

The new EUMETNET SRNWP-EPS II Project

José A. García-Moya¹, Chiara Marsigli², Francesca Marcucci³

(1) Spanish Meteorological Agency – AEMET, Spain

(2) ARPA Emilia-Romagna - Hydro-Meteo-Climate Service (ARPA-SIMC)

(3) COMET-Italian Air Force Operational Met Center

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Statements

- The enhancement of **cooperation on Limited-area Ensemble Prediction System (LAM-EPS)** was recognized as a **high priority goal** by EUMETNET members when composing the Forecasting Roadmap.
- The development of **convection-permitting ensemble prediction** capabilities in Europe is crucial for forecasting a range of weather phenomena and in particular to improve severe-weather prediction.
- The content of the requirements for the EUMETNET SRNWP-EPS Phase II (EPS-II) has a **main aim: to contribute to build very high-resolution ensemble systems in Europe, resolving the convection-permitting scale phenomena.**
- The activity is organized as two complementary tasks:
 - An application task, where new products and methodologies for calibration of LAM ensembles for extremes and for probabilistic prediction of thunderstorms are developed
 - A research task, where the sensitivity and complementarity of the models to soil conditions and PBL are studied on the basis of the forecast of selected phenomena (identified in the application task), on different areas with different LAM ensemble systems.

Statements

- The coordination of the project will be the result of a **close collaboration among the Italian and Spanish Met Services and the ARPA-SIMC from Emilia-Romagna**. The project is organized in three work packages and will have two main legs. The Application and the Research WPs and their internal coordination will play a key role in the way to reach the main aim of the project.
- The project will run for **30 months, from the 1 July 2015 till the 31 of December 2017**

Brackground

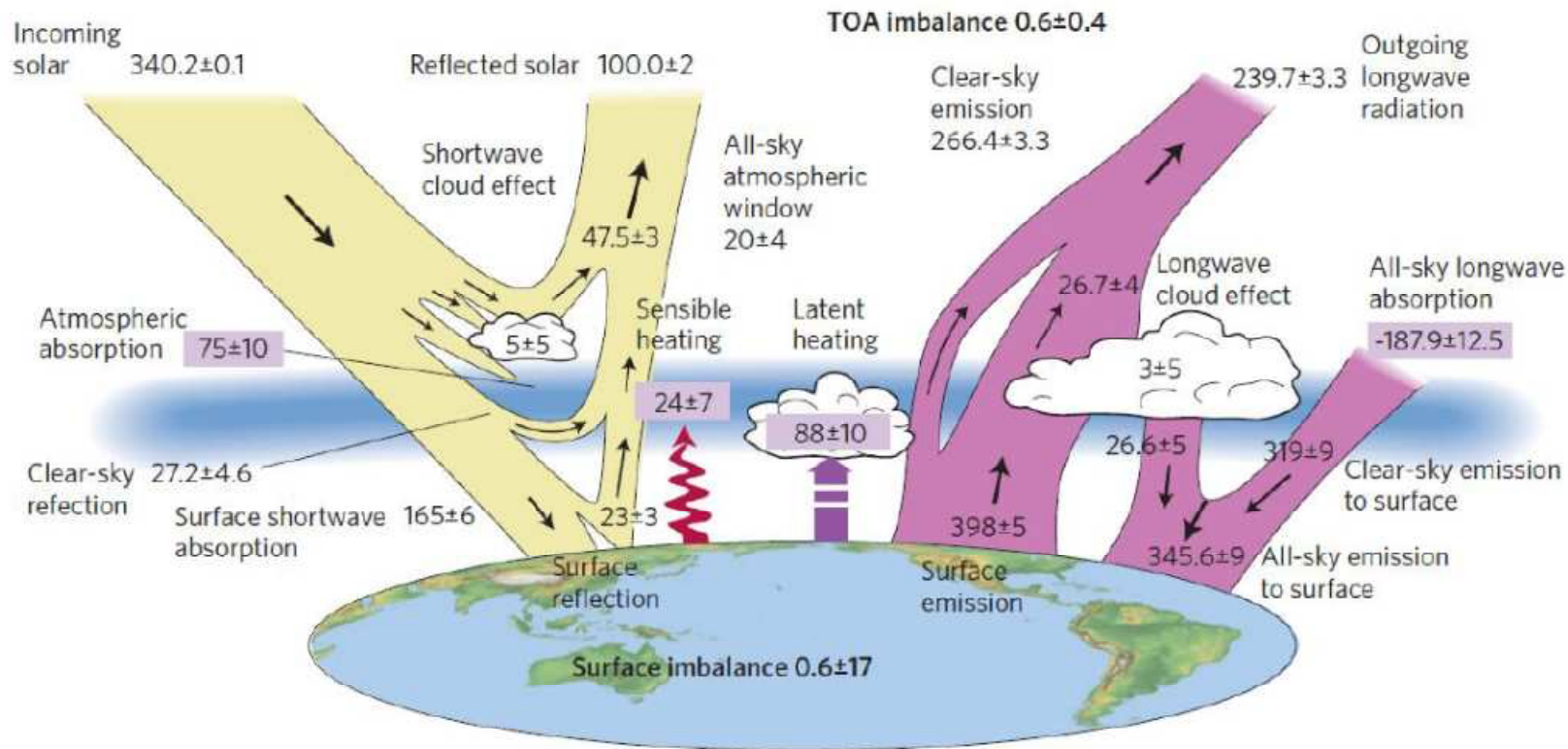
- The project aim aligns with the goal F2 of the Forecasting Roadmap: “EUMETNET will assist Members and their modelling consortia to develop their forecast models and processes in order to produce the best possible short term forecasts for their clients”.
- Nowadays, **probabilistic forecasting is an essential component of the development of models and processes for short-range forecasting.**
- “EUMETNET will have facilitated, through a strategic discussion among Members, the identification and initiation of projects for collaboration, harmonization and coordination in support of more efficient forecasting systems, and improved regional and short range weather forecasts”.

