

SIDC Space Weather Briefing

26 May 2025-01 June 2025

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& the SIDC forecaster team



Royal Observatory
of Belgium

Solar Influences
Data analysis Centre
www.sidc.be

Summary Report

Solar activity from 2025-05-26 00:00 to 2025-06-01 23:59

Active regions	15 active regions on disk over the week: SIDC sunspot group 469 (NOAA AR 4100) most active
Flares	# C-class flare: 38 # M-class flare: 9 # X-class flare: 0
Coronal Holes	2 Negative polarity coronal holes transited central meridian
CMEs	2 Earth directed CMEs including one fast halo (~1300 - 1500 km/s)

Proton flux	Major proton event (maximum 666 pfu)
Electron flux	Above 1000 pfu threshold on 4 days

Solar wind and geomagnetic conditions

ICMEs	ICME arrival early on June 01 of halo CME
Solar wind conditions	B : 1.04 - 27.2 nT //Bz: -24.88 nT to 16.46 nT //Speed: 362.6 - 1130.2km/s
Geomagnetic conditions	max K _{Be} : 6.0, max K _p (NOAA): 8.0, Severe Storm conditions

All Quiet Alert: Not all quiet

Solar Activity

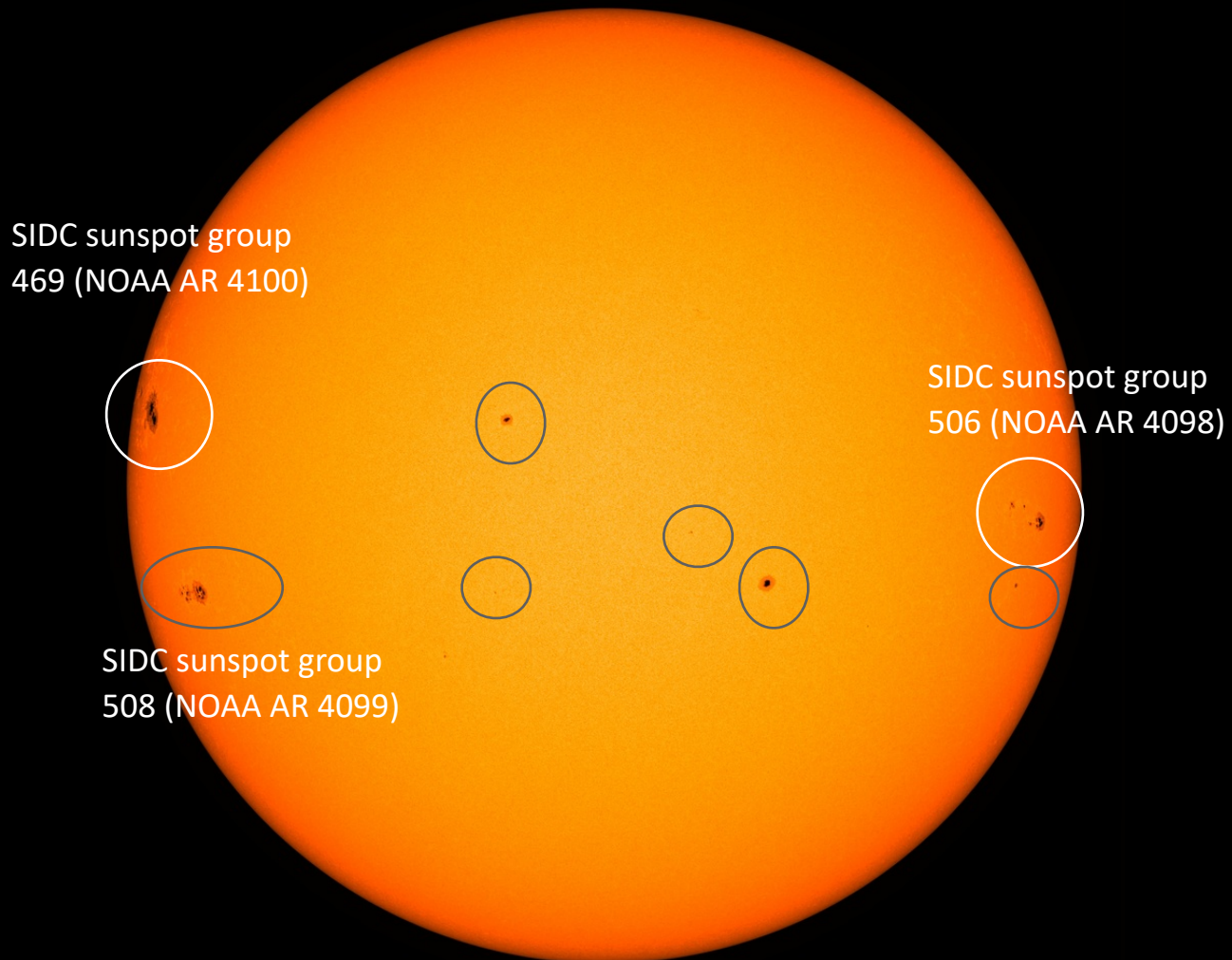


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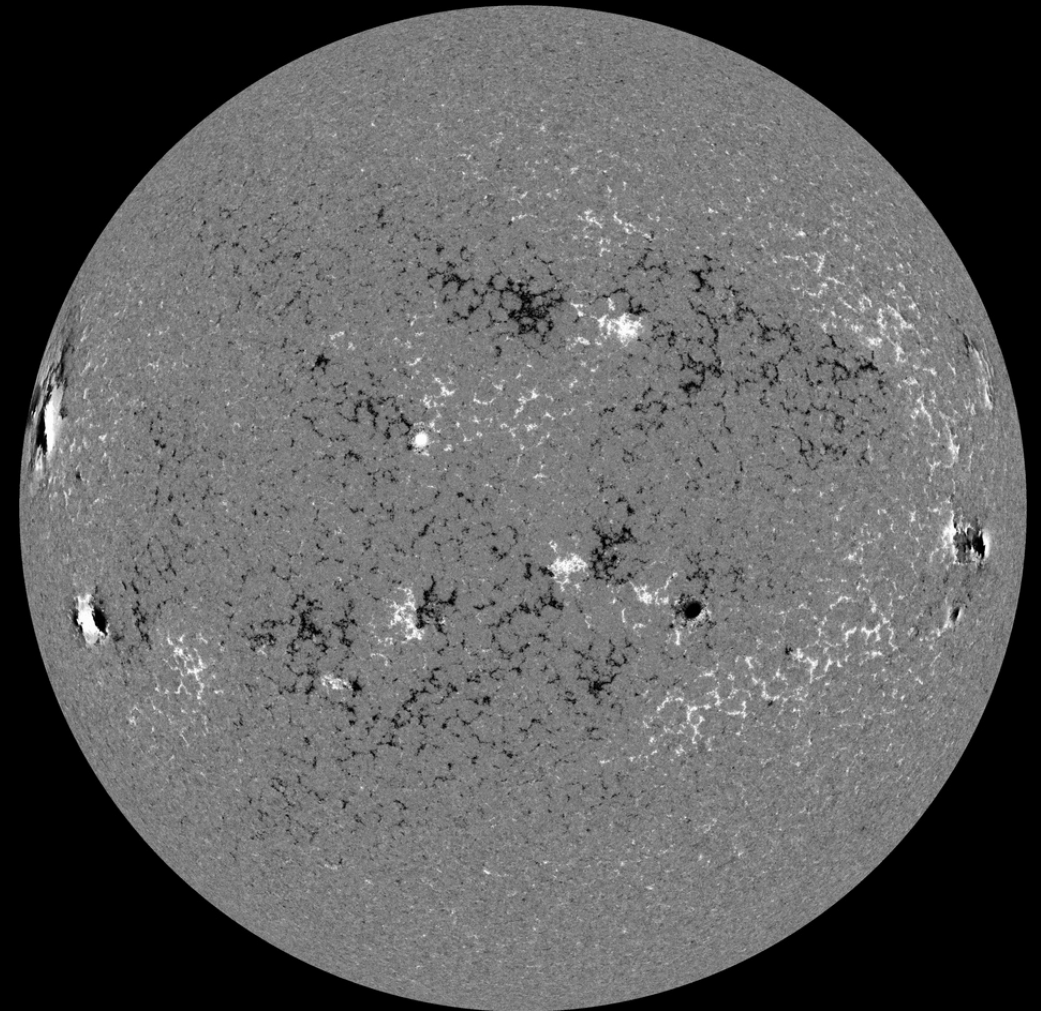
Solar active regions

