

Evolution of the United Weather Centers cooperation

42nd EWGLAM and 27th SRNWP Meeting, 28th September – 2nd October 2020

Dick Blauboer, Jeanette Onvlee



EUMETNET
EUROPEAN METEOROLOGICAL
SERVICES NETWORK

Recall: UWC Goal and partners

The primary goal of UWC is to provide the best short-range weather forecasts for the geographical areas of interest. These forecast data will support the National Meteorological Services in enhancing safety and securing life and property for the citizens of the member countries.

MoU, in August 2018 signed by 10 national met. institutes of:

Norway, Sweden, Finland, Estonia, Latvia, Lithuania, Denmark, Iceland, Ireland, the Netherlands



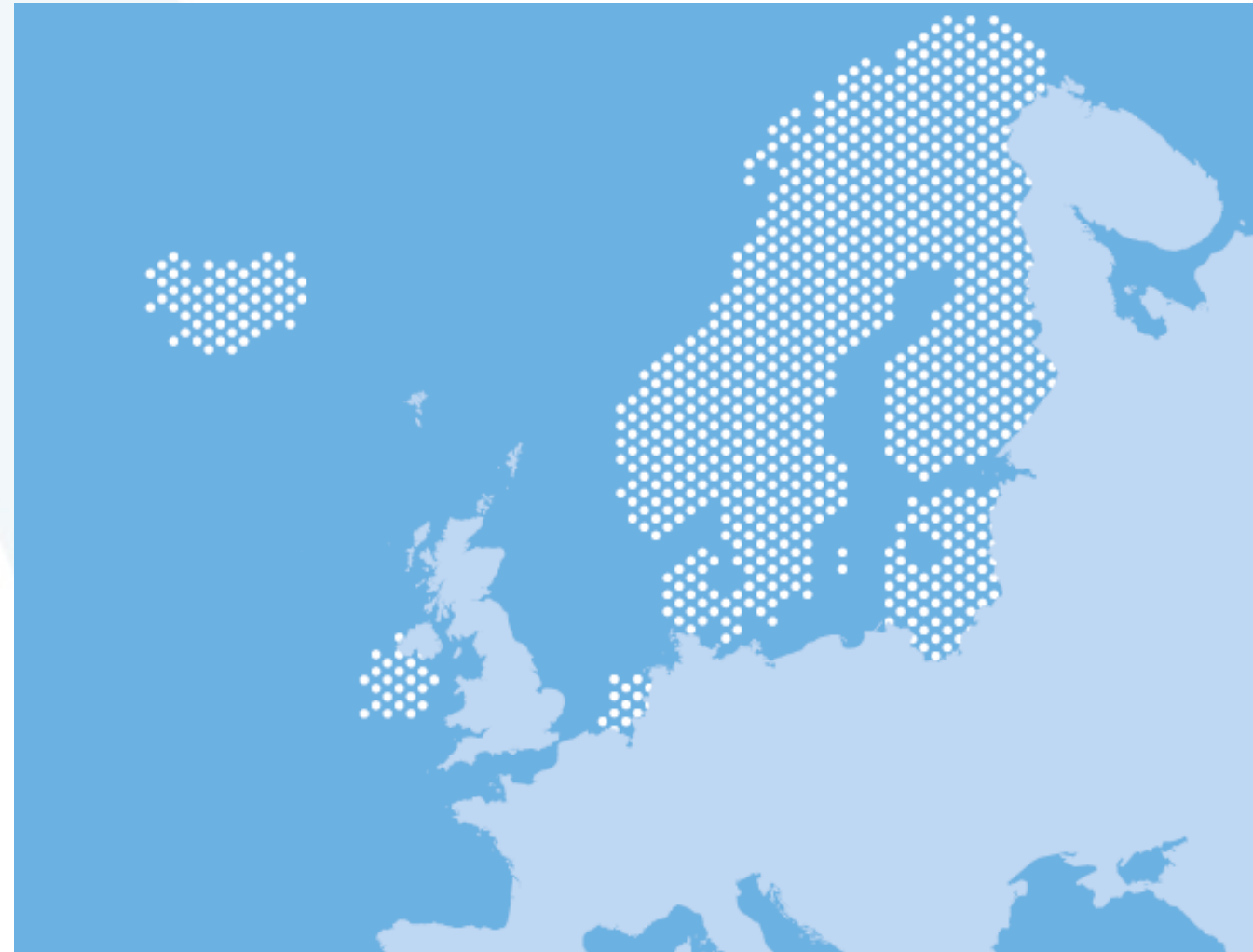
UWC map

UWC =

MetCoOp (MetNorway, SMHI, FMI, ESTEA)
+ LHMS + LVGMC in the future

+ UWC West (DMI, IMO, KNMI, MetEireann)

