OPERATIONAL STATUS AUSTRIA

Operational model:

A major change has taken place since last LSC meeting in Vienna in February 2009. The operational model was upgraded to CY35t1 and full ALARO-0 physics package (including 3MT) was switched to operations.

General characteristics:

Model Version:	**CY35T1**
Horizontal resolution:	**9.6 km**
Number of levels:	**60**
Number of grid points:	**300 x 270**
Time-step:	**415 sec**
Coupling model:	**ARPEGE**
Coupling frequency:	**3 hours**
Forecast range:	**72h / 60h**
Output every:	**1 hour**
Physics:	**full ALARO-0, SK scheme, modified cloud diagnostics (near max. overlap)**
Orography:	**envelope**
Grid:	**quadratic**
Hardware:	**NEC SX-8R, 16 CPU with 0.51 Tflop (32 Gflops/CPU), 128 GB RAM, 4.4TB storage**

Table 1: Operational model setup for ALADIN-AUSTRIA

ALADIN-AUSTRIA is operationally run four times per day. The forecast range is 72h hours for the main runs (00 and 12 UTC) and 60 hours for the intermediate runs (06 and 18 UTC).

LBC retrieval/backup:

- LBC are downloaded via internet from MF; 1. Backup: Retrieval of LBC files via RMDCN from ECMWF

Archiving:

- ALADIN-AUSTRIA 00 and 12 UTC runs are archived up to 48h
- ARPEGE LBC files (LACE domain) are archived for 00, 06, 12 and 18 UTC runs

Other activities:

ALADIN/ALARO/AROME:

- CY35T1- ALARO on 4.9km horizontal resolution using 59 level; 540x501 gridpoints; 1 run per day (00 UTC, +48h); non hydrostatic mode; linear grid; mean orography; results are very similar to the 4.9km hydrostatic version; compared to operational 9.6km version there are some parameters with slightly better results (RH2M, precipitation, MSLP) and some with worse scores (T2M, ff)
- CY35T1- ALARO on 4.9km horizontal resolution using 59 level; 540x501 gridpoints; 1 run per day (00 UTC, +48h); hydrostatic mode; linear grid; mean orography; results are very similar to the 4.9km hydrostatic version; compared to operational 9.6km

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- CY35T1 – AROME on 2.5km resolution using 60 levels; ; 432x320 grid points; 1 run per day (00 UTC,+30h); non hydrostatic; linear grid; mean orography; evaluation ongoing
- One month test (December 2009) using new interpolation formula for 2m temperature and 2m relative humidity. Results are neutral/partially worse with respect to the operational run

Assimilation:

- A parallel suite was successfully set up which includes a combined 3DVar and CANARI OI assimilation in a pre-operational environment. Different to the setup at Météo France both parts of the assimilation run parallel using a 6h ALADIN forecast as first guess. The resulting analyses are finally merged by blending.
  First results show that the impact of the current assimilation system in upper air fields is very small. For 2m fields like temperature or relative humidity a slight improvement can be seen for some lead times (but even scores being worse for distinct lead times can be seen). For details see reports on www.rclace.eu .

ALADIN-LAEF:

- ALADIN-LAEF "second generation" is in operation on new ECMWF supercomputer c1a (under SMS environment).
- LAEF data is now archived in MARS archive operationally (and accessible for everyone). Backarchiving of historical ALADIN-LAEF forecasts still has to be done.

INCA:

- Operational system:
  - Precipitation every 15 min
  - Precipitation type (rain, snow, mix, freezing rain) every 15min
  - Cloudiness every 15min
  - Temperature every 1h
  - Surface temperature every 1h
  - Relative Humidity, specific humidity, dew point every 1h
  - Snowfall-line, zero-degree line every 1h
  - Wind + gusts every 10min
  - Global radiation every 1h
  - Icing potential (experimental) every 1h
  - Wind Chill every 1h
  - MOCON, CAPE, CIN, convection index … every 1h

Plans for 2009/2010:

- Operational use of 3DVAR and OI for ALADIN-AUSTRIA
- Further tests (especially stratus cases) on 4.9km (ALARO) and 2.5km (AROME)
- Operational implementation of new interpolation formula for 2m fields
- Convection triggering experiments using AROME/ALARO/INCA
- …