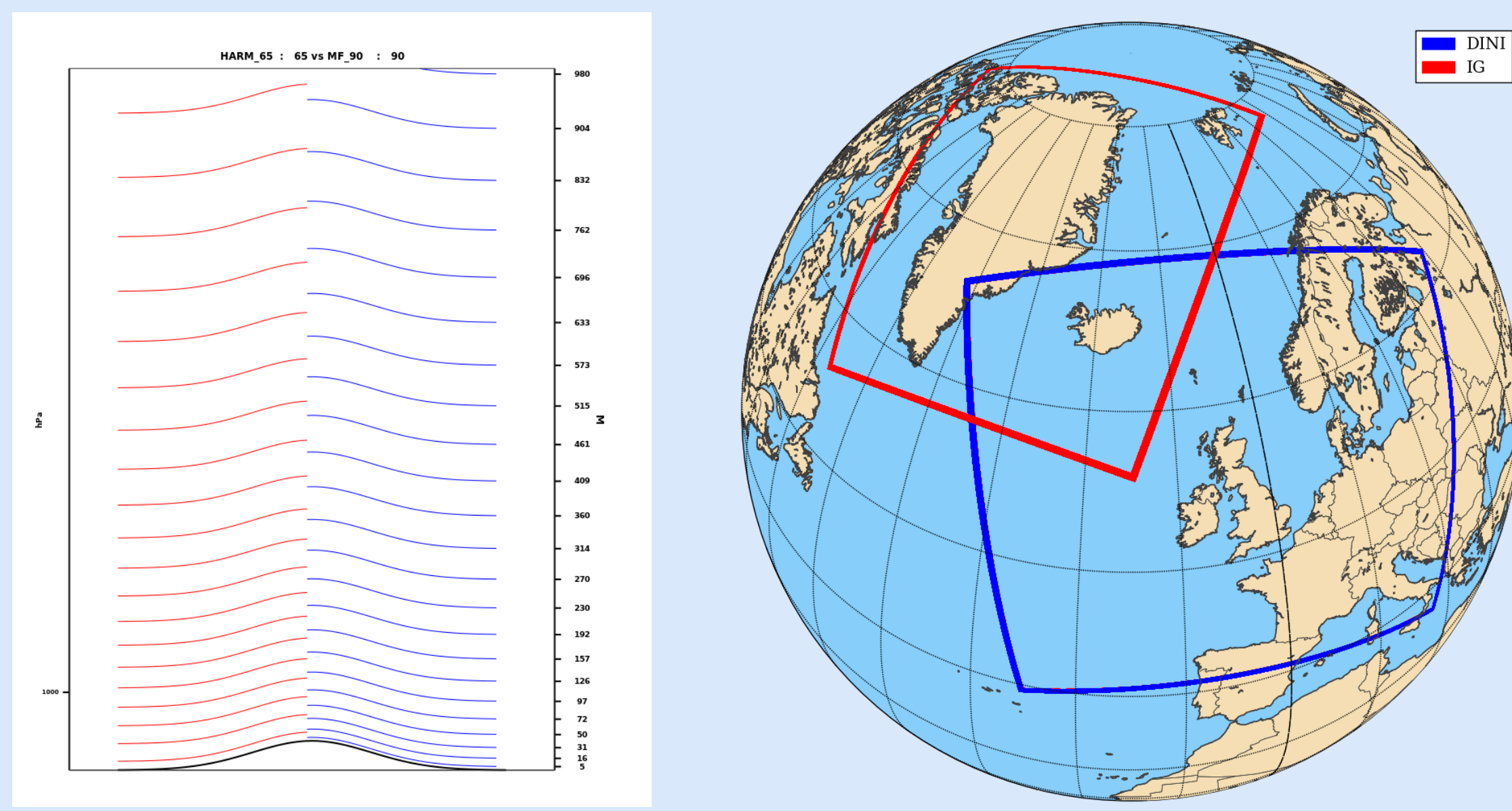


## Collaboration

- United Weather Centres is an operational NWP collaboration between 11 countries.
- The cooperation between DMI, IMO, Met Éireann and KNMI is called UWC West.
- UWC West Operational NWP went live March 19<sup>th</sup>

