

## Summary of the first 2008 MF E-suite

- Start on a routine basis an ensemble of 6 assimilation cycles of 6h-window 3D-VAR FGAT in TL358C1.0L60 under OLIVE (March 2008 confirmed).
- Arpège and Aladin-France E-suite number 1 for 2008 :
  - CY33T0
    - assimilation of new AQUA/AIRS channels (~54 channels),
    - assimilation of Metop/IASI channels (~60 channels), Metop/HIRS,
    - assimilation of GRAS radio-occultation,
    - assimilation of MSG/SEVIRI Clear Sky Radiances (the 2 so-called “water vapor channels”),
    - assimilation of clear-sky microwave radiances over land (DMSP F14 SSM/I),
    - assimilation of microwave radiances (AMSUA/B, MHS from NOAA and Metop) over land, in clear-sky, using improved surface emissivity maps,
    - couple the assimilation with variances derived from the ensemble assimilation,
  - ALADIN-France : new obs like in Arpège, remove RH2/T2 obs in night time runs (spurious surface/PBL forcing via B matrix, flag will be on real solar time), VarBC for SEVIRI, monitoring of some radar radial winds from the French ARAMIS network (to be confirmed).
  - ARPEGE physics: new tuning of horizontal diffusion (to be confirmed), new GWD, revised surface turbulent exchange coefficients, modified snow melting on ground
  - modified timestep for Aladin-FR (450 s) to have an even number of iterations for 1h, modified post-processing for isolated lakes

This E-suite is expected for testing over March-April 2008. Note that the presence of VarBC in Arpège induces a change in the strategy for starting an E-suite containing new observation types. Since VarBC is a bias correction scheme where all observations are inter-dependent (plus the analysis) inside VarBC, one needs to proceed to a warm-up of the E-suite prior to the actual start. This warm-up consists in introducing progressively the new observations, over about 2-4 weeks. For Aladin-France, the Arpège VarBC file can be read in and the coefficients merged with those adaptively computed for SEVIRI by the Aladin/VarBC.