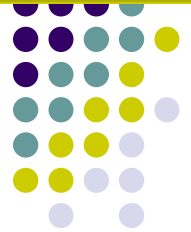# The First Year of COSMO User Support

Cosmin BARBU, Rodica DUMITRACHE, Amalia IRIZA, Bogdan MACO
Alexander SMALLA

National Meteorological Administration of Romania
Deutscher Wetterdienst

Outline:

➢Motivation

➢Main issues

➢Supported countries & status

➢Conclusions

Priority Task – "Support of COSMO licenses"

Motivation:

• by the end of 2012, the GRIB2 standard will be implemented in the COSMO software
• DWD will not invest in the adaptation of the HRM code to this standard
• due to this fact, DWD will end the support for the HRM model and expects the migration of about 25 operational HRM users to the COSMO model
• **by the end of 2013/beginning of 2014 GME will be replaced by ICON!**

Please, note the email below to the HRM users!!

☆ **Takeuchi Sabrina** Sabrina.Takeuchi@dwd.de to Majewski, anahit_t show details Aug 18 (6 days ago) ↩ Reply ▼

Hello All

New updates are available:

hrm_2.9.tar.gz   - The newest version of the hrm program.
gme2hrmV2_8.tar.gz - The newest version of the gme2hrm program.
hmx2hmyV2_7.tar.gz - The newest version of the hmx2hmy program.

These are the latest and the last updates for the HRM package.
The support for HRM will be discontinued at end of 2012.
At the end of 2013 there will be no more GME data available for running HRM in production mode.
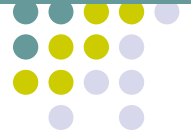Please migrate your HRM to COSMO as soon as possible.

Additionally following updates are available:
DWD-libgrib1_110128.tar.gz - This is the newest GRIB1 code available. It is the only grib1-package which can be used for both HRM and COSMO.
support.tar.gz   - The newest support library. This library may be used for both HRM and COSMO.
supplement.tar.gz   - The newest supplement routines. These routines may be used for both HRM and COSMO.
math_dwd_1.3.tar.gz   - The newest math library. This library may be used for both HRM and COSMO.

schedulerV3_1.tar.gz   - The newest scheduler version. Some batch systems and COSMO will be supported.

