QUARTERLY REPORT ON PAST SPACE WEATHER

Q3 2026 01.07.2026 – 30.09.2026

SUNSPOT NUMBERS

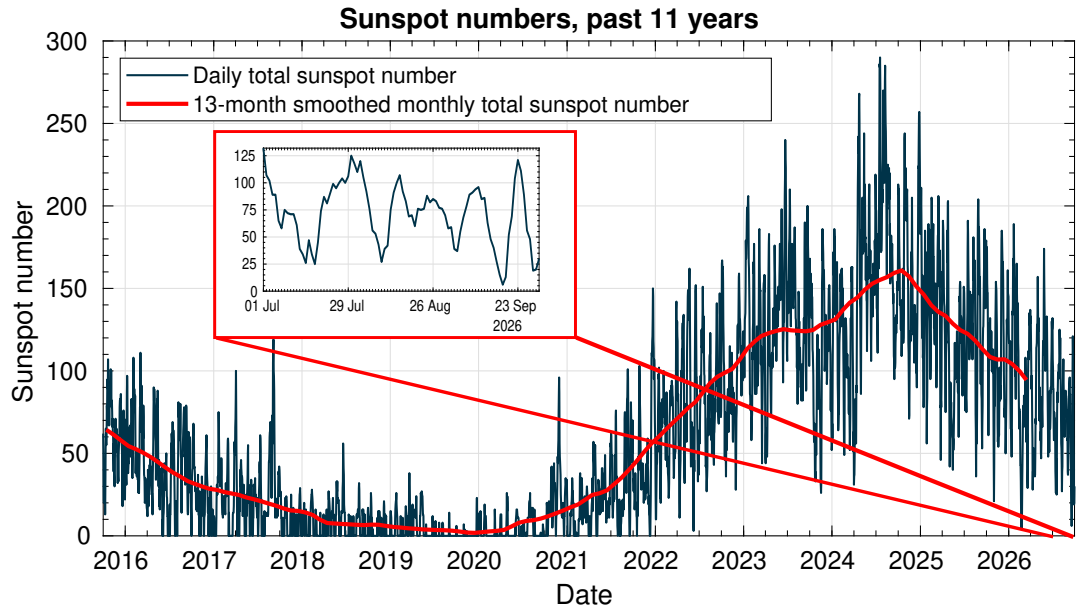


Figure 1: Sunspot numbers for the past 11 years and the last quarter. (Data from SILSO)

FLARES

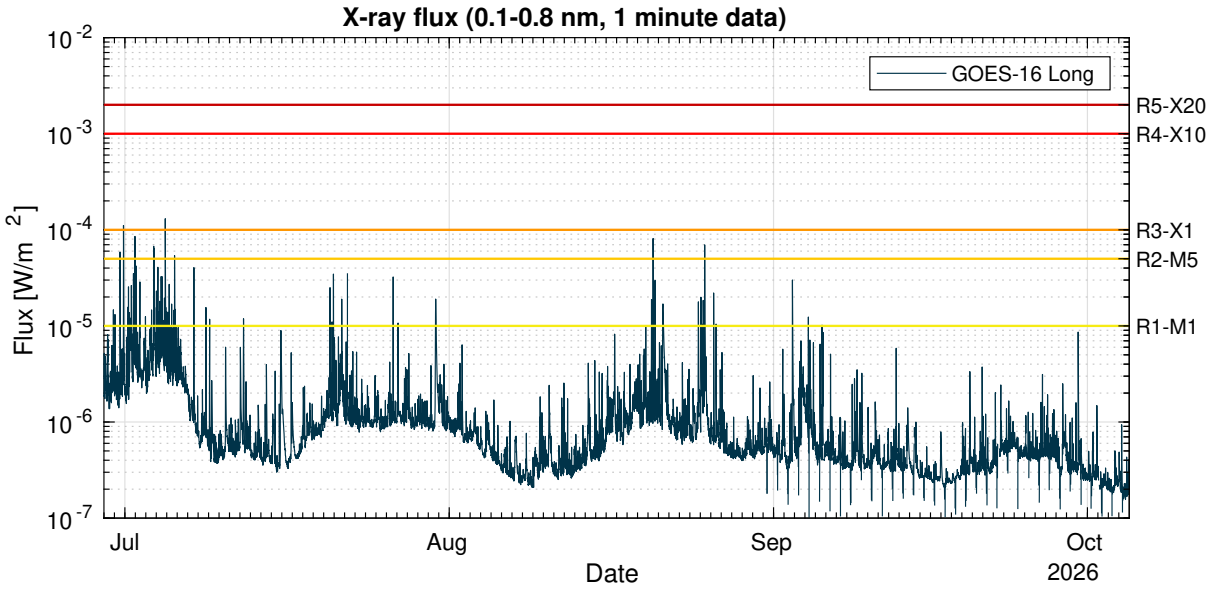


Figure 2: GOES X-ray flux (GOES – SWPC/NOAA) together with the NOAA Space weather scale thresholds for radio blackouts. (For more information on the NOAA Space Weather Scales, see https://www.swpc.noaa.gov/noaa-scales-explanation)

