

STCE Newsletter

17 Aug 2026 - 23 Aug 2026



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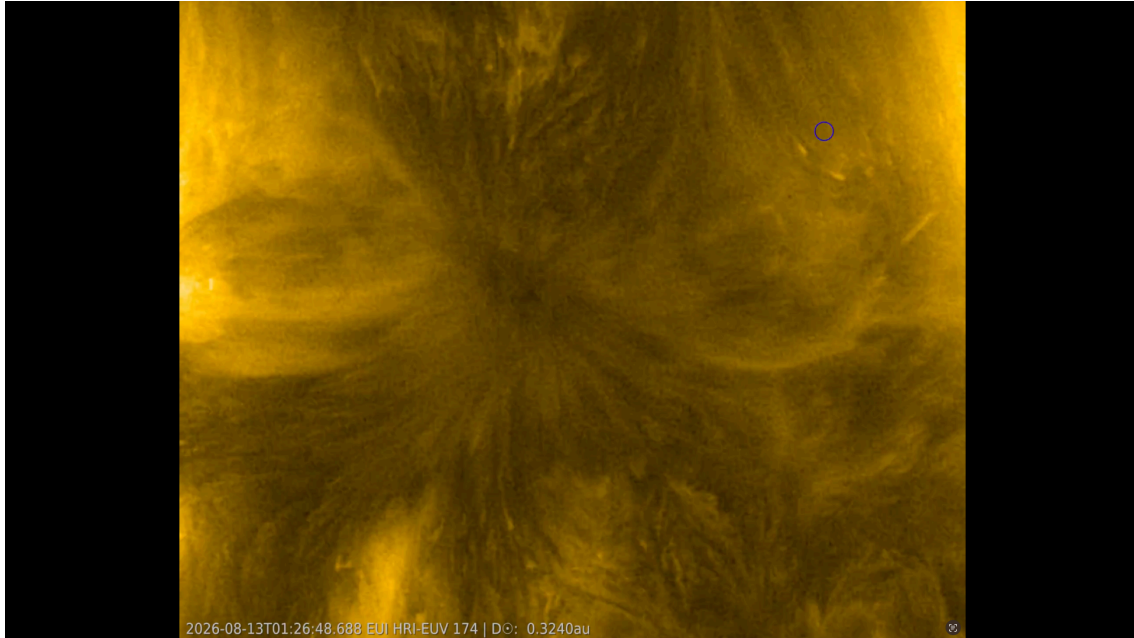
The Solar-Terrestrial Centre of Excellence (STCE) is a collaborative network of the Belgian Institute for Space Aeronomy, the Royal Observatory of Belgium and the Royal Meteorological Institute of Belgium.

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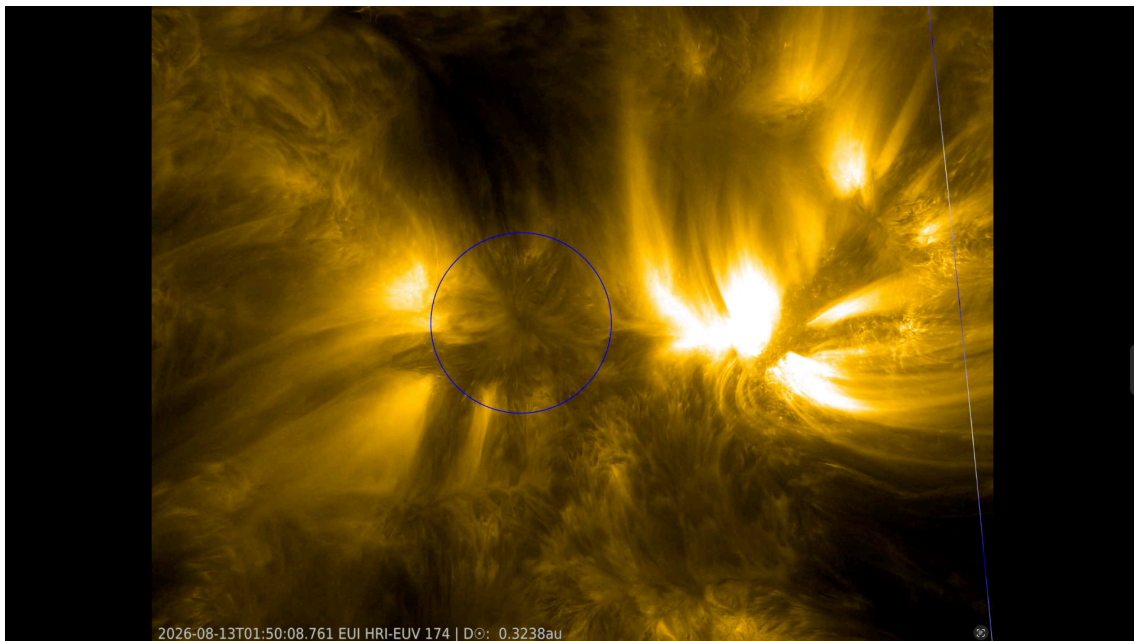
1. Are there sinkholes on the Sun?

