STCE Newsletter

19 Jan 2026 - 25 Jan 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. Anatomy of an aurora

The earth-directed coronal mass ejection (CME) associated with the X-class flare of 18 January (STCE newsitem https://www.stce.be/news/800/welcome.html) arrived about 6 hours earlier than expected (https://www.stce.be/news/801/welcome.html). The impact caused a severe geomagnetic storm (Kp = 9- ; STCE SWx classifications page at https://www.stce.be/educational/classification#levelsmagn) late on 19 and on 20 January. Though the storm was not as intense as e.g. the May 2024 storm, many observers commented on the spectacular aurora that were visible, in particular the bright green blobs "dancing" all over the sky. So what was going on?

- The Earth is protected by its magnetic field. The solar wind compresses this geomagnetic field on the dayside, and stretches it on the nightside, giving it the shape of a "teardrop" or a "comet". The northern lobe of this magnetotail has its magnetic field lines directed towards the Earth, in the southern lobe the magnetic field lines are directed away from the Earth. This is shown in the annotated sketch (black arrows in Figure 1.A.) underneath, taken from Eastwood et al. 2014 (https://link.springer.com/article/10.1007/s11214-014-0050-x).
- When the magnetic field of the arriving CME has a southward pointing orientation, then a good connection with the geomagnetic field (dayside) is possible. As a result, the magnetotail (nightside) gets compressed by the passing CME. This pushes the two lobes of the magnetotail closer together. But as their magnetic field lines have an opposite direction, a "short-circuit" (magnetic reconnection) takes place, accelerating the particles (mostly electrons) violently to Earth. Under normal solar wind conditions, this magnetic reconnection occurs at distances in the range of 23 to 31 earth radii (Nagai et al. 2023 - https://doi.org/10.1029/2023JA032023).
- The magnetic field lines guide the released particles towards the Earth's latitudes and locations where the aurora and the auroral oval are typically seen. The typical green colours are caused by collisions with oxygen at an altitude between 100 and 200 km, while the rarer red aurora (requires strong storms) are caused by collisions with oxygen at higher altitudes between 200 and 400 km (BISA - https://www.aeronomie.be/en/encyclopedia/aurora-or-polar-lights-secret-colours). This is why for Belgium and other mid-latitude locations, one usually sees red aurora because they are the highest in the sky and thus visible from further away (from the polar regions that is). But even then, for Belgium, a strong geomagnetic storm (Kp = 7) is already required to catch a glimpse of these reddish aurora low above the northern horizon, as shown in the sketch of Figure 2.A.

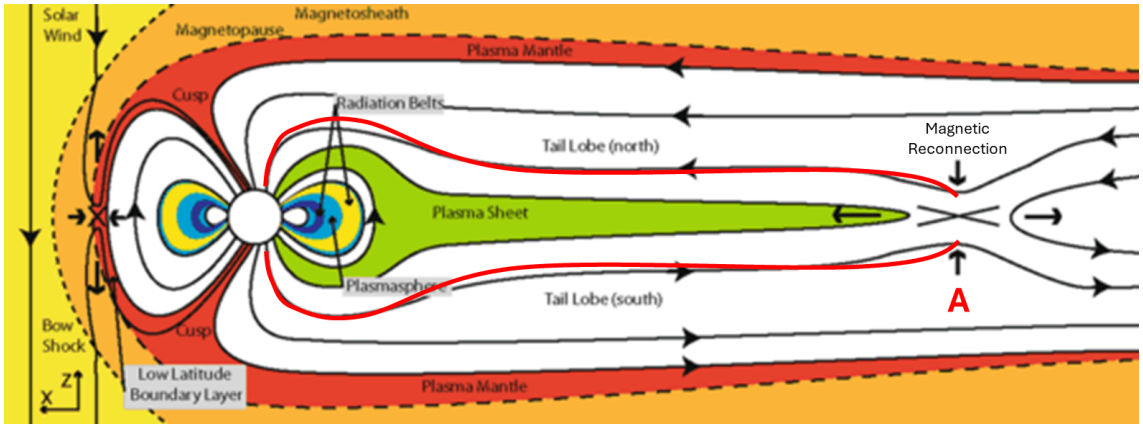


Figure 1.A.

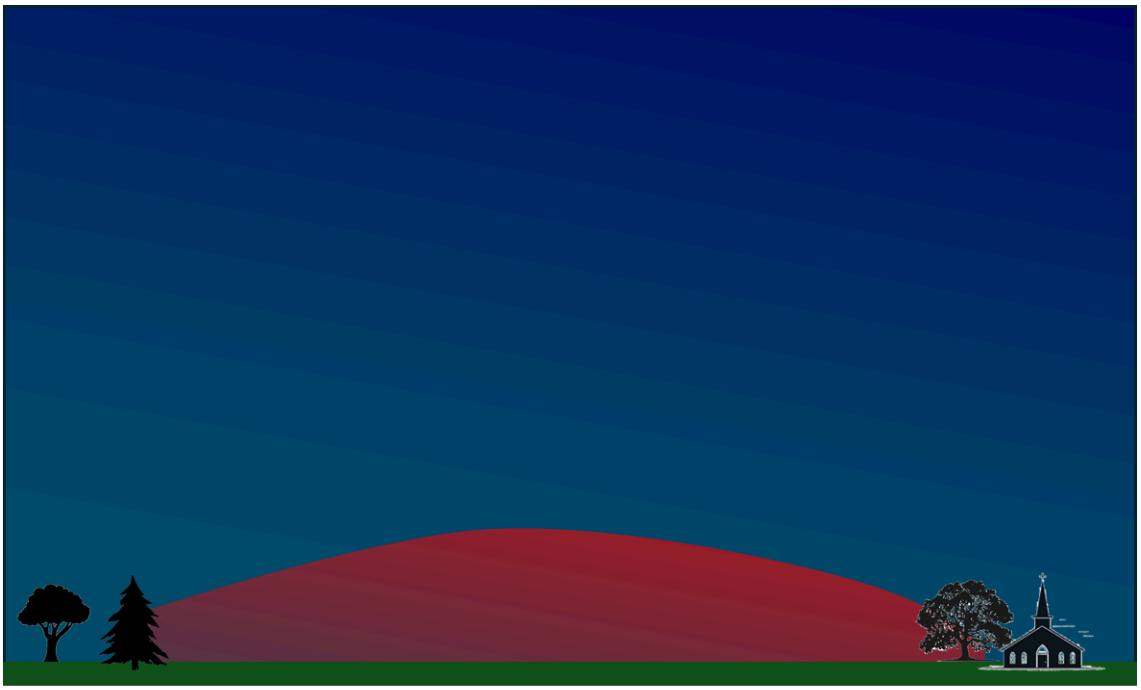


Figure 2.A.