## Common Operations

- Continuous EPS for DINI and deterministic for IG
- **Harmonie-Arome:**
  - Harmonie-Arome 43h2.2
  - 2.0 km grid-spacing
  - 90 vertical levels (Météo France definition)
  - Forecast task uses single-precision
  - 60 h (DINI) and 72 h (IG) forecasts



- **Data assimilation:**
  - 3D-Var: three-hour window/one-hour cut-off
- **Observations:**

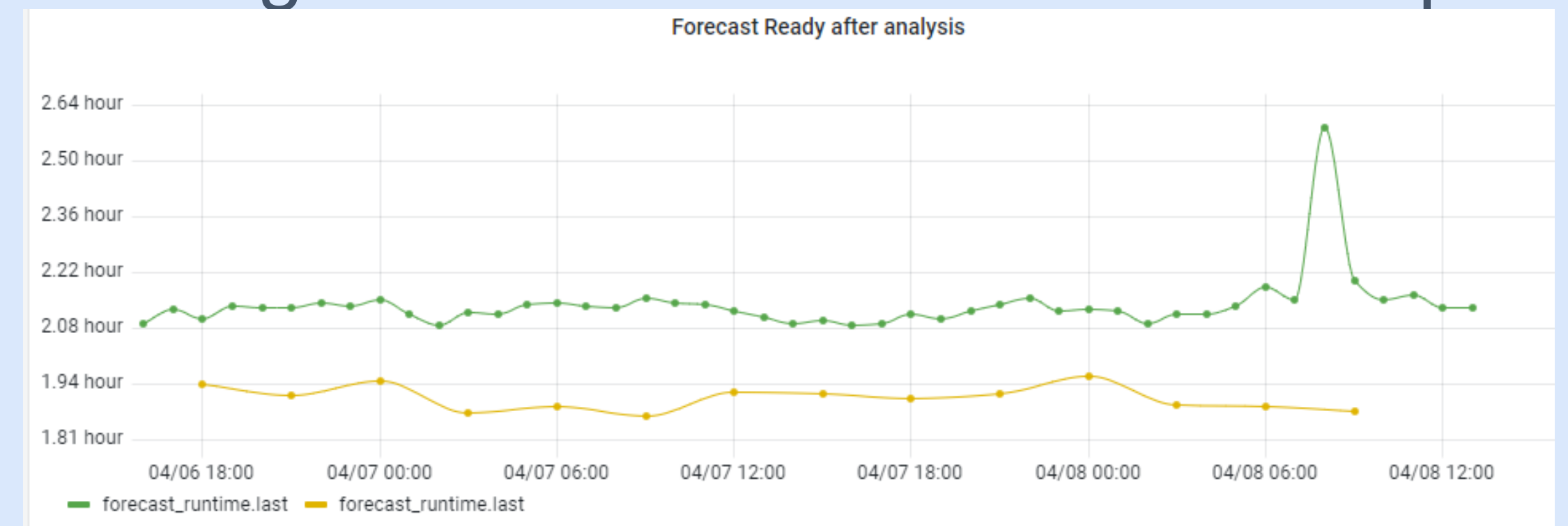
CONV	SYNOP/SYNOP-SHIP/AIREP/AMDAR/E-AMDAR/MODE-S/TAMDAR/BUOY/TEMP	
AMV	GEO and POL	Metop-B and dual
MWRAD	AMSUA	NOAA-18/Metop-B/Metop-C
	MHS	NOAA-19/Metop-B/Metop-C
	ATMS	NPP/NOAA-20/NOAA-21
IRRAD	MWHS2	FY-3D/FY-3E
	IASI	Metop-B/Metop-C
SCATT	CRIS	NOAA-20/NOAA-21
	ASCAT	Metop-B and Metop-C
GPS-RO	COSMIC2/KOMSAT/METOP/PAZ/SPIRE/TANDEM/TERRASAR	

