

**Space Weather Highlights**  
**16 January - 22 January 2023**

**SWPC PRF 2473**  
**23 January 2023**

Solar activity was high. Region 3190 (S15, L=119, class/area, Eki/950 on 18 Jan) produced dual M1.8 flares at 17/2329 UTC and 18/1035 UTC. These flares tied for the largest of the period. Region 3190 also produced an M1.1 flare at 22/1226 UTC. Region 3196 (N12, L=084, class/area, Dro/30 on 18 Jan) provided an M1.1/Sf flare at 19/0403 UTC; an M1.7 flare at 19/1012 UTC; and an M1.0/Sf flare at 19/1027 UTC. The only other M-class producing region was Region 3194 (S24, L=132, class/area, Dai/130 on 22 Jan) with an M1.6/1b flare at 22/1702 UTC. There was a combined total of seven M-class flares during the period, all at the R1 (Minor) level, and none with significant radio signatures.

No reportable proton events were observed at geosynchronous orbit, however, 10 MeV proton flux became enhanced, reaching a peak flux of 1.01 pfu at 20/1425 UTC. The source of this slight flux increase was believed to be a C-class event from Region 3190.

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

Geomagnetic field activity ranged between quiet and active levels. Active conditions were observed on 16-18 Jan, in response to combined influence of the 11 Jan CME and a recurrent, positive-polarity CH HSS. Active conditions were also observed on 21 Jan in response to an additional positive-polarity CH HSS. Quiet to unsettled conditions were observed during the remainder of the period.

**Space Weather Outlook**  
**23 January - 18 February 2023**

Solar activity is likely to remain at moderate to high levels throughout the outlook period due to numerous, existing and returning M and X-class flare producing regions.

There is a slight chance for proton events at geosynchronous orbit, during the outlook period, due to the magnetic complexity and flare history of the abundant sunspot groups.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at high levels on 24-30 Jan in response to recurrent CH HSS influence. The remainder of the outlook period is expected to be at moderate levels.

Geomagnetic field activity is expected to range from quiet to active levels. Active conditions are likely on 23-25 Jan and 01, 07-10 Feb; unsettled levels are likely on 26-29 Jan, and 02, 12-13, 18 Feb. Increased geomagnetic activity is in response to multiple, recurrent CH HSSs. The remainder of the outlook period is expected to be mostly quiet.



### *Daily Solar Data*

Date	Radio Flux 10.7cm	Sun spot No.	Sunspot Area (10 <sup>-6</sup> hemi.)	X-ray Background Flux	Flares							
					X-ray			Optical				
					C	M	X	S	1	2	3	4
16 January	228	186	2410	C2.0	5	0	0	9	0	0	0	0
17 January	222	185	2290	C1.7	8	1	0	5	1	0	0	0
18 January	220	164	2210	C1.7	7	1	0	10	0	0	0	0
19 January	219	166	2020	C1.8	7	3	0	10	0	0	0	0
20 January	218	197	1720	C1.7	6	0	0	6	0	0	0	0
21 January	209	194	1390	C1.9	8	0	0	8	0	0	0	0
22 January	199	166	1250	C2.0	7	2	0	5	2	0	0	0

### *Daily Particle Data*

Date	Proton Fluence (protons/cm <sup>2</sup> -day -sr)		Electron Fluence (electrons/cm <sup>2</sup> -day -sr)	
	>1 MeV	>10 MeV	>2MeV	
	16 January	3.3e+05	2.4e+04	1.9e+07
17 January	2.7e+05	2.4e+04	1.5e+07	
18 January	5.6e+05	2.3e+04	6.4e+06	
19 January	3.4e+05	2.4e+04	2.7e+06	
20 January	2.3e+06	3.0e+04	2.4e+06	
21 January	7.4e+05	2.4e+04	3.0e+06	
22 January	2.3e+05	2.3e+04	7.8e+06	