SOLAR ENERGETIC PARTICLES

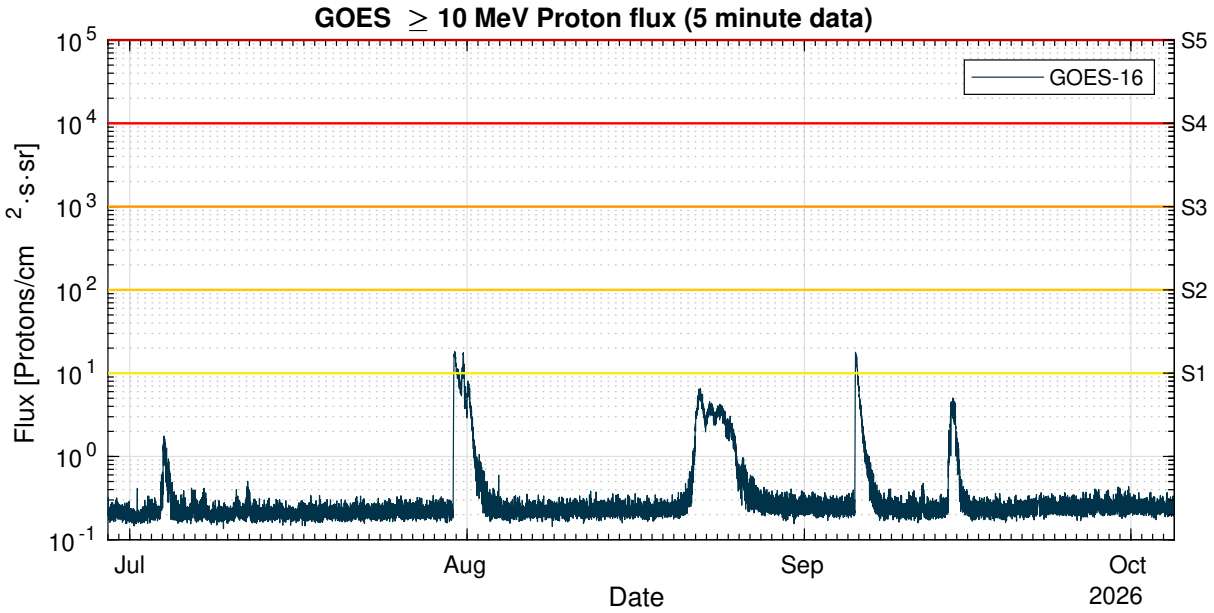


Figure 3: GOES proton flux (GOES - SWPC/NOAA) together with the NOAA Space weather scale thresholds for Solar Radiation Storms. (For more information on the NOAA Space Weather Scales, see https://www.swpc.noaa.gov/noaa-scales-explanation)

