SURFEX team

Coordination activity

- SURFEX coordination meeting
  - 10 March 2016
  - People from Hydro-Climatology department (link with SIM application, 1), winter road survey department (1), and from CNRM (19)

- Invitation proposed to Snow Research Center (CEN) to join the SSC:
  - Marie Dumont will be the CEN representative

Status of SURFEX v8

- Content of SURFEX v8:
  - Already presented during previous SSC
  - Described in coming presentations
- Validated off-line by developers
  - Phasing method was accepted by all
    - Incremental construction + use of test base for validation
  - Following suggestion of SSC, the trunk contains the more up-to-date SURFEX version, including bug fixes.
  - But need to more carefully validate and document changes:
    - Following previous SSC recommendations:
      - Operational namelist to be put on SURFEX web site:
      - Changes in namelist names, default values, etc.

Status of SURFEX v8

- Global variables removed by CERFACS
- Coupled runs for Arome, Meso-NH, CNRM-CM
  - Waiting for Meso-NH and CNRM-CM green light !
    - Still small errors remaining in coupled configuration
- Transformation as Open-Source
  - Modification of SURFEX headers
  - Modification of ISBA-TOP, GELATO, FLAKE file headers
  - Modification of DrHOOK and XRD (dummies)
  - Unification of “surfex” and “surfex-lab” web sites
  - Provision of a SURFEX licence file
  - Provision of ISBA-TOP, GELATO and FLAKE licence files
- Official release publication

Status of SURFEX v8

- Scientific documentation
  - A list of mandatory topics to be described in the next scientific documentation have been set (and contributors as well)
    - ISBA:
      - Parameterization of organic matter and permafrost
      - Multi Energy Balance model (MEB)
      - New diffusion scheme ISBA-DIF, snow scheme ISBA-ES
      - New vegetation radiative transfer module - New ISBA-Ags settings
    - SODA: Data Assimilation
    - TEB:
      - Building Energy Model, irrigation of gardens in town, solar panels on roofs, module of comfort indices in town, ventilation in buildings
    - CROCUS:
      - New snow metamorphism scheme and new radiative transfer (TARTES)
    - GELATO-1D: sea ice model
  - Planed for this summer

Next SURFEX releases

- v8.1
  - Technical developments only
    - Optimizations and parallelization of PGD and PREP (work made by Stéphanie)
    - Implementation of GMAP's solution to optimize PREP based on Full-POS (but will probably be removed later)
    - Removing Open-MP from the off-line driver
    - Use of XIOS I/O server
    - Cleaning options (in link with SSC5):
      - Made by a group composed of S. Faroux, Y. Seity, B. Decharme, and P. Le Moigne
    - TYPE as argument of routines (Stéphanie)
      - Code readability
  - Planed for summer 2017 (optimistic view…)
- v9
  - Both scientific and technical developments included
  - End 2018

Schedule of cycles

SFX	Date of Release	NWP	Meso-NH	CNRM-CM
V1	2005			
V4.8	2008	CY35t2	V4.8	
V5.8		CY36t1		CM5 (CY32+V5.8)
V6	2010	CY37t1*		
V7.1	2011		V4.9	
V7.2	Feb 2012	CY38t1		
V7.2.1	Jan. 2013	CY39t1		
V7.3	Feb. 2013	CY40t1** CY41T1** (end 2015) CY42_op1 (May 2016)	V4.10 V5.1 (2014) V5.2 (01/2015)	
V8	Summer 2016	CY42 (test→June 2016) CY43T1*** (summer 2016)	(V5.2 summer 2016)	CNRM-CM6 (CY37t2+v8)
V8.1	Summer 2017			
V9	End 2018			

- v6+ (V6.0+ GMAP optimisations)
- ** CY40t1 and CNRM-CM6 contains additional developments
- *** CY43T1 contains additional developments (ORORAD)

SURFEX courses

2010	Toulouse	19-21 Oct.	French	20
2011	Toulouse	10-12 Oct.	French	20
2012	Toulouse	01-04 Oct.	English	16
2013	Toulouse	01-04 Oct.	French	20
2013	Norrköping	25-28 Nov.	English	30 (+10 attendees)
2014	Toulouse	04-07 Nov.	English	17
2016	Toulouse	08-10 Feb.	English	16