

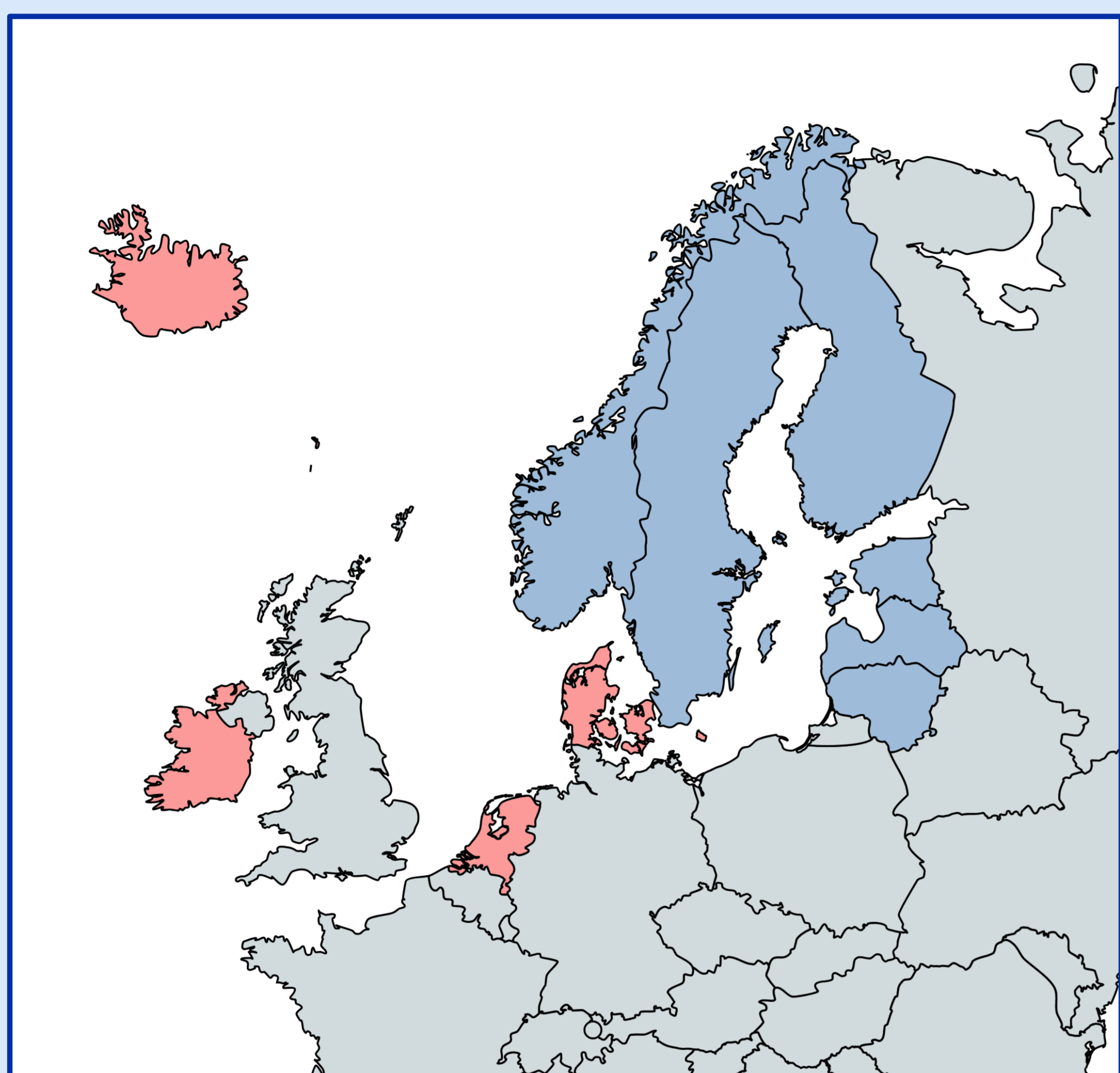
Use of satellite atmospheric sounding data in UWC-W



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The Collaboration

- UWC = United Weather Centres.
- The cooperation between DMI, IMO, Met Éireann and KNMI is called UWC West.