Only a few hours after the August 12 eclipse, the EUV instrument onboard Solar Orbiter took these images of the corona.



The blue circle is 1 Mm diameter

Movie: <https://stce.be/movies/20260813-CoronalSinkHole.mp4>



This is the larger scene. The blue circle is the view of the previous picture.

Movie: https://stce.be/movies/JHV_2026-08-26_20.44.55.490.mp4

We honestly are not sure what we see. Is it a sink hole? Is it a sand worm from the Dune movies?

Upcoming research combining this EUI movie with data from other instruments will undoubtedly disqualify both hypotheses.

In solar pictures seen from Earth, this would have been at the left (left is East in solar physics jargon) edge of the solar disc, but EUI imaged it top-down and 3 times as close to the Sun than Earth is.

2. Review of space weather

Solar Active Regions (ARs) and flares

Solar flaring activity was low to moderate throughout the week, with forty-three C-class flares and four M-class flares observed. No X-class flares were recorded. The strongest flare was an M8.1 flare (SIDC Flare 8423), peaking at 11:42 UTC on August 20, which was associated with the returning SIDC Sunspot Group 929 (NOAA Active Region 4513, magnetic type beta-gamma-delta). SIDC Sunspot Group 929 rotated on disk from the east limb during the week and produced most of the M-class flaring activity. SIDC Sunspot Group 940 (NOAA Active Region 4507, magnetic type beta-gamma) produced an M1.6 flare before rotating across the west limb. A total of ten numbered active regions were observed on the side of the solar disk facing Earth.

Coronal mass ejections

Several Coronal Mass Ejections (CMEs) were observed during the week.

A wide Coronal Mass Ejection (SIDC CME 710) was observed in LASCO/C2 coronagraph imagery starting from around 19:48 UTC on August 16, directed mainly westward. It was associated with a C8.2 flare from SIDC Sunspot Group 939 (NOAA Active Region 4506). A small chance of a glancing blow arrival at Earth was initially predicted for late August 20, but no clear arrival was observed.

A fast partial halo Coronal Mass Ejection (SIDC CME 713) was observed in LASCO/C2 coronagraph imagery starting from around 09:36 UTC on August 21, directed mainly west/northwestward. It was associated with a long-duration M1.6 flare (SIDC Flare 8441) from SIDC Sunspot Group 940 (NOAA Active Region 4507), located near the west limb. The bulk of the CME was expected to miss Earth, but a glancing blow arrival around August 24 could not be excluded.

Other CMEs were events near the east or west limb, or back sided, and not expected to impact Earth.

Coronal Holes

A negative-polarity coronal hole (SIDC Coronal Hole 149) crossed the central meridian early in the week. The associated high-speed stream arrived at Earth around August 18–19 and was responsible for the enhanced solar wind and increased geomagnetic activity during the middle of the week.

