

Solar activity was at very low to low levels. Numerous weak to moderate level C-class flares were observed from Regions 2320 (S12, L=211, class/area Dac/180 on 07 Apr), 2321 (N13, L=095, class/area Ekc/620 on 13 Apr) and 2324 (N18, L=062, class/area Dko/410 on 15 Apr). The most significant event of the period occurred from Region 2321 on 18 April when the region produced a C5/1f flare at 18/1419 UTC. Associated with this event was a 7 degree long filament eruption, centered near N05W16. The filament eruption resulted in an asymmetric, faint full-halo CME, first visible in SOHO/LASCO C2 imagery at 18/1524 UTC.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit was at normal levels on 13-15 April and high levels on 16-19 April.

Geomagnetic field activity began the period on 13-14 April at quiet to active levels under the influence of a weak transient. By midday on 15 April, field activity increased to active to minor storm (G1-minor) levels as a co-rotating interaction region (CIR), in advance of a negative polarity coronal hole high speed stream (CH HSS), influenced the magnetic field of Earth. Geomagnetic activity increased to major storm (G2-moderate) levels late on 16 April due to CH HSS effects and continued at active to minor storm levels through midday on 17 April. Field activity relaxed to quiet to unsettled levels through the remainder of the summary period as CH HSS effects waned.

During the period, ACE solar wind parameters measured a high wind speed of 784 km/s on 17/0408 UTC with a low speed of 286 km/s on 14/0004 UTC. Total field (Bt) ranged from about 1-17 nT while the Bz component varied between +13 to -12 nT. The phi angle was generally in a negative (towards) orientation with intermittent periods of rotation to a positive (away) sector.

Space Weather Outlook **20 April - 16 May 2015**

Solar activity is expected to be very low to low with a slight chance for moderate (R1-R2/minor-moderate) levels through 24 April due to the flare potential from Region 2321. Very low to low levels are expected from 25 April through 06 May. From 06-16 May, activity levels are expected to increase to a chance for (R1-R2/minor-moderate) levels upon the return of old Region 2321 (N11, L=092).

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

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at moderate to high levels from 20 April-06 May, normal to moderate levels from 07-12 May and moderate to high levels from 13-16 May.

Geomagnetic field activity is expected to be at G1 (minor) geomagnetic storm levels on 21 and



22 April due to CME effects. Field activity is expected to be at G1 (minor) geomagnetic storm levels on 14 May with unsettled to active conditions expected on 20, 25, 29-30 April and 01, 13 and 15 May, all due to CH HSS effects. Quiet to unsettled field activity is expected for 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
13 April	141	68	740	B7.8	9	0	0	16	1	0	0	0
14 April	147	97	1290	B6.6	0	0	0	1	0	0	0	0
15 April	155	85	1150	B6.7	2	0	0	4	0	1	0	0
16 April	150	85	920	B7.5	7	0	0	12	2	0	0	0
17 April	150	93	880	B5.4	6	0	0	7	0	0	0	0
18 April	148	114	840	B5.3	3	0	0	4	2	0	0	0
19 April	152	142	880	B5.4	3	0	0	0	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	>100 MeV	>0.6 MeV	>2MeV	>4 MeV
	13 April	9.5e+04	1.1e+04	2.4e+03		7.0e+05
14 April	2.7e+05	1.1e+04	2.4e+03		7.4e+05	
15 April	7.2e+05	1.2e+04	2.4e+03		6.1e+05	
16 April	1.3e+06	1.0e+04	2.4e+03		2.7e+07	
17 April	6.0e+05	9.7e+03	2.3e+03		5.9e+07	
18 April	6.3e+05	9.5e+03	2.4e+03		1.5e+08	
19 April	3.9e+05	1.0e+04	2.5e+03		2.3e+08	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	13 April	12	3-3-2-2-3-3-3-1	9	2-2-2-4-2-2-1-1	8
14 April	9	0-1-1-2-3-3-3-3	17	1-0-2-2-5-5-3-2	13	1-1-2-2-3-4-4-4
15 April	20	2-3-3-4-5-3-3-3	31	1-2-2-5-6-4-5-4	29	2-3-3-5-5-4-5-4
16 April	28	5-4-4-4-3-3-3-5	57	4-6-6-6-6-5-5-3	43	5-5-5-4-3-4-5-6
17 April	20	5-5-3-2-3-2-3-2	28	4-5-5-5-4-3-2-1	25	5-5-4-3-3-2-3-2
18 April	10	3-2-2-3-3-2-2-2	17	2-2-4-5-3-3-2-2	13	3-2-3-3-2-3-3-3
19 April	9	3-3-2-2-2-2-2-2	8	2-2-2-3-2-2-1-2	9	3-3-2-2-2-2-2-2



Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
13 Apr 0005	ALERT: Type II Radio Emission	12/2335
13 Apr 1521	WARNING: Geomagnetic K = 4	13/1521 - 2000
13 Apr 1958	WATCH: Geomagnetic Storm Category G1 predicted	
14 Apr 1507	WARNING: Geomagnetic K = 4	14/1506 - 2000
14 Apr 1645	ALERT: Geomagnetic K = 4	14/1639
14 Apr 1742	WARNING: Geomagnetic K = 5	14/1745 - 2200
14 Apr 1744	WATCH: Geomagnetic Storm Category G1 predicted	
14 Apr 2021	WARNING: Geomagnetic K = 4	14/2020 - 2300
14 Apr 2114	ALERT: Geomagnetic K = 4	14/2057
14 Apr 2154	EXTENDED WARNING: Geomagnetic K = 4	14/2020 - 15/1600
14 Apr 2154	EXTENDED WARNING: Geomagnetic K = 5	14/1745 - 15/0400
15 Apr 0508	WARNING: Geomagnetic K = 5	15/0508 - 1300
15 Apr 1128	ALERT: Geomagnetic K = 5	15/1123
15 Apr 1224	EXTENDED WARNING: Geomagnetic K = 5	15/0508 - 1900
15 Apr 1407	WARNING: Geomagnetic K = 6	15/1405 - 1900
15 Apr 1555	EXTENDED WARNING: Geomagnetic K = 4	14/2020 - 15/2200
15 Apr 1856	EXTENDED WARNING: Geomagnetic K = 5	15/0508 - 2200
15 Apr 2158	EXTENDED WARNING: Geomagnetic K = 4	14/2020 - 16/1400
15 Apr 2158	EXTENDED WARNING: Geomagnetic K = 5	15/0508 - 16/0700
16 Apr 0634	EXTENDED WARNING: Geomagnetic K = 4	14/2020 - 16/1600
16 Apr 0634	EXTENDED WARNING: Geomagnetic K = 5	15/0508 - 16/1400
16 Apr 1338	EXTENDED WARNING: Geomagnetic K = 5	15/0508 - 16/1800
16 Apr 1339	EXTENDED WARNING: Geomagnetic K = 4	14/2020 - 16/2100
16 Apr 1346	ALERT: Electron 2MeV Integral Flux \geq 1000pfu	16/1330
16 Apr 1736	WATCH: Geomagnetic Storm Category G1 predicted	
16 Apr 1737	EXTENDED WARNING: Geomagnetic K = 5	15/0508 - 17/0700
16 Apr 1737	EXTENDED WARNING: Geomagnetic K = 4	14/2020 - 17/0900
16 Apr 2321	WARNING: Geomagnetic K = 6	16/2321 - 17/0100
16 Apr 2328	EXTENDED WARNING: Geomagnetic K = 6	16/2321 - 17/0400

