022	0028	C3.8			3697
09 Jun	0235	0242	0247	C5.2	SF	S12E59	3709
09 Jun	0449	0453	0503	C2.9			3697
09 Jun	0649	0701	0716	M1.6	SF	S15W80	3697
09 Jun	0802	0819	0832	M1.2			3709
09 Jun	1511	1519	1526	C3.1			3697
09 Jun	1552	1558	1602	C3.2			3697
09 Jun	1950	2017	2029	M1.0			3697

Region Summary

	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 3690												
23 May	N17E75	53	30	1	Hsx	1	A								
24 May	N17E60	54	40	2	Hsx	1	A								
25 May	N17E49	52	30	2	Hsx	1	A								
26 May	N18E34	54	30	3	Cso	2	B								
27 May	N17E21	55	30	2	Hsx	1	A								
28 May	N17E06	56	30	2	Hsx	1	A								
29 May	N17W08	57	30	2	Hsx	1	A								
30 May	N17W19	55	30	2	Hsx	1	A								
31 May	N17W32	55	20	2	Hrx	2	A								
01 Jun	N17W46	55	10	1	Axx	1	A								
02 Jun	N17W60	56	10	1	Axx	1	A								
03 Jun	N17W74	57	plage												
04 Jun	N17W88	58	plage												
								0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 56

			Region 3691												
25 May	N25E60	41	300	11	Dkc	8	BGD								
26 May	N29E48	41	570	11	Ekc	17	BGD	8			1				
27 May	N25E34	42	480	12	Ekc	15	BGD	6			16				
28 May	N27E20	42	400	12	Ekc	20	BGD	3			7				
29 May	N27E06	43	300	11	Ekc	27	BGD		2		13		1		
30 May	N27W06	42	300	10	Dkc	27	BGD		1		1	1			
31 May	N25W18	41	280	10	Dkc	21	BGD	3			2				
01 Jun	N25W32	41	220	10	Dsc	21	BG	5							
02 Jun	N25W46	42	180	10	Dso	18	BG								
03 Jun	N26W60	43	80	10	Dso	8	B				2				
04 Jun	N24W74	44	20	10	Cao	4	B				3				
05 Jun	N24W86	42	30	8	Cro	2	B								
								25	3	0	45	1	1	0	0

Crossed West Limb.
Absolute heliographic longitude: 43

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 3693												
26 May	N06E35	53	20	3	Cro	3	B								
27 May	N06E22	54	40	5	Dao	4	B								
28 May	N05E07	55	50	6	Dao	8	B								
29 May	N05W07	56	40	7	Dao	5	B								
30 May	N04W18	54	30	6	Cso	5	B				1				
31 May	N04W32	55	10	1	Hax	2	A								
01 Jun	N04W47	56	10	2	Bxo	2	B								
02 Jun	N04W62	58	plage												
03 Jun	N04W77	60	plage												
								0	0	0	1	0	0	0	0

Died on Disk.
Absolute heliographic longitude: 55

			Region 3694												
26 May	S12E45	44	10	1	Axx	1	A								
27 May	S12E31	45	plage												
28 May	S12E16	46	plage												
29 May	S12E02	47	plage												
30 May	S12W12	48	plage												
31 May	S12W26	49	plage												
01 Jun	S12W40	49	plage												
02 Jun	S12W54	50	plage												
03 Jun	S12W68	51	plage												
04 Jun	S12W82	52	plage												
								0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 47

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 3695												
26 May	N27E60	29	20	4	Bxo	6	B								
27 May	N27E46	30	20	6	Cro	4	B				1				
28 May	N28E33	29	20	6	Cro	4	B								
29 May	N24E19	30	10	9	Bxo	8	B		1		2		1		
30 May	N27E08	28	10	8	Bxo	8	B				1				
31 May	N27W05	28	10	5	Bxo	2	B	1			1				
01 Jun	N27W19	28	30	5	Cao	5	B								
02 Jun	N27W33	29	30	5	Cao	11	B								
03 Jun	N27W47	30	50	5	Cao	11	B		1		1		1		
04 Jun	N25W60	30	20	3	Cro	3	B	2							
05 Jun	N26W70	26	10	2	Bxo	2	B								
06 Jun	N26W84	27	plage					2			2				
								5	2	0	8	0	2	0	0