SOLAR WIND

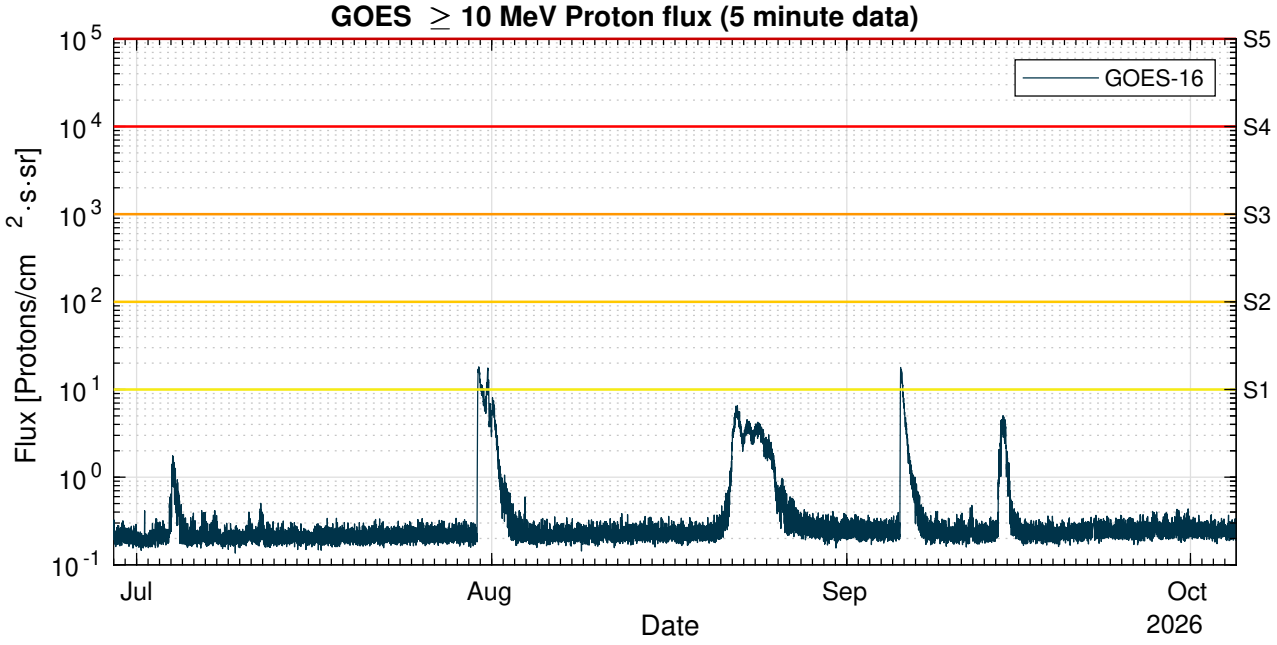


Figure 4: 3-hourly mean values of the Solar wind coupling function $\langle B_S V^2 \rangle$ based on ACE data. (NOAA/SWPC)

GLOBAL GEOMAGNETIC CONDITIONS

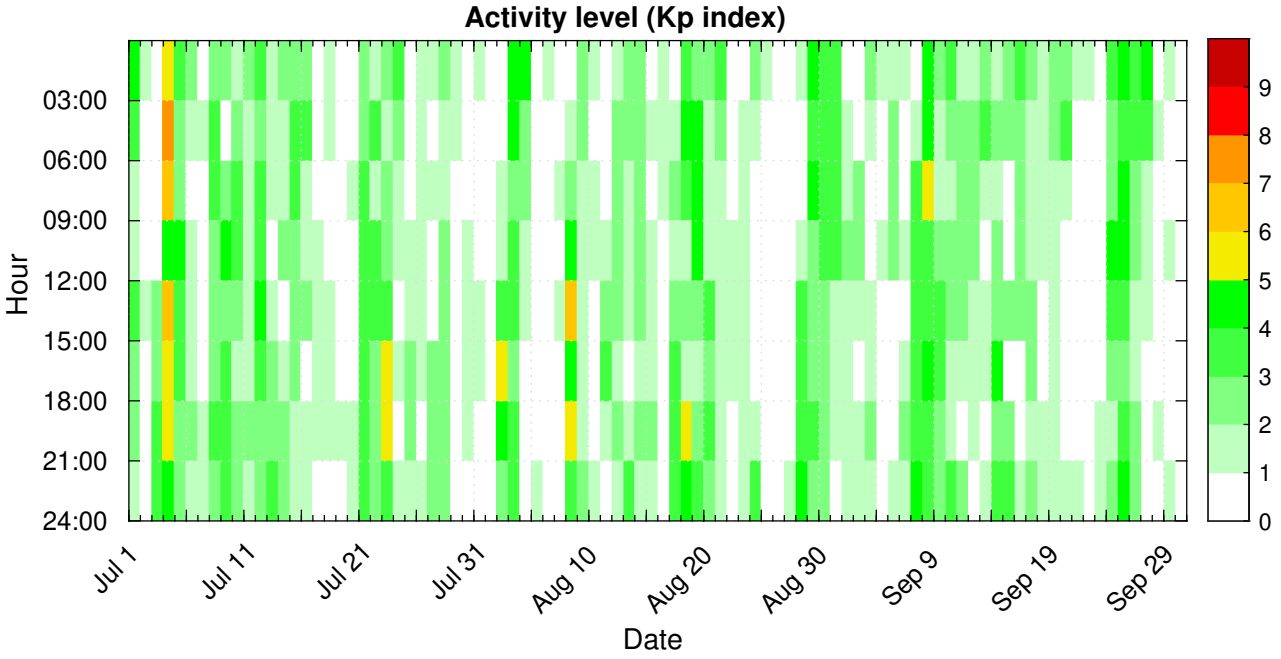


Figure 5: Kp index. (Data from GFZ Potsdam.)

