Space Weather Highlights
12 June - 18 June 2023

SWPC PRF 2494
19 June 2023

Solar activity was at low to moderate levels. Moderate levels were observed on 16 and 18 Jun. M1 flares were observed at 16/0530 UTC from Region 3337 (N17, L=263, class/area Axx/010 on 16 Jun), 16/1038 UTC from Region 3338 (N11, L=263, class/area Cso/140 on 16 Jun), 16/1959 UTC from Region 3331 (S22, L=017, class/area Eso/180 on 09 Jun), and 18/0031 UTC from Region 3336 (S20, L=281, class/area Cso/160 on 14 Jun). An M2.5/2n flare was also observed from Region 3336 at 18/1353 UTC. Activity from Region 3336 was likely due to its proximity to Region 3335 (S15, L=284, class/area Eki/390 on 17 Jun). A type II radio sweep (440 km/s) and a narrow CME directed off the SE limb at 18/1408 UTC was associated with the M2 flare. Although unlikely to have much of an Earth-directed component, initial WSA/ENLIL runs determined a possible grazing late on 21 Jun. Other activity included a large filament eruption centered near N22W50 that began lifting off at 17/1844 UTC. Coronagraph imagery depicted an associated CME off the NW limb beginning at 18/0125 UTC. Modelling of the event showed a miss, however a glancing blow on 21-22 Jun cannot be ruled out.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit reached high levels on 17-18 Jun with a peak flux of 3,840 pfu at 18/1430 UTC due to CH HSS influence.

Geomagnetic field activity ranged from quiet to G2 (Moderate) storm levels. The period began with slightly enhanced solar wind speeds in the 430-485 km/s range and total field around 6-8 nT. Nominal levels returned on 14 Jun. The geomagnetic field responded with quiet to unsettled levels on 12 and 14 Jun and quiet levels on 13 Jun. After 15/0800 UTC, total field began to rise followed by an increase in solar wind speed and a change in phi angle as a CIR and negative polarity CH HSS was becoming geoeffective. Solar wind speed reached a maximum of 742 km/s at 16/1215 UTC and the Bz component reached a maximum of -13 nT at 15/1655 UTC. The geomagnetic field responded with quiet to G2 storming on 15 Jun and Unsettled to G2 storming on 16 Jun. By 17 Jun, solar wind speeds were slowly diminishing and reached background levels on 18 Jun. Quiet to unsettled levels were observed on those days.

Space Weather Outlook
19 June - 15 July 2023

Solar activity is expected to be at low to moderate levels throughout the forecast period (19 Jun-15 Jul).

No proton events are expected at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit is likely to reach high levels on 19-24 Jun and again on 14-15 Jul due to HSS influence.

Geomagnetic field activity is expected to reach unsettled to active levels on 19-21 Jun, 27-28

Jun, 01-02 Jul, 08 Jul, and 12-15 Jul with G1-G2 (Minor-Moderate) levels likely on 12-13 Jul due to recurrent CH HSS effects. There is a chance for CME effects on 21-22 Jun related to the CME eruptions on 17 and 18 Jun.

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
12 June	146	116	360	C1.1	8	0	0	7	1	0	0	0
13 June	146	98	430	C1.0	9	0	0	6	2	0	0	0
14 June	144	107	690	C1.1	9	0	0	30	1	0	0	0
15 June	153	112	540	C1.1	4	0	0	7	0	0	0	0
16 June	157	120	910	C1.2	8	3	0	2	0	0	0	0
17 June	158	110	950	C1.1	5	0	0	1	0	0	0	0
18 June	164	133	990	C1.2	6	2	0	5	0	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	>2MeV
12 June	3.8e+04	2.2e+04	1.8e+06
13 June	4.4e+04	2.2e+04	2.0e+06
14 June	3.8e+04	2.2e+04	3.4e+06
15 June	5.4e+04	2.2e+04	1.9e+06
16 June	2.6e+05	2.1e+04	8.4e+06
17 June	3.1e+04	2.2e+04	6.1e+07
18 June	3.9e+04	2.2e+04	1.1e+08

