

Solar activity was at Low levels on 09 and 14 Dec, Moderate (R1-Minor) levels on 11-13, and 15 Dec, and High (R2-Moderate) levels on 10 Dec. Region 3922 (S18, L=292, class/area Cso/50 on 11 Dec) was responsible for the majority of the M-flare activity this period, producing seven total with the largest being an M6.3 flare at 10/0648 UTC. Region 3912 (S06, L=81, class/area Dai/220 on 09 Dec) added an M6.7, the largest flare of the period, at 11/1549 UTC. Region 3917 (S08, L=009, class/area Dkc/290 on 12 Dec) and Region 3920 (N23, L=330, class/area Eki/260 on 13 Dec) each added a couple of M-class flares as well. During the period there were a total of 106 C-class flares and 12 M-class flares. Multiple CMEs were observed in LASCO coronagraph imagery, with all front-sided events being deemed near-misses.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit was at normal to moderate levels on 09-11 Dec and 13-15 Dec, and reached High levels on 12 Dec.

Geomagnetic field activity ranged from quiet to active levels during the period. Positive polarity CH HSS influence prompted conditions to reach active levels on 09 and 14 Dec, while mostly quiet to unsettled conditions dominated 10-13 and 15 Dec.

### **Space Weather Outlook** **16 December - 11 January 2025**

Solar activity is expected to be at low levels with an increasing chance for moderate (R1/R2-Minor/Moderate) levels and a slight chance for high (R3-high) levels as several magnetically complex regions return the latter half of the period.

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 low to moderate levels.

Geomagnetic field activity is expected to be mostly quiet for 16 Dec - 04 Jan with no recurrent coronal holes expected to return. Isolated unsettled to active periods are possible on 05-06 Jan with a recurrent CH HSS. A return to quiet levels is expected on 07-09 Jan before another recurrent CH is expected to move into a geoeffective position for 10-11 Jan. Isolated active to G1 (Minor) storm levels could be reached with any unforeseen CME activity.



### 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
09 December	173	94	580	C1.2	17	0	0	3	1	0	0	0
10 December	172	125	540	C1.2	27	3	0	4	1	0	0	0
11 December	161	114	610	C1.1	11	3	0	4	1	0	0	0
12 December	161	91	610	C1.1	7	2	0	3	0	0	0	0
13 December	164	82	590	C1.1	16	4	0	8	0	0	0	0
14 December	171	86	660	C1.1	10	0	0	4	0	0	0	0
15 December	172	97	760	C1.4	19	0	0	5	1	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	
09 December	2.6e+05	1.5e+04	1.1e+06	
10 December	4.5e+04	1.4e+04	7.4e+06	
11 December	3.6e+04	1.4e+04	2.3e+07	
12 December	3.1e+04	1.4e+04	3.9e+07	
13 December	3.1e+04	1.4e+04	2.6e+07	
14 December	7.9e+04	1.4e+04	7.1e+06	
15 December	9.4e+05	1.4e+04	1.2e+06	

### Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
09 December	12	3-2-2-2-3-3-3-3	39	2-2-4-5-5-7-4-2	16	4-3-2-3-3-3-3-4
10 December	7	2-2-2-2-2-2-1-2	13	2-2-3-5-3-2-2-0	8	3-2-2-2-1-2-2-2
11 December	4	1-1-2-1-1-2-1-0	15	1-1-5-4-4-2-0-1	6	2-2-2-1-1-1-1-1
12 December	4	2-1-0-1-1-2-2-1	2	0-1-1-1-1-1-0-0	6	3-2-1-1-1-1-2-1
13 December	2	0-0-1-1-1-2-0-1	5	0-0-1-3-2-3-0-0	4	0-0-2-2-1-2-1-1
14 December	8	1-1-1-3-2-3-2-2	23	0-0-2-5-4-5-5-1	10	1-1-1-3-1-3-3-3
15 December	9	2-2-1-3-3-2-2-2	19	0-2-2-5-5-4-2-2	15	3-3-2-3-3-2-3-2