SDO/HMI White Light 2025-05-26



SDO/HMI Quick-Look Continuum: 20250526_114500

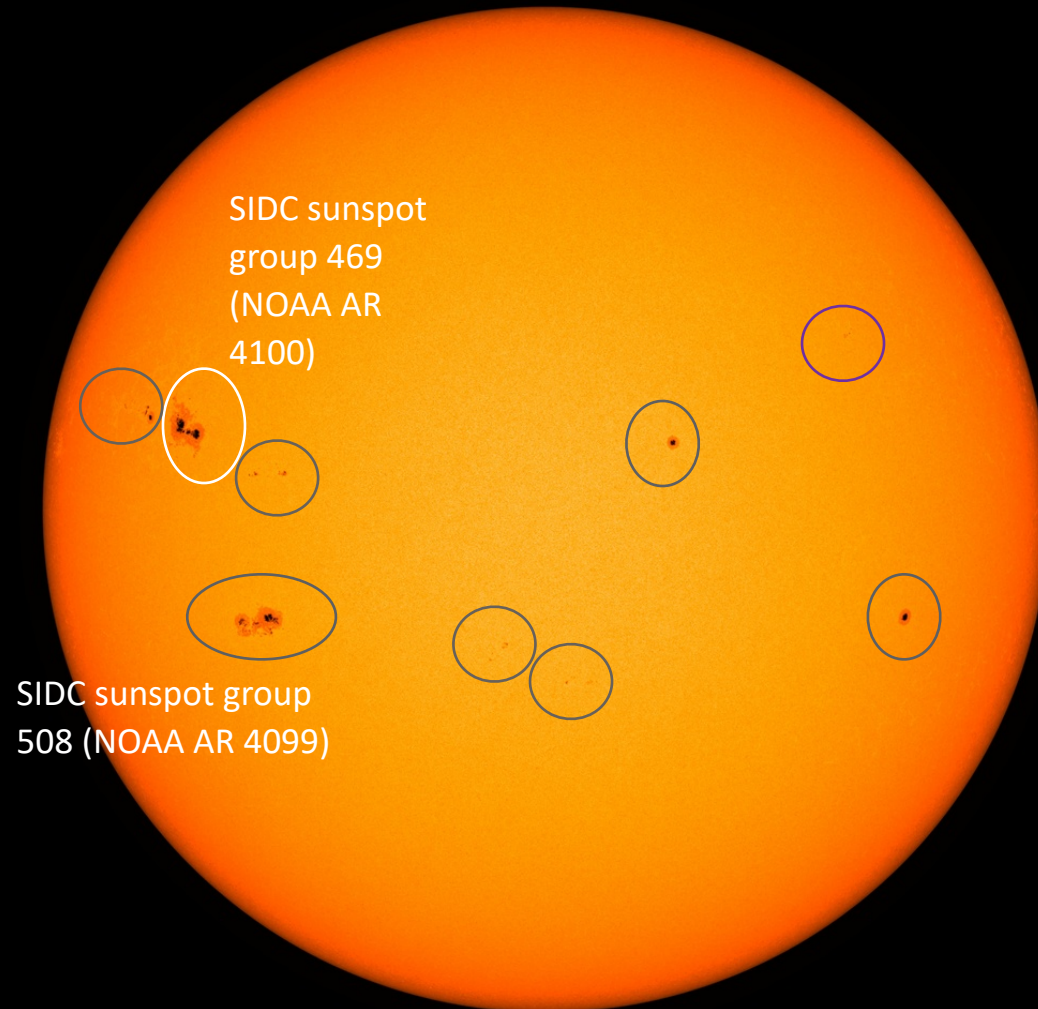
SDO/HMI Magnetogram 2025-05-26



SDO/HMI Quick-Look Magnetogram: 20250526_114500

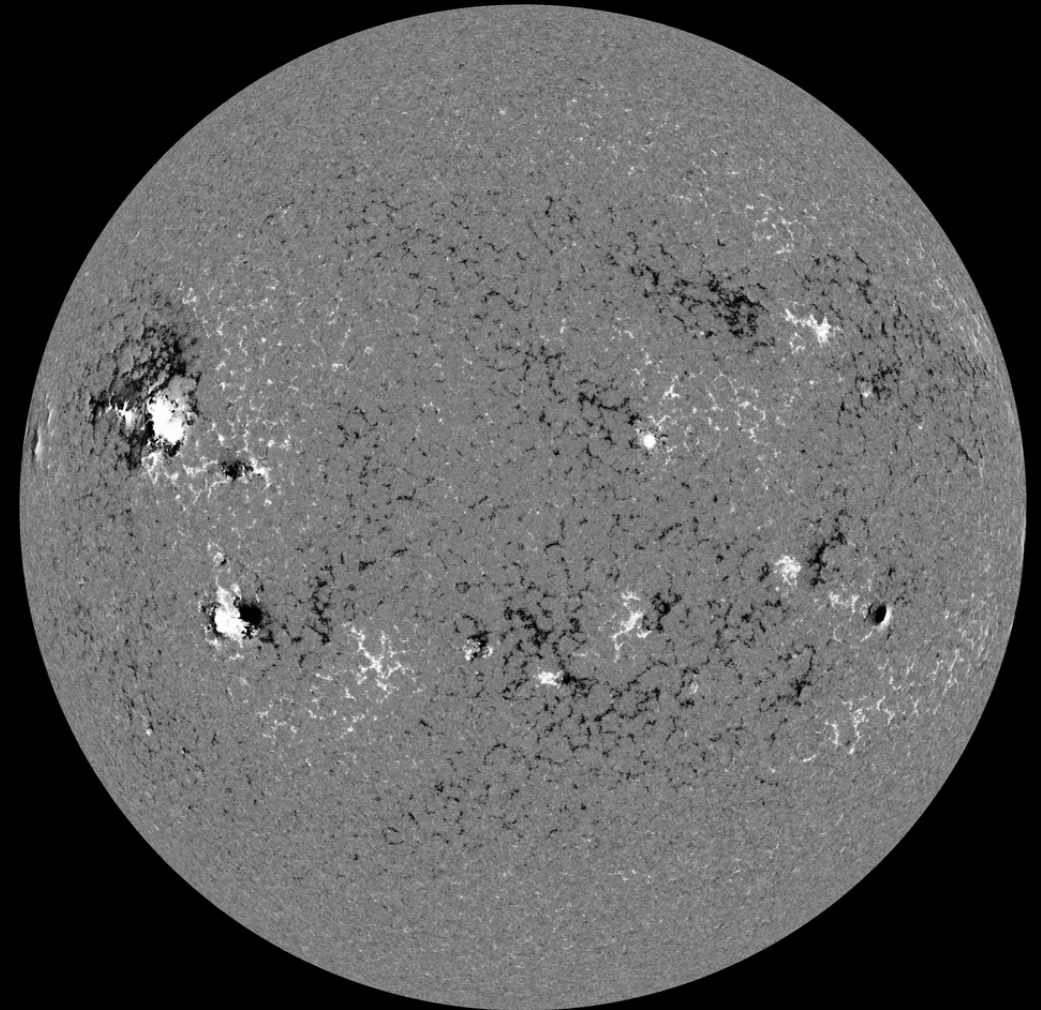
Solar active regions

SDO/HMI White Light 2025-05-28



SDO/HMI Quick-Look Continuum: 20250528_114500

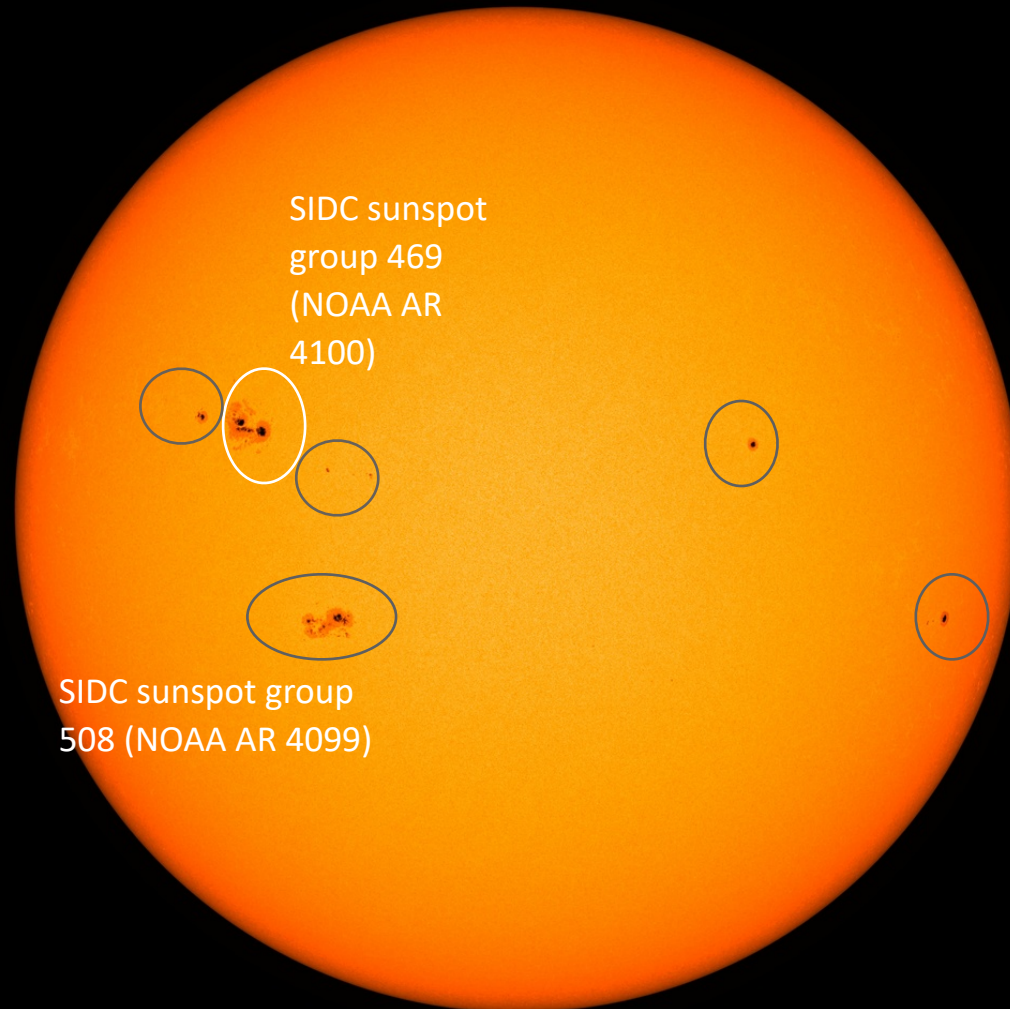
SDO/HMI Magnetogram 2025-05-28



SDO/HMI Quick-Look Magnetogram: 20250528_114500

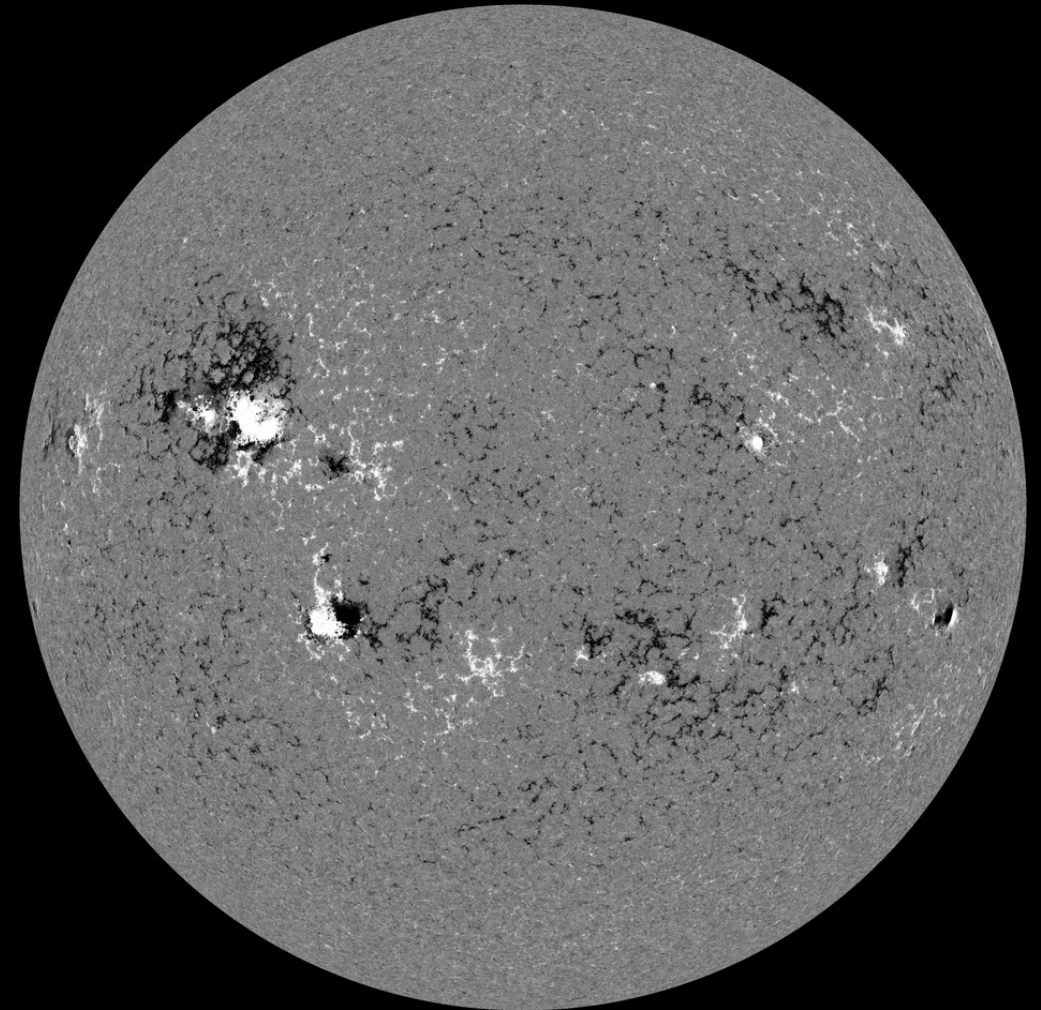
Solar active regions

SDO/HMI White Light 2025-05-29



SDO/HMI Quick-Look Continuum: 20250529_114500

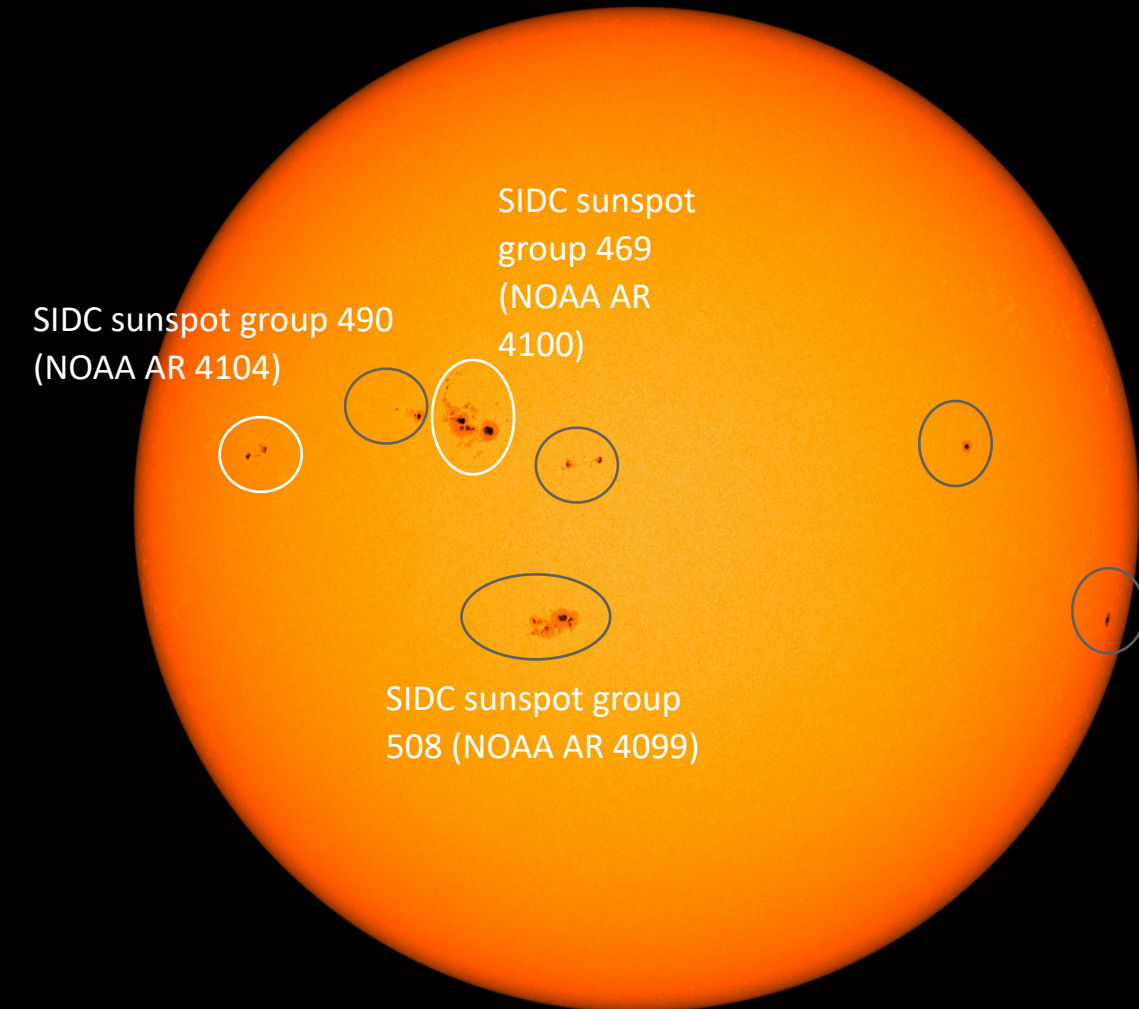
SDO/HMI Magnetogram 2025-05-29



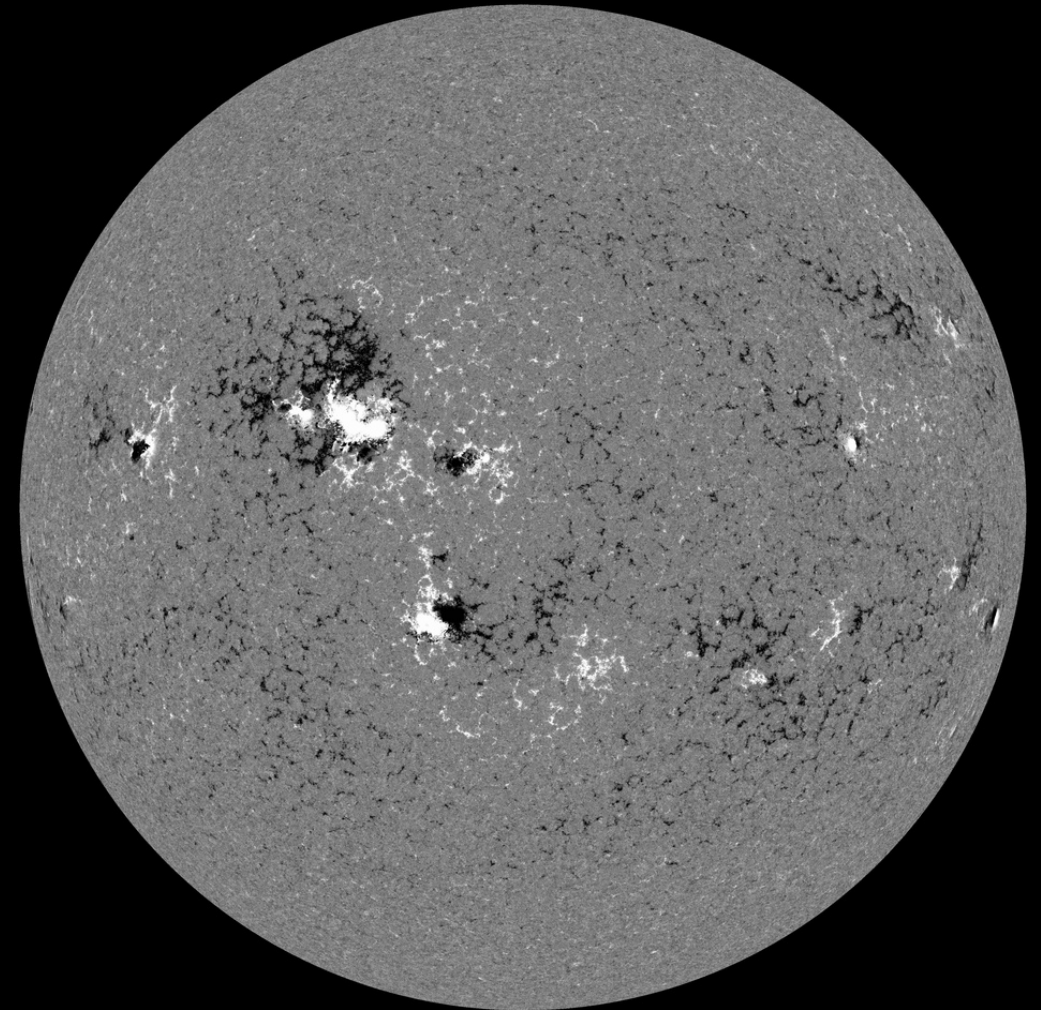
SDO/HMI Quick-Look Magnetogram: 20250529_114500

