

SIDC Space Weather Briefing

18 June 2018 - 24 June 2018

Judith de Patoul
& the SIDC forecaster team



Royal Observatory
of Belgium

Solar Influences
Data analysis Centre
www.sidc.be

Summary Report

Solar activity

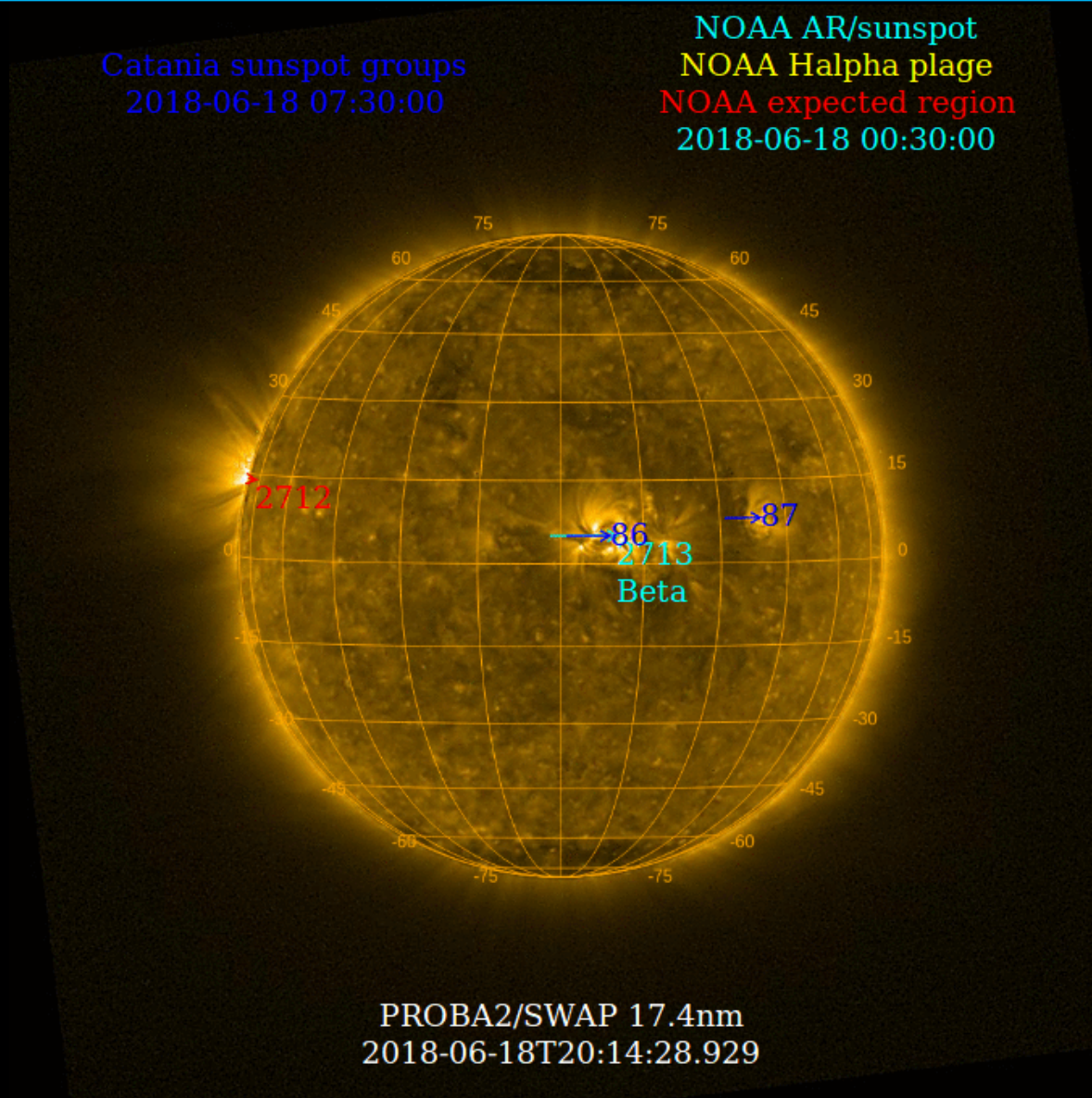
Active regions	NOAA AR-2713 AR-2714 and AR-2715
Flaring	# B-class flare: 39 # C-class flare: 1 # M-class flare: 0 # X-class flare: 0
Filaments	<i>None</i>
CMEs	One backward(?) CME
Proton Events	<i>None</i>

Solar wind and geomagnetic conditions

SW Conditions	June 18: $v=600$ km/s, $B_t=20$ nT, $B_z=-15$ nT and June 23: $v=510$ km/s, $B_t=15$ nT, $B_z=-15$ nT
ICME	<i>None</i>
K-indices	max K-index (Dourbes): 4.0 max Kp-index (NOAA): 5
Coronal Holes	Geo-effective coronal hole: June 20 and June 24(?)