A northern mid-latitude, negative-polarity coronal hole (SIDC Coronal Hole 142) crossed the central meridian, with a possible associated high-speed stream around August 21. Its influence at Earth was limited or uncertain.

Proton flux levels

The greater than 10 MeV proton flux remained below the 10 pfu threshold. A slight enhancement, although under the storm threshold, was observed during the second part of the week, following the eruptive activity on August 20–21.

Electron fluxes at GEO

The greater than 2 MeV electron flux measured by GOES 18 and GOES 19 was mostly below the 1000 pfu threshold during the first part of the week. It increased around or above the threshold during the second part of the week, following the high-speed stream influence, before decreasing again towards the end of the week. The 24-hour electron fluence was initially at normal levels and reached moderate levels during the second part of the week.

Solar wind

The solar wind was slow at the beginning of the week.

A gradual enhancement was observed on August 17–18, likely related to a mild glancing blow associated with SIDC CME 707.

A stronger enhancement followed with the onset of the high-speed stream from the negative polarity SIDC Coronal Hole 149, which crossed the central meridian early on August 16. The solar wind increased from around 300 km/s early in the week to 600–630 km/s. The interplanetary magnetic field reached 16 nT, while the Bz component went down to -12 nT. At the end of the week, the solar wind dropped.

Geomagnetism

Geomagnetic conditions globally and locally were mostly quiet at the beginning of the week.

Activity increased on August 18–19, initially due to the mild glancing blow from SIDC CME 707 and then due to the high-speed stream from SIDC Coronal Hole 149. Global geomagnetic conditions reached minor storm levels between 18:00 UTC and 21:00 UTC on August 18, with NOAA Kp reaching 5+, and again between 03:00 UTC and 06:00 UTC on August 19, with NOAA Kp reaching 5. Locally, minor storm conditions were observed between 20:00 UTC and 23:00 UTC on August 18, with K BEL reaching 5. During the second part of the week, geomagnetic conditions gradually returned to mostly quiet, globally and locally.

3. Noticeable Solar Events

DAY	BEGIN	MAX	END	LOC	XRAY	OP	10CM	TYPE	Cat	NOAA
19	1824	1851	1910		M1.0					4513
20	0731	0805	0817	N4E73	M1.8	SF			13	4513
20	1132	1142	1154	N6E79	M8.1	SF		II/3	13	4513
20	1552	1611	1621	N3E71	M2.9	1F			13	4513
21	0909	1017	1149		M1.6			CTM/1VI/2	10	4507
21	1009	1018	1021		M1.6			CTM/1VI/2		