Solar active regions

SDO/HMI White Light 2025-05-30

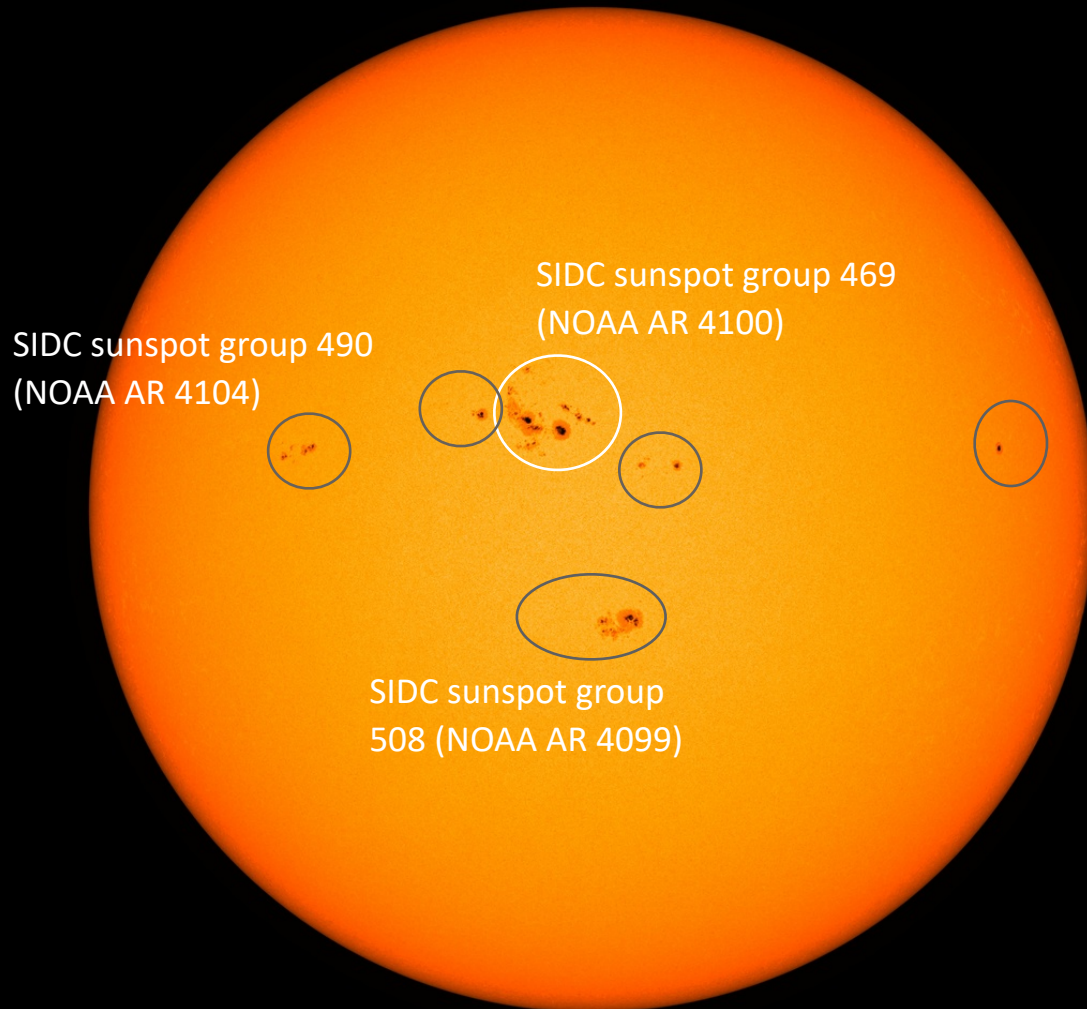


SDO/HMI Magnetogram 2025-05-30



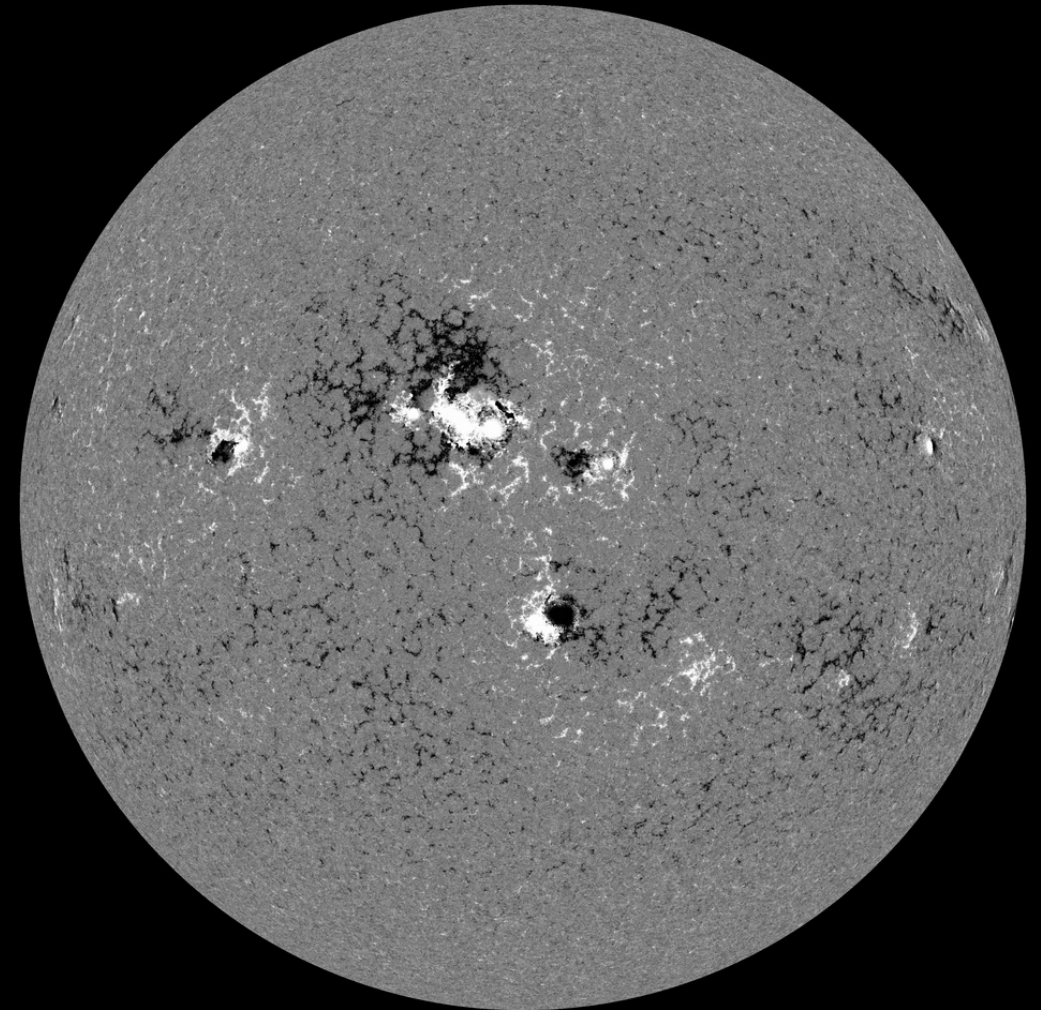
Solar active regions

SDO/HMI White Light 2025-05-31



SDO/HMI Quick-Look Continuum: 20250531_114500

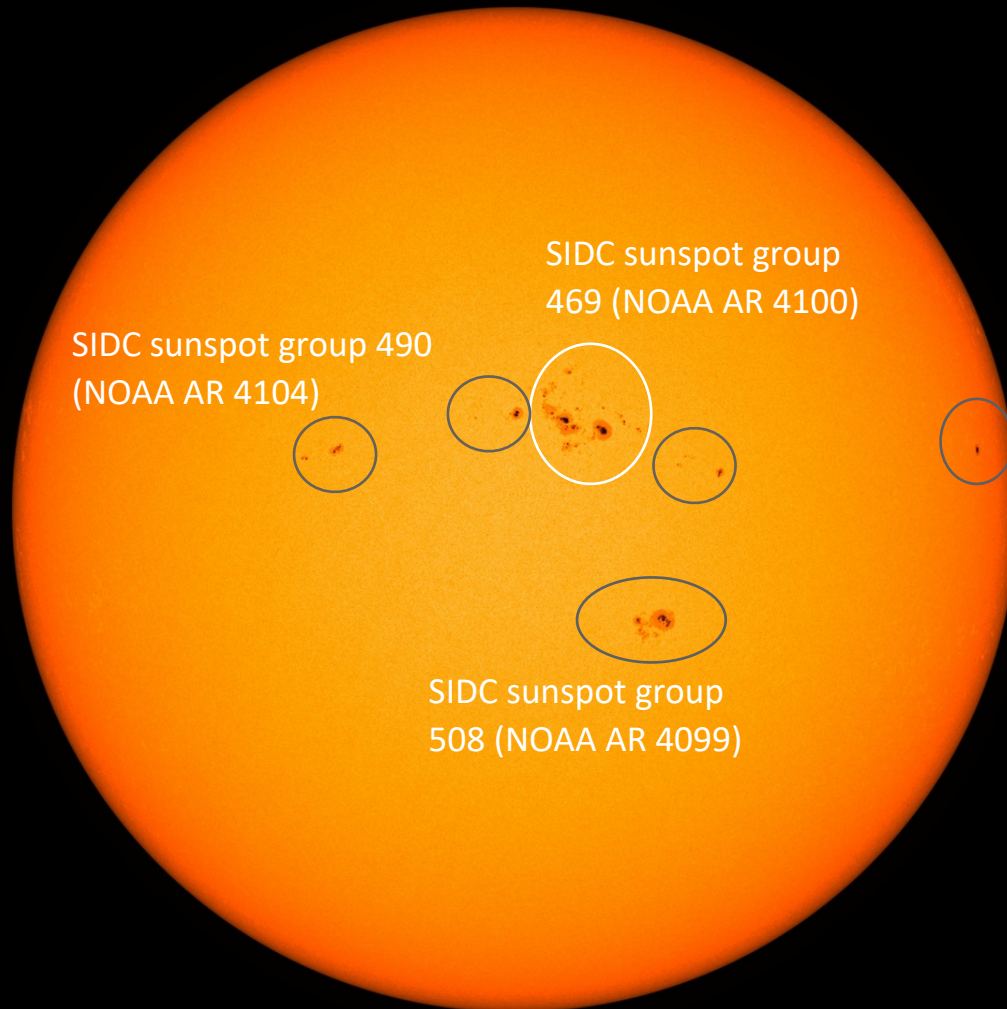
SDO/HMI Magnetogram 2025-05-31



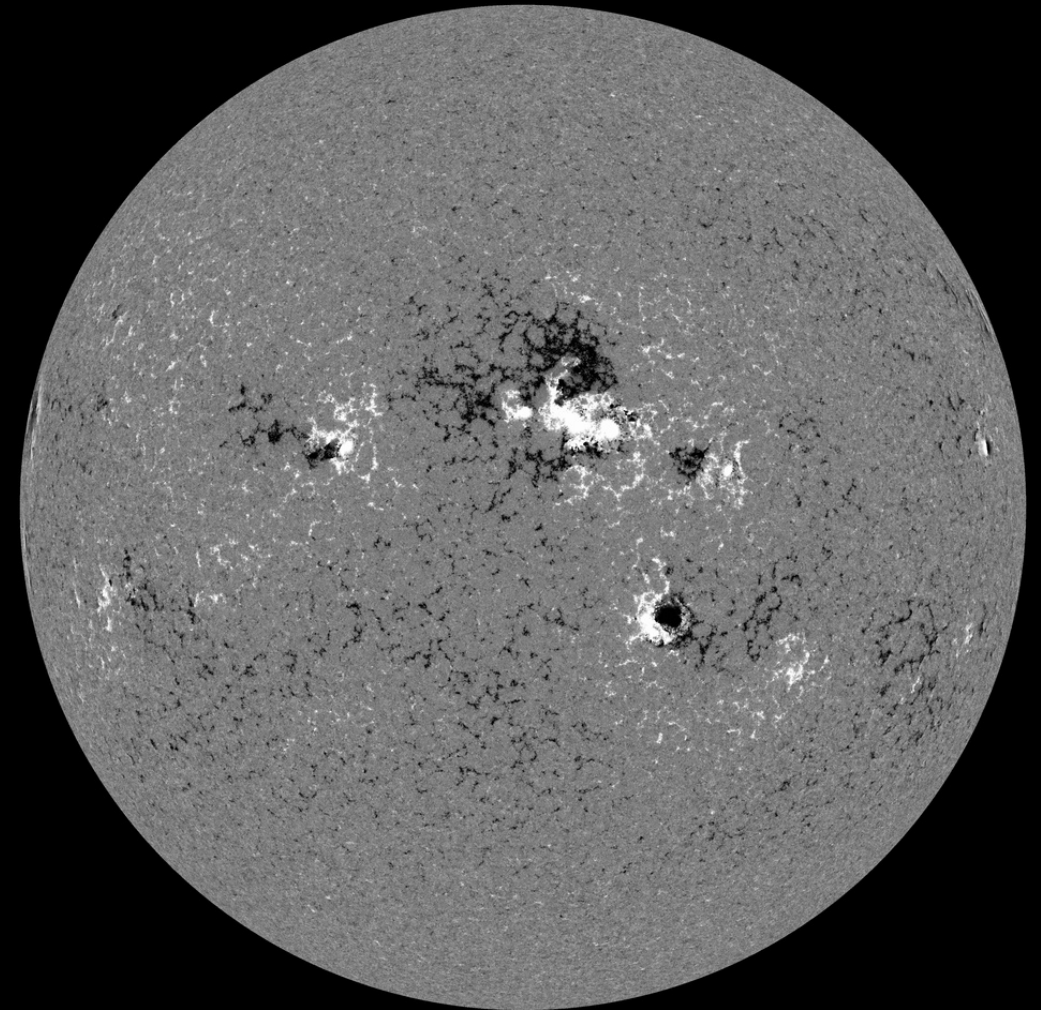
SDO/HMI Quick-Look Magnetogram: 20250531_114500

Solar active regions

SDO/HMI White Light 2025-06-01



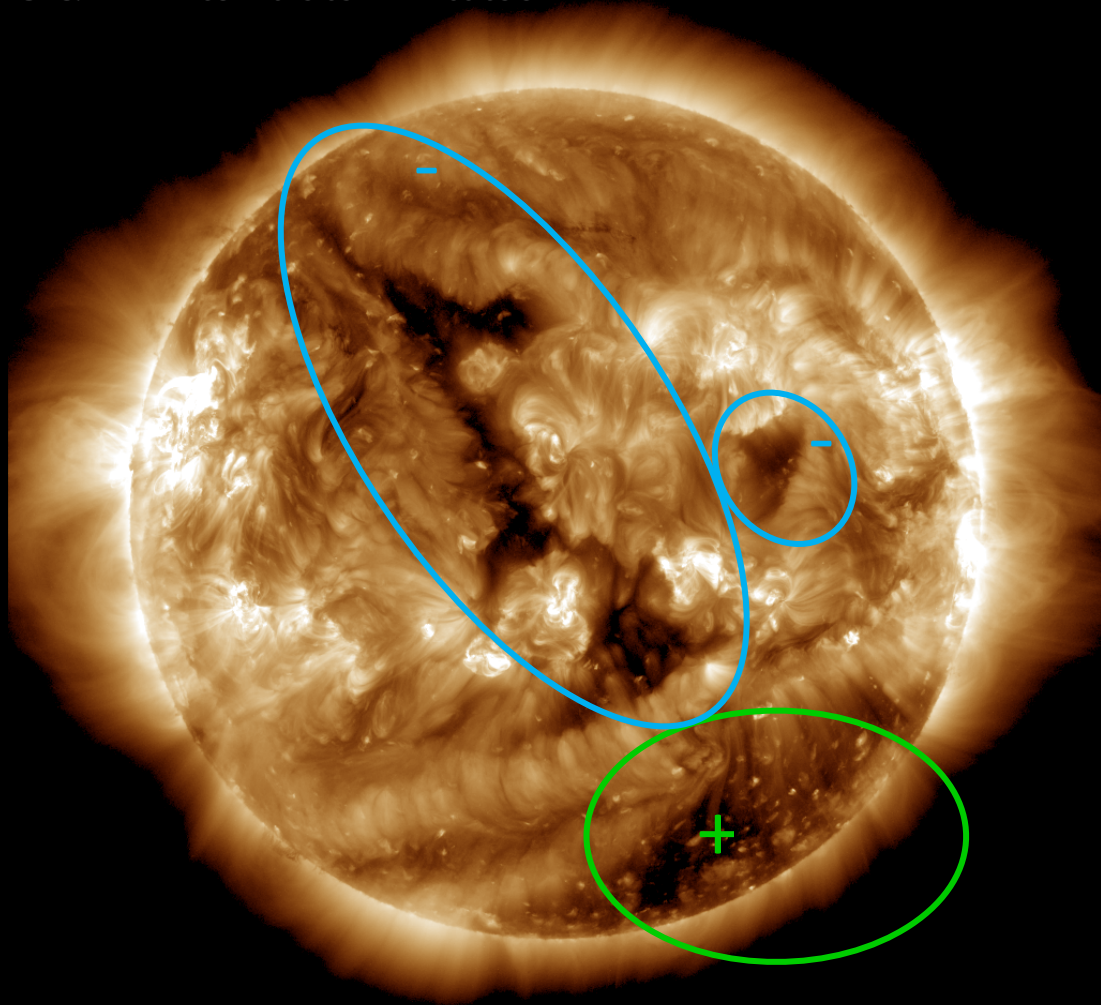
SDO/HMI Magnetogram 2025-06-01



Coronal holes

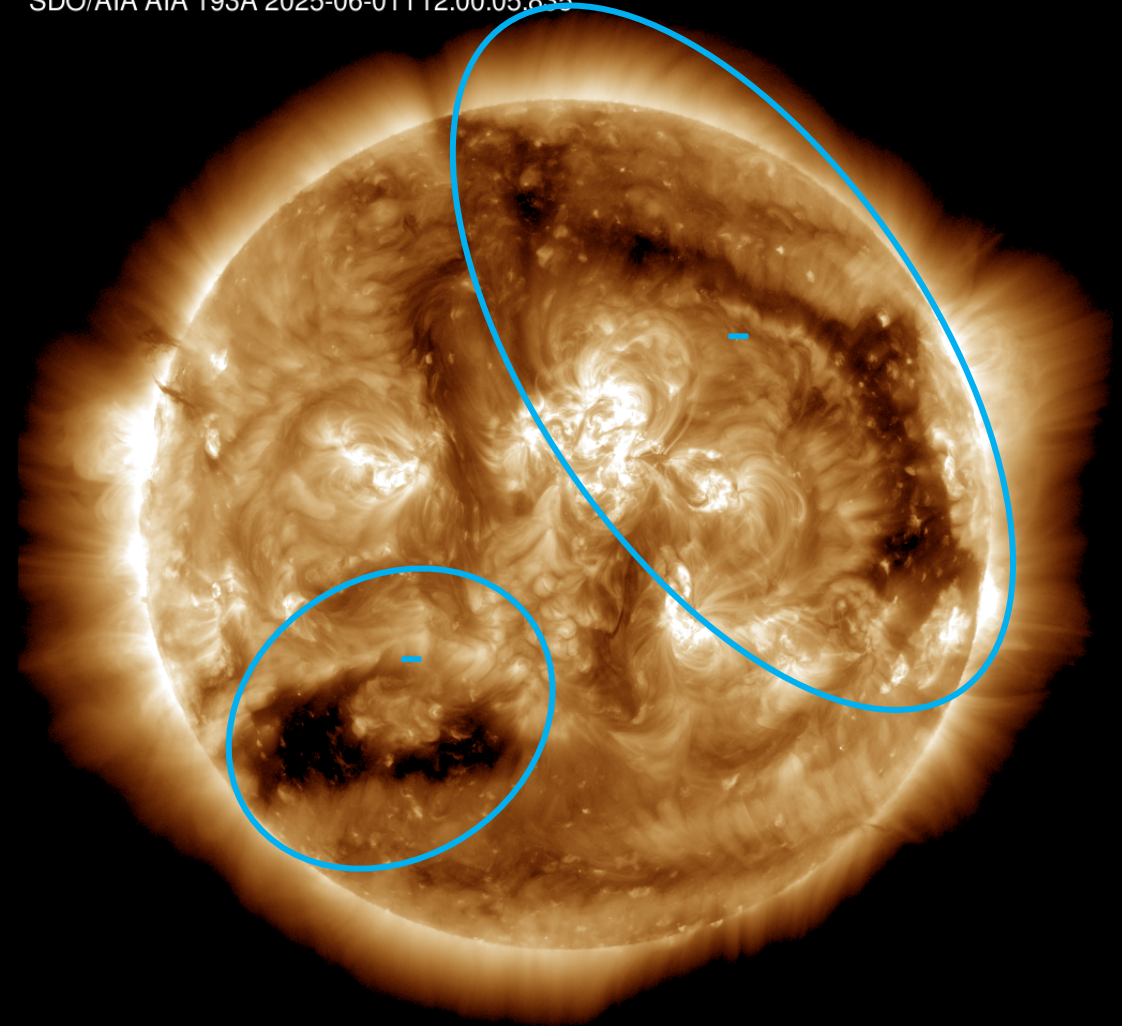
SDO/AIA 19.3 nm 2025-05-27

SDO/AIA AIA 193Å 2025-05-27T12:00:05.847



SDO/AIA 19.3 nm 2025-06-01

SDO/AIA AIA 193Å 2025-06-01T12:00:05.835



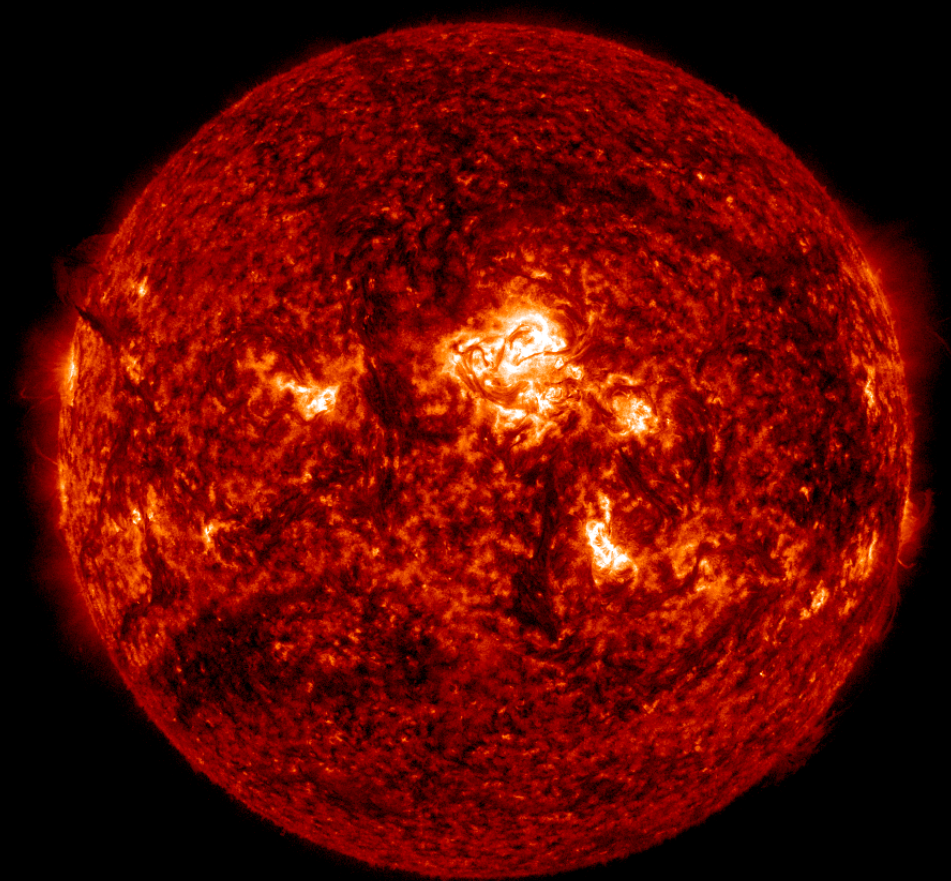
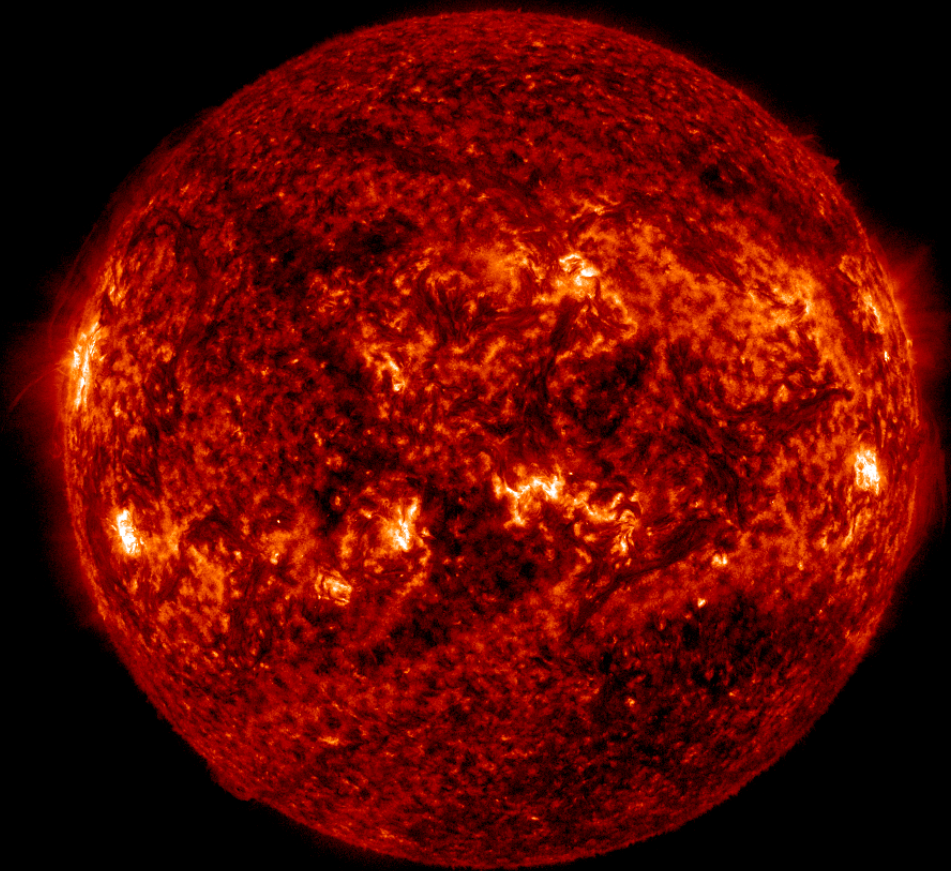
Filaments