All Quiet Alert: All quiet alerte on Jun 20

Evolution of Solar Active Region



Solar Activity

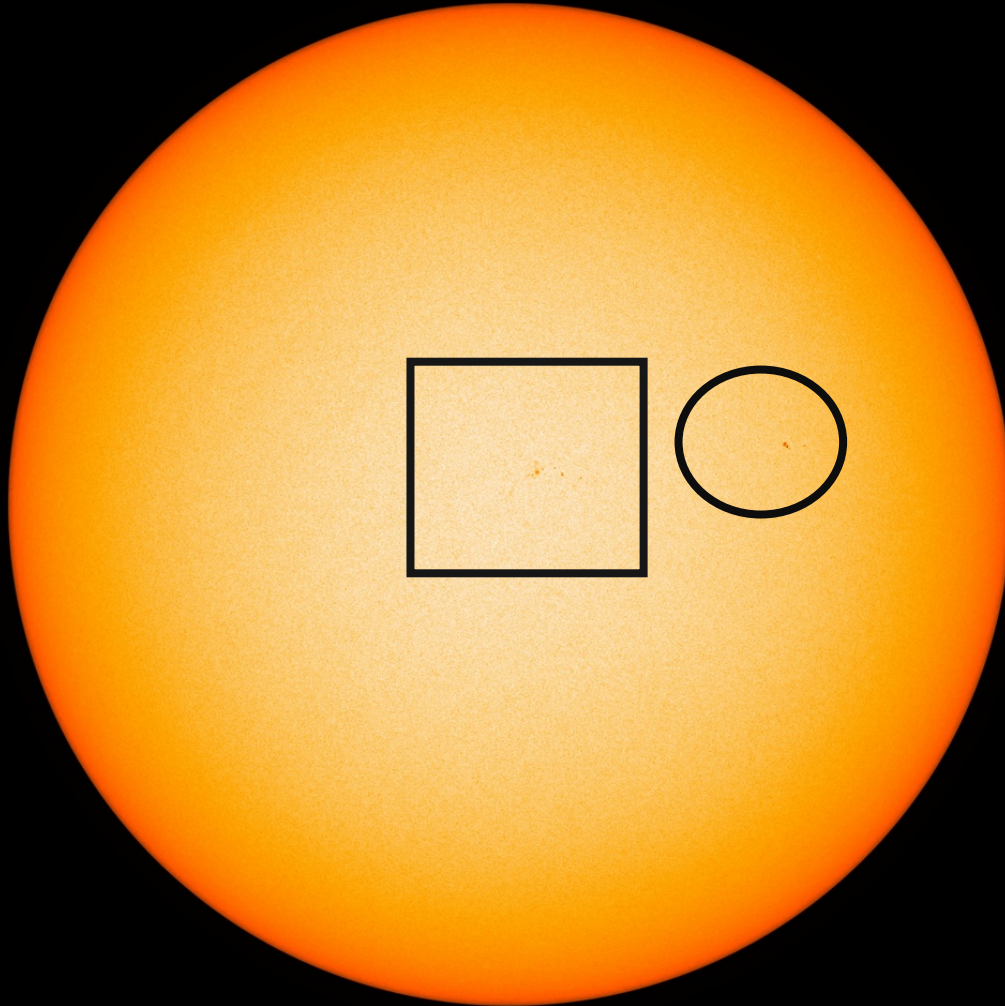


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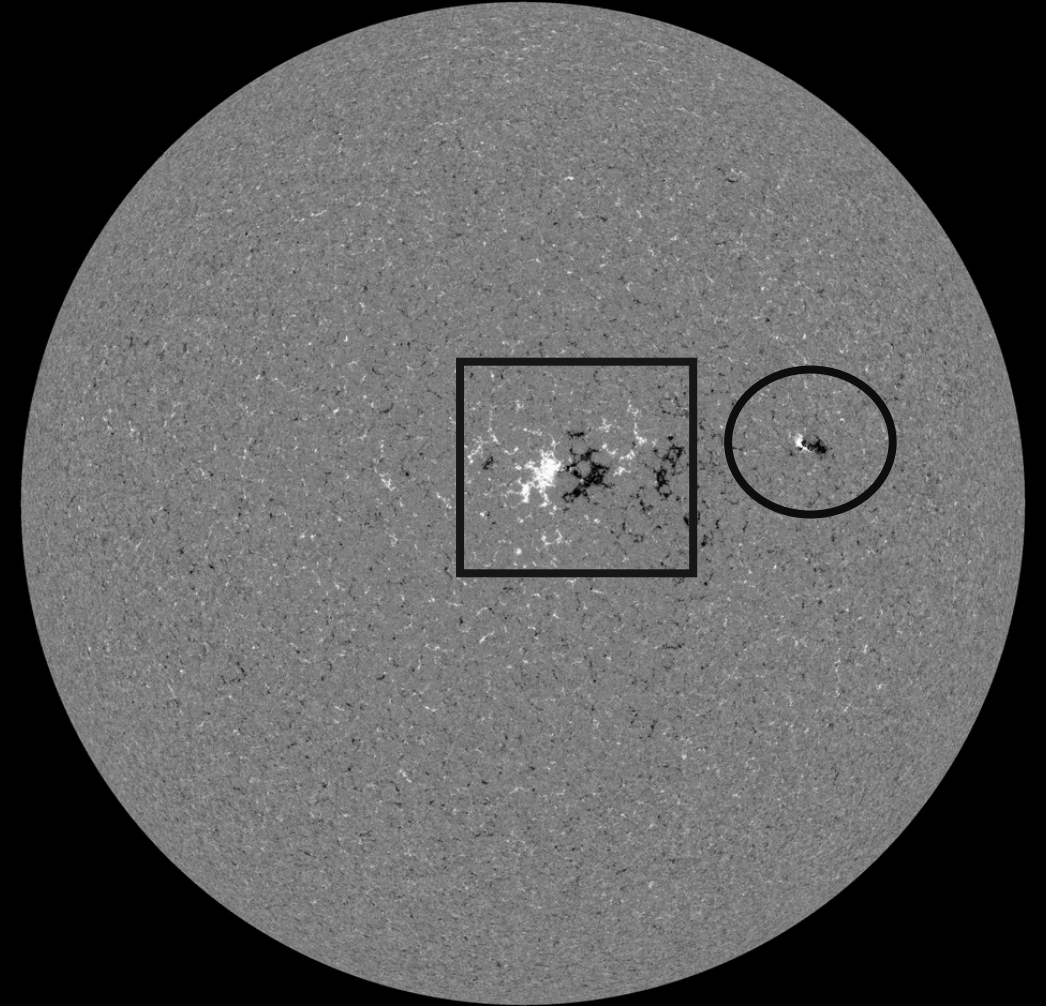
Solar Active Region

SDO/HMI White Light 2018-06-18



SDO/HMI Quick-Look Continuum: 20180618_150000

SDO/HMI Magnetogram 2018-06-18

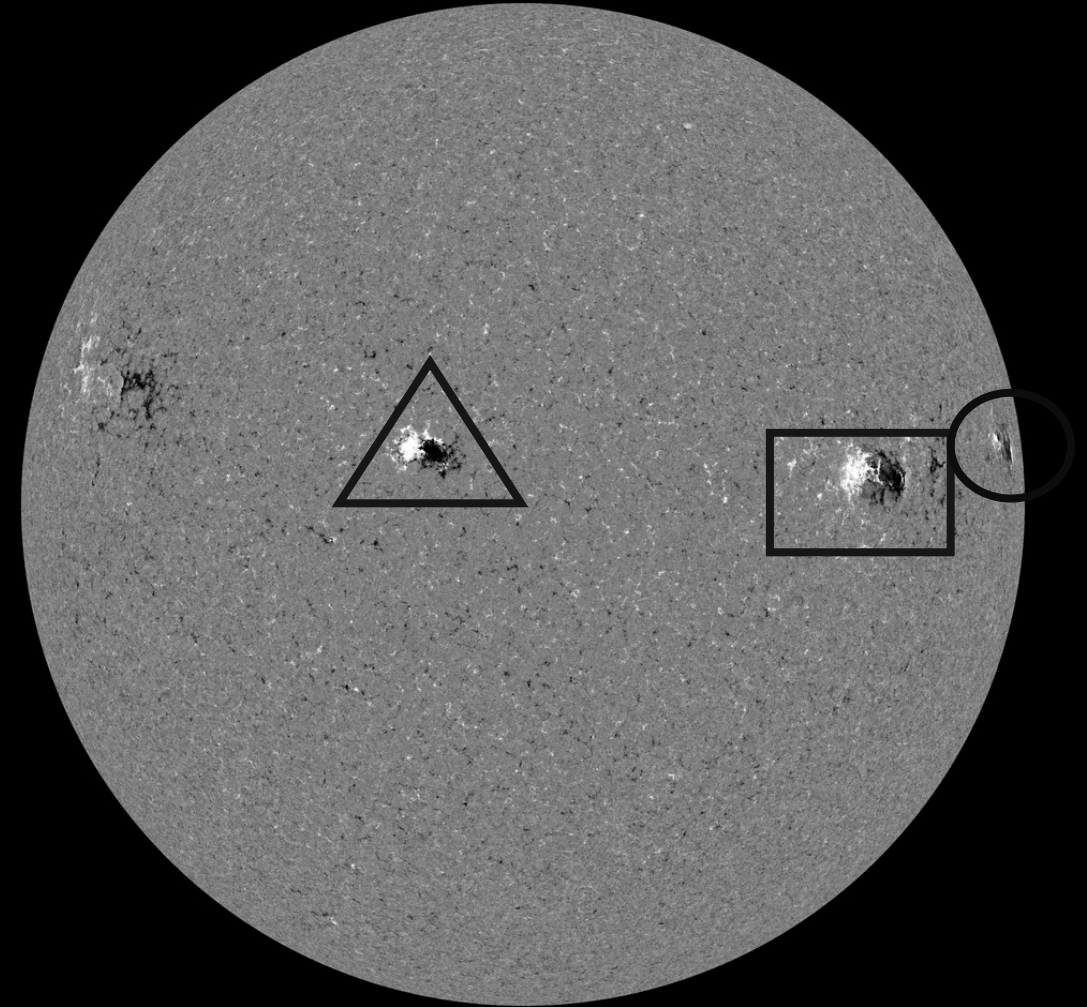
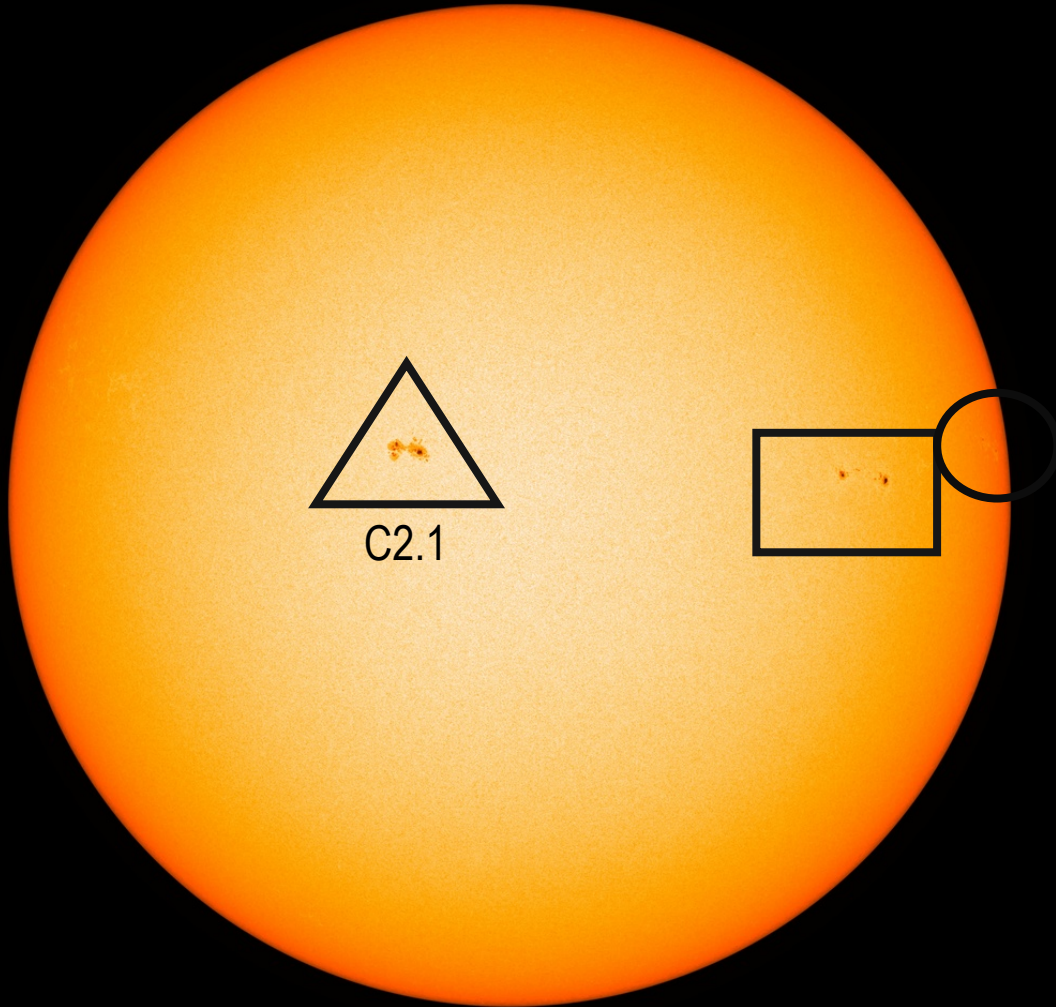


