



Solar - WSA-ENLIL

EMC (<https://ccmc.gsfc.nasa.gov/donki/>):

WSA-ENLIL(CME 2024-06-25 05:00:00 UT)

The simulation results indicate that the flank of CME will reach the DSCOVR mission between 2024-06-28 07:04:00 UT and 2024-06-28 21:04:00 UT.

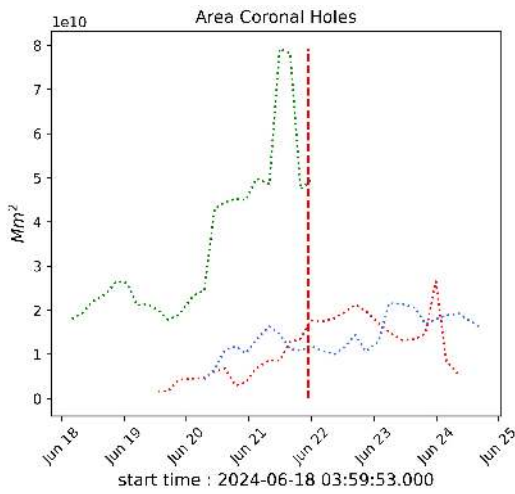
WSA-ENLIL(CME 2024-06-25 13:25:00 UT)

The simulation results indicate that the flank of CME will reach the DSCOVR mission between 2024-06-28 22:00:00 UT and 2024-06-29 12:00:00 UT.

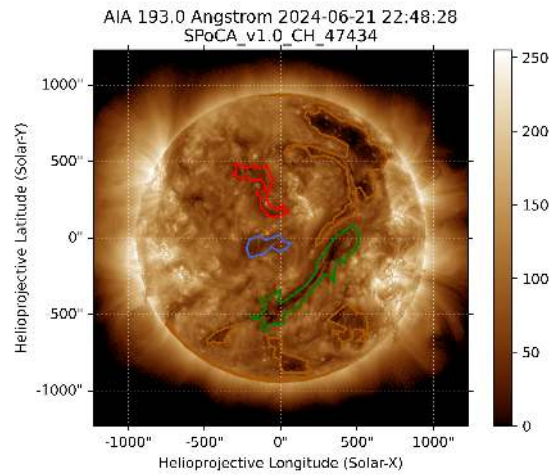
WSA-ENLIL(CME 2024-06-25 23:48:00 UT)

The simulation results indicate that the flank of CME will reach the DSCOVR mission between 2024-06-29 07:00:00 UT and 2024-06-29 21:00:00 UT.

Solar - Coronal holes Spatial Possibilistic Clustering Algorithm (SPoCAS):

