Trans-National Access to Heliospheric, Magnetospheric, Ionospheric and Thermospheric Research Facilities through RAISEARTH

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RAISEARTH

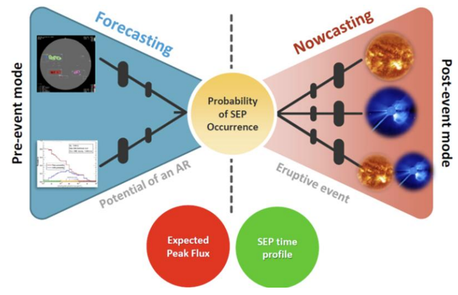
- Research Infrastructure Services Advancing Frontier Knowledge in Sun-Earth Interactions
- A **collaborative project** (Horizon Europe) between European facilities and infrastructures that are producing services advancing frontier knowledge in **Sun-Earth Interactions**.
- Project running 2026 – 2030.
- Instrumentation for observations of the Sun, Heliosphere, Magnetosphere, Ionosphere, Thermosphere.
- Providing possibilities for Trans-National Access, Virtual Access, Training and Innovation.

Taking part in the RAISEARTH Trans-National Access (TNA) programme gives you:

- **Access to key experimental and data processing facilities** for studies and modelling of physical processes acting in the **heliosphere** and in the Earth's **magnetosphere, ionosphere** and **thermosphere**.
- **Opportunity** for researchers, students and other users to execute and carry out their **own projects** at one (or more) of the 14 research facilities (Nodes) connected to RAISEARTH.
- A **unique opportunity to learn** about instruments, data and models of your interest. Users with granted projects will learn how to work with the facilities during the complete access cycle, from setting up a campaign to the collection, analysis and finally exploitation of data with the help of tools and services provided by RAISEARTH via its e-Science centre.
- **Training and support from experts** in the field included in the access.
- Good possibilities also for a **project of a smaller scale**, such as a Master's thesis or as part of a PhD project.
- **Physical access** or **Remote access** sessions for one working week.
- **Support to travel and subsistence** for one week.
- **Scientific support** of the project.

The first **call for TNA** will open in **January 2027**. It will be open for scientific users from academia, Small and Medium Enterprises, large companies and public organisations.

Keep yourself updated using the **project website**: https://raisearth.eu/



NOA Node

National Observatory of Athens

Athens DPS4D Digisonde: 5-min cadence; real-time + archive; custom experiments.

ENIGMA geomagnetic array: Magnetometer data; derived GIC indices.

SAWS-ASPECS: Solar energetic particle alerts / radiation-environment services.

Swarm activity indices: SYM-H, AE and ULF activity indices.



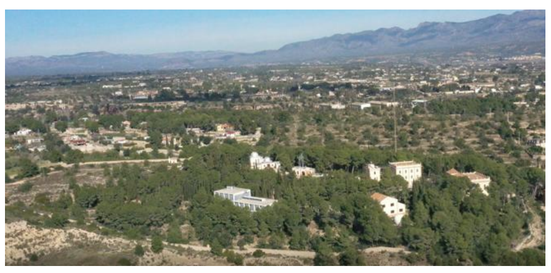
EISCAT Node

EISCAT AB

Access to **incoherent scatter radar** experiments (custom or pre-defined).

Derived **ionospheric parameters** (Ne, Te, Ti, plasma drift).

Opportunities for **user-driven experiments**, with EISCAT support as a support instrument.



OE Node

Ebro Observatory

Ionospheric Facilities: DPS4D Ionosonde (EB040 Station) and Continuous Doppler Sounding System.

Geomagnetic & GIC Facilities: Continuous geomagnetic field monitoring and operational geomagnetic station.

Livingston Island (Antarctica) Facilities: Ionosonde and geomagnetic station.

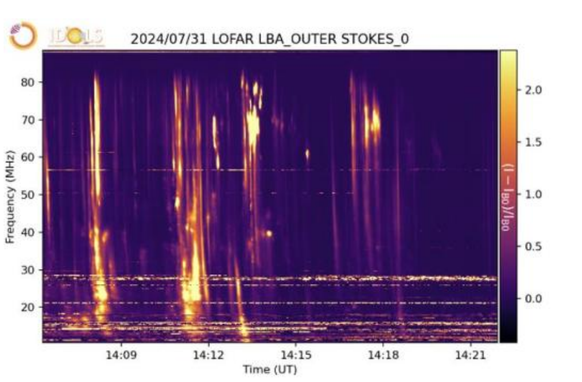


CBK Node

Space Research Centre, Polish Academy of Sciences

Archival observations: LOFAR PL610 dynamic spectra, ionosonde, scintillations.