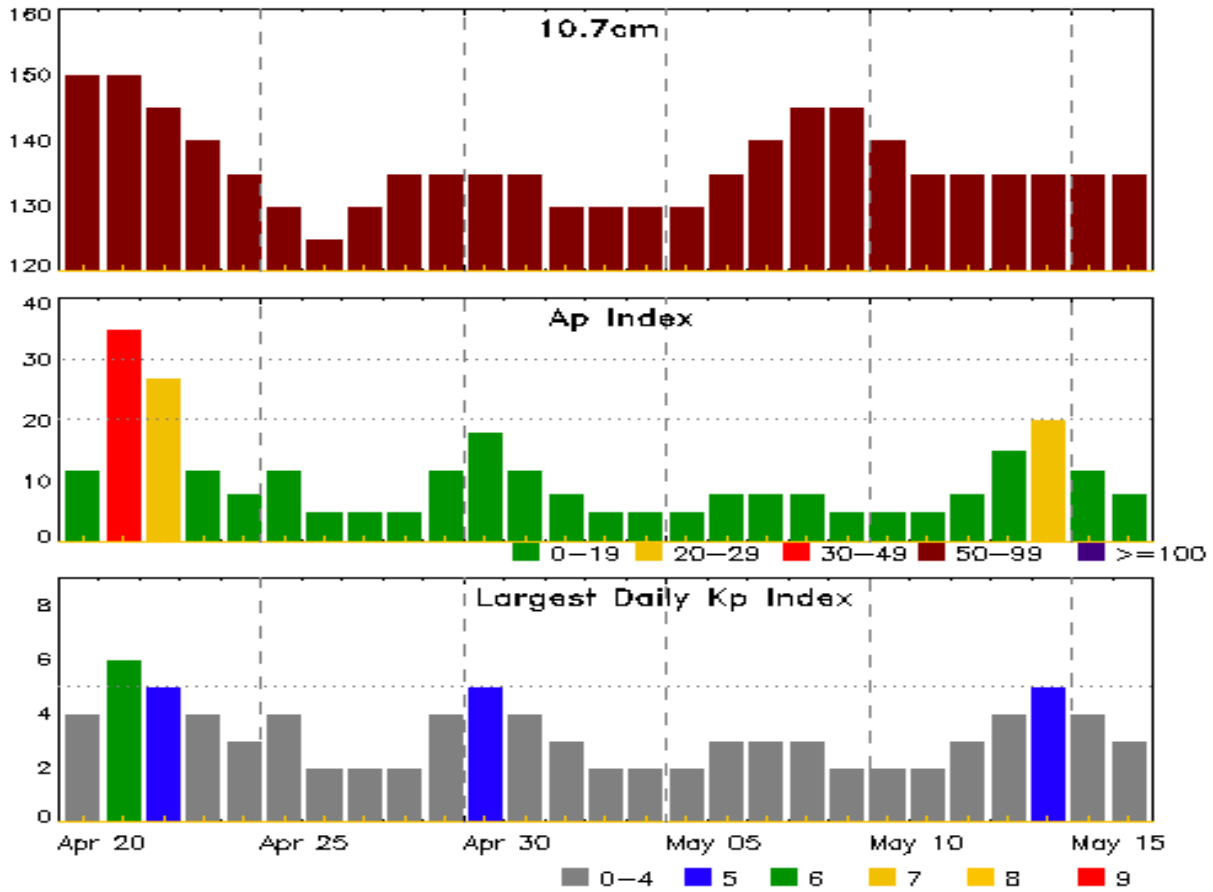


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
16 Apr 2328	ALERT: Geomagnetic K = 6	16/2327
16 Apr 2356	WATCH: Geomagnetic Storm Category G2 predicted	
17 Apr 0657	EXTENDED WARNING: Geomagnetic K = 4	14/2020 - 17/1300
17 Apr 0657	EXTENDED WARNING: Geomagnetic K = 5	15/0508 - 17/1000
17 Apr 1255	EXTENDED WARNING: Geomagnetic K = 4	14/2020 - 17/2200
17 Apr 1351	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	16/1330
17 Apr 2114	EXTENDED WARNING: Geomagnetic K = 4	14/2020 - 18/0700
18 Apr 1006	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	16/1330
19 Apr 0513	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	16/1330
19 Apr 2153	WATCH: Geomagnetic Storm Category G1 predicted	



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
20 Apr	150	12	4	04 May	130	5	2
21	150	35	6	05	130	5	2
22	145	27	5	06	135	8	3
23	140	12	4	07	140	8	3
24	135	8	3	08	145	8	3
25	130	12	4	09	145	5	2
26	125	5	2	10	140	5	2
27	130	5	2	11	135	5	2
28	135	5	2	12	135	8	3
29	135	12	4	13	135	15	4
30	135	18	5	14	135	20	5
01 May	135	12	4	15	135	12	4
02	130	8	3	16	135	8	3
03	130	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