SDO/HMI Quick-Look Magnetogram: 20180618_150000

Solar Active Region

SDO/HMI White Light 2018-06-21

SDO/HMI Magnetogram 2018-06-21



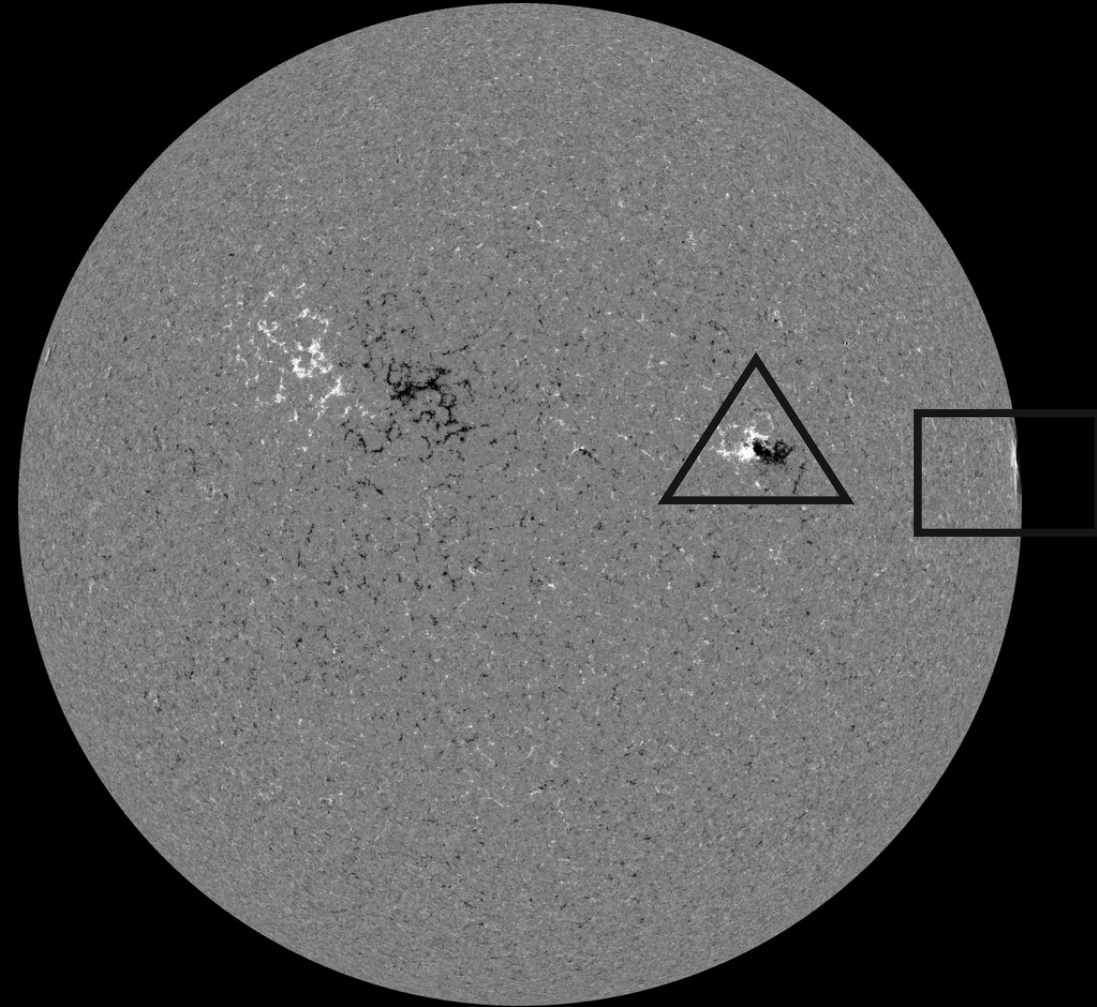
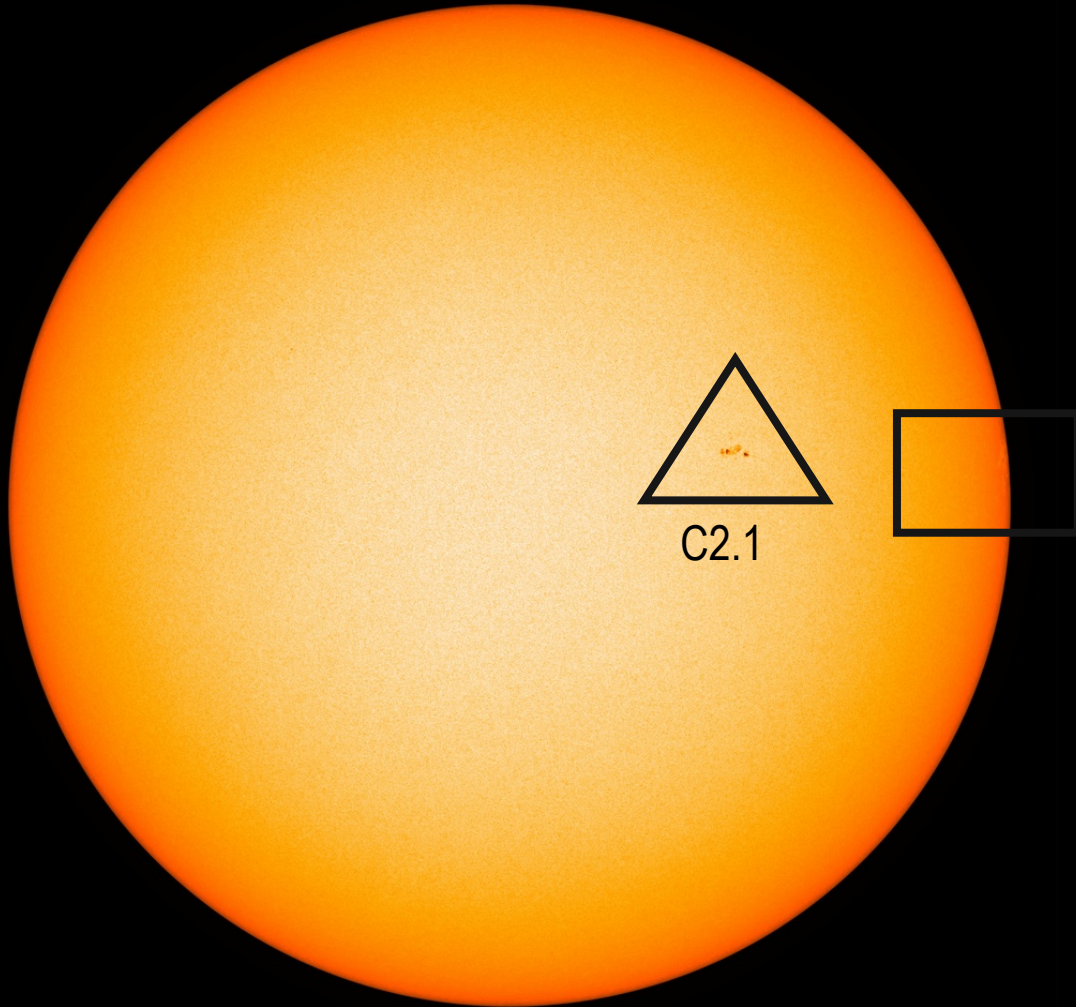
SDO/HMI Quick-Look Continuum: 20180621_130000

