Space Weather Highlights
16 August - 22 August 2021

SWPC PRF 2399
23 August 2021

Solar activity was low. Multiple C-class events were observed from Region 2859 (N19, L=140, class/area, Cao/140 on 22 Aug) including the largest, a C3 flare at 20/1557 UTC. No Earth-directed CMEs were observed in available imagery.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit reached moderate levels throughout the reporting period.

Geomagnetic field activity ranged from quiet to unsettled levels due to CH HSS influence.

Space Weather Outlook
23 August - 18 September 2021

Solar activity is expected to be very low with a chance for C-class flare activity.

No proton events are expected at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to reach high levels on 27-30 Aug, with moderate levels throughout the remainder of the outlook period.

Geomagnetic field activity is expected to reach active levels on 25-26 Aug and 03 Sep, unsettled levels on 23-26 Aug and 02-03, 11-12 Sep due to recurrent CH HSS activity. Quiet levels are expected 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
16 August	74	14	30	A4.8	0	0	0	0	0	0	0	0
17 August	73	13	10	A3.9	0	0	0	0	0	0	0	0
18 August	75	16	20	A3.7	0	0	0	0	0	0	0	0
19 August	75	25	40	A3.6	0	0	0	0	0	0	0	0
20 August	78	14	10	B1.1	4	0	0	0	0	0	0	0
21 August	77	25	90	B1.1	0	0	0	1	0	0	0	0
22 August	77	16	140	B1.2	3	0	0	3	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
16 August	5.6e+04	4.5e+04	5.6e+06
17 August	5.6e+04	4.5e+04	1.7e+07
18 August	5.5e+04	4.6e+04	1.6e+07
19 August	6.2e+04	4.7e+04	1.6e+07
20 August	6.8e+04	4.8e+04	1.4e+06
21 August	5.7e+04	4.9e+04	1.0e+06
22 August	6.4e+04	4.9e+04	1.3e+06