SDO/AIA 30.4 nm 2025-05-26

SDO/AIA AIA 304Å 2025-05-26T12:00:06.580

SDO/AIA 30.4 nm 2025-06-01

SDO/AIA AIA 304Å 2025-06-01T12:00:06.580



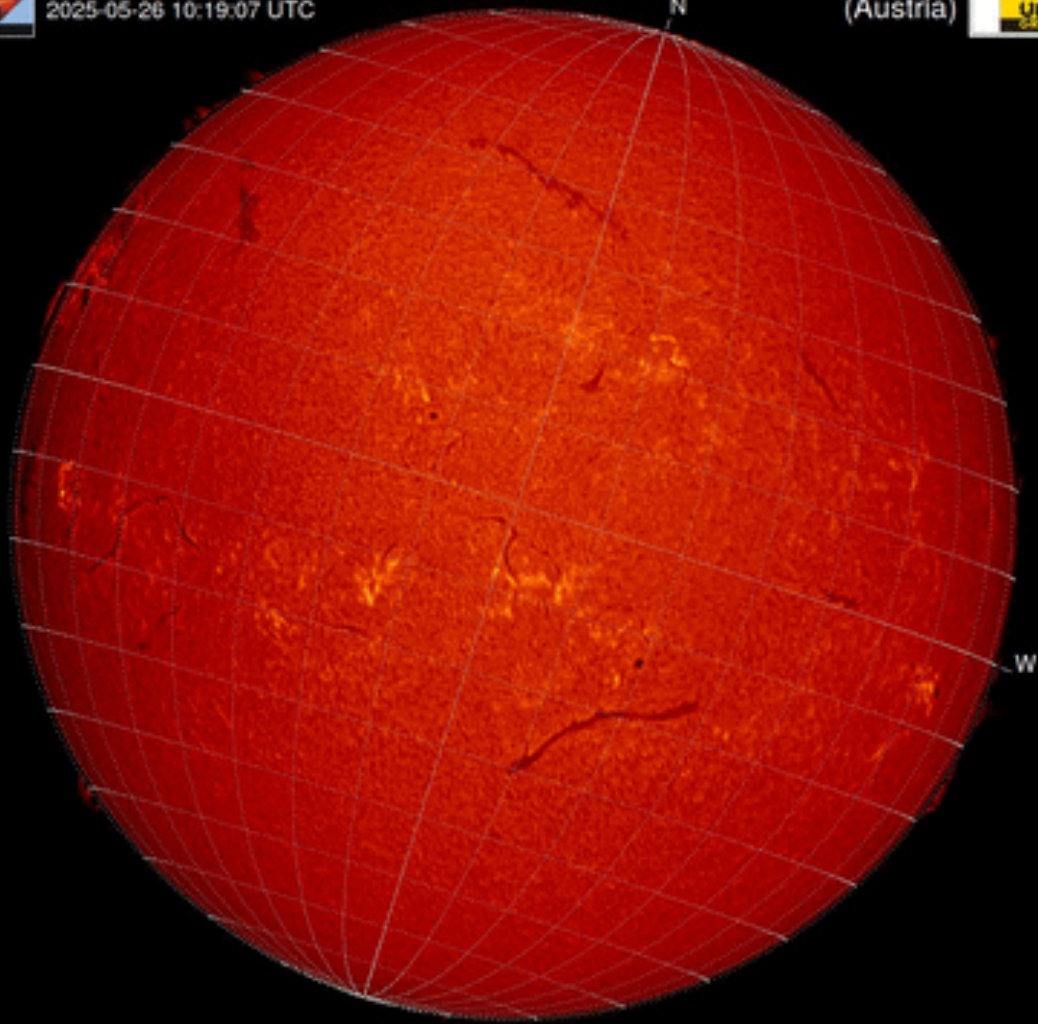
Filaments & Filament eruptions

H-alpha 2025-05-26



Kanzelhöhe Observatory
2025-05-26 10:19:07 UTC

University of Graz
(Austria)

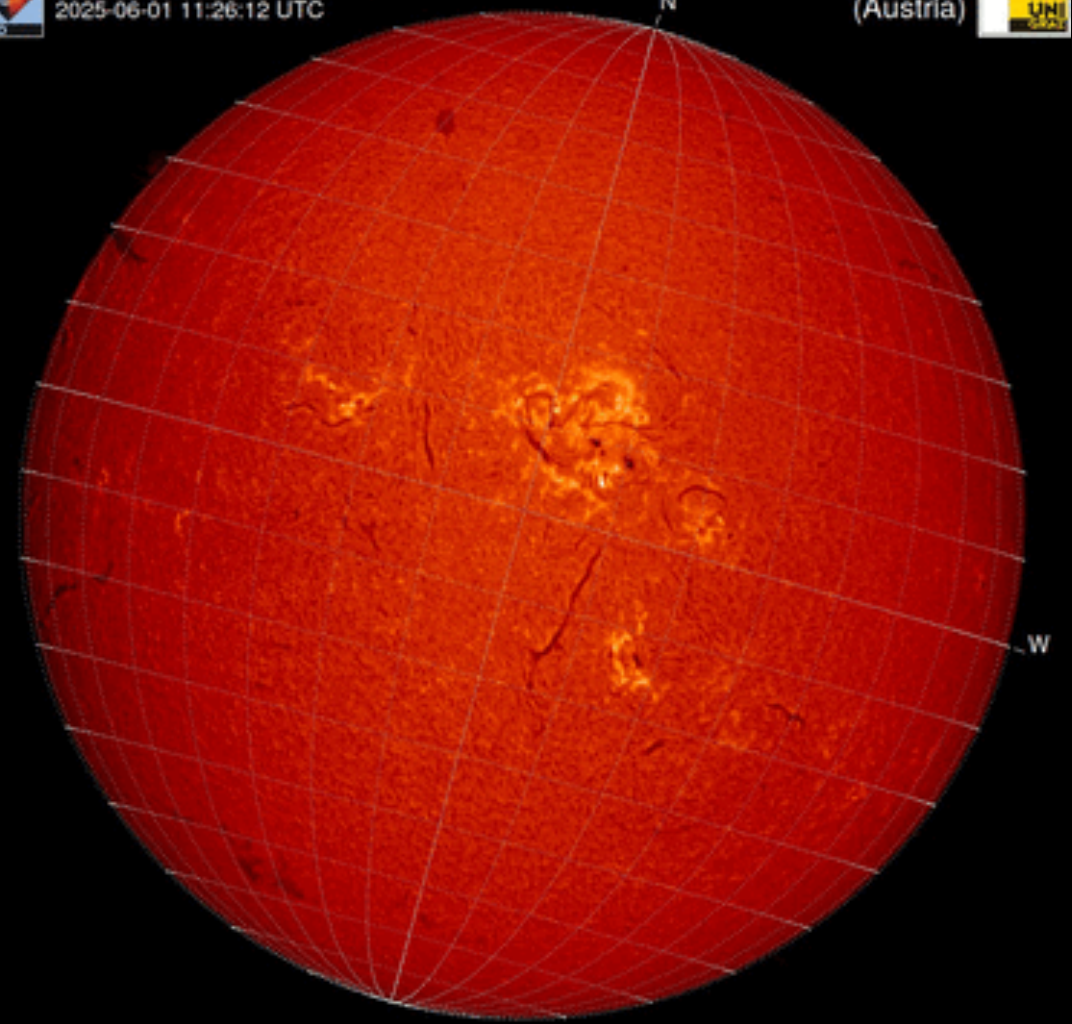


H-alpha 2025-06-01

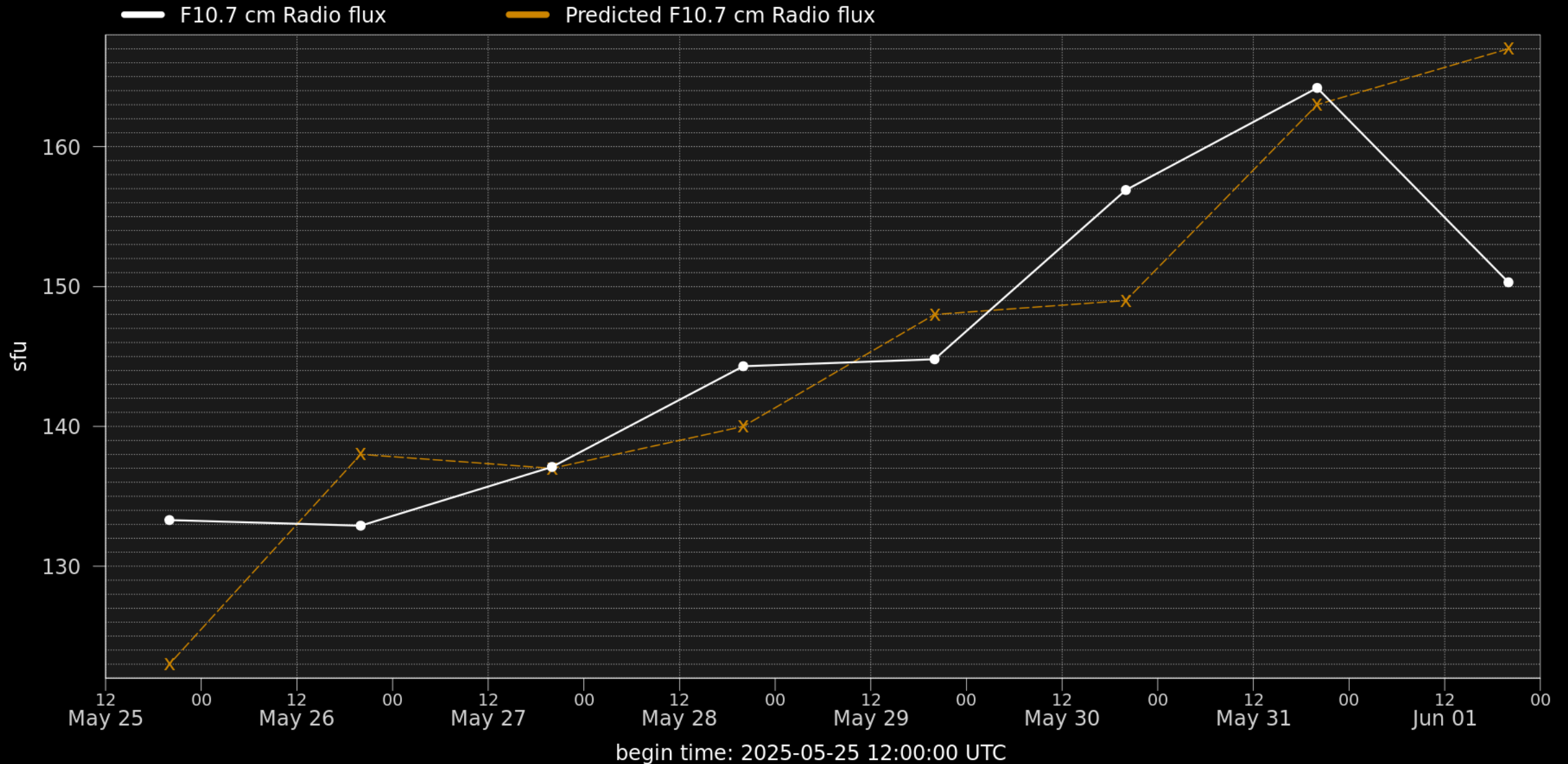


Kanzelhöhe Observatory
2025-06-01 11:26:12 UTC

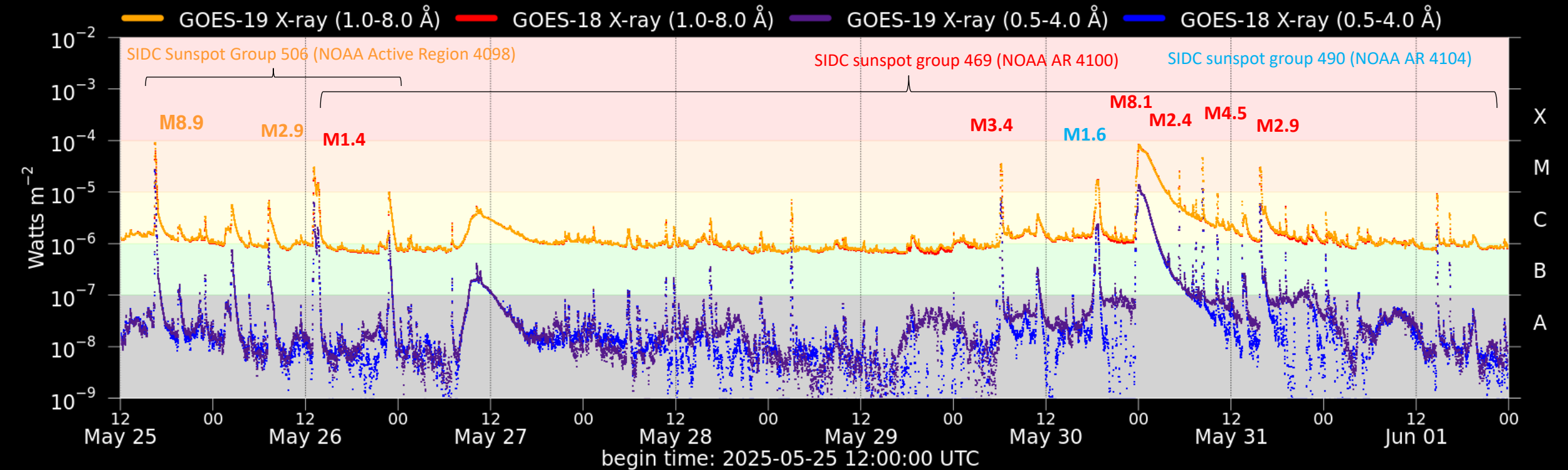
University of Graz
(Austria)