LOC: approximate heliographic location

XRAY: X-ray flare class

OP: optical flare class

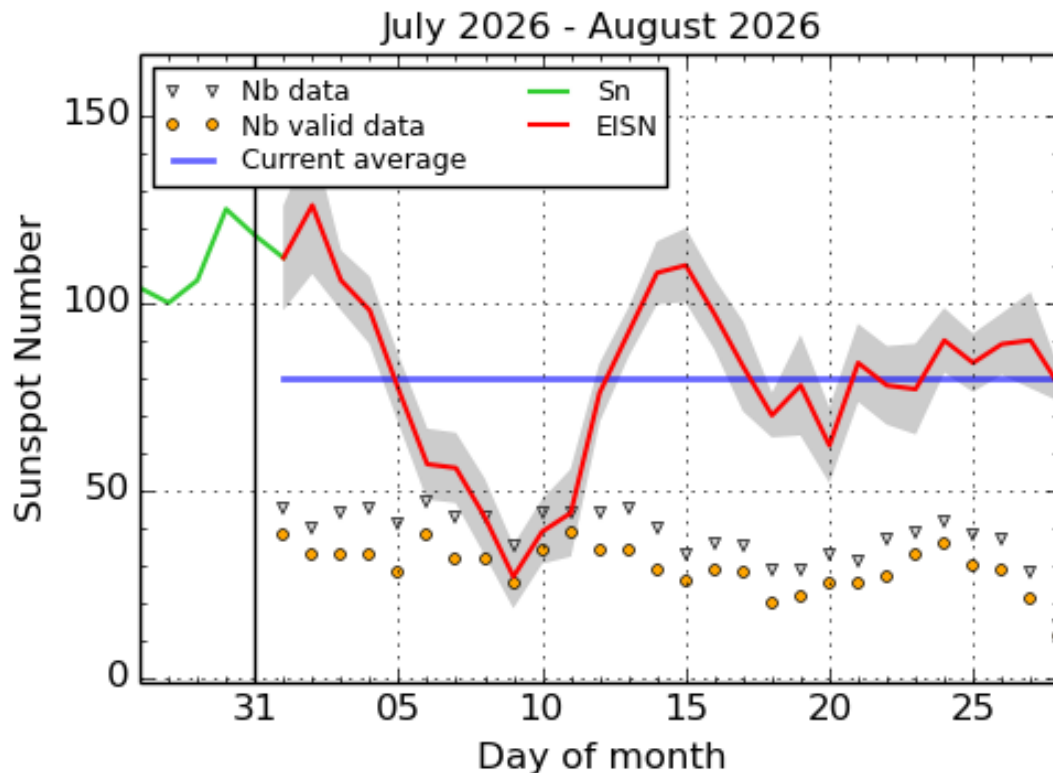
10CM: peak 10 cm radio flux

TYPE: radio burst type

Cat: Catania sunspot group number

NOAA: NOAA active region number

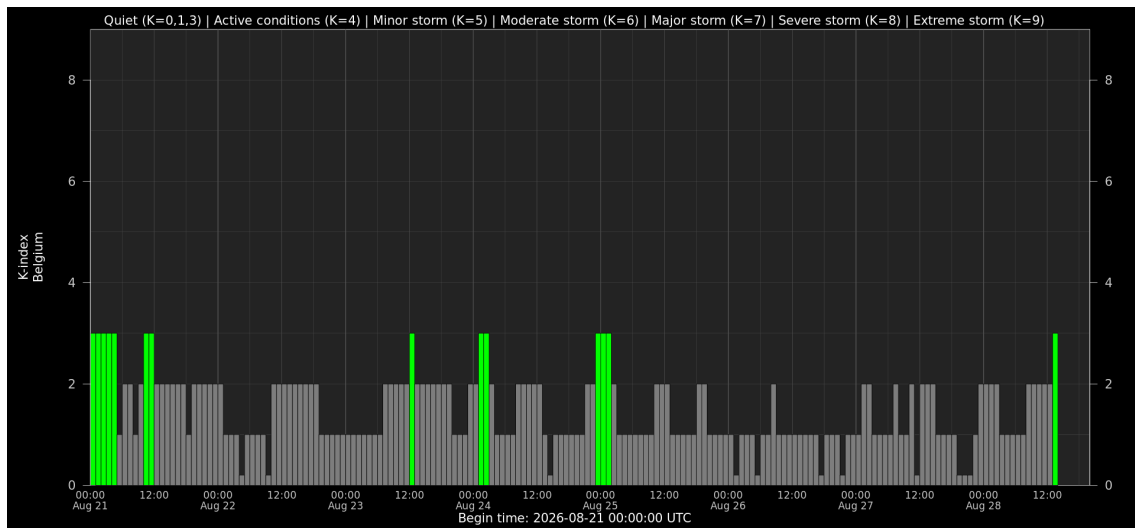
4. International Sunspot Number by SILSO



SILSO graphics (<http://sidc.be/silso>) Royal Observatory of Belgium, 2026 August 28

The daily Estimated International Sunspot Number (EISN, red curve with shaded error) derived by a simplified method from real-time data from the worldwide SILSO network. It extends the official Sunspot Number from the full processing of the preceding month (green line), a few days more than one solar rotation. The horizontal blue line shows the current monthly average. The yellow dots give the number of stations that provided valid data. Valid data are used to calculate the EISN. The triangle gives the number of stations providing data. When a triangle and a yellow dot coincide, it means that all the data is used to calculate the EISN of that day.