No Events Observed

Flare List

Date	Time			X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
	Begin	Max	End				
13 Apr	0000	2335	0044		1F	S16W60	2320
13 Apr	0125	0127	0133		SF	N10E54	2321
13 Apr	0210	0211	0213		SF	N12E28	2322
13 Apr	0239	0243	0247	C2.1	SF	N12E57	2321
13 Apr	0340	0342	0351		SF	S19W50	2323
13 Apr	0357	0400	0405	C4.3	SF	S14W73	2320
13 Apr	0512	0513	0516		SF	S14W74	2320
13 Apr	0633	0637	0639	C1.6	SF	N12E24	2322
13 Apr	0726	0730	0733	C1.2			2320
13 Apr	0802	0802	0807		SF	S15W68	2320
13 Apr	0821	0826	0828	C4.7	SF	N15E26	2322
13 Apr	0842	0843	0845		SF	N14E62	2321
13 Apr	0902	0903	0912		SF	S16W72	2320
13 Apr	0920	0921	0922		SF	S15W81	2320
13 Apr	1006	1011	1014	C1.9	SF	S16W73	2320
13 Apr	1128	1135	1139	C2.3	SF	S16W74	2320
13 Apr	1136	1137	1142		SF	N13E59	2320
13 Apr	1314	1318	1321	C1.4	SF	S16W74	2320
13 Apr	2309	2323	2326	C2.9			2320
14 Apr	2235	2235	2246		SF	N11E41	2321
15 Apr	1135	1142	1153	C1.5	SF	N14E22	2321
15 Apr	1232	1232	1242		SF	N13E20	2321
15 Apr	1254	1302	1317		SF	N24E56	2324
15 Apr	1523	1528	1543		SF	N15W04	2322
15 Apr	2013	2021	2135	C7.8	2N	N10E15	2321
16 Apr	0525	0605	0619	C2.0	1F	N10E20	2321
16 Apr	0604	0604	0610		SF	N24E49	2324
16 Apr	0646	0651	0658		SF	N24E49	2324
16 Apr	0900	0907	0914	C5.7	1F	N25E48	2324
16 Apr	0919	0921	0927		SF	N13E10	2321
16 Apr	0957	1015	1018		SF	N13E11	2321



Flare List

Date	Time			X-ray Class	Optical		Rgn #
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	
16 Apr	1107	1126	1147		SF	N13E09	2321
16 Apr	1114	1114	1116		SF	N23E40	2324
16 Apr	1117	1122	1130	C2.3			2321
16 Apr	1131	1136	1142		SF	N21E46	2324
16 Apr	1223	1400	1412	C2.0	SF	N12E05	2321
16 Apr	1345	1347	1353		SF	N24E47	2324
16 Apr	1452	1453	1518		SF	N24E46	2324
16 Apr	1530	1532	1545		SF	N24E46	2324
16 Apr	1616	1618	1639	C1.8	SF	N12E02	2321
16 Apr	1804	1811	1824	C1.4			2324
16 Apr	1907	1918	1934	C3.3			2325
17 Apr	0109	0137	0144	C2.6			2325
17 Apr	0446	0457	0502	C1.1			2324
17 Apr	0523	0528	0532	C1.5			2324
17 Apr	0927	0932	0939	C1.1	SF	N08E43	2325
17 Apr	0953	0955	1004		SF	N24E33	2324
17 Apr	1133	U1139	A1143		SF	N07E43	2325
17 Apr	1231	1237	1244	C1.0	SF	N08E41	2325
17 Apr	1445	1445	1510		SF	N18E31	2324
17 Apr	1552	1552	1558		SF	N09W10	2321
17 Apr	1756	1802	1807	C1.2	SF	N18E27	2324
18 Apr	1114	1116	1128		SF	N21E17	2324
18 Apr	1326	1337	1346	C2.3	SF	N01E26	2325
18 Apr	1334	U1335	A1409		SF	N19E16	2324
18 Apr	1403	1408	1520	C5.2	1F	N10W15	2321
18 Apr	1809	1825	1838	C2.9	1F	N11W22	2321
18 Apr	2140	2144	2149	B8.2	SF	N18E17	2324
19 Apr	0052	0057	0103	C1.5			2324
19 Apr	0320	0330	0339	C1.4			2321
19 Apr	0551	0604	0615	B9.3			2324
19 Apr	0640	0719	0745	C2.2			



Region Summary

Date	Location		Sunspot Characteristics				Flares																
	Lat CMD	Helio Lon	Area 10 ⁶ hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical												
								C	M	X	S	1	2	3	4								
Region 2318																							
03 Apr	N09E69	198	20	4	Cro	3	B																
04 Apr	N09E57	197	40	7	Dao	6	B	1															
05 Apr	N10E41	199	50	8	Dao	9	B					1											
06 Apr	N09E28	199	40	8	Cai	10	B	1															
07 Apr	N07E17	196	100	8	Cao	4	B					1											
08 Apr	N08E02	198	30	8	Cao	4	B																
09 Apr	N08W08	195	10	5	Bxo	4	B																
10 Apr	N07W23	197	10	2	Axx	3	A																
11 Apr	N08W38	199	10	1	Axx	1	A																
12 Apr	N08W52	200	plage																				
13 Apr	N08W66	201	plage																				
14 Apr	N08W80	202	plage																				
												2	0	0	2	0	0	0	0	0			

