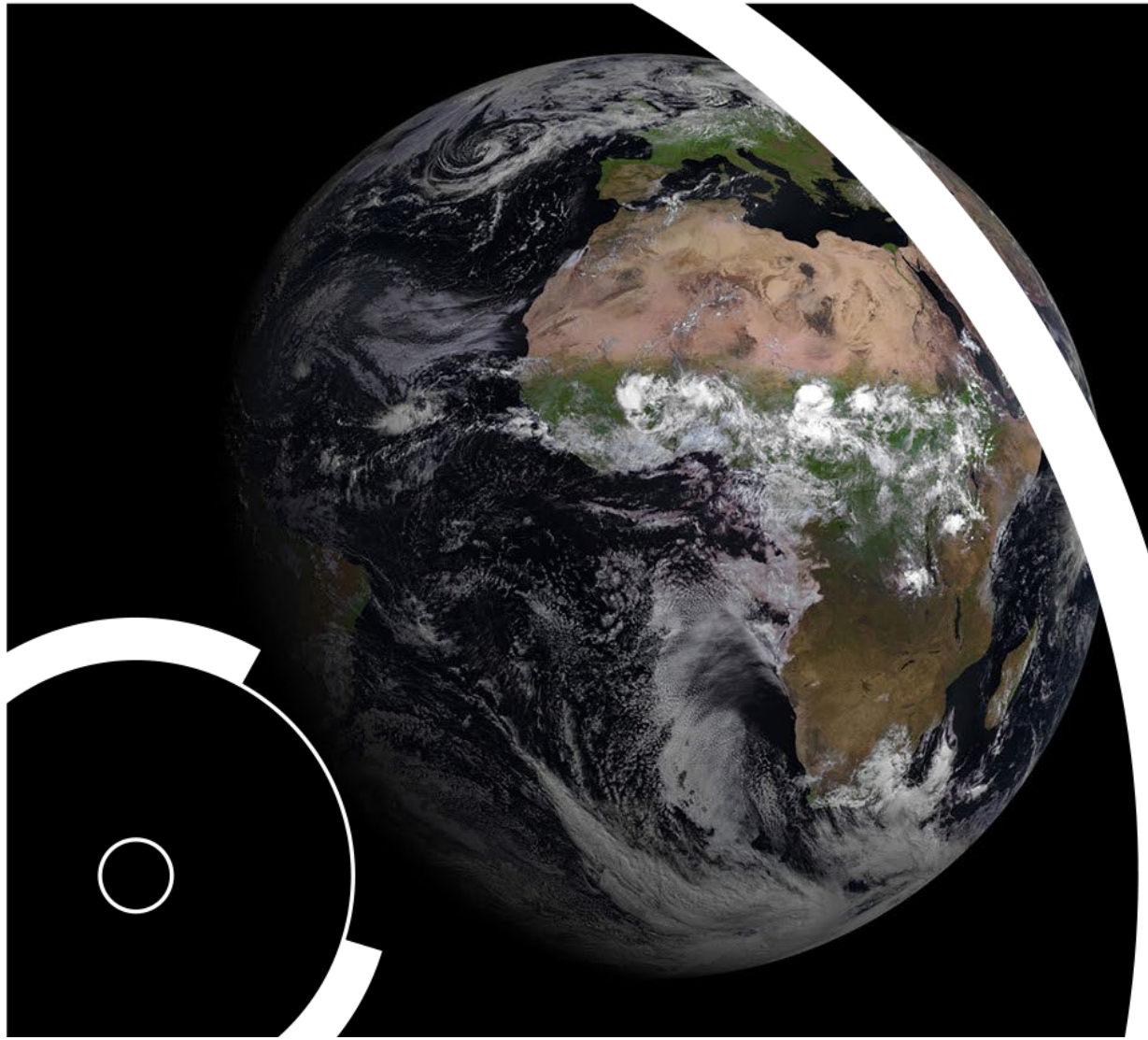
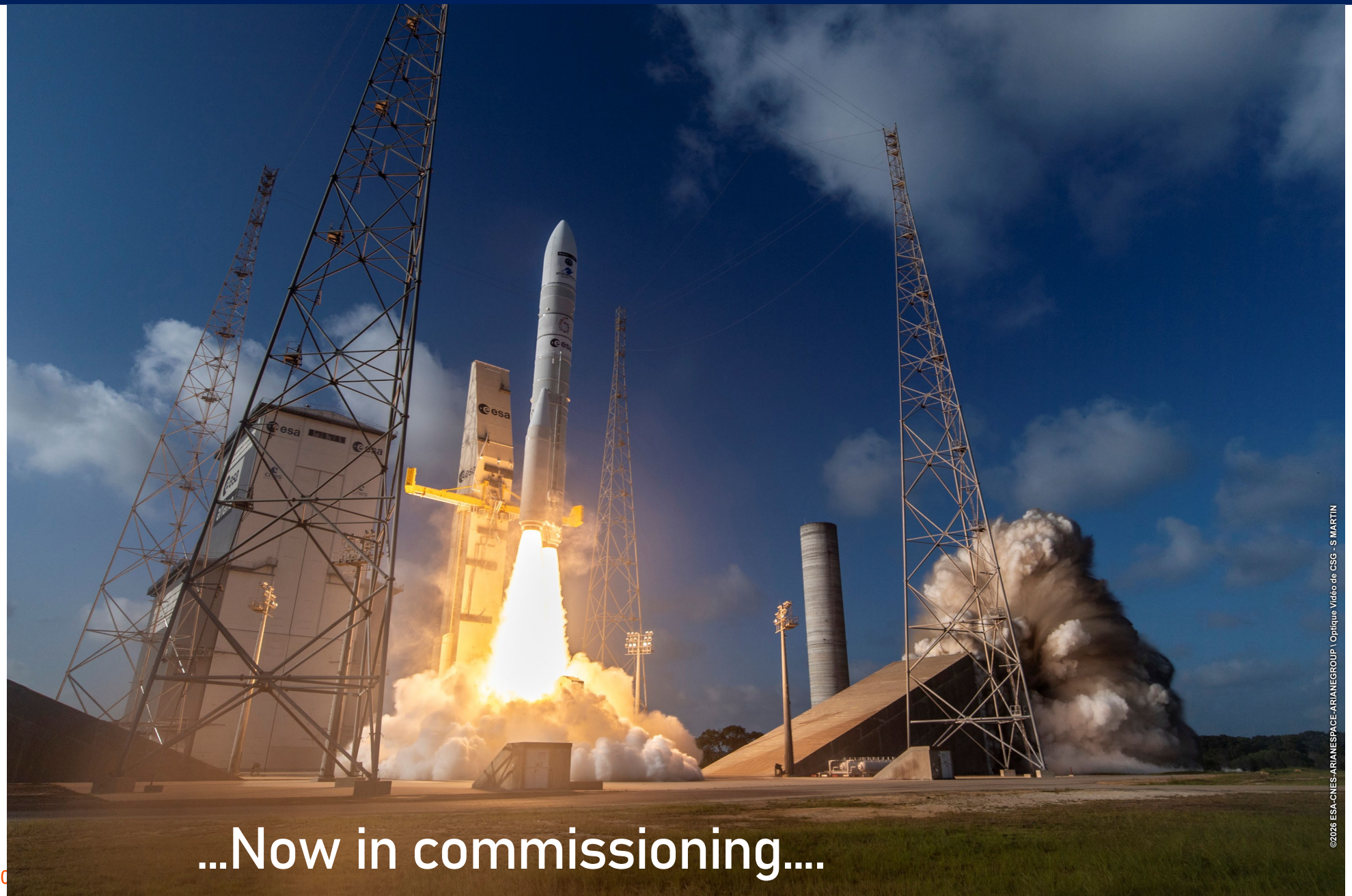


Meteosat Third Generation in support of EW4All

RA VI-Regional Conference 2026

Joachim Saalmüller
EUMETSAT

MTG-I2 successfully launched on 27 August 2026



...Now in commissioning....

Europe's New Generation of Weather Satellites

www.eumetsat.int

Meteosat Third Generation

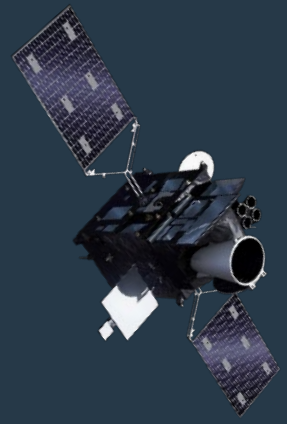
Three satellites in geostationary orbit

EUMETSAT operates a further 12 EO satellites



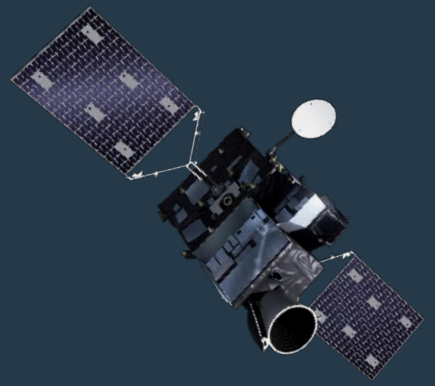
MTG-I1 (Meteosat-12)

- 16-channel spectral imagery at 10min repeat rate, 0.5-2km spatial sampling at nadir
- Lightning imagery, 1ms repeat rate, 4.5km spatial sampling
- Europe, Africa, Middle East
- Operational since 12/2024



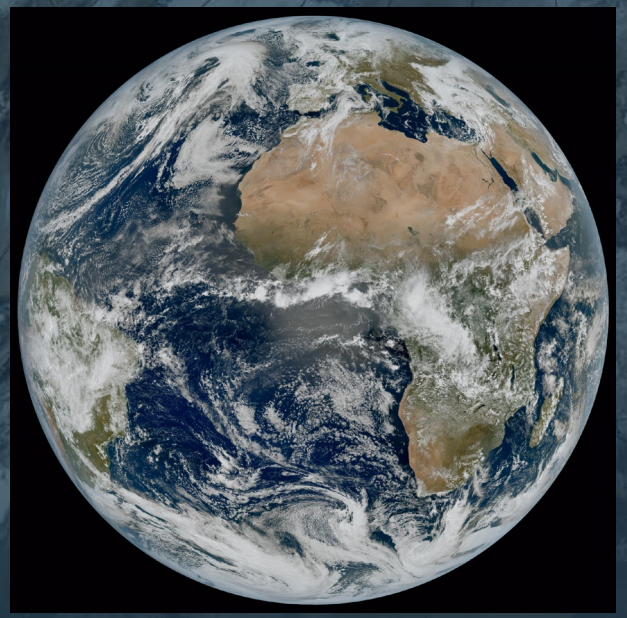
MTG-I2

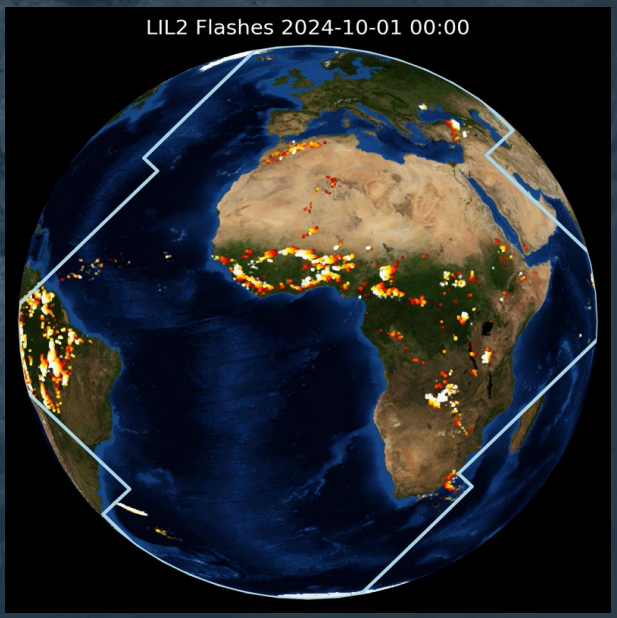
- 16-channel spectral imagery at 2.5min repeat rate
- Europe
- Launched 27 Aug 2026



MTG-S1

- Hyperspectral InfraRed Sounder, repeat rate 30min over Europe
- Copernicus Sentinel-4/UVN spectrometry for air quality monitoring
- In space since 1 July 2025, commissioning