Things become more interesting when the southward pointing magnetic field of the CME is very strong or remains southward for several consecutive hours. This results in a severe or extremely severe geomagnetic storm, with Kp respectively reaching 8 or 9. The stronger the field and the longer-lasting the southward orientation, the stronger the resulting geomagnetic storm will be. Typical examples are the October 2024 (Kp 9-) and the May 2024 (Kp 9o) geomagnetic storm. Now, in this scenario, the magnetotail gets much more compressed, and the magnetic reconnection can occur much closer to Earth at distances of 20 earth radii or less (Nagai et al. 2023) as shown in Figure 1.B. That change in location makes a difference, because the connecting magnetic field lines now guide the released particles towards Earth's mid-latitudes and occasionally even further equatorwards. This means that the aurora, as seen from Belgium, are now getting higher in the sky, with increasing chances that also the low-altitude green aurora become visible, as shown in Figure 2.B. Also, because the magnetic reconnection in the magnetotail is taking place over a much wider area, the auroral oval becomes wider.

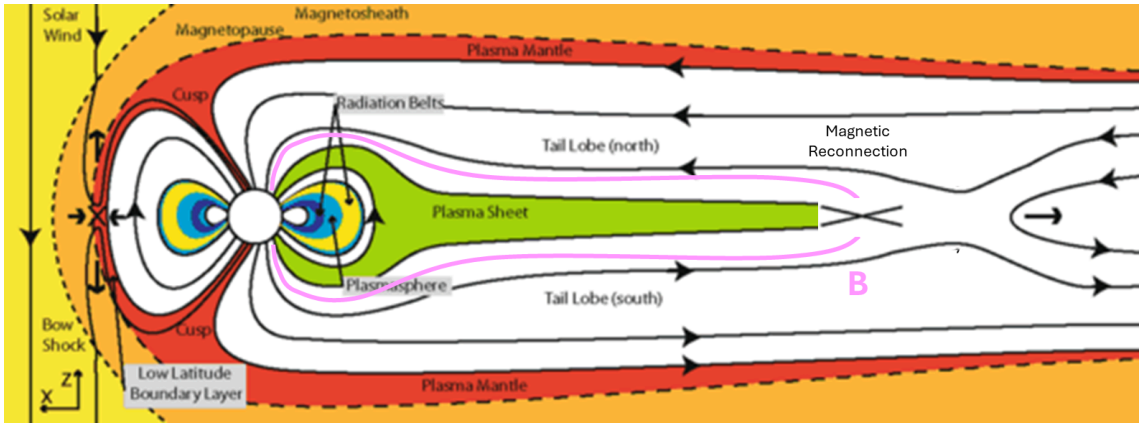


Figure 1.B.

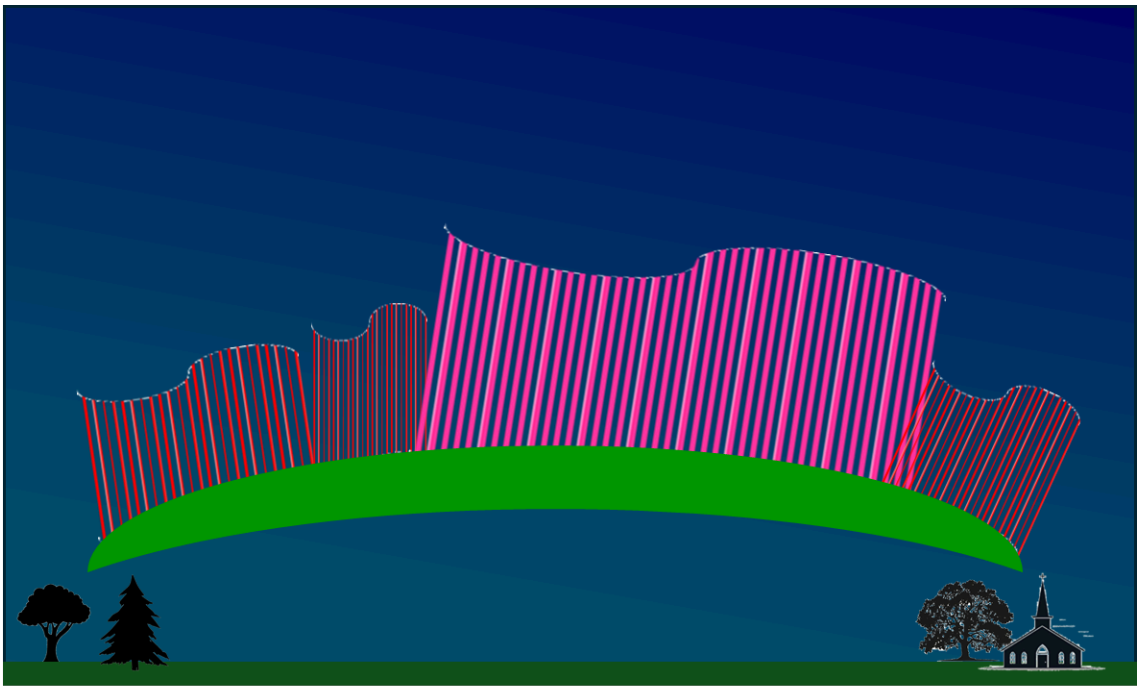


Figure 2.B.

So where were those bright green blobs coming from during last week's storm? Those were clearly outside the location of the typical red and green aurora, appearing all the way up into the zenith and even a bit further southward as seen from Belgium. Well, the source of these aurora is not located in the magnetotail, but in the ring current. The ring current is an electric current encircling the Earth at geocentric distances between 3 to 8 earth radii (nightside) in the equatorial plane, partially overlapping with the outer radiation belt, as shown in the sketch of Figure 1.C. So, the ring current is even closer to the Earth than the locations of the magnetic reconnection of the "normal" aurora. During a particular strong geomagnetic storm, it may happen that interactions between the magnetic waves and the protons present in the ring current, move those protons out of the ring current such that they move along the magnetic field lines to locations even further equatorward than the typical aurora (see also Xiao et al. 2014: https://www.nature.com/articles/srep05190). There, these runaway protons collide with particles from the upper atmosphere and cause those pulsating green blobs, called "proton aurora". Appearing much higher in the sky than the usual aurora (Figure 2.C.), these green patches brighten and fade in a matter of tens of seconds.

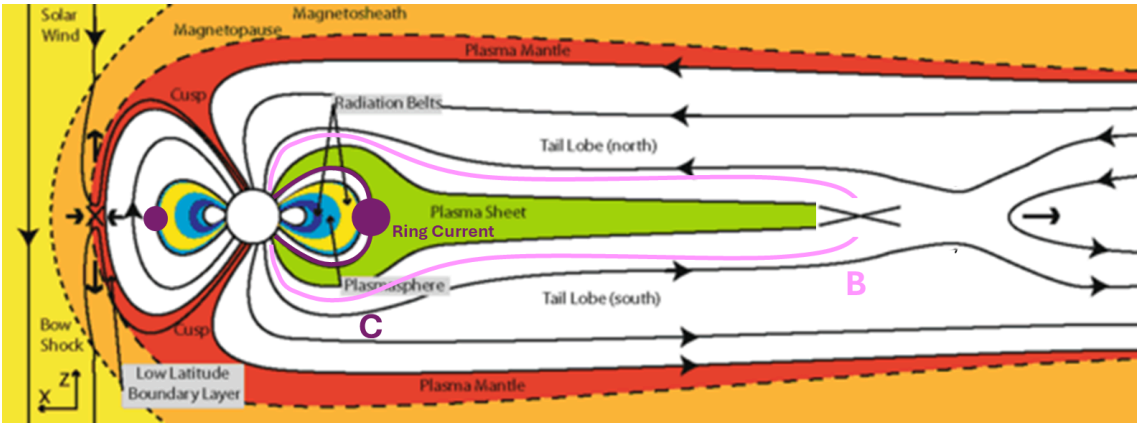


Figure 1.C.