SDO/HMI Quick-Look Magnetogram: 20180621_130000

Solar Active Region

SDO/HMI White Light 2018-06-24

SDO/HMI Magnetogram 2018-06-24

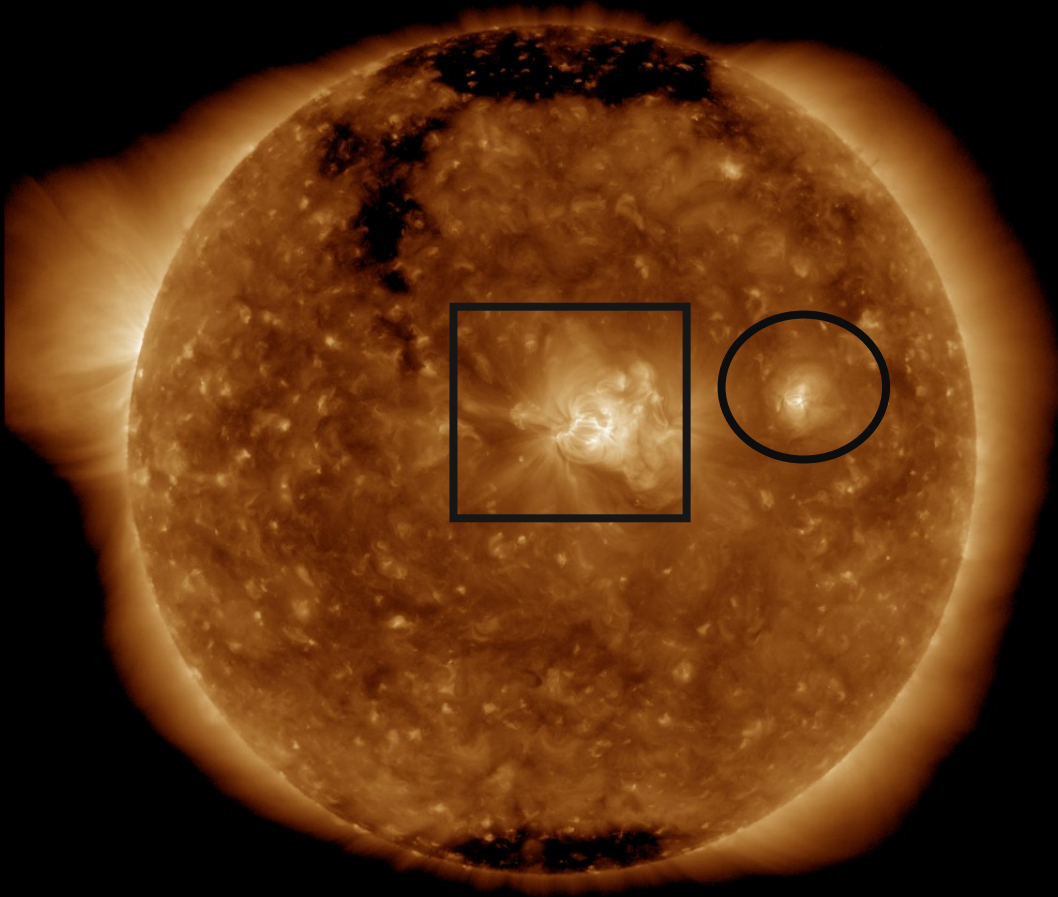


SDO/HMI Quick-Look Continuum: 20180624_120000

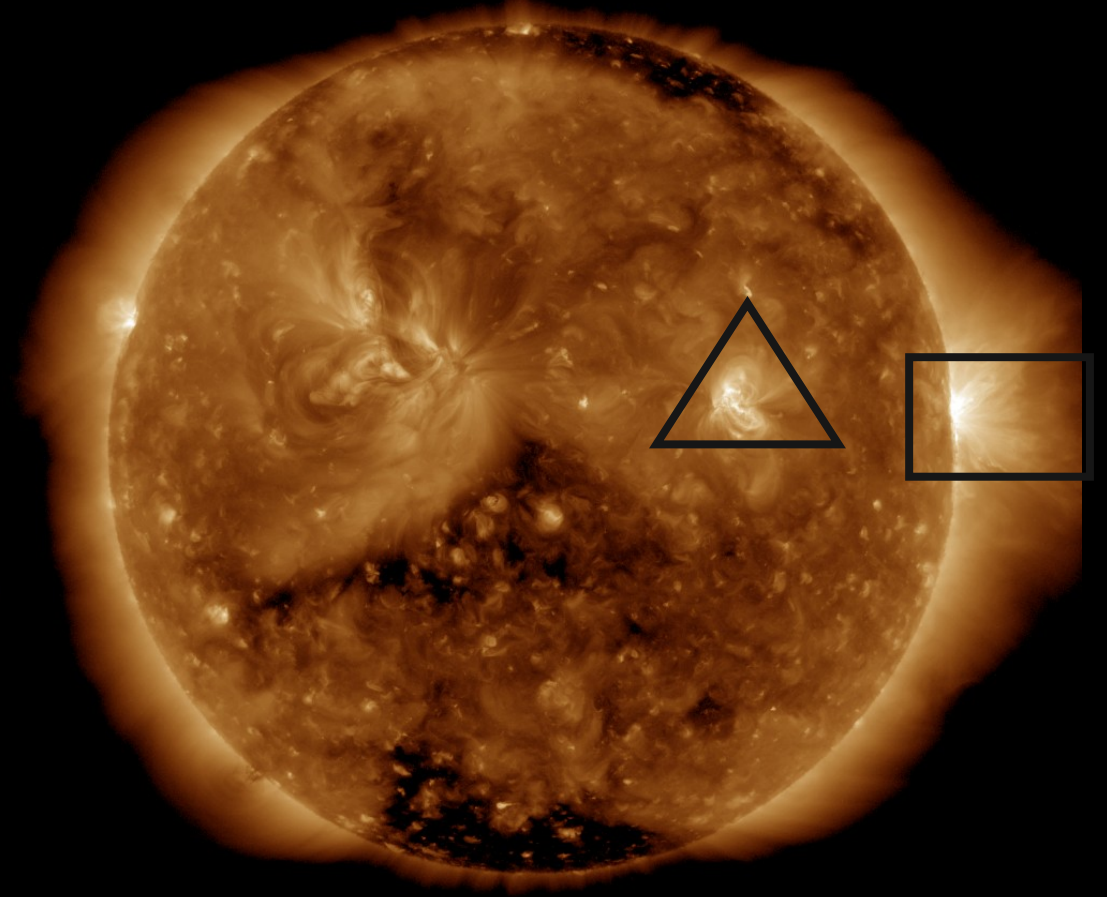
SDO/HMI Quick-Look Magnetogram: 20180624_143000