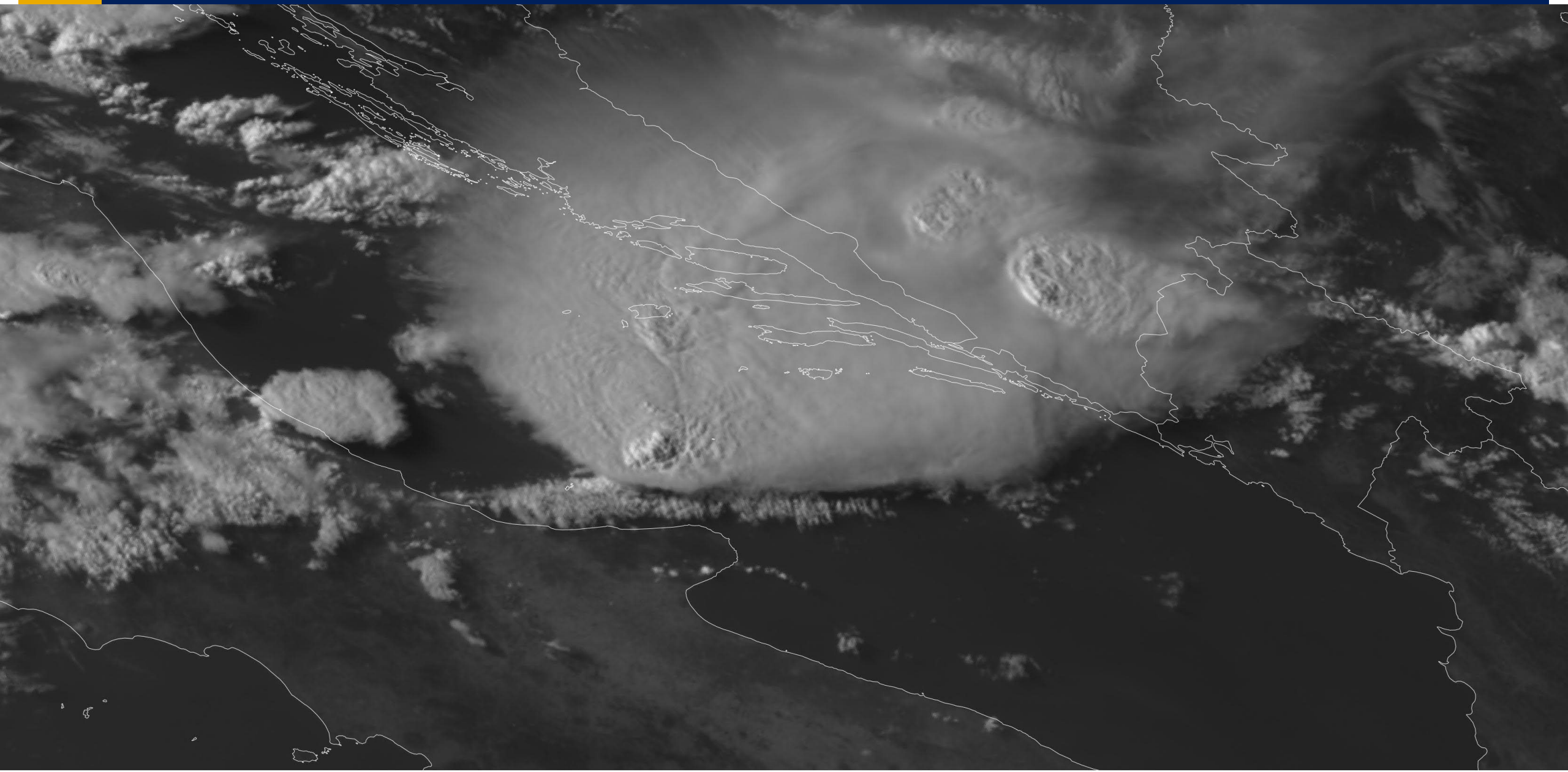




Applications in support of Early Warnings For All (EW4All)

- Nowcasting Severe Convection
- Wildfire and Smoke Plume Detection and Tracking
- Weather Forecasting (NWP)
- Nowcasting Aviation Hazards
- Climate Monitoring

Convective storms monitoring - VIS 0.6 in 500 m resolution



EUMETSAT

2026-07-21 15:30:00 UTC

MTG FCI: Cloud Phase RGB

New product based on FCI

- Red 1.6 μm / Green 2.25 μm / Blue 0.67 μm
- Uses the new NIR 2.25 μm channel

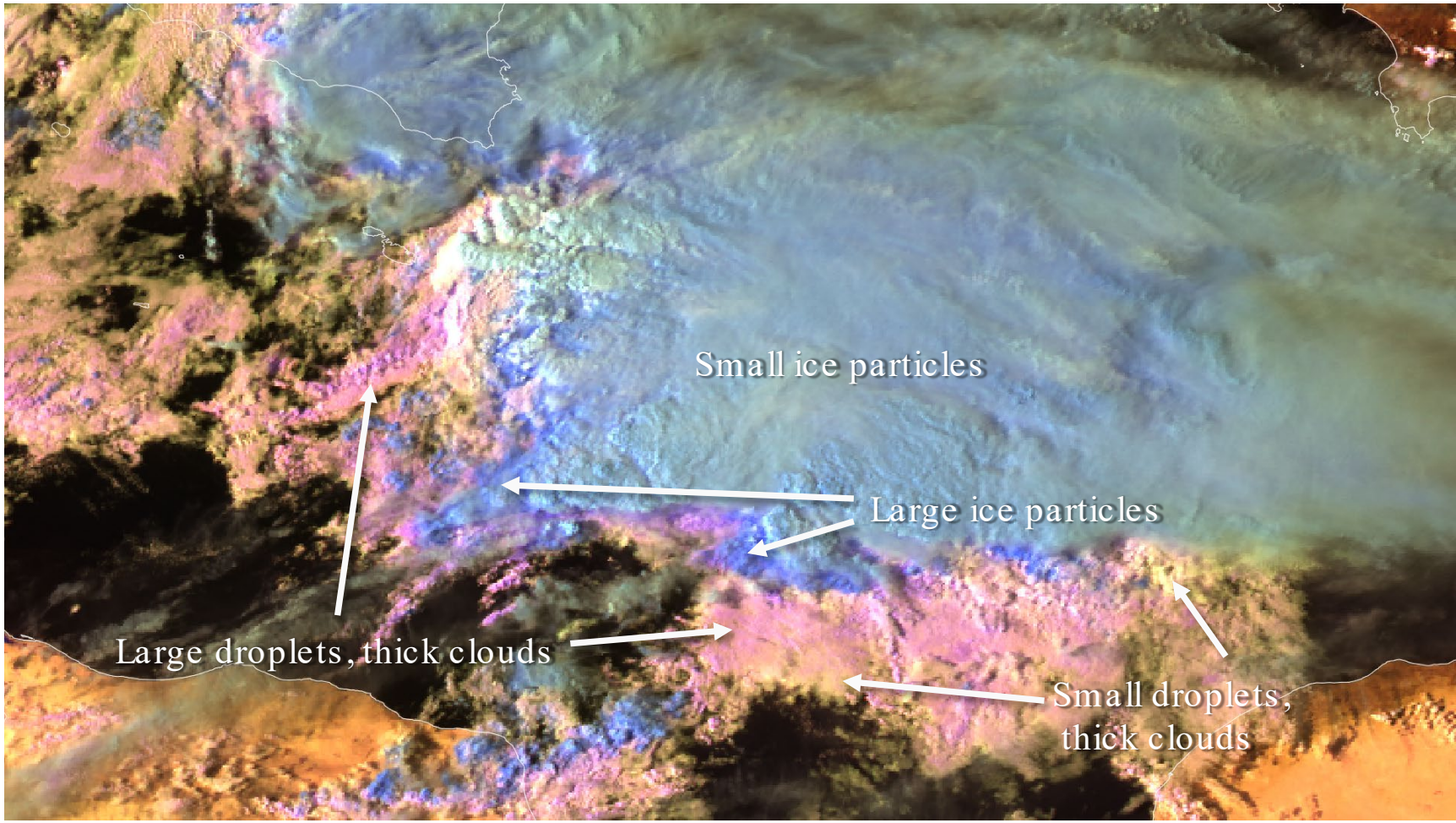
Targets

- **separation of water from ice clouds and**
- **information on cloud top particle size**

The Cloud Phase RGB is useful for convection monitoring

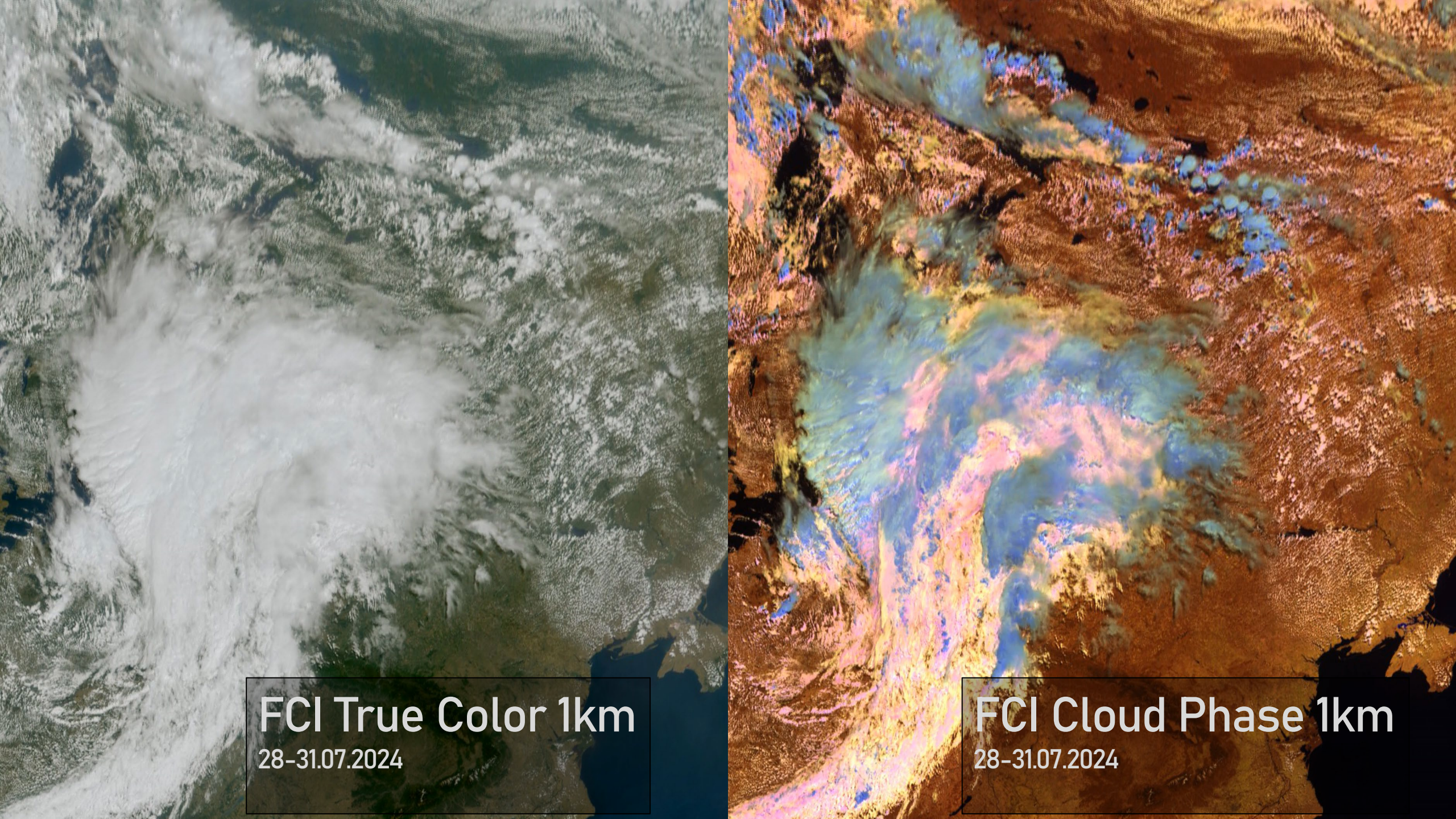
Limited to daytime applications

Forecasters rated this product very helpful during the first test data disseminations