Solar F10.7cm radio flux



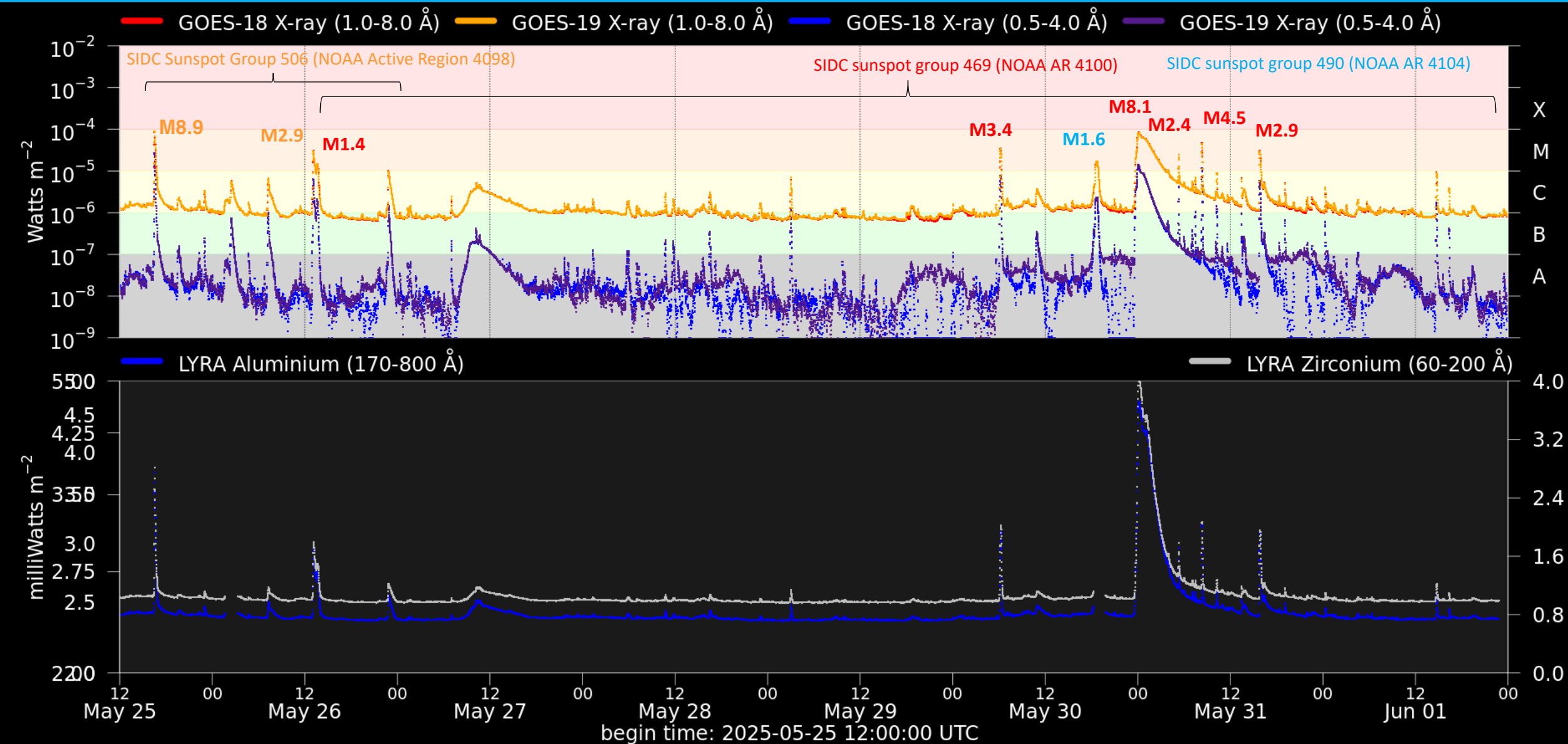
Flaring activity



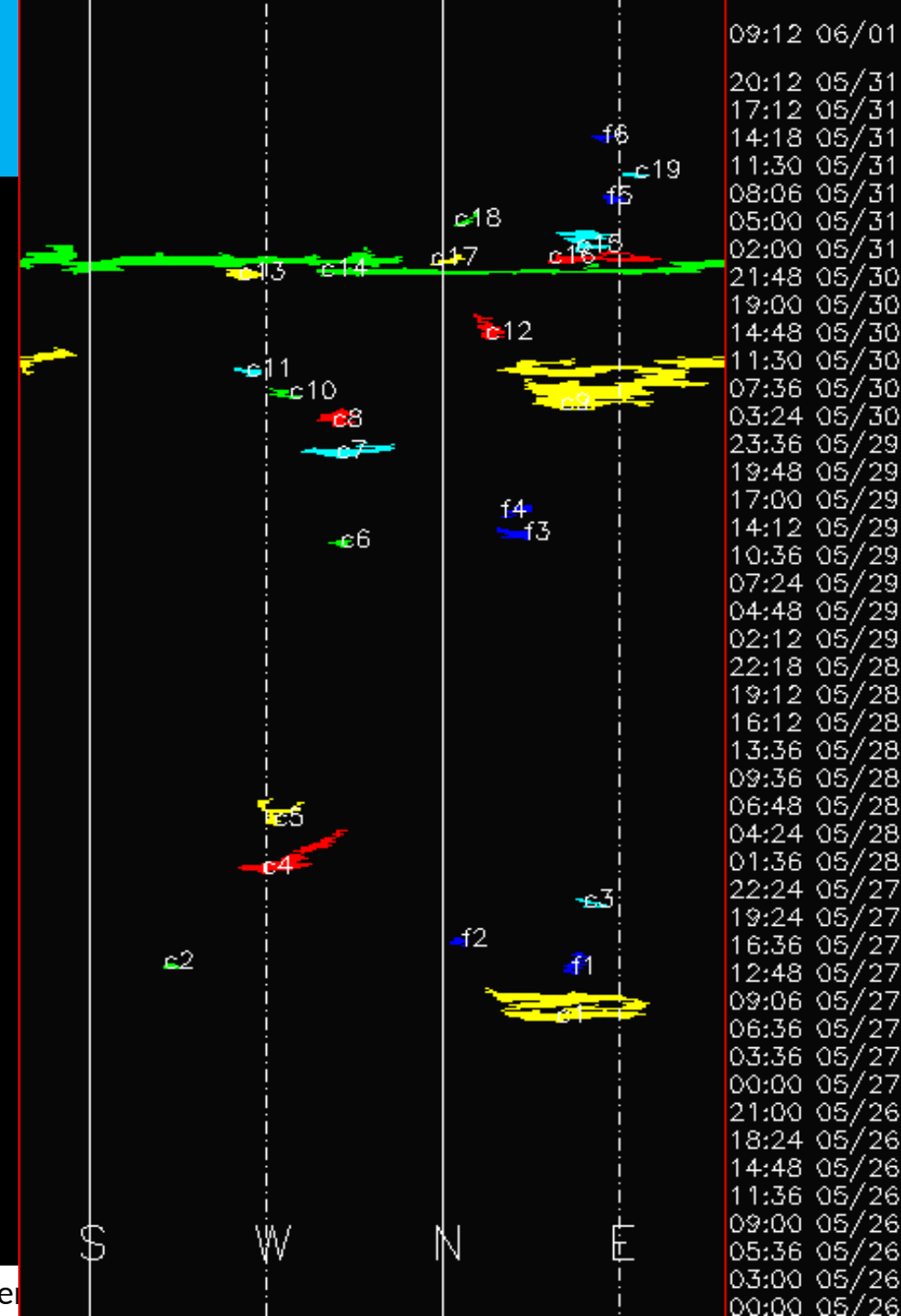
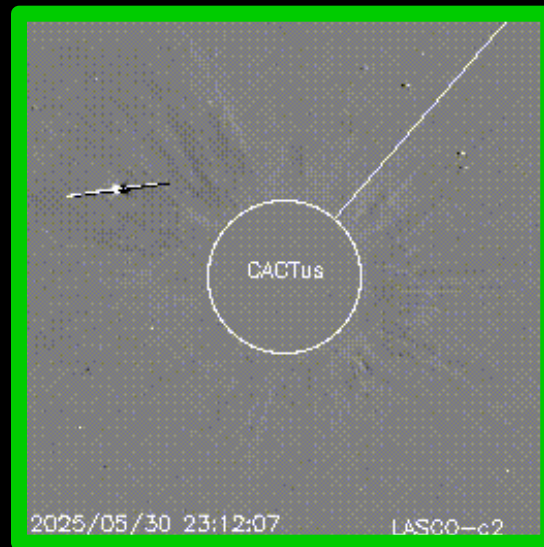
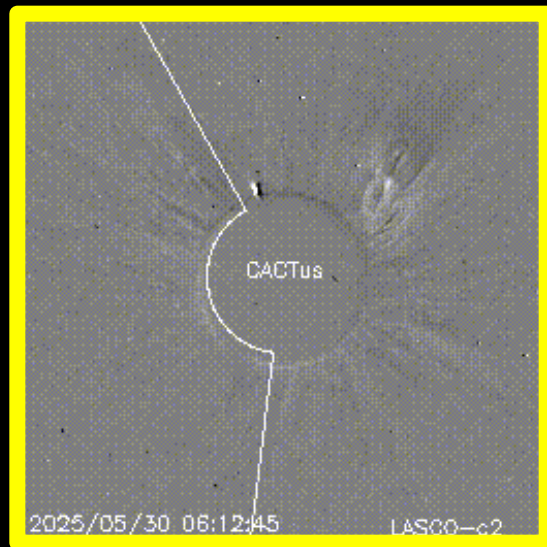
Probabilities (%) and occurrences (#) of C/M/X-flares daily, from noon to noon:

Issue date	2025-05-25	2025-05-26	2025-05-27	2025-05-28	2025-05-29	2025-05-30	2025-05-31	2025-06-01
Probability (%)	97 37 10	96 43 10	99 60 14	99 69 10	99 66 10	99 67 10	99 83 19	99 88 19
Observed (#)	05 01 00	04 01 00	06 00 00	06 00 00	01 01 00	05 03 00	09 01 00	02 00 00

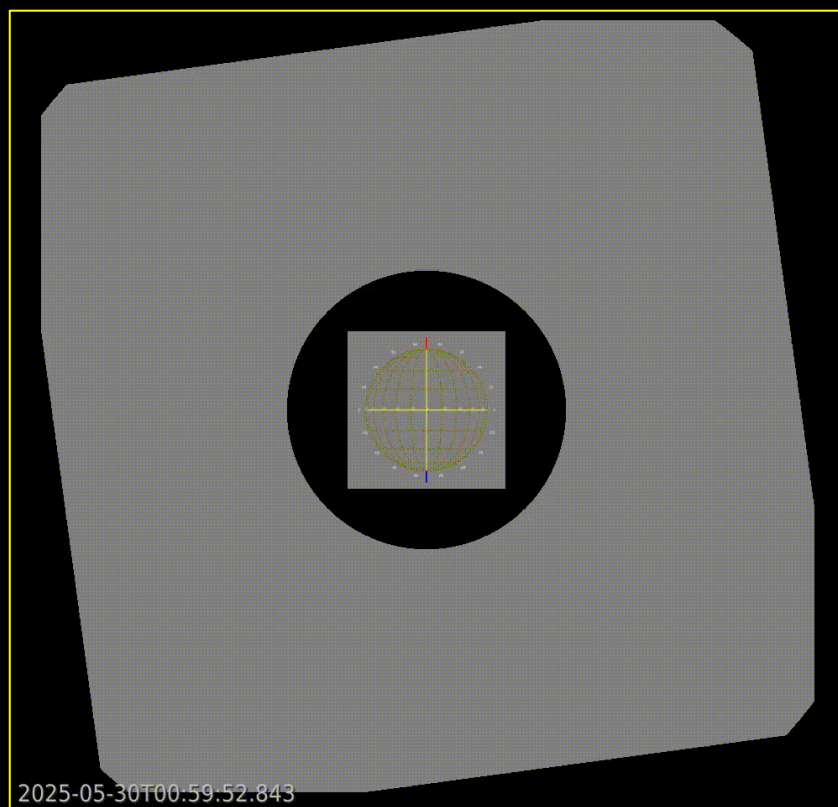
Solar X-Ray and UV flux



Coronal Mass Ejections



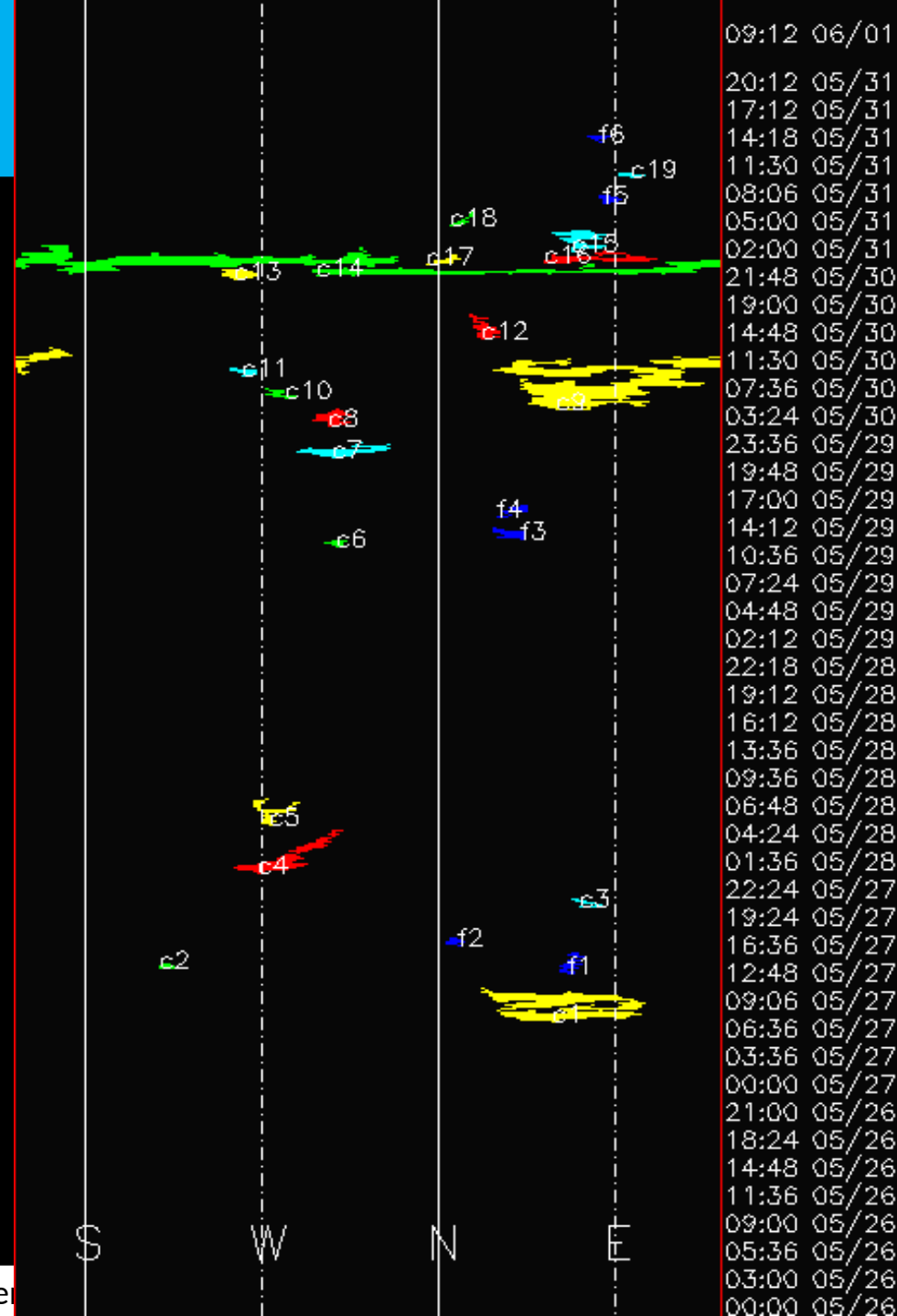
Coronal Mass Ejections



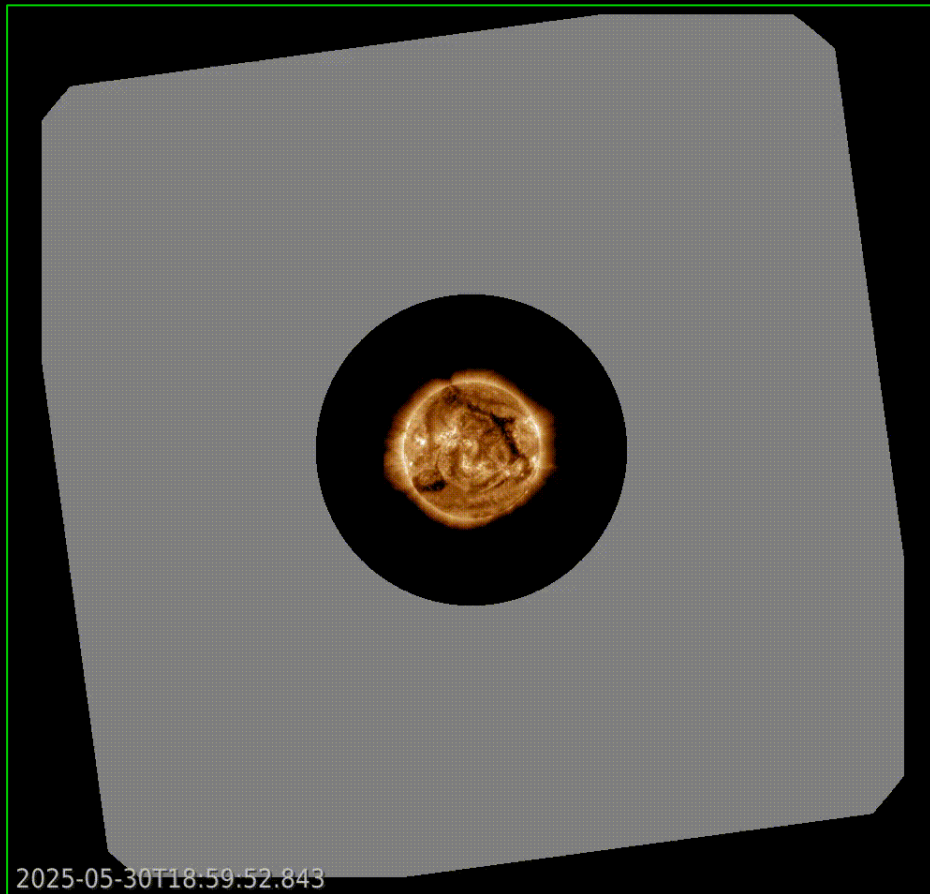
2 CMEs to the east
associated with M3.4 flare
from (SIDC group
469 ,NOAA AR 4100)

Speed of around 450 km/s

Predicted to arrive at Earth
with glancing blow from
late 02 June / early on June
3.



Coronal Mass Ejections



2025-05-30T18:59:52.843

Halo CME associated long duration M8.1 flare (SIDC group 469, NOAA AR 4100).

Large dimming on disk.

Associated with Type II radio emission.