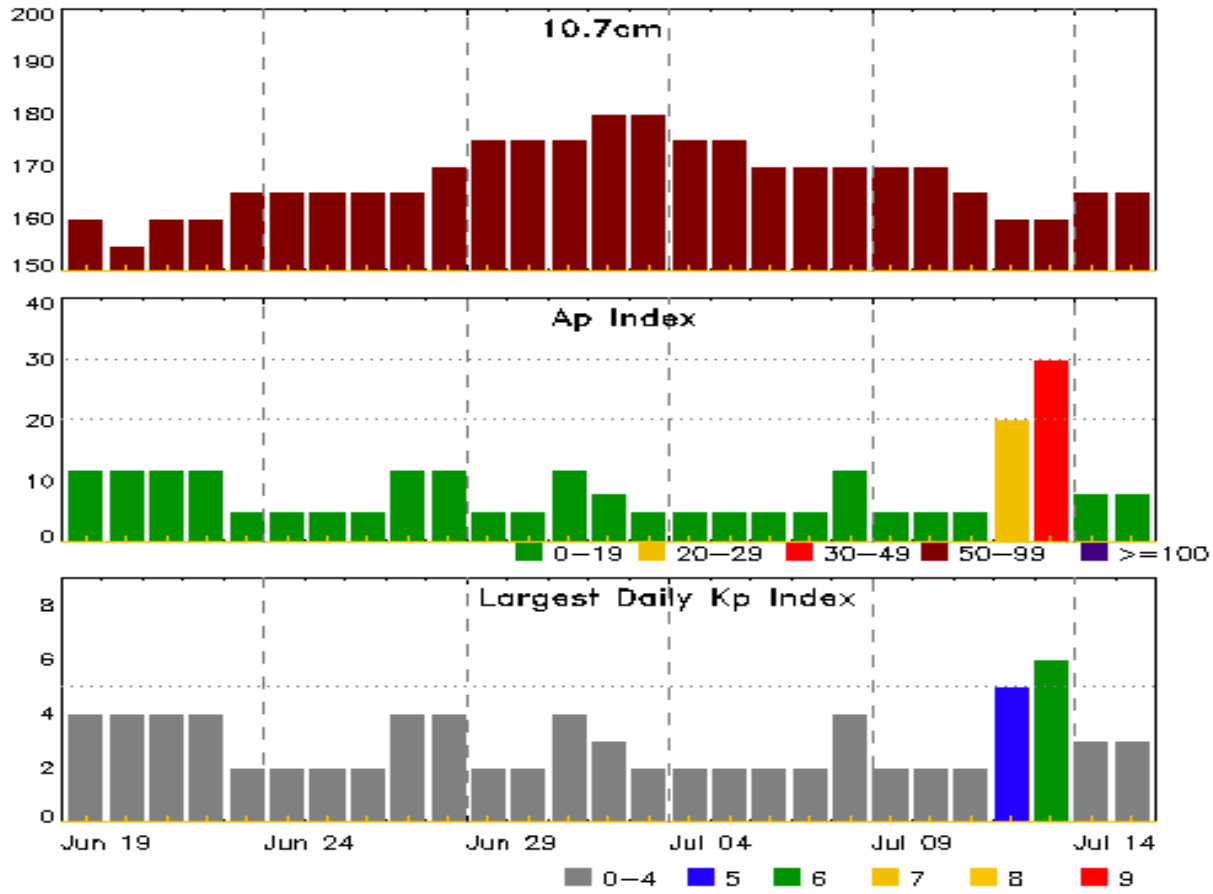
Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
12 June	8	2-1-1-2-4-2-2-1	4	2-1-1-1-2-1-1-0	6	2-1-1-1-3-2-2-1
13 June	8	2-2-2-2-3-2-2-1	4	1-1-2-2-0-1-1-1	6	2-2-2-2-2-2-1-1
14 June	5	2-0-1-2-2-2-2-1	2	2-1-1-0-0-0-0-0	5	3-1-1-1-1-1-1-1
15 June	17	1-1-2-2-4-4-3-5	24	1-2-1-4-5-5-4-4	24	1-2-2-2-4-4-5-6
16 June	24	4-5-4-4-3-2-3-4	40	5-5-5-6-5-3-3-3	38	5-6-5-5-4-3-3-3
17 June	8	2-3-2-2-2-2-2-2	14	3-3-3-4-4-2-1-1	8	2-3-2-2-2-2-2-2
18 June	12	2-3-1-4-3-2-2-3	23	3-4-2-4-4-5-4-2	12	3-3-2-3-2-2-3-2

Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
12 Jun 0803	ALERT: Type II Radio Emission	12/0659
13 Jun 1808	ALERT: Type II Radio Emission	13/1741
15 Jun 1236	WARNING: Geomagnetic K = 4	15/1235 - 2100
15 Jun 1424	ALERT: Geomagnetic K = 4	15/1424
15 Jun 1504	WARNING: Geomagnetic K = 5	15/1500 - 2100
15 Jun 1541	EXTENDED WARNING: Geomagnetic K = 4	15/1235 - 16/0600
15 Jun 2052	EXTENDED WARNING: Geomagnetic K = 5	15/1500 - 16/0300
15 Jun 2052	ALERT: Geomagnetic K = 5	15/2051
15 Jun 2230	ALERT: Geomagnetic K = 5	15/2230
15 Jun 2231	WARNING: Geomagnetic K = 6	15/2231 - 16/0300
15 Jun 2317	ALERT: Geomagnetic K = 6	15/2317
16 Jun 0134	ALERT: Geomagnetic K = 5	16/0133
16 Jun 0246	EXTENDED WARNING: Geomagnetic K = 5	15/1500 - 16/0900
16 Jun 0400	ALERT: Geomagnetic K = 5	16/0352
16 Jun 0410	WARNING: Geomagnetic K = 6	16/0409 - 0900
16 Jun 0420	ALERT: Geomagnetic K = 6	16/0417
16 Jun 0452	EXTENDED WARNING: Geomagnetic K = 4	15/1235 - 16/2359
16 Jun 0843	EXTENDED WARNING: Geomagnetic K = 5	15/1500 - 16/1500
16 Jun 0902	ALERT: Geomagnetic K = 5	16/0859
16 Jun 1112	ALERT: Geomagnetic K = 5	16/1100
16 Jun 1132	WARNING: Geomagnetic K = 6	16/1130 - 1800
16 Jun 1133	EXTENDED WARNING: Geomagnetic K = 5	15/1500 - 16/2100
16 Jun 2354	EXTENDED WARNING: Geomagnetic K = 4	15/1235 - 17/1200
17 Jun 1422	ALERT: Electron 2MeV Integral Flux >= 1000pfu	17/1400
18 Jun 0636	CONTINUED ALERT: Electron 2MeV Integral Flux >= 1000pfu	17/1400
18 Jun 1425	ALERT: Type II Radio Emission	18/1353

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
19 Jun	160	12	4	03 Jul	180	5	2
20	155	12	4	04	175	5	2
21	160	12	4	05	175	5	2
22	160	12	4	06	170	5	2
23	165	5	2	07	170	5	2
24	165	5	2	08	170	12	4
25	165	5	2	09	170	5	2
26	165	5	2	10	170	5	2
27	165	12	4	11	165	5	2
28	170	12	4	12	160	20	5
29	175	5	2	13	160	30	6
30	175	5	2	14	165	8	3
01 Jul	175	12	4	15	165	8	3
02	180	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
16 Jun	0521	0530	0541	M1.0	0.001				3337			
16 Jun	1020	1038	1059	M1.0	0.017				3338			
16 Jun	1952	1959	2007	M1.0	0.005				3331			
18 Jun	0025	0031	0040	M1.3	0.007				3336			
18 Jun	1325	1353	1414	M2.5	0.048	2N	S25E22		3336		1	