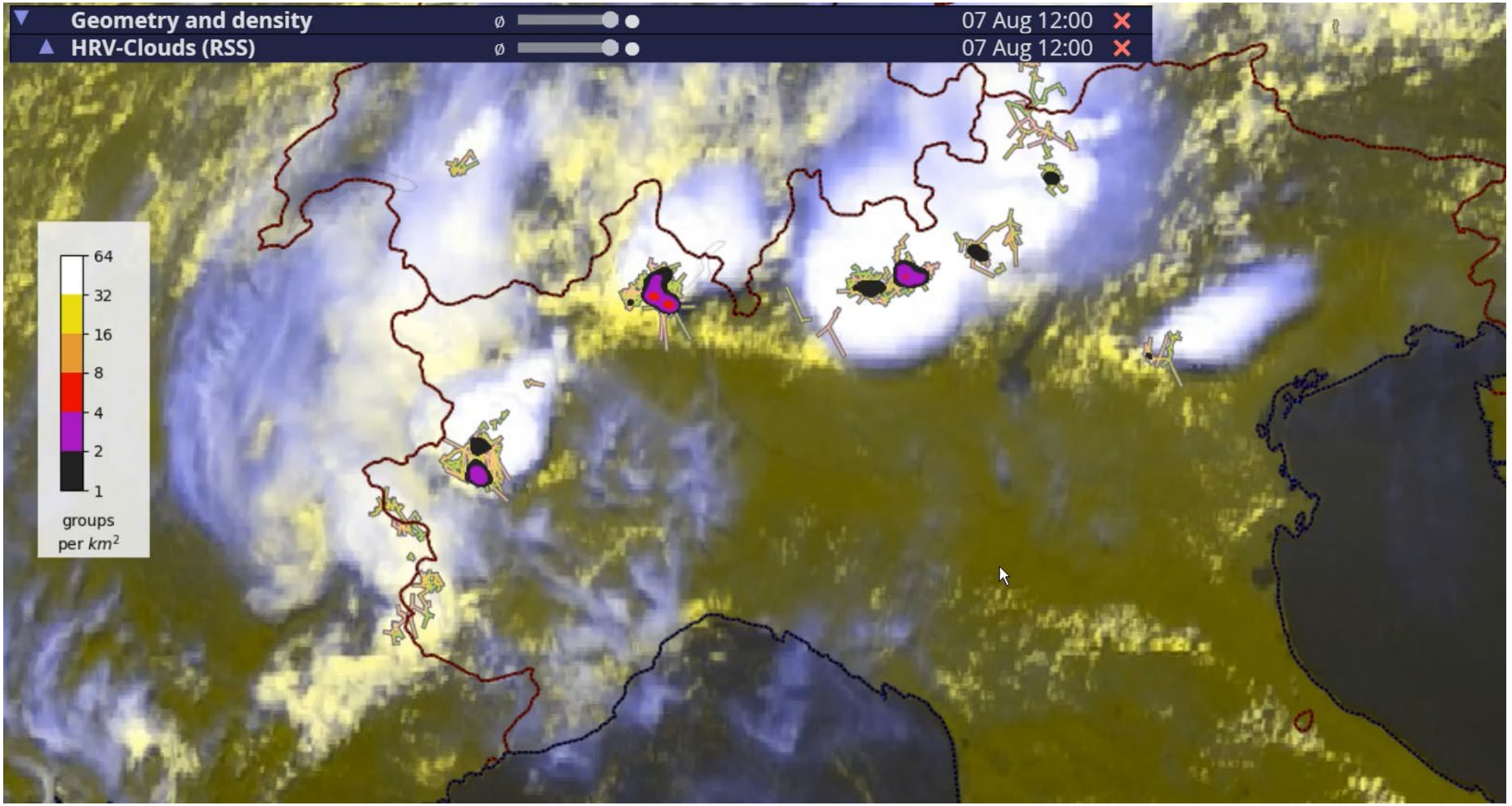


MCS over Mediterranean, 23 Sep 2024

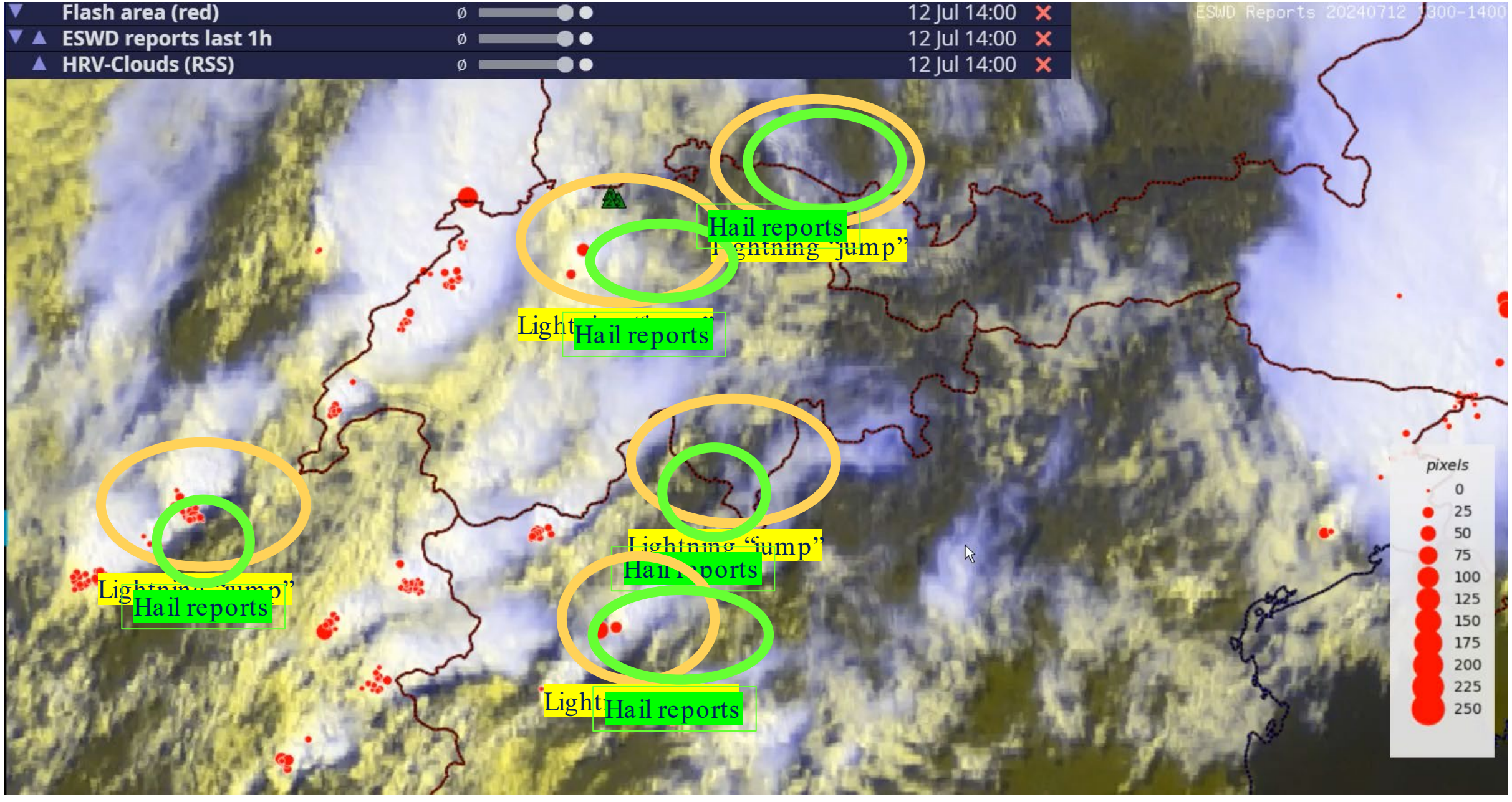
RGB Reference: EUMETrain RGB Quick Guides


FCI True Color 1km
28-31.07.2024
FCI Cloud Phase 1km
28-31.07.2024

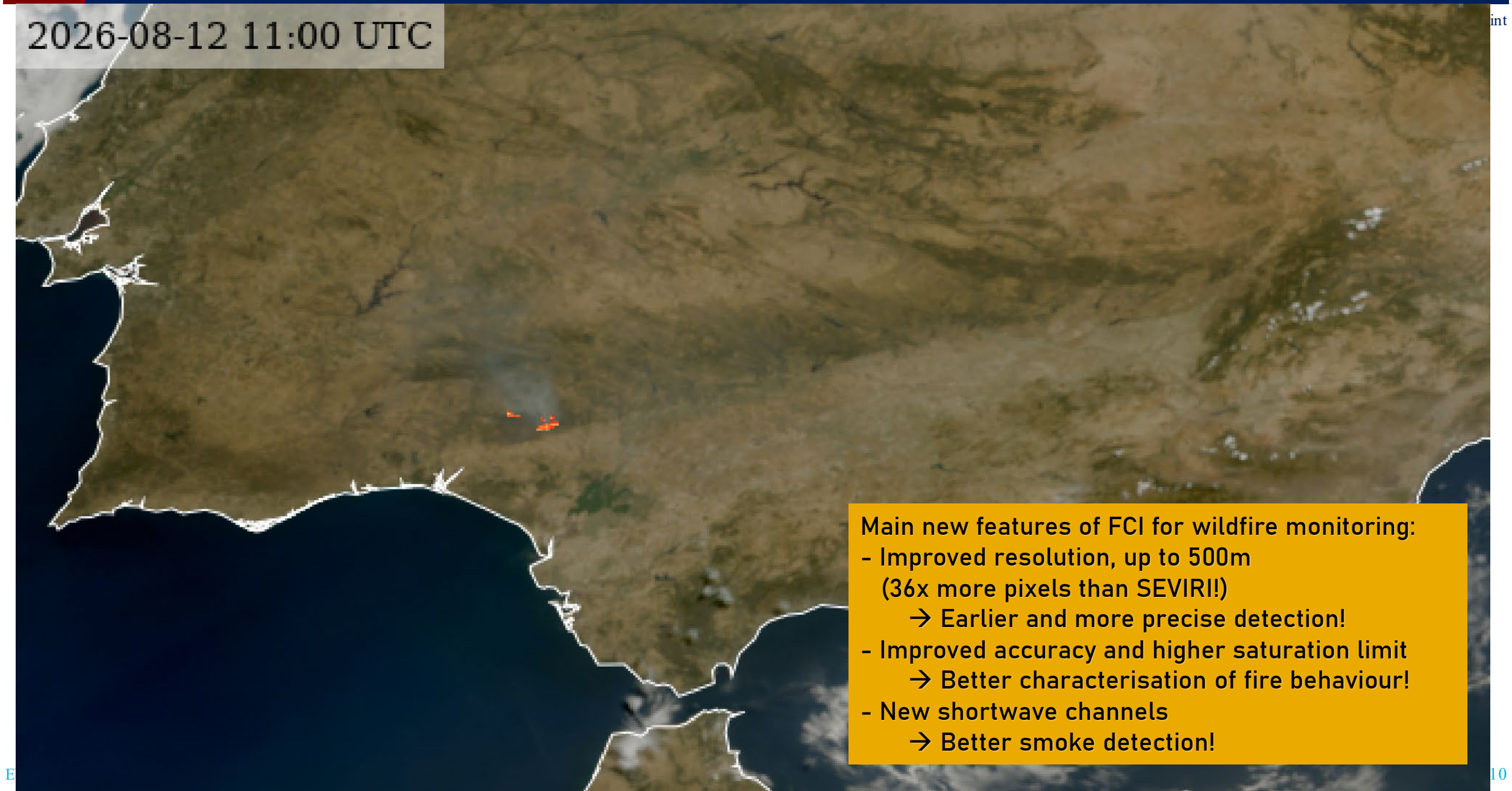
Flash geometry and density: 7 Aug 2024: Multicells and Bow Echo over N Italy



12 July 2024: Thunderstorms over CH/ I/ D

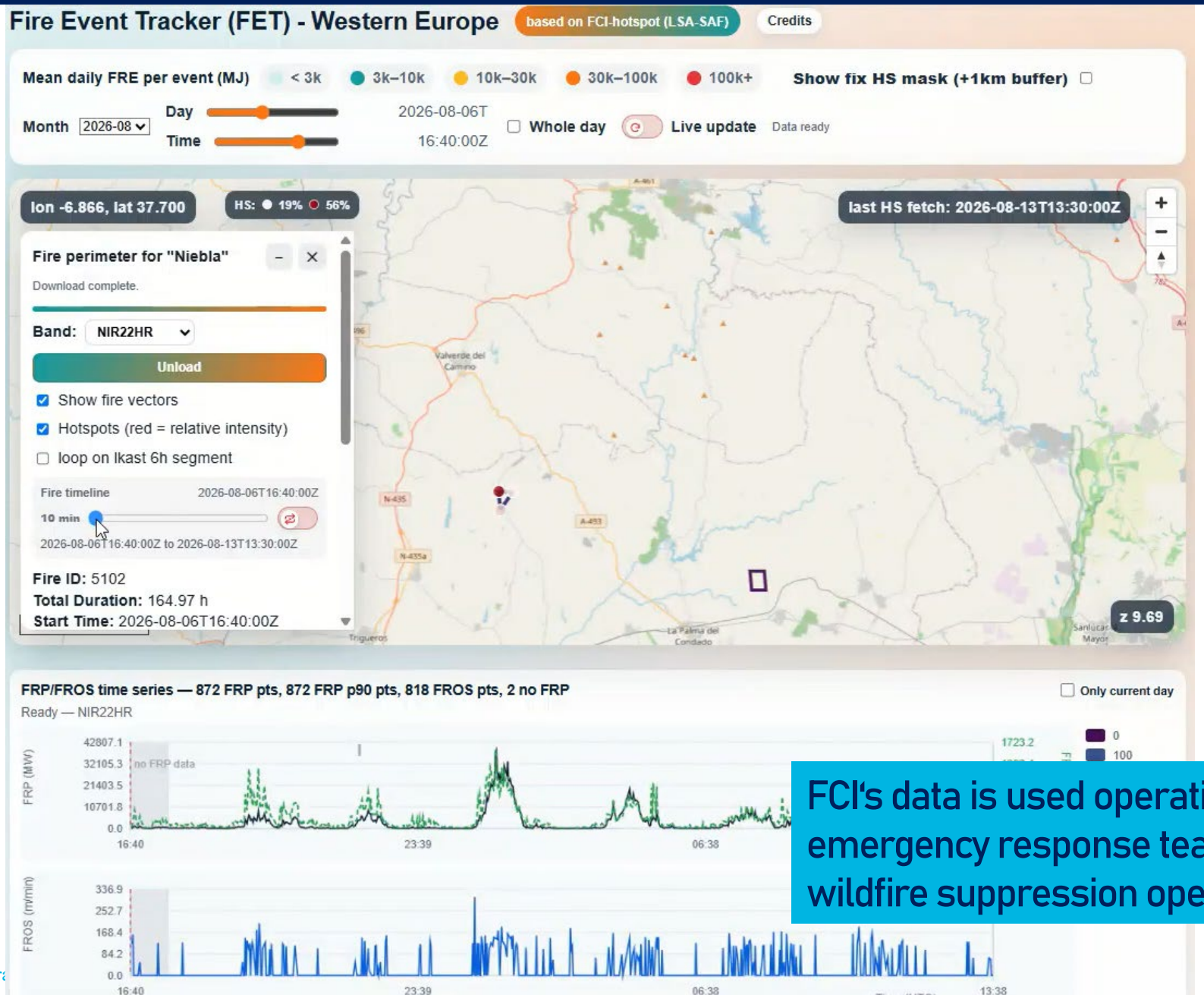


MTG-FCI – Niebla Fire



Main new features of FCI for wildfire monitoring:
- Improved resolution, up to 500m
  (36x more pixels than SEVIRI!)
  → Earlier and more precise detection!
- Improved accuracy and higher saturation limit
  → Better characterisation of fire behaviour!
- New shortwave channels
  → Better smoke detection!