Solar Active Region

SDO/AIA 1.93nm 2018-06-18



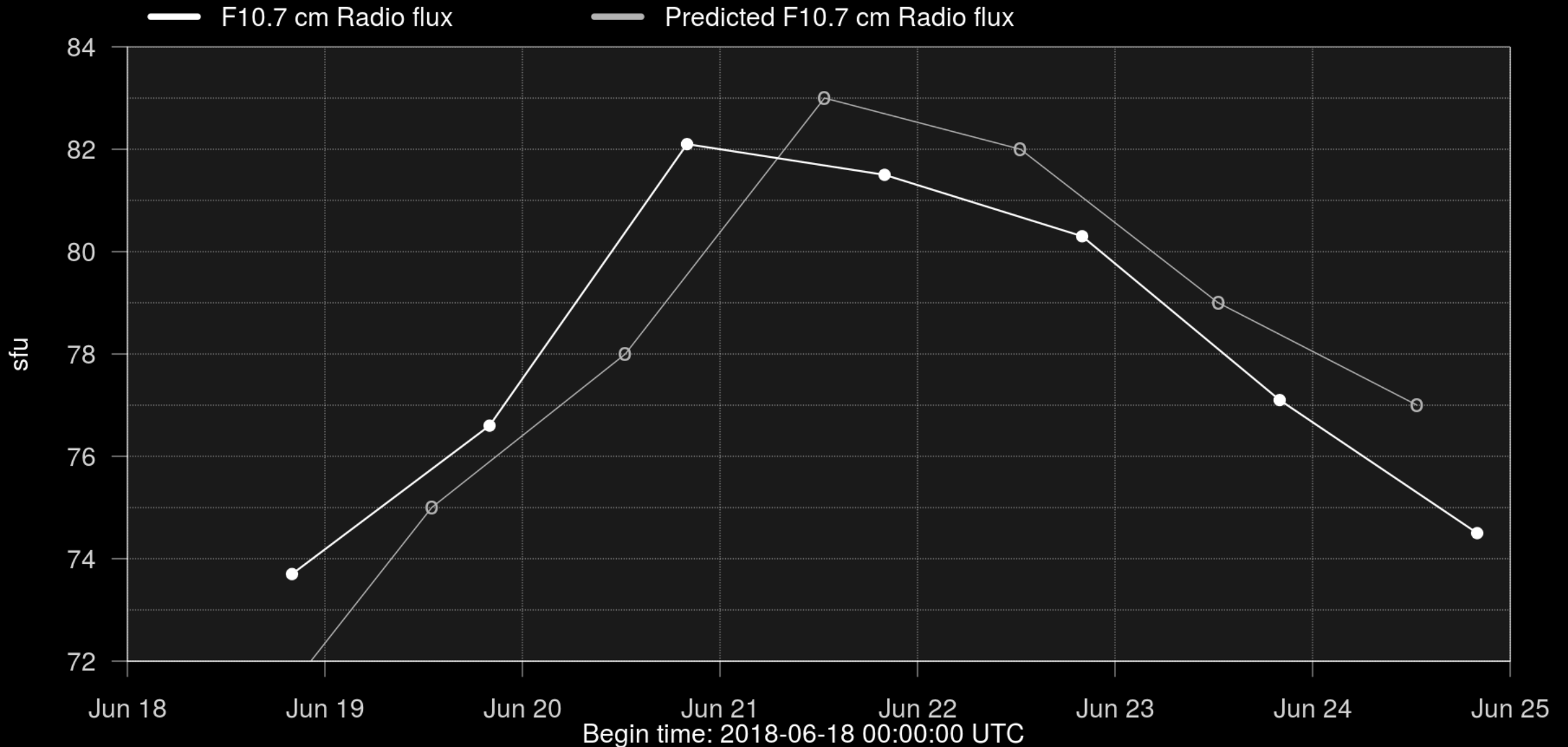
SDO/AIA 1.93nm 2018-06-24



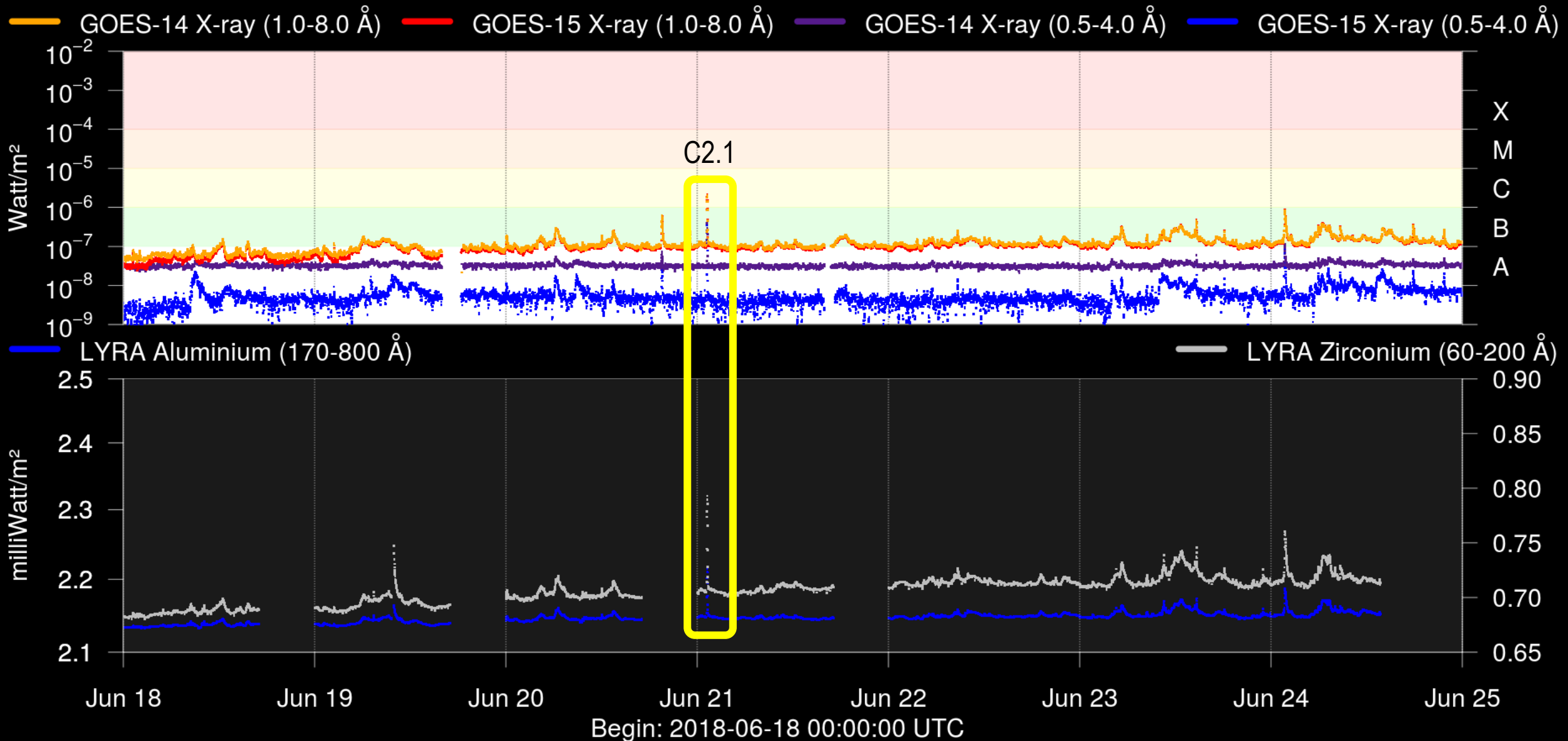
SDO/AIA 193 2018-06-18 14:55:05 UT

SDO/AIA 193 2018-06-24 14:10:53 UT

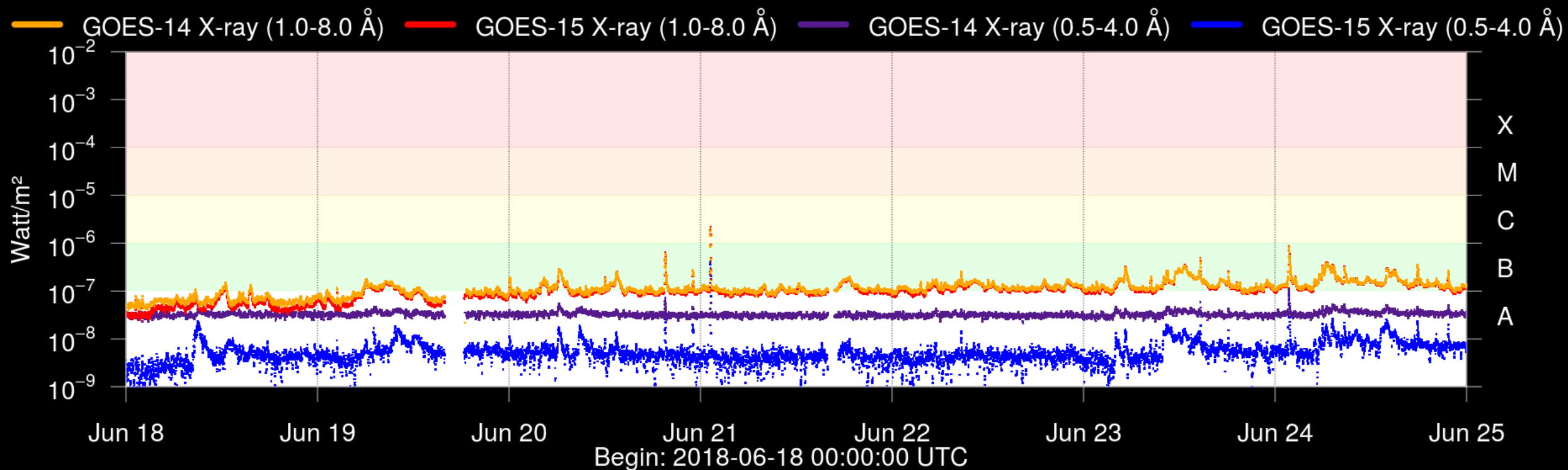
Solar F10.7cm Radio Flux



Flaring activity



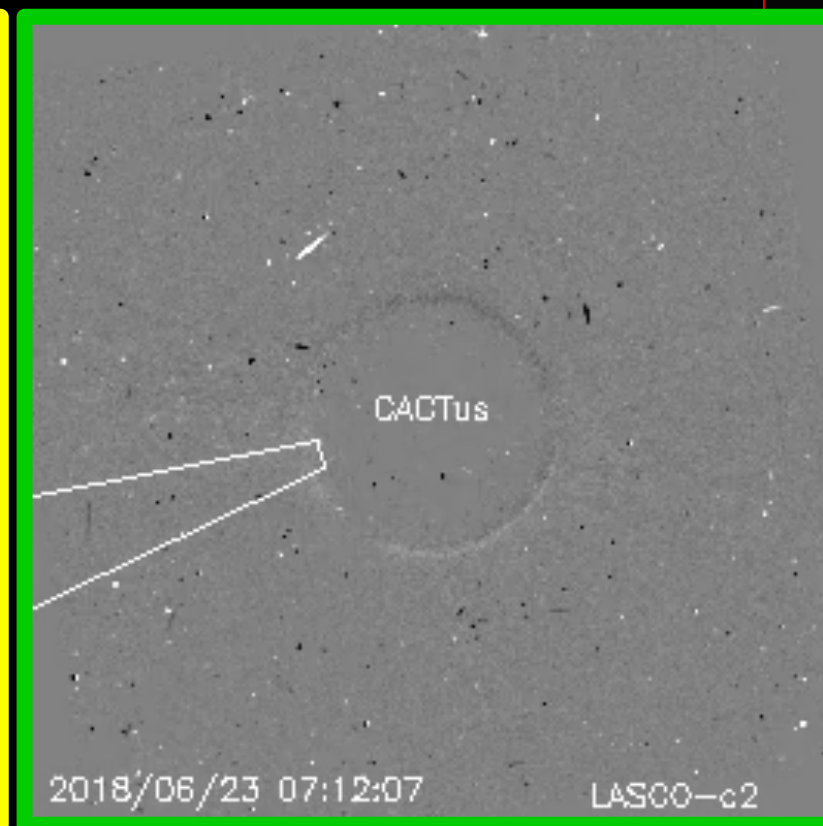
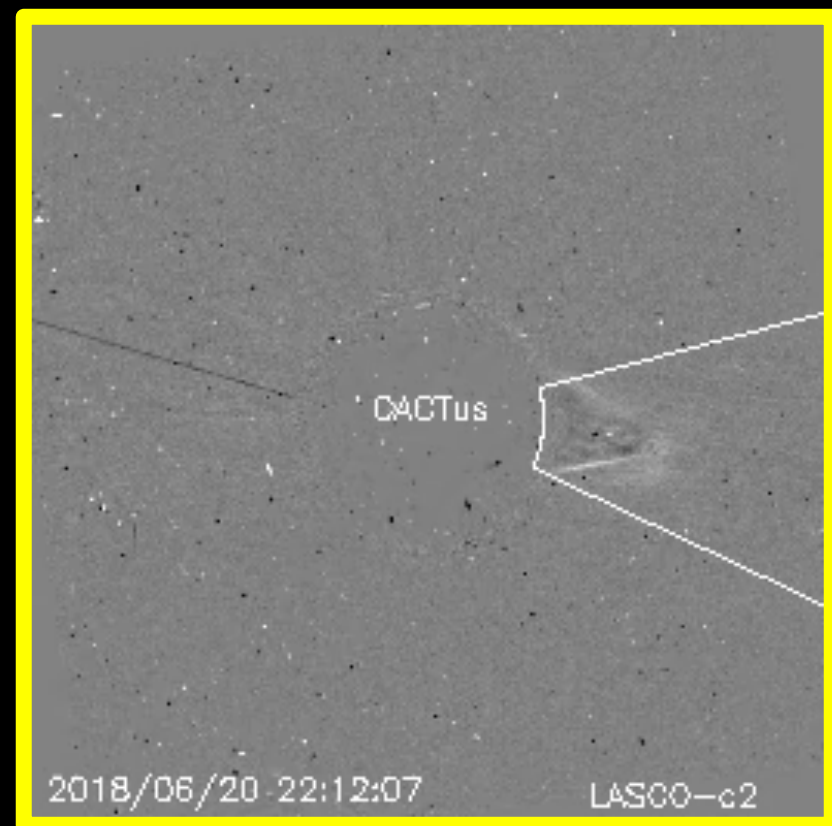
Solar X-Ray Flux



Probabilities and occurrences of C/M/X-flares over the next 24h

Issue Time	2018-06-18	2018-06-19	2018-06-20	2018-06-21	2018-06-22	2018-06-23	2018-06-24
Predicted (%)	60 / 10 / 01	25 / 01 / 01	35 / 05 / 01	60 / 10 / 00	30 / 01 / 01	10 / 01 / 01	10 / 01 / 01
Observed (#)	00 / 00 / 00	00 / 00 / 00	00 / 00 / 00	01 / 00 / 00	00 / 00 / 00	00 / 00 / 00	00 / 00 / 00

