

Surfex team :

PREP/PGD optimization :

PREP and PGD were parallelized in offline mode. The splitting of the domain is done using the same procedure as in the offline run and mpi commands are used. The execution time is considerably reduced for global and limited area domains. This improvement will be phased after the V8.

V8 :

All new developments are now entered in the code and were validated by the developers using the automatic test database.

The entire code is currently modified automatically in order to remove the global variables by the CERFACS. After this transformation, the code will be ready for tests in coupled mode, before official publication.

Summary of main changes :

PGD :

Various optimizations

Altitude/slopes can be provided by external files

PREP :

Improved patch averaging and various optimizations

I/O and code design :

Improved portability for compilations

netCDF format for PREP and PGD

Assimilation :

New VARASSIM program

SODA optimized and contains both OI_MAIN and VARASSIM

Scientific models :

ISBA :

Introduction of perturbations for AROME ensemble prediction

coupling ISBA-TOP with ISBA-DIF

Introduction of MEB

Implementation of 19 patches

Bug corrections and improvements in ISBA-DF-ES

CROCUS : new radiative transfer in snow, new metamorphism scheme

Coupling with a hydrological model with OASIS

TEB :

Irrigation, solar panels

SEA :

New sea-ice model GELATO

ECUME V6

Coupling with a sea model with OASIS

LAKES :

Minor changes in FLake

Physiography :

Rivers/lakes : Improvement of ECOCLIMAP (v1.7 available on surfex-lab) : Separation of lakes (cover2) and rivers (cover3). Sea estuaries from water to sea (Decharme-Le Moigne). Lakes depths from GLDB (http://www.flake.igb-berlin.de/ep-data_old.shtml) database, collocated with ecoclimap 1.7 lake position.

ECOCLIMAP-SG: after the internal survey (see the last SSC report), it has been decided to put the effort on a 300m global map, based on already available products to save manpower and allow easier maintenance. We are now looking at the ESA-CCI land cover map that should be maintained in the future. The present work consists of comparisons with ECOCLIMAP2 and identification of the missing elements of ESA-CCI (covers) in order to build a strategy for the construction of a new map.

Next versions and organisation developments :

The surfex team proposes to :

- Give priority to the code maintenance (removing of old options, checking thecoherency of namelist options, ...) to allow an easier use of the code. This can be organized by setting up a group to check the different options and models in order to select the part that will be removed. The group could also comment the main options and their validation status (to avoid e.g. a bad use of scientific model – HIRLAM suggestion)
- Continue the same organization for the phasing of the developements. According to a HIRLAM suggestion, the main development branch will be the trunk to increase the readability of the process to all developers (official versions will be tagged or consist of smal branches that include the bug corrections).