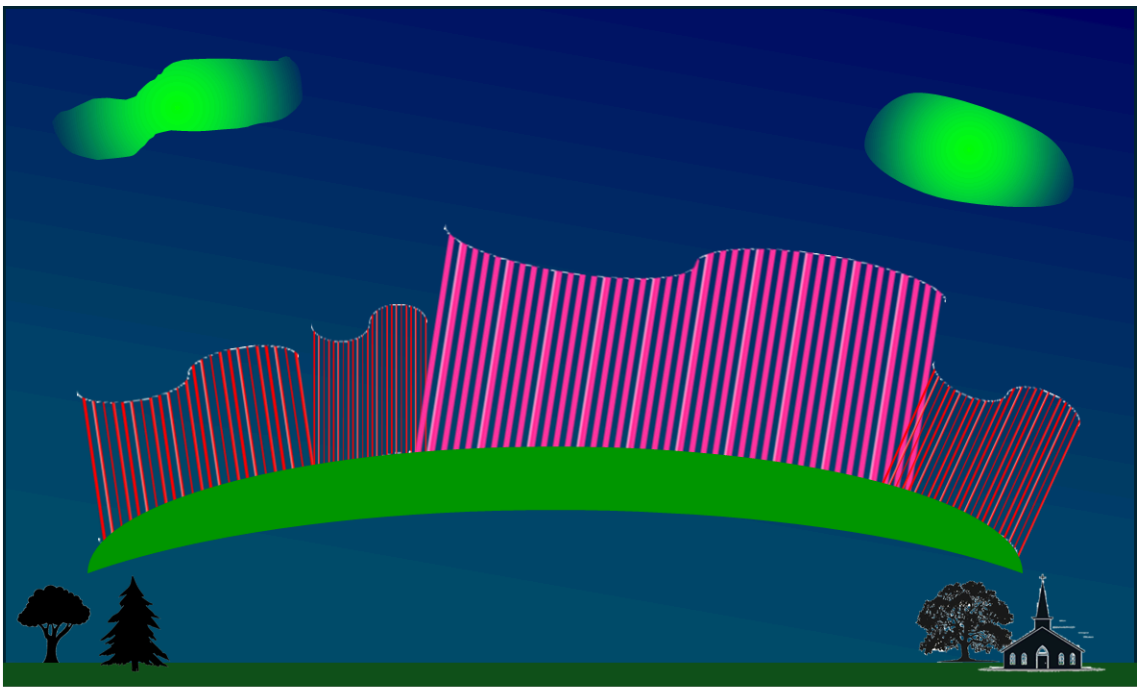
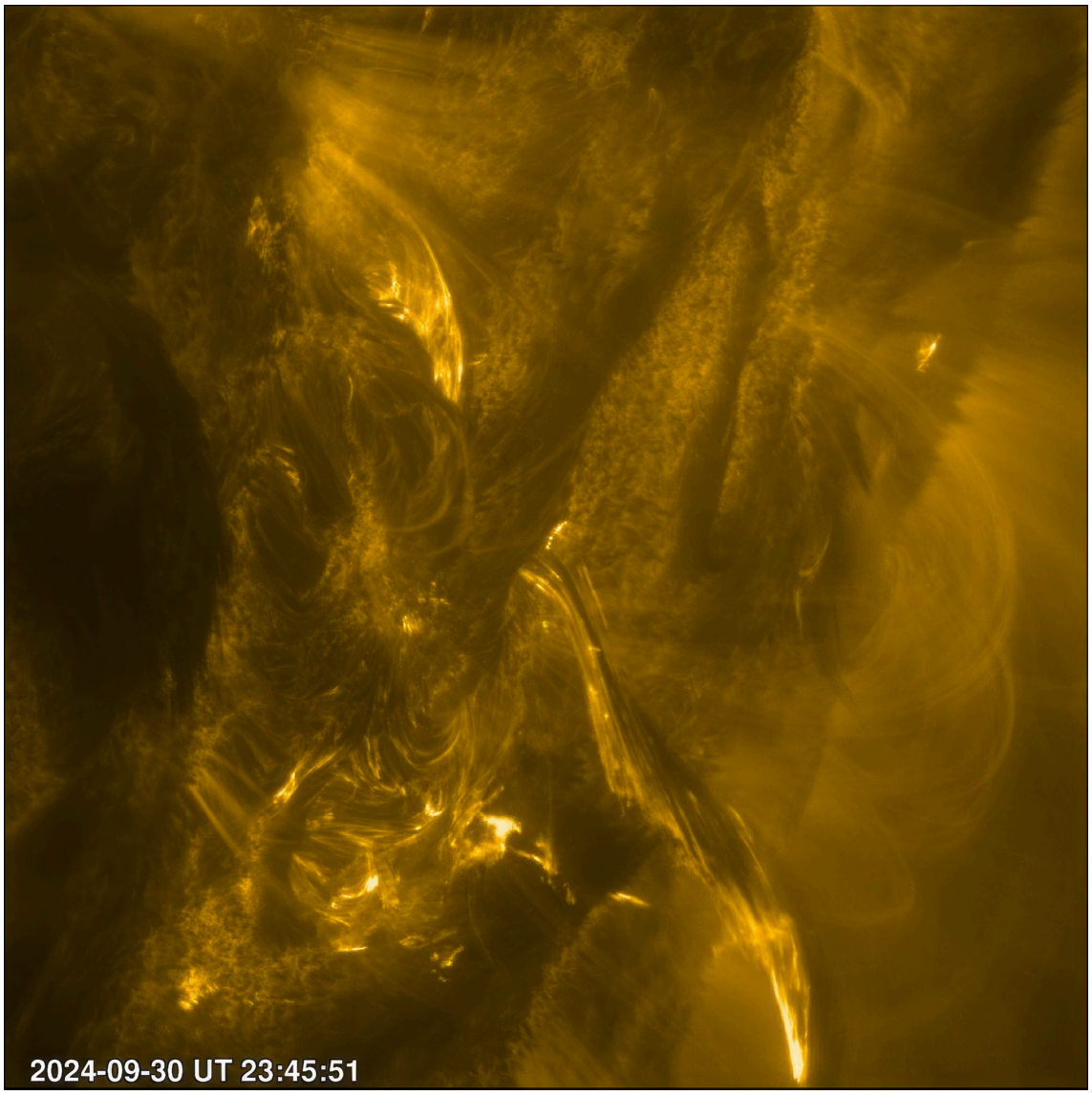


Figure 2.C.