LOCAL GEOMAGNETIC CONDITIONS

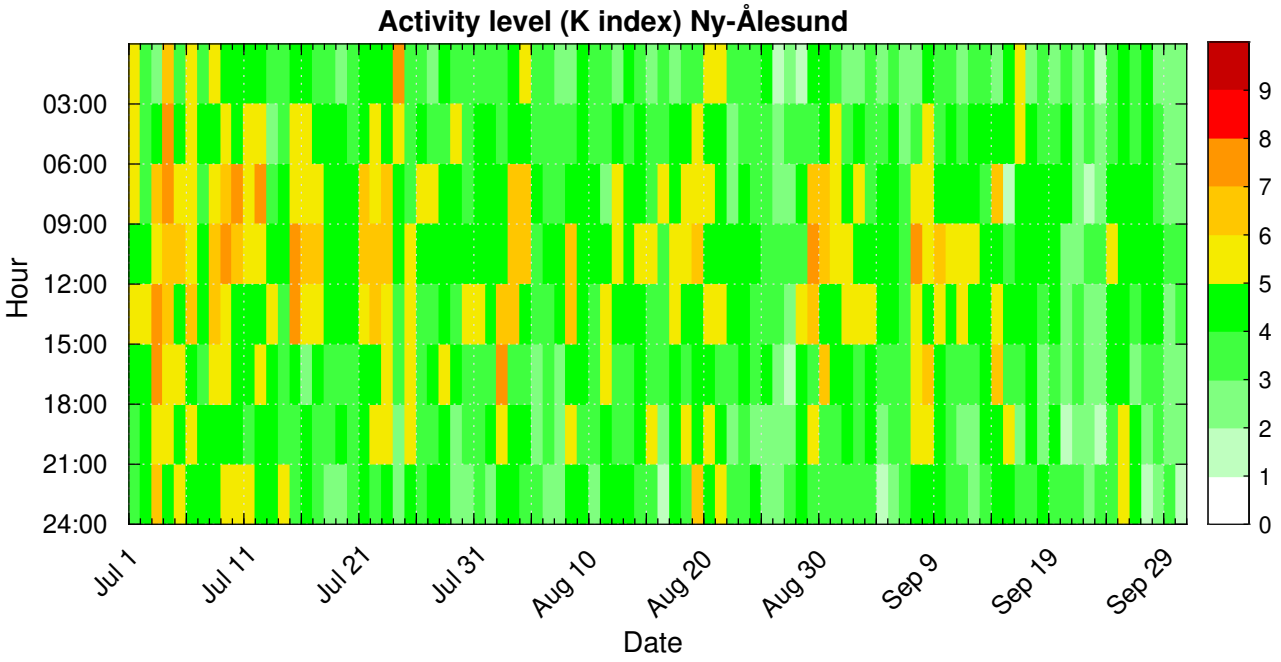


Figure 6: K index at Ny-Ålesund.