Research task

- The research task is related to the topics “Modelling and data assimilation of ground surface properties” and “how EPS could contribute to help understand model sensitivities”.
- This task is aimed at addressing uncertainties related to surface and soil properties and their relevance for convection-permitting EPS, as well as uncertainties associated to PBL modeling.
- Research may focus on topics such as:
 - Assimilation of surface/soil property data, perturbations of soil scheme and PBL scheme parameters.
 - Introduce uncertainty of land use data in the perturbations.
- Exchange of experience in these fields will be fostered by the Project and followed by research work (in-kind) in coordination with the work done in the Application WP.

Research task

Modern (global and annual averaged) Earth energy budget



Stephens et al. (2012), Nature Geoscience 10.1038/NGEO1580

Organization

Institution	Role	Key personnel	
Agencia Estatal de Meteorología – AEMET - Spain	Project Manager	Jose A. Garcia-Moya	funded
ARPA-SIMC	Scientific coordinator	Chiara Marsigli	funded
USAM/CNMCA	National coordinator for Italy	Francesca Marcucci	in-kind
Expert Team	Informing the Project Manager about strategic developments in Europe in the field of Ensemble Prediction System and probabilistic forecast	Chair-person: Scientific coordinator	-
Users' Group	Consultancy about the Application Tasks developments and their use in an operational environment	Chair-person: Scientific coordinator	-
Members (The following 21 Members agreed, in principle, to participate in the next phase of the SRNWP-EPS Activity)			
Institution	Country	Key personnel	
CHMI	Czech		in-kind
DHMZ	Croatia		in-kind
DMI	Danemark		in-kind
FMI	Finland		in-kind
IMGW	Poland		in-kind
IMO	Iceland		in-kind
IPMA	Portugal		in-kind
KNMI	The Netherlands		in-kind
Met Eireann	Ireland		in-kind
Met No	Norway		in-kind
Met Office	UK		in-kind
MeteoSwiss	Switzerland		in-kind
OMSZ	Hungary		in-kind
RHMSS	Serbia		in-kind
RMI	Belgium		in-kind
SEA	Slovenia		in-kind
SHMU	Slovakia		in-kind
SMHI	Sweden		in-kind
ZAMG	Austria		in-kind