### *Daily Geomagnetic Data*

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

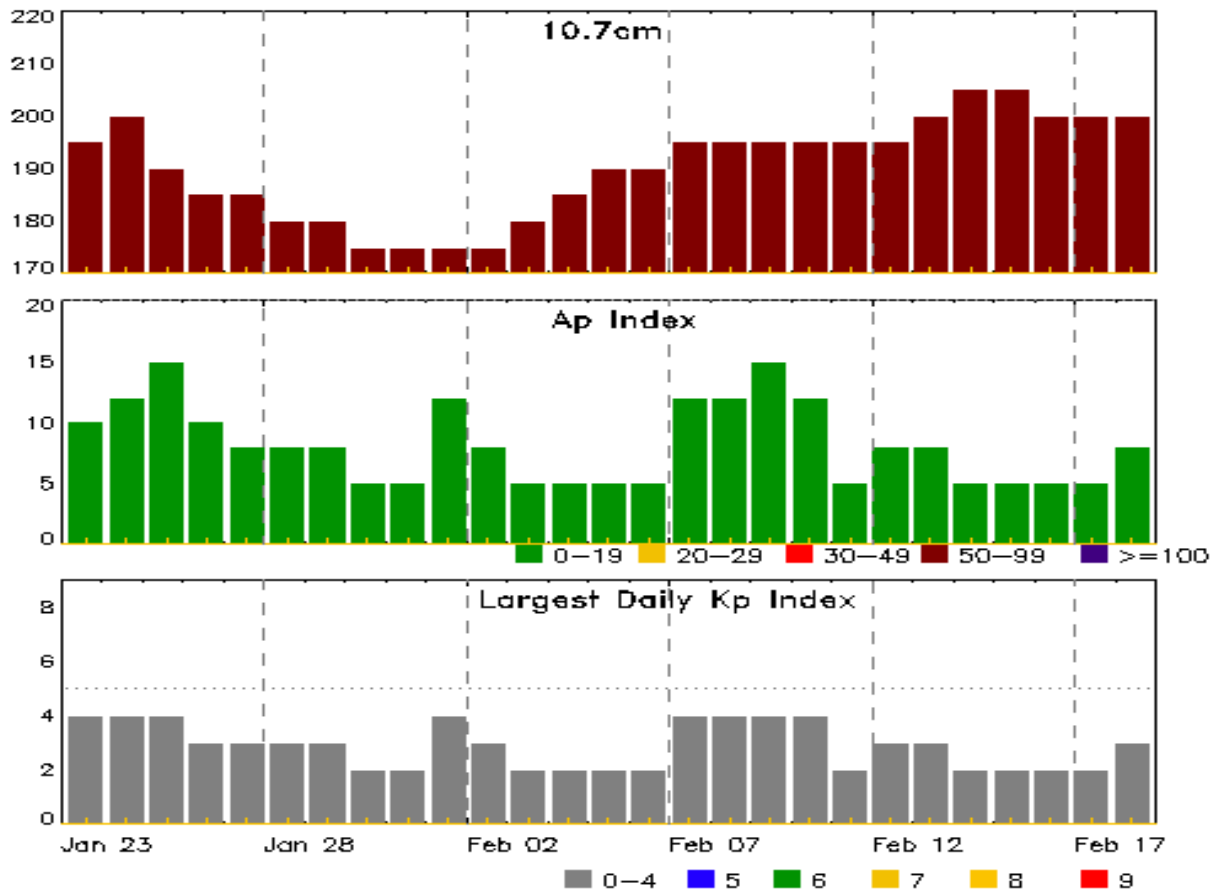


### *Alerts and Warnings Issued*

<b>Date &amp; Time of Issue UTC</b>	<b>Type of Alert or Warning</b>	<b>Date &amp; Time of Event UTC</b>
16 Jan 1142	EXTENDED WARNING: Geomagnetic K = 4	13/1936 - 16/2100
17 Jan 2329	WARNING: Geomagnetic K = 4	17/2328 - 18/0900
17 Jan 2331	ALERT: Geomagnetic K = 4	17/2330
18 Jan 0416	WARNING: Geomagnetic K = 5	18/0415 - 0900
18 Jan 0754	EXTENDED WARNING: Geomagnetic K = 4	17/2328 - 18/1500
18 Jan 1455	EXTENDED WARNING: Geomagnetic K = 4	17/2328 - 18/1800
18 Jan 1759	EXTENDED WARNING: Geomagnetic K = 4	17/2328 - 18/2359
21 Jan 0601	WARNING: Geomagnetic K = 4	21/0559 - 1500
21 Jan 0601	ALERT: Geomagnetic K = 4	21/0559
21 Jan 1931	WARNING: Geomagnetic K = 4	21/1930 - 22/0900
22 Jan 2049	WARNING: Geomagnetic K = 4	22/2048 - 23/0900