Use of satellite radiances

10 sounder instruments:

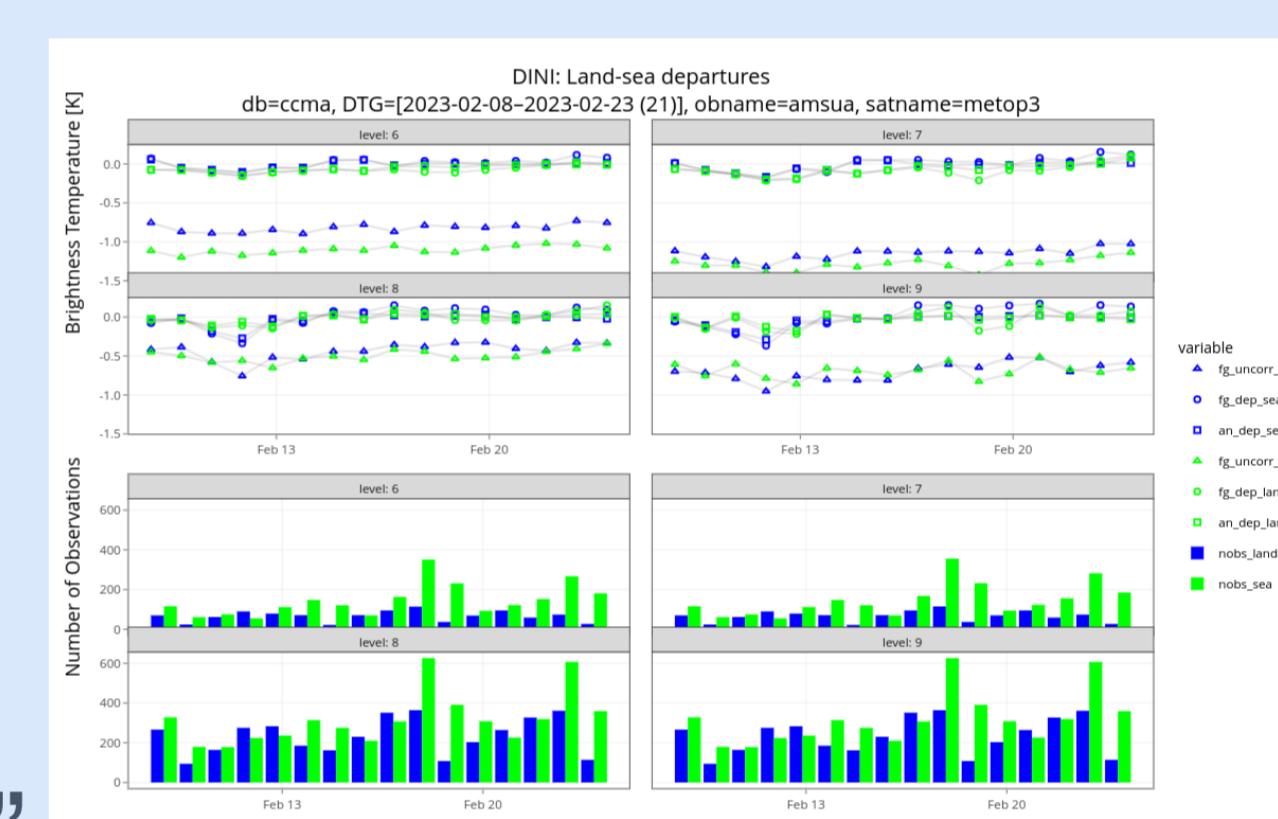
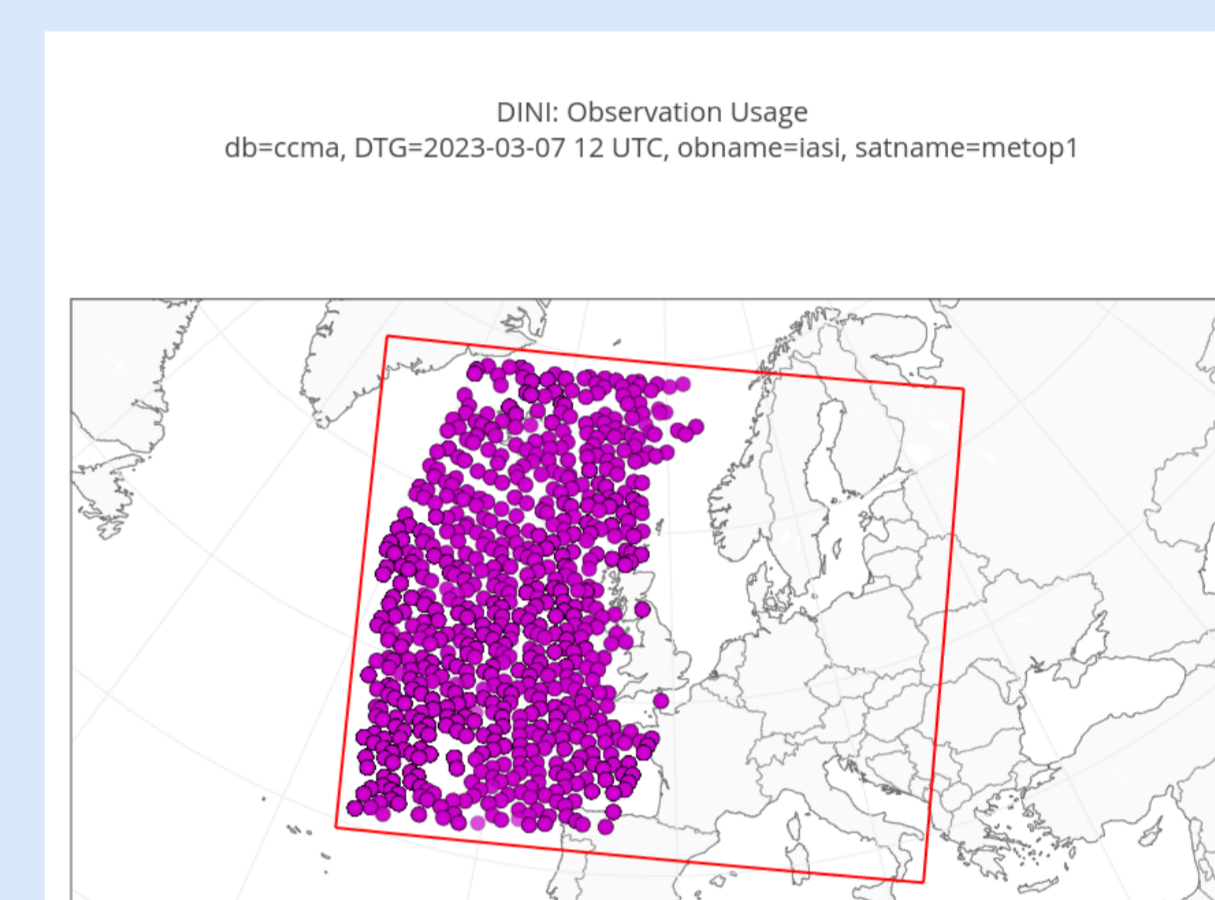
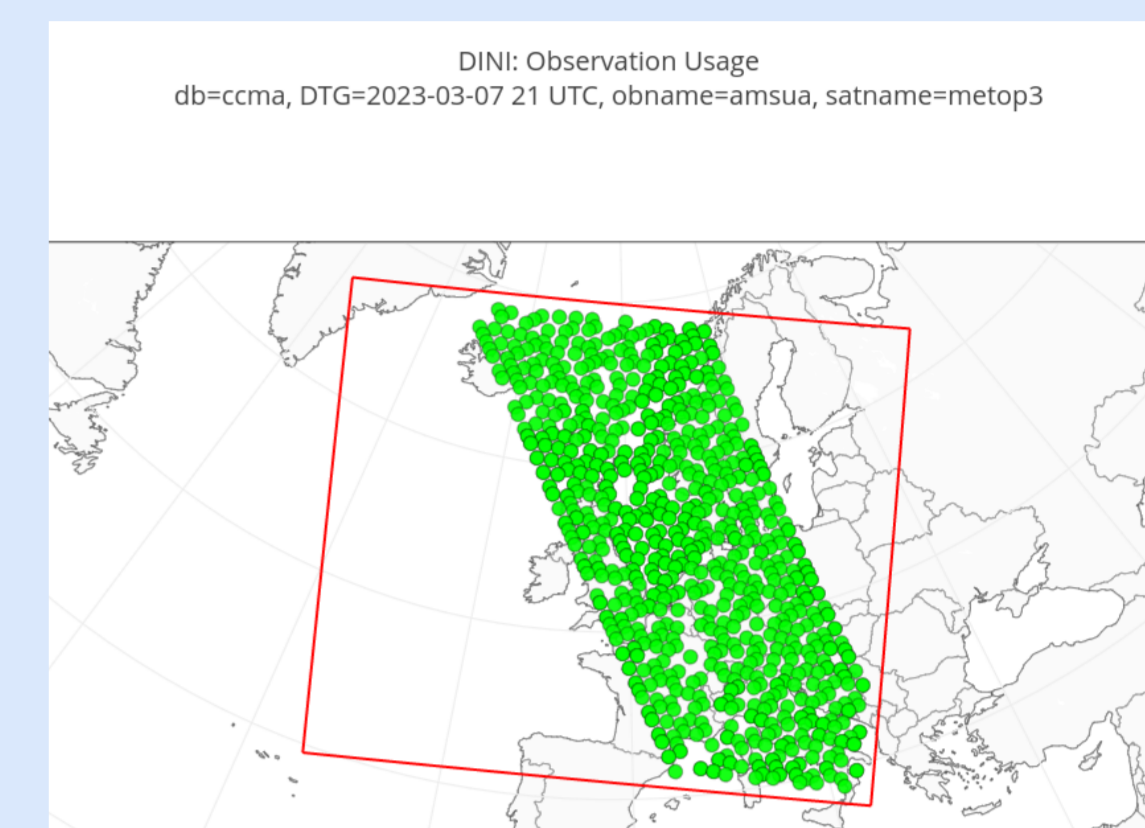
- **AMSUA** (MetopB/C, NOAA-18, NOAA-19)
- **MHS** (Metop-B/C, NOAA-19)
- **ATMS** (NOAA-20, S-NPP)
- **MWHS2** (FY-3D)
- **IASI** (MetopB/C)
- **CrIS*** (NOAA-20, SNPP)

Observations are actively assimilated only if Nobs>50

Expertise from each NMHS:

- Channel selection;
- Thinning strategies
- VarBC: predictor choice, use of “anchor” channels, etc.

Direct assimilation of clear sky radiances.



Common Operations

- Continuous EPS on DINI domain and deterministic configuration for IG domain
- Harmonie-Arome 43h2.2. with 2 km grid-spacing and 90 vertical levels. 3D-Var
- 1+5 continuous EPS with hourly updates
- SAPP for observation pre-processing
- Common post-processing
- Parallel 4D-Var suite targeting operations in near future



Progress & Plans

Heritage missions:

- NOAA-21 and FY-3E => starting implementation using the current framework

Next generation missions:

- New instruments priority will be given to MTG-IRS.

Implementation the “all-sky” framework in HARMONIE- AROME 4D-Var

“Early Common DINI Suite” running at ECMWF since September 2022

“Parallel Common DINI Suite” running at ECMWF since February 2023

The Computers

- HPE Cray’s will be installed at IMO
- Two systems – one operations, one research
- Auxiliary servers for observation pre-processing, data dissemination and monitoring