Developments within Eumetnet

EWGLAM meeting
26 - 29 September 2022, Brussels (Hybrid), Belgium

Aline Kraai, EUMETNET FCAM

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Forecasting Capability Area last year

- Change in FCAM
- FCA programmes
- Strategic guidelines
- New Programme Phase (2024-2028)
- Website/portal/communication platform → Sharepoint and Microsoft Teams (instead of confluence)
- Information/IT related projects: E-SOH/FEMDI (presentation C-SRNWP) and HVD-EU/RODEO project
- Further developments

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Change in FCAM

Dick Blaauboer has retired after 9 years FCAM → from January 2022 followed up by Aline Kraai

At KNMI since 2009
As advisor on observations network.
From 2013 as operational meteorologist and on EU project Aristotle.

Forecasting Capability Area (2019-2023)

Forecasting Capability Area Management
Capability Area Manager: Aline Kraai *(KNMI)*

Forecasting Expert Team
Chair: Thomas Kratzsch *(DWD)*

EMMA
PM: Rainer Kaltenberger
(ZAMG)

NOWCASTING
PM: Franziska Schmid
(ZAMG)

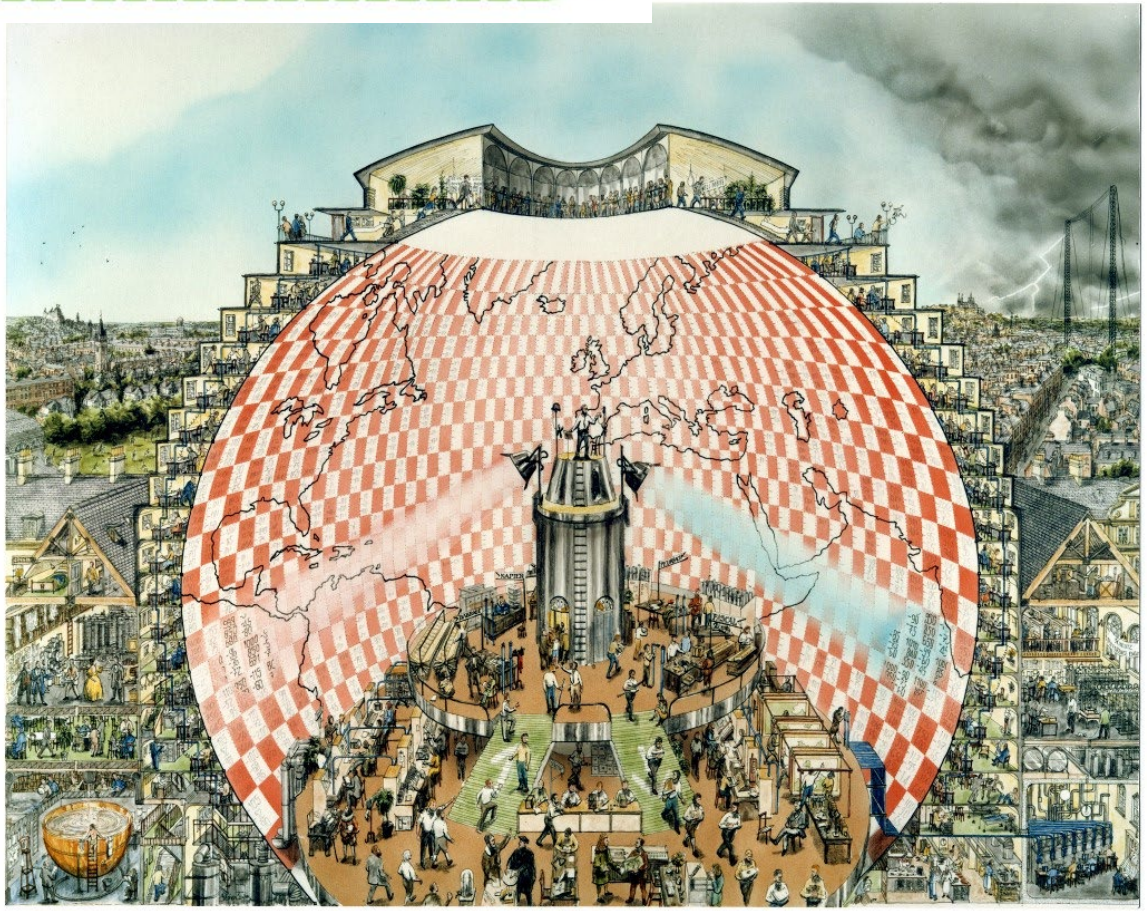
NWP Cooperation
PM: Stéphane Vannitsem
(RMI)

EUMETCAL-2
PM: Heleen ter Pelkwijk
(KNMI)

