"…, I can imagine that Space Weather will become as important as the normal earthly weather. "

Statement from a users questionnaire in 2002 for the Space weather applications pilot project

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:Issued: 2024 Sep 08 1256 UTC
:Product: documentation at http://www.sidc.be/products/meu
#-----------------------------------------------------------------------------#
# DAILY BULLETIN ON SOLAR AND GEOMAGNETIC ACTIVITY from the SIDC              #
# (RWC Belgium)                                                               #
#-----------------------------------------------------------------------------#
SIDC URSIGRAM 40908
SIDC SOLAR BULLETIN 08 Sep 2024, 1255UT
SIDC FORECAST
SOLAR FLARES  : C-class flares expected, (probability >=50%)
GEOMAGNETISM  : Quiet (A<20 and K<4)
SOLAR PROTONS : Quiet
PREDICTIONS FOR 08 Sep 2024  10CM FLUX: 222 / AP: 010
PREDICTIONS FOR 09 Sep 2024  10CM FLUX: 222 / AP: 010
PREDICTIONS FOR 10 Sep 2024  10CM FLUX: 222 / AP: 007

Solar Active Regions and flaring: Solar flaring activity was at low levels
over the past 24 hours beside de number of complex regions visible on the
solar disc, with several C-class flares. The strongest was an C7.2 flare
from NOAA active region (AR) 3808. The most magnetically complex active
regions currently on the disk are NOAA AR 3806 AR 3811, AR 3813 and AR 3815
(beta-gamma). Solar flaring activity is expected to remain at low to
moderate levels over the next 24 hours, with the possibility of an M-class
flare and a chance for isolated X-class flares.

Coronal mass ejections: A halo coronal mass ejection (CME) was detected in
LASCO/C2 coronagraph images at 00:36 UTC on September 8. This CME is
associated with the filament eruption located at 15 degrees North and 23
degrees West. The projected speed is estimated to be about 600 km/s in the
northwest direction. This eruption is believed to be Earth-directed and is
currently under analysis. A preliminary estimate suggests an arrival time
of September 10.

Solar wind: The solar wind parameters reflect a slow wind speed regime. The
total interplanetary magnetic field (IMF) ranged between 5 nT and 9 nT. The
southward IMF component (Bz) fluctuated between -6.5 nT and +9 nT. The
solar wind speed remained around 315-430 km/s. Solar wind conditions are
expected to become more enhanced in the next 24 hours due to the September
3 coronal mass ejection, combined with the high-speed stream from the small
negative polarity coronal hole that crossed the central meridian on
September 3.

Geomagnetism: Geomagnetic conditions were quiet both globally and locally,
with some periods of unsettled conditions (NOAA Kp and K-Dourbes indices of
1-3). Quiet to unsettled conditions are expected in the next 24 hours, with
possible active periods in response to the anticipated enhancement of solar
wind conditions.

Proton flux levels: The greater than 10 MeV GOES proton flux has now
returned to background levels. It is expected to remain at background
levels over the next 24 hours. However, there is a small chance of
exceeding the threshold if high-energy flares or eruptions occur.

Electron fluxes at GEO: The greater than 2 MeV electron flux, as measured
by the GOES-16 satellite, remained below the threshold over the past 24
hours and is expected to remain so in the coming 24 hours. The 24-hour
electron fluence is currently at normal levels and is expected to stay that
way over the next 24 hours.


TODAY'S ESTIMATED ISN  : 174, BASED ON 10 STATIONS.

SOLAR INDICES FOR 07 Sep 2024
WOLF NUMBER CATANIA    : ///
10CM SOLAR FLUX        : 222
AK CHAMBON LA FORET    : 011
AK WINGST              : 008
ESTIMATED AP           : 007
ESTIMATED ISN          : 164, BASED ON 17 STATIONS.

