

Report of the Scientific Project Manager

G. Doms, DWD, 4th COSMO General Meeting, Warsaw, Poland

Status of the LM

LM Version 2.13 (18 January 2002)

- Option for use of Wind profiler/RASS reports
- Adjustments for cloud ice within nudging

LM Version 2.14 (15 February 2002)

- SLEVE coordinate
- Height of snow-fall limit
- Adaptions for the cloud ice scheme

LM Version 2.15 (20 March 2002)

- Reformulation of 10-m wind caclulation at SYNOP stations

LM Version 2.16 (28 March 2002)

- Bug correction in the surface layer scheme

LM Version 2.17 (8 May 2002)

- Multi-layer soil model
- Kain-Fritsch convection scheme
- Optimizations for the TKE-scheme and for I/O

LM Version 2.18 (2 July 2002)

- Prognostic Precipitation
- Boundary data defined on frames
- Changes in the 2-timelevel scheme

Planned releases in 2002 / 2003

- Tuning of the cloud-ice scheme (Parallel test suite)
- Code reorganization and optimization of the TKE scheme
- Adaptions for the CLM (restart, NetCDF, external parameters)
- ...

Meetings and WG Activities

7th Meeting of the Steering Committee

20 December 2001, Roma, Italy

- approval of the WP
- WP lists and descriptions on the Web (member area)
- COSMO LEPS at ECMWF

WG3-WG5 Parallel Meeting

6-8 February 2002, Torino, Italy

- Short abstracts, discussion results on the web-site

Meeting of the WP Coordinators

23 May 2002, Offenbach, Germany

- current status of WPs, model deficiencies
- proposals for new WPs
- some preparations for the annual meeting

3rd LM User Workshop

27-29 May 2002, DWD, Langen, Germany

- Research activities with LM at universities and institutes
- Participation of CLM group
- Tutorial

WG6 Meeting

12 June 2002, DWD, Offenbach, Germany

- Interpolation programs LM2LM, INT2LM - Organisation of a LM data assimilation cycle

COSMO-Workshop on Numerical Methods

24 September 2002, Warsaw, Poland

4th COSMO General Meeting

25- 27 September 2002, Warsaw, Poland

Guest Scientists

- Guest Scientists

Zavisar Janjic (NCEP) at DWD in June (4 weeks)

Bill Skamarock (NCAR) at DWD in September (2 days)

- Internal Visits

A. Gassmann, D. Cesari, ...

COSMO Publications in 2002

Newsletter No. 2 (19 + 7 Contributions)

TR No. 3: Monotonic Diffusion (Doms)

TR No. 4: LLM (Herzog, Vogel, Schubert)

TR No. 5: EUCOS (Bettems)

Papers in Journals and Proceedings (2002)

E. Heise and R. Schrodin:

Aspects of Snow Modelling in the Operational Short Range Weather Prediction Models of the German Weather Service.

Computational Technologies, Vol. 7

H.-J. Herzog, G. Vogel and U. Schubert:

LLM - a Nonhydrostatic Model Applied to High-Resolving Simulations of Turbulent Fluxes over Heterogeneous Terrain.

Theoretical and Applied Climatology, 73

M. Anadranistakis, K. Lagouvardos, V. Kotroni and K. Skouras: Combination of Kalman Filter and Empirical Method for the Correction of Near-Surface Temperature Forecasts: Application over Greece.

Geophysical Research Letters, 29

J. Steppeler, G. Doms, U. Schättler, H.-W. Bitzer, A. Gassmann, U. Damrath and G. Gregoric:

Meso-Gamma Scale Forecasts Using the Non-hydrostatic Model LM.

Meteorology and Atmospheric Physics, 78

J. Steppeler, R. Hess, U. Schättler and L. Bonaventura:

Review of Numerical Methods for Nonhydrostatic Weather Prediction Models. *Meteorology and Atmospheric Physics, 78*

J. Steppeler, H.-W. Bitzer, M. Minotte, and L. Bonaventura:

Nonhydrostatic Atmospheric Modeling using a z-Coordinate Representation. *Monthly Weather Review, 130*

M. Tomassini, G. Gendt, G. Dick, M. Ramatschi and C. Schraff:

Monitoring of Integrated Water Vapour from Ground-Based GPS Observations and their Assimilation in a Limited-Area NWP Model.

Physics and Chemistry of the Earth, 27

G. Doms:

The COSMO Consortium in 2000-2001. *LAM Newsletter, No. 31*

G. Doms, A. Gassmann, E. Heise, M. Raschendorfer, C. Schraff and R. Schrodin:

Parameterization Issues in the Non-Hydrostatic NWP-Model LM.

ECMWF Seminar Proceedings 2002

Registered Scientific Users of LM outside COSMO

Institution	Country	Research Activities
Academy of Science	Bulgaria	unknown
Academy of Sciences	Czech Republic	Clouds and precipitation
Alfred Wegener Institut	Germany	Cloud physics
Frontier Research	Japan	Tests on time-splitting methods
German Aerospace Centre	Germany	Turbulence, model intercomparison
GKSS Research Centre	Germany	regional climate
Institute for Tropospheric Research	Germany	Z-coordinate, turbulence
Konrad-Zuse Institut	Germany	Scientific visualization
Meteorological Research Institute	Japan	Model comparison
Meteorological Research Institute	Korea	unknown
MIT	USA	unknown
Nat. Inst. of Meteorol. and Hydrolo.	Romania	Test simulations
Norwegian Meteorological Institute	Norway	Model intercomparison
NCAR	USA	unknown
PIK	Potsdam	Regional climate studies,
Swiss Institute of Technology (ETH)	Switzerland	Regional climate studies
Turkish State Met.	Turkey	Test simulations for coastal winds
University of Berlin	Germany	unknown
University of Bern	Switzerland	Land use and regional climate
University of Bonn	Germany	Initialization, statist. postprocessing
University of Bremen	Germany	Remote sensing
University of Cologne	Germany	unknown
University of Dresden	Germany	unknown
University of Frankfurt	Germany	Numerics and cloud physics
University of Hamburg	Germany	unknown
University of Hannover	Germany	Icing, atmosphere-surface interaction
University of Hohenheim	Germany	Assimilation of LIDAR data
University of Karlsruhe	Germany	Soil modelling, case studies
University of Leipzig	Germany	Cloud physics, hydrology
University of Ljubljana	Slovenia	Latent heat nudging
University of Munich	Germany	Model comparison, case studies
University of Trento	Italy	Numerics, shaved elements

[new in 2001/2002](#)