Crossed West Limb.
Absolute heliographic longitude: 28

			Region 3696												
26 May	N09E66	23	10	1	Hrx	1	A								
27 May	N09E52	24	10	1	Hrx	1	A								
28 May	N09E38	24	10	1	Hrx	1	A								
29 May	N08E26	23	10	1	Axx	1	A								
30 May	N08E14	22	10	1	Axx	1	A								
31 May	N08W00	23	plage												
01 Jun	N08W14	23	plage												
02 Jun	N08W28	24	plage												
03 Jun	N08W42	25	plage												
04 Jun	N08W56	26	plage												
05 Jun	N08W70	26	plage												
06 Jun	N08W84	27	plage												
								0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 23

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 3697												
28 May	S18E69	353	250	11	Eho	5	BG	24			1				
29 May	S18E56	353	400	14	Eki	6	BGD	3	3	1	6	1	1	1	
30 May	S18E49	350	420	14	Eki	14	BGD	2			1				
31 May	S18E35	348	380	13	Eki	18	BGD	5	1	1	3	1	1		
01 Jun	S18E21	348	380	13	Ekc	26	BGD	5	1	2	1		1		
02 Jun	S18E07	349	410	13	Ekc	33	BGD	11	2		10				
03 Jun	S18W07	350	410	16	Fkc	33	BGD	8	3		6	3			
04 Jun	S18W20	350	240	18	Fac	42	BGD	3	2		7	1			
05 Jun	S18W33	349	250	16	Ekc	32	BGD	1	2		3	3			
06 Jun	S17W46	348	280	10	Dkc	20	BGD	5	1		7		1		
07 Jun	S17W58	348	320	10	Dkc	19	BGD	6	1		9				
08 Jun	S17W72	349	360	15	Ekc	19	BGD	2	5		3	2			
09 Jun	S19W86	349	270	12	Ekc	13	BGD	4	2		1				
								80	23	5	58	11	4	1	0

Still on Disk.
Absolute heliographic longitude: 349

			Region 3698												
30 May	N22E36	358	50	2	Cso	5	B								
31 May	N22E24	359	50	6	Csi	11	B	6			2	1			
01 Jun	N22E10	359	160	6	Dsi	11	B								
03 Jun	N23W18	1	80	11	Eai	11	B				1				
04 Jun	N22W29	359	90	10	Dso	15	B				3				
05 Jun	N21W42	358	130	10	Dai	8	B	1			2				
06 Jun	N22W56	358	120	10	Dai	11	B				4				
07 Jun	N22W68	358	130	10	Dai	8	B								
08 Jun	N22W82	359	130	12	Eao	4	B								
								7	0	0	12	1	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 0

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 3699												
31 May	N04W06	28	50	4	Cao	9	B								
01 Jun	N04W21	30	120	4	Dao	12	B								
02 Jun	N04W36	32	70	4	Cso	8	B								
03 Jun	N04W47	29	30	7	Cao	6	B								
04 Jun	N04W59	29	30	6	Cao	6	B								
05 Jun	N03W75	31	20	3	Cro	2	B								
06 Jun	N03W90	33	10	3	Bxo	2	B								
								0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 28

			Region 3700												
01 Jun	S04W37	46	140	5	Dai	17	B	2			9				
02 Jun	S04W52	48	180	7	Dai	8	B	4			7				
03 Jun	S04W65	47	100	9	Dao	7	B								
04 Jun	S06W78	48	80	12	Dao	4	B								
05 Jun	S05W89	44	110	6	Dao	3	B								
								6	0	0	16	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 46

			Region 3701												
01 Jun	S04E30	339	60	3	Cai	9	B								
02 Jun	S04E15	341	40	3	Cao	5	B				1				
03 Jun	S04W00	343	40	5	Dao	9	B								
04 Jun	S05W10	340	50	6	Dao	14	B	1			2				
05 Jun	S05W25	341	60	6	Dai	8	B	1							
06 Jun	S06W39	341	50	7	Dao	7	B								
07 Jun	S06W53	343	50	8	Cao	4	B								
08 Jun	S06W68	345	40	8	Cao	3	B								
09 Jun	S06W83	347	10	1	Hsx	1	A								
								2	0	0	3	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 343

