SURFEX Steering committee
2nd meeting: 1 March 2012, Web conference

Participants:
ALADIN: Rafiq Hamdi, Piet Termonia*
HIRLAM: Ekaterina Kourzeneva
Meso-NH:Jean-Pierre Chaboureau
GMGEC: Bertrand Decharme
GMAP: Jean-François Mahfouf
GMME: Aaron Boone
SURFEX team: Stéphanie Faroux*, Patrick Le Moigne*, Eric Martin

(* = expert)
Summary written by Eric Martin

Meeting agenda:

1) Surfex news since the last meeting
2) Review of the 2012 workplan and harmonisation
3) Next meeting
4) AOB...

1) Surfex news

The action decided at the last meeting were reviewed :
Management and communication :

- A new surfex-lab site http://www.cnrm.meteo.fr/surfex-lab/ has been created. It contains the minutes of different coordination meetings (including minutes of the SSC), the documentation, the export versions, test cases, the physiography data and a forum. This site is only available to the teams working on SURFEX (filter on the IP address). In order to add you team, send the IP address to surfex_support@meteo.fr (S. Faroux + P. Le Moigne + E. Martin)
- The svn code repository is opened since the v7.1 (december 2011) http://svn.cnrm-game-meteo.fr/viewsvn/surfex/ .Individual login/password are needed for each developper. Ask for a login/password to surfex_support@meteo.fr . Svn will be the means to transfer code between developpers and the SURFEX team. Ask Stéphanie Faroux for more details.
- The internet surfex website has been improved http://www.cnrm.meteo.fr/surfex/ . It contains only general informations on SURFEX.
- Phasing with atmospheric cycles : v7.1 (released in december 2011) is used by Meso-NH4.9. The SURFEX v7.2 (released this week, see annex A for the content) will be used in the cy38t1 in preparation. There are no plans for building new atmospheric version in 2012 (further phasing between atmospheric and SURFEX version will be defined later).

Scientific aspects :

- A dedicated surface assimilation meeting will be held in Toulouse on 5 and 6 March (organised by Jean-François Mahfouf), some conclusions may impact the 2012 workplan
- Other point discussed are included in the 2012 workplan

Technical aspects :

- Compilation difficulties are not a major problem (report problem to the SURFEX team)
- Geometry/lfi to grib : no action, but Meso-NH has a lfi2grib program that may be transferred if appropriate.
- Optimisation : the suppression of global variables will be done by the CERFACS in 2012/2013.

2) review of the 2012 workplan

The draft workplan was discussed and modified during the meeting. The 2012 workplan is in annex B.

Piet Termonia stressed that optimization issues are hampering the use of SURFEX in an operational NWP context. In particular the preparation of the coupling files in a downscaling application from ARPEGE is too much time consuming. It was suggested that the best solution seems the use of the FA files since then the creation of the coupling files benefits from the optimizations of full pos.This of the highest priority for the ALADIN consortium and it is to focus on this work rather than on the scientific issues.
Concerning the optimisation for the I/O in NWP applications, the status is that the v7.2 contains many possibilities (use of FA files, compaction, no duplications of physiography fields in all SURFEX files), combined with changes in MSE, but this remains to be tested. A working week will be organized later this year in Brussles (t.b.d). This work needs to be coordinated with GMAP.

Concerning sea ice models, a discussion will be held next week in Toulouse for harmonisation of the coding.

3) Next meeting
The SSC must meet at least once a year. The SSC decides to have a next meeting in Toulouse in autumn 2012 or winter 2013, depending on the workplan progresses. The precise date will be determined early september 2012.

4) Miscellaneous
Stéphanie Faroux and Eric Martin will attend the HIRLAM/ALADIN meeting in may. They will propose to the organisers a general presentation on the status of SURFEX. This meeting will also be the occasion for side discussions on SURFEX. Presentation by Rafiq Hamdi, Patrick Samuelsson, Ekaterina Kourzeneva are anticipated (this list is not exhaustive).

Annex A : content of the v7.2

see also : http://www.cnrm.meteo.fr/surfex-lab/spip.php?rubrique97

New features of v7.2:
- No duplication of PGD fields in other SURFEX files
- Reading of masks instead of testing XUNDEF values of fields
- phasing and testing with MUSC (cy37t1 and 38t1)
- changing of the vertical grid for ISBA-DF
- change of the radiative transfert in the vegetation
- changes for CO_2 fluxes / Nitrogen (ISBA-A-gs)
- changes in OI-main

2012 Workplan for SURFEX :

Note that this plan does not cover the assimilation plans. See the summary of the assimilation workshop for more details on assimilation plans :
http://www.cnrm.meteo.fr/aladin/spip.php?article239

GMAP :

- New version of the Ekf . The content of the new version will be defined according to the worhshop of the 5-6 March in Toulouse. A discussion with the SURFEX team is needed about how to provide offline drivers for the Ekf.
- optimisation of PGD and PREP (with the Surfex team, depending on the time available)
- work on using the FA files for SURFEX and decision about using PREP/FULPOSS for the interpolation of fields (to be coordinated with ALADIN)

GMGEC :

Preparation of the next version of the coupled model CNRM-CM6 :

- optimisation and re-writing of some parts of ISBA-CC
- coupling with dynamic vegetation
- testing of ISBA-ES, ISBA-CROCUS and ISBA-MEB
- scientific work on permafrost and aquifers
- coupling AROME/NEMO (oceanic model)
- use of OASIS for coupling (rivers and ocean)
- introduction of GELATO1D

GMME :

ISBA :
- Development of ISBA-MEB (with HIRLAM)
- specific soil column for snow
- Coupling ISBA-TopModel
- validation of new versions of ISBA-A-gs (FluxNet/FaPar)
- removing obsolete versions of ISBA-A-gs

TEB :
- testing of TEB-BEM (building energy model)
- street orientations (patches)
- vegetated roofs (2012), street trees (2013)

Chemical emissions :
- new parameterisation of anthropic emissions.

SIM :
- preparation of a new SIM chain (use of ISBA-DF, ISBA-A-gs)
- impact of groundwater on evapotranspiration

ALBEDO:
- Implementation of an albedo by cover in ECOCLIMAP instead of an albedo by functional vegetation type

CEN :

Development of CROCUS :
- new formulation of snow metamorphism
- new formulation of albedo and extinction

- taking into account the slopes

MesoNH :

- Emission of NO by the soil (LA)
- Test of v7.2 (GMME/MESONH)

ALADIN

- Continuation of the test of SURFEX, with emphasis on technical points : interpolation / downscaling (PREP), use of FA files (to be coordinated with GMAP).

HIRLAM

- Development of ISBA-MEB (with GMME)
- Introduction of the HIRLAM sea-ice parameterisation
- work on data assimilation (workshop of the 5/6 march)
- Testing of TEB
- Feasibility study on using new high resolution surface elevation data (SRTM, ASTER)

SURFEX Team
- Suppression of global variables will be undertaken by the CERFACS in 2012/2013 (in collaboration with the SURFEX team, MesoNH and GMAP)
- Development of a parallel driver for offline simulations