Flare List

	Time			Optical			
Date	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
12 Jun	0056	0057	0106		SF	N26E05	
12 Jun	0306	0315	0322	C1.8			
12 Jun	0649	0658	0702	C5.2	1N	N17W44	3330
12 Jun	0847	0855	0902	C2.6			3323
12 Jun	0953	1004	1019	C2.9			
12 Jun	1243	1243	1245		SF	S14W38	3327
12 Jun	1309	1319	1325	C2.7	SF	S18W30	3327
12 Jun	1708	1709	1713		SF	S23W34	3327
12 Jun	1716	1725	1728		SF	N21W32	3329
12 Jun	1735	1737	1741		SF	S22W36	3327
12 Jun	2019	2026	2033	C3.3	SF	S24E04	3331
12 Jun	2136	2144	2153	C2.2			
12 Jun	2308	2313	2316	C1.9			
12 Jun	2316	2327	2338	C5.1			
12 Jun	2323	2324	2353		SF	S19W37	3327
13 Jun	0600	0600	0605		SF	S21W43	3327
13 Jun	0929	0937	1042		SF	S14W38	3327
13 Jun	0930	0933	0934		SF	S11E58	
13 Jun	0937	0938	0939		SF	S11E58	3327
13 Jun	1056	1057	1105		SF	S11E58	
13 Jun	1157	1207	1220	C4.9	SF	N26W45	3329
13 Jun	1241	1245	1250	C2.1			3333
13 Jun	1423	1434	1439	C2.0			
13 Jun	1503	1514	1532	C1.8			3327
13 Jun	1730	1738	1744	C6.3	1F	N16E73	3334
13 Jun	2000	2005	2020	C1.8			

Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
13 Jun	2020	2026	2042	C2.1	1F	S21E82	
13 Jun	2140	2140	2146		SF	S14E80	
13 Jun	2305	2305	2309		SF	S11E50	3333
13 Jun	2329	2336	2339	C2.0			
13 Jun	2339	2345	2350	C2.1			
14 Jun	0005	0008	0038		SF	S17W50	3327
14 Jun	0031	0031	0036		SF	S10E51	3333
14 Jun	0043	0044	0048		SF	S15E81	
14 Jun	0112	0113	0119		SF	S10E51	3333
14 Jun	0329	0331	0334		SF	S15E81	
14 Jun	0335	0335	0342		SF	S17W54	3327
14 Jun	0353	0354	0356		SF	N17E72	3334
14 Jun	0358	0358	0400		SF	S10E48	3333
14 Jun	0435	0435	0437		SF	S14E77	
14 Jun	0442	0443	0444		SF	S14E77	
14 Jun	0456	0457	0459		SF	S14E77	
14 Jun	0520	0520	0522		SF	S21E79	
14 Jun	0525	0525	0532		SF	S11E47	3333
14 Jun	0540	0544	0545		SF	S14E77	
14 Jun	0553	0555	0556		SF	S14E77	
14 Jun	0606	0611	0620		SF	S14E77	
14 Jun	0658	0700	0709		SF	S10E48	3333
14 Jun	0849	0849	0851		SF	S10E46	3333
14 Jun	0854	0905	0916	C1.8			3333
14 Jun	B0919	U0941	A1012	C2.0	SF	S15E74	3335
14 Jun	1002	1009	1021	C1.6			
14 Jun	B1105	U1107	A1109		SF	S15E72	3335
14 Jun	B1116	U1116	A1128		SF	S15E71	3335
14 Jun	1244	1302	1329		SF	S14E68	3335
14 Jun	1331	1332	1344		SF	S14E67	3335
14 Jun	1504	1516	1520	C3.7	SF	S15E67	3335
14 Jun	1617	1618	1620		SF	S15E67	3335
14 Jun	1759	1759	1807		SF	S15E65	3335
14 Jun	1916	1921	1925	C1.8	SF	S14E66	3335
14 Jun	2029	2037	2043	C3.6	1F	S14E65	3335
14 Jun	2203	2211	2218	C1.9	SF	S14E64	3335
14 Jun	2248	2259	2308	C6.6	SF	S17W56	3327
14 Jun	2316	2317	2321		SF	S24W21	3331

Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
14 Jun	2329	2338	2350	C5.0			3338
15 Jun	0123	0131	0138	C2.4	SF	S15E66	3335
15 Jun	0313	0317	0326	C6.0			3336
15 Jun	1233	1255	1350	C9.7	SF	S22E61	3336
15 Jun	B1412	U1417	A1419		SF	S16E57	3335
15 Jun	B1412	U1413	A1419		SF	S21E63	3336
15 Jun	1712	1717	1730	C2.8	SF	N13E77	3338
15 Jun	1733	1741	1749		SF	N13E76	3338
15 Jun	2133	2134	2136		SF	N13E72	3338
16 Jun	0233	0243	0246	C2.8			3329
16 Jun	0246	0254	0301	C3.5			3338
16 Jun	0347	0354	0358	C2.5			3327
16 Jun	0521	0530	0541	M1.0			3337
16 Jun	0609	0619	0632	C3.2			3327
16 Jun	0849	0904	0911	C3.5			3329
16 Jun	1020	1038	1059	M1.0			3338
16 Jun	1316	1324	1330	C2.7	SF	S23W42	3331
16 Jun	1338	1341	1345		SF	N13E65	3338
16 Jun	1612	1616	1622	C1.8			3329
16 Jun	1952	1959	2007	M1.0			3331
16 Jun	2134	2141	2148	C2.1			3335
17 Jun	0809	0820	0839	C1.8			3336
17 Jun	1607	1614	1621	C2.2			3339
17 Jun	1622	1624	1630		SF	N18E52	3338
17 Jun	1653	1657	1705	C4.4			3335
17 Jun	2150	2202	2209	C1.6			
17 Jun	2346	2354	0003	C2.1			3339
18 Jun	0003	0012	0018	C2.0			3335
18 Jun	0025	0031	0040	M1.3			3336
18 Jun	0204	0208	0213	C1.7			3340
18 Jun	0450	0505	0515	C2.5			3334
18 Jun	0531	0535	0544	C2.1	SF	S15E18	3335
18 Jun	1122	1123	1125		SF	S24E23	3336
18 Jun	1231	1231	1234		SF	N22E67	3340
18 Jun	1325	1353	1414	M2.5			3336
18 Jun	1329	1330	1336		SF	S21W40	3335
18 Jun	1331	1349	1517		2N	S25E22	3336
18 Jun	1331	1331	1358		SF	S16E16	3335

Flare List

	Time			Optical			
Date	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
18 Jun	2225	2239	2243	C2.7			
18 Jun	2243	2247	2251	C3.0			3336

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 3300												
09 May	N10W01	105	30	5	Cro	5	B								
10 May	N10W13	104	50	5	Dao	6	B								
11 May	N10W27	105	50	4	Dao	4	B								
12 May	N09W40	105	10	2	Axx	2	A								
13 May	N09W53	105	10	2	Axx	2	A								
14 May	N09W67	105	plage												
15 May	N09W81	106	plage												
11 Jun	N18W43	70	plage												
								0	0	0	0	0	0	0	0

Died on Disk.
Absolute heliographic longitude: 105

			Region 3321												
30 May	S16E66	119	120	2	Hsx	1	A				1				
31 May	S15E52	120	260	5	Hhx	3	A								
01 Jun	S15E41	118	210	4	Hax	2	A				1				
02 Jun	S15E27	120	180	3	Hax	2	A								
03 Jun	S15E13	121	180	5	Hax	1	A								
04 Jun	S15E01	119	170	3	Hsx	1	A								
05 Jun	S15W11	118	200	6	Hsx	14	A								
06 Jun	S14W25	118	190	6	Hsx	7	A								
07 Jun	S14W39	119	200	4	Cso	3	B								
08 Jun	S15W53	120	170	5	Cso	2	B				1				
09 Jun	S16W66	120	150	3	Hsx	1	A	1							
10 Jun	S16W79	120	150	2	Hsx	1	A								
11 Jun	S15W91	119	90	9	Hsx	1	A	1							
								2	0	0	3	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 119

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 3323												
31 May	S05E68	104	200	2	Dao	3	B	8	2		6				
01 Jun	S08E57	101	170	10	Dac	8	BG	5			12				
02 Jun	S07E45	102	230	14	Esi	13	BG	2			6				
03 Jun	S07E32	102	310	13	Ekc	13	BG	3			4				
04 Jun	S07E20	100	320	14	Ehi	18	BG	5			7				
05 Jun	S08W04	110	330	15	Eki	35	BG	2			2				
06 Jun	S08W14	107	300	15	Eki	20	BG								
07 Jun	S08W20	100	150	14	Eai	30	BG				1				
08 Jun	S08W35	102	150	13	Eai	19	BG								
09 Jun	S08W47	101	70	13	Ero	12	B	1			2				
10 Jun	S08W61	102	10	13	Bxo	6	B	5							
11 Jun	S10W78	105	plage					1			1				
12 Jun	S07W90	104	10	1	Axx	1	A	1							
								33	2	0	41	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 110