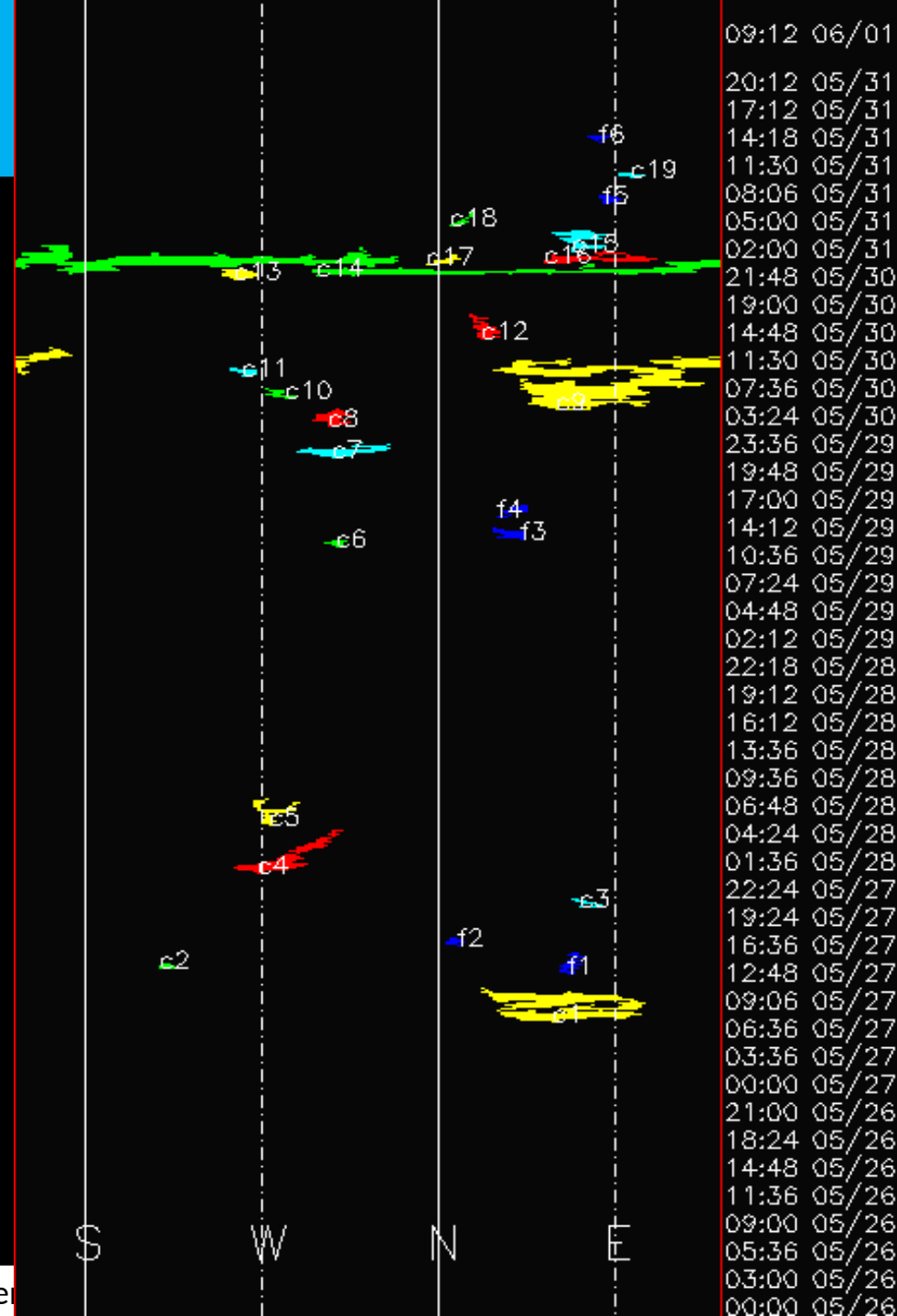
Estimated speed of around 1500 km/s

Predicted to arrive at Earth around midday on June 01

Observed as ICME at 05:30 UTC June 01.

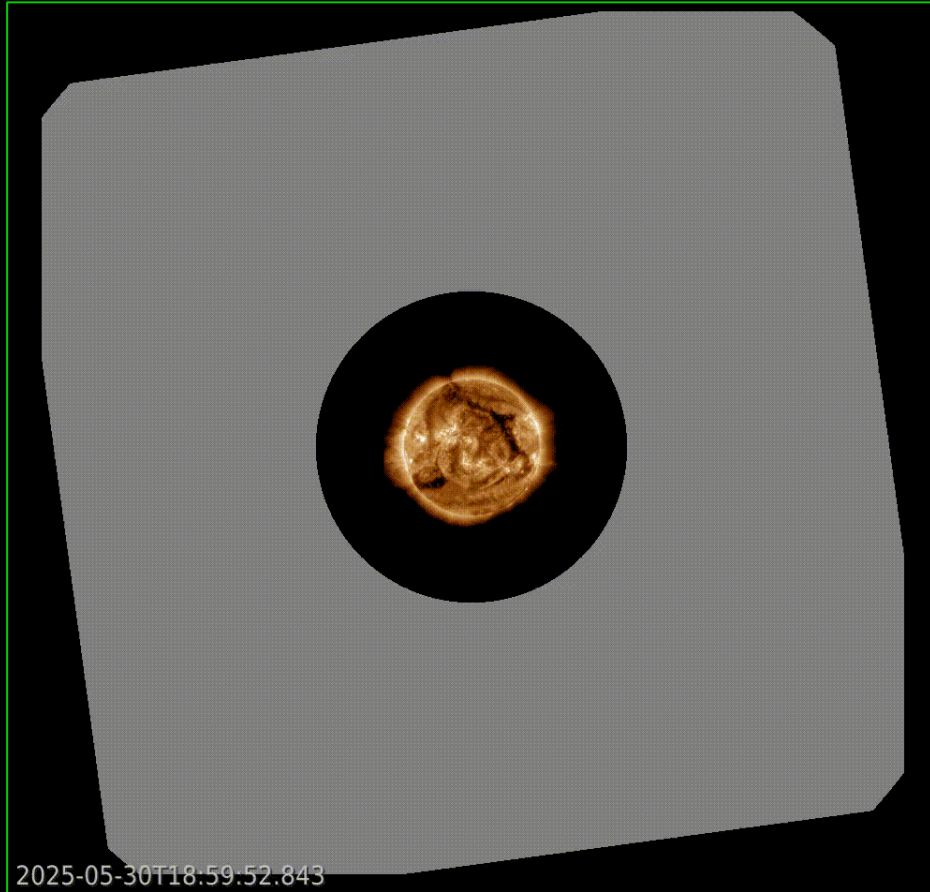
(This CME expected to

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09:12	06/01
20:12	05/31
17:12	05/31
14:18	05/31
11:30	05/31
08:06	05/31
05:00	05/31
02:00	05/31
21:48	05/30
19:00	05/30
14:48	05/30
11:30	05/30
07:36	05/30
03:24	05/30
23:36	05/29
19:48	05/29
17:00	05/29
14:12	05/29
10:36	05/29
07:24	05/29
04:48	05/29
02:12	05/29
22:18	05/28
19:12	05/28
16:12	05/28
13:36	05/28
09:36	05/28
06:48	05/28
04:24	05/28
01:36	05/28
22:24	05/27
19:24	05/27
16:36	05/27
12:48	05/27
09:06	05/27
06:36	05/27
03:36	05/27
00:00	05/27
21:00	05/26
18:24	05/26
14:48	05/26
11:36	05/26
09:00	05/26
05:36	05/26
03:00	05/26
00:00	05/26

Coronal Mass Ejections



2025-05-30T18:59:52.843

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(This CME expected to catch



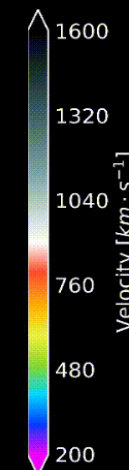
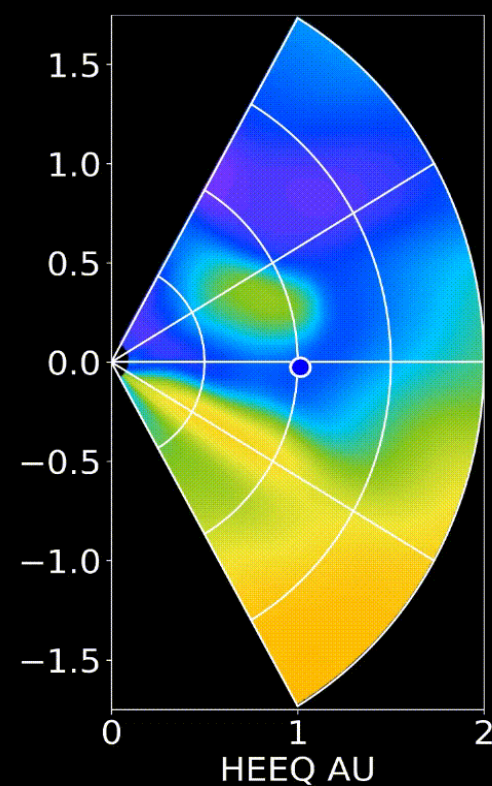
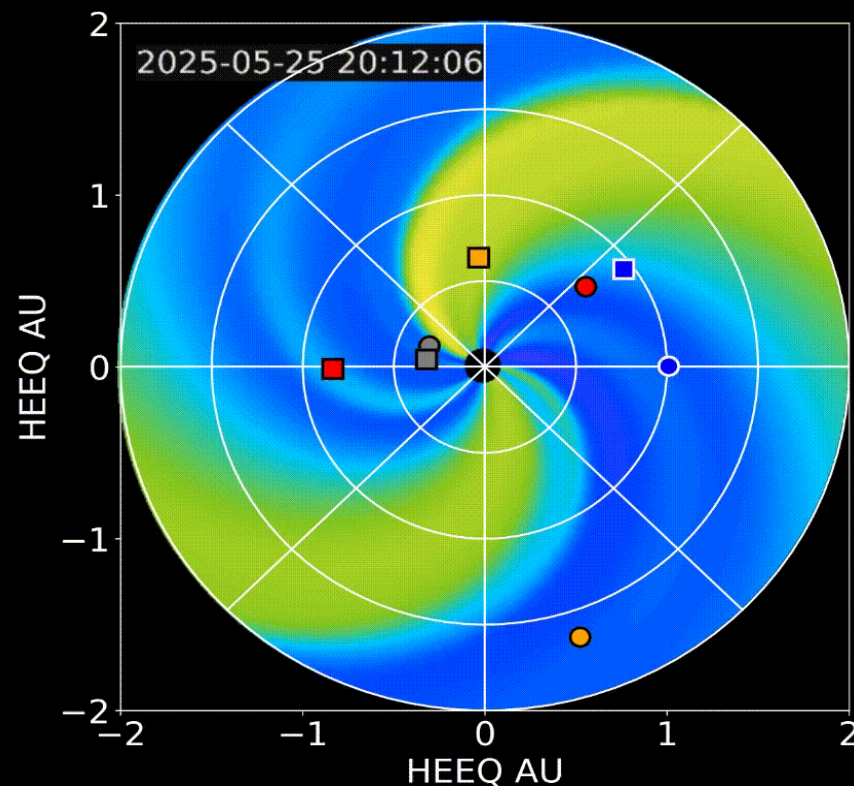
Coronal M

Collection : CME - 2025-05-30 20:00:00

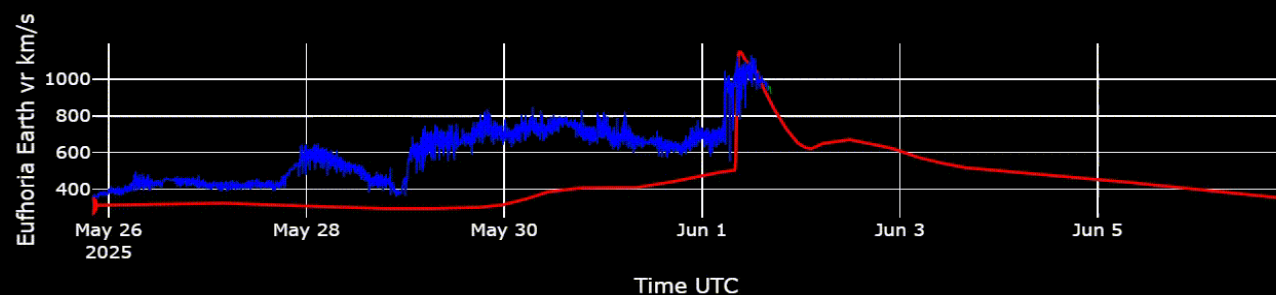
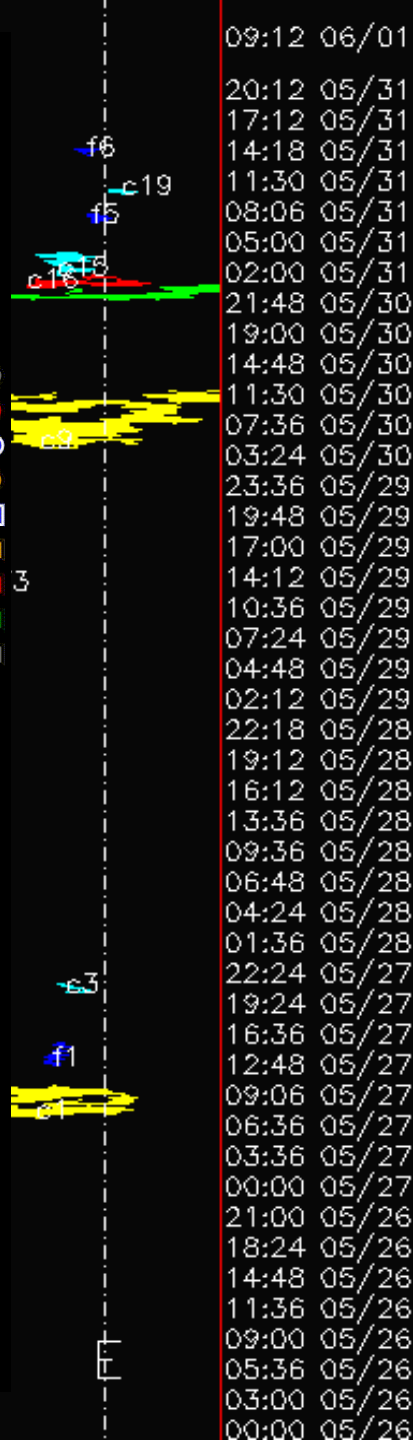
© SIDC EUHFORIA Preview