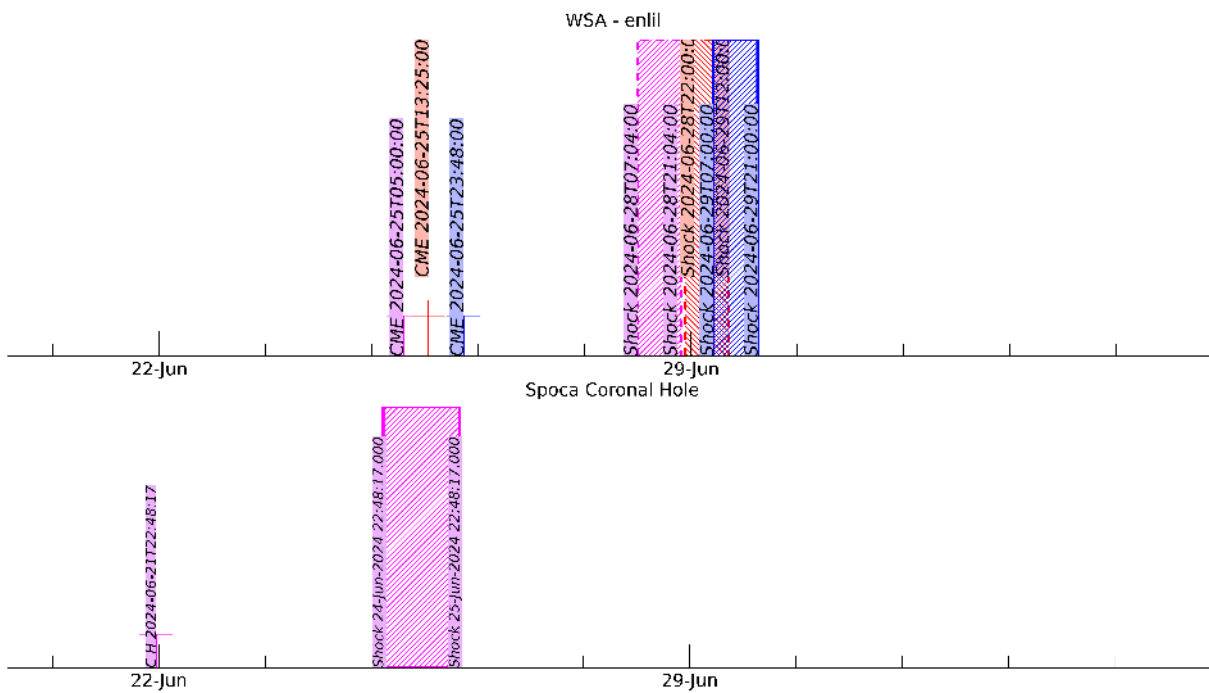


(a) The solid black line depicts the products of the sum of areas for each detection interval performed by SPOCA between June 18 and 24, 2024.



(b) Above the 193 Å image of the Sun are highlighted coronal holes observed by SPOCA around 22:48 UT on June 21, 2024 (red dot line).

Solar - WSA - ENLIL and SPoCA



Geomagnetic Field

Responsible: Karen Sarmiento/ Lívia Alves

Summary

During the week of June 25 to July 1, unstable magnetic field conditions prevailed from June 25 to 27. The Kp index reached severe geomagnetic storm conditions (G4) on June 28 (12-15 UT) and returned to quiet conditions on June 30 (Kp=2o). On the nightside, GOES magnetometers recorded lower magnetic field values at the beginning of June 28, indicating an intensification of currents in the magnetotail, along with rapid fluctuations in the amplitude of the north component of the magnetic field until the end of June 28. A maximum value of around 246 nT was reached on June 28 (15:30 UT) on the dayside, showing an intensification of magnetospheric currents. Auroral activity in both hemispheres reflected instabilities and intensification of Auroral Electrojet currents, with the AE index between 1500 nT and 2000 nT on June 28 (11-13 UT) and, for some short periods, exceeding 1000 nT (5-7 UT) on June 30. The Dst index remained predominantly negative from the end of June 27, reaching a minimum value of -105 nT on June 28 (13:00 UT), indicating an intensification of the ring current due to the Bz component of the interplanetary magnetic field, which reached significant negative values from the beginning to the middle of June 28, with a minimum of -23 nT at 10:35 UT. The Embrace-Magnet network magnetometers showed rapid variations in the magnetic field from noon on June 27 and oscillations from negative to positive values until the end of June 29, resulting from the passage of an ICME. This ICME did not have an initial significant impact on the magnetosphere but caused a decrease in the H component of up to -197 nT at the Jataí station, located in the region influenced by the South Atlantic Magnetic Anomaly (SAMA), and -288 nT at a station located in the Equatorial Electrojet (EEJ) region during the main phase of the intense storm.

