Ongoing activites 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

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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

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SRNWP Consortia in Europe

ALADIN
Algeria
Belgium
Bulgaria
France
Morocco
Poland
Portugal
Tunisia
Turkey

Austria
Croatia
Czech Rep.
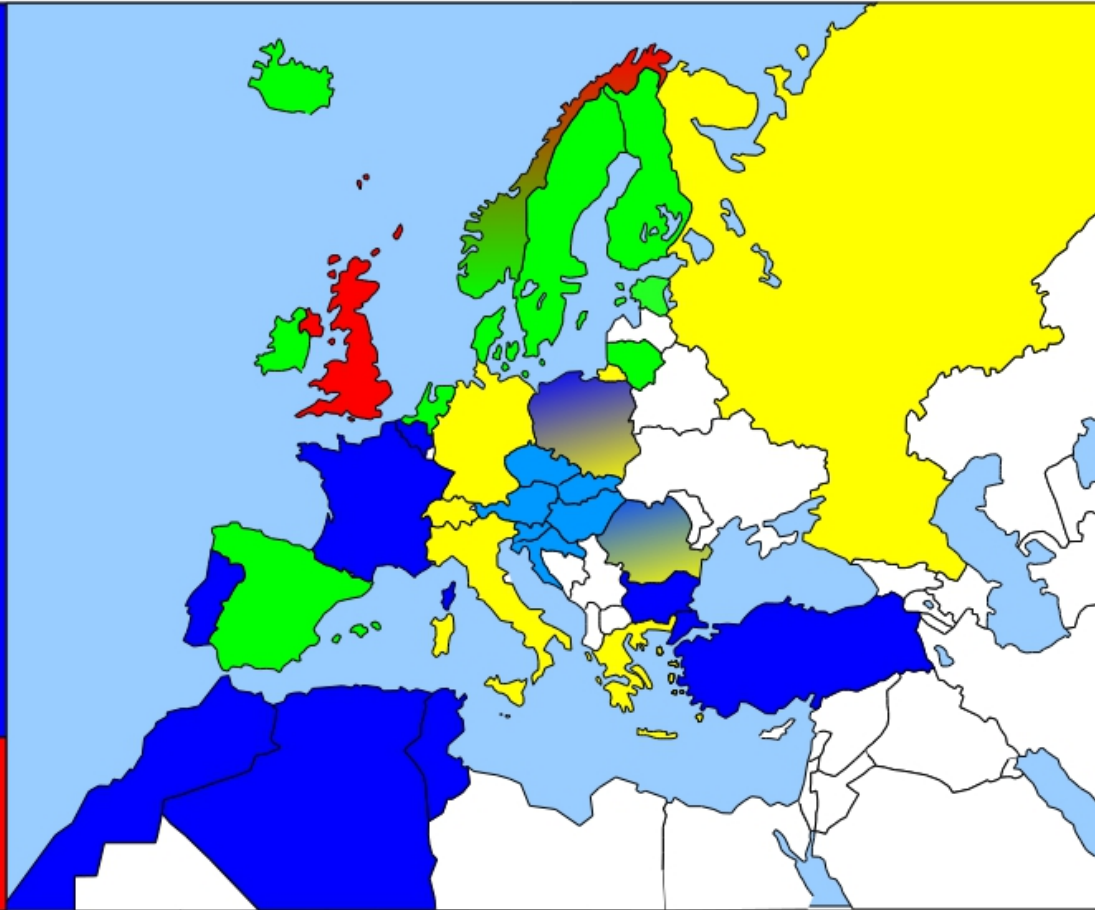Hungary
Romania
Slovakia
Slovenia
LACE

UKMO
United Kingdom
Norway

Met Office

HIRLAM
Denmark
Estonia
Finland
Iceland
Ireland
Lithuania
Netherlands
Norway
Spain
Sweden

COSMO
Germany
Greece
Italy
Poland
Romania
Russia
Switzerland

35 countries

COSMO
CONSORTIUM FOR SMALL SCALE MODELING

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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

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C-SRNWP : governance

- Programme Manager (coordinator) : Andras Horanyi (2008-2011), Gergeli Bölöni (2011-2012) from OMSZ
- 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

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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)

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Expert Teams : main tasks

- The members are nominated by the consortia (2 members per consortia 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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Composition of SRNWP Expert Teams (1)

	ALADIN	COSMO	HIRLAM	METOFFICE	RC LACE	ECMWF contact
Data assimilation and observations	C. Fischer	C. Schraff	J. Bojarova	**B. Macpherson**	T. Kovacic	L. Isaksen
Diagnostics, verification	J. Stein	F. Gofa	X. Yang	**C. Wilson**	D. Klaric	D. Richardson
Dynamics + LBC	P. Benard	M. Balhauf	M. Hortal	N. Wood	F. Vana	N. Wedi
Links with applications	M. Monteiro	P. Ekert	**J. Onvlee**	S. Jackson	B. Bica	
Physical parametrizations	V. Masson	F. Grazzini	B. Hansen Sass	P. Clark	N. Pristov	A. Beljaars
Predictability and EPS	A. Deckmyn	**C. Marsigli**	T. Iversen	W. Tennant	Y. Wang	M. Leutbecher
Surface processes	**J.-F. Mahfouf**	J.-M. Bettems	L. Rontu	M. Best	A. Trojakova	G. Balsamo P. De Rosnay
System aspects	R. El Khatib	**U. Schaettler**	U. Andrae	G. Greed	O. Spaniel	A. Hofstadeler