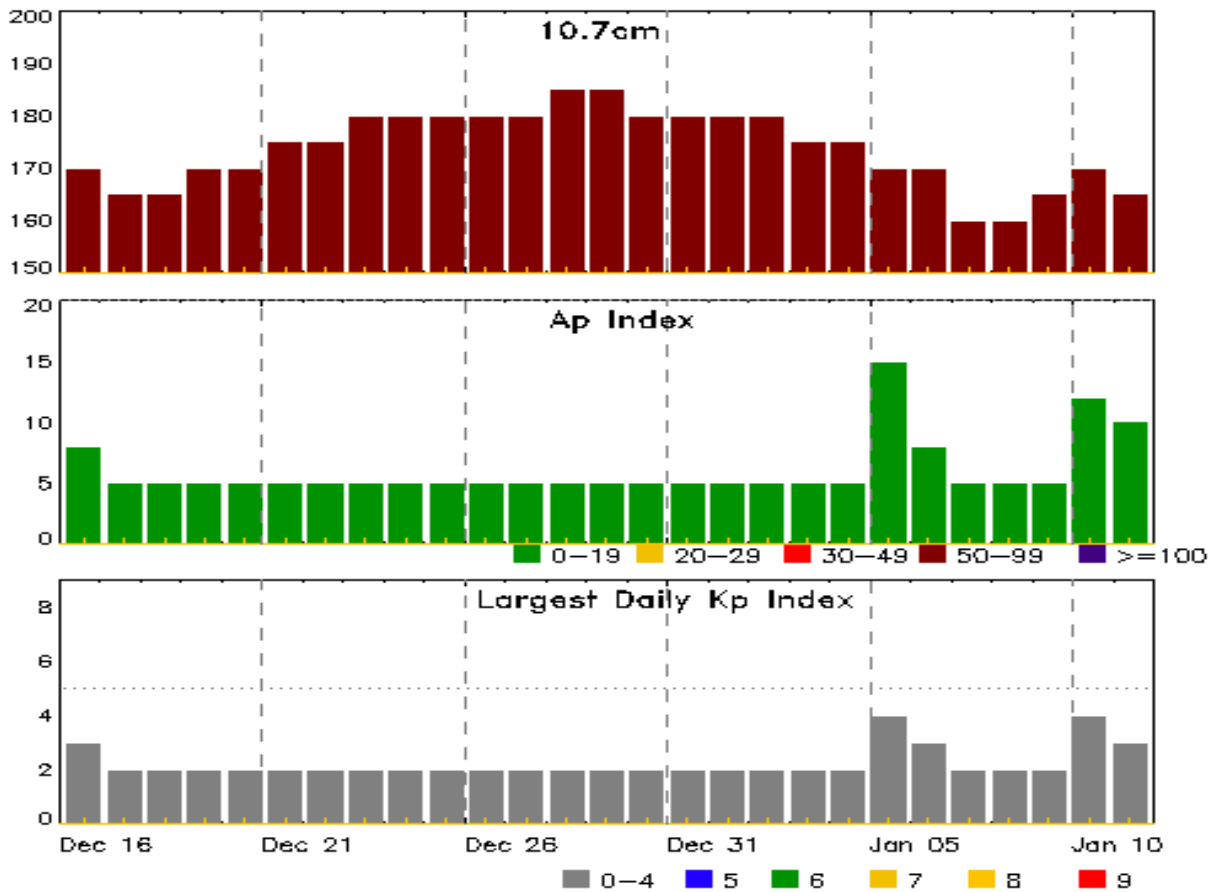


### *Alerts and Warnings Issued*

<b>Date &amp; Time of Issue UTC</b>	<b>Type of Alert or Warning</b>	<b>Date &amp; Time of Event UTC</b>
09 Dec 0131	WARNING: Geomagnetic K = 4	09/0130 - 1500
09 Dec 0216	ALERT: Geomagnetic K = 4	
09 Dec 2218	WARNING: Geomagnetic K = 4	09/2217 - 10/0900
10 Dec 0002	ALERT: Geomagnetic K = 4	
10 Dec 0650	ALERT: X-ray Flux exceeded M5	10/0647
10 Dec 0714	SUMMARY: X-ray Event exceeded M5	10/0636 - 0655
11 Dec 1550	ALERT: X-ray Flux exceeded M5	11/1548
11 Dec 1610	SUMMARY: X-ray Event exceeded M5	11/1532 - 1556
12 Dec 1504	ALERT: Electron 2MeV Integral Flux $\geq$ 1000pfu	12/1445
14 Dec 1640	WARNING: Geomagnetic K = 4	14/1637 - 2359
14 Dec 2356	EXTENDED WARNING: Geomagnetic K = 4	14/1637 - 15/0600
15 Dec 1707	ALERT: Type II Radio Emission	15/1427



## Twenty-seven Day Outlook



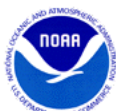
Date	Radio Flux 10.7cm	Planetary A Index	Largest Kp Index	Date	Radio Flux 10.7cm	Planetary A Index	Largest Kp Index
16 Dec	170	8	3	30 Dec	180	5	2
17	165	5	2	31	180	5	2
18	165	5	2	01 Jan	180	5	2
19	170	5	2	02	180	5	2
20	170	5	2	03	175	5	2
21	175	5	2	04	175	5	2
22	175	5	2	05	170	15	4
23	180	5	2	06	170	8	3
24	180	5	2	07	160	5	2
25	180	5	2	08	160	5	2
26	180	5	2	09	165	5	2
27	180	5	2	10	170	12	4
28	185	5	2	11	165	10	3
29	185	5	2				