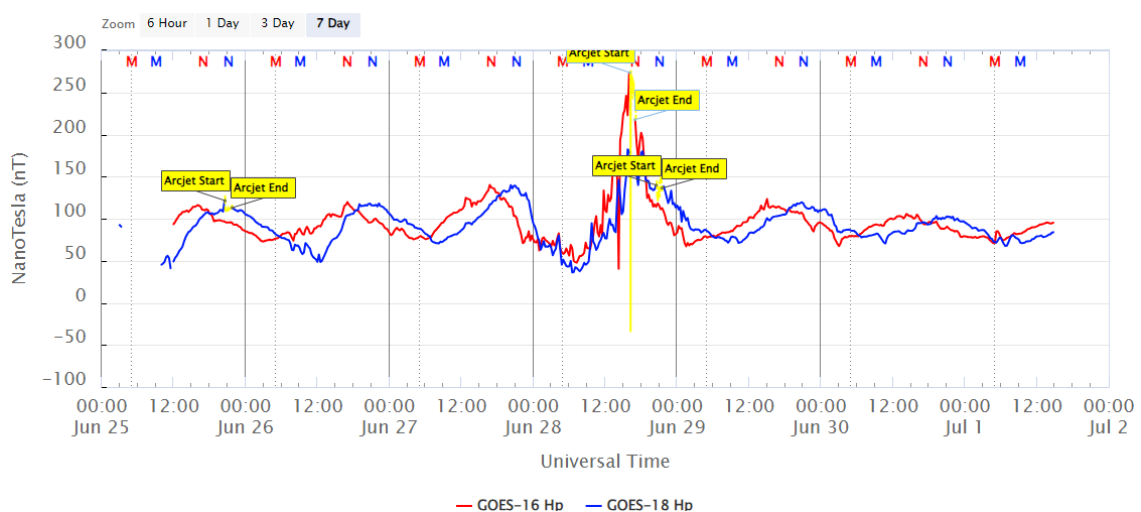


Figure 1- Magnetic field horizontal component at the GOES satellite orbit through.

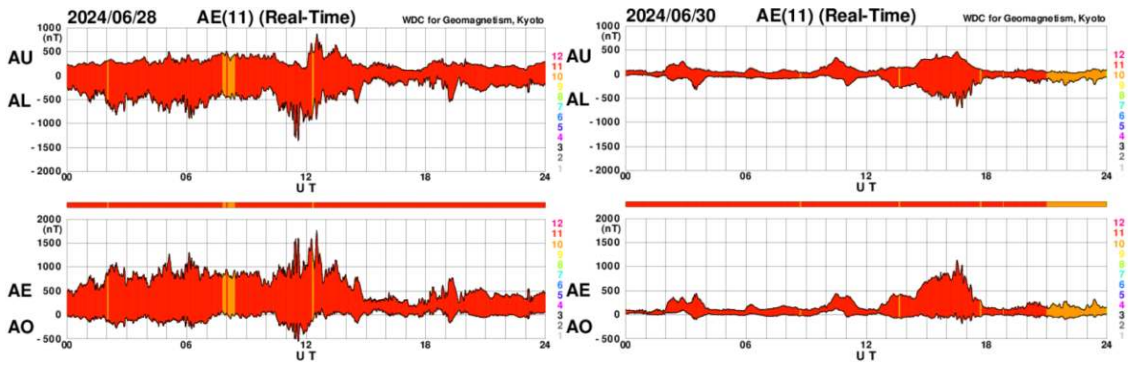


Figura 2- Índice AE para os dias da semana com maior atividade auroral.

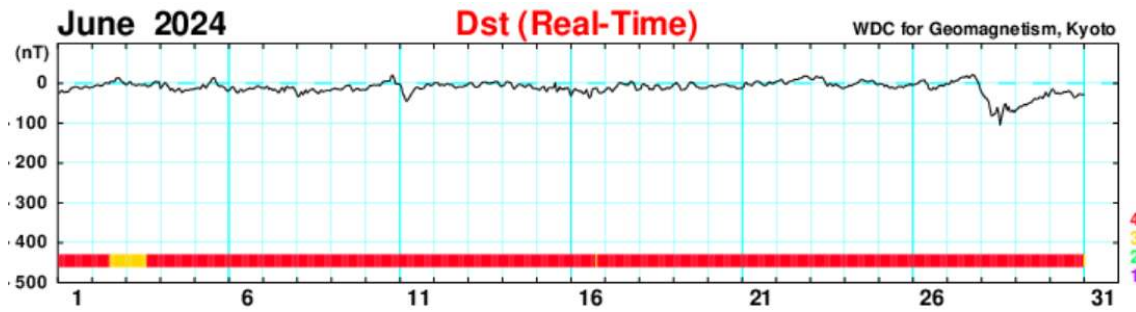


Figure 3- Dst Index.