NOTICEABLE EVENTS SUMMARY
DAY BEGIN MAX  END  LOC    XRAY OP  10CM Catania/NOAA RADIO_BURST_TYPES
NONE
END
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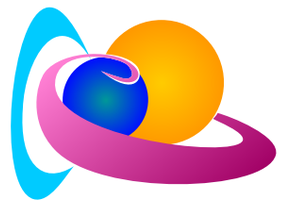


Ursigram= space weather bulletin
Space weather is not yet so common understood as weather. Even if our bulletins would be more straightforward, one needs info on what space weather is.
Need for courses and trainings was expressed by JMG, the Netherlands.

SWx INTRODUCTORY COURSE



It started in 2016 when JMG told us: you have great bulletins that look really scientific and correct, but no clue what it means.

May 2017, we organised a first Space Weather Introductory Course. —> driven by the users.
With Meteowing, Damien; JMG - Dutch Defence; KNMI
This specific course, SWIC was adjusted each edition, based upon the feedback of JMG, KNMI and participants.



Got organised and set the structures for an educational centre.
Our SWx education Centre provides **education and info** on our space weather services,
Education is a **corner stone** and **provides an easy way to connect to users**
For everybody interested, involved and impacted.
Participants need to be aware of the potential danger by SWx, understand and finally be able to use and interpret SWx products.
For us, SWEC is a way to get users involved such that we can also benefit from their expertise.



Partners and clients

It has grown organically :
First it was JMG with a request —> for free (WP contributes with the post-SWIC)
KNMI send their disciples —> for free
MeteoWing, more participants from their side as soon as PECASUS went live—> for free (Bastien contributed with the post-SWIC, official collaboration between Belgian Defence and us.)
BKG, Federal Agency for Cartography and Geodesy in Germany
Dries Van Baelen, HF radio engineer from Belgian defence - revalidate HF radio communication versus SATCOM which is costly and vulnerable.
NATO members, regular participants — Thanks to WP en bastien (MILSWx)
Eurocontrol — online

Single persons, governmental services and companies

>200 professionals



Brand new course in 2025: Role of the ionosphere and SWx in military communications - on request, to teach the teachers, to revive HF com.

The list of offered courses has grown organically as opportunities and people pass



Photo taken during a course that we set up in 2023 : SWx impacts on ionospheric wave propagation, focus on GNSS and HF com.
We can do this specialised courses because we have in-house experts.
Ground based sunspot and solar observations - USET



Radio expert group - detection of SRBs - using AI



GNSS expert groep, impact of SRBs on GNSS, TEC maps



Ionosphere expert - knows everything about ionisation, scintillation at different latitudes, plasma flows and neutral winds, equatorial ionisation anomaly, …