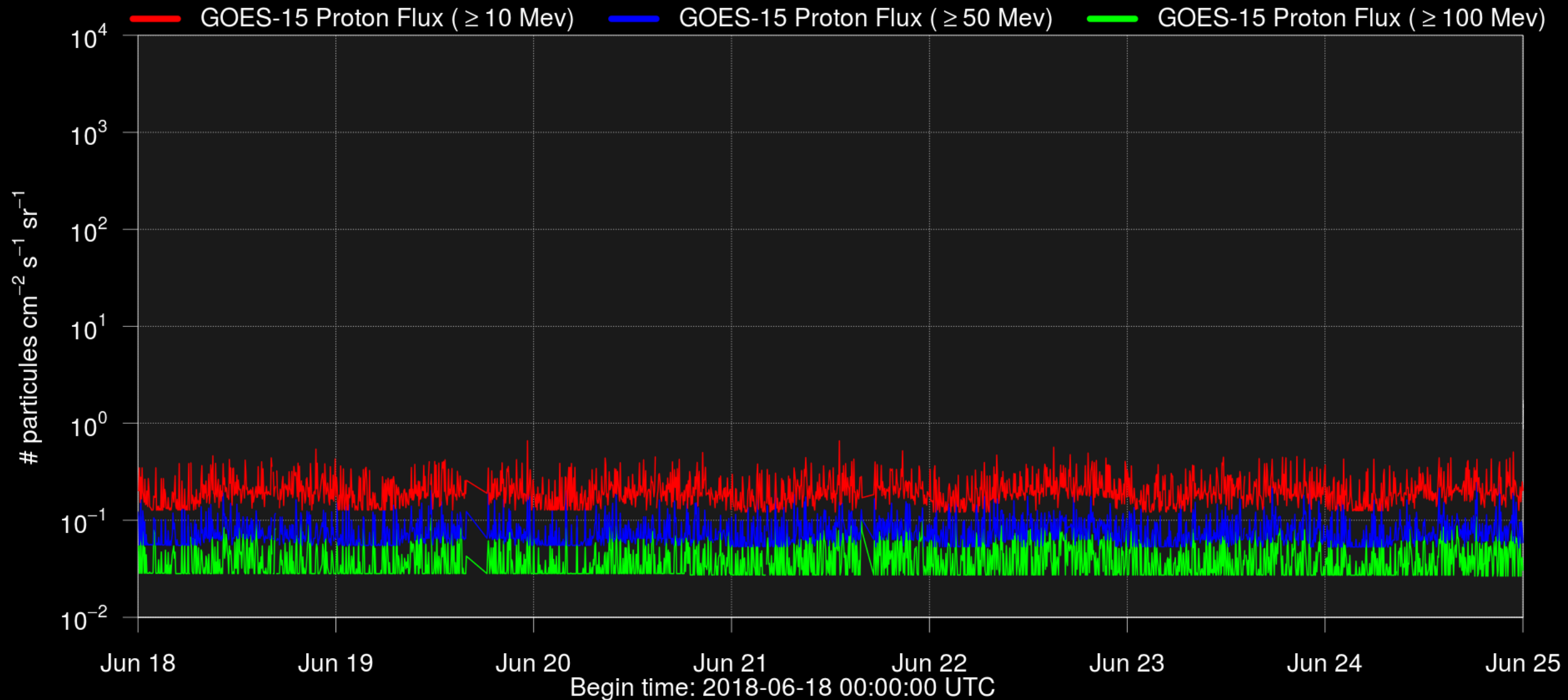
Coronal Mass Ejection



c2

05:36	06/21
04:00	06/24
00:12	06/24
21:12	06/23
18:12	06/23
15:12	06/23
11:48	06/23
09:12	06/23
06:06	06/23
03:24	06/23
00:12	06/23
20:36	06/22
17:48	06/22
14:24	06/22
11:12	06/22
08:12	06/22
05:00	06/22
00:24	06/22
21:24	06/21
18:12	06/21
15:24	06/21
12:24	06/21
09:12	06/21
06:18	06/21
03:24	06/21
00:00	06/21
20:36	06/20
17:24	06/20
14:36	06/20
11:36	06/20
08:36	06/20
06:00	06/20
02:48	06/20
23:12	06/19
19:24	06/19
16:48	06/19
13:36	06/19
10:24	06/19
07:36	06/19
04:36	06/19
00:48	06/19
21:36	06/18
17:48	06/18
15:12	06/18
11:48	06/18
08:48	06/18

Solar proton flux

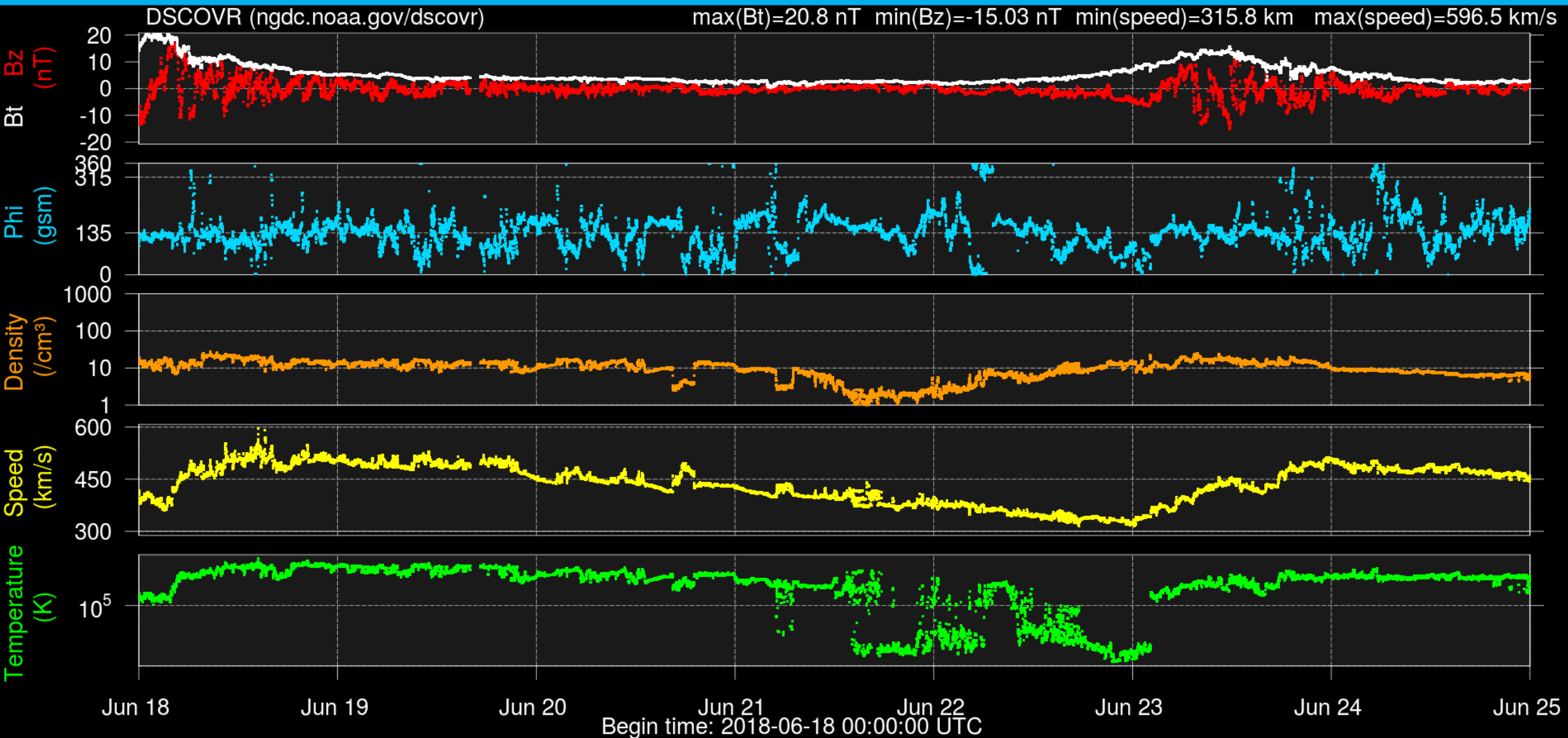


Solar Wind and Geomagnetic Activity



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Solar wind parameters (DSCOVR data)

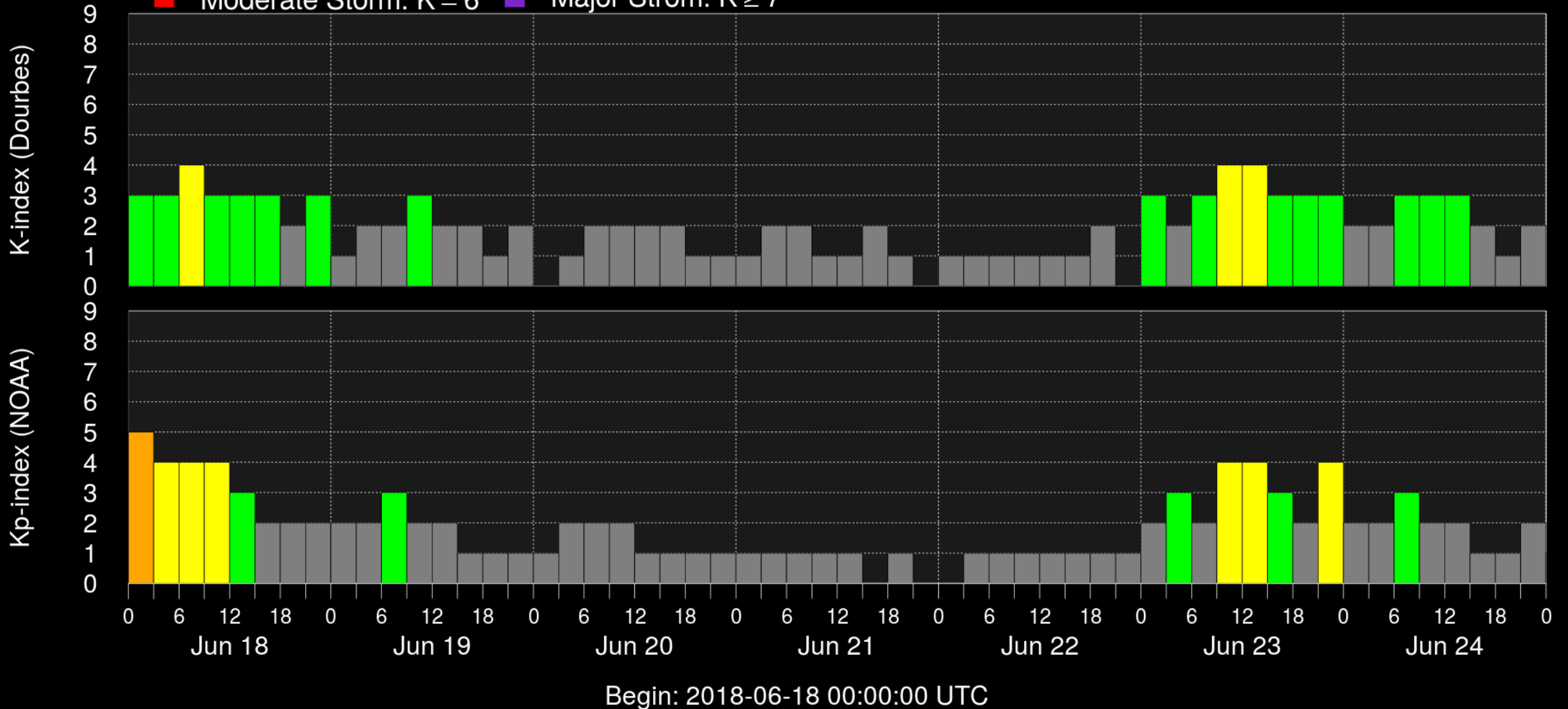


Bt - Bz - Speed - Kp-index ((DESCOVR/NOAA))