Crossed West Limb.
Absolute heliographic longitude: 198

Region 2320																							
04 Apr	S12E40	214	30	4	Dao	9	B	1															
05 Apr	S12E28	212	140	5	Dai	14	B	1															
06 Apr	S12E16	211	150	8	Dai	24	BG	1				2	1										
07 Apr	S12E02	211	180	9	Dac	15	BD	1				5											
08 Apr	S12W13	213	140	11	Eai	16	BD	1	1			2	1										
09 Apr	S12W25	212	140	11	Eac	13	BD	5				12	3										
10 Apr	S13W39	213	130	8	Dai	11	BD	4				5	1										
11 Apr	S14W50	211	90	7	Dai	12	BG																
12 Apr	S14W64	212	50	8	Dao	6	B	3				1	1										
13 Apr	S14W78	213	70	8	Dao	6	B	6				9	1										
14 Apr	S14W92	214	70	8	Dao	3	B																
												23	1	0	36	8	0	0	0	0			

Crossed West Limb.
Absolute heliographic longitude: 211



Region Summary - continued

Date	Location		Sunspot Characteristics				Flares										
	Lat CMD	Helio Lon	Area 10 ⁶ hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical						
								C	M	X	S	1	2	3	4		
Region 2321																	
11 Apr	N12E68	93	200	11	Eac	5	BG	4			4						
12 Apr	N13E54	94	610	12	Ekc	11	BGD	6	1		4						
13 Apr	N13E40	95	620	13	Ekc	14	BGD	1			3						
14 Apr	N13E26	96	620	13	Ekc	14	BG				1						
15 Apr	N12E16	93	480	14	Ekc	20	BG	2			2		1				
16 Apr	N12E02	93	380	14	Ekc	16	BG	4			5	1					
17 Apr	N11W08	90	320	14	Ekc	17	BG				1						
18 Apr	N11W22	90	180	14	Eac	16	BG	2				2					
19 Apr	N11W36	92	130	14	Eai	33	BG	1									
								20	1	0	20	3	1	0	0		

Still on Disk.

Absolute heliographic longitude: 93

Region 2322																	
11 Apr	N14E40	121	20	3	Cro	2	B				4						
12 Apr	N14E26	122	30	5	Dro	3	B										
13 Apr	N14E12	123	30	5	Dao	4	B	2			3						
14 Apr	N14W02	124	20	5	Bxo	3	B										
15 Apr	N14W13	121	10	5	Bxo	3	B				1						
16 Apr	N12W25	120	10	5	Bxo	2	B										
17 Apr	N12W39	121	plage														
18 Apr	N16W50	118	10	2	Hrx	2	A										
19 Apr	N13W62	118	10	4	Bxo	3	B										
								2	0	0	8	0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 124

Region 2323																	
11 Apr	S16W32	193	10	3	Dro	4	B										
12 Apr	S16W48	196	30	4	Dro	4	B	1									
13 Apr	S16W62	197	20	4	Bxo	4	B				1						
14 Apr	S16W76	198	60	4	Bxo	5	B										
15 Apr	S17W85	195	30	1	Hsx	1	A										
								1	0	0	1	0	0	0	0	0	

Crossed West Limb.

Absolute heliographic longitude: 193



Region Summary - continued

Date	Location		Sunspot Characteristics					Flares									
	Lat	CMD	Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical					
			Lon	10 ⁻⁶ hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4	
Region 2324																	
14 Apr	N19E59		62	390	4	Dki	11	B									
15 Apr	N18E46		62	430	4	Dko	7	B					1				
16 Apr	N18E34		61	300	5	Dkc	6	BG	2				7	1			
17 Apr	N19E23		58	250	6	Cki	9	B	3				3				
18 Apr	N19E08		60	330	5	Dko	6	BG					3				
19 Apr	N19W04		60	330	8	Cki	12	B	1								
									6	0	0		14	1	0	0	0