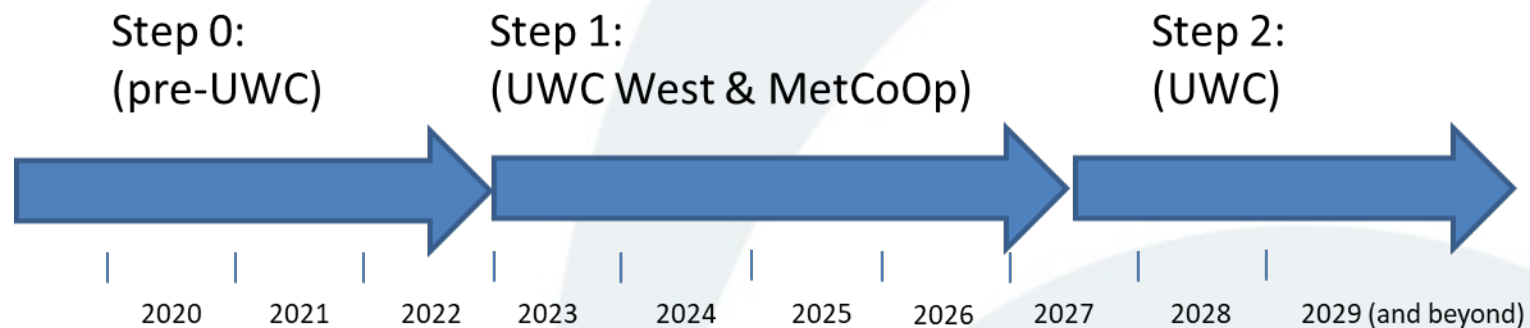
AEMET intending to join at later stage



UWC timeline

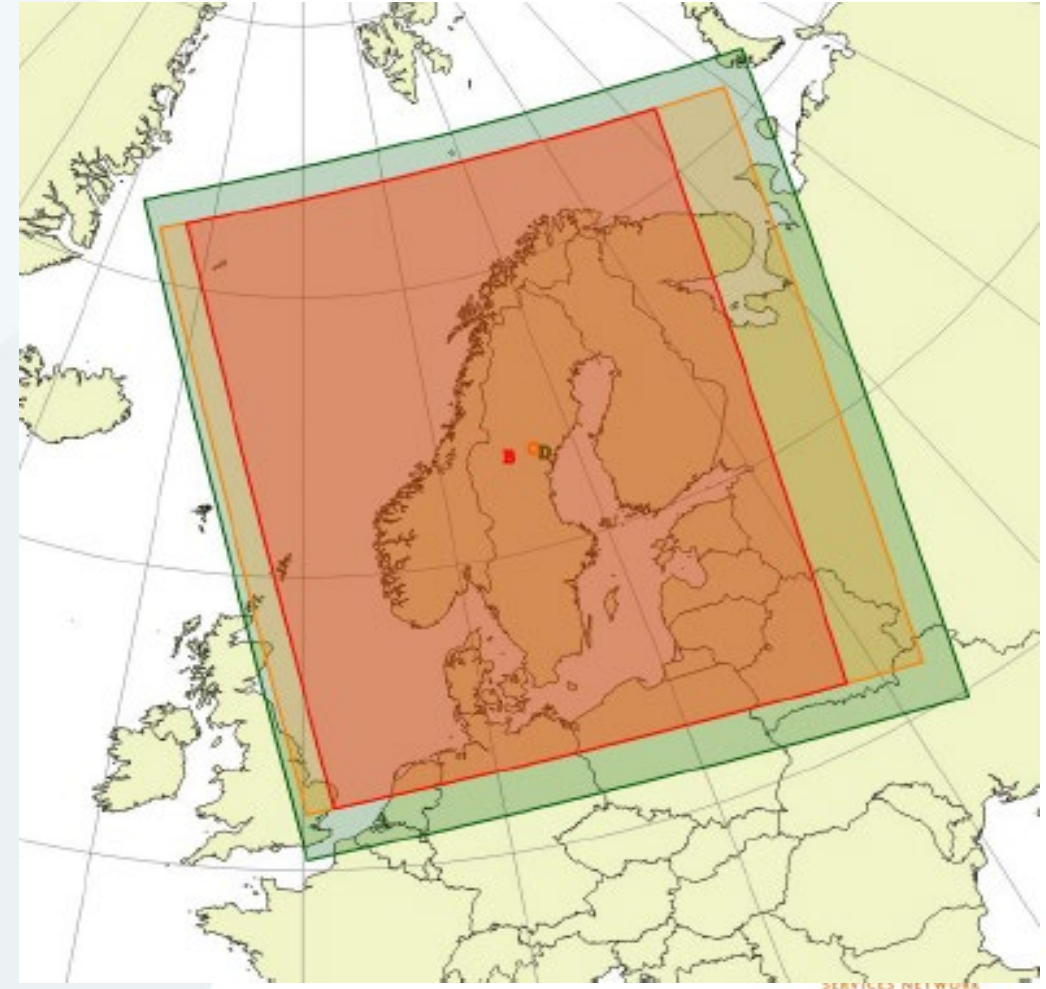
Three step approach:

- Step 0: expand MetCoOp cooperation with Baltic services, prepare operational cooperation UWC-West
- Step 1: prepare to integrate the operational MetCoOp and UWC-West cooperations (and Spain?) into UWC
- Step 2: UWC operational collaboration from 2027 onwards



The evolving MetCoOp cooperation

- Operational collaboration between MetNorway and SMHI started in March 2014
- Finland joined in September 2017
- Estonia joined in December 2019
- Based on sharing HPC's to run common ensemble (operational and pre-operational suites)
- Preparing for extension with nowcasting suite



MetCoOp organization

Shared management, rotating every 2 years:

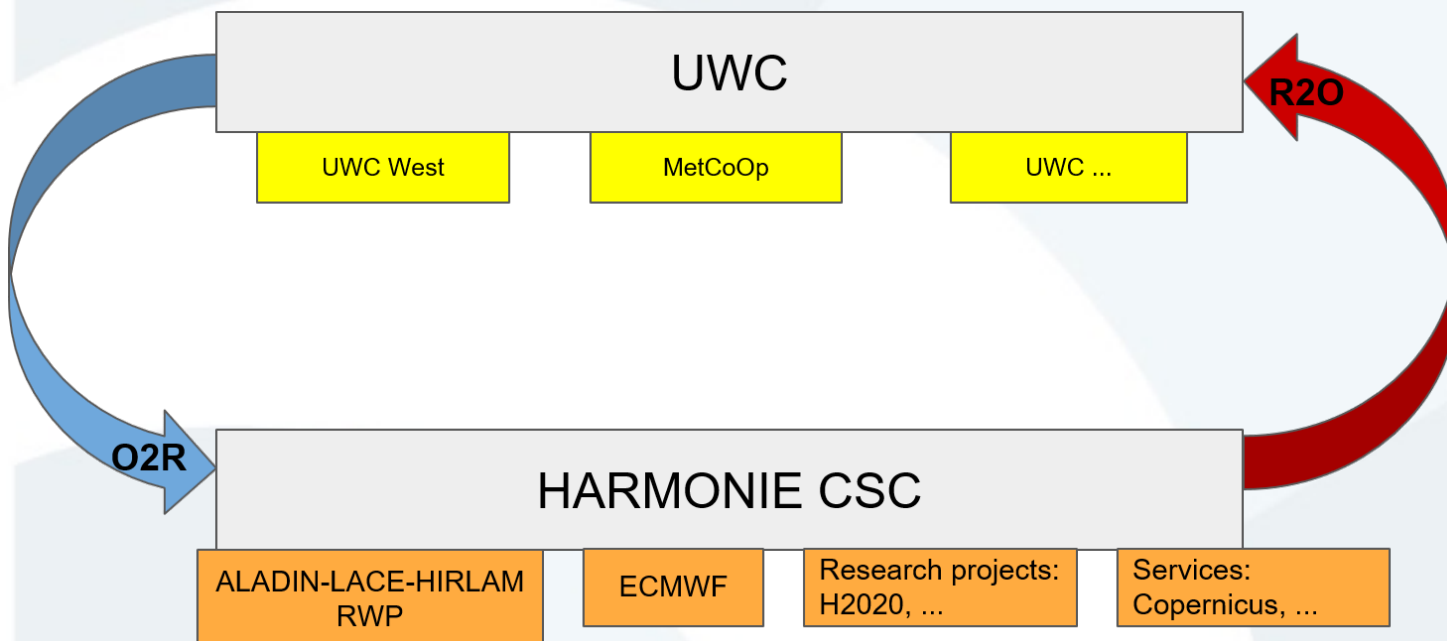
- Operations: Mikko Partio (FMI)
- Development: Ole Vignes (Met Norway)
- Steering group: 2 members from each partner