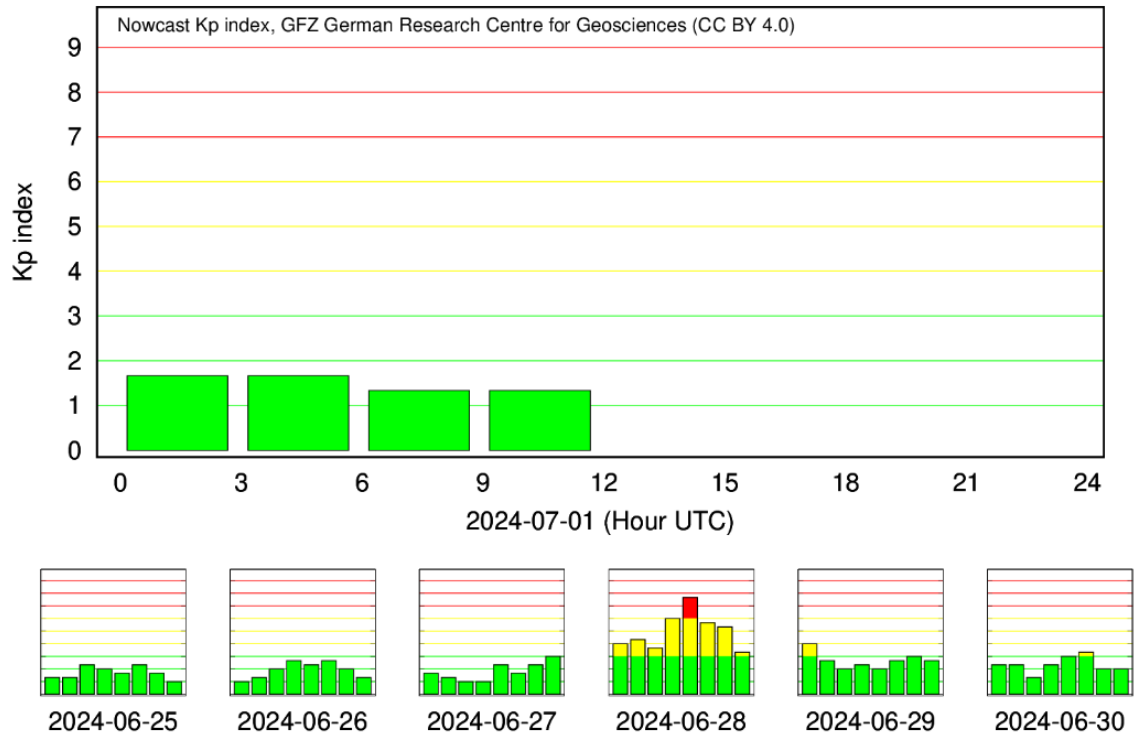


Figure 4- Kp index for the current week in logarithmic scale.