The images underneath show the aurora from last week's geomagnetic storm, as observed from Brussels on 19 January between 21:30 and 22:15 UTC. The top figure shows the typical aurora as seen due north. Compared to the May 2024 storm, the main differences were that the aurora were not as high in the sky this time, and the reddish hues were a bit less pronounced than almost 2 years ago. The two smaller pictures in the bottom row show 2 examples of proton aurora, the lower left in the due east direction and the lower right picture as seen near the zenith (directly overhead). Barely a few pictures could be taken of each blob, that's how fast they appeared then faded away. Many observers commented on the "disco-like" feeling they got while observing these dynamic, pulsating green features often as bright as the full moon. On social media, there are plenty of really good and astonishing images and clips of the phenomenon. Examples are Jonas Piontek (https://www.facebook.com/jonaspiontek/ and https://www.instagram.com/reel/DTyOMMsjPQw/), Wil Photography (https://www.facebook.com/wilphotographer), and Anthony Bongiovanni (https://www.threads.com/anthonybgvn). Fiona Lee and Kelly Kizer Whitt (https://earthsky.org/space/weird-aurora-blobs-proton-auroras-explained/) provided examples of proton aurora observed during the 11-12 November 2025 storm.

2. Avalanches on the Sun

Nope, this is not about snow racing to lower places, but about plasma sliding down in an increasingly violent way.



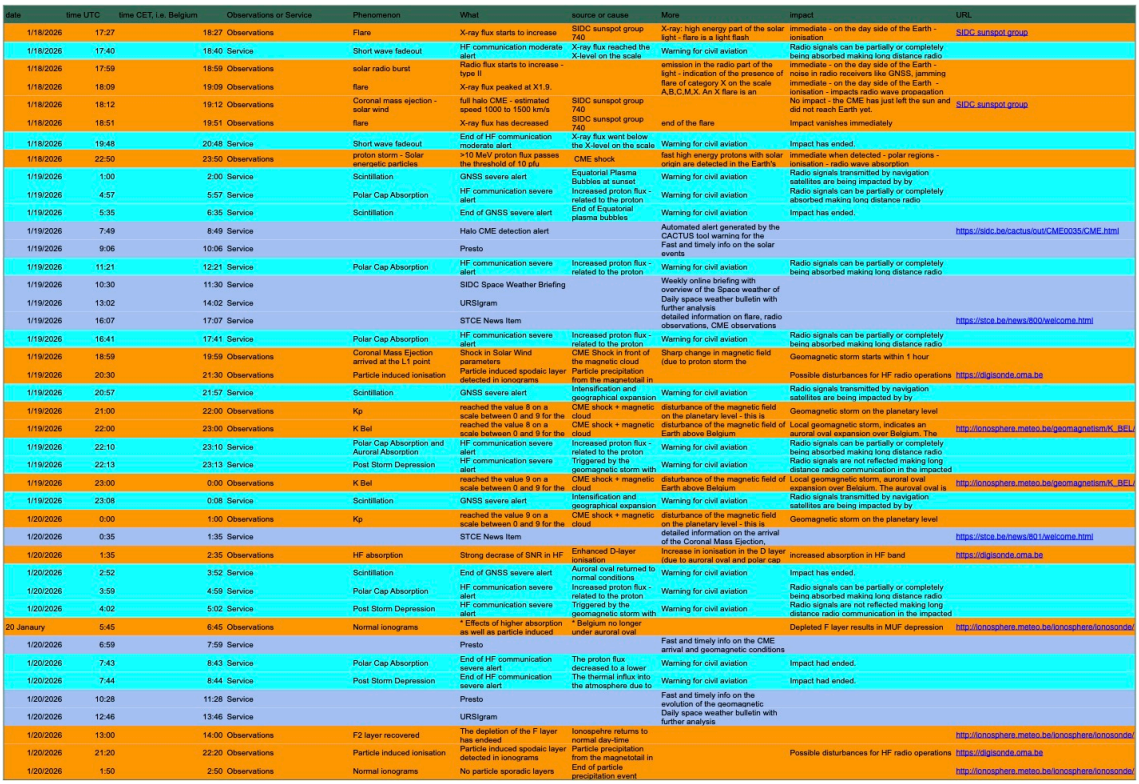
Read the full story: https://www.esa.int/Science_Exploration/Space_Science/Solar_Orbiter/Magnetic_avalanches_power_solar_flares_finds_Solar_Orbiter#msdynmkt_trackingcontext=2447ebcf-d5e0-4482-bf93-7e41d3a10100

3. Actions triggered by the recent strong space weather events

On January 19, aurora was visible in places like the Netherlands and Belgium. Shortly before aurora became visible, a magnetic cloud had hit Earth triggering the alarm bells of the Belgian space weather centre. In fact, on January 18, a high intensity light flash illuminated the day side of Earth. The flash was quantified as X or eXtreme. At the same time, a magnetic cloud was released and started travelling towards Earth. On January 19, the cloud smashed into the magnetic shield of Earth causing little later beautiful auroras. But this heavenly colourful show visible even in more southern parts of Europe, indicated that the magnetic storm was severe. It can complicate radio communication and navigation in large areas or make it even impossible.

Aurora is nice but is also a sign of troubles.

For the hardcore space weather enthousiast, we present a time line of solar events, observations, actions during the recent solar storms: https://stce.be/images/timeline.pdf
Preview:



date	time UTC	time CET, i.e. Belgium	Observations or Service	Phenomenon	What	source or cause	More	impact	URL
1/18/2026	17:27	18:27	Observations	Flare	X-ray flux starts to increase	SIDC sunspot group 740	X-ray: high energy part of the solar light - flare is a light flash	immediate - on the day side of the Earth - ionisation	SIDC sunspot group
1/18/2026	17:40	18:40	Service	Short wave fadeout	HF communication moderate alert	X-ray flux reached the X-level on the scale	Warning for civil aviation	Radio signals can be partially or completely being absorbed making long distance radio	
1/18/2026	17:59	18:59	Observations	solar radio burst	Radio flux starts to increase - type II		emission in the radio part of the light - indication of the presence of flare of category X on the scale A,B,C,M,X. An X flare is an	immediate - on the day side of the Earth - noise in radio receivers like GNSS, jamming	
1/18/2026	18:09	19:09	Observations	flare	X-ray flux peaked at X1.9.			immediate - on the day side of the Earth - ionisation - impacts radio wave propagation	
1/18/2026	18:12	19:12	Observations	Coronal mass ejection - solar wind	full halo CME - estimated speed 1000 to 1500 km/s	SIDC sunspot group 740		No impact - the CME has just left the sun and did not reach Earth yet.	SIDC sunspot group
1/18/2026	18:51	19:51	Observations	flare	X-ray flux has decreased	SIDC sunspot group 740	end of the flare	Impact vanishes immediately	
1/18/2026	19:48	20:48	Service	Short wave fadeout	End of HF communication moderate alert	X-ray flux went below the X-level on the scale	Warning for civil aviation	Impact has ended.	
1/18/2026	22:50	23:50	Observations	proton storm - Solar energetic particles	>10 MeV proton flux passes the threshold of 10 pfu	CME shock	fast high energy protons with solar origin are detected in the Earth's	immediate when detected - polar regions - ionisation - radio wave absorption	
1/19/2026	1:00	2:00	Service	Scintillation	GNSS severe alert	Equatorial Plasma Bubbles at sunset	Warning for civil aviation	Radio signals transmitted by navigation satellites are being impacted by by	
1/19/2026	4:57	5:57	Service	Polar Cap Absorption	HF communication severe alert	Increased proton flux - related to the proton	Warning for civil aviation	Radio signals can be partially or completely absorbed making long distance radio	
1/19/2026	5:35	6:35	Service	Scintillation	End of GNSS severe alert	End of Equatorial plasma bubbles	Warning for civil aviation	Impact has ended.	
1/19/2026	7:49	8:49	Service		Halo CME detection alert		Automated alert generated by the CACTUS tool warning for the		https://sidc.be/cactus/out/CME0035/CME.html
1/19/2026	9:06	10:06	Service		Presto		Fast and timely info on the solar events		
1/19/2026	11:21	12:21	Service	Polar Cap Absorption	HF communication severe alert	Increased proton flux - related to the proton	Warning for civil aviation	Radio signals can be partially or completely being absorbed making long distance radio	
1/19/2026	10:30	11:30	Service		SIDC Space Weather Briefing		Weekly online briefing with overview of the Space weather of		
1/19/2026	13:02	14:02	Service		URSIgram		Daily space weather bulletin with further analysis		
1/19/2026	16:07	17:07	Service		STCE News Item		detailed information on flare, radio observations, CME observations		https://stce.be/news/800/welcome.html
1/19/2026	16:41	17:41	Service	Polar Cap Absorption	HF communication severe alert	Increased proton flux - related to the proton	Warning for civil aviation	Radio signals can be partially or completely being absorbed making long distance radio	
1/19/2026	18:59	19:59	Observations	Coronal Mass Ejection arrived at the L1 point	Shock in Solar Wind parameters	CME Shock in front of the magnetic cloud	Sharp change in magnetic field (due to proton storm the	Geomagnetic storm starts within 1 hour	
1/19/2026	20:30	21:30	Observations	Particle induced ionisation	Particle induced spodaic layer detected in ionograms	Particle precipitation from the magnetotail in		Possible disturbances for HF radio operations	https://digisonde.oma.be
1/19/2026	20:57	21:57	Service	Scintillation	GNSS severe alert	Intensification and geographical expansion	Warning for civil aviation	Radio signals transmitted by navigation satellites are being impacted by by	
1/19/2026	21:00	22:00	Observations	Kp	reached the value 8 on a scale between 0 and 9 for the	CME shock + magnetic cloud	disturbance of the magnetic field on the planetary level - this is	Geomagnetic storm on the planetary level	
1/19/2026	22:00	23:00	Observations	K Bel	reached the value 8 on a scale between 0 and 9 for the	CME shock + magnetic cloud	disturbance of the magnetic field of Earth above Belgium	Local geomagnetic storm, indicates an auroral oval expansion over Belgium. The	http://ionosphere.meteo.be/geomagnetism/K_BEL/
1/19/2026	22:10	23:10	Service	Polar Cap Absorption and Auroral Absorption	HF communication severe alert	Increased proton flux - related to the proton	Warning for civil aviation	Radio signals can be partially or completely being absorbed making long distance radio	
1/19/2026	22:13	23:13	Service	Post Storm Depression	HF communication severe alert	Triggered by the geomagnetic storm with	Warning for civil aviation	Radio signals are not reflected making long distance radio communication in the impacted	
1/19/2026	23:00	0:00	Observations	K Bel	reached the value 9 on a scale between 0 and 9 for the	CME shock + magnetic cloud	disturbance of the magnetic field of Earth above Belgium	Local geomagnetic storm, auroral oval expansion over Belgium. The auroral oval is	http://ionosphere.meteo.be/geomagnetism/K_BEL/
1/19/2026	23:08	0:08	Service	Scintillation	GNSS severe alert	Intensification and geographical expansion	Warning for civil aviation	Radio signals transmitted by navigation satellites are being impacted by by	
1/20/2026	0:00	1:00	Observations	Kp	reached the value 9 on a scale between 0 and 9 for the	CME shock + magnetic cloud	disturbance of the magnetic field on the planetary level - this is	Geomagnetic storm on the planetary level	
1/20/2026	0:35	1:35	Service		STCE News Item		detailed information on the arrival of the Coronal Mass Ejection,		https://stce.be/news/801/welcome.html
1/20/2026	1:35	2:35	Observations	HF absorption	Strong decrase of SNR in HF	Enhanced D-layer ionisation	Increase in ionisation in the D layer (due to auroral oval and polar cap	increased absorption in HF band	https://digisonde.oma.be
1/20/2026	2:52	3:52	Service	Scintillation	End of GNSS severe alert	Auroral oval returned to normal conditions	Warning for civil aviation	Impact has ended.	
1/20/2026	3:59	4:59	Service	Polar Cap Absorption	HF communication severe alert	Increased proton flux - related to the proton	Warning for civil aviation	Radio signals can be partially or completely being absorbed making long distance radio	
1/20/2026	4:02	5:02	Service	Post Storm Depression	HF communication severe alert	Triggered by the geomagnetic storm with	Warning for civil aviation	Radio signals are not reflected making long distance radio communication in the impacted	
20 Janaury	5:45	6:45	Observations	Normal ionograms	* Effects of higher absorption as well as particle induced	* Belgium no longer under auroral oval		Depleted F layer results in MUF depression	http://ionosphere.meteo.be/ionosphere/ionosonde/
1/20/2026	6:59	7:59	Service		Presto		Fast and timely info on the CME arrival and geomagnetic conditions		
1/20/2026	7:43	8:43	Service	Polar Cap Absorption	End of HF communication severe alert	The proton flux decreased to a lower	Warning for civil aviation	Impact had ended.	
1/20/2026	7:44	8:44	Service	Post Storm Depression	End of HF communication severe alert	The thermal influx into the atmosphere due to	Warning for civil aviation	Impact had ended.	
1/20/2026	10:28	11:28	Service		Presto		Fast and timely info on the evolution of the geomagnetic		
1/20/2026	12:46	13:46	Service		URSIgram		Daily space weather bulletin with further analysis		
1/20/2026	13:00	14:00	Observations	F2 layer recovered	The depletion of the F layer has endeed	Ionospehre returns to normal day-time			http://ionosphere.meteo.be/ionosphere/ionosonde/
1/20/2026	21:20	22:20	Observations	Particle induced ionisation	Particle induced spodaic layer detected in ionograms	Particle precipitation from the magnetotail in		Possible disturbances for HF radio operations	https://digisonde.oma.be
1/20/2026	1:50	2:50	Observations	Normal ionograms	No particle sporadic layers	End of particle precipitation event			http://ionosphere.meteo.be/ionosphere/ionosonde/