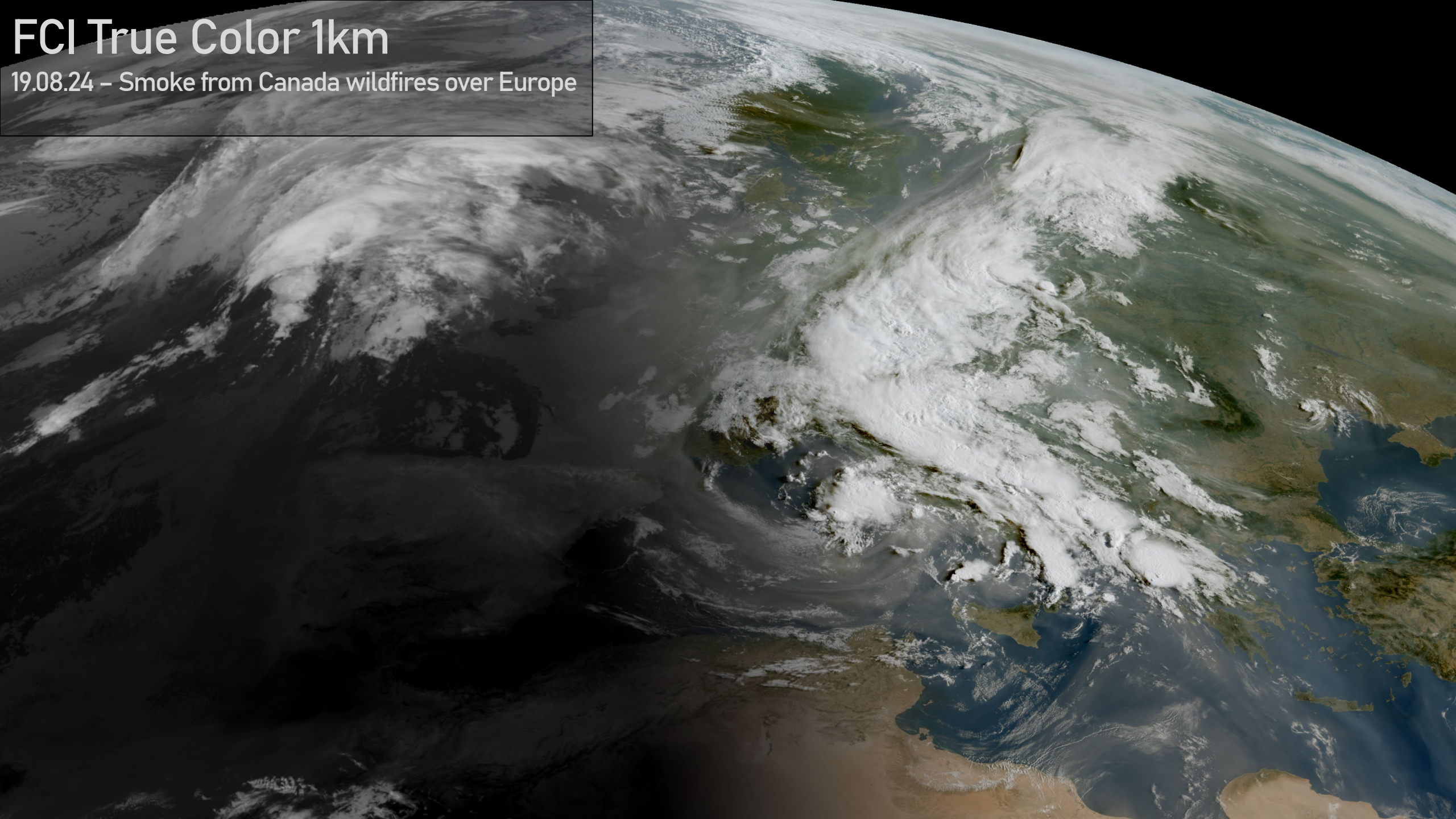
MTG-FCI – Niebla Fire from FET (Credits: Ronan Paugam UPC)



FCI's data is used operationally by emergency response teams during live wildfire suppression operations!

MTGFCI+LI – Gironde Fire 24/ 07 – PyroCb?

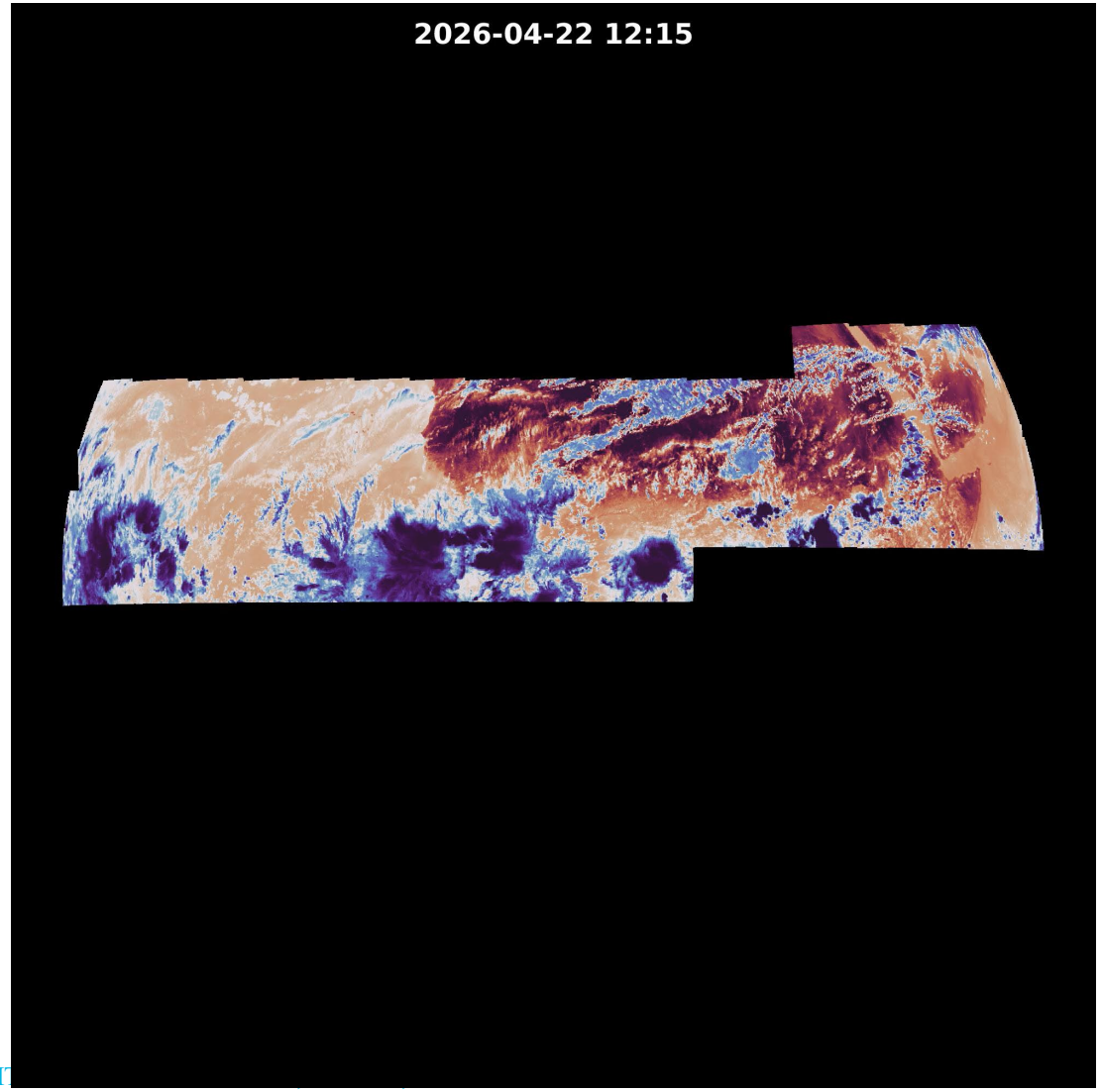



FCI True Color 1km
19.08.24 – Smoke from Canada wildfires over Europe

MTG IRS: New horizons for short range NWP

LWIR 950 cm^{-1}

Highlighting **land and sea surface temperatures as well as cloud-top temperatures and cloud structures**



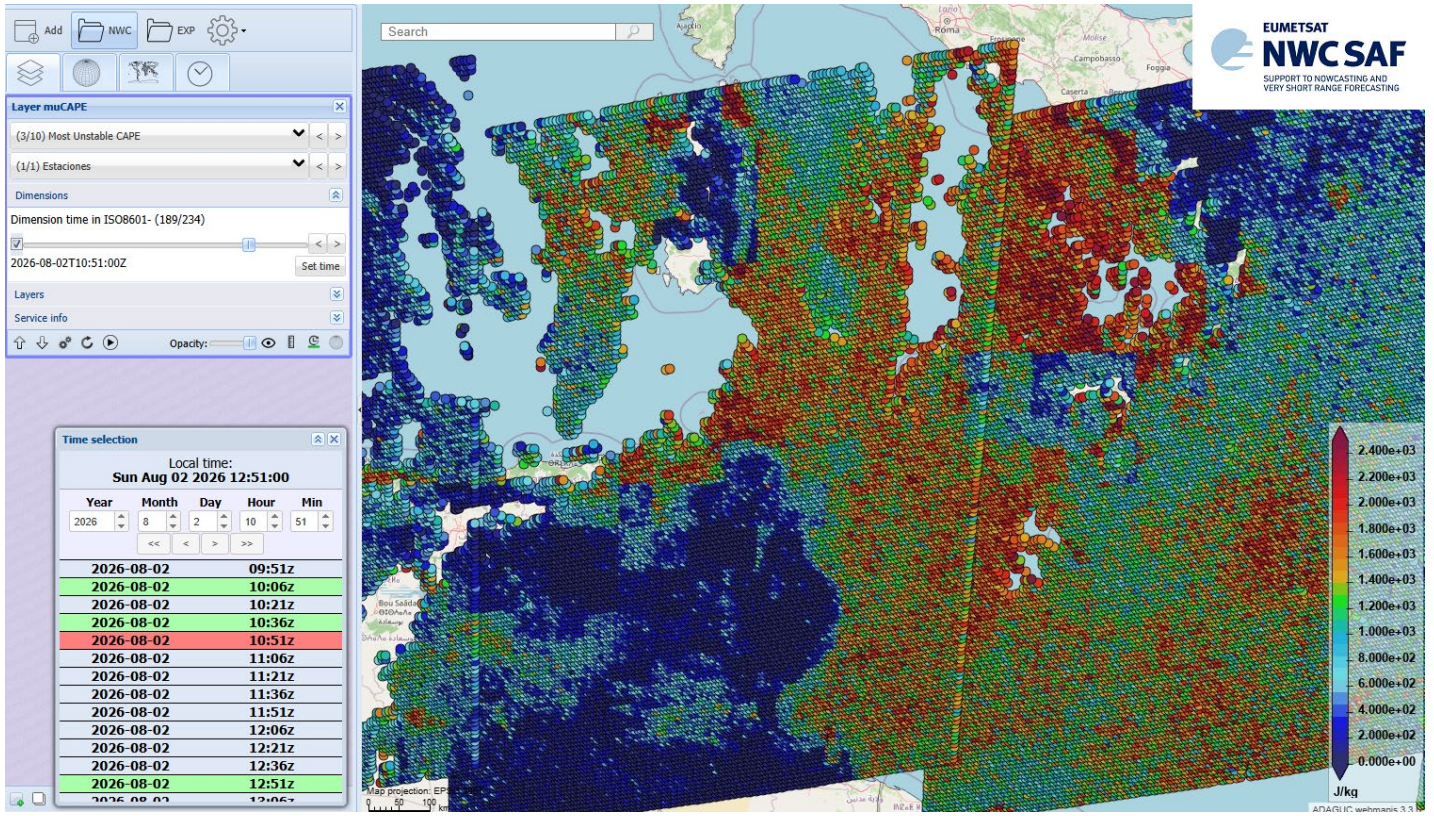
MWIR 1870 cm^{-1}

Highlighting the **humidity fields linked to weather patterns**



NWCSAF Release Plans regarding IRS

- AEMET have started to run sSHAI (retrieval of vertical profiles and instability indices calculation) as prototype NRT
- Visualisation in the EWC-based ADAGUC server
- Formal release of planned for Q4/2027 (NWCSAF GEO-S package)