### ***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
10 Dec	0703	0709	0714	M1.4	0.007			3922				
10 Dec	1055	1102	1109	M1.5	0.008			3922	120		100	
10 Dec	1754	1758	1803	M1.6	0.001			3922				
11 Dec	0554	0604	0609	M1.9	0.007			3922				
11 Dec	1003	1006	1010	M2.7	0.006	1F	N19E16	3920	2200			
11 Dec	1532	1549	1556	M6.7	0.041			3912				
12 Dec	1731	1743	1750	M2.2	0.011			3922	4100			
12 Dec	2058	2107	2112	M1.6	0.006			3922	140			
13 Dec	0311	0318	0322	M1.0	0.001	SF	S18E37	3922	3900			
13 Dec	1113	1124	1130	M2.0	0.010	SF	S08W49	3917				
13 Dec	1415	1424	1431	M1.0	0.005			3922	29000		100	
13 Dec	1714	1721	1727	M0.9	0.006			3917				

### ***Flare List***

Date	Time			X-ray Class	Optical		
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	Rgn #
09 Dec	0046	0053	0057	C2.7			3913
09 Dec	0119	0130	0143	C3.6			3917
09 Dec	0207	0210	0214	C2.6			3913
09 Dec	0410	0421	0431	C2.4			3920
09 Dec	0442	0447	0451	C2.2			3913
09 Dec	0612	0620	0638	C4.4	SF	S06W66	3912
09 Dec	0740	0745	0756	C2.5			3917
09 Dec	0816	0824	0828	C2.1			3917
09 Dec	0936	0942	0946	C2.8			3912
09 Dec	1005	1015	1021	C3.7			3917
09 Dec	1208	1227	1235	C6.3			3912
09 Dec	1420	1427	1433	C1.7			
09 Dec	1503	1512	1525	C2.5	SF	S04W75	3912
09 Dec	1558	1612	1620	C8.4	1F	S04W75	3912
09 Dec	1937	1947	1953	C2.9			3912
09 Dec	2229	2240	2258	C2.3	SF	S05W80	3912
09 Dec	2326	2330	2339	C2.5			3912
10 Dec	0142	0148	0153	C1.7			3916
10 Dec	0153	0202	0206	C1.8			3922