## 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 Jan	195	10	4	06 Feb	190	5	2
24	200	12	4	07	195	12	4
25	190	15	4	08	195	12	4
26	185	10	3	09	195	15	4
27	185	8	3	10	195	12	4
28	180	8	3	11	195	5	2
29	180	8	3	12	195	8	3
30	175	5	2	13	200	8	3
31	175	5	2	14	205	5	2
01 Feb	175	12	4	15	205	5	2
02	175	8	3	16	200	5	2
03	180	5	2	17	200	5	2
04	185	5	2	18	200	8	3
05	190	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
17 Jan	2316	2329	2344	M1.8	0.019				3190	130		
18 Jan	1021	1035	1052	M1.8	0.019				3190			
19 Jan	0400	0403	0409	M1.1	0.004	SF	N11E43		3196			
19 Jan	1006	1012	1019	M1.7	0.009				3196	100		
19 Jan	A1026	U1027	A1029	M1.0	0.002	SF	N11E43		3196			
22 Jan	1212	1226	1234	M1.1	0.012				3190			
22 Jan	1649	1702	1710	M1.6	0.012	1B	S26W51		3194			

### *Flare List*

Date	Time			X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
	Begin	Max	End				
16 Jan	0030	0034	0037		SF	S14E48	3190
16 Jan	0144	0144	0147		SF	N14E38	3191
16 Jan	0233	0240	0241		SF	S14E48	3190
16 Jan	0233	0236	0253		SF	S16E21	3182
16 Jan	0344	0344	0355		SF	S14E48	3190
16 Jan	0432	0442	0458	C4.6	SN	S14E48	3190
16 Jan	0509	0518	0526	C5.0			3191
16 Jan	0511	0516	0536		SF	S16E21	3182
16 Jan	0514	0515	0532		SF	N14E38	3191
16 Jan	0906	0918	1001	C8.7	SF	N12E57	3182
16 Jan	1136	1144	1202	C3.1			
16 Jan	1424	1431	1443	C3.6			
16 Jan	2301	2305	2309		SF	N20E36	3192
17 Jan	0002	0013	0026	C9.4	1F	N20E36	3192
17 Jan	0113	0123	0131	C4.3	SF	S14E35	3190
17 Jan	0135	0137	0140		SF	N20E36	3192
17 Jan	0156	0157	0207		SF	S14E35	3190
17 Jan	0256	0257	0301		SF	N12E44	
17 Jan	0416	0423	0427	C2.9	SF	S16E75	3184
17 Jan	0515	0525	0534	C3.3			
17 Jan	1310	1317	1325	C2.7			3192
17 Jan	1458	1518	1528	C3.6			3182
17 Jan	2030	2036	2049	C2.2			
17 Jan	2229	2235	2240	C3.2			3192