			Region 3326												
02 Jun	N25E73	74	120	1	Hsx	1	A	1							
03 Jun	N25E59	75	120	1	Hsx	1	A								
04 Jun	N29E46	74	70	2	Hsx	1	A								
05 Jun	N26E40	66	190	9	Hsx	3	A								
06 Jun	N26E23	69	70	2	Hsx	1	A								
07 Jun	N25E11	69	60	2	Hsx	1	A								
08 Jun	N25W03	70	60	2	Hsx	1	A								
09 Jun	N25W16	70	60	2	Hsx	1	A								
10 Jun	N26W29	70	80	1	Hsx	1	A								
11 Jun	N25W42	70	120	9	Hsx	3	A								
12 Jun	N26W54	69	60	2	Hsx	1	A								
13 Jun	N26W67	68	50	4	Hsx	1	A								
14 Jun	N25W80	68	50	2	Hsx	1	A								
								1	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 70

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 3327												
03 Jun	S14E81	53	plage					1							
04 Jun	S14E67	53	100	4	Dao	7	B	4			6	1			
05 Jun	S15E56	50	120	8	Dai	10	B				2				
06 Jun	S14E40	52	300	10	Dki	16	BGD	4			2				
07 Jun	S16E28	51	250	11	Eki	28	BGD	3	1		5	1			
08 Jun	S16E15	52	270	12	Ekc	26	BGD	5			3				
09 Jun	S17E01	53	180	11	Eai	33	BG	2			2	1			
10 Jun	S15W13	54	110	11	Eai	30	BG	2			2				
11 Jun	S16W27	55	130	11	Eai	37	BG	3			1				
12 Jun	S15W40	53	40	13	Esi	21	B	1			4				
13 Jun	S15W53	54	10	8	Bxo	12	B	1			1				
14 Jun	S17W65	52	plage					1			3				
15 Jun	S17W79	54	plage												
								27	1	0	31	3	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 53

			Region 3328												
05 Jun	N11W03	109	10	3	Axx	3	A								
06 Jun	N11W17	111	plage												
07 Jun	N11W31	112	plage												
08 Jun	N11W45	113	plage												
09 Jun	N11W59	113	plage												
10 Jun	N11W73	114	plage												
11 Jun	N11W87	115	plage												
								0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 109

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 3329												
06 Jun	N25E42	50	40	7	Dao	4	B								
07 Jun	N23E28	51	120	5	Dao	7	B								
08 Jun	N23E14	52	120	6	Dao	5	B								
09 Jun	N23E01	53	90	7	Dai	9	B				1				
10 Jun	N23W12	53	120	7	Cao	5	B								
11 Jun	N23W24	52	110	8	Cao	7	B								
12 Jun	N23W39	52	100	3	Hsx	2	A				1				
13 Jun	N23W52	53	90	3	Hsx	2	A	1			1				
14 Jun	N23W66	53	50	2	Cao	2	B								
15 Jun	N24W78	52	40	2	Hsx	1	A								
								1	0	0	3	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 53

			Region 3330												
06 Jun	N18E27	66	10	5	Bxo	2	B								
07 Jun	N18E14	66	20	5	Dro	2	B								
08 Jun	N18W04	69	10	1	Axx	1	A								
09 Jun	N18W17	71	0		Axx	1	A								
10 Jun	N18W31	72	plage												
11 Jun	N18W45	73	plage												
12 Jun	N18W59	74	0		Axx	2	A	1				1			
13 Jun	N18W73	71	plage												
14 Jun	N18W87	74	plage												
								1	0	0	0	1	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 69