C-SRNWP
MM: Balázs Szintai
(OMSZ)

SRNWP-EPS
MM: Alfons Callado Pallares
(AEMET)

PostProcessing
MM: Stéphane Vannitsem
(RMI)



“Weather Forecasting Factory”

by Stephen Conlin, 1986. Based on the description in Weather Prediction by Numerical Process, by L.F. Richardson, Cambridge University Press, 1922 (https://www.emetsoc.org/resources/rff/)

Eumetcal-2

Heleen ter Pelkwijk (KNMI)

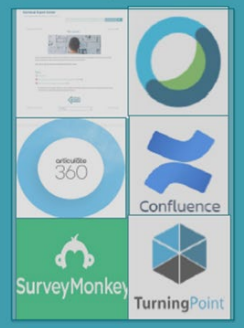
... the eumetcal.eu homepage

- Announcement of events
- News and information
- Facilitation of Collaboration

Aims:

- To intensify the collaboration among the members in the area of E&T.

...Tools and accompanied support



- Tools for online learning courses
- Technical support

Aims:

- To give trainers access to tools that enable them to provide high quality and cost-effective trainings.

The Eumetcal Expert Centre:
- a forum for questions and discussions, to connect and share resources
- an area where trainers can book personal appointments with the IDs
- resources on developing and delivering virtual or blended courses

- Train-the-Trainer courses by instructional designers (MeteoSwiss and COMET)
- Eumetcal is also for OBS/Climate/Aviation

- Opera: Application of radar observations

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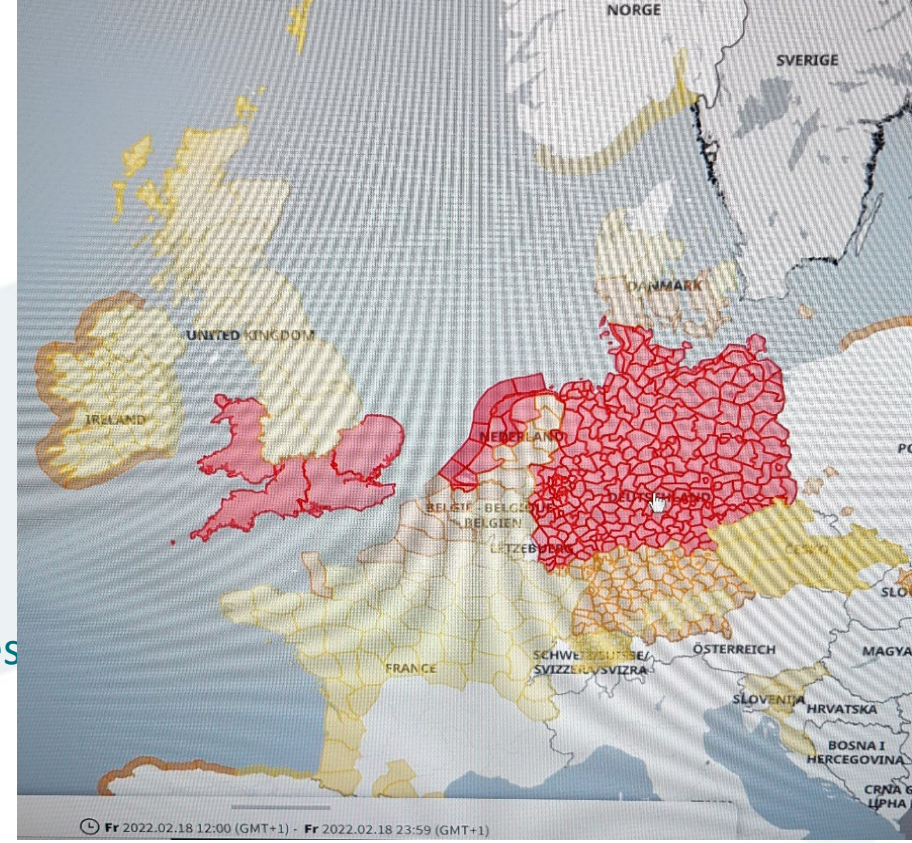
EMMA

Rainer Kaltenberger (ZAMG)



- www.meteoalarm.org
- Server load during strong lows half February
  but meteoalarm.org stayed available for partners and re-users 24/7
- New release of Meteoalarm 2.0 was issued in December 2021 it enables the use of free warning polygons and is recommended also to use for hydrological services.
- A MEG and Meteoalarm Partner Group (MPG) meetings in December 2021(online)
  and in June (at ZAMG) with outreach to major re-users as Google/IBM/Accuweather/Meteoblue on how re-users use Meteoalarm.
- MEG/ERCC(Emergency Response Coordination Centre): collaboration strengthening
- Fast track programme for new programme phase