## *Flare List*

Date	Time			Optical			Rgn #
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	
10 Dec	0252	0302	0310	C2.6			3922
10 Dec	0312	0327	0336	C9.7			3922
10 Dec	0505	0515	0525	C3.0			3912
10 Dec	0554	0607	0611	C2.7			3912
10 Dec	0611	0616	0622	C3.3			3922
10 Dec	0622	0631	0636	C5.3			3922
10 Dec	0703	0709	0714	M1.4			3922
10 Dec	0949	0953	1000	C2.0			3912
10 Dec	1045	1049	1055	C2.1			3912
10 Dec	1055	1102	1109	M1.5			3922
10 Dec	1208	1217	1229	C2.6			3912
10 Dec	1334	1342	1348	C2.6			3920
10 Dec	1436	1443	1447	C2.8			3920
10 Dec	1505	1512	1517	C2.5			3917
10 Dec	1526	1533	1537	C5.9			3912
10 Dec	1610	1620	1624	C4.9			3917
10 Dec	1649	1749	1821		1F	N21E25	3920
10 Dec	1707	1712	1719	C2.1			3920
10 Dec	1719	1722	1727	C2.2			3920
10 Dec	1736	1739	1743	C2.1			3920
10 Dec	1743	1749	1754	C3.3			3920
10 Dec	1754	1758	1803	M1.6			3922
10 Dec	1834	1842	1856		SF	N21E24	3920
10 Dec	1913	1918	1926	C3.0	SF	S08W07	3917
10 Dec	1938	1943	1950	C2.2			3920
10 Dec	1950	1954	1958	C2.2			3912
10 Dec	2014	2015	2017		SF	N20E24	3920
10 Dec	2047	2053	2059	C5.8			3912
10 Dec	2054	2056	2102		SF	N20E23	3920
10 Dec	2134	2141	2204	C2.1			3922
10 Dec	2210	2221	2231	C8.3			3912
10 Dec	2253	2258	2302	C3.5			3920
11 Dec	0143	0157	0208	C2.3			3920
11 Dec	0208	0212	0216	C3.1			3920
11 Dec	0320	0326	0330	C6.9			3920
11 Dec	0348	0400	0407	C3.9			3912
11 Dec	0554	0604	0609	M1.9			3922
11 Dec	0655	0704	0717	C2.7			3920



## *Flare List*

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
11 Dec	0822	0824	0826		SF	S09W24	3916
11 Dec	0858	0908	0915	C1.9			3920
11 Dec	1003	1006	1010	M2.7	1F	N19E16	3920
11 Dec	1116	1120	1124	C3.8			3920
11 Dec	1137	1142	1146	C5.7	SN	S15W29	3916
11 Dec	1412	1420	1427	C3.1			3917
11 Dec	B1430	1430	1446		SF	S08W21	3917
11 Dec	1532	1549	1556	M6.7			3912
11 Dec	1723	1733	1740	C2.4			3912
11 Dec	1954	1956	2008		SF	S16E53	3922
11 Dec	2242	2248	2252	C3.8			3922
12 Dec	0348	0401	0408	C3.9			3917
12 Dec	0614	0621	0625	C2.3			3922
12 Dec	0707	0717	0725	C1.9	SF	S08W30	3917
12 Dec	1237	1246	1250	C3.3	SF	S08W33	3917
12 Dec	B1427	U1427	A1434		SF	S09E05	
12 Dec	1530	1540	1550	C4.5			3917
12 Dec	1731	1743	1750	M2.2			3922
12 Dec	1850	1859	1910	C2.6			3917
12 Dec	2046	2054	2058	C1.5			3920
12 Dec	2058	2107	2112	M1.6			3922
13 Dec	0011	0017	0023	C3.1	SF	S07W39	3917
13 Dec	0221	0230	0234	C2.1			3916
13 Dec	0234	0239	0243	C2.2			3916
13 Dec	0311	0318	0322	M1.0	SF	S18E37	3922
13 Dec	0332	0342	0347	C9.2	SF	S17E38	3922
13 Dec	0753	0759	0803	C1.6	SF	N22W03	3920
13 Dec	0905	0909	0914	C1.8			3922
13 Dec	0950	0958	1016	C2.0			
13 Dec	1113	1124	1130	M2.0	SF	S08W49	3917
13 Dec	1258	1309	1318	C4.2	SF	S09W48	3917
13 Dec	1415	1424	1431	M1.0			3922
13 Dec	1630	1639	1647	C5.1			3917
13 Dec	1657	1708	1714	C4.1			3917
13 Dec	1714	1721	1727	M0.9			3917
13 Dec	1926	1935	1943	C2.0			3917
13 Dec	2011	2015	2020	C1.7			3917
13 Dec	2020	2023	2032	C1.7			3917