Outdated and never be supported:
grib1 - The very old grib1 package, for 32bit systems only
newgrib1 - The old grib1 package, but modifications have to be done for large domains
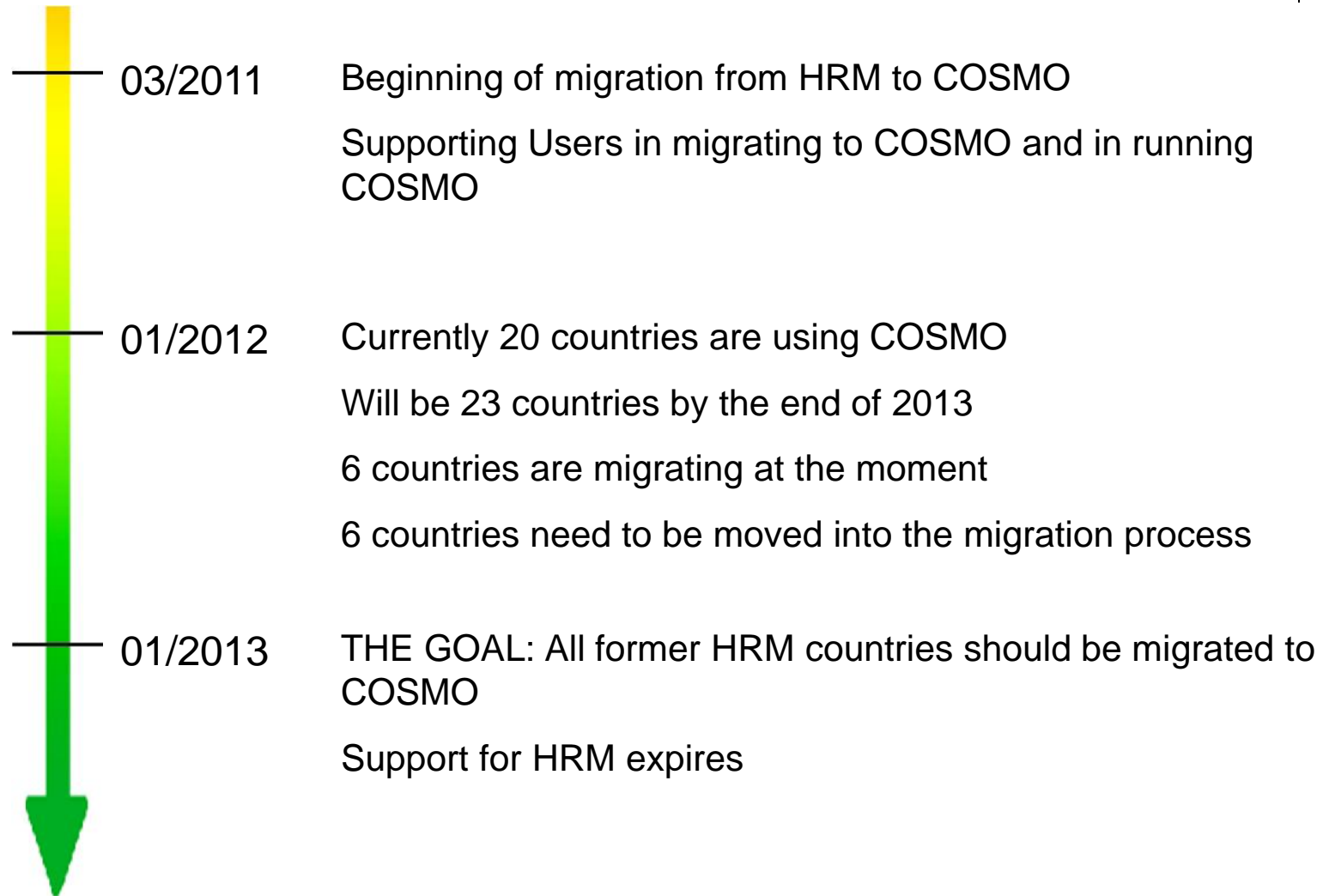
Caution:
The support for HRM will be discontinued end of 2012.
No more GME data will be available at the end of 2013.
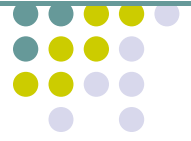Therefore migrate your HRM system as soon as possible!