## *Flare List*

Date	Time			X-ray Class	Optical		Rgn #
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	
17 Jan	2316	2329	2344	M1.8			3190
18 Jan	0135	0142	0147	C4.1			
18 Jan	0350	0350	0408		SF	S19E15	3190
18 Jan	0356	0357	0401		SF	N14E21	3192
18 Jan	0448	0504	A0531		SF	N23E30	3192
18 Jan	0458	0519	0529	C7.9	SF	S17E26	3190
18 Jan	0638	0639	0655		SF	N14E19	3192
18 Jan	0839	0839	0842		SF	N15E18	3192
18 Jan	1021	1035	1052	M1.8			3190
18 Jan	1358	1407	1411	C3.3			3196
18 Jan	1434	1440	1446	C5.9	SF	N22W36	3186
18 Jan	1523	1531	1538	C3.4	SF	N19E17	3192
18 Jan	2037	2047	2051	C9.4			3192
18 Jan	2133	2137	2140		SF	N12E13	3192
18 Jan	2258	2306	2320	C3.6	SN	S21E16	3190
19 Jan	0055	0058	0115	C3.8	SF	N15E09	3192
19 Jan	0400	0403	0409	M1.1	SF	N11E43	3196
19 Jan	0526	0537	0543	C7.2	SF	S17E26	3190
19 Jan	0641	0643	0651		SF	N18E56	
19 Jan	0710	0710	A0718		SF	N19E13	3192
19 Jan	0841	0848	0855	C2.6			3192
19 Jan	0941	0950	0958	C2.9			3186
19 Jan	1001	1001	1005		SF	N11E43	3196
19 Jan	1006	1012	1019	M1.7			3196
19 Jan	A1026	U1027	A1029	M1.0			3196
19 Jan	1057	1102	1106	C4.0			3196
19 Jan	1526	1541	1609	C5.5			3190
19 Jan	1709	1730	1749		SF	N10E03	3192
19 Jan	1847	1855	1856		SF	S17E03	3190
19 Jan	1934	1937	1949		SF	N11E34	3196
19 Jan	2247	2305	2322	C6.2	SF	N06E02	3192
20 Jan	0134	0152	0207	C6.7	SF	S17W02	3190
20 Jan	1253	1257	1303	C4.8			3190
20 Jan	1347	1407	1432	C5.3			3190
20 Jan	1509	1512	1519		SF	S23W20	3190
20 Jan	1650	1659	1706	C4.0	SF	N17W10	3192
20 Jan	1832	1833	1835		SF	S14W14	3190
20 Jan	2142	2144	2148		SF	N10W13	3192



## *Flare List*

Date	Time			X-ray Class	Optical		
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	Rgn #
20 Jan	2243	2247	2251	C7.3	SN	N10W14	3192
20 Jan	2341	2346	2351	C3.0			3184
21 Jan	0148	0152	0158	C2.9			3192
21 Jan	0232	0238	0244	C3.0			3184
21 Jan	0356	0403	0408	C3.2			3184
21 Jan	0531	0538	0543	C4.5			3184
21 Jan	0935	0944	0950	C4.6			3199
21 Jan	B1007	U1009	A1025		SF	N18E57	3199
21 Jan	1121	1125	1129	C3.7	SF	N17W20	3192
21 Jan	1235	U1249	A1301		SF	N13E53	3199
21 Jan	B1420	U1420	A1437		SF	N20W16	3192
21 Jan	1503	1503	1510		SF	S14W28	3190
21 Jan	1612	1621	1716	C5.0	SF	N22W17	3192
21 Jan	1824	1829	1846		SF	S12W32	3190
21 Jan	2007	2020	2034	C5.6	SF	S27W43	3194
22 Jan	0209	0216	0223	C7.0			3192
22 Jan	1037	1050	1101	C8.3			3192
22 Jan	1212	1226	1234	M1.1			3190
22 Jan	1404	1411	1418	C3.6			
22 Jan	1501	1518	1528	C4.5	SF	S27W53	3194
22 Jan	1547	1553	1607	C4.7	SF	N16W42	3192
22 Jan	1618	1618	1640		SF	S26W51	3194
22 Jan	1649	1702	1710	M1.6	1B	S26W51	3194
22 Jan	1924	1926	1929		SF	S27W53	3194
22 Jan	2054	2128	2155	C7.9	SF	N12W51	3191
22 Jan	2206	2225	2237	C8.9	SF	N10W54	3191
22 Jan	2313	2323	2337		1N	N15W41	3192