5. Geomagnetic Observations in Belgium



Local K-type magnetic activity index for Belgium based on data from Dourbes (DOU) and Manhay (MAB). Comparing the data from both measurement stations allows to reliably remove outliers from the magnetic data. At the same time the operational service availability is improved: whenever data from one observatory is not available, the single-station index obtained from the other can be used as a fallback system.

Both the two-station index and the single station indices are available here: http://ionosphere.meteo.be/geomagnetism/K_BEL/

6. The SIDC Space Weather Briefing

The forecaster on duty presented the SIDC briefing that gives an overview of space weather from Aug 17 to 23.

The pdf of the presentation: https://www.stce.be/briefings/20260824_SWbriefing.pdf

SIDC Space Weather Briefing

17 August 2026-23 August 2026

Micera Alfredo

& the SIDC forecaster team



Solar Influences
Data analysis Centre
www.sidc.be

7. PROBA2 Observations (17 Aug 2026 - 23 Aug 2026)

Solar Activity

Solar flare activity fluctuated from low to moderate during the week.

In order to view the activity of this week in more detail, we suggest to go to the following website from which all the daily (normal and difference) movies can be accessed: <https://proba2.oma.be/ssa>

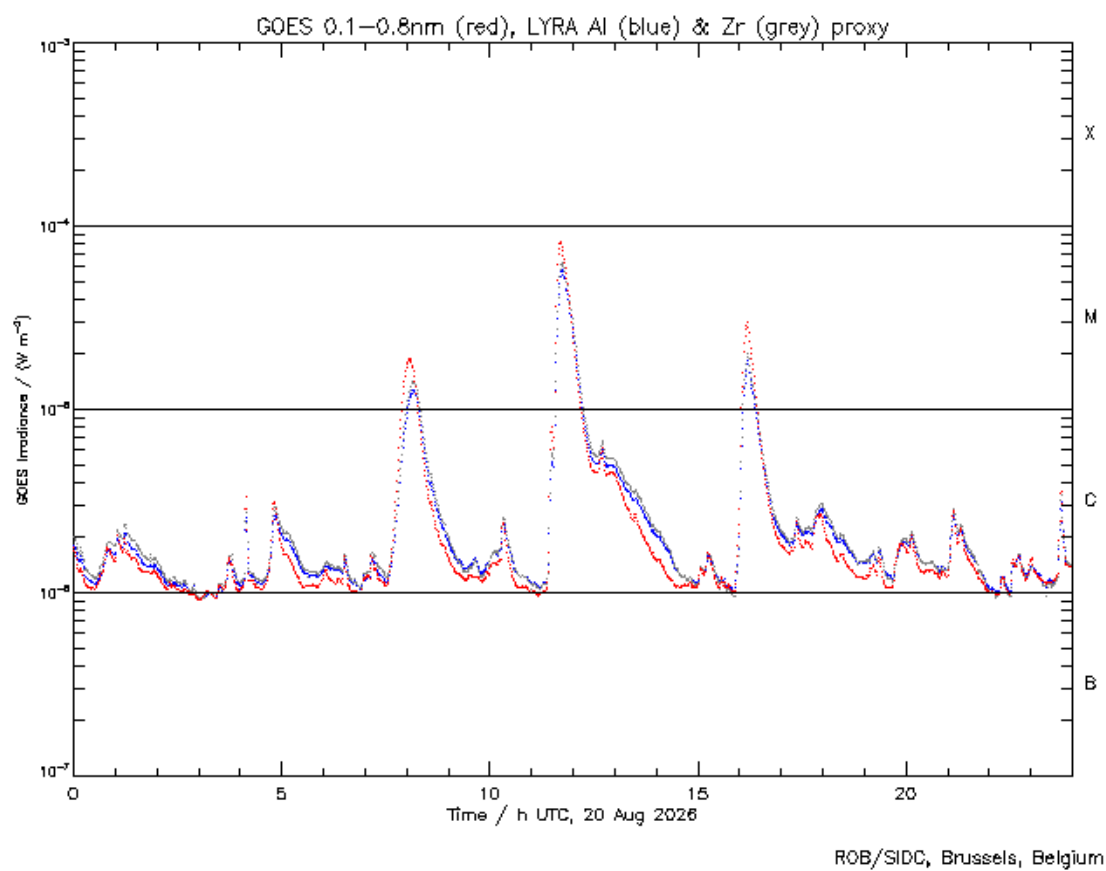
This page also lists the recorded flaring events.