ADAGUC Viewer

Volcanic eruption – aviation hazard



EUMETSAT

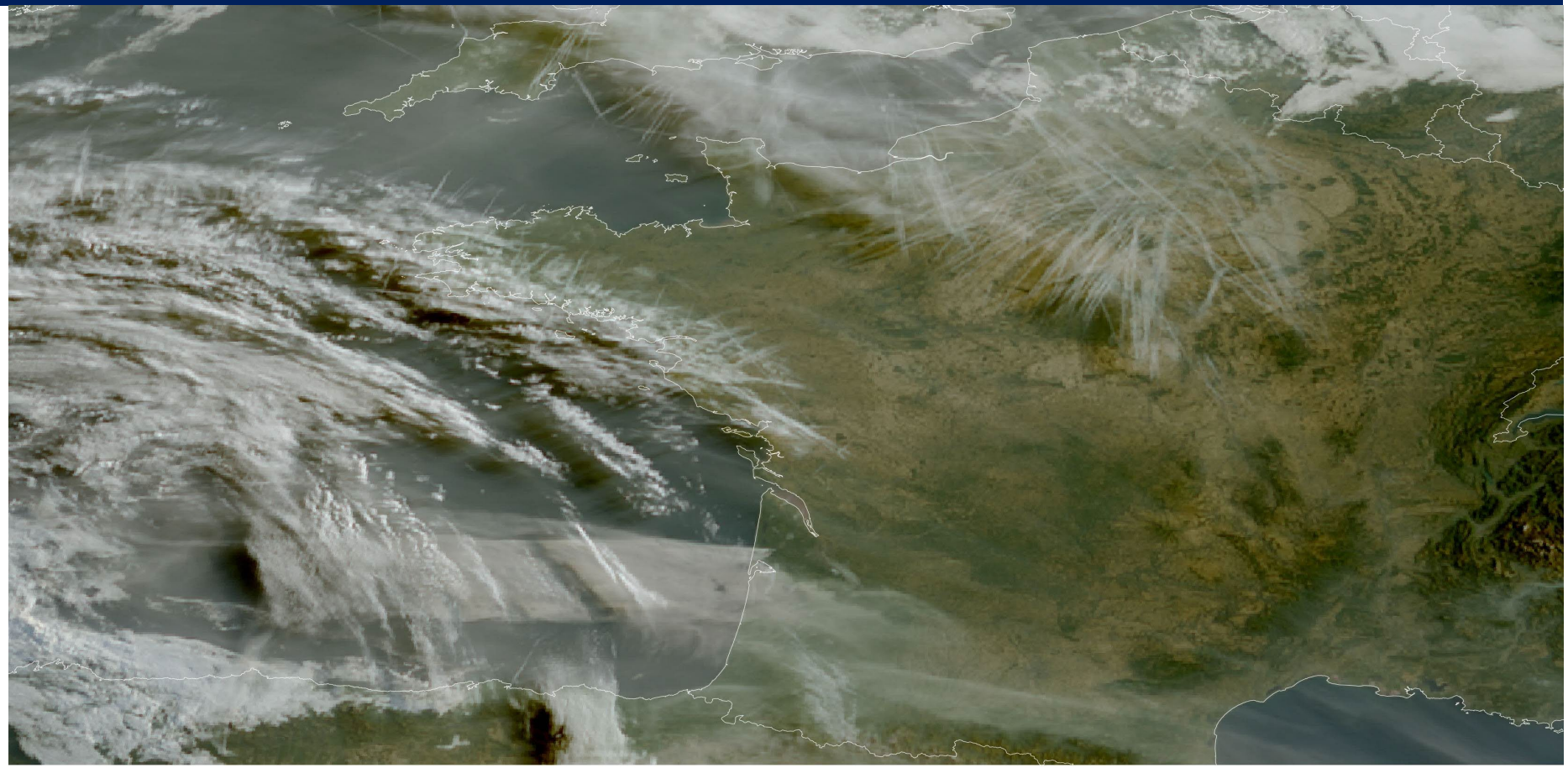
2026-08-11 06:40:00 UTC



EUMETSAT

2026-08-11 05:00:00 UTC

Contrails, mid-level clouds, smoke - can you tell the difference?

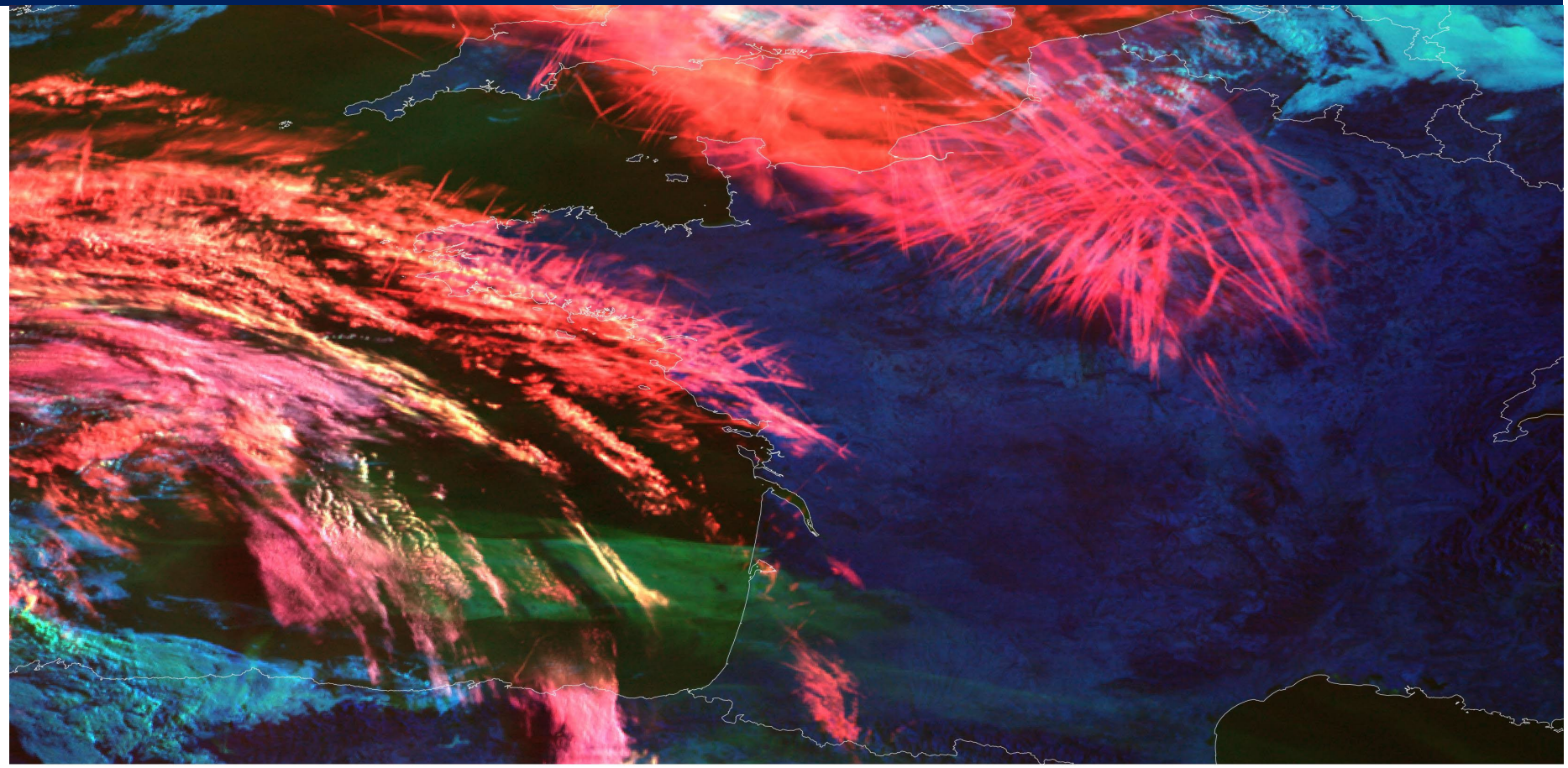


EUMETSAT

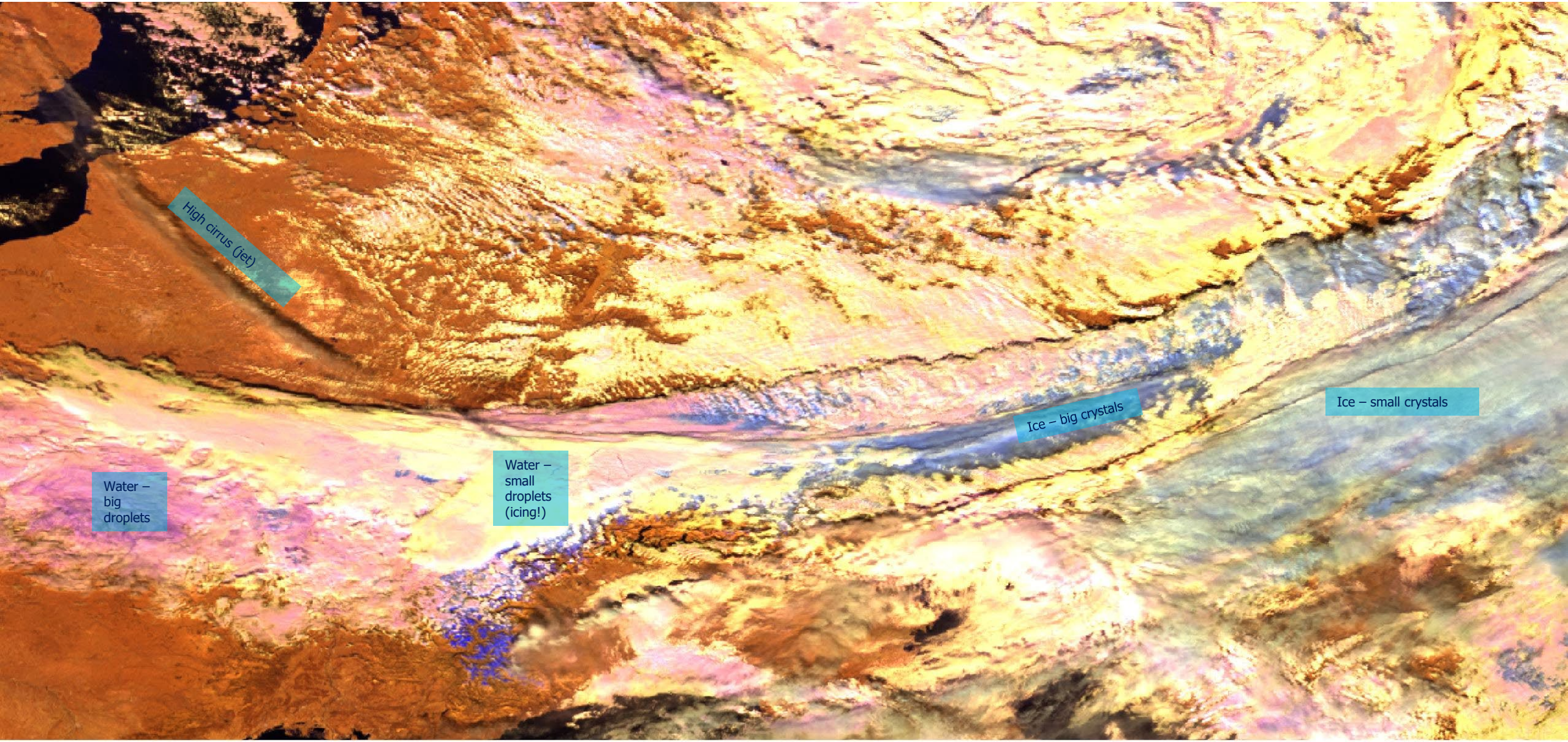
2026-07-24 06:00:00 UTC

Smoke from fires (green-low) and contrails (red)