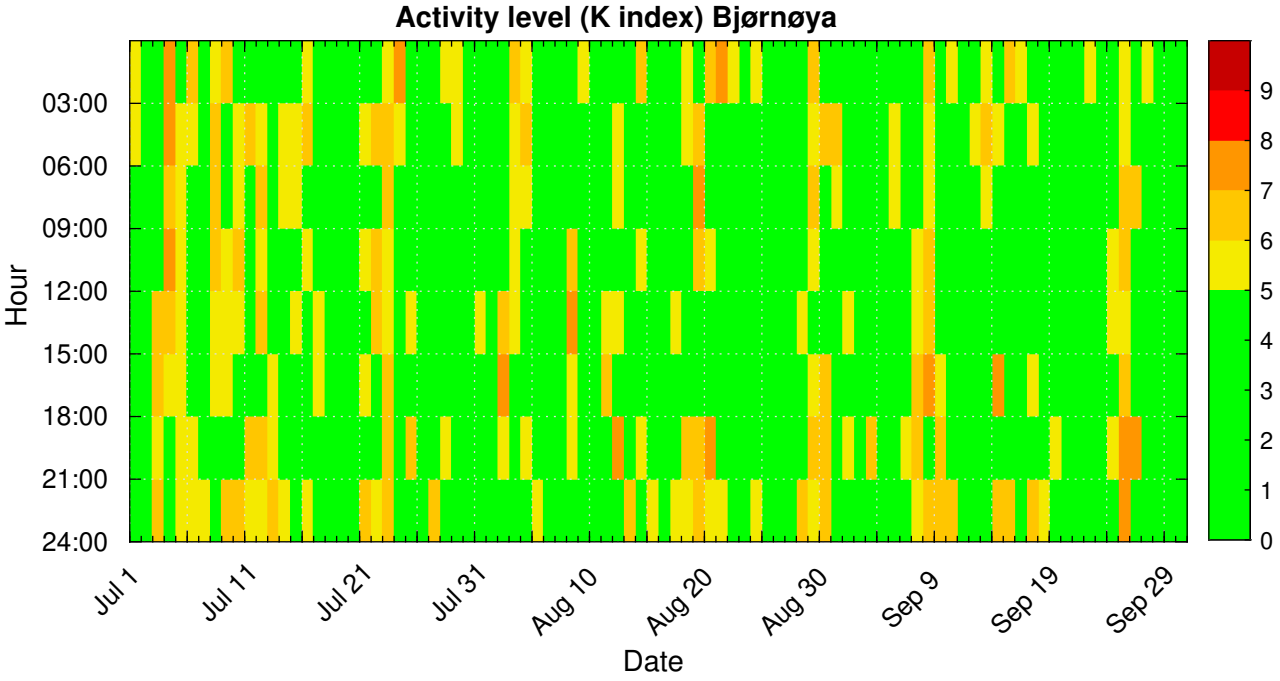


Figure 7: K index at Bjørnøya.

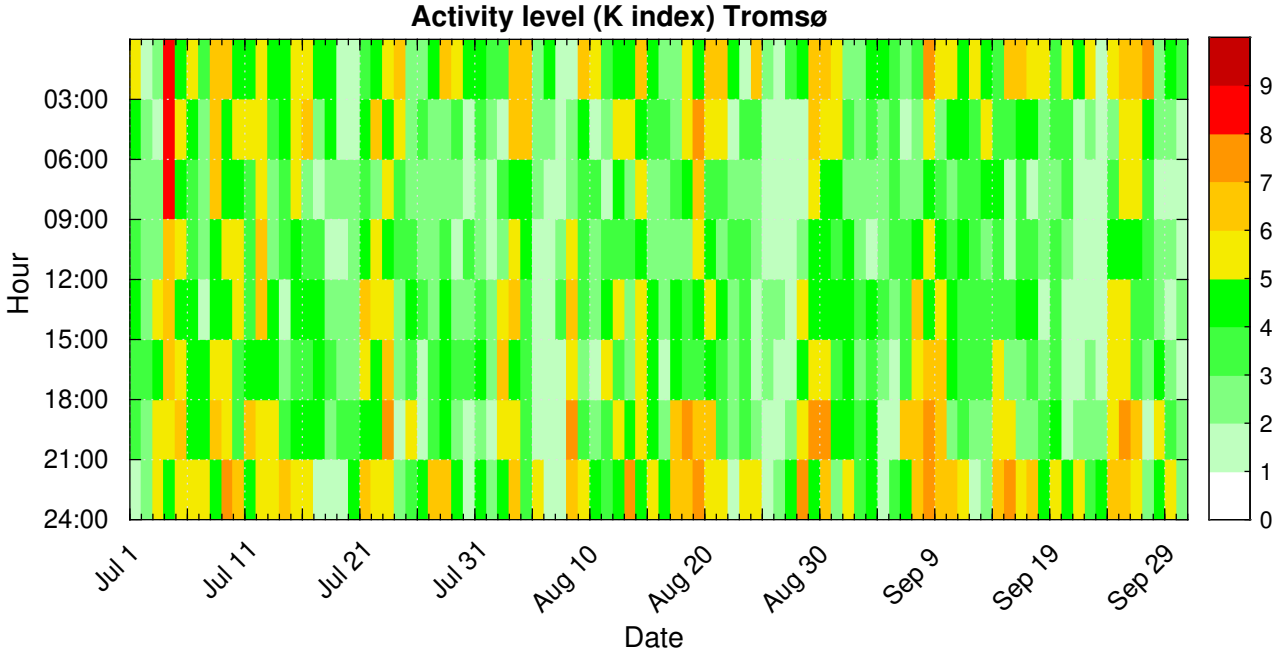


Figure 8: K index at Tromsø.