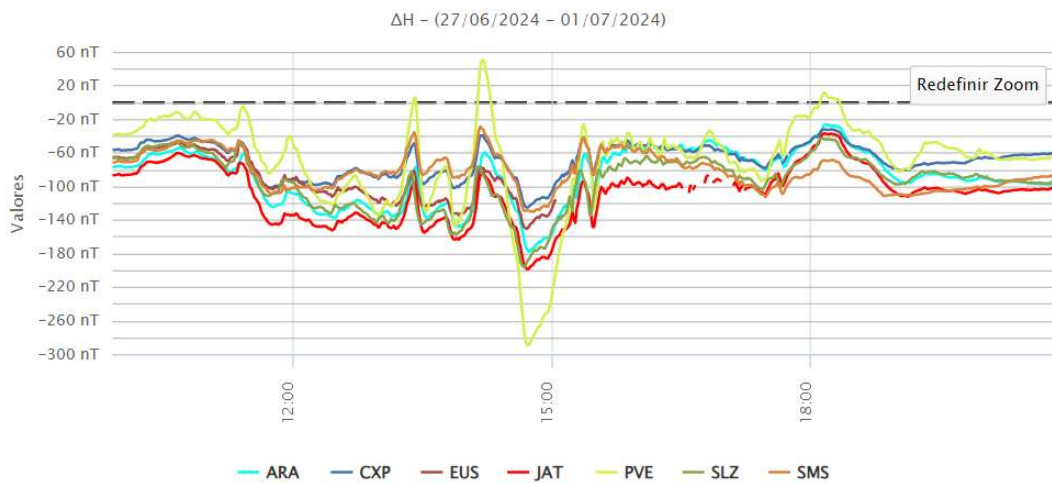
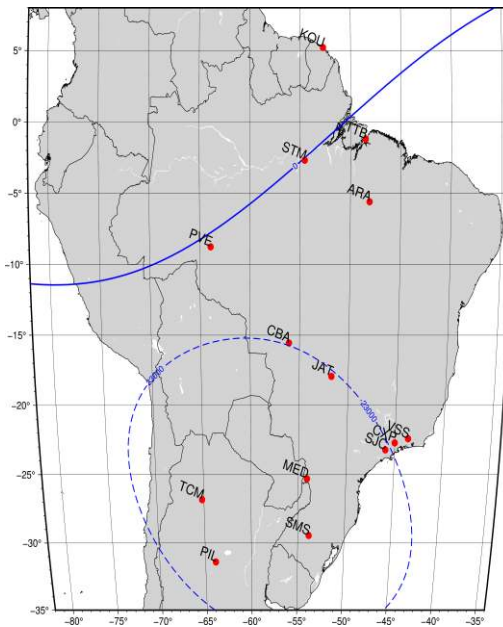
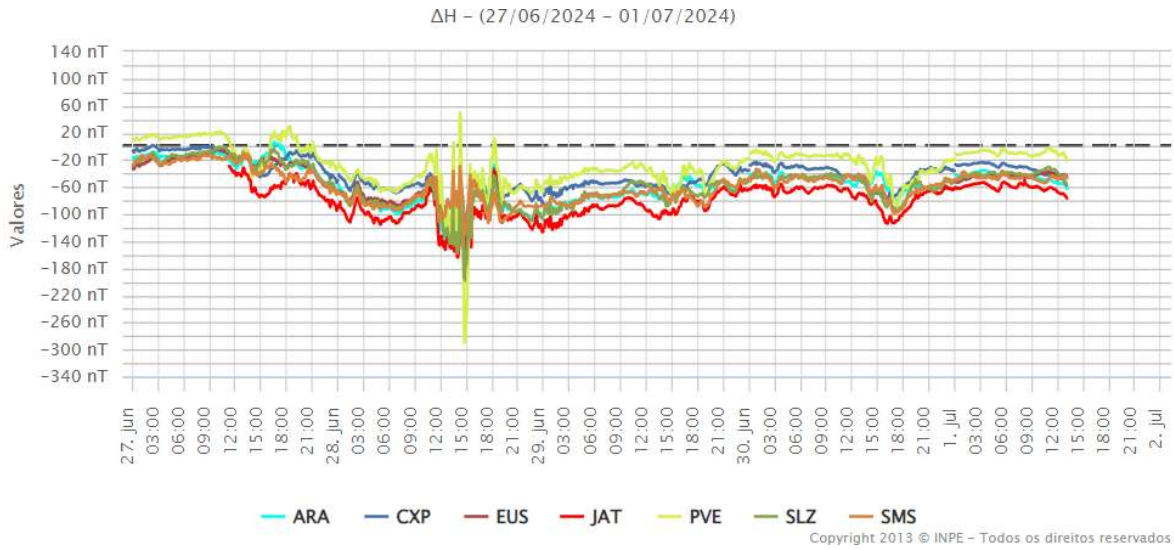


Figure 5- Daily variation of the geomagnetic field from $H(nT)$ measured at Embrace MagNet.

Ionosphere – Digisonde (Laysa Resende)

Summary

We observed a weak spread F in Cachoeira Paulista on June 28, 2024, at around 0920 UT (Figure 1). The Es layers were weak, reaching the scale 3.