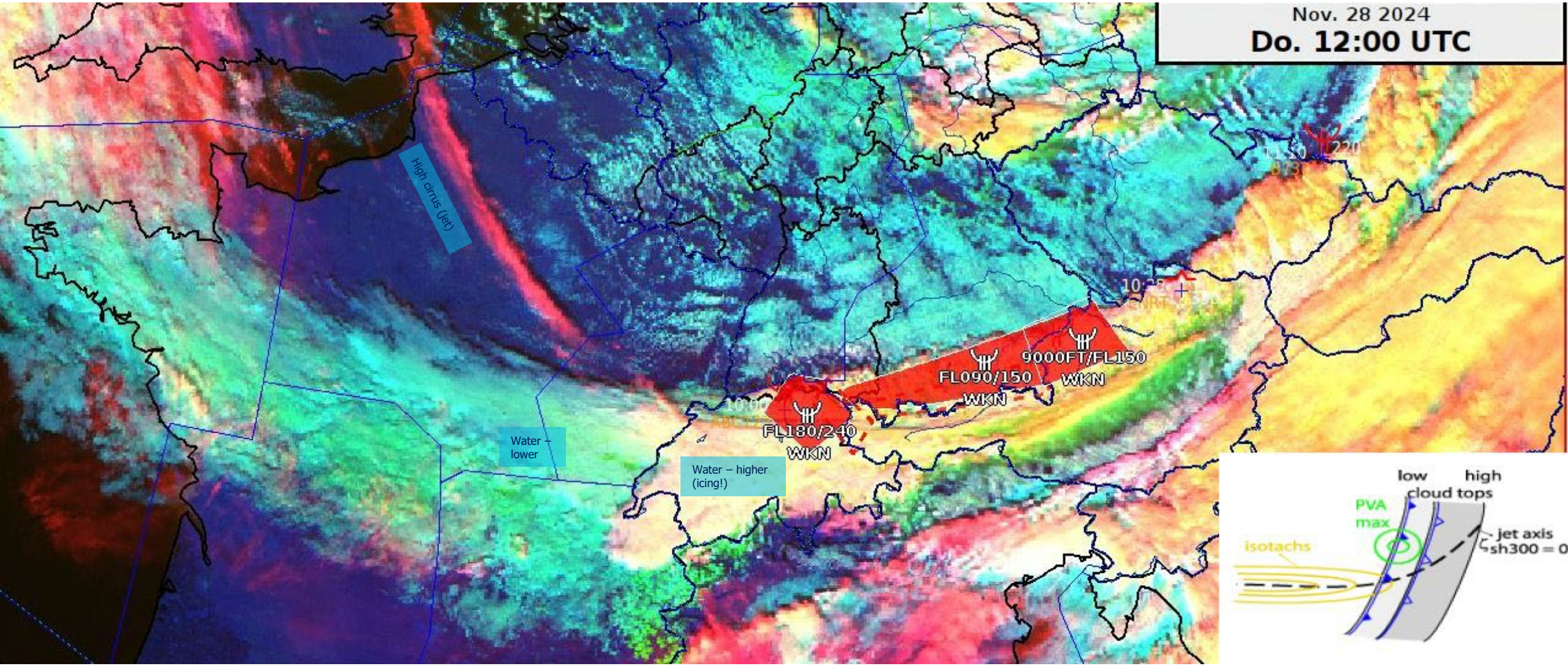
Cloud Type composite using NIR 1.3 distinguishes high phenomena (thin cirrus, contrails – in red) from phenomena in lower troposphere, like smoke seen here in green!



