

SURFEX Steering Committee

20 March 2019 Toulouse

Participants:

Ekaterina Kourzeneva (Hirlam representative, remotely), Marie Dumont (CEN, remotely), Rafiq Hamdi (Aladin representative), Yves Bouteloup (GMAP), Bertrand Decharme (GMGEC), Quentin Rodier (Meso-NH), Marie Minvielle (SURFEX), Patrick Le Moigne (SURFEX), Clément Albergel (DA expert), Matthieu Lafaysse (CEN invited), Patrick Samuelsson (Hirlam invited), Claude Fischer (GMAP invited).

Meeting summary:

- **Surface DA**

During the SURFEX User Workshop (18-19/3), a side meeting dedicated to surface DA took place with participation of C. Birman, C. Albergel and J.-C. Calvet (Meteo-France), T. Aspelien (MetNo), P. Samuelsson (SMHI). The activity on surface DA today is split among different people having different goals. However, a need to collaborate more between MF and Hirlam communities was underlined.

It was recalled that C Albergel and colleagues in VEGEO team exclusively work on offline DA as opposite to NWP surface DA activity within ALADIN and HIRLAM. However, a common wish to work in the near future on coupled DA was mentioned. T Aspelien has taken the initiative to create a mailing list for people active in SODA development.

There is a need to revisit SODA EKF algorithm (now limited to the ISBA tile) due to assimilation over sea-ice. During a side-meeting before the SSC it was agreed that HIRLAM can take the initiative for this revisiting. As far as snow DA is concerned, several people will work or already work on it: C Albergel, E Kourzeneva, but also C Birman who works with CANARI to assimilate satellite snow cover in a 2D OI analysis system.

Finally, a need of documentation on SODA was raised.

- **Databases**

The status of the ECOSG database was given by Marie. Rafiq wants to start using it. There have been already tests in Hirlam, by Spain, The Netherlands, and over Scandinavia, the objective being a use in CY43. The running ok.

Some namelist variables in the wiki are not the same as in the code: the values in the wiki correspond to those tested in AROME.

Action 1: SURFEX team to provide good values and communicate on that.

For total soil depth (to the bedrock) or root depth, a global dataset at 1km exists and GMGEC will try to implement that in the near future. For rooting zone in the future root depth won't be used anymore in ISBA-DF (not for FR).

E Kourzeneva reported from the COSMO All Staff meeting the wish to collaborate or at least exchange between countries developing the same kind of maps for operational and research purposes at the European level. This will be discussed at the next EWGLAM/SRNWP in Sofia.

A drawback of using ECOSG is linked to the big size of the PGD file which appears to be 10 times larger than previously.

The question of how to integrate local (national) databases in the process of building ECOSG was raised and will have to be tackled in collaboration.

- **Code management**

F2003 features are to be introduced in the future SURFEX version for the implementation of sea-ice and the interfacing to Gelato as well. In IFS Arpege it took a few years to move forward Fortran standards because GMAP was conservative at first time. GMGEC cycles evolve every 10 years approximately and such F2003 features would prevent the climate model code to compile if the new SURFEX release would be used. The SSC recommends to code as close as possible to the Fortran 90 standards, but also to give the possibility to integrate new coding features. On the longer-term new Fortran features will enter SURFEX and it will then be the responsibility of users to adapt their code.

Action 2: SURFEX “rules of coding” in the website will be updated to explain how to integrate more advanced Fortran features in the code (use of ifdef)

Action 3: Yurii should provide a code with the possibility to activate or not the compilation with F2003 specificities (the use of ifdef is proposed).

The letter addressed to partners and proposing some rules for code management and asking their position to partners was presented to the SSC and discussed. It was decided that the double commit would prevail (one for operational purposes and one to commit modifications to the official SURFEX repository to be integrated to the next release). SURFEX team recalled that the current phasing process would not change.

- **Remarks from the group activity requiring actions**

CEN: Parameterizations to model interactions between orography and radiation are threefold (LSLOPE for diffuse shortwave and longwave radiations developed at CEN, ORORAD at GMAP and one developed some years ago in Meso-NH and adapted to SURFEX offline by CEN) and makes it difficult to understand for users.

Action 4: SURFEX team will coordinate the production of a documentation to explain the users the specificities of the different parameterizations.

GMAP: Impossibility to build a global PGD file at 2.5km for ARPEGE (truncature 8000).

Action 5: GMAP will share the PGD output with the SURFEX team to understand the problem.

ALADIN: Lack of description of FA files content. Need to printout options in the setup.

Action 6: GMAP will take over this the description of the FA files content, and to explain how to activate printouts during setup.

- **SSC preparatory documents**

Available at the following address: <http://www.umr-cnrm.fr/surfex/spip.php?article55>