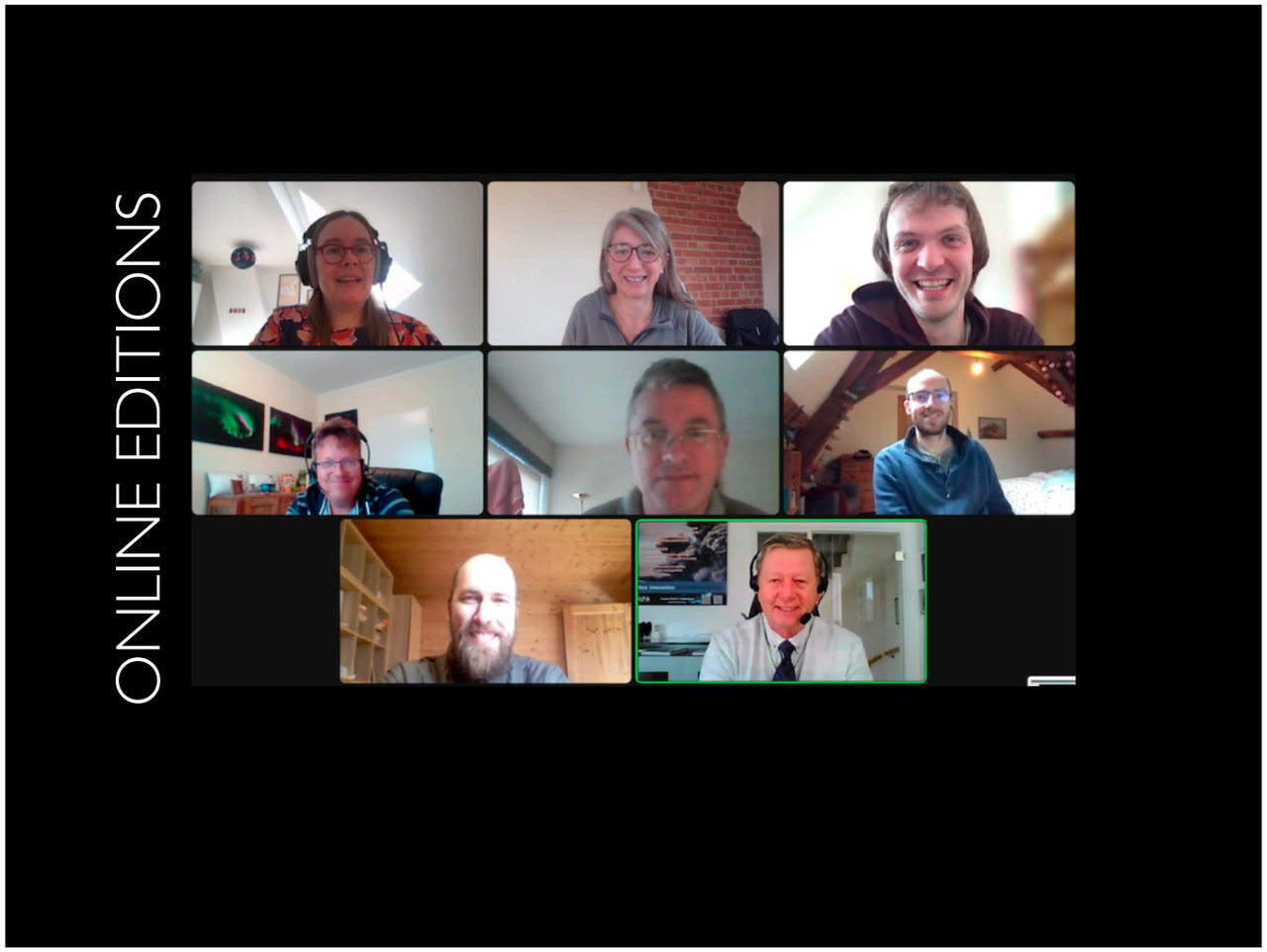
Collaborating institutes that share their knowledge , e.g. KULeuven met space weather impacts on military operations.

TAILORED



Client driven
Eurocontrol — request for online course
BKG - German federal agency for cartography and geodesy
HF engineer from the Belgian Defence: Role of the ionosphere and space weather in military communications - revalidate HF radio communication versus SATCOM which is costly and vulnerable.

In discussion with a person from the NATO Space Centre for a dedicated course with tailored content on the premises of Ramstein, autumn 2025.



Needed to create an online version due to the pandemic
Shorter days, 4 instead of 3 days, it is difficult to keep paying attention when meeting online for long days
Added bonus: makes the course accessible for people that can not easily travel.
Eurocontrol asked for online courses.