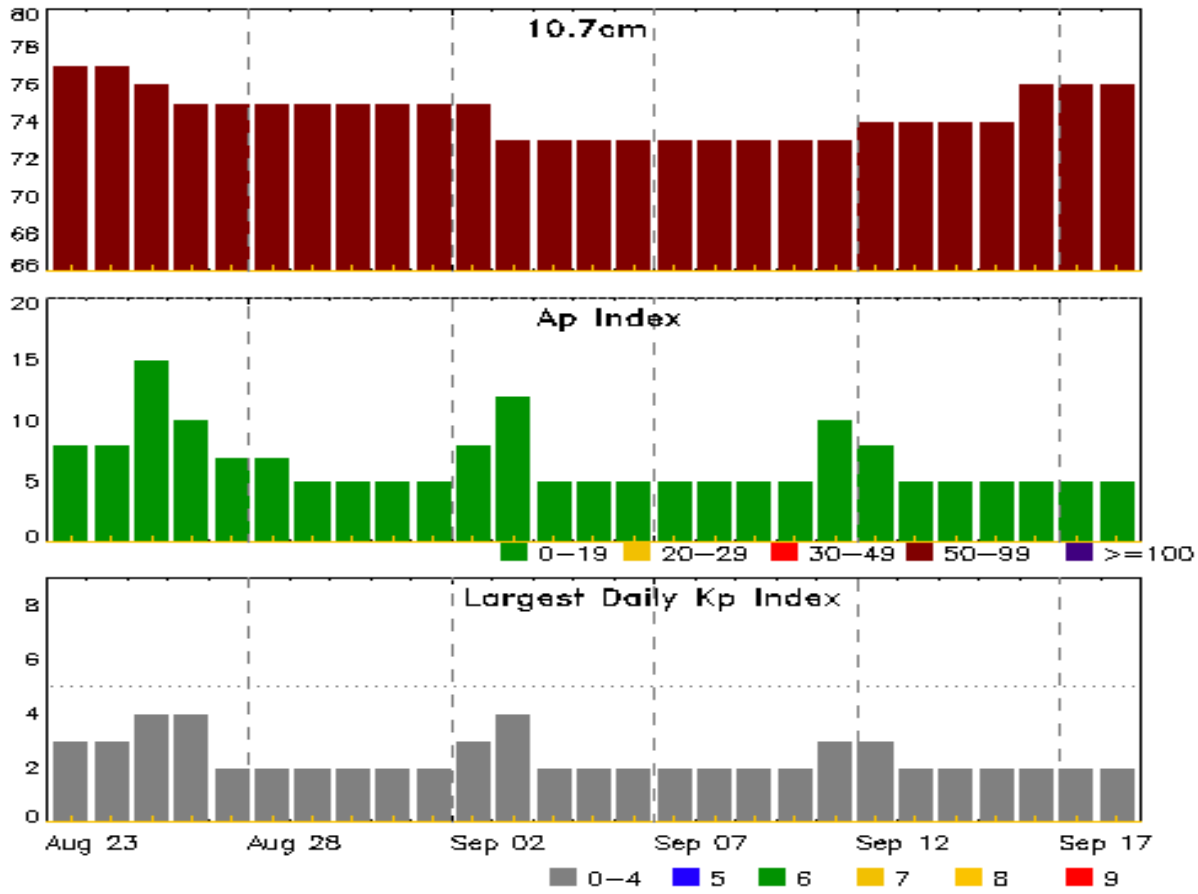
Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
16 August	8	3-3-1-2-2-1-1-2	13	3-1-2-4-4-3-1-1	7	3-3-1-1-2-1-1-2
17 August	7	1-1-1-3-3-1-1-2	6	2-0-0-4-2-1-0-1	5	1-1-1-3-2-1-0-2
18 August	6	3-2-0-1-3-1-2-0	7	2-3-0-2-3-3-0-0	6	3-2-1-1-2-1-1-0
19 August	5	0-1-1-1-3-1-1-2	11	0-0-0-4-4-4-1-1	4	0-1-1-2-2-1-1-1
20 August	6	0-1-3-2-2-2-2-0	19	0-2-3-4-5-5-2-0	5	0-1-2-2-2-2-1-0
21 August	4	0-0-2-2-2-2-1-0	2	0-0-1-1-1-1-0-0	3	0-0-1-1-2-1-1-0
22 August	4	1-1-1-2-2-1-1-0	0	1-0-0-0-0-0-0-0	3	1-1-1-1-1-1-0-0

Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
No Alerts or Warnings Issued		

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
23 Aug	77	8	3	06 Sep	73	5	2
24	77	8	3	07	73	5	2
25	76	15	4	08	73	5	2
26	75	10	4	09	73	5	2
27	75	7	2	10	73	5	2
28	75	7	2	11	73	10	3
29	75	5	2	12	74	8	3
30	75	5	2	13	74	5	2
31	75	5	2	14	74	5	2
01 Sep	75	5	2	15	74	5	2
02	75	8	3	16	76	5	2
03	73	12	4	17	76	5	2
04	73	5	2	18	76	5	2
05	73	5	2				

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

No Events Observed

Flare List

	Time				Optical		
Date	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
16 Aug	0705	0711	0716	B3.4			2857
16 Aug	0915	0922	0932	B1.3			2857
18 Aug	1814	1823	1827	B1.5			2858
18 Aug	1827	1835	1842	B2.1			2858
18 Aug	1958	2007	2011	B2.8			2858
19 Aug	1549	1617	1644	B2.1			
20 Aug	0319	0329	0339	B1.3			
20 Aug	0437	0441	0452	B1.5			
20 Aug	0525	0548	0611	B3.9			2859
20 Aug	0849	0901	0910	B4.2			2859
20 Aug	1256	1305	1309	B2.3			2859
20 Aug	1417	1430	1450	B9.3			2859
20 Aug	1545	1548	1550	C1.7			2859
20 Aug	1550	1557	1601	C3.0			2859
20 Aug	1641	1649	1659	C2.3			2859
20 Aug	2130	2200	2214	C1.4			2859
20 Aug	2248	2255	2301	B4.2			2859
21 Aug	0034	0042	0052	B1.7			2859
21 Aug	0052	0058	0105	B2.5			
21 Aug	0236	0246	0308	B3.2			2859
21 Aug	0405	0410	0420	B3.3			2859
21 Aug	0430	0438	0443	B2.6			2859
21 Aug	0620	0634	0640	B1.9			2859
21 Aug	0801	0810	0814	B3.2			2859
21 Aug	0839	0840	0842		SF	N20E83	2859
21 Aug	1008	1015	1026	B2.0			2859
21 Aug	1026	1037	1046	B2.1			2859
21 Aug	1046	1103	1113	B3.1			2859
21 Aug	1128	1136	1141	B4.9			2859
21 Aug	1837	1842	1846	B3.9			2859
21 Aug	2054	2058	2102	B3.9			

Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
21 Aug	2114	2118	2122	B3.9			
21 Aug	2157	2204	2209	B2.6			
21 Aug	2211	2215	2220	B4.7			
21 Aug	2226	2230	2235	B4.4			
22 Aug	0002	0008	0013	B2.3			
22 Aug	0018	0028	0036	B3.5			
22 Aug	0043	0052	0056	C1.0	SF	N20E72	2859
22 Aug	0123	0133	0147	B3.2			
22 Aug	0409	0414	0422	C1.2	SF	N19E75	2859
22 Aug	0520	0526	0530	B1.9			
22 Aug	0534	0539	0600	B1.9			
22 Aug	0828	0831	0837	B5.2			
22 Aug	1000	1009	1016	B3.6			
22 Aug	1016	1020	1024	C1.9	SF	N19E68	2859
22 Aug	1446	1502	1514	B4.4			

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 2853												
08 Aug	N23E63	192	10	1	Axx	1	A	1			5				
09 Aug	N23E48	194	plage								3				
10 Aug	N23E34	195	plage												
11 Aug	N23E20	196	plage												
12 Aug	N23E06	197	plage												
13 Aug	N23W08	197	plage					1							
14 Aug	N22W23	199	10	5	Axx	1	A								
15 Aug	N22W36	199	plage												
16 Aug	N22W50	200	plage												
17 Aug	N22W64	200	plage												
18 Aug	N22W78	201	plage												
								2	0	0	8	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 197

			Region 2854												
11 Aug	S21W33	249	10		Axx	1	A								
12 Aug	S21W47	250	plage												
13 Aug	S22W60	249	plage												
14 Aug	S22W74	250	plage												
15 Aug	S22W88	251	plage												
								0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 249

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 2855												
11 Aug	N13E61	155	10		Axx	1	A								
12 Aug	N13E47	156	10	1	Axx	1	A								
13 Aug	N13E33	156	plage												
14 Aug	N13E22	154	10	1	Axx	1	A								
15 Aug	N13E08	155	plage												
16 Aug	N13W06	156	plage												
17 Aug	N13W20	156	plage												
18 Aug	N13W34	157	plage												
19 Aug	N13W48	158	plage												
20 Aug	N13W62	159	plage												
21 Aug	N13W76	160	plage												
22 Aug	N13W90	160	plage												
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 156

			Region 2856												
14 Aug	N14W61	237	10	2	Bxo	3	B								
15 Aug	N14W74	237	10	1	Axx	1	A								
16 Aug	N14W88	238	plage												
								0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 237

			Region 2857												
14 Aug	N18W00	175	10	2	Bxo	2	B								
15 Aug	N18W14	177	10	4	Bxo	2	B								
16 Aug	N17W27	177	30	4	Dro	4	B								
17 Aug	N17W41	177	10	4	Bxo	3	B								
18 Aug	N17W53	176	plage												
19 Aug	N14W70	179	10	1	Axx	1	A								
20 Aug	N14W84	181	plage												
								0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 175

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 2858												
18 Aug	N12W00	123	20	4	Cro	6	B								
19 Aug	N13W15	124	30	4	Cro	4	B								
20 Aug	N13W28	124	10	3	Bxo	4	B								
21 Aug	N13W42	124	10	2	Axx	2	A								
22 Aug	N13W56	126	plage												
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 123

			Region 2859												
21 Aug	N20E72	12	80	3	Cao	3	B				1				
22 Aug	N19E59	10	140	4	Cao	6	B	3			3				
								7	0	0	4	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 10

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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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