EUMETNET
European Meteorological Services Network

Status of the EUMETNET C-SRNWP project

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Overview

New Programme Phase (2013-17)

Main deliverables/coordination activities:

- Represent the needs of short range NWP in front of other EUMETNET Programmes and other organizations (ECMWF, EUMETSAT, WMO, etc.)
- Enhance knowledge sharing between consortia
- Enhance cooperation between the NWP and the end user communities
- Promote European LAM models in education and academic research
- Get external funding for NWP

Overview

8 Expert Teams:

- Data Assimilation and use of observations
- Dynamics and lateral boundary coupling
- Physical parametrizations
- Surface processes (modeling and data assimilation)
- EPS and Probabilistic forecasting
- Diagnostics and Verification
- Link with Applications
- System aspects

OMSZ is leading the project since January 2013 (again)

Yearly Budget: 35 K€

Changes since the last Programme Phase

Membership

- 27 members
- 4 members leaving (Estonia, Germany, Estonia, Latvia)
- 1 new member (Montenegro)

Other NWP related projects

- SRNWP-EPS (AEMET)
- Nowcasting (ZAMG, KNMI)

Forecasting Programme Manager

- KNMI: Dick Blaauboer
- Managing EMMA, EUMETCAL, SRNWP-EPS, Nowcasting, C-SRNWP
- Present at STAC/PFAC meetings → hopefully stronger voice for NWP

Current activities

Coordination with OPERA for enhancing radar data assimilation

- A related questionnaire was prepared by OPERA for NMSs → 19 NMSs answered

- The main outcome is that for SRNWP (assimilation) 3D volume (wind and reflectivity) data are required by all NMSs (which are received at Odyssey but not re-distributed at the moment) with an appropriate QC flagging (rain, no-rain, cluttered, etc.)

- *Requirements of the OPERA project in the new phase (2013-17) have been adjusted to the needs of the short-range NWP community*

- *OPERA User Group: NWP and radar experts are refining the possible resolution/frequency and the necessary metadata for enabling the quality flagging/assimilation of „Odyssey" volume radar data*

Current activities

Coordination with OPERA for enhancing radar data assimilation

- *Questions are also put to individual OPERA members (deadline May 3) because of the heterogeneity of radars: a) radial wind: information on the Nyquist velocity is needed, b) reflectivity: distintion between „no rain", „ground clutter" and „signal below noise level" is necessary*

- *First data policy arrangements for the re-distribution of volume data from Odyssey took place (last EUMETNET Assembly): 18 NMS allow other NMSs to use their volume data for data assimilation purposes*

- *An „early" access to volume data is enabled through HIRLAM (SMHI) without operational service level → testing quality flagging locally*

Current activities

ECMWF EPS LBCs to drive high resolution LAM EPS

- To drive future high resolution LAM EPS systems extra IFS EPS runs are anticipated by the SRNWP community from ECMWF on the top of the presently operational (higher resolution, 06 and 18 UTC runs)

- For experimental purposes ECMWF developed an „economic archive" to store EPS model level fields only over Europe, North-Atlantic, North-Africa (covering all anticipated European EPS domains) → tested for feeding the relevant models: ALADIN/ALARO, AROME, COSMO, HIRLAM

- *Agreement reached within the SRNWP ET about the test periods*

- *Thanks to ECMWF, 3 x 2 weeks of high-resolution IFS EPS runs are available to drive convective-scale EPS experiments (since January 2013) → future actions to get feedback on the added value of high-resolution LBCs?*

Current activities

High-resolution AMDAR profiles to be tested in SRNWP data assimilation:

- High vertical resolution data provided by E-AMDAR via GTS (17-18 May 2011)
- BUFR test dataset prepared and distributed for the SRNWP data assimilation community for the same two days for providing reference (usual resolution) for a simple impact study of the increased resolution
- Data Assimilation Expert Team concluded that to measure the real impact, more sophisticated Observing System Experiments (OSE) should be done (funding from EUCOS is proposed)
- Data Assimilation Expert Team concluded that OSEs assessing the impact of humidity sensors on board aircrafts are of higher priority than those testing higher vertical resolution involving temperature and wind (currently available)

Current activities

EEA and Global Lake Data Base (GLDB)

- ECMWF stops supporting the maintenance/development of GLDB (mainly developed by HIRLAM) from 2013 onwards → the GLDB developments are useful for NWP if lake models incorporated → support asked from EEA but no answer from EEA yet

- Definition of a list of EEA (European Environment Agency) datasets potentially useful for NWP purposes (for the bilateral agreement between EEA and EUMETNET)

SRNWP surface data pool (http://www.cosmo-model.org/srnwp/content/default.htm)

- Very useful for validation purposes
- Data from Debrecen station entered the data base
- Correction for Cardington station is under way
- 6 new users (Croatia, Germany (2), Hungary, Russia, Sweden)
- Maintenance by COSMO (thanks to DWD and HNMS)

Current activities

Availability of Wind Gust data for verification

- It's not easy to perform wind gust verification based gust observations on GTS: many NMSs do not provide continuously these data. What is available is not well documented: what is the period of averaging, unknown thresholds are applied, station height missing

- Verif ET: only FMI confirmed the above problem and encouraged seeking solution. Opinions/experiences of others?

- A summary of the above problem was sent to the Observation Programme (EUCOS) Manager → no answer yet

Upcoming activities

Provide input to EUCOS (E-SAT) on the impact of the observing system components on SRNWP

- Collect DFS/FSO (and similar) observation impact indicators from the SRNWP community → this provides useful comlplementary information to Observing System Experiments

- The above is important in order to influence the priority of investments of EUCOS into observation programmes/projects from an SRNWP perspective

- An email will follow through the ET DA mailing list to collect input (DFS/FSO/OSE)

Upcoming activities

Promote European NWP models in education and academic research

- Education of new generation for NWP is essential (best if done in our own technical/scientific environment)
- Being competitive with freely available models is important on the long-run
- Brainstorming on how to proceed will take place between FPM, EUMETCAL PM and C-SRNWP PM will take place soon
- Questionnaire/possible workshop in 2014 -2015 (with the participation of NMSs/Universities)
- FEEDBACK FROM YOU ALREADY NOW IS WELCOME ON THIS IDEA

Upcoming activities

EWGLAM/SRNWP meetings

- 30 September – 3October 2013: Turkey, Antalya
  → website and invitations soon!

- 29 September – 2 October 2014 : Germany, Offenbach (instead of Italy)

- 2015: Bulgaria, Luxemburg, Iceland, Romania, Russia, Serbia?

- 2016: Italy

A personal view on C-SRNWP

- Not for driving plans explicitly (that's well organized and happens at national and consortium level)
- Tackle NWP problems unsolvable at scientific level (organizational issues) but not yet treated
- Spot such problems and verify its relevance for the whole community → adjust consortia preferences → put it forward efficiently

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Thank you for your attention!

Concerns

Expert Team composition

- ET chairs are missing for: Dynamics, Physics, Surface, System aspects
- ET members remain available
- Possible reasons for lack of chairs:
  - voluntary work
  - no