COSMO is able to run with your GME data and the ICON data, which is available very soon.
For migrating to COSMO please contact Detlev Majewski (email:Detlev.Majewski@dwd.de)
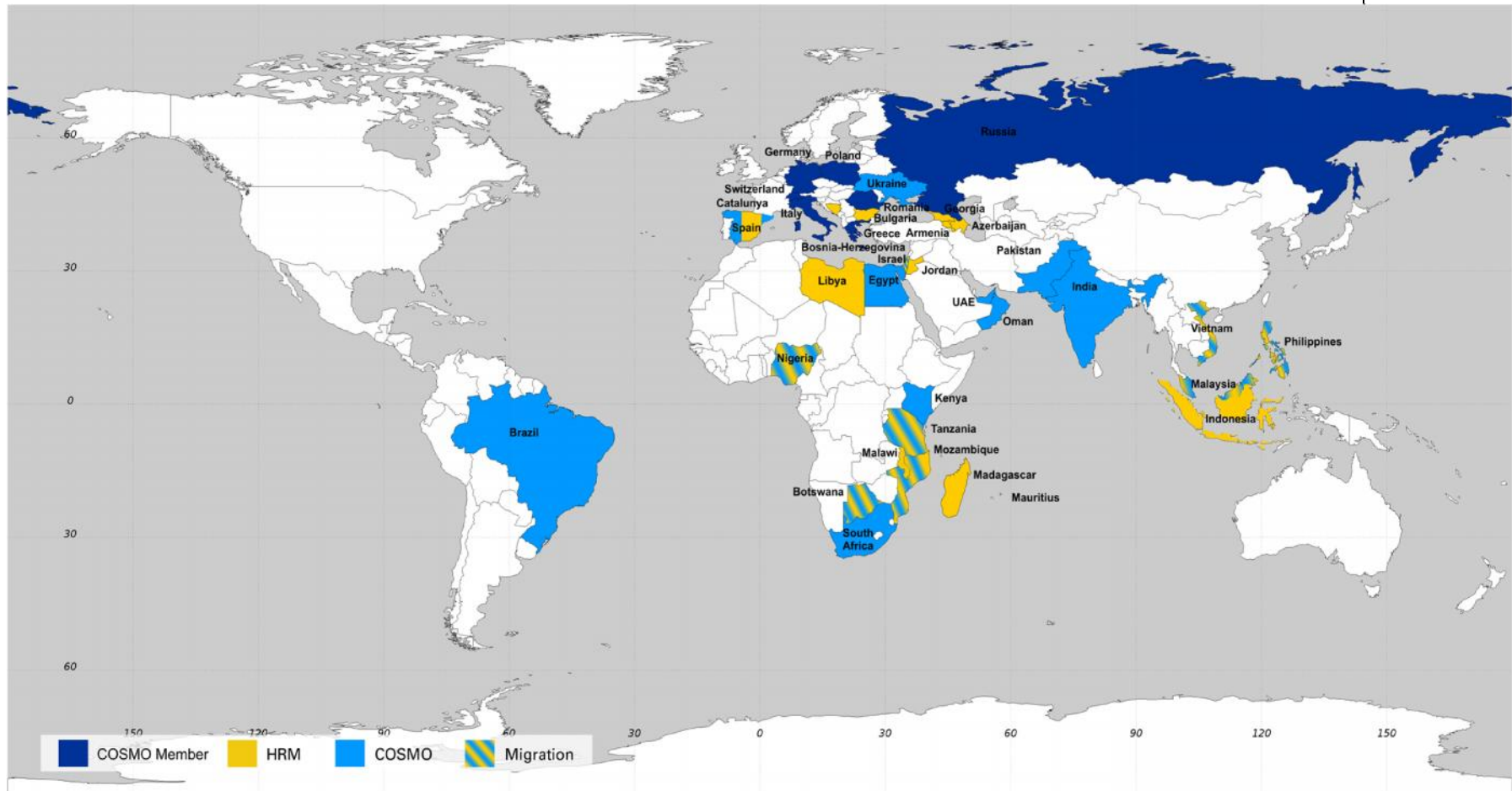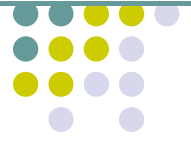
Sincerely
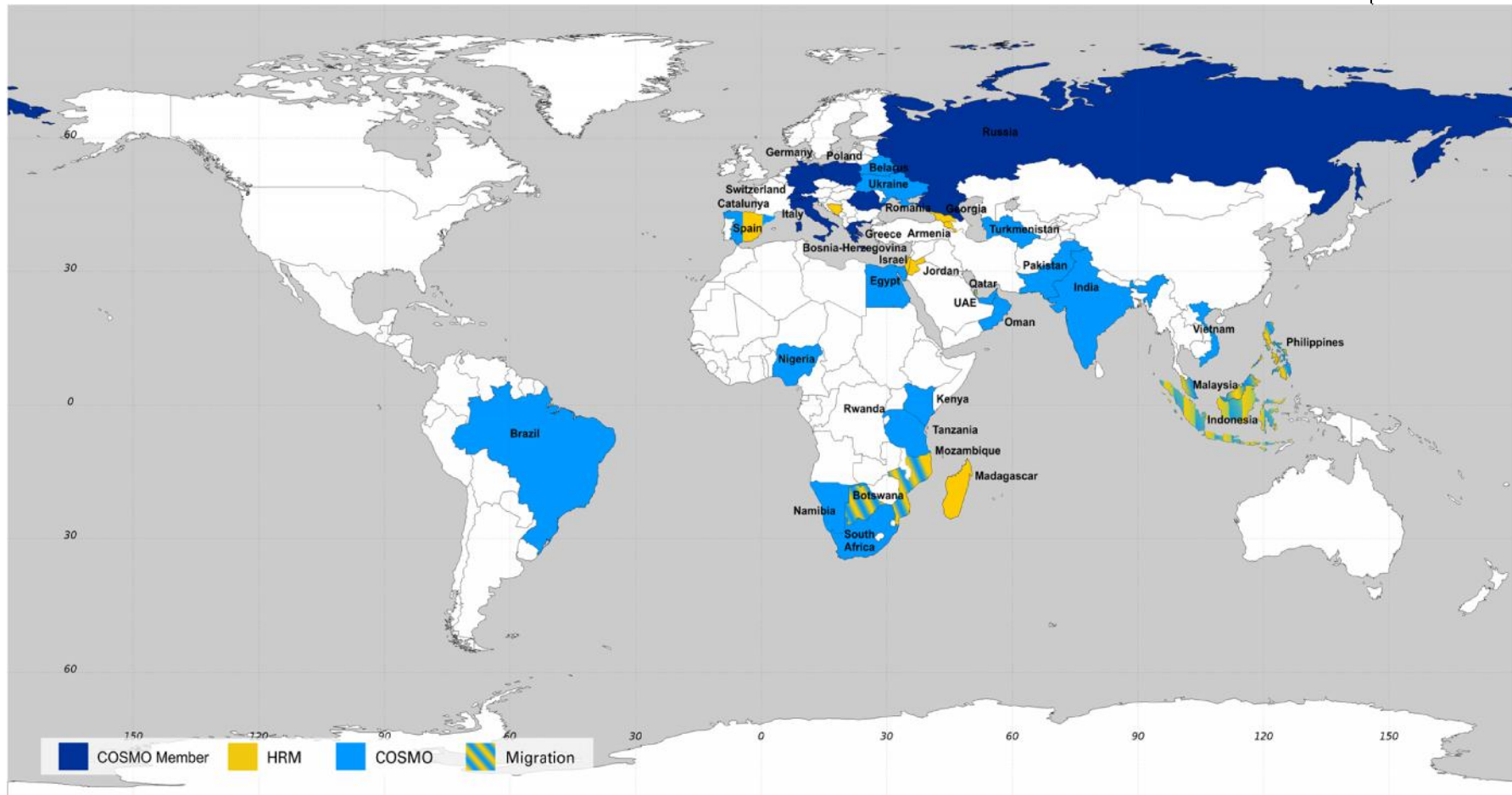Michael