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 3331												
07 Jun	S22E62	18	140	12	Hax	2	A								
08 Jun	S22E48	18	170	10	Dso	3	B								
09 Jun	S22E37	17	180	11	Eso	3	B	1	1		1				
10 Jun	S22E25	16	170	12	Eao	2	B								
11 Jun	S22E13	15	170	12	Eao	7	B								
12 Jun	S23E03	12	150	12	Csi	18	BG	1			1				
13 Jun	S23W14	15	120	10	Dao	10	B								
14 Jun	S23W28	15	90	5	Cao	6	B				1				
15 Jun	S23W40	15	50	2	Hax	2	A								
16 Jun	S23W53	15	70	2	Hsx	2	A	1	1		1				
17 Jun	S23W66	14	60	2	Hsx	2	A								
18 Jun	S23W80	15	50	2	Hsx	2	A								
								3	2	0	4	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 12

			Region 3332												
08 Jun	S08E59	8	20	1	Hsx	1	A								
09 Jun	S08E45	9	10	1	Hrx	1	A								
10 Jun	S08E31	10	0		Axx	1	A								
11 Jun	S08E17	11	10	1	Axx	1	A								
12 Jun	S08E06	9	0		Axx	1	A								
13 Jun	S08W08	9	plage												
14 Jun	S10W17	6	plage												
15 Jun	S10W31	6	plage												
16 Jun	S10W45	7	plage												
17 Jun	S10W59	7	plage												
18 Jun	S10W71	6	10	1	Axx	2	A								
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 9

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 3333												
13 Jun	S12E50	311	70	6	Dao	10	B	1			1				
14 Jun	S11E36	311	140	7	Dai	16	B	1			6				
15 Jun	S11E22	313	130	9	Dai	7	B								
16 Jun	S11E10	312	220	10	Dai	16	B								
17 Jun	S11W05	313	240	11	Eai	18	B								
18 Jun	S11W19	314	200	11	Eai	13	BG								
								2	0	0	7	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 313

			Region 3334												
13 Jun	N17E68	293	90	1	Hax	3	A	1							
14 Jun	N17E56	291	60	1	Hax	2	A				1				
15 Jun	N17E47	288	10	1	Axx	1	A								
16 Jun	N17E36	286	10	1	Axx	1	A								
17 Jun	N16E21	287	plage												
18 Jun	N16E07	288	plage					1							
								2	0	0	1	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 288

			Region 3335												
14 Jun	S15E63	284	140	2	Dao	5	B	5			10	1			
15 Jun	S15E51	284	150	11	Eso	9	B	1			2				
16 Jun	S15E37	285	380	11	Ehi	18	BG	1							
17 Jun	S15E24	284	390	13	Eki	18	BG	1							
18 Jun	S15E10	285	360	13	Eki	18	BG	2			3				
								10	0	0	15	1	0	0	0

Still on Disk.
Absolute heliographic longitude: 285

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 3336												
14 Jun	S20E66	281	160	6	Cso	5	B								
15 Jun	S21E54	281	130	9	Dao	9	B	2			2				
16 Jun	S21E44	278	80	6	Cao	8	B								
17 Jun	S21E31	277	30	3	Cro	5	B	1							
18 Jun	S22E17	278	30	4	Cro	5	B	1	2		1		1		
								4	2	0	3	0	1	0	0

Still on Disk.
Absolute heliographic longitude: 278

			Region 3337												
15 Jun	N17E69	266	10	1	Axx	1	A								
16 Jun	N17E59	263	10	1	Axx	1	A		1						
17 Jun	N17E45	263	plage												
18 Jun	N17E31	264	plage												
								0	1	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 264

			Region 3338												
14 Jun	N11E83	265	plage					1							
15 Jun	N11E73	262	20	8	Cao	2	B	1			3				
16 Jun	N11E59	263	140	6	Cso	4	B	1	1		1				
17 Jun	N11E45	263	130	8	Cso	6	B				1				
18 Jun	N11E31	264	120	9	Cao	6	B								
								3	1	0	5	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 264

			Region 3339												
17 Jun	S19E70	238	100	2	Hsx	1	A	2							
18 Jun	S19E56	239	120	2	Hsx	1	A								
								2	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 239

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 3340													
18 Jun	N23E59	236	100	4	Cao	6	B	1			1				
								1	0	0	1	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 236

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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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