Still on Disk.
Absolute heliographic longitude: 60

Region 2325																	
14 Apr	N04E67		53	130	3	Hsx	1	A									
15 Apr	N05E56		52	200	9	Cso	4	B									
16 Apr	N05E44		51	200	5	Cso	4	B	1								
17 Apr	N04E32		49	140	6	Dai	8	B	3				3				
18 Apr	N05E18		50	160	11	Cai	9	B	1				1				
19 Apr	N05E06		50	220	10	Cai	12	B									
									5	0	0		4	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 50

Region 2326																	
16 Apr	N15E12		83	30	5	Cao	7	B									
17 Apr	N15W02		83	30	5	Cri	6	B									
18 Apr	N15W16		85	10	5	Bxo	5	B									
19 Apr	N15W30		86	plage													
									0	0	0		0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 83

Region 2327																	
17 Apr	S10E70		12	140	3	Cso	3	B									
18 Apr	S09E57		11	140	3	Cso	2	B									
19 Apr	S09E44		12	140	3	Cso	5	B									
									0	0	0		0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 12



Region Summary - continued

Date	Location		Sunspot Characteristics				Flares								
	Lat CMD	Lon	Heli 10 ⁶	Area hemi.	Extent (heli)	Spot Class	Spot Count	Mag Class	X-ray			Optical			
									C	M	X	S	1	2	3

Region 2328

18 Apr	S02W69	137	10	5	Bxo	4	B									
19 Apr	S01W84	140	10	1	Axx	1	A									
								0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 137