Migration HRM to COSMO

03/2011 — Beginning of migration from HRM to COSMO

Supporting Users in migrating to COSMO and in running COSMO

01/2012 — Currently 20 countries are using COSMO

Will be 23 countries by the end of 2013

6 countries are migrating at the moment

6 countries need to be moved into the migration process

01/2013 — THE GOAL: All former HRM countries should be migrated to COSMO

Support for HRM expires

Map of model distribution until 2012

Map of model distribution beyond 2013

COSMO Licenses

- Scientific usage: Freely available to universities, research institutes and national weather services.

- Operational numerical weather prediction for non-COSMO members:

  Free for weather services in developing countries as well as for research institutions;
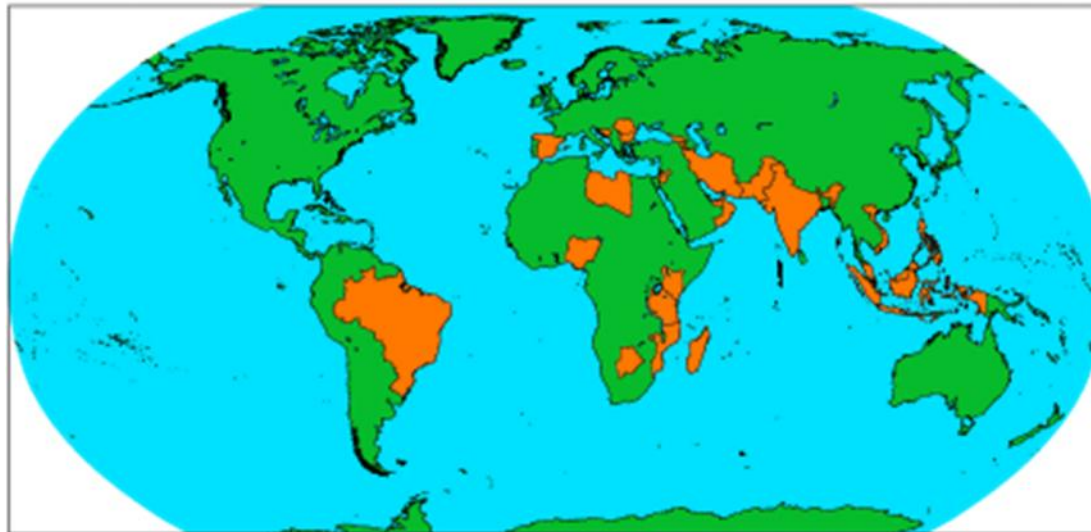
  otherwise: Annual fee of 20.000 €;

