



Norwegian
Meteorological
Institute



What would it take?

... For all to benefit from AI in Earth System Predictions

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An open and collaborative approach

The changes we experience are not just technological, they also reshape how and by whom forecasts are produced.

To build trust & accountability, avoid lock-in and enable all NMHSs to benefit from this change, the systems should be truly open - open models, weights, tools and training data.

The **European Meteorological Infrastructure** combines resources for open AI developments

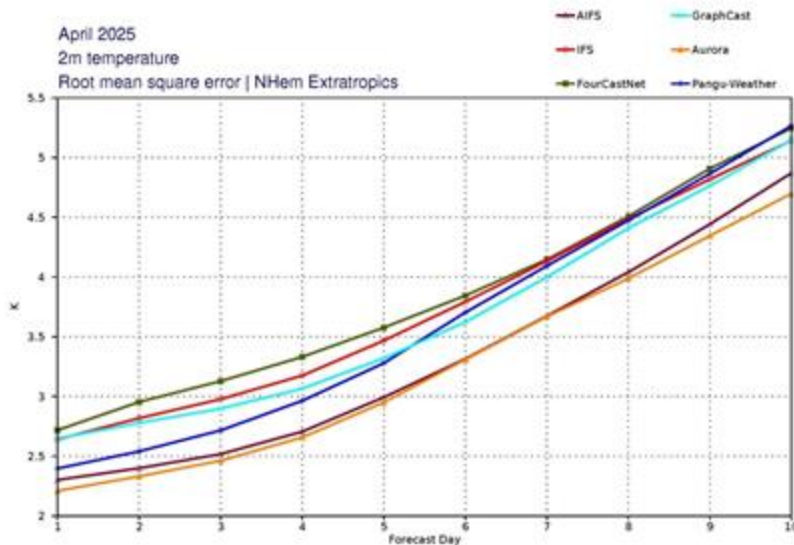
- The EUMETNET E-AI Programme develops open tools covering the entire value chain - observations to services.
- E-AI and ECMWF provides training sessions - these are recorded and can benefit the wider, global community.
- A framework for testing and comparing models and tools



Developments by and with ECMWF



- ECMWF's Artificial Intelligence Forecasting System (AIFS) became **operational** February 2025.
- Anemoi - an open-source ML software framework for earth system modelling.
- “[forecast-in-a-box](#)” - comprising AI models and the entire workflow from input data to visualisation.
- Anemoi won the 2025 EMS Technology Achievement Award
- Goal to make open-source AI easily available to NMHSs globally.



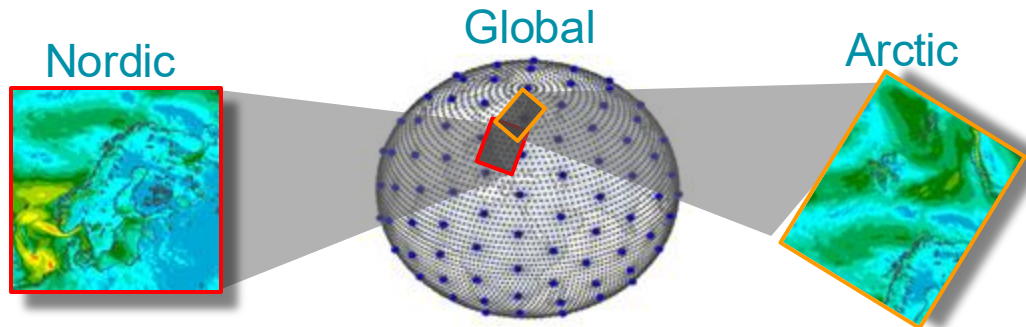
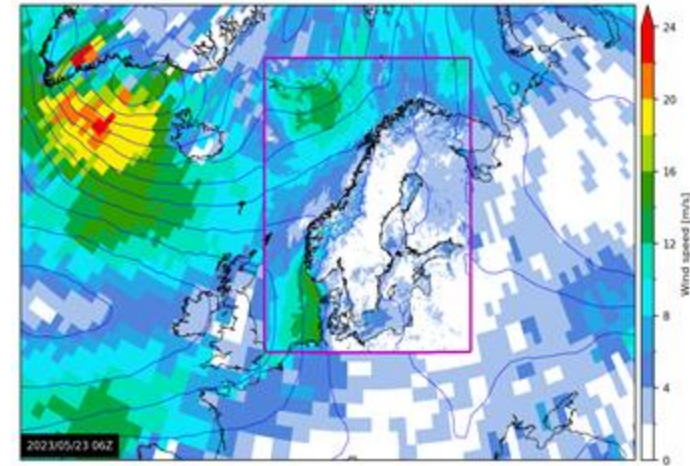
Run AIFS yourself:

<https://huggingface.co/ecmwf/aifs-single-1.0>

Bris [bri:s] - Developed by the Norwegian Meteorological Institute

- A global, open-source AI-based model with high resolution over our focus area(s)
- Aim to seamlessly cover nowcasting (next hour) to long-range (21 days)
- Based on AIFS and developed within the Anemoi framework together with European partners.
- Testing to move high resolution area to other countries both in Europe and in other regions.

Anemoi in action: developing weather model for the Nordics



AI that scales to every NMHS: Malawi



- Aims to empower Malawi's national meteorological service to independently operate AI-based weather predictions.
- Wider goal: Test how AI can be used in the value chain of producing early warnings in Least Developed Countries and Small Island Developing States.
- Partnership between:
 - Malawi's Department of Climate Change and Forecasting Services (DCCMS) - local expertise and data;
 - MET Norway - Bris, domain and AI expertise;
 - ECMWF - forecast-in-a-box
- Sustainability: Bris is maintained and used by MET Norway; forecast-in-a-box is maintained by ECMWF.
- WIPPS pilot project on forecast-in-a-box and Bris.