Members



The Project Manager

- **Main duties:**
 - Ensure development of the Project and the fulfilment of all Deliverables and Milestones
 - Coordination with the Scientific Coordinator to guarantee the **proper coordination between Application and Research Tasks**
 - Reporting to and coordinating with EUMETNET STAC and Secretariat and the FPM (Forecasting Project Manager).
 - Liaising with C-SRNWP and other EUMETNET Programs.
 - Liaising with Programmes beyond EU such as WMO WG for Ensemble Prediction System and TIGGE-LAM
 - Supervising the organization of the meetings and liaising with the personnel working in the project to ensure smooth development
 - Participating in all the meetings and WebEx conferences organized in the framework of the Project, EUMETNET core team meeting and some of the FP meeting.
 - **Coordination with the Eumetcal project** in order to organize possible calls from Eumetcal for participation in training activities about probabilistic forecast and ensemble prediction systems.
 - **Coordination with SESAR project** to exchange experiences in the field of use of probabilistic forecasts for Aviation and Airport activities.

The Scientific Coordinator

- **Main duties:**
 - Ensure that the Project follows the state-of-the-art of Ensemble Prediction System and probabilistic forecast
 - Supervising the scientific goals and methodologies of the Project Tasks
 - **Coordinate with the personnel involved in the Application and Research Tasks**
 - Reviewing the Deliverables of the Projects
 - Coordinate with the C-SRNWP Expert Team on Predictability and EPS
 - **Liaising with ECWMF Research Department, WMO WG for Ensemble Prediction System, TIGGE-LAM**
 - Help in supervising the organization of the meetings and liaising with project teams to ensure smooth development
 - Participating in all the meetings and WebEx conferences organized in the framework of the Project

Expert Team

- **Main duties:**
 - Informing the Project Manager about strategic developments in Europe in the field of Ensemble Prediction System and probabilistic forecast.
 - Attending the Expert Team meetings and delivering relevant information and documents required for the elaboration and completion of the deliverables of the Project.
- **The ET will be formed by one representative for each participating NMS, which will act as contact point between the coordinators and the NMSs.**
- The C-SRNWP ET-EPS will be contacted to advice the project acting as part of the Expert Team on a voluntary basis for NMSs which are not participating in the project.
- Communication between the ET members will be guaranteed through an annual meeting (organized through the planned workshops and conferences) and additional WebEx Meetings where necessary.
- Reports of the meetings will be circulated to members.

Participating NMSs

- **Main duties:**
 - Nominate on contact point as a member of the Expert Team
 - **Providing in-kind contribution for the Research Tasks**
 - Providing in-kind contribution by attending meetings and delivering relevant information and documents required for the elaboration and completion of the deliverables of the Project
 - Supply members for the User Group among the National Institutions interested in use of probabilistic information for weather forecasting

Users Group

- A User Group (UG) will be formed including representatives of National Institutions, interested in use of probabilistic information for weather forecasting.
- A special called for the Energy Sector in Europe will be made to include representatives of that sector in the Users' Group on a voluntary basis.
- A link with SESAR will also be established to ensure proper coordination, also aiming at feed-backs from the aviation sector.
- ECOMET will invite to the UG to properly represent the private sector.
- Communication with the User Group will be guaranteed, if the budget allows, through one dedicated face-to-face meeting and email list.
- Reports of the meeting will be circulated to members.

Work Packages

WP 1	<p>Application Work Package</p> <p>Develop new products and methodologies for calibration of LAM ensembles for extremes and probabilistic prediction of thunderstorms and fog</p>
WP1.1	<p>Inventory of existing methods and SW already developed by the Members and literature review</p>
WP1.2	<p>Define and develop new products and methodologies for computation/elaboration:</p> <ul style="list-style-type: none"> • calibration of ensembles, mainly for extremes (wind, precipitation, temperature, ...); • products for probabilistic prediction of thunderstorms (clear benefit, link with research, link with EMMA), fog
WP 2	<p>Research Work Package</p> <p>Understanding the sensitivity of ensemble prediction systems to soil conditions and PBL and their effect on the prediction of selected phenomena (fog and thunderstorms)</p>
WP2.1	<p>Investigating sensitivity of models to soil moisture and PBL</p>
WP2.2	<p>Investigating the ratio of sensitivity to different sources of surface and upper air uncertainty at the CP scale</p>

Work Packages II

WP 3	Coordination
WP3.1	Internal coordination between the Application and Research tasks
WP3.2	Coordination with external partners and identification of possible follow up activities