## Region Summary

Date	Location		Sunspot Characteristics					Flares										
	Lat CMD	Helio Lon	Area 10 <sup>6</sup> hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical							
								C	M	X	S	1	2	3	4			
<b>Region 3182</b>																		
04 Jan	S18E86	226	plage					1										
05 Jan	S17E72	226	280	1	Dki	4	B	4										
06 Jan	S16E59	226	450	10	Dki	9	BG	3		1	5			1				
07 Jan	S17E46	227	510	12	Eki	23	BGD	12	1		5			1				
08 Jan	S17E32	228	880	15	Eki	23	BGD	8			11			1				
09 Jan	S17E20	226	950	15	Ekc	30	BGD	1			5							
10 Jan	S16E06	227	750	17	Fkc	51	BGD	1			1							
11 Jan	S17W08	228	650	14	Ehi	49	BG	2			3							
12 Jan	S18W20	227	510	14	Eki	35	BG	2	2		1			1				
13 Jan	S18W34	228	300	11	Eki	20	BG	2			7			1				
14 Jan	S18W48	229	190	7	Dai	15	BG	5	2		7			1				
15 Jan	S17W60	227	140	7	Dai	14	BD	1			5							
16 Jan	S17W75	229	20	6	Cro	5	B	1			2							
17 Jan	S17W89	230	0		Axx	1	A	1										
								44	5	1	52	5	1	0	0			

Crossed West Limb.

Absolute heliographic longitude: 227

<b>Region 3184</b>																		
08 Jan	S13E81	179	240	3	Hax	3	A	5	4		7							
09 Jan	S14E67	179	400	5	Hkx	4	A	5	1	1	4	2			1			
10 Jan	S13E53	180	440	14	Eki	8	BD	3	3		5							
11 Jan	S13E40	180	730	12	Ekc	13	BGD	1	1		1			1				
12 Jan	S13E26	181	240	15	Cso	10	B	2			2							
13 Jan	S12E13	181	300	15	Eho	15	BG	2			4			1				
14 Jan	S12W00	181	260	14	Eho	13	BG				1			1				
15 Jan	S12W11	178	260	16	Fho	7	B											
16 Jan	S13W24	177	210	14	Cso	7	B											
17 Jan	S13W38	179	190	7	Hsx	5	A	1			1							
18 Jan	S13W51	179	180	5	Cso	3	B											
19 Jan	S12W65	180	190	4	Cso	2	B											
20 Jan	S12W80	182	90	5	Hsx	2	A	1										
21 Jan	S12W93	182	20	2	Hsx	1	A	3										
								23	9	1	25	5	0	1	0			

Crossed West Limb.

Absolute heliographic longitude: 181





**Region Summary - continued**

Date	Location		Sunspot Characteristics					Flares															
	Lat CMD	Helio Lon	Area 10 <sup>6</sup> hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical												
								C	M	X	S	1	2	3	4								
<b>Region 3185</b>																							
09 Jan	N20W00	246	30	3	Cro	4	B																
10 Jan	N20W13	246	30	3	Cro	8	B	1															
11 Jan	N20W27	247	30	6	Dro	12	B					3											
12 Jan	N20W41	248	100	8	Dao	9	B																
13 Jan	N19W55	249	60	8	Cao	6	B																
14 Jan	N19W69	250	30	4	Cao	6	B																
15 Jan	N19W83	250	plage																				
								1	0	0		3	0	0	0	0	0						

Crossed West Limb.  
 Absolute heliographic longitude: 246

<b>Region 3186</b>																							
10 Jan	N25E65	168	100	2	Dso	5	BD	7	2	1	8		1										
11 Jan	N24E51	169	150	9	Dai	9	BD	1	2		7	1											
12 Jan	N24E38	169	320	13	Ekc	19	BG	3			12	1											
13 Jan	N25E24	170	500	13	Eki	18	BGD	1	1		3	1											
14 Jan	N25E10	171	410	12	Eki	12	BGD																
15 Jan	N25W03	170	450	11	Eko	10	BGD																
16 Jan	N25W15	168	440	13	Eho	14	BG																
17 Jan	N25W29	170	430	13	Eho	11	B																
18 Jan	N24W41	169	350	12	Eho	5	B	1			1												
19 Jan	N25W55	170	320	11	Eho	4	B	1															
20 Jan	N24W67	169	230	13	Eso	4	B																
21 Jan	N24W81	170	60	2	Hsx	1	A																
22 Jan	N24W95	170	plage																				
								14	5	1	31	3	1	0	0								

Still on Disk.  
 Absolute heliographic longitude: 170



**Region Summary - continued**

Date	Location		Sunspot Characteristics				Flares								
	Lat CMD	Lon	Helio 10 <sup>6</sup> hemi.	Area	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical			
									C	M	X	S	1	2	3