  Payed licenses: Brazil (INMET), Brazil(NAVY), Catalunya (SMC), Oman (DGMAN), United Arab Emirates (NCMS), Namibia (will start from 06/2013), Turkmenistan (will start from 06/2013), South Africa(2013), Qatar(2013), Malaysia(2013)

Priority Task – "Support of COSMO licenses"

HRM users map:

HRM users on July 2011

Armenia
Bosnia and Herzegovina
Botswana
Brazil
Bulgaria
Eurasia
India
Indonesia
Iran
Israel
Jordan
Kenya
Libya
Madagascar
Malaysia
Mozambique
Nigeria
Oman
Pakistan
Philippines
Republic of Mauritius
Romania
Spain
Tanzania
United Arab Emirates
Vietnam

Priority Task – "Support of COSMO licenses"

Main issues of the sub-task:

➤ Starting from September 2011, NMA Romania has been involved in the COSMO User Support Activities priority task:

 - supporting new COSMO users during the implementation phase through e-mail assistance and by remote access to their computer system;

 - helping the COSMO users to set up their operational COSMO applications;

 - further activities to facilitate installation and use of the COSMO - Model and the INT2LM software.

➤ As part of these activities, Romania offered support for sequential compiling without data assimilation of the model

➤ Requirements:

 - Fortran compiler: gfortran (vs. > 4.5); C compiler: gcc

 - DWD-libgrib1_110128.tar.gz

 - int2lm_110311_1.18.tar.gz & cosmo_110525_4.18.tar.gz

Priority Task – "Support of COSMO licenses"

Training support:

➢Training new scientific users during the annual "COSMO User Training" in February in Langen, Germany

➢Training new operational COSMO model users during the annual "Capacity Building in Regional Modelling"

   - two of the Romanian researchers, Mrs. Rodica Dumitrache and Mr. Cosmin Barbu attended the *Capacity Building in Regional Modelling* in Langen, between 16th - 27th July 2012, as trainers;

   - assisting the students in implementing the COSMO model on their personal computers and running test cases for domains which covered their area of interest.

Priority Task – "Support of COSMO licenses"

Web support:

➤ Creating a Frequently Asked Questions (FAQ) page for COSMO model installation issues
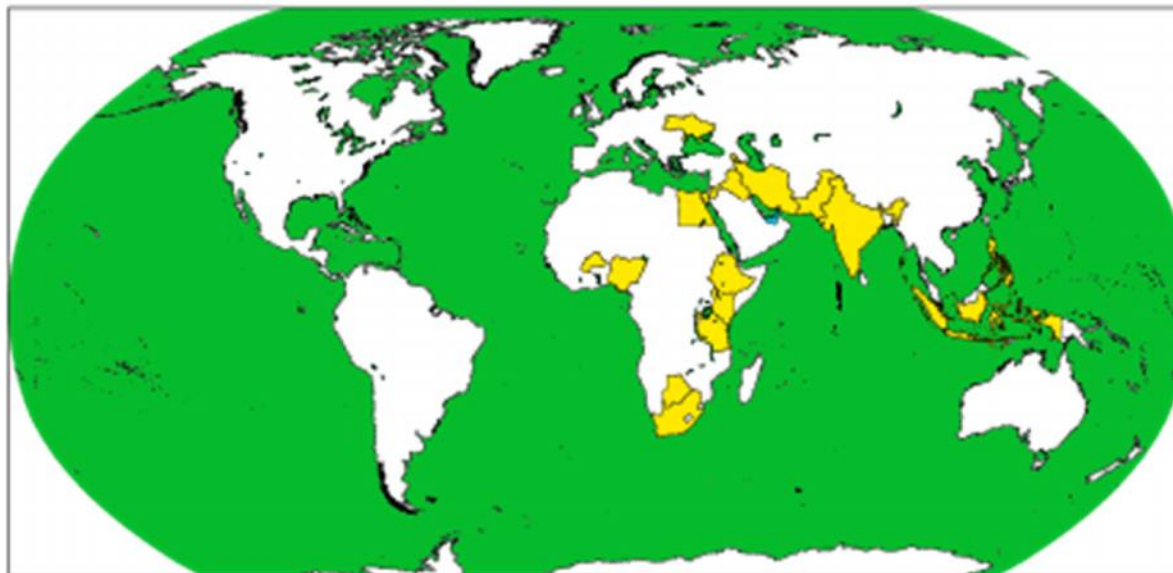

