Ongoing activities of the SRNWP Expert Team on surface processes

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Outline

- Basic facts about **EUMETNET** (European Meteorological Network) and **SRNWP** (Short Range Numerical Weather Prediction)
- Main activities of the C-SRNWP programme
- Activities of the SRNWP ET on surface processes
  - Exchange of information
  - Exchange of datasets
- Future of C-SRNWP
EUMETNET

- Economic Interest Group with 29 members (Steve Noyes, ED)

- Organisation of cooperative programmes:
  - **Observations**: EUCOS, E-SURFMAR, E-ASAP, E-WINPROF, OPERA, E-GVAP
  - **Forecasting**: C-SRNWP, SRNWP-I, SRNWP-V, EMMA, EUMETCAL
  - **Climate**: ECSN, EUMETGRID

- Programmes for the next period (2013-2017) to be approved by the end of this year
Scientific collaboration between NMSs on LAM

- **EWGLAM** (European Working Group on Limited Area Modelling) was established in 1979 (Norrköping)

- **SRNWP** (Short Range Numerical Weather Prediction Network) was established in 1993 (Toulouse)

- Since 2000, SRNWP is a EUMETNET programme with the participation of some non EUMETNET countries
SRNWP Consortia in Europe

ALADIN
- Algeria
- Belgium
- Bulgaria
- France
- Morocco
- Poland
- Portugal
- Tunisia
- Turkey

Austria
- Croatia
- Czech Rep.
- Hungary
- Romania
- Slovakia
- Slovenia

COSMO
- Germany
- Greece
- Italy
- Poland
- Romania
- Russia
- Switzerland

HIRLAM
- Denmark
- Estonia
- Finland
- Iceland
- Ireland
- Lithuania
- Netherlands
- Norway
- Spain
- Sweden

UKMO
- United Kingdom
- Norway

35 countries
C-SRNWP : main objectives

- Improved scientific collaboration between 5 LAM consortia (ALADIN, COSMO, HIRLAM, LACE, MetOffice) in Europe for NWP through the initiation and execution of joint projects
- Enhanced operational cooperation through harmonisation of standard and increased interoperability between models
- Effective diffusion of NWP knowledge and enhanced practical cooperation in NWP through efficient information exchange:
  - Organisation of workshops
  - Thematic projects
  - SRNWP web site: http://srnwp.met.hu
C-SRNWP: governance

- SRNWP Advisory Committee: head of LAM consortia (5) and PM
- Expert Teams (ET)
- Annual business meeting (EWGLAM/SRNWP)
- Other SRNWP related EUMETNET programmes:
  - Interoperability: SRNWP-I
  - Verification: SRNWP-V
List of Expert Teams

- Cross-consortia working groups (established during the 2007 EWGLAM/SRNWP meetings):
  - Data assimilation and use of observations
  - Diagnostics, validation and verification (=> SRNWP-V)
  - Dynamics and lateral boundary conditions
  - Link with applications
  - Physical parameterizations (upper air)
  - Predictability and EPS
  - Surface and soil processes (model and data assimilation)
  - System aspects (=> SRNWP-I)
Expert Teams : main tasks

- The members are nominated by the consortia (2 members per consortium in average), so they represent their respective LAM consortia (chairperson is elected by the ET members)
- ETs prepare workplans for their area of interest
  - Specific areas of interest for cross-cooperation
  - Plans for workshops, meetings
- Help in the organisation of the annual EWGLAM/SRNWP meeting (review talk + dedicated session)
- Execution of the workplan (frequent email exchanges : generic email addresses, informal meetings, research stays, projects, workshops, etc …)
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<th>Composition of SRNWP Expert Teams (1)</th>
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<tr>
<td><strong>CORE MEMBERS</strong></td>
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<tr>
<th><strong>Data assimilation and observations</strong></th>
<th>ALADIN</th>
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<th>HIRLAM</th>
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<td><strong>Diagnostics, verification</strong></td>
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<td><strong>Links with applications</strong></td>
<td>M. Monteiro</td>
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<td>J. Onvlee</td>
<td>S. Jackson</td>
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<td>F. Grazzini</td>
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<td>J.-F. Mahfouf</td>
<td>J.-M. Bettems</td>
<td>L. Rontu</td>
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<td>G. Greed</td>
<td>O. Spaniel</td>
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## Composition of SRNWP Expert Teams (2)

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**ADDITIONAL MEMBERS**
Specificities of the ET on surface processes

- Increasing complexity of surface modelling and data assimilation at small scale => need to share expertise and research activities
- Promote an increased usage of data from European initiatives (EUMETSAT SAFs, EUMETNET OPERA, …)
- Share specific datasets for surface modelling and physiography data bases (field experiments, national networks):
  - Lake databases (Flake used by all consortia)
  - Local validation data over land surfaces (COLOBOC database)
Summary of achievements

- Definition of a workplan (2008-2009)
- Contribution to the organisation of the EWGLAM/SRNWP annual meetings (review talk + dedicated session)
- Documentation of the surface modelling and assimilation systems for each consortium (including ECMWF) : dedicated web page
- Interactions with the SRNWP interoperability programme : conversion of surface fields between models having different geometry and surface scheme
- Annual ET working day (Toulouse 2009, Zürich 2010, Reading 2011, Helsinki 2012)
- Promotion of lake data base activities (with ECMWF fundings) : estimation of boreal lake depths (E. Kourzeneva + M. Choulga)
- Development and maintenance of a validation database of in-situ measurements (lead by COSMO consortium)
SRNWP-COLOBOC database

- Need for near surface parameters together with soil variables and surface fluxes to evaluate land surface models and PBL schemes (different climates and soil types)
- Action started in October 2009 by sending a letter to a selection of NMS directors (SRNWP PM)
- Resources from DWD, HNMS and MCH, with support from SRNWP ET on surface aspects
- Data (meteorological parameters, soil variables, surface fluxes) from 8 European locations archived in common format (ASCII CSV) over a 6 year period (2006-2011)
- Availability through web site (protected password): www.cosmo-model.org/srnwp/content/default.htm
Final thoughts

- All resources for ET activities come from in-kind manpower => strong dependency upon the involvement of the chairperson
- No dedicated SRNWP workshop on surface processes has been organized: lakes being the main area of common interest => NETFAM and MUSCATEN workshops (2008, 2010, 2012)
- To be discussed at the next STAC/FPAC in De Bilt (4-5 October) and approved at the next EUMETNET GA in November
- C-SRNWP ET structure should remain
- ET on surface aspects: maintenance and extension of databases (COLOBOC, Lakes), evaluation of physiographic data bases, exchange of surface data from national networks