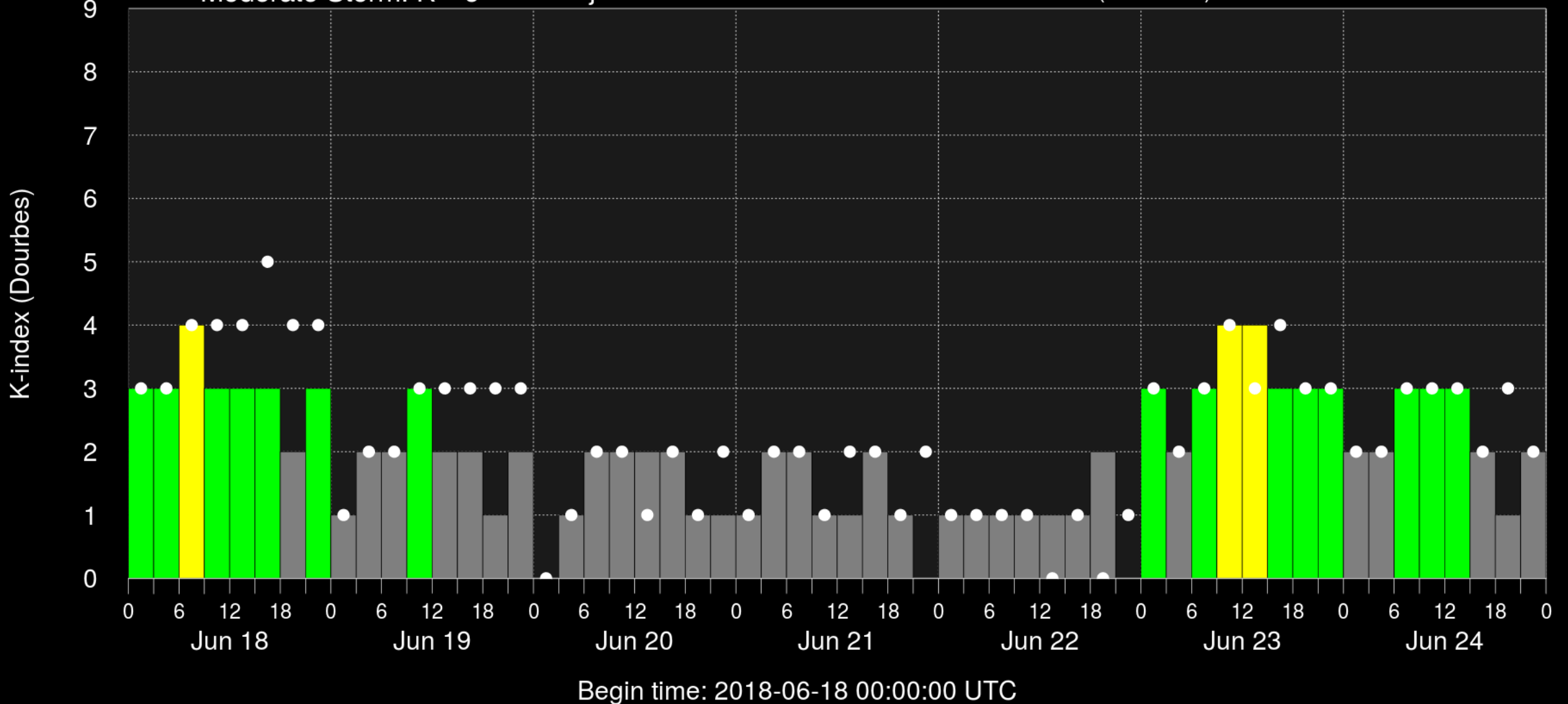
Geomagnetic activity (K-indexes)

■ Quiet: $K \leq 2$ ■ Unsettled: $K = 3$ ■ Active: $K = 4$ ■ Minor Storm: $K = 5$
■ Moderate Storm: $K = 6$ ■ Major Storm: $K \geq 7$



K-Dourbes index

- Quiet: $K \leq 2$
- Unsettled: $K = 3$
- Active: $K = 4$
- Minor Storm: $K = 5$
- Moderate Storm: $K = 6$
- Major Storm: $K \geq 7$
- Predicted K-index (Dourbes)