4. Review of space weather

Solar Active Regions (ARs) and flares

Solar flaring activity was high at the start of the week and gradually decreased to low levels later on. The week was dominated by an X1.9 long-duration flare (SIDC Flare 6678), peaking at 18:09 UTC on January 18, produced by SIDC Sunspot Group 740 (NOAA AR 4341). The same region also produced M-class flares shortly after. Later in the week, flaring remained moderate for a short period, with an M3.4 flare (SIDC Flare 6701) peaking at 07:12 UTC on January 21 from SIDC Sunspot Group 769 (NOAA AR 4349), and an M1.1 flare (SIDC Flare 6699) peaking at 01:35 UTC on January 21 from SIDC Sunspot Group 766 (NOAA AR 4345). Towards the end of the week, only C-class flares were observed, with the largest reported reaching C9.5 (SIDC Flare 6716) on January 22 at 19:54 UTC from SIDC Sunspot Group 772 (NOAA AR 4353).
The most relevant sunspot groups were SIDC Sunspot Group 740 (initially magnetically complex, later simplifying), SIDC Sunspot Group 766 (magnetically complex early in the week), and SIDC Sunspot Group 769.

Coronal mass ejections

A full-halo coronal mass ejection (CME; angular width about 360 degrees) was first observed in SOHO/LASCO C2 imagery on January 18 at 18:12 UTC and was associated with the X1.9 flare (SIDC Flare 6678) and a Type II radio emission (start time 17:59 UTC on January 18). Given the flare association and source location on the disc, this CME was considered Earth-directed and later produced a strong impact at Earth. During the major solar energetic particle event, several halo CMEs were automatically

reported by CACTus (notably on January 19 between about 11:48 and 15:36 UTC); these detections were attributed to coronagraph contamination and were treated as false alerts.
Later in the week, additional halo-like detections were reported by CACTus (January 23), but no clear on-disk source signature was identified, and these events were considered likely backside with no expected impact at Earth.

Coronal Holes

SIDC Coronal Hole 146, a large trans-equatorial coronal hole with positive polarity, continued to influence near-Earth space weather early in the week and was progressively moving to the west side of the Sun. By the end of the week, SIDC Coronal Hole 147, with negative polarity and facing Earth, became the next likely source of a high-speed stream.

Proton flux levels

A major solar energetic particle event followed the X1.9 flare on January 18. The greater than 10 MeV GOES proton flux exceeded the 10 pfu threshold on January 18 at 22:50 UTC, later exceeded 100 pfu (from January 19 at 04:40 UTC), and reached extreme levels during the peak of the event. The flux then decayed and dropped below the 10 pfu threshold on January 22 at 08:35 UTC, marking the end of warning conditions for the greater than 10 MeV channel.

Electron fluxes at GEO

The greater than 2 MeV electron flux at geostationary orbit remained close to, and at times above, the 1000 pfu alert threshold, consistent with the elevated solar wind speeds and the disturbed geomagnetic environment following the impact of the Interplanetary Coronal Mass Ejection (ICME). The 24-hour electron fluence generally remained at moderate levels, with the potential for renewed increases as geomagnetic activity transitioned into recovery phases.

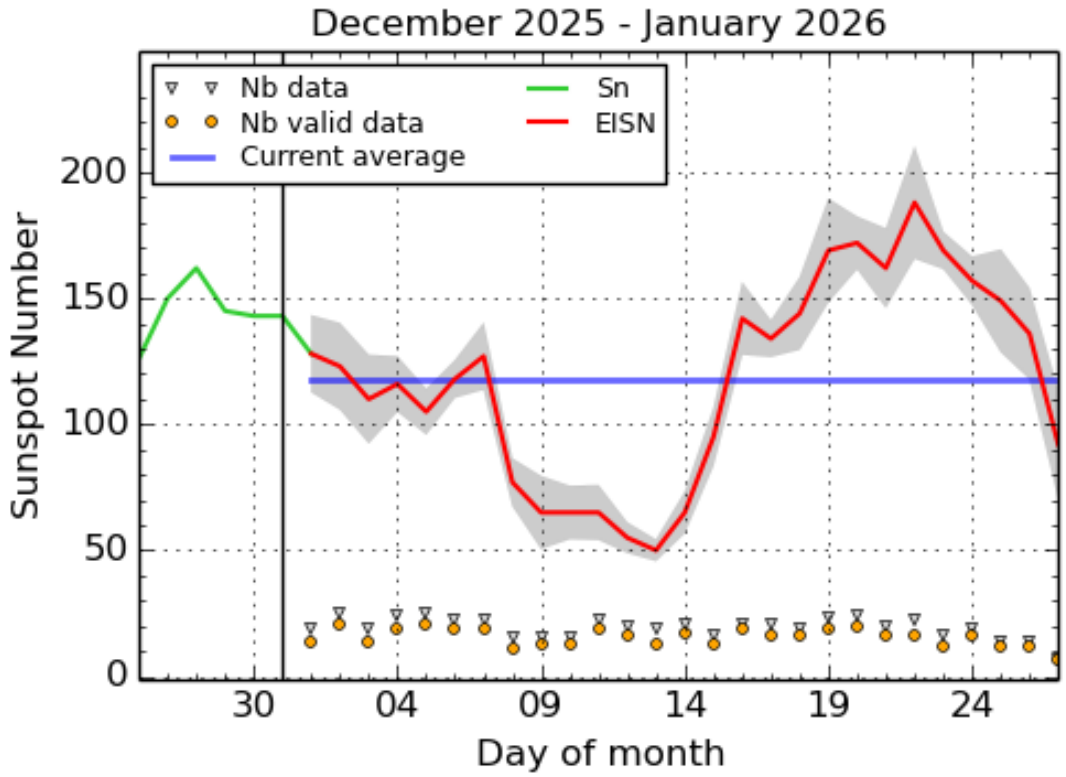
Solar wind

In the solar wind just upstream of Earth a magnetic structure linked to the January 18 full-halo CME was seen. The magnetic structure was preceded by a shock which passed the L1 point around 18:58 to 19:00 UTC on January 19 (ACE and consistent with DSCOVR magnetic field data). The magnetic field intensified sharply (Bt reaching extreme values), and the north-south component Bz turned strongly southward, reaching about minus 58 nT near 21:04 UTC on January 19, before rotating rapidly northward to large positive values. Once the plasma data recovered from solar energetic particle contamination, the Interplanetary Coronal Mass Ejection (ICME) had a speed around 1100 km/s, implying a Sun to Earth transit time of about 25 hours. After the peak impact, solar wind parameters gradually relaxed through the remainder of the week, with speeds trending down toward the 500 to 650 km/s range and the magnetic field returning to moderate levels.