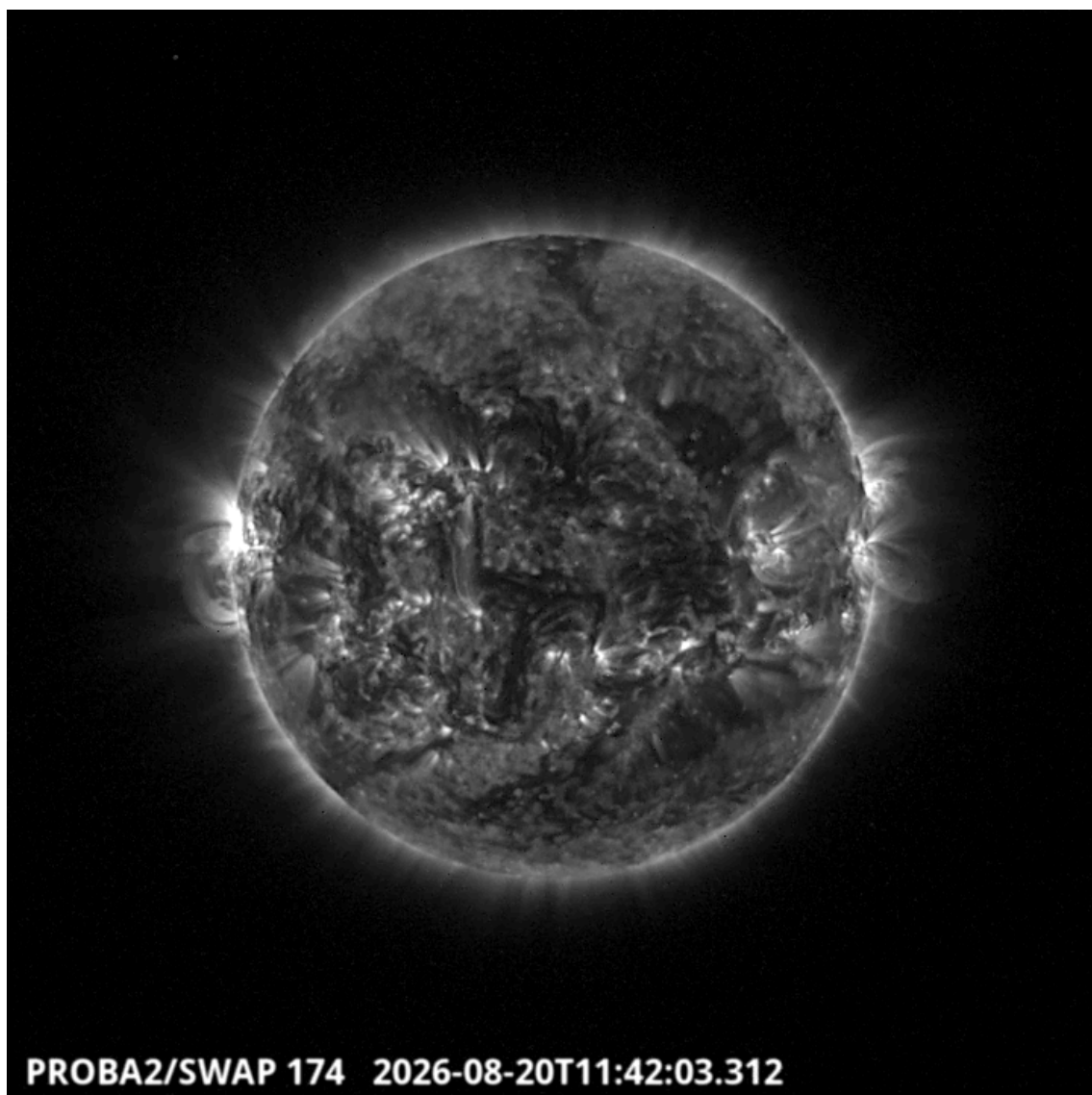
A weekly overview movie (SWAP week 856) can be found here: https://proba2.sidc.be/swap/data/mpg/movies/weekly_movies/weekly_movie_2026_08_17.mp4.