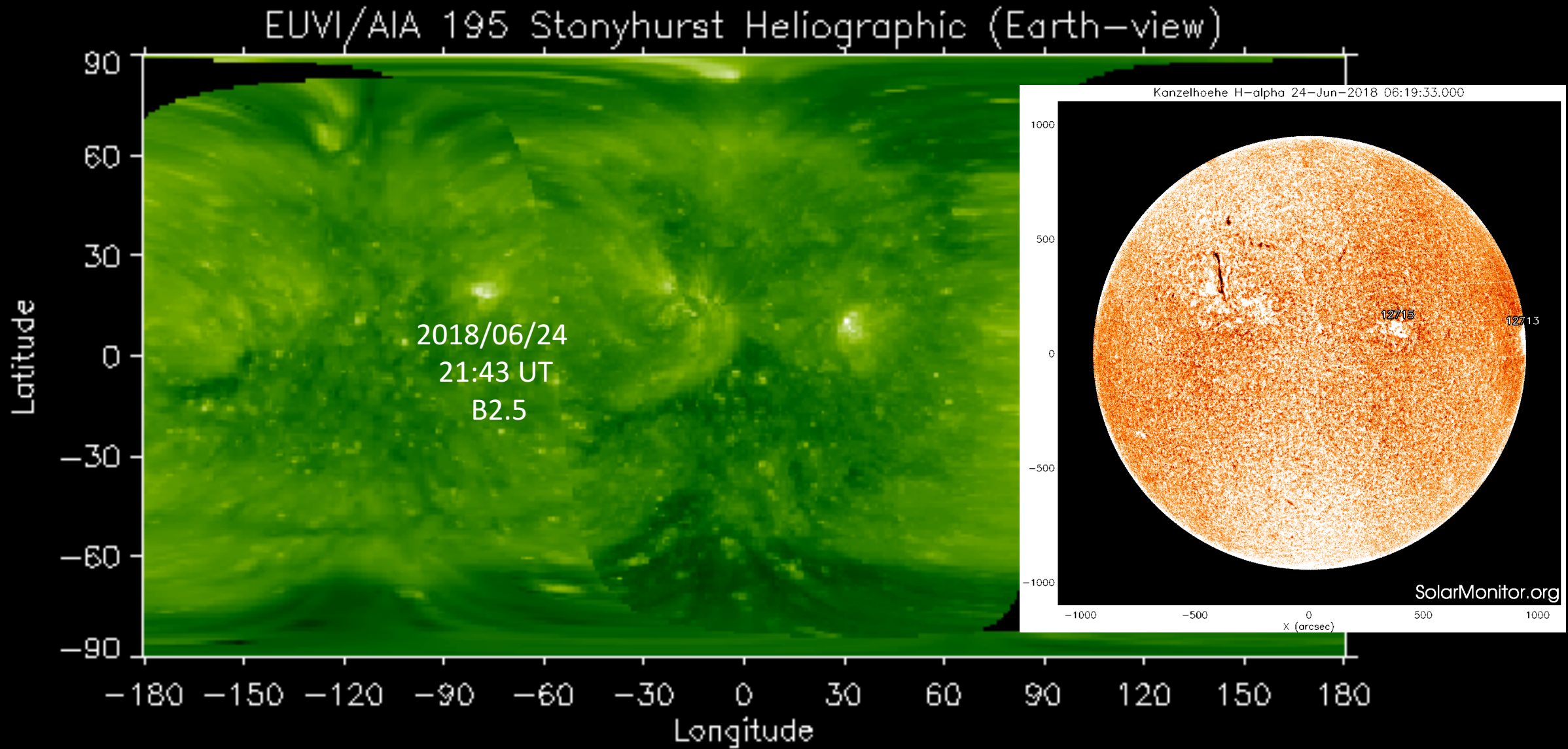
Outlook



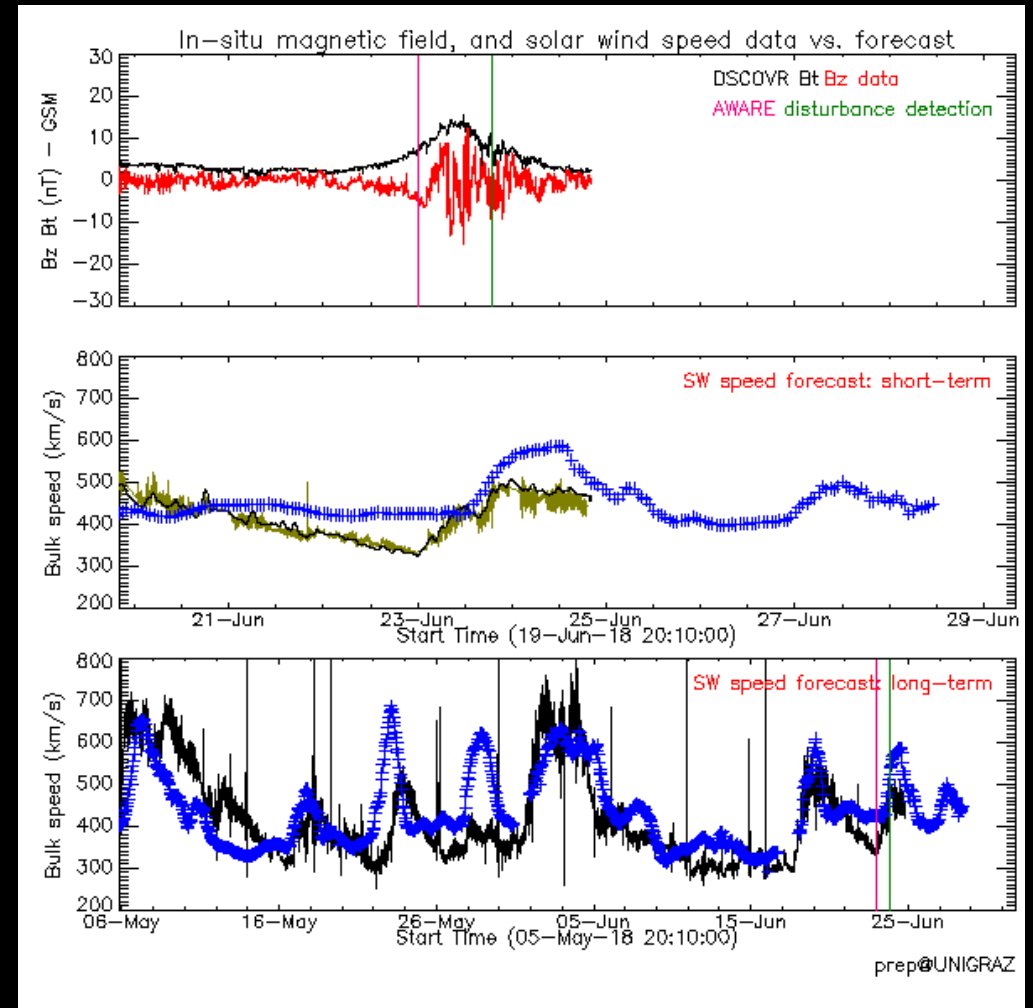
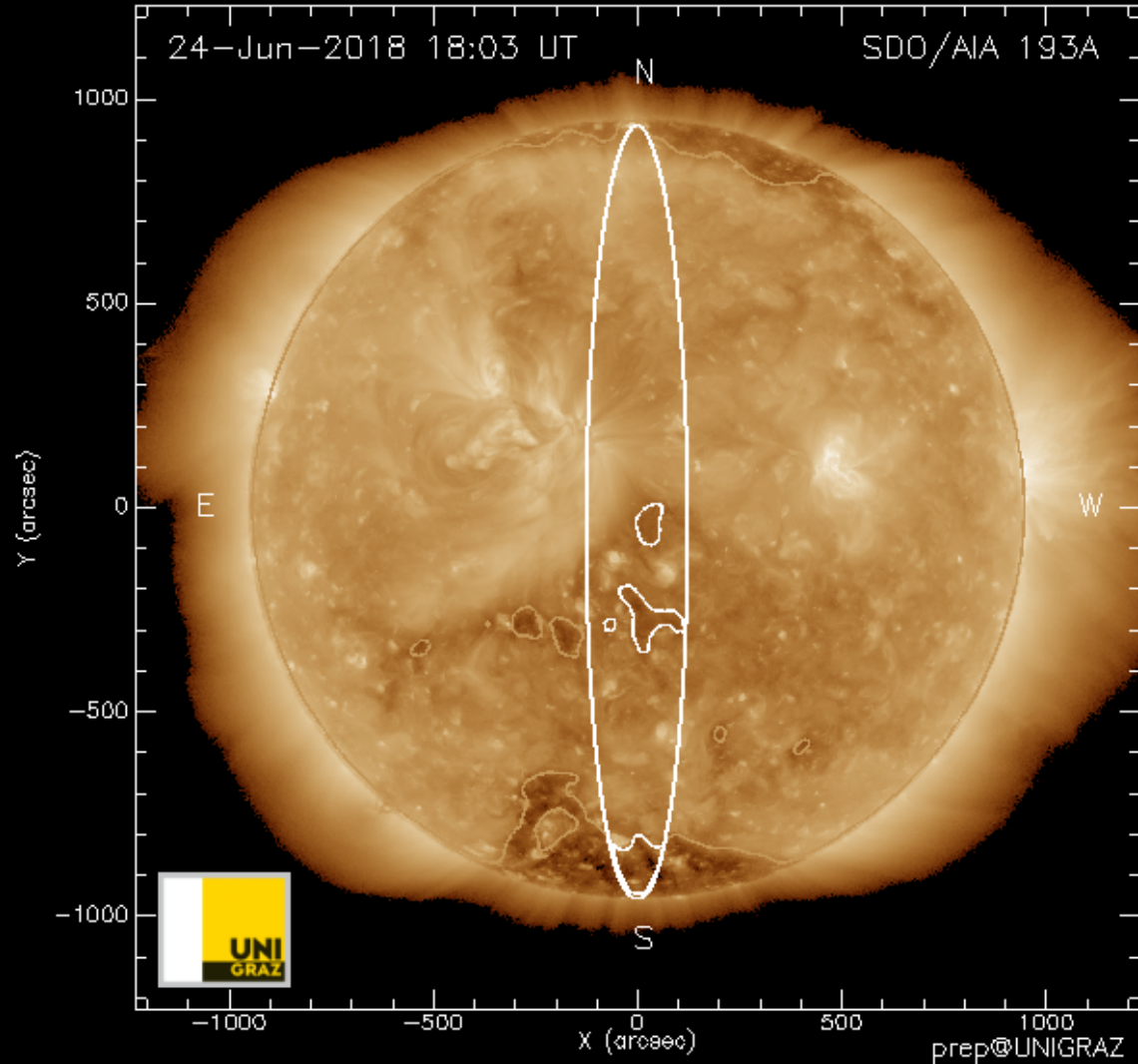
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Outlook: Solar activity

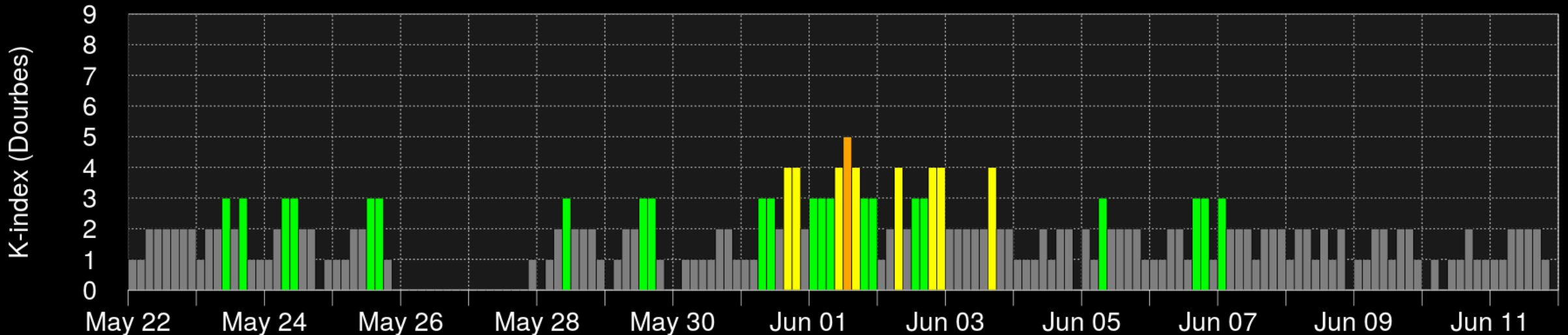
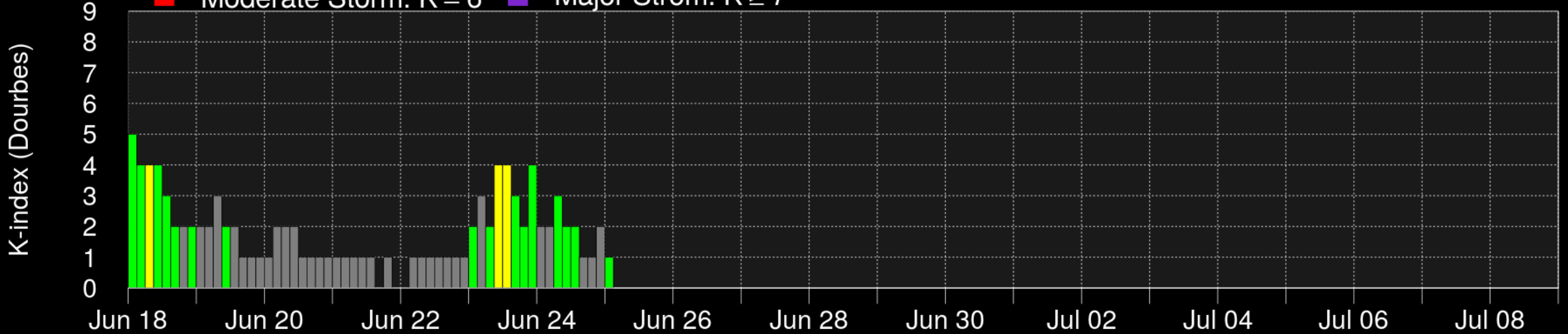


Outlook: Coronal Holes and Solar wind



Outlook: Geomagnetic Activity

■ Quiet: $K \leq 2$ ■ Unsettled: $K = 3$ ■ Active: $K = 4$ ■ Minor Storm: $K = 5$
■ Moderate Storm: $K = 6$ ■ Major Storm: $K \geq 7$



Begin time: 2018-06-18 00:00:00 UTC and 2018-05-22 00:00:00 UTC

SIDC Space Weather Briefing

See you at our next briefing!

Or visit us at www.sidc.be



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