Supercooled clouds – icing hazard

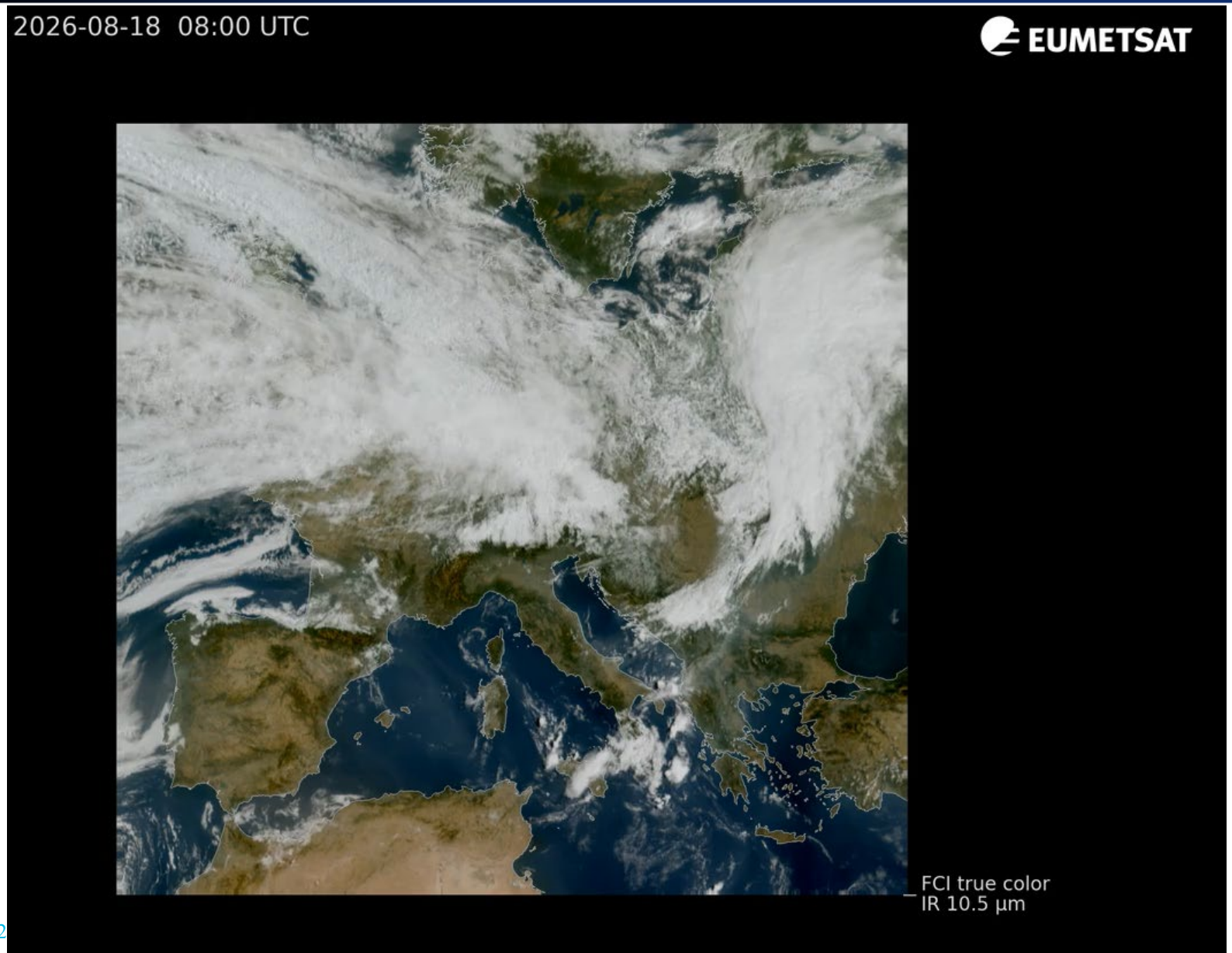


Supercooled clouds – icing hazard

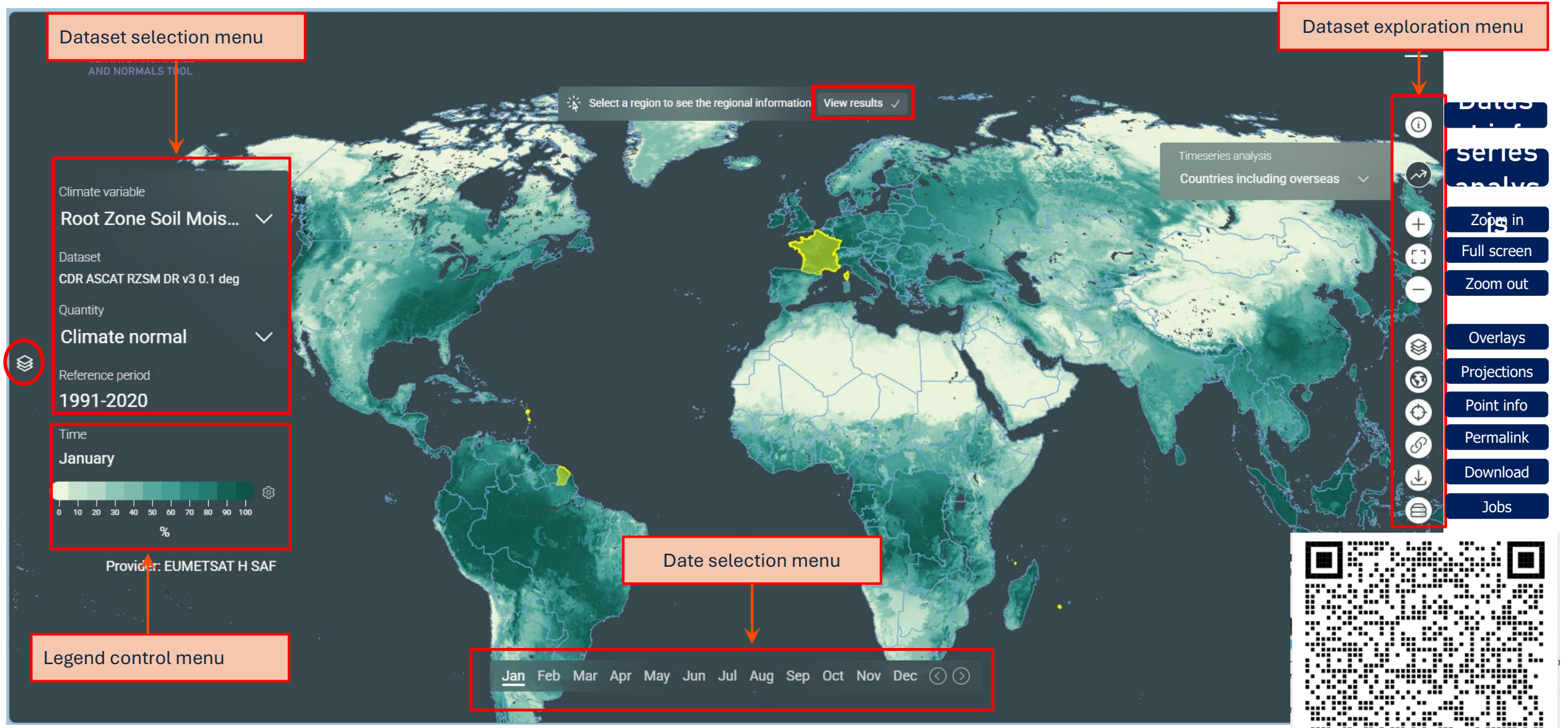


Bringing it all together: Experimental 4D weather cube with real MTG data

www.eumetsat.int

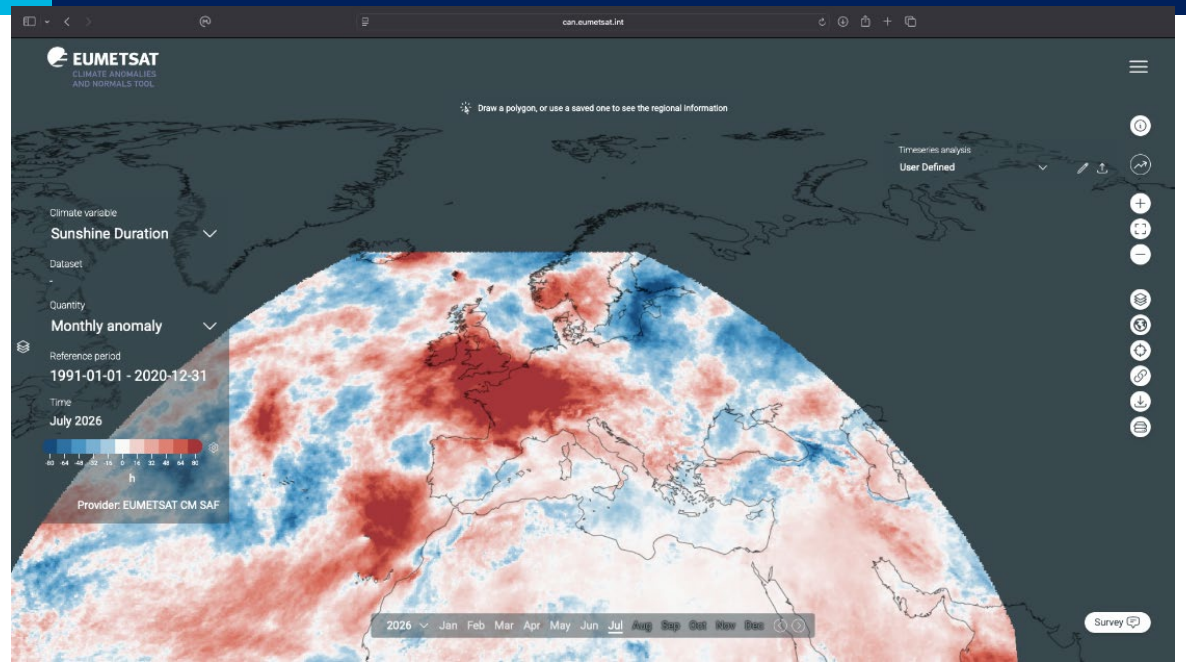


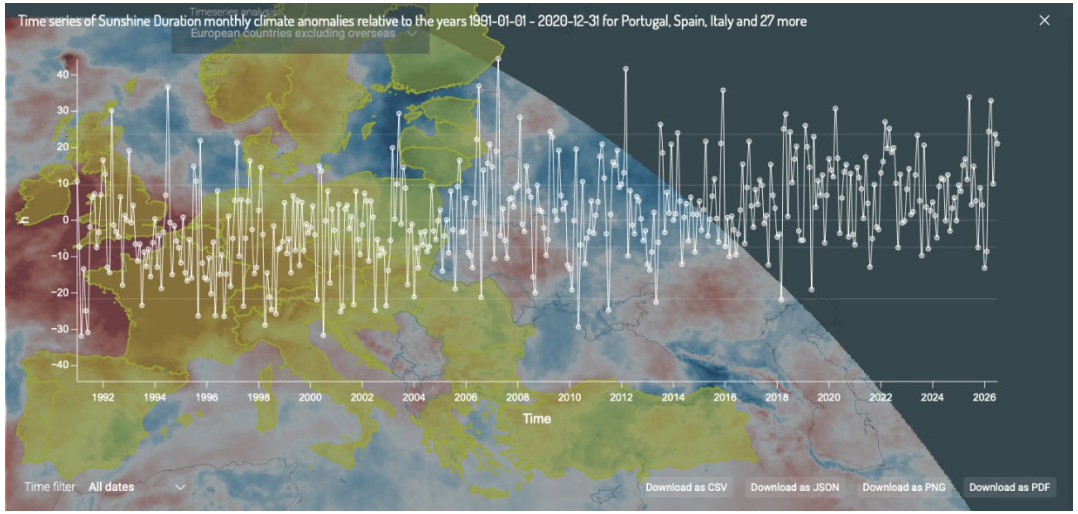
CAN-Service – Basic concept

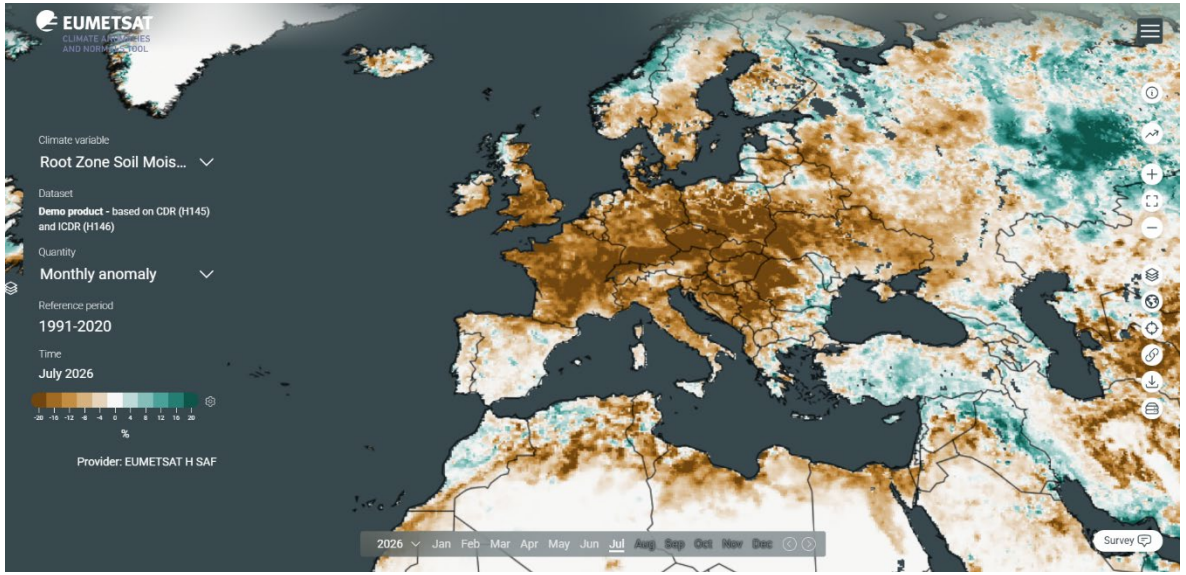


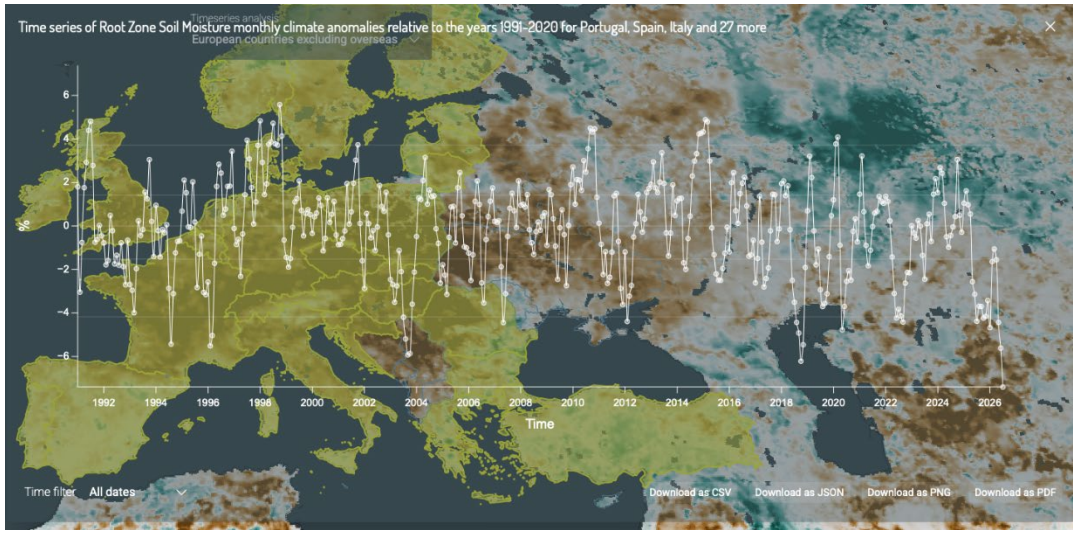
July 2026: Sunshine Duration & Root Zone Soil Moisture Anomaly

www.eumetsat.int









Sentinel-3C successfully launched on 15 September 2026

Now in commissioning....



WORLD METEOROLOGICAL ORGANIZATION

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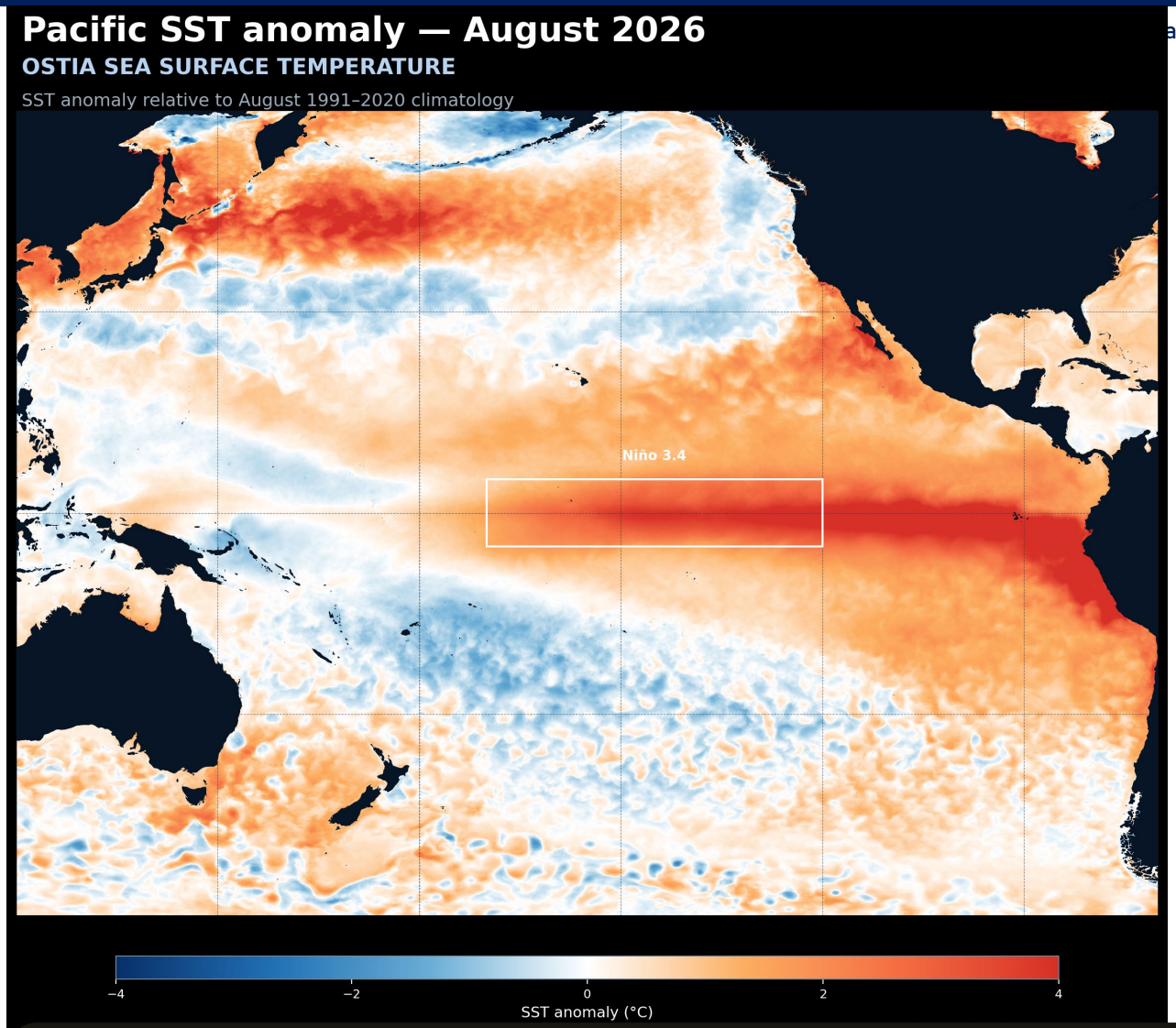
... / **Press Releases** / El Niño set to become very strong, raising risks of extreme weather into 2027

El Niño set to become very strong, raising risks of extreme weather into 2027

PRESS RELEASE

3 September 2026

Geneva, Switzerland (WMO) - El Niño is firmly established and will intensify into a very strong event in the coming months, with big impacts on rainfall and temperature patterns and associated risks of floods, drought and extreme heat, according to a new update from the World Meteorological Organization (WMO).

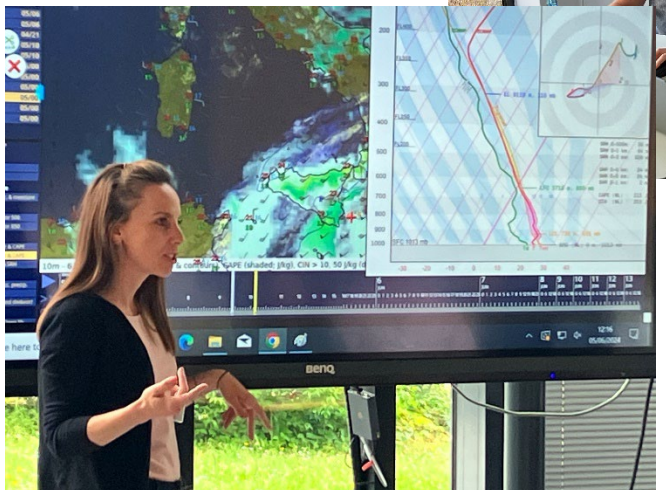


Copernicus Marine Service · PROGRAMME OF THE EUROPEAN UNION · Copernicus Europe's eyes on Earth · IMPLEMENTED BY EUMETSAT

Training Forecasters and Engaging Users

- SEEMET
- Severe Convective Storms Testbeds with ESSL
- Aviation Testbeds with FMI
- Data access & discovery workshops
- Many other events – regional courses etc.

