Austria (ZAMG)

- Implementation and development of AROME
- Upgrade ALADIN-LAEF
- Research on land surface data assimilation, e.g. ASCAT.

Belgium (RMI)

- Multi-scale behavior of ALARO-0 for extreme summer precipitation over Belgium
- Perturbation approach for the deep convection parameterization scheme
- Surface Assimilation with SURFEX EKF

CROATIA (DHMZ)

- Data assimilation operational since November 2011 with revised CANARI settings

- DA research:
  - seasonal B matrix computed and analyzed
  - technical modification of reflectivity operator for use in ALARO

- 2 km ALARO NH operational forecast up to 24 hours

Czech Republic (CHMI)

- Evolution of dispersion spectra in blending and BlendVar cycles
- Development of the configuration "3MT in ARPEGE„
- Radiative transfer scheme - new gaseous transmissions

Denmark (DMI)

- Operational activities on Ensemble forecasting and on Nowcasting are are still based on Hirlam. - Harmonie model is run for SW Greenland and for an area around Denmark.

- Parameterizations for solar radiation are developed using long time series of measured global - and diffuse radiation. Results of measured and simulated radiation are presented for a Danish site measuring global and diffuse radiation. Forecasts of global radiation are also studied using the DMI ensemble prediction system.

- A new verification score `Significant Weather Score´ (SWS) has been tested during the last year. The verification presented for a Danish domain using Harmonie at 2.5 km grid shows favourable results when compared with ECMWF forecast data for accumulated precipitation.

Estonia (EMHI)

- Operational environment has not changed since last year.

- Active work on testing HARMONIE, last planned upgrade of large-scale
- HIRLAM

- Upgrade of computer cluster planned in 2013, any suggestions concerning hardware and software are welcome.

SRNWP at FMI

Markku Kangas, Kalle Eerola, Sami Niemelä, Marjo Hippi, Timo Vihma

- 2 operational LAM weather forecast models : Hirlam (7.5 km), Harmonie (2.5 km)
- Several related applications (e.g. LAPS = Local Analysis & Prediction System)
- Modeling highlights : Pedestrian sidewalk & Arctic and Antarctic modeling

34th EWGLAM & 19th SRNWP meetings
Helsinki, 8-11 October, 2012

THE NWP SYSTEMS AT METEO-FRANCE with contributions from the CNRM/GMAP staff
Météo-France

General features of the 4 Overseas ALADIN Models operational at MF

September 2012 changes in the ARPEGE-ALADIN operational suite

The ARPEGE Ensemble Prediction system

September 2012 changes in the AROME operational suite

(+ starting work for future 2014 AROME-France at 1.3km)

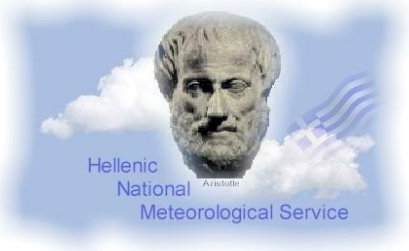
Deutscher Wetterdienst
Wetter und Klima aus einer Hand

National Poster of DWD (Germany)

Detlev Majewski; e-mail: detlev.majewski@dwd.de

- Operational convection permitting EPS since 22 May 2012
- 21-h forecasts, RUC (every 3 hours), 20 members
- Statistical evaluation of summer period (June to August)
- Forecasters‘ feedback

GREECE (HNMS)



- Operational use of COSMOGR at ~7 and 2km (00, 12UTC cycles) with nudging analysis (add sea observations)
- Implementation of a Nowcasting system
- Use of COSMO-ART and COSMO-CLM for air pollution and climate applications - WAM nested wave model driven by COSMOGR2 every 3hours (+SWAN)

Hungary (OMSZ)

- Operational configurations (ALARO, AROME, LAMEPS): recent improvements in ALARO wind gusts
- Data Assimilation: impact of conventional and radar observations in AROME; AMV impact and LAM EDA background error simulation in ALADIN/ALARO
- Preliminary studies with an AROME EPS prototype (ECMWF Special Project together with Meteo-France)

Italy (CNMCA)

- CNMCA uses operationally a pure ensemble data assimilation (LETKF with 40+1 HRM members) to initialize the deterministic COSMO-ME model (7km), since 1 June 2011.