**Region 3187**

10 Jan	N13E18	215	10	1	Axx	2	A										
11 Jan	N13E03	217	plage														
12 Jan	N16W11	216	plage														
13 Jan	N16W24	218	plage														
14 Jan	N16W38	219	plage														
15 Jan	N16W52	219	plage														
16 Jan	N16W66	220	plage														
17 Jan	N16W80	221	plage														
									0	0	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 217

**Region 3188**

12 Jan	S23E58	149	20	6	Dro	3	B										
13 Jan	S23E45	149	20	6	Dro	4	B				2						
14 Jan	S23E33	148	30	5	Dri	5	B				1						
15 Jan	S24E21	146	30	5	Dri	8	B				1						
16 Jan	S24E09	145	30	8	Dro	10	B										
17 Jan	S24W05	146	10	7	Bxo	7	B										
18 Jan	S24W16	144	10	3	Bxo	3	B										
19 Jan	S23W18	141	plage														
20 Jan	S23W37	139	plage														
21 Jan	S23W51	139	plage														
22 Jan	S23W65	140	plage														
									0	0	0	4	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 146

**Region 3189**

13 Jan	N23W31	225	10	5	Bxo	2	B										
14 Jan	N23W45	226	10	1	Axx	1	A										
15 Jan	N23W59	226	plage														
16 Jan	N23W73	227	plage														
17 Jan	N23W87	228	plage														
									0	0	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 225



### *Region Summary - continued*

Date	Location		Sunspot Characteristics					Flares								
	Lat	CMD	Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical				
			Lon	10 <sup>6</sup> hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4
<b>Region 3190</b>																
13 Jan	S13E70		124	180	6	Hsx	1	A								
14 Jan	S12E58		123	510	11	Eko	11	B								
15 Jan	S12E45		122	520	11	Eko	11	B	1	1		4		1		
16 Jan	S14E34		120	880	14	Ehi	21	BGD	1			4				
17 Jan	S14E20		121	900	14	Eki	20	BG	1	1		2				
18 Jan	S15E09		119	950	12	Eki	17	BG	2	1		3				
19 Jan	S15W04		119	860	13	Eki	13	BG	2			2				
20 Jan	S15W18		120	710	15	Eki	14	BG	3			3				
21 Jan	S15W31		120	680	13	Eki	17	BGD				2				
22 Jan	S16W43		118	720	12	Eki	18	BGD		1						
									10	4	0	20	0	1	0	0

Still on Disk.

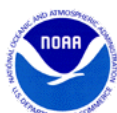
Absolute heliographic longitude: 119

### **Region 3191**

13 Jan	N12E71		123	90	4	Cso	3	B	1							
14 Jan	N11E55		126	150	7	Dai	9	B		1		4				
15 Jan	N12E40		127	170	9	Dac	11	BG	1	1		5				
16 Jan	N12E22		130	360	9	Dkc	13	B	1			2				
17 Jan	N11E08		133	320	9	Dsi	13	B								
18 Jan	N11W04		131	230	9	Dsi	8	B								
19 Jan	N11W15		130	220	9	Dao	8	B								
20 Jan	N12W30		132	220	9	Dao	8	B								
21 Jan	N12W44		133	140	7	Dao	6	B								
22 Jan	N12W57		132	50	4	Cao	3	B	2			1				
									5	2	0	12	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 131



**Region Summary - continued**

Date	Location		Sunspot Characteristics					Flares															
	Lat CMD	Helio Lon	Area 10 <sup>6</sup> hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical												
								C	M	X	S	1	2	3	4								
<b>Region 3192</b>																							
13 Jan	N19E75	119	100	4	Dso	2	B	1				1											
14 Jan	N19E61	120	160	8	Dsi	8	B					2											
15 Jan	N19E49	118	210	10	Dac	13	BG																
16 Jan	N19E40	114	400	18	Fki	13	BG					1											
17 Jan	N19E26	115	380	17	Fki	13	B	3				1	1										
18 Jan	N16E13	115	420	18	Fki	17	BG	2				6											
19 Jan	N16W01	116	350	16	Fki	21	BG	3				4											
20 Jan	N16W15	117	330	19	Fki	32	BG	2				3											
21 Jan	N16W29	118	270	18	Fki	29	BG	3				3											
22 Jan	N16W42	117	170	9	Dai	16	BG	3				1	1										
								17	0	0	0	22	2	0	0	0	0						

Still on Disk.

