Workshop on SURFEX data assimilation

Toulouse, 5-6 March 2012

Why such a workshop ?

- SURFEX data assimilation started to be developed in 2007 for Météo-France applications : soil moisture and LAI analyses using Extended Kalman Filter (EKF) and Optimum Interpolation (OI) for the land surface scheme ISBA
- The community of interest has grown recently since SURFEX is now used by the ALADIN and HIRLAM consortia (new approaches are being developed EnKF and STAEKF)
- The availability of new schemes within SURFEX (CROCUS, Flake, TRIP) allows the assimilation of new observations
- Action recommended by the first SURFEX Steering Committee (October 2011)

Objectives of the workshop

- Exchange information and share experience on SURFEX data assimilation :
  - Provide a survey of current studies and applications using SURFEX data assimilation
  - Review planned activities based on SURFEX data assimilation
- Review current technical limitations of SURFEX data assimilation
- Define the content of the surface assimilation package for the next SURFEX version release (end 2012)
- Provide a draft working plan of future evolutions

Questions to be addressed

- What is your current usage of SURFEX for data assimilation ?
  - Variables to initialize, observation datasets, assimilation technique, operational constraints
- What developments are you planning in the near future ?
- What are the most important technical issues for your specific applications ?
- Are planned evolutions of surface schemes within SURFEX compatible with your data assimilation activities ?

Tools to be discussed

- SURFEX : Surface modelling platform (OFFLINE version)
- CANARI : Optimum interpolation to provide 2D surface analyses of near-surface parameters on model grid
- OI_MAIN : Optimum interpolation to provide soil analysis on model grid (1D scheme)
- VARASSIM : Extended Kalman Filter
- PALM : Coupler developed for data assimilation (CERFACS)