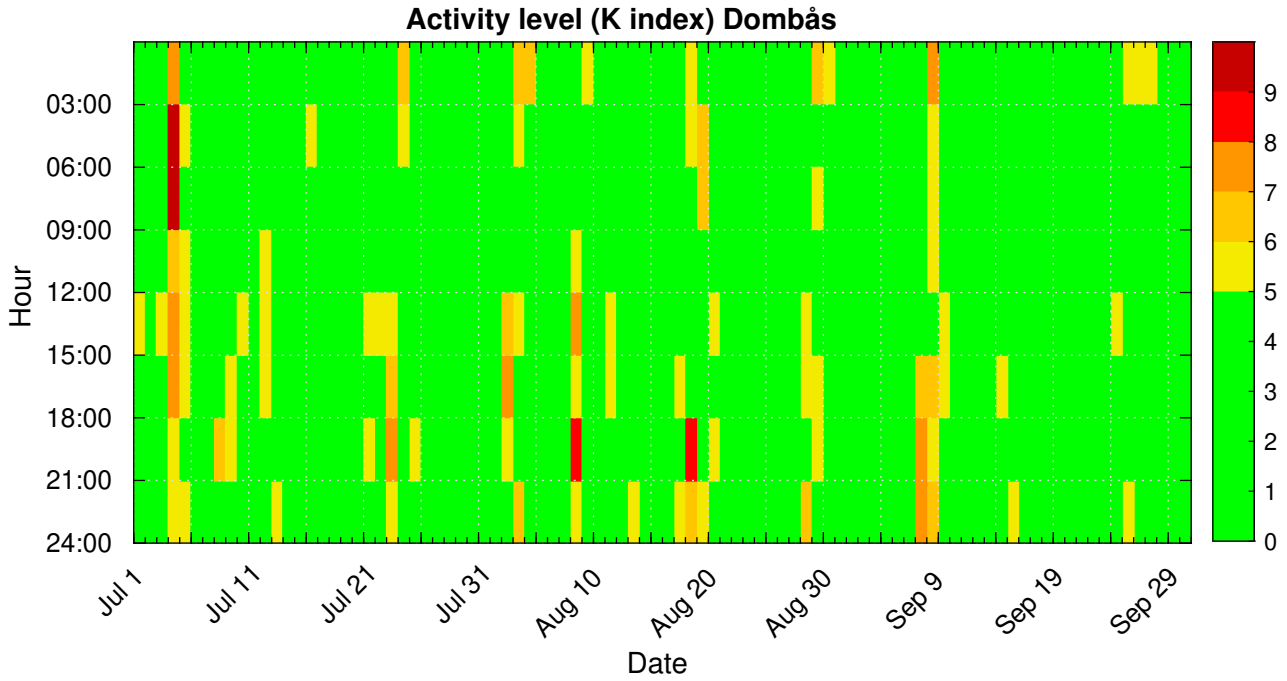


Figure 9: K index at Dombås.

CORONAL MASS EJECTIONS AND HIGH-SPEED STREAMS

A list of high-speed streams (HSS) and coronal mass ejections (CMEs) that caused a global geomagnetic disturbance of minor storm (Kp 5) or higher are listed in the table below. The listed date is the first day of the geomagnetic disturbance where the Kp index crossed the threshold for a minor storm. The maximum Kp is the maximum Kp index value caused by the HSS or CME.

Table 1: Major geoeffective coronal mass ejections (CMEs) and high-speed streams (HSS)

Date	Type	Storm level	Max Kp
04. July 2026	CME	Strong	7.0
23. July 2026	HSS	Minor	5.0
02. August 2026	CME	Minor	5.67
08. August 2026	CME	Moderate	6.0
18. August 2026	HSS	Minor	5.33
08. September 2026	HSS	Minor	5.0

(Source: Solar Influences Data analysis Center – RWC Belgium and GFZ Potsdam)

ACKNOWLEDGEMENTS

Data from:

SILSO - http://www.sidc.be/silso/

GOES - https://www.ngdc.noaa.gov/stp/satellite/goes/index.html

DONKI - https://kauai.ccmc.gsfc.nasa.gov/DONKI/

DSCOVR/ACE – NASA/NOAA /SWCP - https://www.ngdc.noaa.gov/dscovr/portal/index.html#/

GFZ Potsdam - https://www.gfz-potsdam.de/en/kp-index/