Research expertise: Luxembourg effect, fading, polar HF links, lower-ionosphere diagnostics, auroral-region dynamics and model validation.

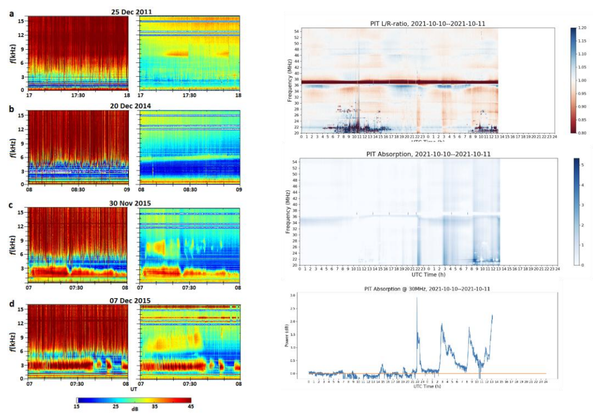


LOFAR Node

Netherlands Institute for Radio Astronomy–ASTRON

Dynamic spectra, Solar interferometric radio images, Dynamic spectra, Imaging, Scintillation data, Calibration data.

Training, **support** and **usage** of historic data products.



SGO Node

Sodankylä Geophysical Observatory, University of Oulu

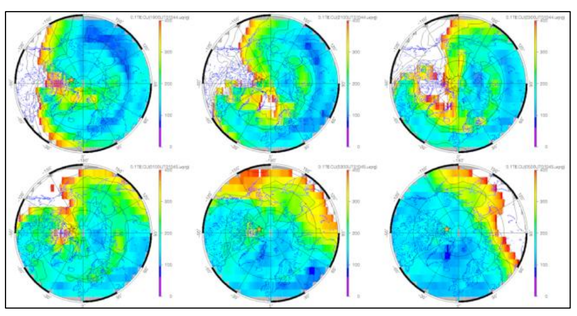
Magnetometer/pulsation magnetometer/riometer **networks**.

Space weather observational facilities.

Experimental innovations.

Analysed **ELF-VLF** data.

Cosmic ray data.



UPC-IonSat Node

Polytechnic University of Catalonia

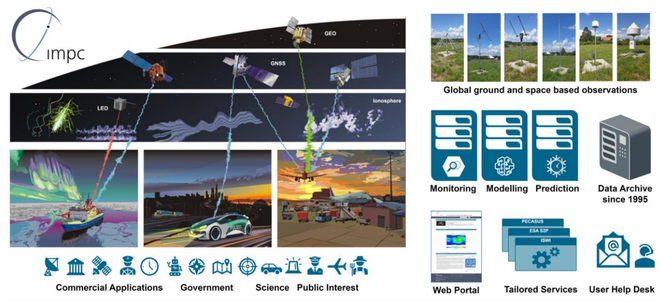
Real-time **VTEC** GIMs (IGS products) for GNSS service providers and aviation.

Solar flare detection tools (SISTED, SOLERA) operating at 30s cadence.

Scintillation monitoring (ROTI) for GNSS degradation awareness.

Medium Scale **Travelling Ionospheric Disturbances** monitoring (SRMTID).

Access to long-term **tomographic archives** (1996–today).



DLR-Neustrelitz Node

German Aerospace Center, Neustrelitz

Ionosphere Monitoring and Prediction Center (IMPC).

TEC Nowcast & Forecast maps, ROTI maps, Scintillation Indices, High rate GNSS Data, GPI, CALLISTO, GIFDS, NEDM, NTCM-G.

New areas opening to users.

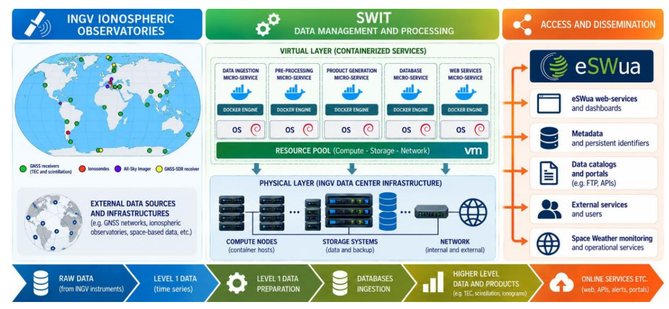
INGV/eSWua Node

National Institute for Geophysics and Vulcanology, Italy

AIS-INGV **ionosondes**, IT System for data managing and service provision, **space weather monitoring** room (Rome).