Region 2329

19 Apr	S08W48	104	40	6	Cso	6	B									
								0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 104

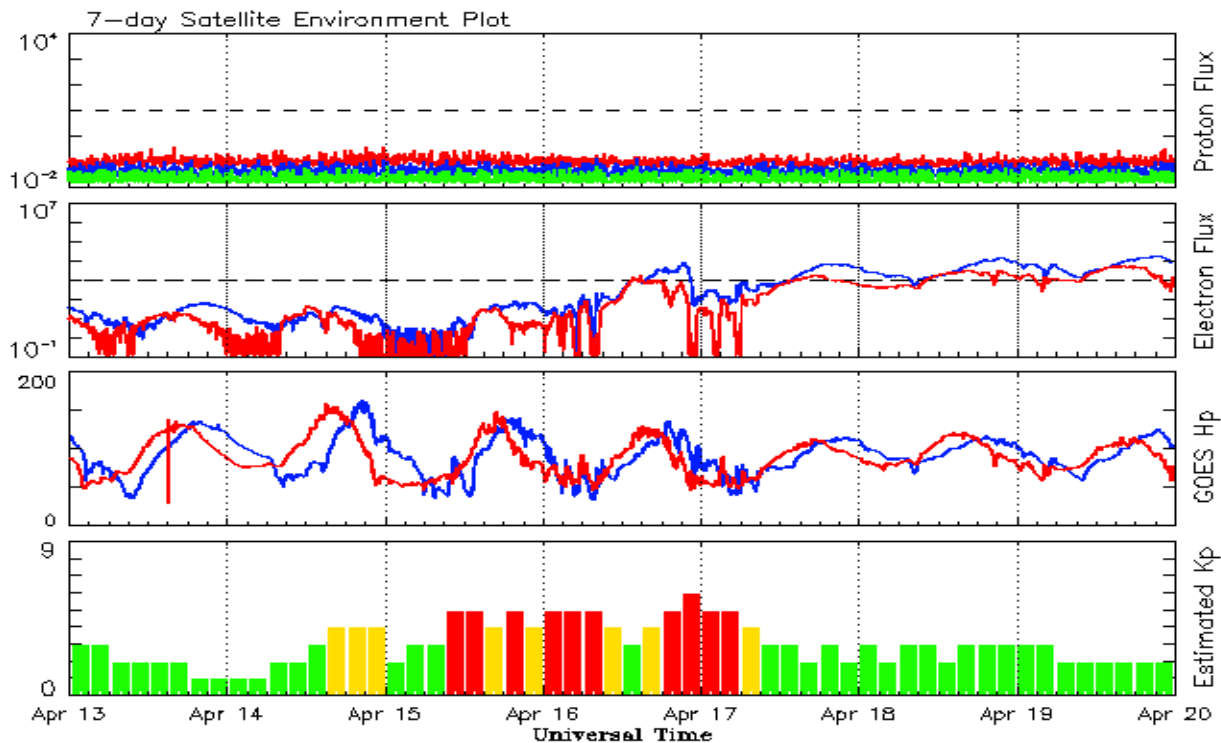


Recent Solar Indices (preliminary)
Observed monthly mean values

Month	Sunspot Numbers					Radio Flux		Geomagnetic	
	Observed values		Ratio	Smooth values		Penticton	Smooth	Planetary	Smooth
	SEC	RI	RI/SEC	SEC	RI	10.7 cm	Value	Ap	Value
2013									
April	112.8	72.4	0.64	86.7	57.9	125.0	116.6	5	7.2
May	125.5	78.7	0.63	90.5	59.9	131.3	118.1	10	7.0
June	80.1	52.5	0.66	94.4	62.6	110.2	120.9	13	7.1
July	86.1	57.0	0.66	97.9	65.5	115.6	123.9	9	7.3
August	90.2	66.0	0.73	103.7	68.9	114.7	127.9	9	7.6
September	55.0	37.0	0.67	111.0	73.0	102.7	132.3	5	7.8
October	127.1	85.6	0.67	114.3	74.9	132.3	134.7	7	7.8
November	125.7	77.6	0.62	114.6	75.3	148.4	135.4	5	7.9
December	118.2	90.3	0.76	115.4	75.9	147.7	135.9	5	7.5
2014									
January	125.9	81.8	0.65	117.7	77.3	158.6	137.3	6	7.1
February	174.6	102.3	0.59	119.5	78.3	170.3	138.6	12	6.9
March	141.1	91.9	0.65	123.2	80.8	149.9	140.8	6	7.2
April	130.5	84.7	0.65	124.8	81.9	144.3	143.5	9	7.5
May	116.8	75.2	0.64	122.3	80.5	130.0	144.7	7	7.9
June	107.7	71.0	0.66	121.4	79.7	122.2	145.5	7	8.4
July	113.6	72.4	0.64	120.4	78.5	137.3	145.2	5	8.8
August	106.2	74.6	0.70	115.1	75.5	124.7	142.8	9	8.9
September	127.4	87.6	0.69	107.4	70.8	146.1	140.1	11	9.3
October	92.0	60.6	0.66			153.7		10	
November	101.8	70.2	0.69			155.3		10	
December	120.0	76.7	0.65			158.7		12	
2015									
January	101.2	67.0	0.66			141.7		10	
February	70.6	44.8	0.63			128.8		10	
March	61.7	38.4	0.62			126.0		17	

Note: Values are final except for the most recent 6 months which are considered preliminary.
Cycle 24 started in Dec 2008 with an RI=1.7.





*Weekly Geosynchronous Satellite Environment Summary
Week Beginning 13 April 2015*

The proton flux plot contains the five-minute averaged integral proton flux (protons/cm²-sec -sr) as measured by the SWPC Primary GOES satellite, near West 75, for each of three energy thresholds: greater than 10, 50, and 100 MeV.