E-mail support:

➤ cosmo-support@cosmo-model.org

Priority Task – "Support of COSMO licenses"

Supported countries:

Support of COSMO Licenses – 2011 COSMO year

- Armenia
- Botswana
- Burkina Faso
- Egypt
- Ethiopia
- India
- Indonesia
- Iran
- Iraq
- Jordan
- Kenya
- Nigeria
- Pakistan
- Philippines
- Rwanda
- South Africa
- Tanzania
- Ukraine

Priority Task – "Support of COSMO licenses"

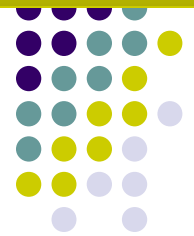| COUNTRY	PROBLEMS / STATUS
Armenia	**Problems** ✓gme2hrmV2.8 installation error ✓wrong *bitmap* file and domain settings ✓hrm compiling error **Status:** Pending
Botswana	**Problems** ✓wrong or no INPUT files ✓removing YU* files ✓wrong values for namelist parameters **Status**: Successful implementation of the model.
Egypt	**Problems** ✓domain for Egypt exceeded limits ✓wrong *invar** file ✓wrong *bitmap* file ✓namelist parameters settings **Status**: Successful implementation of the model.
IBL (Slovakia)	**Problems** ✓where to get the binaries for the model ✓producing WETTER_WW field ✓compiling with Intel compilers **Status**: Alex / Uli took over the task.
India	**Problems** ✓int2lm compiling error ✓int2lm run error (namelist parameters set incorrectly) ✓COSMO model run error (namelist parameters set incorrectly) **Status**: Successful implementation of the model.

Priority Task – "Support of COSMO licenses"

Iran	**Problems** ✓int2lm run error (namelist parameters set incorrectly) ✓COSMO model run error (namelist parameters set incorrectly) ✓explanations regarding the INPUT files **Status**: Successful implementation of the model.
Irak	**Problems** ✓ Linux version required to run the HRM and COSMO models **Status: -**
Jordan	**Problems** ✓COSMO model run error (namelist parameters set incorrectly) **Status**: Successful implementation of the model.
Kenya	**Problems** ✓compiling error (using an unavailable compiler, compiling without the required libraries) ✓compiling without the "-DNETCDF" option **Status: Pending**
Pakistan *OBS: compiling with ifort*	**Problems** - compiling with ifort ✓gfortran installation problems ✓compiling using gfortran (version older than 4.5) ✓using libraries which were not compiled with the same compiler as the model **Status: Pending**

Priority Task – "Support of COSMO licenses"