Geomagnetism

Geomagnetic conditions reached severe storm levels following the ICME impact and the strongly southward IMF. Globally, NOAA Kp reached 8 during the 18:00 to 21:00 UTC interval on January 19 and increased to 9- during 21:00 to 24:00 UTC. Locally, the Belgian K index (K BEL) rose rapidly, reaching 8 by 21:00 UTC and 9 by 22:00 UTC on January 19, indicating an extremely severe storm interval over Belgium. A further severe storm interval was reported globally (NOAA Kp 8-) during 06:00 to 09:00 UTC on January 20, after another prolonged period of negative Bz. Thereafter, geomagnetic activity gradually decreased, evolving from storm levels to mainly active and unsettled conditions by the end of the week.

5. International Sunspot Number by SILSO



SILSO graphics (http://sidc.be/silso) Royal Observatory of Belgium, 2026 January 27

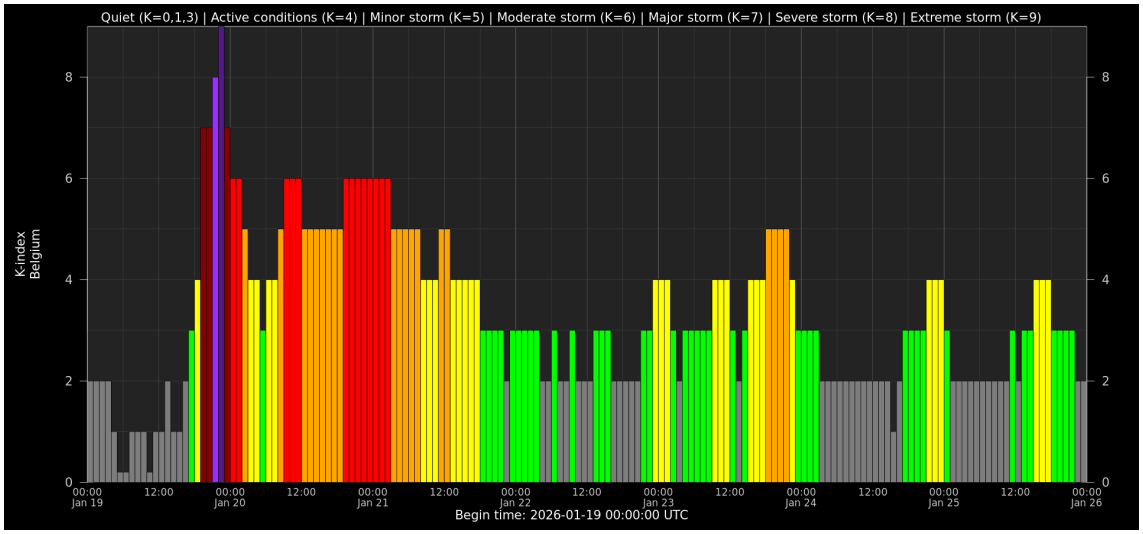
The daily Estimated International Sunspot Number (EISN, red curve with shaded error) derived by a simplified method from real-time data from the worldwide SILSO network. It extends the official Sunspot Number from the full processing of the preceding month (green line), a few days more than one solar 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.

6. Noticeable Solar Events

DAY	BEGIN	MAX	END	LOC	XRAY	OP	10CM	TYPE	Cat	NOAA
19	1109	1119	1122		M1.1					4345
21	0115	0135	0158	S16W5	M1.1	SF				4345
21	0653	0712	0722	S18E62	M3.4	1B				4349

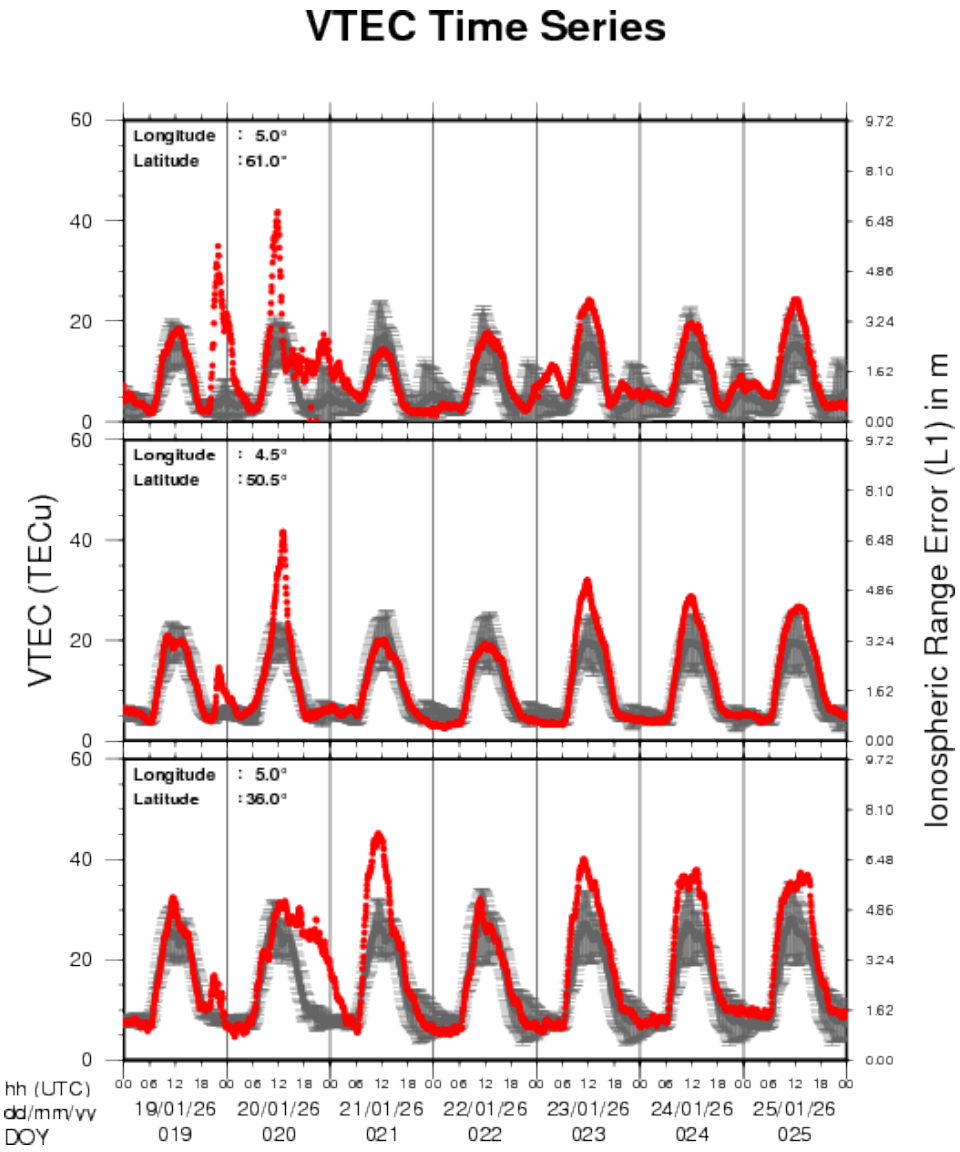
LOC: approximate heliographic location
XRAY: X-ray flare class
OP: optical flare class
10CM: peak 10 cm radio flux
TYPE: radio burst type
Cat: Catania sunspot group number
NOAA: NOAA active region number