## *Flare List*

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
13 Dec	2041	2050	2103	C4.7	SF	S07W51	3917
13 Dec	2135	2138	2142	C2.2			3924
13 Dec	2317	2325	2337	C2.6	SF	S17E38	3922
14 Dec	0012	0020	0029	C1.9			3924
14 Dec	0125	0136	0140	C3.0			3922
14 Dec	0140	0147	0154	C4.2			
14 Dec	0145	0153	0200		SF	S18E63	
14 Dec	0224	0231	0235	C2.4			3917
14 Dec	0620	0627	0632	C3.7			3917
14 Dec	0818	0907	0931	C3.2			3917
14 Dec	0931	0936	0942	C2.8			
14 Dec	1236	1242	1253	C1.6			
14 Dec	1451	1503	1509	C2.7			3916
14 Dec	1712	1729	1745	C6.0	SF	S15W10	3924
14 Dec	1724	1730	1732		SF	S13W77	3916
14 Dec	2123	2124	2126		SF	S13W79	3916
15 Dec	0006	0015	0023	C2.6			3917
15 Dec	0023	0031	0033	C2.6			
15 Dec	0033	0107	0109	C3.7			3920
15 Dec	0109	0117	0121	C4.0			3920
15 Dec	0121	0126	0132	C4.2			3924
15 Dec	0455	0507	0513	C3.2			3921
15 Dec	0927	0940	0947	C7.2			3917
15 Dec	0947	0953	0958	C5.9			3917
15 Dec	1054	1101	1125	C2.9	SF	S10W79	3917
15 Dec	1339	1343	1348	C2.4			3917
15 Dec	1348	1351	1355	C3.1			3917
15 Dec	1407	1414	1418	C3.3			3917
15 Dec	1522	1525	1529	C2.4			
15 Dec	1728	1738	1747	C2.2			3917
15 Dec	1924	1928	1932	C2.6	SF	S21E03	3922
15 Dec	2021	2101	2115	C7.6			
15 Dec	2022	2023	2117	C7.6	1N	N20W44	3917
15 Dec	2234	2243	2251	C3.4	SF	S18W24	3924
15 Dec	2250	2252	2302		SF	S16W26	3924
15 Dec	2343	2349	0001	C2.4	SF	S19W27	3924





## Region Summary

Date	Location	Sunspot Characteristics						Flares							
	Lat CMD	Helio	Area 10 <sup>-6</sup> hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical				
		Lon						C	M	X	S	1	2	3	4
Region 3910															
25 Nov	N16E83	108	plage						1						
26 Nov	N16E69	108		250	8	Dko	6	B	2		1				
27 Nov	N17E55	110		250	7	Dko	1	BG	3						
28 Nov	N16E42	111		250	6	Dko	6	BG							
29 Nov	N16E28	110	250	5	Cko	6	B	1			1				
30 Nov	N16E14	111	230	4	Cso	3	B								
01 Dec	N16W00	112	220	4	Hsx	1	A								
02 Dec	N16W14	113	230	8	Cso	4	B								
03 Dec	N16W25	111	170	8	Cso	9	B								
04 Dec	N15W39	111	140	7	Dso	3	B								
05 Dec	N16W47	106	140	4	Hax	1	A								
06 Dec	N16W61	107	140	3	Hax	1	A								
07 Dec	N16W73	106	150	1	Hsx	1	A				2				
08 Dec	N16W86	106	150	3	Hsx	1	A								
								6	1	0	4	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 112