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E-Nowcasting

Franziska Schmid (ZAMG)

- 4th European Nowcasting Conference was successful last week with 145 registrations and 45 interesting presentations. Surveys were held during the week.
- End-user survey (2019):
  - Weather&Society conference organized by WMO/WWRP in session on "Understanding and advancing the communication and use of weather forecast uncertainty" and
  - Article "Use and perception of weather forecast information across Europe" is now online: https://rmets.onlinelibrary.wiley.com/doi/10.1002/met.2053
  - Paper together with South America on end-user survey
- A closer connection with WMO within RA VI Task Team on Research, Modelling and Prediction

NWP-C

Stéphane Vannitsem (RMI)

C-SRNWP by Balázs Szintai (OMSZ)

- Fast track for new programme phase

SRNWP-EPS by Alfons Callado (AEMET)

- Application tasks:
    - Calibration on extremes
    - Developing post-processing products→ forecasting tools:
        - Available improved thunderstorm (Updraft Helicity, isobaric levels) and fog/visibility products
        - Aviation icing and clear-air turbulence products available to use/test
        - Developing and researching about a Machine Learning tool to forecast/detect thunderstorms/heavy showers
- Research task:
  new research plan on high impact weather and convection

Postprocessing by Stéphane Vannitsem (RMI)

- Progress on the benchmark of postprocessing techniques

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2022 – 2028 EUMETNET Strategic guidelines

Observations and Predictions Data

Science, Technology and Infrastructure

Partnerships

Communication and Influencing

Strategic goals

A. Collective observations, development of innovative observing methods and enabling access to third party observations to improve observations coverage

B. Federated community approach to efficiently deliver high-quality and user-friendly weather- and climate-related information - data, products, and services

C. Coordinated development and knowledge exchange to enhance Members' capacity for weather and climate-related services and advice for policymakers

D. Effective policy support and collective representation of Members to promote and enable their missions and protect their collective interests

Capability areas

OBSERVATIONS	OBS
INFORMATION	INF
CAPACITY	CSA
SUPPORT	SUP

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Observations

Forecasting

Others

Drafting the Programme requirements for the next Phase

Current Programme phase ends 31/12/2023, new phase will start 01/01/2024.

Drafting of requirements will follow two-track process –
« fast-track » and « normal-track »
Forecasting « fast-track » activities: EMMA & C-SRNWP

Programme requirements need to reflect:

- What Members expect/require from a Programme?
- Why Programme deliverables are vital for the Members?

Programme requirements:

- ✓ Clearly linked to strategic objectives
- ✓ Include SMART indicators
- ✓ Prioritized and cost evaluated
- ✓ Realistic in terms of resources

May 2022

Fast Track: Jun 2022
Normal Track: Nov 2022

Fast Track: Sep/Nov 2022
Normal Track: Mar/May 2023

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Ideas for new phase

NWP and NWC at DWD

- Synergies between NWP-C and NWC
- Seamless prediction

Further ideas

- Impact based forecasting/warning
- Cross border exchange/communication (see aviation) (ERCC (Aristotle), railways?)