Absolute heliographic longitude: 116

**Region 3193**

15 Jan	S22W31	198	20	4	Cro	6	B														
16 Jan	S21W45	199	60	5	Dso	6	B														
17 Jan	S21W59	200	30	4	Cro	3	B														
18 Jan	S22W70	198	10	4	Bxo	2	B														
19 Jan	S22W84	199	plage																		
								0	0	0	0	0	0	0	0	0	0	0			

Crossed West Limb.

Absolute heliographic longitude: 198

**Region 3194**

15 Jan	S22E37	130	20	4	Cro	7	B														
16 Jan	S23E23	131	10	7	Bxo	7	B														
17 Jan	S23E10	131	0	6	Bxo	4	B														
18 Jan	S23W04	132	0	2	Bxo	2	B														
19 Jan	S23W18	133	10	3	Bxo	2	B														
20 Jan	S24W31	133	40	5	Cao	4	B														
21 Jan	S25W44	133	80	6	Cao	15	B	1				1									
22 Jan	S24W57	132	130	5	Dai	13	BGD	1	1			3	1								
								2	1	0	4	1	0	0	0	0					

Still on Disk.

Absolute heliographic longitude: 132



### *Region Summary - continued*

Date	Location		Sunspot Characteristics				Flares										
	Lat CMD	Lon	Helio 10 <sup>-6</sup> hemi.	Area	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical					
									C	M	X	S	1	2	3	4	
<b>Region 3195</b>																	
17 Jan	N11E04	137	30	5	Dro	8	B										
18 Jan	N20W09	137	30	6	Cro	5	B										
19 Jan	N21W24	139	10	7	Bxo	3	B										
20 Jan	N21W36	138	10	6	Bxo	4	B										
21 Jan	N21W50	139	plage														
22 Jan	N21W64	139	plage														
								0	0	0	0	0	0	0	0	0	0

Still on Disk.  
Absolute heliographic longitude: 137

<b>Region 3196</b>																	
18 Jan	N12E44	84	30	3	Dro	2	B	1									
19 Jan	N12E31	84	20	5	Dro	3	B	1	3			3					
20 Jan	N12E16	86	10	5	Bxo	4	B										
21 Jan	N12E02	87	10	1	Axx	1	A										
22 Jan	N12W12	87	10	4	Bxo	2	B										
								2	3	0	3	0	0	0	0	0	0

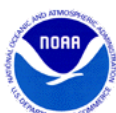
Still on Disk.  
Absolute heliographic longitude: 87

<b>Region 3197</b>																	
19 Jan	N24E46	69	10	4	Bxo	4	B										
20 Jan	N24E32	70	10	4	Bxo	4	B										
21 Jan	N24E18	71	10	4	Cro	8	B										
22 Jan	N24E04	71	10	4	Cro	8	B										
								0	0	0	0	0	0	0	0	0	0

Still on Disk.  
Absolute heliographic longitude: 71

<b>Region 3198</b>																	
19 Jan	N27E58	57	30	5	Cao	6	B										
20 Jan	N27E45	57	30	5	Cao	6	B										
21 Jan	N27E31	58	30	5	Cso	6	B										
22 Jan	N27E17	58	30	5	Cso	3	B										
								0	0	0	0	0	0	0	0	0	0

Still on Disk.  
Absolute heliographic longitude: 58



### *Region Summary - continued*

Date	Location		Sunspot Characteristics				Flares								
	Lat CMD	Lon	Helio 10 <sup>6</sup> hemi.	Area	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical			
									C	M	X	S	1	2	3

#### *Region 3199*

20 Jan	N15E61	40	40	5	Cao	5	B										
21 Jan	N15E47	42	90	5	Dai	10	B	1				2					
22 Jan	N15E33	42	90	5	Dai	10	B										
								1	0	0	2	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 42

#### *Region 3200*

22 Jan	N21E60	15	40	5	Cao	3	B										
								0	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 15



## ***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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