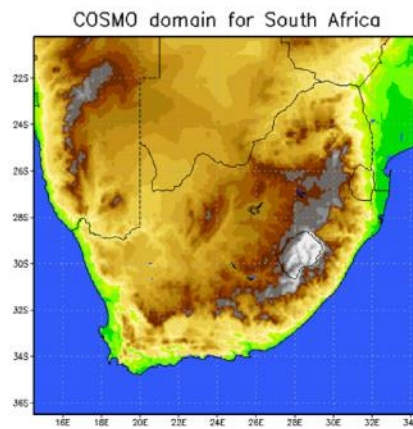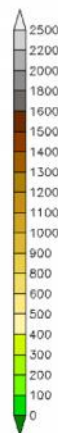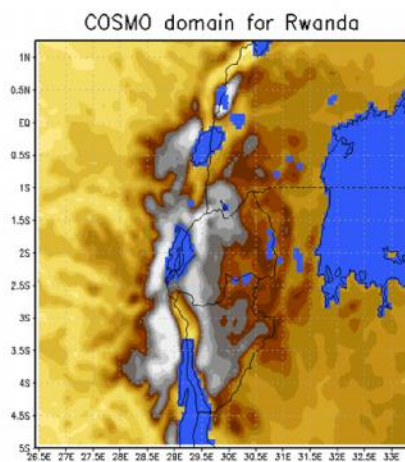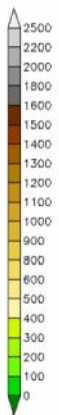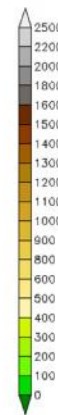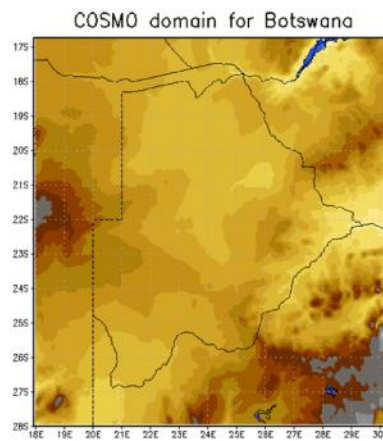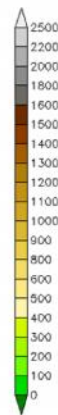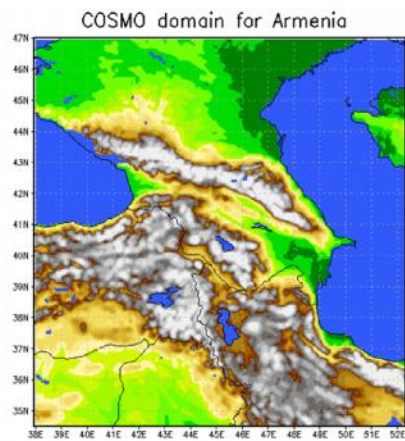| Philippines	**Problems** ✓int2lm compiling error (using an unavailable compiler) ✓COSMO model compiling error **Status**: Pending (unknown – they haven't answered back to our last email).
Rwanda	**Problems** ✓using the GME-20km test data ✓how to compile int2lm ✓removing YU* files ✓preparing INPUT files (namelist parameter values and paths set incorrectly) ✓using COSMO with a new set of dates **Status**: Successful implementation of the model.
South Africa	**Problems** ✓compiling the COSMO model (errors and necessary libraries, warnings) ✓using the *invar** file ✓preparing the INPUT files ✓exporting necessary libraries ✓removing YU* ✓because of the big size of the domain, suggestion of running the model for a smaller domain ✓identifying output directories ✓suggestions regarding the use of grads **Status**: Successful implementation of the model.

Priority Task – "Support of COSMO licenses"

Tanzania	**Problems** ✓removing YU* files ✓exporting library paths ✓setting namelist parameters correctly ✓interpolation to be done for exactly the same period of time as the one for running the model (ex: if the model is run for 6 hours, run the interpolation for 6 hours) **Status**: Successful implementation of the model.
United Arab Emirates	**Problems** ✓convert grib data to Vis5D (not available directly from the COSMO model) ✓COSMO model run error **Status**: Alex / Uli took over the task.
Ukraine	**Problems** ✓problems with parallel running of the model **Status**: Alex / Uli took over the task.
Ethiopia	**Status**: On-going

Priority Task – "Support of COSMO licenses"
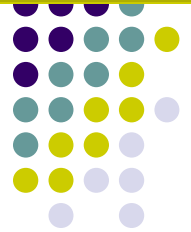
Examples of COSMO domains:
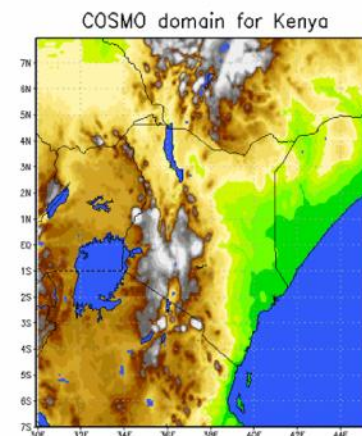
Priority Task – "Support of COSMO licenses"

Conclusions:

➢ The COSMO model has been successfully implemented in most countries which migrated from the HRM model;

➢ The training activities help potential users to get better acquainted with the COSMO model;

➢ All these activities can improve the communication between the COSMO consortium and the users of the model;

➢ Romania will be able to go on providing support in implementing the COSMO model to new users in 2012 – 2013 and participate with permanent activity in the "*SuPpoRT Activities"* priority task.

Thank you for your attention!