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 3702												
02 Jun	N17E71	285	50	2	Hsx	1	A								
03 Jun	N17E57	285	20	2	Hsx	1	A	1							
04 Jun	N17E43	287	20	2	Hsx	1	A								
05 Jun	N17E28	287	20	3	Hsx	1	A								
06 Jun	N17E15	287	30	2	Hsx	1	A								
07 Jun	N17E03	287	80	2	Hsx	1	A								
08 Jun	N16W08	285	100	7	Cso	4	B								
09 Jun	N16W22	286	110	7	Cso	2	B								
								1	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 287

			Region 3703												
03 Jun	S08E18	325	40	4	Dao	7	B				1				
04 Jun	S07E04	326	90	6	Dai	8	B				4				
05 Jun	S07W09	325	150	7	Dai	8	B	1			4	1			
06 Jun	S07W25	327	110	7	Dac	14	BG				1				
07 Jun	S08W37	327	200	8	Dac	13	BG								
08 Jun	S08W52	329	160	9	Dac	7	BG		1		2				
09 Jun	S08W66	330	100	9	Dao	5	BG								
								1	1	0	12	1	0	0	0

Still on Disk.
Absolute heliographic longitude: 326

			Region 3704												
03 Jun	S18E65	278	20	3	Cao	3	B								
04 Jun	S18E50	280	20	1	Cro	1	B								
05 Jun	S17E34	282	30	1	Hsx	1	A								
06 Jun	S18E19	282	20	1	Hsx	1	A								
07 Jun	S18E08	282	30	1	Hrx	1	A								
08 Jun	S18W06	283	10	1	Axx	1	A								
09 Jun	S18W20	284	10	1	Axx	1	A								
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 283

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 3705												
03 Jun	N17W47	29	10	3	Bxo	2	B								
04 Jun	N17W61	31	10	3	Bxo	2	B								
05 Jun	N21W73	29	5	1	Axx	1	A								
06 Jun	N21W87	30	plage												
								0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 29

			Region 3706												
04 Jun	S11E26	304	10	4	Bxo	4	B								
05 Jun	S12E15	301	20	6	Bxo	5	B								
06 Jun	S12E01	302	plage												
07 Jun	S12W13	303	plage												
08 Jun	S12W27	304	plage												
09 Jun	S12W41	304	plage												
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 302

			Region 3707												
06 Jun	S15E57	245	40	6	Cso	2	B								
07 Jun	S15E46	244	80	7	Dai	10	B				1				
08 Jun	S15E32	245	80	7	Dai	6	B								
09 Jun	S15E18	246	80	7	Cao	6	B								
								0	0	0	1	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 246

			Region 3708												
06 Jun	S22E73	230	100	3	Hsx	1	A								
07 Jun	S23E59	231	60	2	Hsx	1	A	1							
08 Jun	S23E45	232	50	2	Cao	3	B								
09 Jun	S23E31	233	50	2	Cao	2	B								
								1	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 233

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 3709													
07 Jun	S10E74	221	80	3	Cai	3	B	1	1		1				
08 Jun	S10E60	219	80	5	Cai	6	B		1		3				
09 Jun	S10E46	218	140	5	Cai	9	B	1	1		1				
								2	3	0	5	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 218

		Region 3710													
09 Jun	S15W51	315	60	6	Cao	6	B								
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 315

		Region 3711													
09 Jun	S09E52	212	60	3	Dao	3	B								
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 212

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.

https://www.swpc.noaa.gov/products/weekly-highlights-and-27-day-forecast -- Current
ftp://ftp.swpc.noaa.gov/pub/warehouse -- Online archive from 1997
https://www.ngdc.noaa.gov/stp/satellite/goes-r.html -- NCEI GOES data textarchive
https://www.swpc.noaa.gov/products/solar-cycle-progression -- Solar Cycle Progression web site
https://www.swpc.noaa.gov/content/contact-us -- Contact and Copyright information
https://www.swpc.noaa.gov/sites/default/files/images/u2/Usr_guide.pdf -- User Guide