Start date : 2025-05-25T20:06:12

End date : 2025-06-06T20:12:53



Mercury ●
Venus ●
Earth ○
Mars ●
STA □
PSP □
SOLO ●
JUNO ●
MPO ●



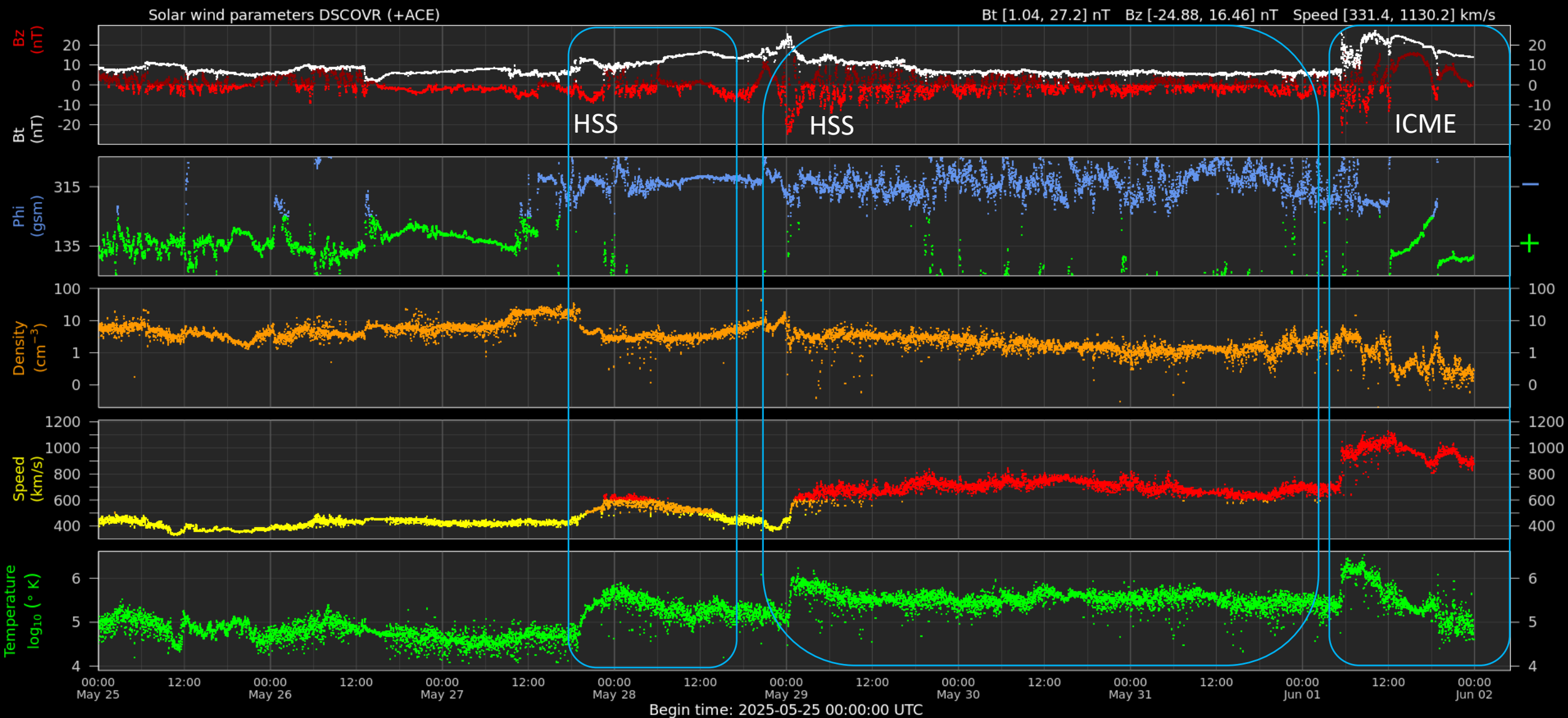
Solar Wind and Geomagnetic Activity



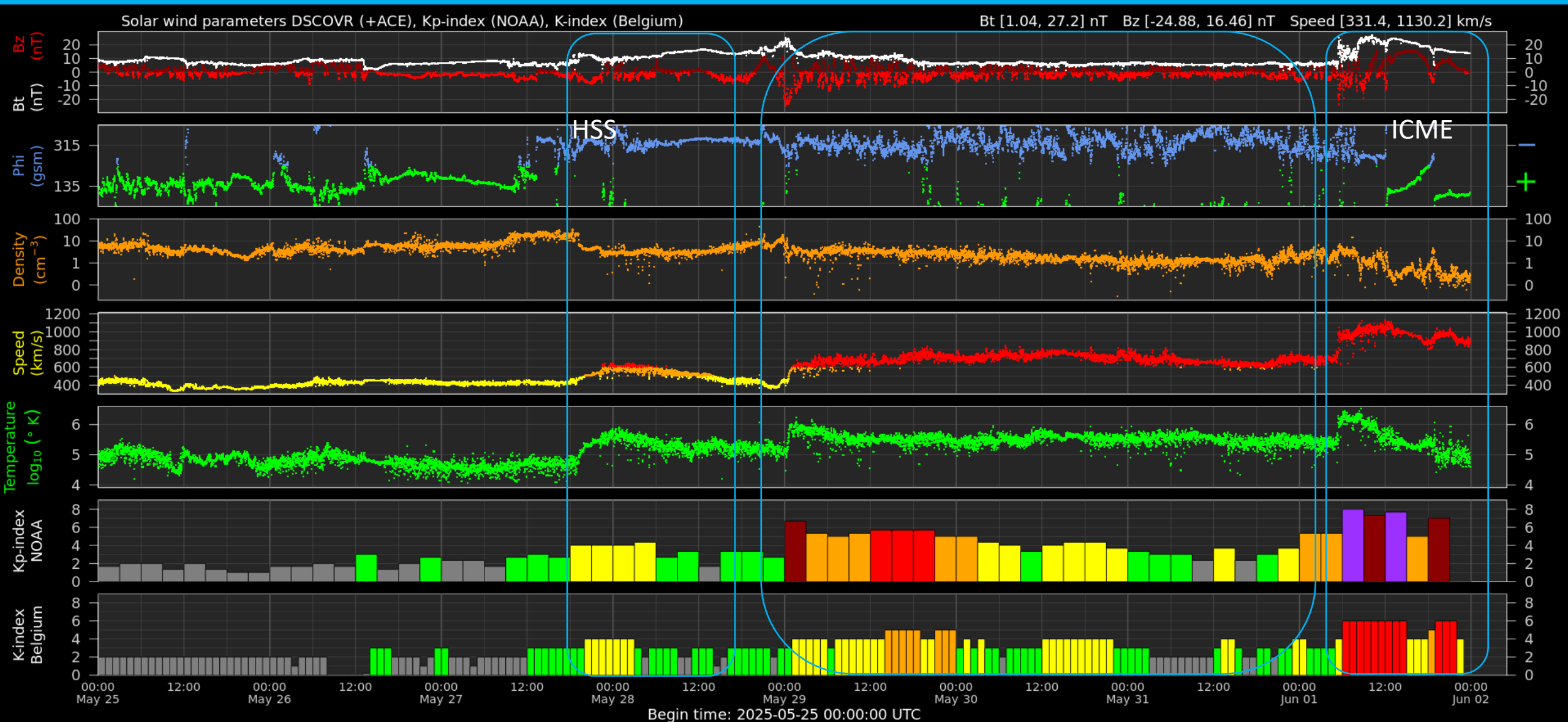
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Solar wind parameters



Solar wind parameters & K-indices



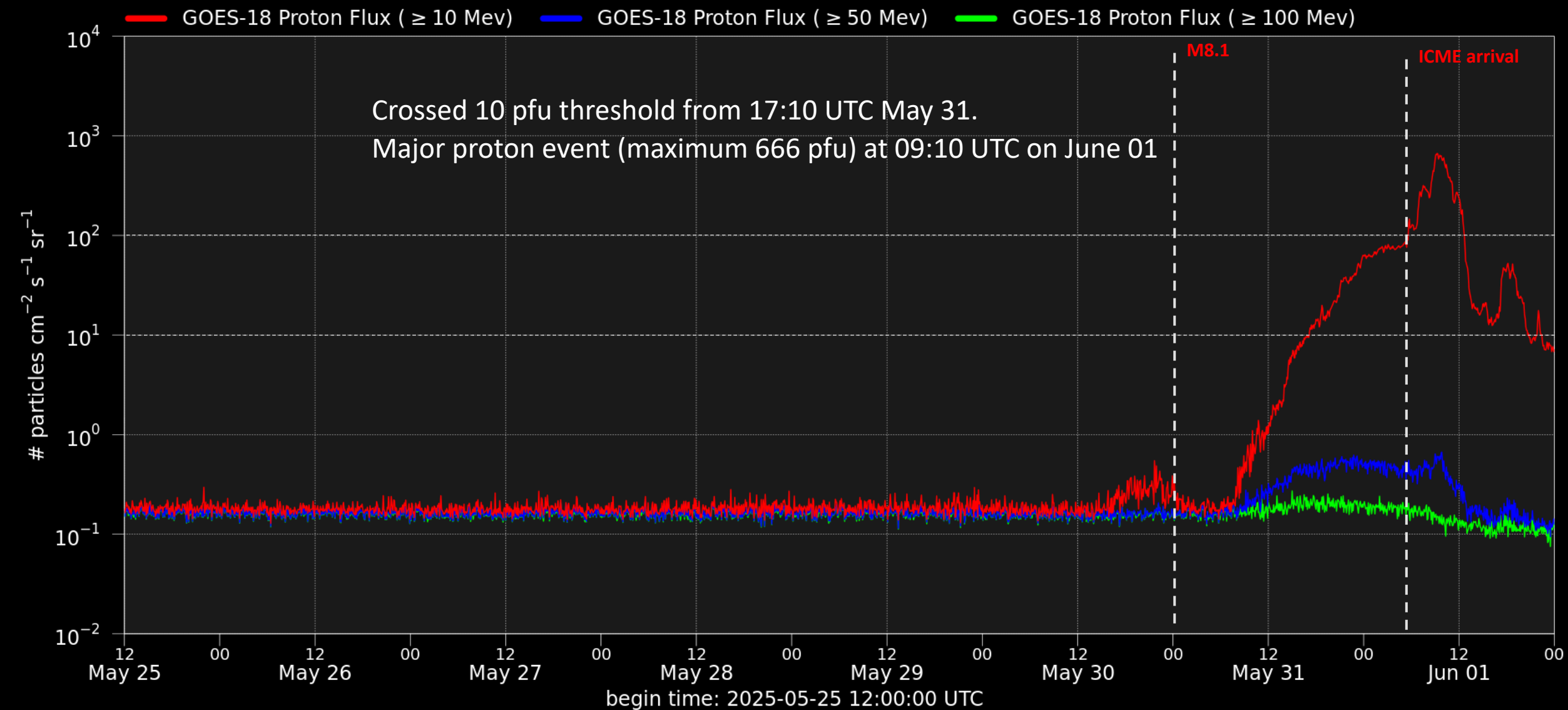
Energetic Particles



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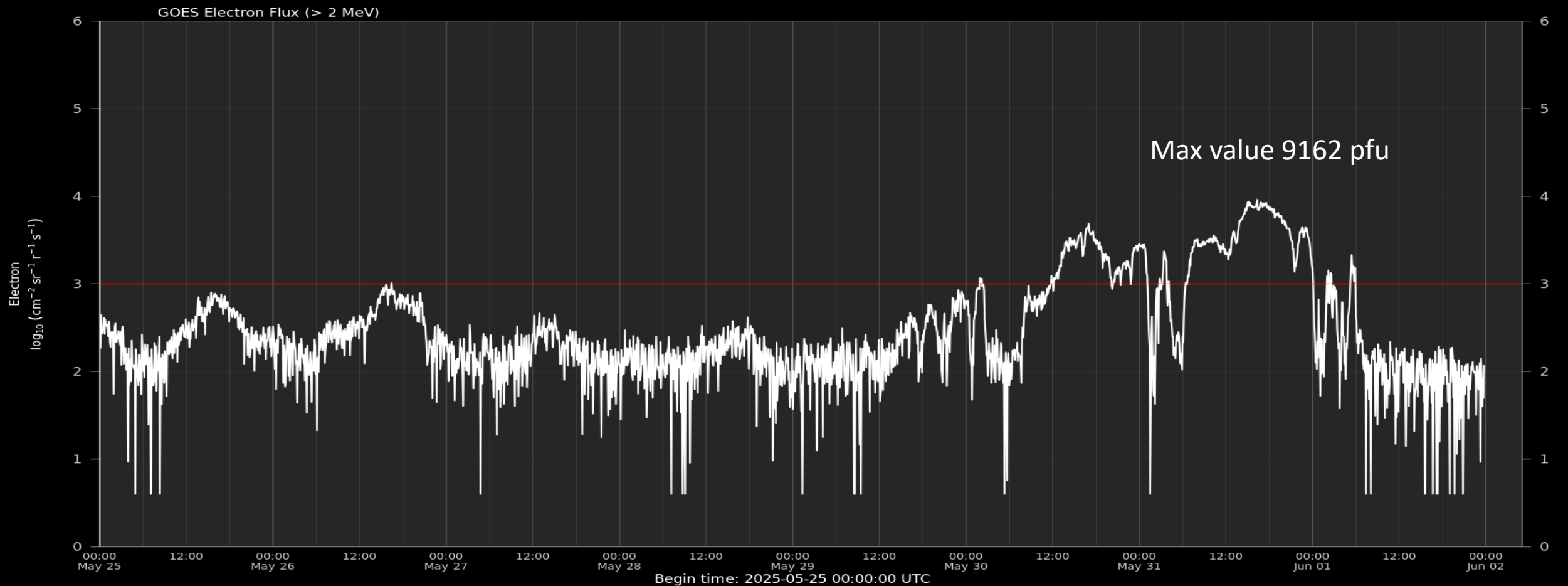
Solar proton flux



Electron flux at GEO – GOES 19

www.stce.be/educational/classification#electrons

www.spaceweather.gc.ca/forecast-prevision/space-spatiale/sffl-en.php



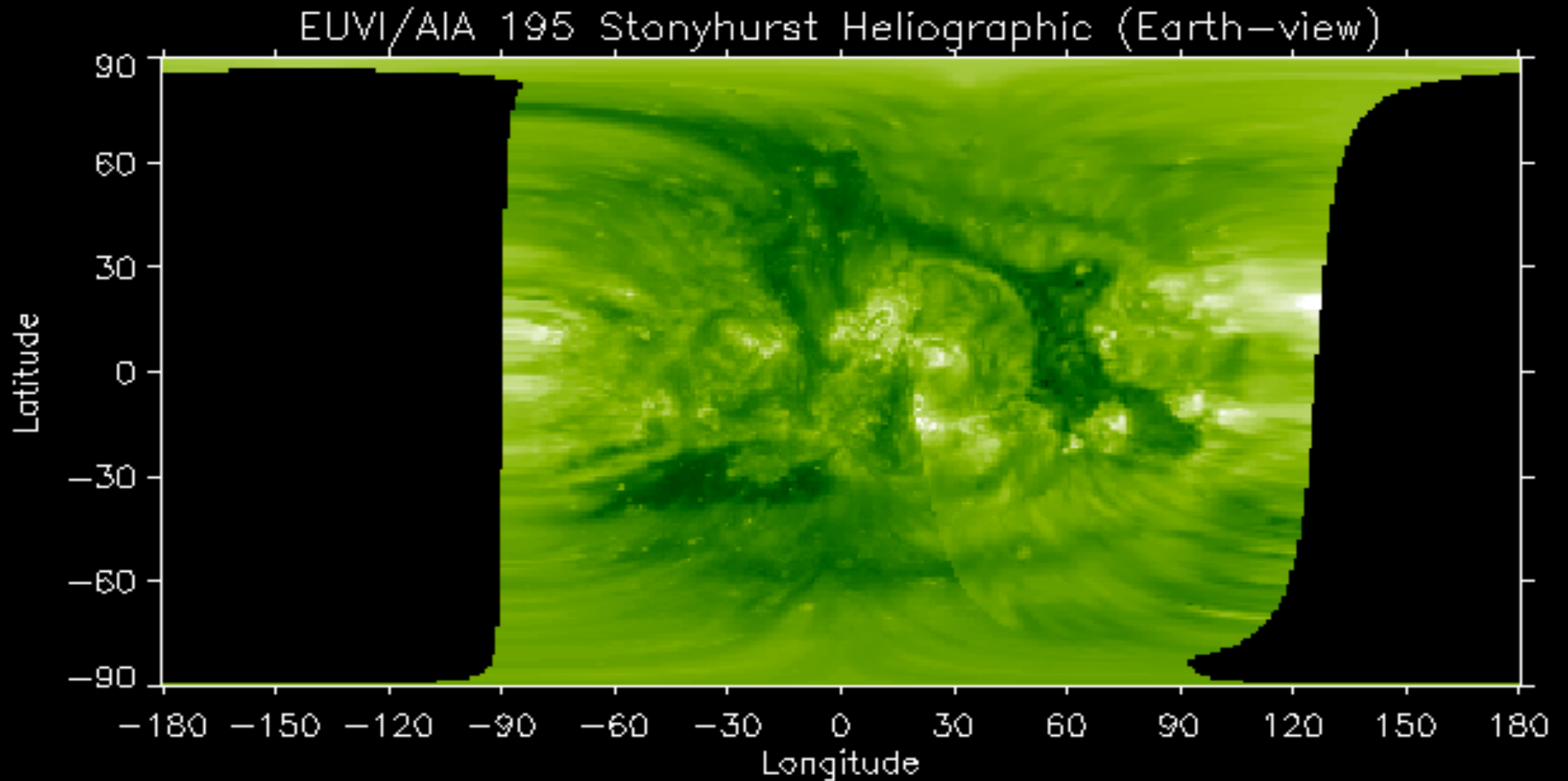
Outlook



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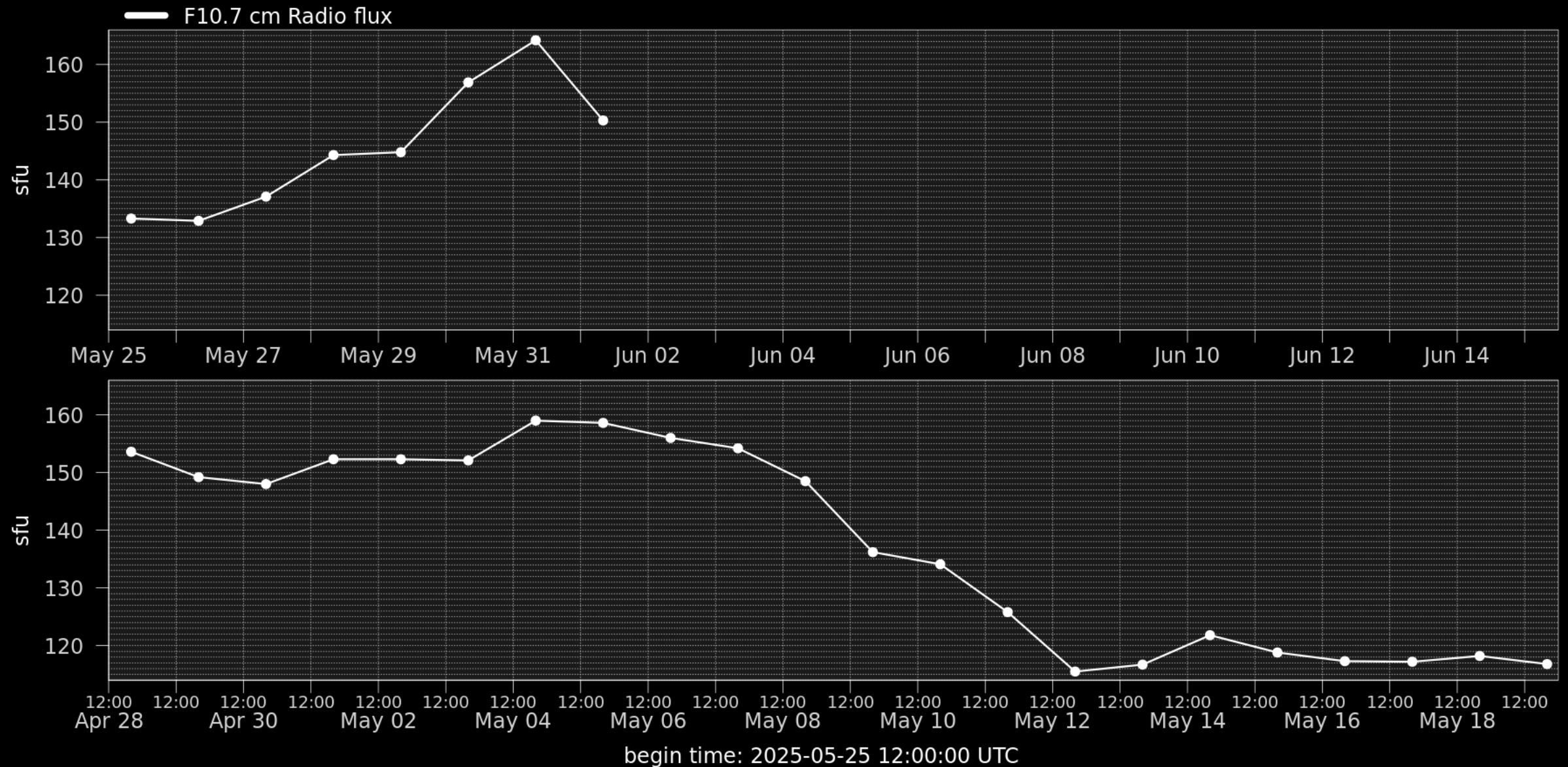
Solar Influences
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Outlook: Solar activity