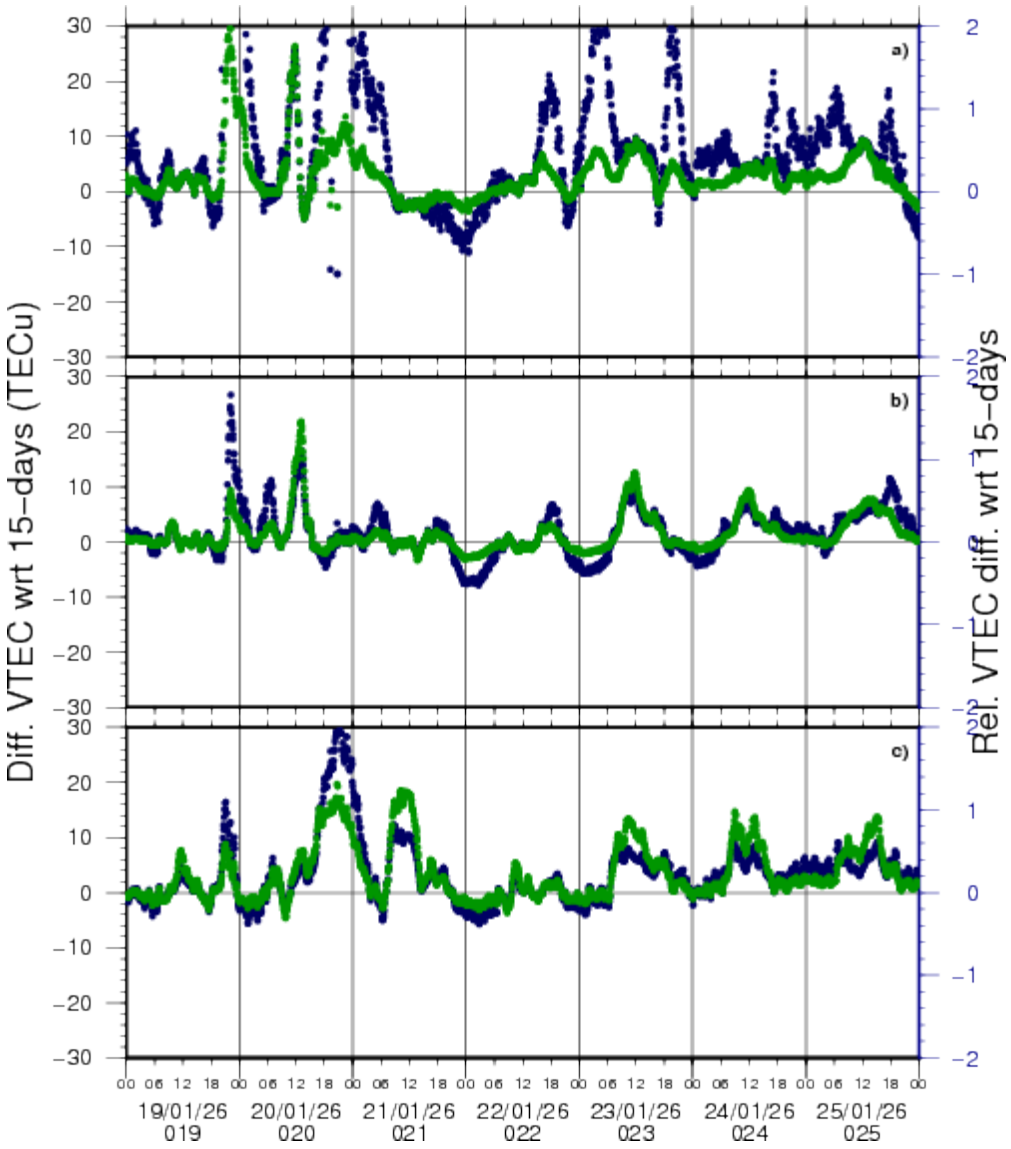
7. Geomagnetic Observations in Belgium



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/

8. Review of Ionospheric Activity





VTEC time series at 3 locations in Europe from 19 Jan 2026 till 25 Jan 2026

The top figure shows the time evolution of the Vertical Total Electron Content (VTEC) (in red) during the last week at three locations:
a) in the northern part of Europe(N 61deg E 5deg)
b) above Brussels(N 50.5deg, E 4.5 deg)
c) in the southern part of Europe(N 36 deg, E 5deg)
This top figure also shows (in grey) the normal ionospheric behaviour expected based on the median VTEC from the 15 previous days.

The time series below shows the VTEC difference (in green) and relative difference (in blue) with respect to the median of the last 15 days in the North, Mid (above Brussels) and South of Europe. It thus illustrates the VTEC deviation from normal quiet behaviour.

The VTEC is expressed in TECu (with TECu=10^16 electrons per square meter) and is directly related to the signal propagation delay due to the ionosphere (in figure: delay on GPS L1 frequency).

The Sun's radiation ionizes the Earth's upper atmosphere, the ionosphere, located from about 60km to 1000km above the Earth's surface.The ionization process in the ionosphere produces ions and free electrons. These electrons perturb the propagation of the GNSS (Global Navigation Satellite System) signals by inducing a so-called ionospheric delay.

See http://stce.be/newsletter/GNSS_final.pdf for some more explanations; for more information, see https://gnss.be/SpaceWeather

9. Upcoming Activities

Courses, seminars, presentations 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.

* Feb 6, 2026, Wetenschapsbattle, Leuven, Belgium - https://wetenschapsbattle.be/editie2026/
* Feb 9-11, 2026, STCE Space Weather Introductory Course, Brussels, Belgium - Fully booked
* Feb 18, 2026, STCE Public Lecture on Proba-3, Volkssterrenwacht Beisbroek, Bruges, Belgium
* Mar 16-18, 2026, STCE course: Role of the ionosphere and space weather in military communications, Brussels, Belgium - register: https://events.spacepole.be/event/258/
* Apr 20-21, 2026, STCE cursus: inleiding tot het ruimteweer, Brussels, Belgium - register: https://events.spacepole.be/event/260/
* Mar 23, 2026, STCE lecture: From physics to forecasting, Space Weather course, ESA Academy, Redu, Belgium
* Jun 15-17, 2026, STCE Space Weather Introductory Course, Brussels, Belgium - register: https://events.spacepole.be/event/256/
* Oct 12-14, 2026, STCE Space Weather Introductory Course, Brussels, Belgium - register: https://events.spacepole.be/event/257/
* 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/
* Dec 7-9, 2026, STCE Space Weather Introductory Course for Aviation, Brussels, Belgium - register: https://events.spacepole.be/event/262/

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