- **EPS (DINI):**
  - 1+5 members each hour (ENSMSEL=0-30)
  - IFS LBC: HRES:000, ENS:001-030
  - EDA, PERTSURF (VEG, CV, Z0, ALB, SST, TS) & SPP – five parameters (a la MetCoOp)

Perturbation	CMPERT	Distribution
PSIGQSAT	0.3	log normal
CLDDPTHDP	0.6	log normal
ICE_CLD_WGT	1.2	uniform
RZC_H	1.05	uniform
RZL_INF	0.45	log normal

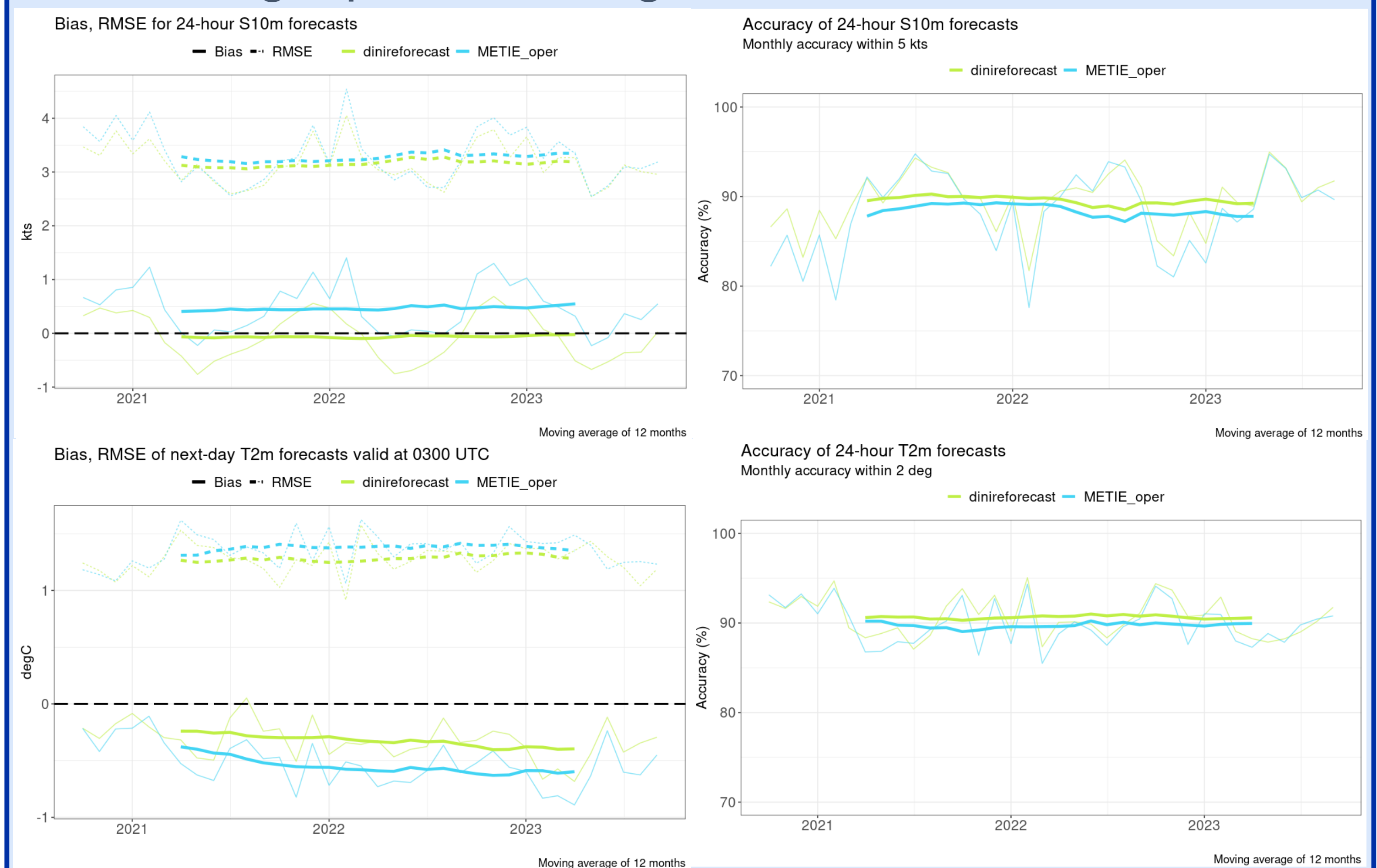
## Status Summary

- IG-Det running since September 2023
- DINI-EPS running since December 2023
- Three-year deterministic reforecast for DINI
- All developments deployed to *aurora* HPC hosted at IMO via GitLab CI/CD and AWX
- Observations prepared by SAPP
- Verification statistics produced using Harp