<b>Region 3912</b>															
28 Nov	S04E66	87	110	11	Eso	2	B	2							
29 Nov	S04E50	88	120	9	Dso	2	B	1							
30 Nov	S04E36	89	190	13	Eso	11	BG	2							
01 Dec	S05E41	71	90	11	Esi	9	BG								
02 Dec	S05E27	72	100	12	Esi	10	BG	2			3				
03 Dec	S05E11	75	160	14	Eai	16	B	1			1				
04 Dec	S06W02	74	180	14	Eai	12	BG				1				
05 Dec	S06W16	75	180	10	Dai	9	B	1			1				
06 Dec	S06W30	76	200	7	Cao	13	B	5			3				
07 Dec	S07W47	80	220	7	Dai	12	BG	6			8				
08 Dec	S06W61	81	200	7	Dao	7	B	7	1	1	1	1	1		
09 Dec	S06W75	81	220	5	Dai	5	BG	8			3	1			
10 Dec	S06W91	83	180	4	Dai	5	BG	9							
								44	1	1	21	2	1	0	0

Crossed West Limb.

Absolute heliographic longitude: 74



### *Region Summary - continued*

Location		Sunspot Characteristics					Flares							
Date	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

#### *Region 3913*

01 Dec	S06E24	88	40	3	Cro	2	B								
02 Dec	S06E10	89	30	5	Cro	2	B								
03 Dec	S06W06	92	10	1	Hrx	1	A								
04 Dec	S07W20	92	10	6	Bxo	3	B								
05 Dec	S07W33	92	30	7	Bxo	6	B								
06 Dec	S07W47	93	10	2	Bxo	3	B								
07 Dec	S07W61	94	plage												
08 Dec	S07W75	95	plage												
09 Dec	S07W90	97	plage					3							
								3	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 92

#### *Region 3915*

02 Dec	N13E67	31	10	3	Bxo	4	B								
03 Dec	N15E56	30	10	4	Bxo	3	B	1			2				
04 Dec	N14E41	31	10	4	Bxo	2	B								
05 Dec	N14E27	32	10	3	Bxo	2	B								
06 Dec	N12E12	34	10	3	Bxo	2	B								
07 Dec	N12W02	35	10	1	Axx	1	A								
08 Dec	N12W16	36	plage												
09 Dec	N12W30	37	plage												
10 Dec	N12W44	37	plage												
11 Dec	N12W58	38	plage												
12 Dec	N12W72	39	plage												
13 Dec	N12W86	40	plage												
								1	0	0	2	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 35



### *Region Summary - continued*

Date	Location	Sunspot Characteristics						Flares							
	Lat CMD	Helio	Area 10 <sup>-6</sup> hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical				
		Lon						C	M	X	S	1	2	3	4
Region 3916															
03 Dec	S16E72	15	40	8	Cai	5	B	4							
04 Dec	S16E58	14	40	8	Cai	6	B	1	1			2			
05 Dec	S16E42	17	160	8	Dai	6	BG	1				1			
06 Dec	S16E28	18	170	9	Dai	6	B	1				1			
07 Dec	S15E15	18	150	8	Dac	4	B	1							
08 Dec	S15E01	19	170	8	Dac	12	BG	1				1			
09 Dec	S15W12	18	40	8	Cro	8	B								
10 Dec	S15W28	20	30	8	Cri	10	B	1							
11 Dec	S15W40	20	10	6	Bxo	3	B	1				2			
12 Dec	S15W54	21	plage												
13 Dec	S15W68	22	plage					2							
14 Dec	S15W82	23	plage					1				2			
								14	1	0	9	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 19

### **Region 3917**

04 Dec	S09E61	10	30	4	Cao	5	B		1		1				
05 Dec	S08E51	8	90	7	Dri	6	BG	2	1		1				
06 Dec	S08E37	9	180	8	Dao	7	BG	6	1		1				
07 Dec	S07E24	9	200	8	Dac	12	BD	8	2		5				
08 Dec	S07E11	9	210	10	Dac	15	B	3			1				
09 Dec	S08W02	8	220	10	Dao	12	BG	4							
10 Dec	S08W14	7	230	11	Eac	20	BG	3			1				
11 Dec	S08W28	8	280	9	Dki	23	BG	1			1				
12 Dec	S08W42	9	290	9	Dkc	16	BGD	5			2				
13 Dec	S08W56	10	260	6	Dkc	13	BGD	8	2		4				
14 Dec	S07W70	11	270	7	Dko	9	BG	3							
15 Dec	S07W83	10	260	7	Dko	6	B	9			1				
								52	7	0	18	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 8