Details about some of this week's events can be found further below.

If any of the linked movies are unavailable they can be found in the P2SC movie repository here: <https://proba2.oma.be/swap/data/mpg/movies/>.

Thursday August 20





The largest flare of this week was an M8.1, and it was observed by LYRA (top panel) and SWAP (bottom panel). The flare peaked on 2026-Aug-20 at 11:42 UT and occurred at the eastern limb of the Sun, originating from active region NOAA4513 (SIDC 929).

Find a SWAP movie of the event here: https://proba2.sidc.be/swap/movies/20260820_swap_movie.mp4.

8. STCE training courses, lectures and events

Courses, seminars and events with the Sun-Space-Earth system and Space Weather as the main theme. We provide occasions to get submerged in our world through educational, informative and instructive activities.

* Sep 3, 2026, Watching the Sun: a 200-year journey, guided tour Solar Physics, Ukkel, Belgium - register <https://events.spacepole.be/category/2/>

* Sep 26-27, 2026, Opendoors Space Pole, Ukkel, Belgium

* Oct 12-14, 2026, STCE Space Weather Introductory Course, Brussels, Belgium - register: <https://events.spacepole.be/event/257/> - Fully booked

- * Oct 15, 2026, Post Space Weather Introductory Course, Brussels, Belgium - register: <https://events.spacepole.be/event/286/>
- * Oct 16, 2026, Watching the Sun: a 200-year journey, guided tour Solar Physics, Ukkel, Belgium - register <https://events.spacepole.be/category/2/>
- * Oct 29 - Nov 1, 2026, Prior to ESWW2026 - Space Weather Training Course in Firenze, Italy - Applications closed
- * Nov 2-6, 2026, European Space Weather Week, Florence, Italy, <https://esww2026.eswan.eu/>
- * Nov 13, 2026, Watching the Sun: a 200-year journey, guided tour Solar Physics, Ukkel, Belgium - register <https://events.spacepole.be/category/2/>
- * Nov 23-25, 2026, STCE course: Role of the ionosphere and space weather in military communications, Brussels, Belgium - register: <https://events.spacepole.be/event/259/>
- * Nov 30, 2026, Watching the Sun: a 200-year journey, guided tour Solar Physics, Ukkel, Belgium - register <https://events.spacepole.be/category/2/>
- * Dec 7-9, 2026, STCE Space Weather Introductory Course for Aviation, Brussels, Belgium - register: <https://events.spacepole.be/event/262/> - Fully booked

To register for a course and check the seminar details, navigate to the STCE Space Weather Education Center: <https://www.stce.be/SWEC>

If you want your event in the STCE newsletter, contact us: [stce_coordination at stce.be](mailto:stce_coordination@stce.be)



Space Weather Education Centre

Website: <https://www.stce.be/SWEC>