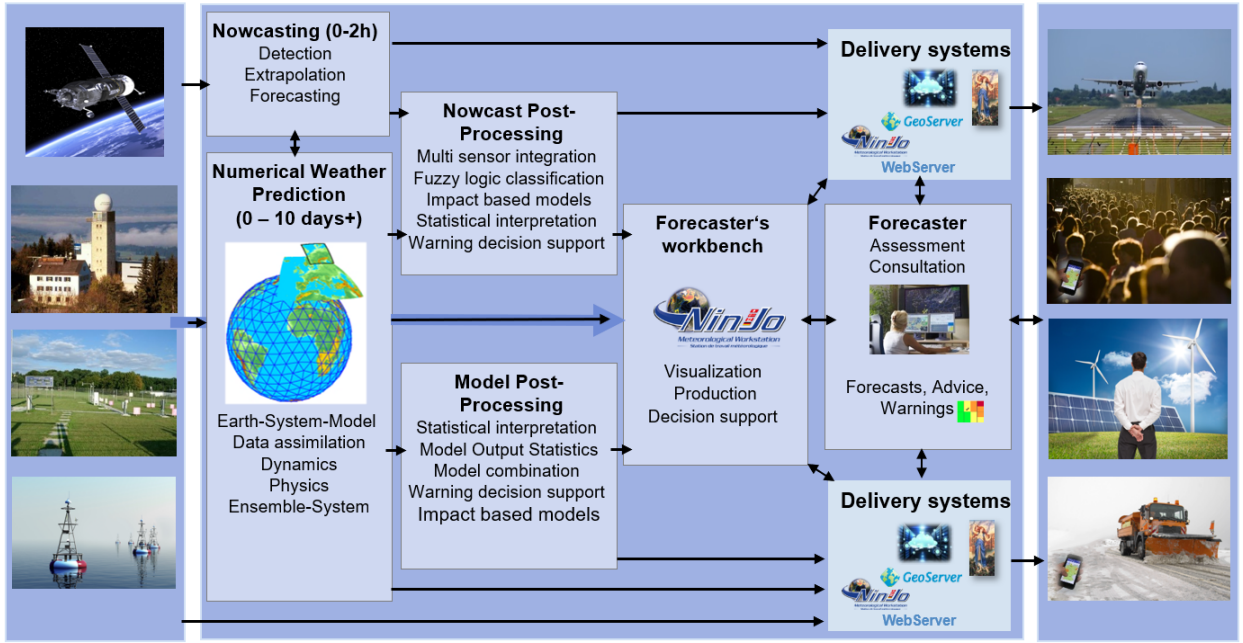

Figure: D.Heizenreder

seamless

- NWP global
- SRNWP - High Res.
- SRNWP Ensembles
- Nowcasting

determ./prob. Postprocessing based on the same model grid

Det./prob. Postprocessing, different time scales for user-oriented products

Forecasters/advisors
End users

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HVD/RODEO

HVD EU-call → RODEO

In extra assembly EUMETNET decided to be part of the consortium what includes 13 partners (11 NMHSs + EUMETNET + ECMWF)

, but **without** extra budget for next phase

Meteorological

Higher intensity intervention Recommended measures

Dimensions		Observations	Climate	Weather Alerts	Radar	NWP model data
Openness-data specification	*License (terms of use)*	Creative Commons 0 or BY No terms of use	Creative Commons 0 or BY No terms of use	Creative Commons 0 or BY No terms of use	Creative Commons 0 or BY No terms of use	Creative Commons 0 or BY No terms of use
	Format	BUFR, NetCDF, ascii, json (for hourly)*	NetCDF,JSON*	XML (CAP and/or RSS-Atom)*	HDF5,JSON*	GRIB (or NetCDF)*
	Machine-readability	Obligatory	Obligatory	Obligatory	Obligatory	Obligatory
	Availability of API, bulk download	Both API and bulk download	Both API and bulk download	Both API and bulk download	Both API and bulk download	Both API and bulk download
Documentation	*Metadata (dataset content description)*	Complete (*.csv document available)	Complete (*.csv document available)	Complete (*.csv document available)	Complete (*.csv document available)	Complete (*.csv document available)
	Documentation (incl. structure and semantics)	Complete and web-available	Complete and web-available	Complete and web-available	Complete and web-available	Complete and web-available
Completeness	*Update frequency and timeliness*	Every 5-10 minutes in real time for automated stations, hourly unvalidated for the last 24hrs	Validated hourly (or better temporal resolution) published at least daily and daily average observations data; historic data	As issued, or hourly	Near real time in 5 minute intervals (or available shortest interval)	Every 6hrs, or better temporal resolutions, from the last 24hrs
	Granularity	Per weather station, full temporal resolution	Per weather station, full temporal resolution	Alerts, 48hrs or more ahead	Per radar station in the MS, and national composite	48hrs ahead or more in 1hr steps, national, at 2.5km/best available grid
	Key attributes	All observation variables measured	All validated observation variables measured		Reflectivity, backscatter, polarization. Precipitation, wind and echo-tops	Deterministic, and/or ensembles if available, for meteorologically relevant parameters and levels

Table 1: Specification of the High Intensity Intervention HVDs as proposed by Deloitte.

Work Package
WP1 Project management and coordination
WP2 User Interface (FEMDI)
WP3 Real-Time MET Data (S-ESOH)
WP4 Warnings (EMMA)
WP5 Climate MET Data
WP6 High-Volume MET Data (OPERA)
WP7 User and Provider Engagement and Support

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Related developments

- **European Meteorological Society (EMS)**
  Member of Programme and Science committee(PSC) (Dick Blaauboer is chair)
  4-9 September in Bonn/hybrid on *Connecting communities to deliver seamless products and services*
  Next conference (online and in Bratislava): 3-8 September 2023 on *Europe and droughts*
  Hydrometeorological processes, forecasting and preparedness

- **DestinE**
  Task Team is asked to list opportunities and risks to be more involved as Eumetnet.

- **WMO**
  - Seamless prediction (Yong Wang): writing on a proposal to the World Weather Research Programme Scientific Steering Committee(WWRP SSC).
  - RA VI Task Team on Research, Modelling and Prediction (NWC)

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Thanks for your attention !

Questions ?

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