- It has been planned to substitute HRM with COSMO model in the CNMCA LETKF system. Preliminary results for spring-summer seasons show small differences in innovation statistics and no significant impact in objective verification.

- Assimilation of AMSU-A radiances over sea has a small positive impact; further investigations on the vertical localization are ongoing.

KNMI HARMONIE R&D and operations

- New supercomputer and operational setup
- Experiences with HARMONIE
- Focus on data assimilation.....
- and the development of a small HARMONIE ensemble

Poland (ALADIN)

- New operational forecast products, preparation of new operational suite: 320 x 320 x 60, 7.4 km resolution
- Fuzzy verification is operational now
- Multi-scale verification methods are being developed

Numerical Weather Prediction activities at IMGW - PIB

- Current: operational COSMO PL 7km based on analysis and data assimilation cycle, operational COSMO PL 2.8 km
- Plans: Increased model resolution up to 1km, if possible in quasi-operational mode
- Developments: anelastic core for future COSMO model – recent results of PP Conservative Dynamical Core

Russian Federation (COSMO)

- **Operational :** 4 times per day: COSMO-Ru07 (7x7 km, part of Europe), nested into COSMO-Ru07: COSMO-Ru-C-02 (Central region of Russia) and the COSMO-Ru-S-02 (North Caucasian region; 2 times per day: COSMO-Ru-Sib-14 (Siberian region). In progress: the new configuration of COSMO-RU for the entire territory of Russia (6.6-km spatial resolution)

- **nudging** for COSMO-Ru07 and COSMO-Ru-S-02 from 09.2012

- **EPS:** – in easy collaboration with ARPA SIMC: Development and adaptation of COSMO EPSs for the Sochi region (for meteosupport Sohi2014): as parts of COSMO Priority Project "CORSO" and WMO Project "FROST"

- **Pollution transport:** The COSMO-RU07 - ART configuration was developed and implemented for Moscow region (once a day). Tests for spreading of smoke from forest fires .

Serbia

Slovakia (NWP at SHMI)

Operative : ALADIN CY36T1 ALARO+3MT & SLHD, env. oro.
assim. cycle: CANARI surface analysis + upper-air spectral blending by DFI
(320 x 288 points dx=9.0 km, vlev=37, tstep=400 s)

Testing : - ALADIN (800 x 675 points dx = 3.3 km , vlev=62, tstep=180 s)
- radars: HDF5 → CONRAD → MF BUFR

Nowcasting: INCA2 (EU: 1671x1766, SK: 501 x 301) - C++, I/O: grb,hdf5

Slovenia (ARSO)

- operation: suite on 4.4 km resolution with data assimilation
- development Data Assimilation: i) study of the use and impact of Mode S aircraft observation ii) validation of IASI data assimilation
- research at University: analysis of energy spectra

Spain (AEMET)

- Operational HIRLAM and quasi-operational HARMONIE suite at AEMET
- Historical verification of operational LAM in AEMET .vs. ECMWF
- Research and Development activities: MOCAGE, SREPS and Data Assimilation.

Sweden (SMHI)

- Status of operational and pre-operational models including collaboration with met.no
- New developments in data assimilation, model physics and Radar pre-processing (BALTRAD)
- Status of European reanalysis (EURO4M) and project on icing of wind turbines

Switzerland

- Operational configuration of COSMO-7/-2
  on new Cray XE6 with 1728 + 4032 cores
  actual time to solution: 27 min per 33h COSMO-2 forecast
- Configuration of experimental version of COSMO-1
  1.1 km version over the Alpine region running since 1.9.12
  with continuous assimilation cycle
  and two 24h forecasts per day
- Prototype implementation (until mid 2013) of a complete COSMO-7/-2 chain on advanced hardware with aggressive use of GPU's

TURKEY (TSMS)

- Operational configurations of ALADIN-Turkey

- Marine and Weather Forecasts based ALADIN and wave model.

- *FULL*POS-2: Further developments on *FULLPOS.*

United Kingdom (MetOffice)

- clear benefit of high resolution analysis in 4km model relative to forecasts from interpolated global model analyses
- mixed impact of extra mesoscale observing systems, though radar and GNSS improve summer forecasts
- benefit of cloud assimilation in stratocumulus situation is conditional on consistent estimate of (short) covariance length scales for humidity