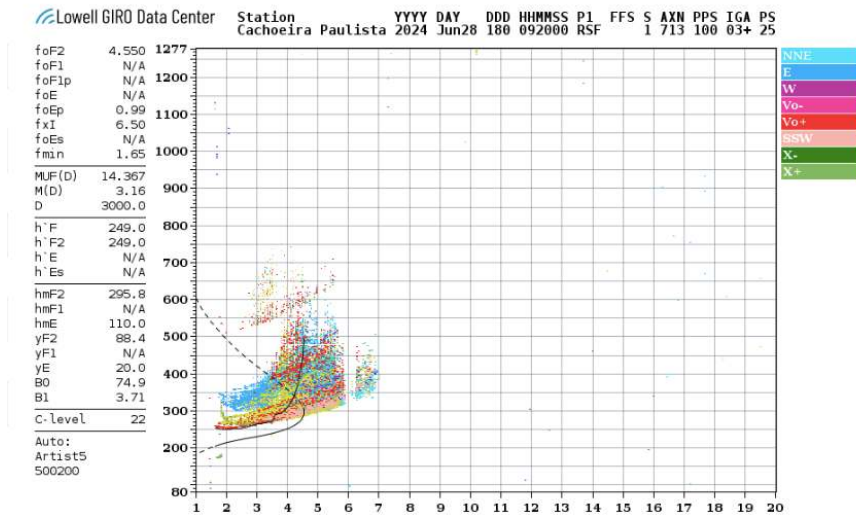


Figure 1 – Ionogram over Cachoeira Paulista, showing the spread F.

Ionosphere - ROTI Summary for Week 2320 (June 23 to 29, 2024)

Carolina de Sousa do Carmo

In the week 2320 (June 23 to 29, 2024), ionospheric irregularities (plasma bubbles) were not observed. The Figure below shows the ROTI time series for four stations in the Brazilian sector (São Luís (SALU), Bacabal (MABB), Cuiabá (CUIB) and São José dos Campos (SJSP)).

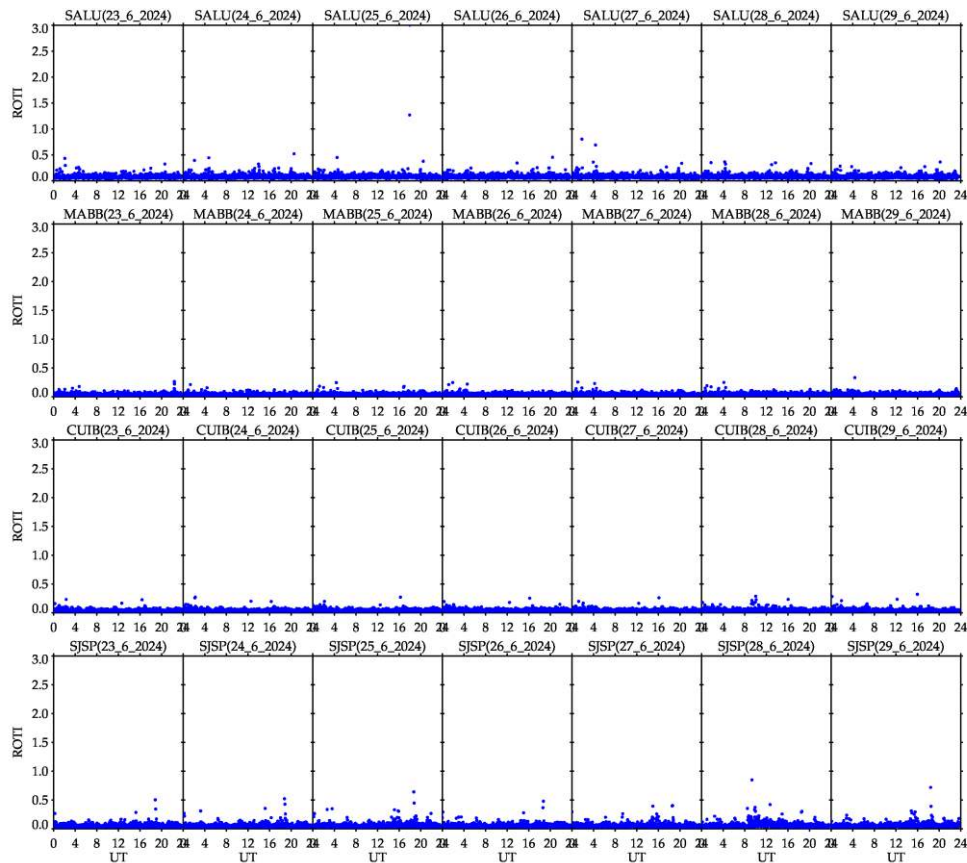


Figure – ROTI time series for four stations in the Brazilian sector (São Luís (SALU), Bacabal (MABB), Cuiabá (CUIB) and São José dos Campos (SJSP)), from June 23 to 29, 2024.