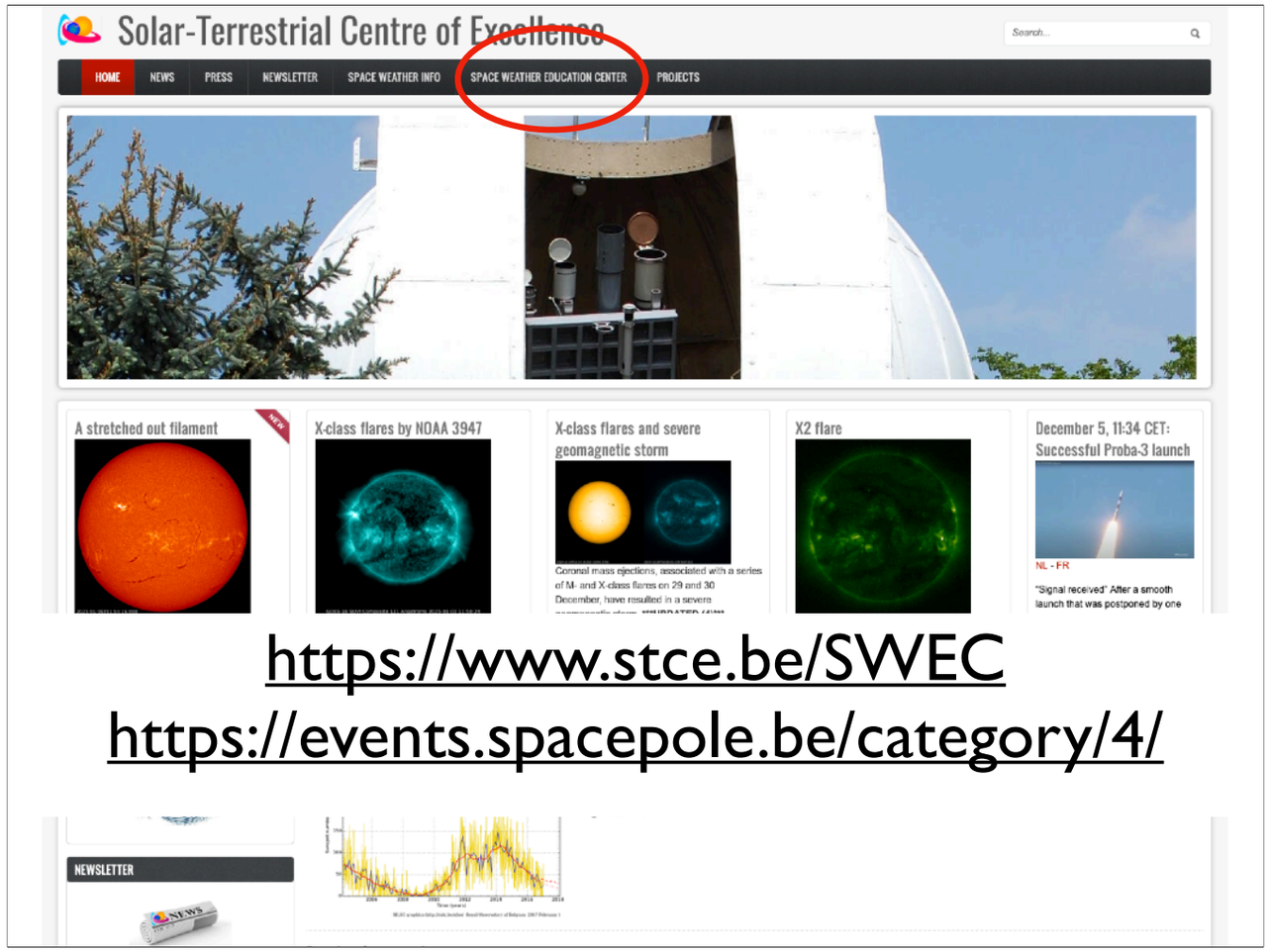


"She is the most enthusiastic teacher
I've ever had."

Qualified teachers
Effective educational methods with strong focus on informal exercises: advisory exercise, space weather bulletin exercise, solar wind exercise, …
Literally, if dancing works the best, we dance.
We organise meet & greet with onsite experts.
We teach in a professional way (Elke and Petra have a degree in education) using unconventional ways and people love it.



The SWIC comes with an online exam which results in the appropriate certificate: Diamond, Gold, Silver, Bronze and participation certificate.



https://www.stce.be/SWEC

https://events.spacepole.be/category/4/

We set up also courses for other organisations, e.g. e-SWAN
We contribute to courses by other organisation, e.g. ESA academy

When we launch new dates, we mail all the former participants
Tjech

Reach out to us

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