24/7 operational monitoring at FMI with on-call (second line) model support

Core staff (third line support) in all institutes.
Weekly video meetings and regular working weeks.



Relation MetCoOp - HIRLAM



- MetCoOp uses the Harmonie-Arome model.
- Research is HIRLAM-ALADIN responsibility
- MetCoOp runs latest Harmonie-Arome Reference configuration (with small deviations) operationally
- MetCoOp development activities focus on issues specifically relevant to their domain
- Close contacts on model performance and ways to improve it
- R2O and O2R feedback loop: Very beneficial to both HIRLAM and MetCoOp
- A similar relation is envisaged between UWC-West and HIRLAM.

More than just a cooperation between NWP staff...

- Close and frequent contacts between operational staff, NWP developers, IT experts and duty forecasters: in each service and between all services
- This sharing of human resources results in a greater focus
- A much improved and faster R2O and O2R feedback cycle
- And thus a significantly greater speed of innovation.
- “Several weather services evolving to act like a single one”

UWC West developments: Not a copy from MetCoOp!

In many ways, the organization and setup of UWC-West is profiting greatly from the experiences gained within MetCoOp. But:

In contrast to MetCoOp, the UWC-West partners have decided at an early stage to share resources to fund a single new HPC, to be procured and owned jointly.

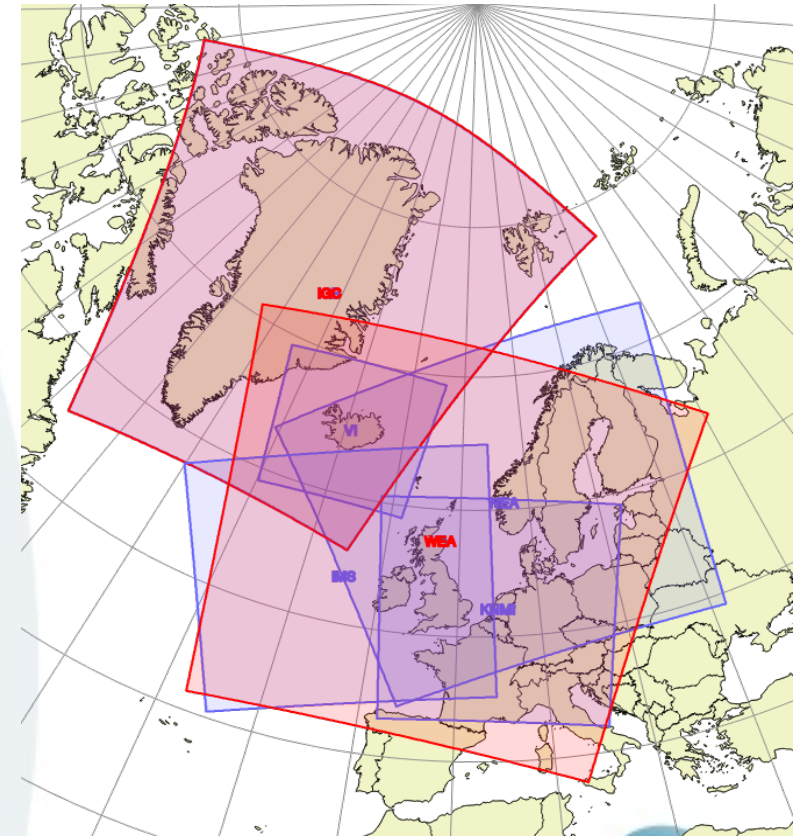
This brings with it some additional challenges:

- Legal and financial (political) agreement (ownership, financial contributions, ...).
- As some partners run more on their present HPC than an NWP suite (e.g. research, follow-on models): Agreement on the use and allocation of resources/costs for those applications on the new HPC, already at an early stage.
- Alignment of operational maintenance responsibilities, procedures and support levels

UWC West developments: Not a copy from MetCoOp! (2)

Other differences between UWC-West and MetCoOp:

- The four UWC-West partners have a very large area to cover => decision to use two domains rather than one
- The distance between the countries is significantly larger, which hinders frequent physical meetings => more difficult for team building. COVID-19 travel bans make this even harder.



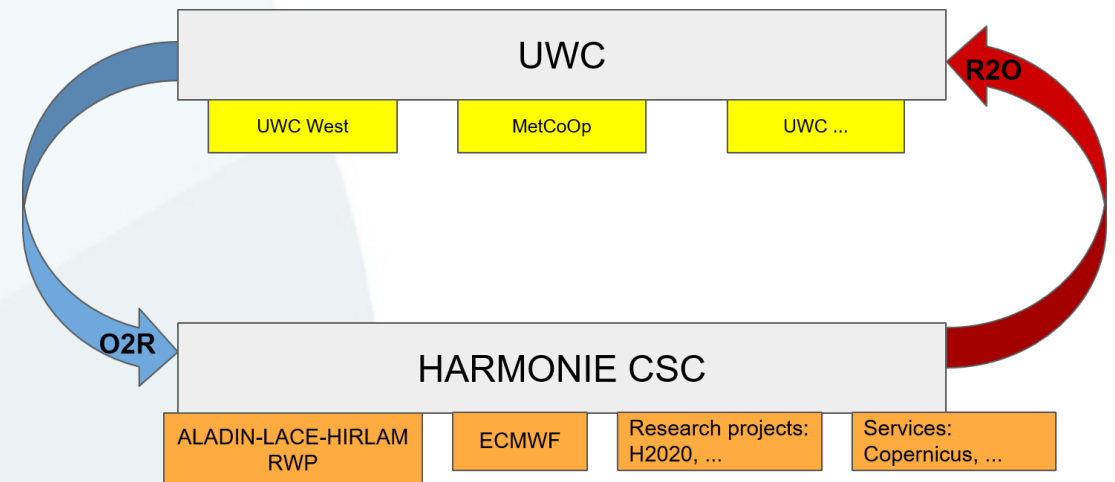
EUMETNET
EUROPEAN METEOROLOGICAL
SERVICES NETWORK

Status of UWC-West activities

- Contract signed February 2020
- Collaboration is being established in Working Groups preparing the operational collaboration
 - this will transform to pre-operational organization during 2021
 - LGF: contract preparation, support procurement
 - NWP: design setup of NWP system, verification, preparations of benchmark code
 - HPC + infrastructure: operational responsibilities/procedures, support levels, HPC procurement
 - Preprocessing: observations handling, physiography
 - Postprocessing: start-up phase
 - Forecasters: start-up phase
 - Semi-annual all-staff meetings
- Joint hardware procurement process started, datacentre at IMO being prepared

Preparations for step 2: a single operational cooperation in 2027

- Monitoring activities in MetCoOp and UWC West to ensure that the two cooperations converge rather than diverge
- Joint meetings of SC UWC, representing all 10 partners. HIRLAM PM and Spain observers in SC UWC
- Position Paper with relevant aspects for a future merge, to be updated annually
- Starting preparatory joint Working Groups based on Position Paper from 2021 onwards
- White paper and logo, to be published Nov 2020



Aspects to consider in Position Paper/Working Groups (from 2021)

- UWC and HIRLAM
- Formulation of NWP system set-up → WG
- HPC life cycle (procurement, operation, maintenance) → WG
- National political/financial context → WG (incl. IPR)
- IPR, open data policy
- Collaboration on preprocessing → WG
- Collaboration on verification → WG
- Collaboration on physiography
- Collaboration on services
- Cooperation on post-processing → WG
- Relations with forecasting → WG
- Relations with environment

Thank you for your attention



Any questions?