CORE MEMBERS

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Composition of SRNWP Expert Teams (2)

	ALADIN	COSMO	HIRLAM	METOFFICE	RC LACE
Data assimilation and observations	L. Berre M. Derkova	M. Tsyrulnikov	H. Schyberg	S. Ballard R. Renchaw	M. Jurasek T. Kovacic
Diagnostics, verification	M. Jerczynski A. Kann	A. Raspanti	U. Andrae C. Fortelius	M. Mittenmaier N. Roberts	L. Kalin
Dynamics + LBC	P. Smolikova P. Termonia	L. Torrisi	I. Martinez	T. Davies C. Smith	J. Masek
Links with applications	J. Nicolau	F. Gofa	P. Unden	M. Bush	
Physical parametrizations	T. Kral	D. Mironov	S. Tijm	A.Brown P. Field	D. Banciu
Predictability and EPS	F. Bouttier A. Joly	A. Walser S. Thies	J. Barkmeijer C. Santos	S. Beare	
Surface processes	R. Hamdi	J. Helmert	E. Kurzeneva	B. Macpherson G. Rooney	J. Cedilnik
System aspects	A. Bogatchev	J.-M. Bettems	T. Moene X. Yang	R. North B. Wright	

ADDITIONAL MEMBERS

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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)

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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**

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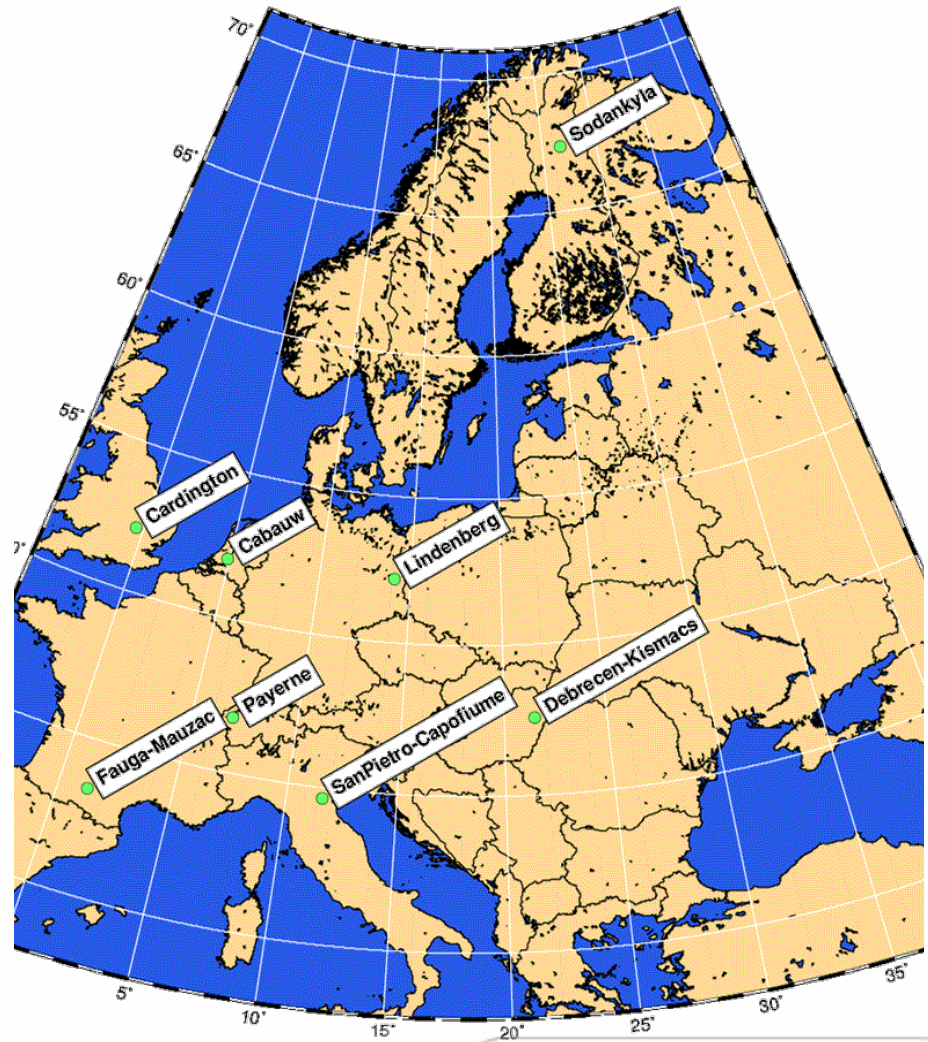
Final thoughts

- All resources for ET activities come from in-kind manpower => strong dependency upon the involvment 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)

- Next EUMETNET forecasting programme (2013-2017) : Nowcasting, EurEPS, **C-SRNWP**, EMMA, EUMETCAL, FPM

- 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

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