### ***Region Summary - continued***

Location		Sunspot Characteristics					Flares							
Date	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

#### ***Region 3918***

05 Dec	N13W47	106	30	2	Hrx	1	A								
06 Dec	N13W61	107	30	1	Hsx	1	A								
07 Dec	N13W75	108	10	1	Axx	1	A								
08 Dec	N13W89	109	plage												
								0	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 106

#### ***Region 3919***

08 Dec	S14E08	12	50	4	Cso	2	B								
09 Dec	S14W06	12	10	2	Bxo	2	B								
10 Dec	S14W20	13	plage												
11 Dec	S14W34	14	plage												
12 Dec	S14W48	15	plage												
13 Dec	S14W62	16	plage												
14 Dec	S13W76	17	plage												
15 Dec	S13W90	17	plage												
								0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 12

#### ***Region 3920***

08 Dec	N22E52	326	90	9	Csi	6	B								
09 Dec	N22E38	329	70	7	Cso	6	B	1							
10 Dec	N22E24	329	60	7	Dso	12	B	8			3	1			
11 Dec	N22E10	330	250	11	Eki	21	BD	6	1			1			
12 Dec	N22W02	329	250	13	Eki	18	BD	1							
13 Dec	N23W16	330	260	12	Eki	14	BD	1			1				
14 Dec	N22W29	330	180	12	Eao	12	BG								
15 Dec	N22W42	329	160	11	Eao	6	B	2				1			
								19	1	0	4	3	0	0	0

Still on Disk.

Absolute heliographic longitude: 329



### ***Region Summary - continued***

Date	Location	Sunspot Characteristics						Flares							
	Lat CMD	Helio	Area 10 <sup>-6</sup> hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical				
		Lon						C	M	X	S	1	2	3	4
Region 3921															
09 Dec	S07E12	355	20	1	Hrx	1	A								
10 Dec	S07W01	354	10	1	Hrx	1	A								
11 Dec	S06W13	353	10	1	Axx	1	A								
12 Dec	S06W28	355	10	1	Axx	1	A								
13 Dec	S06W42	356	plage												
14 Dec	S06W56	357	plage												
15 Dec	S06W71	358	plage					1							
								1	0	0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 354

<b><i>Region 3922</i></b>															
10 Dec	S17E59	294	20	3	Cro	4	B	6	3						
11 Dec	S18E48	292	50	6	Cso	5	B	1	1		1				
12 Dec	S18E36	291	30	6	Cao	3	B	1	2						
13 Dec	S18E22	292	20	5	Cso	5	B	3	2		3				
14 Dec	S18E09	292	plage					1							
15 Dec	S18W03	290	30	4	Cso	5	B	1			1				
								13	8	0	5	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 290

<b><i>Region 3923</i></b>															
10 Dec	N24W30	23	10	3	Bxo	3	B								
11 Dec	N24W40	20	10	1	Axx	1	A								
12 Dec	N24W54	21	plage												
13 Dec	N24W68	22	plage												
14 Dec	N24W82	23	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 <sup>-6</sup> hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4
Region 3924															
12 Dec	S20E12	315	30	5	Cro	3	B								
13 Dec	S20W02	316	50	6	Dao	10	BG	1							
14 Dec	S19W16	317	200	9	Dai	23	BG	2			1				
15 Dec	S19W29	316	190	10	Dsi	18	BG	3			3				
								6	0	0	4	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 316

### ***Region 3925***

14 Dec	N10E49	252	10	2	Axx	2	A								
15 Dec	N10E36	251	10	1	Axx	1	A								
								0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 251

### ***Region 3926***

15 Dec	S20E67	220	110	3	Hsx	1	A								
								0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 220



## ***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.  
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