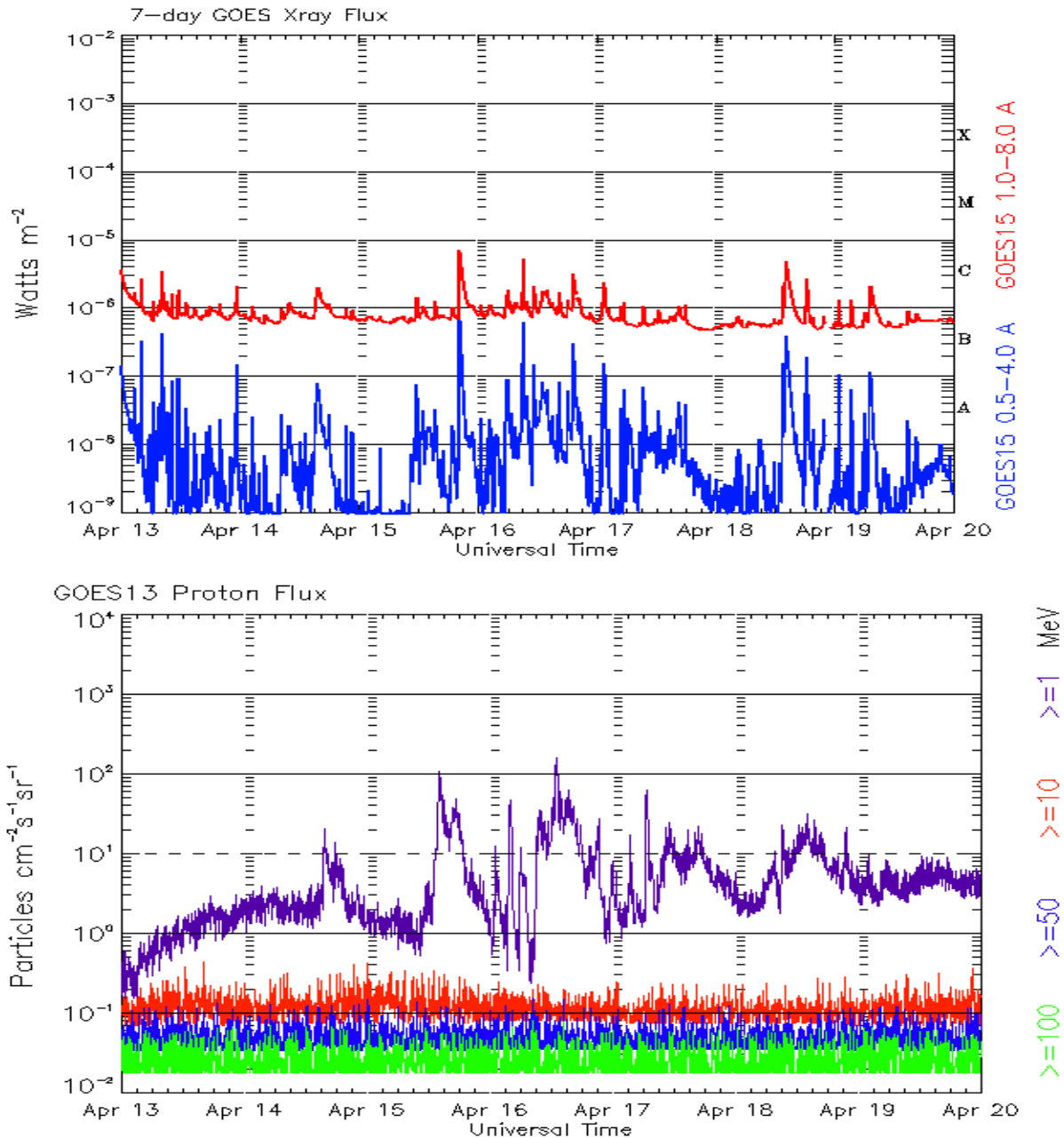
The electron flux plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV by the SWPC Primary GOES satellite.

The Hp plot contains the five minute averaged Hp magnetic field component in nanoteslas (nT) as by the SWPC Primary GOES satellite. The Hp component is parallel to the spin axis of the satellite, which is nearly parallel to the Earth's rotation axis.

The Estimated 3-hour Planetary Kp-index is derived at the NOAA Space Weather Prediction Center using data from the following ground-based magnetometers: Boulder, Colorado; Chambon la Foret, France; Fredericksburg, Virginia; Fresno, California; Hartland, UK; Newport, Washington; Sitka, Alaska. These data are made available thanks to the cooperative efforts between SWPC and data providers around the world, which currently includes the U.S. Geological Survey, the British Geological Survey, and the Institut de Physique du Globe de Paris.

The data included here are those now available in real time at the SWPC and are incomplete in that they do not include the full set of parameters and energy ranges known to cause satellite operating anomalies. The proton and electron fluxes and Kp are 'global' parameters that are applicable to a first order approximation over large areas. H parallel is subject to more localized phenomena and the measurements generally are applicable to within a few degrees of longitude of the measuring satellite.





*Weekly GOES Satellite X-ray and Proton Plots
Week Beginning 13 April 2015*

The x-ray plots contains five-minute averages x-ray flux (Watt/m²) as measure by the SWPC primary GOES X-ray satellite, usually at West 105 longitude, in two wavelength bands, 0.05 - 0.4 and 0.1 - 0.8 nm. The letters A, B, C, M and X refer to x-ray event levels for the 0.1 - 0.8 nm band.

The proton plot contains the five-minute averaged intergral flux units (pfu = protons/cm² -sec -sr) as measured by the primary SWPC GOES Proton satellite for each of the energy thresholds: >1, >10, >30, and >100 MeV. The P10 event threshold is 10 pfu at greater than 10 MeV.



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

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