Observation date: 2025/06/01 21:25:00

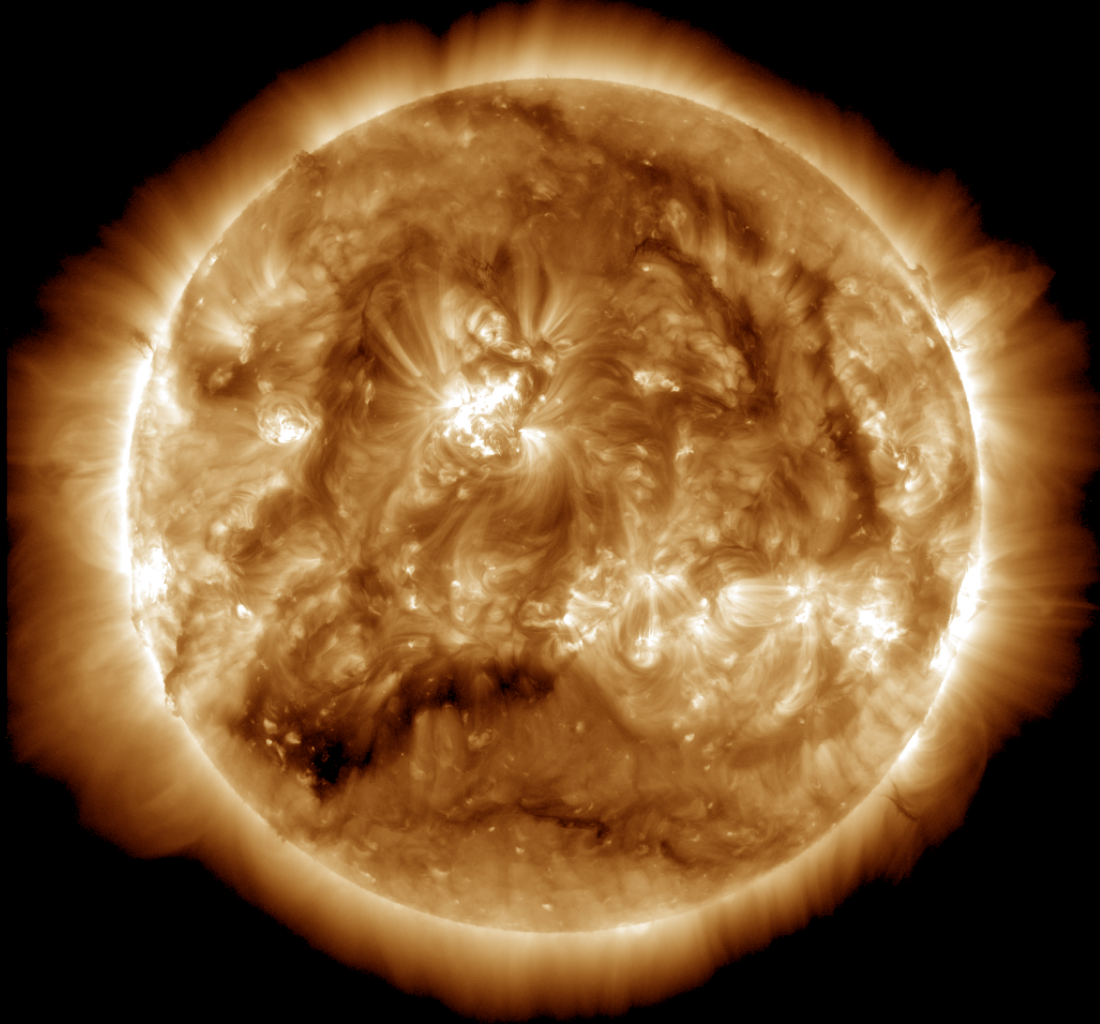
Outlook: Solar F10.7cm radio flux



Coronal holes

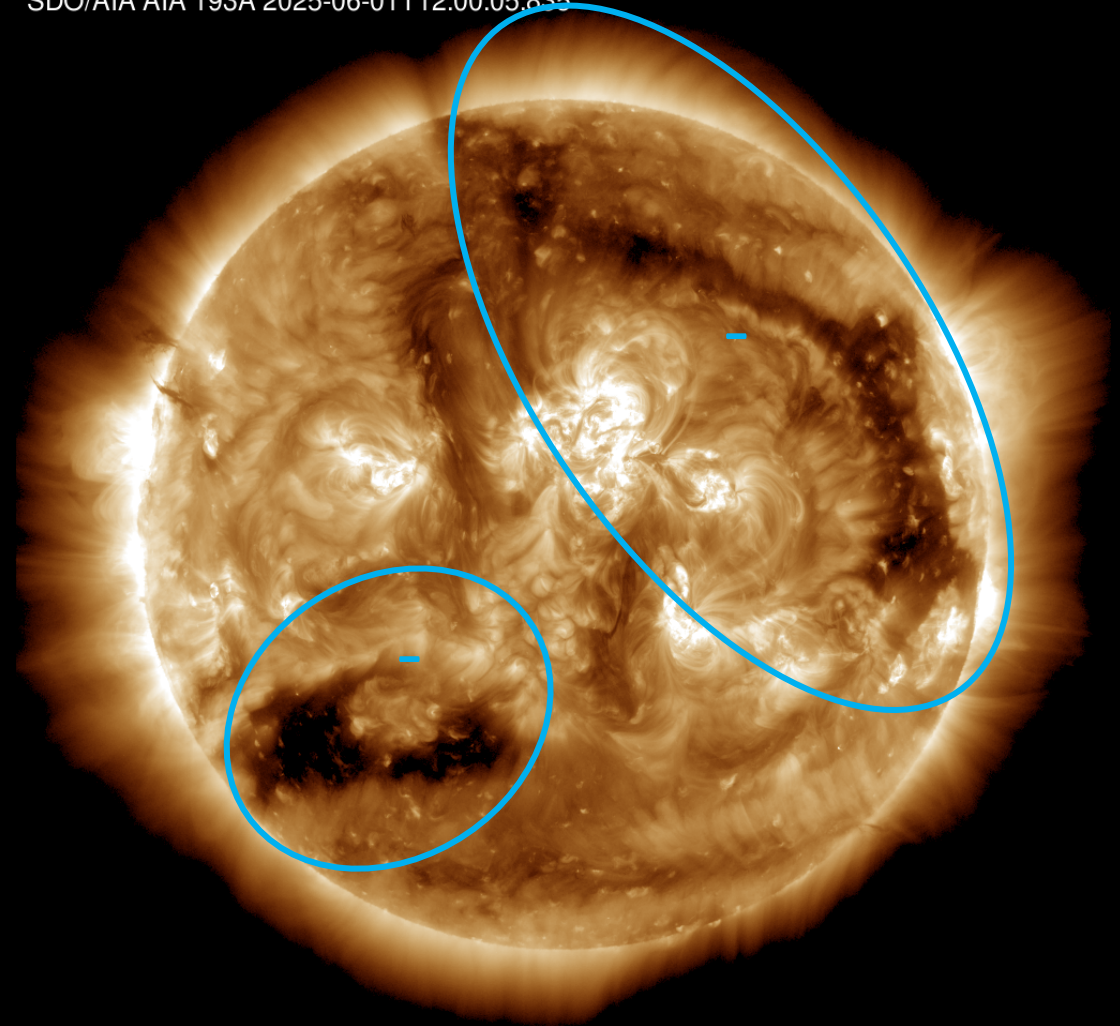
SDO/AIA 19.3 nm 2025-05-04 (previous rotation)

SDO/AIA AIA 193Å 2025-05-04T12:00:05.843

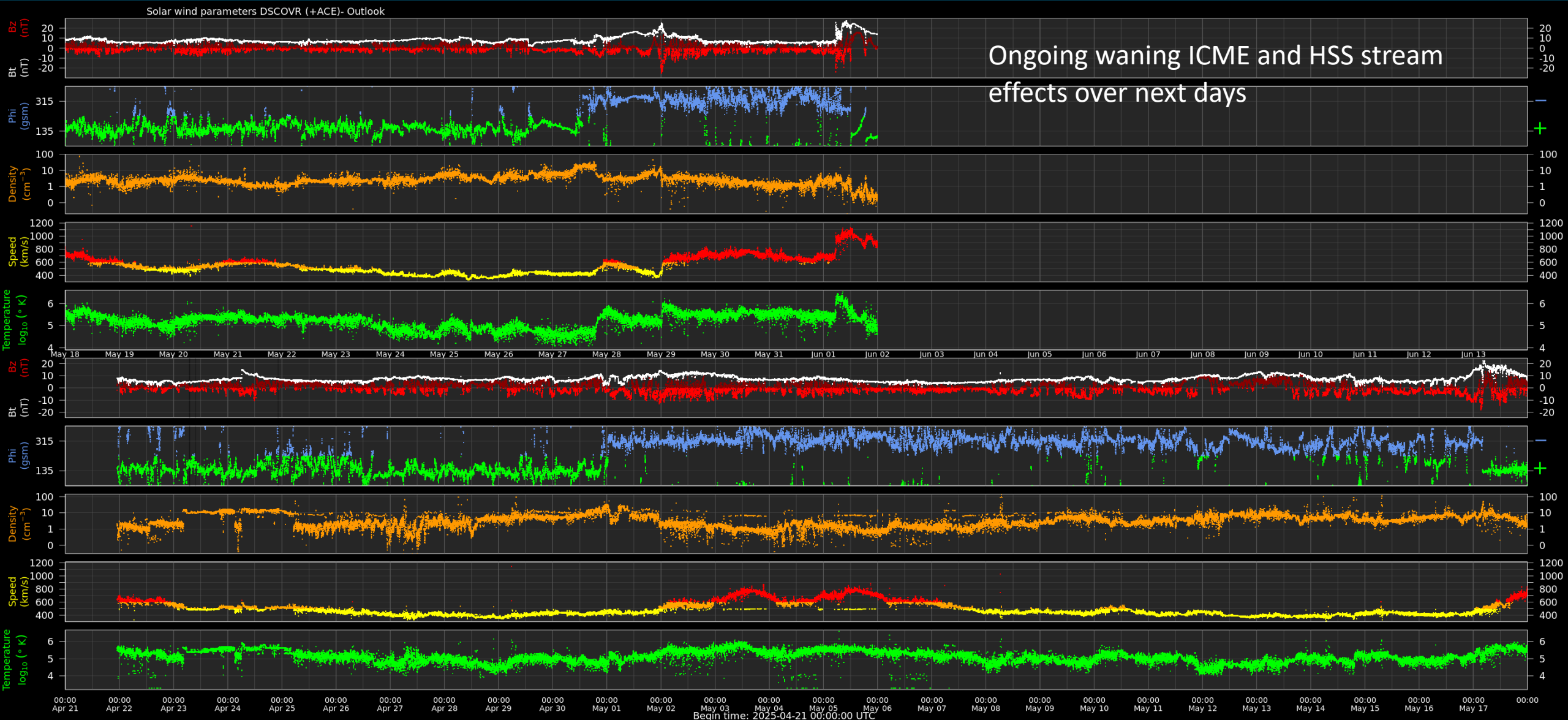


SDO/AIA 19.3 nm 2025-06-01

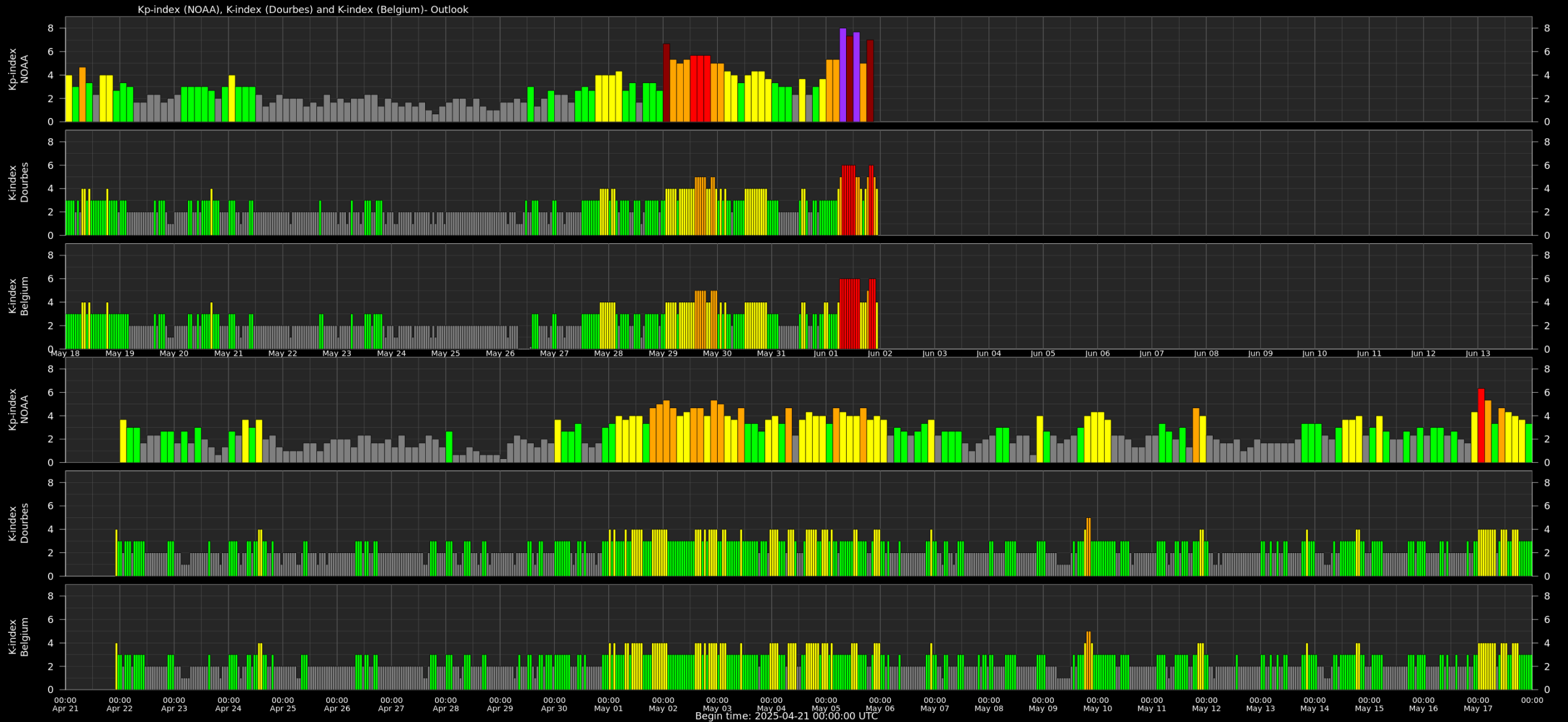
SDO/AIA AIA 193Å 2025-06-01T12:00:05.835



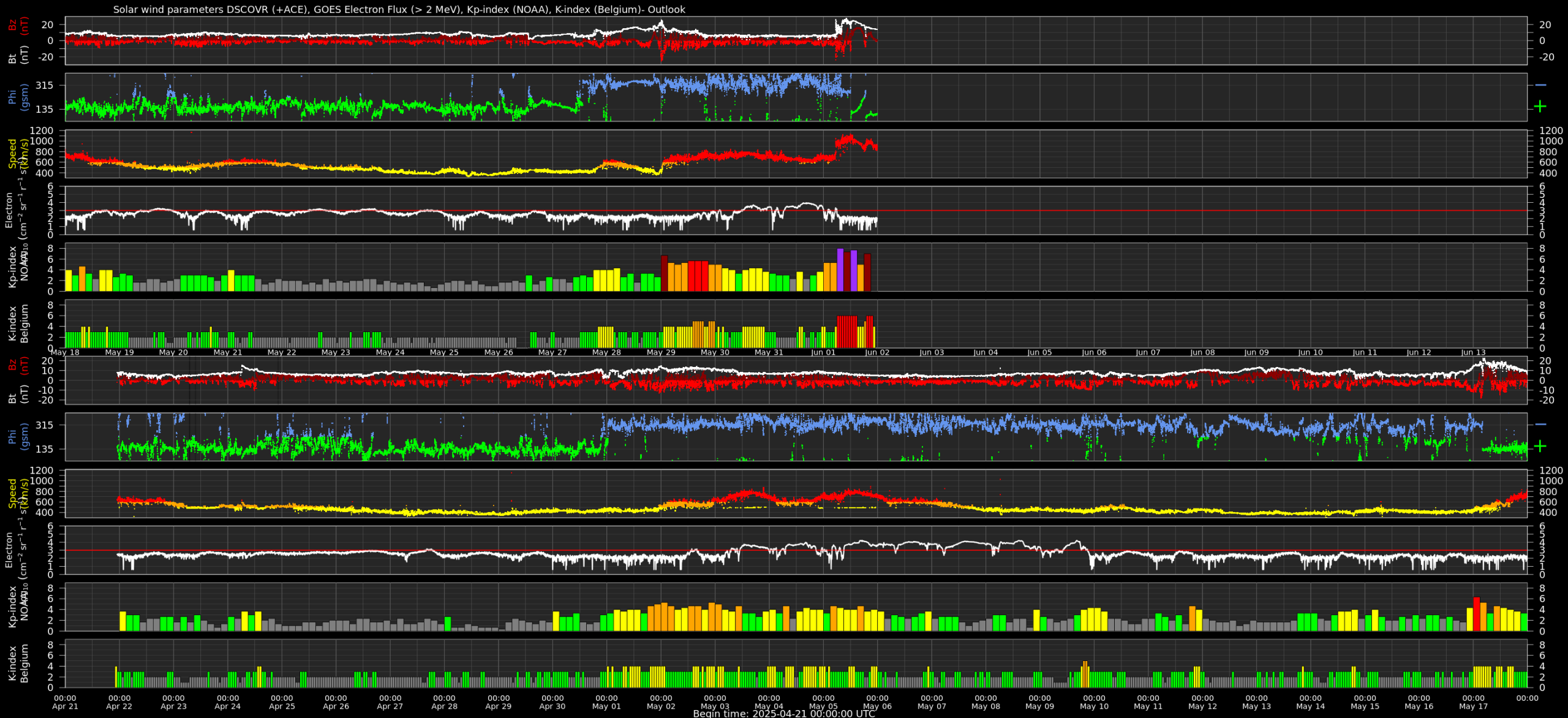
Outlook: Solar wind parameters



Outlook: Geomagnetic activity



Outlook: Electron Flux at GEO Outlook



PECASUS



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Pecarus related events

Post Storm Depression advisories (from $K_p \geq 6$)
Scintillation advisories
Polar Cap Absorption advisories (Proton event)
Auroral Absorption advisories ($K_p \geq 8$)

SIDC Space Weather Briefing

See you at our next briefing!

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