- Obsmon used for DA monitoring
- Data transfers managed by PDS
- Monitoring of DA and Forecasts in development

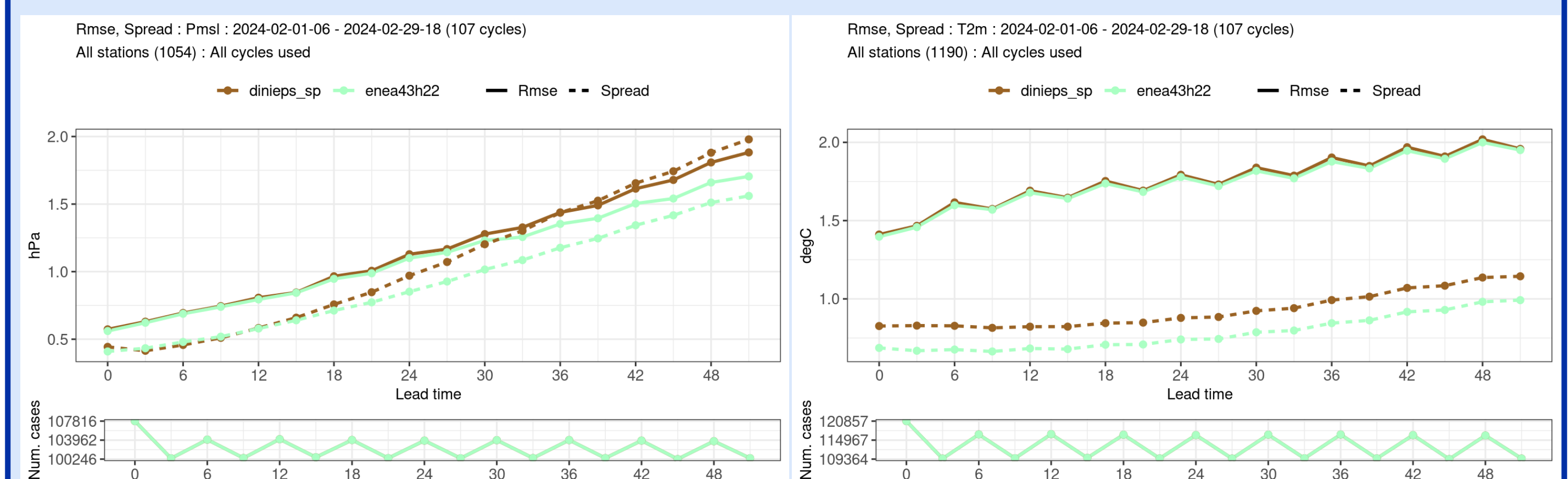


## Performance

- **Summary:**
  - Low cloud and cloud thickness improved
  - L90 benefits 10 m wind speed forecast
  - Physiography corrections benefit 10 m winds
  - Snow melt for thin layers has improved
  - Single precision degrades PMSL



Average BIAS/RMSE (left) and Accuracy (right) for U10 and T2M 24-hour forecasts produced by the DINI reforecast (green) and Met Éireann operational forecasts (blue).



Average Spread and RMSE for PMSL and T2M forecasts produced by COMEPS (DMI, green) and the DINI-EPS (brown).