All-sky imager, DPS-4D ionosonde (Sicily).

AIS-INGV **Ionosonde** (La Spezia).





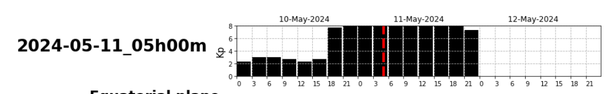
RMI-GO Node

Royal Meteorological Institute of Belgium

Access to **RMI-GO instruments** for dedicated experiments and campaigns.

Access to long series of **high-quality data**.

Provision of **curated datasets**.

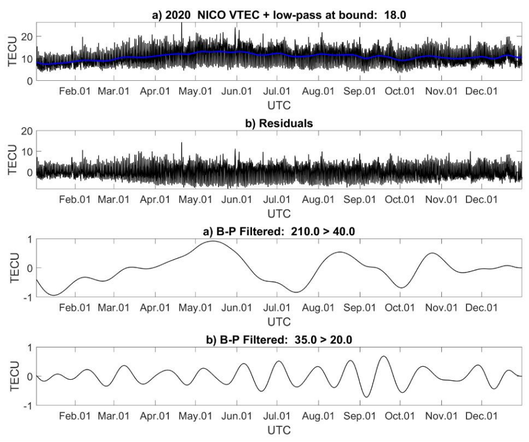


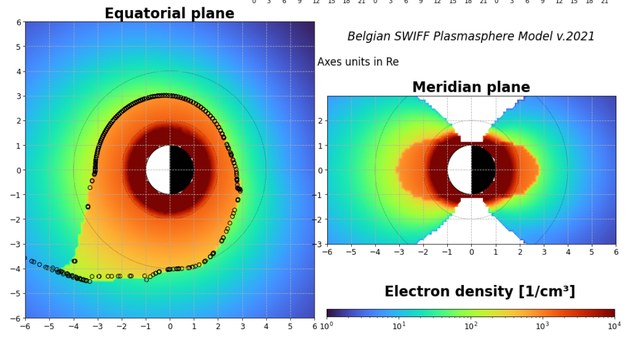
BIRA-InMag Node

Royal Belgian Institute for Space Aeronomy

BSPM model: 3D semi-dynamic kinetic model of the Earth's plasmasphere.

ERB.AI model: Artificial Intelligence for Earth's Radiation Belts; Understanding and predicting energetic particles in near-Earth space.





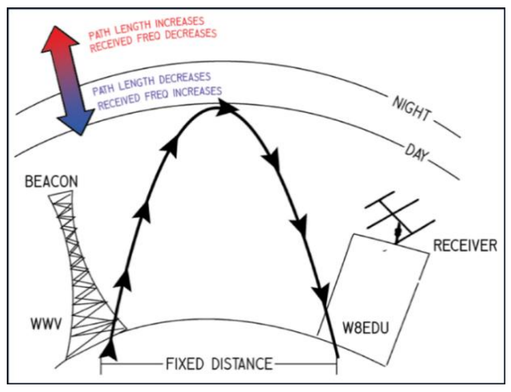
VSWMC Node

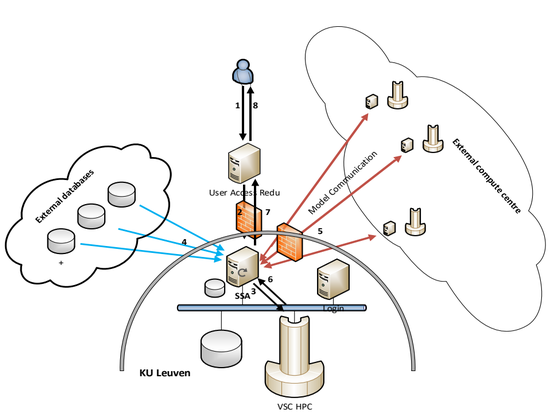
KU Leuven

Access to the **Virtual Space Weather Modelling Centre** (VSWMC).

Support for user **simulation campaigns**.

Model **coupling** experiments.





CDSS Node

Institute of Atmospheric Physics, Prague

Continuous Doppler sounding: International network of Doppler sounding, reflection height from ionosondes.

Ionosonde data.

UWM Node

University of Warmia and Mazury in Olsztyn

GNSS data and processing methods for ionospheric analyses: IGS stations, RINEX processed to TEC.

Ionospheric **data modelling**: Spherical harmonics/splines/kriging, global/regional/local VTEC maps.

Cleaning, reconstruction and filtering of data time series: VTEC series, solar wind series, Swarm Ne, Swarm B-field.

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