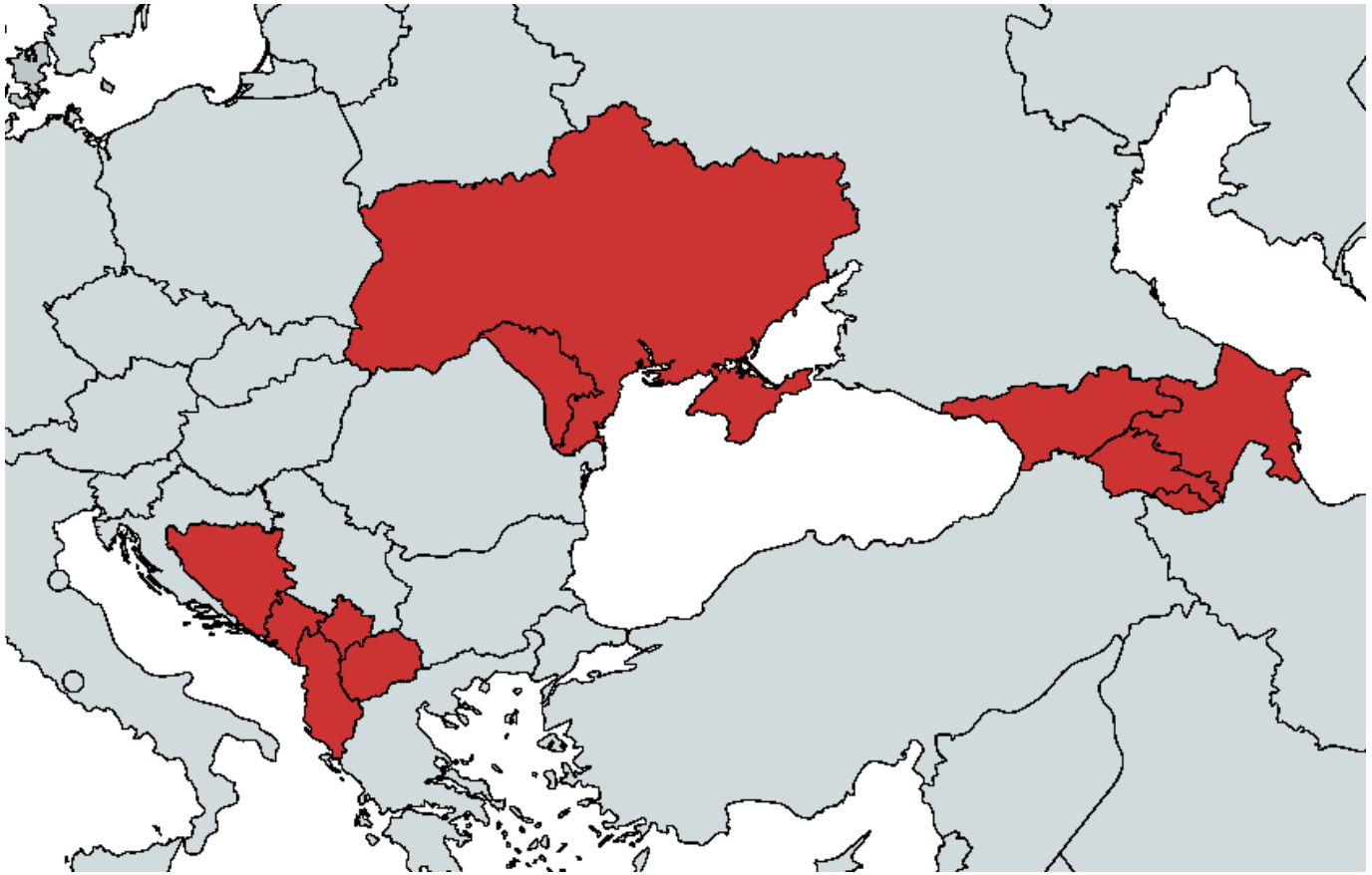






Latest SEEMET Course in Trogir, Croatia

Operational Data Access - DAWBEE Project



The DAWBEE project aims to ensure that national meteorological and hydrological services (NMHS) in Eastern and South Eastern Europe and the Caucasus, which are not EUMETSAT member states, have operational access to data distributed through EUMETCast.

The first stations were installed in 2011, with several hardware and software updates throughout the years. Now, a new phase of DAWBEE has started, focusing on access to Meteosat Third Generation data in these countries.

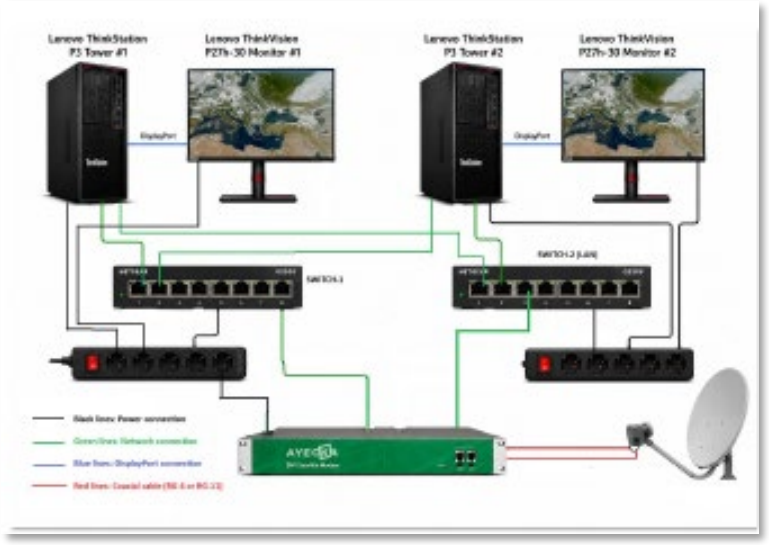
Albania
Bosnia and Herzegovina
Kosovo
Montenegro
North Macedonia
Republic of Srpska

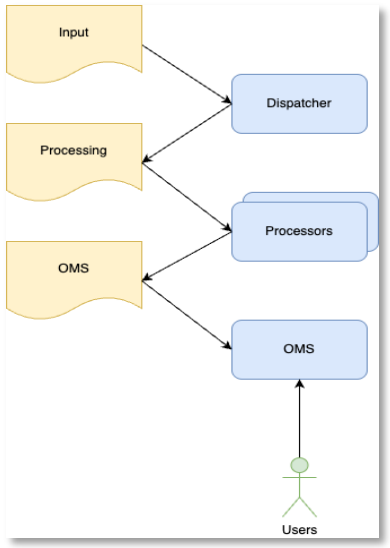
Moldova
Ukraine

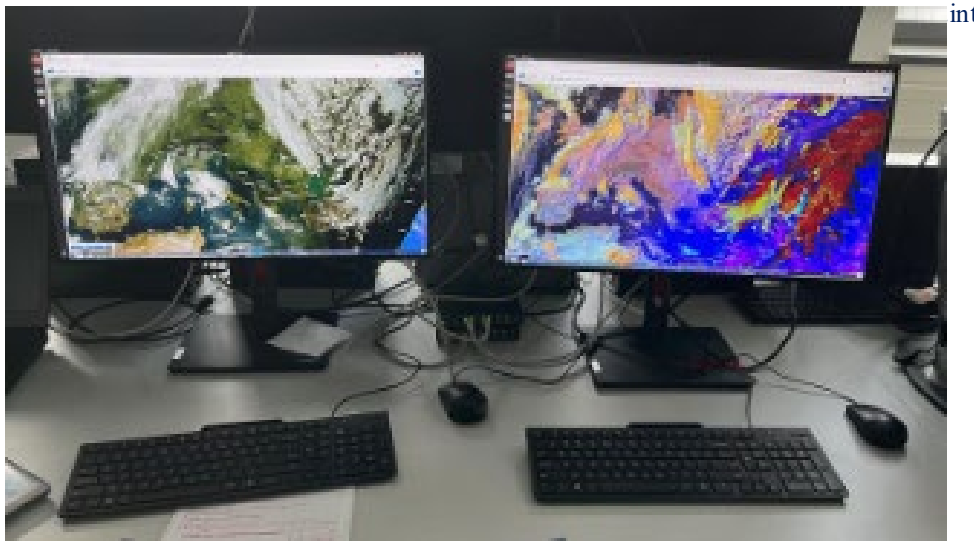
Armenia
Azerbaijan
Georgia

Note: Similar projects in RA I (Africa) under the umbrella of Strengthening Early Warning in Africa (SEWA) together with ECMWF

DAWBEE-MTG Station Design







Hardware
(except the antenna, which is under the beneficiary country's responsibility)

Software

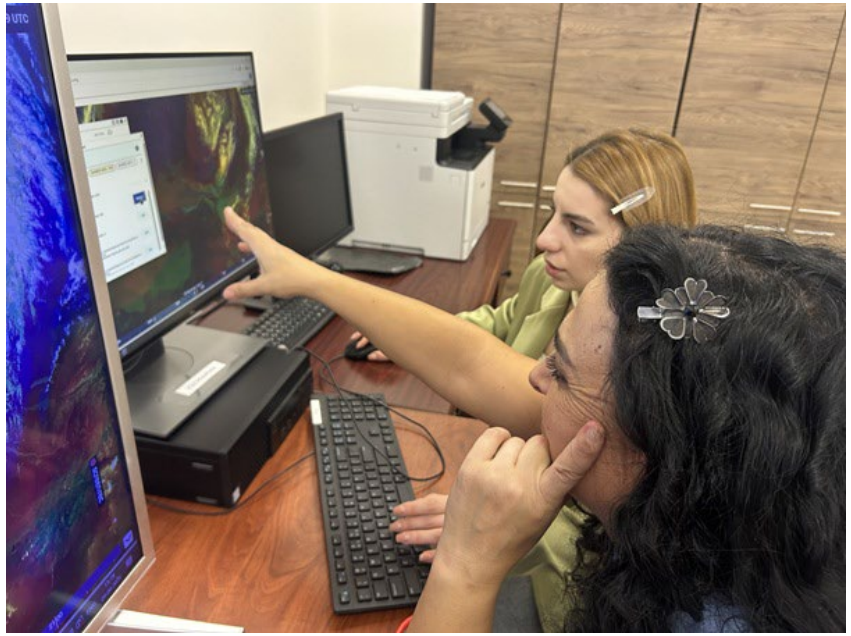
- Based on open architecture with free and open-source software
- Data reception via EUMETCast Europe and EUMETCast Terrestrial
- Local data processing
- Ability to retrieve data from other online map services, such as EUMETView, ECMWF public maps, etc.

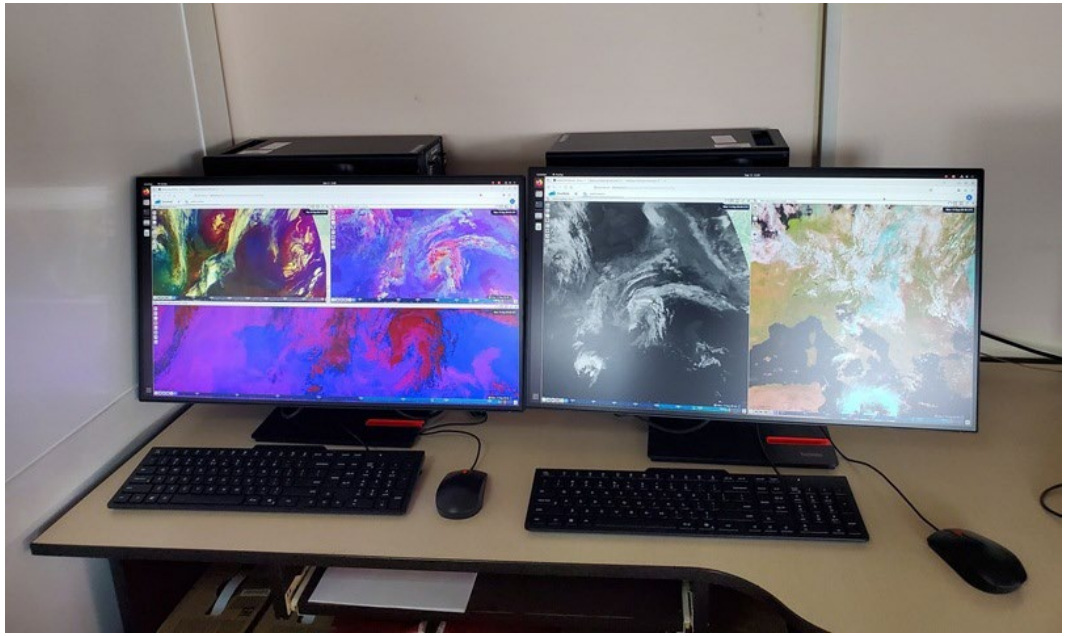
- Satellite data:
  - MTG FCI L1 channels and RGBs
  - MTG FCI L2 products
  - MSG SEVIRI L1 channels and RGBs
    - 0-degree, RSS, IODC
  - Online map services

DAWBEE-MTG Station Deployment Status

All countries received the stations, and installations are ongoing

Several training sessions were delivered for regional experts and also for all beneficiary countries





Thank you

