

CY30T1 has been declared the last week before christmas holidays, main modifications with CY30 are listed below in a total disorder.

**Francoise TAILLEFER :**

- 1) Bugfix to run CANARI on cycle 30
- 2) Phasing modifications of 923 from CY29T2

**Jean-Daniel Grill:**

- 1) Bugfix in ALADIN geometry

**Yves BOUTELOUP :**

- 1) Phasing of physics from e-suite (cy29t2\_op2.08)
- 2) Modification in order to compute moisture convergence when q is grid point. Two technics are coded, first a new spectral GFL is introduced and derivatives are used. Second, semi-lagrangian advection of a new grid point GFL is used.

**Paul POLI :**

- 1) Developments required for assimilation of ground-based GPS data

**Ryad El Khatib with Sylvie Malardel and Gwenaelle Hello for point 2 :**

- 1) Compliancy with PGI compiler. Huge routines have been split into shorter "contained" subroutines in order to make the compilation safe and fast. Too long subroutines could lead to memory fault (arp/phys\_ec/\*, xrd/\*, uti/\*, ald/c9xx/cchien.F90).
- 2) Change of geometry and fields from an ALADIN file to an AROME file (mse/\*, arp/\*), including the handling of either one single surface mask (land vs. sea) or two surface masks (land mask and sea mask) ; post-processing of sea surface temperature. The use of two surface masks imposes that only the target climatology could be used for the time being.

**Rachida El Ouaraini :**

- 1) Post-processing of Warning index for coupling file

**Yann Seity and Pierre Tulet for point 1 to 4:**

- 1) Add MesoNH chemistry in AROME
- 2) Phasing of externalised surface, version 1.1
- 3) Rename some routines with suffix "\_aro", to separate AROME routines from pure Meso-NH routines.
- 4) Add new files to handle chemistry from Meso-NH

5) Bugfix to run AROME on IBM.

**GCO :**

1) Miscellaneous stuff from current parallel suite.

**Filip VANA :**

1) Setup of LSLHD

**Karim Yesad and Radmila Brozkova:**

1) modset to allow B-Level parallelization for NH model (and reduces CPU cost).

2) AD+TL codes for variable mesh.

3) Correct formulation for entropy and conversion term in the NH model (CPDYDDH).

4) A-level parallelisation of conf 911.

5) In NH model, cleaning for d4 ; removal of the auxiliary variable ; make d4 available in ARPEGE.

6) SI scheme coded in ALADIN like in ARPEGE (removal of array SIEHEL)

7) Adaptation of LTRAJHR to METEO-FRANCE applications, with the possibility to read the trajectory on ARPEGE files.



A bugfix has been also developed as a base for the contribution to CY31. The contains are listed below in a total disorder :

**Yves Bouteloup :**

1) Bugfix to avoid a random blowup in RADHEAT15. This bug is present in CY29T2 but not in CY29T1

2) Bugfix to run MTS (Model To Satellite facility) in CY30 with RTTOV8.

**Dominique Puech :**

A lot of modifications in BATOR, among other things, introduction of LAMFLAG.



**There is still some problems in CY30T1:**

1) Always a problem with LTC=.TRUE. in the 4DVAR. It's the main blocking point which prevents a use of CY30 for an e-suite.

2) Problem on IBM, a lot of observations are rejected.

- 3) Always a problem in configuration 401 with ALADIN in multiprocessor mode.
- 4) A problem in conf 1 with SL3TL-NH + physics + predictor corrector scheme in multiprocessormode.
- 5) Problem in ARPEGE with Full-Pos in-line fullpos and use of climatology (NFPCLI>1).

CY30R2 is awaited for the 9 of February. The deadline for contributions to CY31 is 10 of february.

**List of awaited contributions in a total disorder :**

**Karim Yessad :** Stretched SI

**François Bouysse** : Around SURFEX (externalised surface)

**Sylvie Malardel :** 1D model in the 3D

**Antoinette Alias :** Modset to run climate configuration.

**Yann Seity :** Last version of SURFEX

**Jure Cedilnik :** Rationalisation of GFL setup

**Radmila Brozkova :** LAVALLOC (Modifications given to late for CY30T1 !)

**Bernard Chapnik :** Correction on JK

**Jean-Marcel Piriou :** DDH in AROME

**Yves Bouteloup and François Bouysse :** Last modifications for new physics