



# GA report on common activities

chair of CSSI (C. Fischer)

- Aladin GA ; Monday 16 December, 2019



# Joint code versions (cycles) in 2019

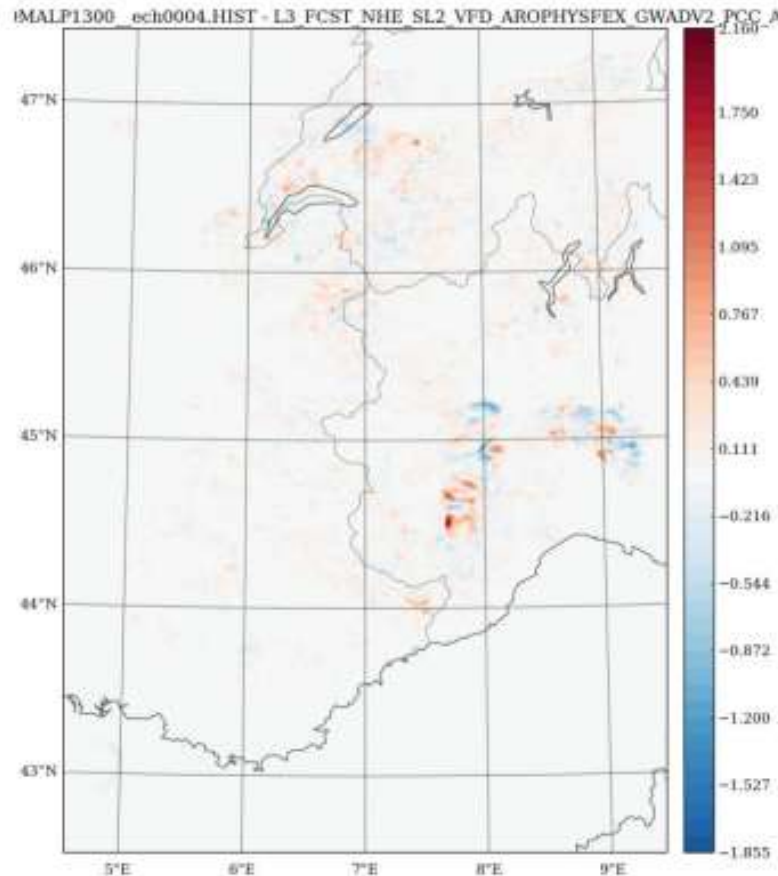
- CY46T1\_main: joint MF/Aladin/Hirlam R&D version => upgraded version CY46T1\_bf (July)
- CY47\_main: joint cycle with ECMWF (August)
- CY47T0\_main: technical cycle (debug options, OOPS interfaces)
- CY47T1\_main: in preparation, to be declared soon. Joint MF/Aladin/Hirlam R&D cycle.
  - For MF, this cycle is an important wrap-up with respect to our operational codes (CY43T2\_op2)
  - About 500 files modified; about 50000 lines of code modified or deleted or added (~5-10% of “core” common code)
- Progressively implement a new technical validation tool « davi » . In parallel, adapt working methods and validation process of code contributions.
- Code training days: Sept 2019 in Toulouse (forecast model codes, Full-POS)

# Common code maintenance (COM2)

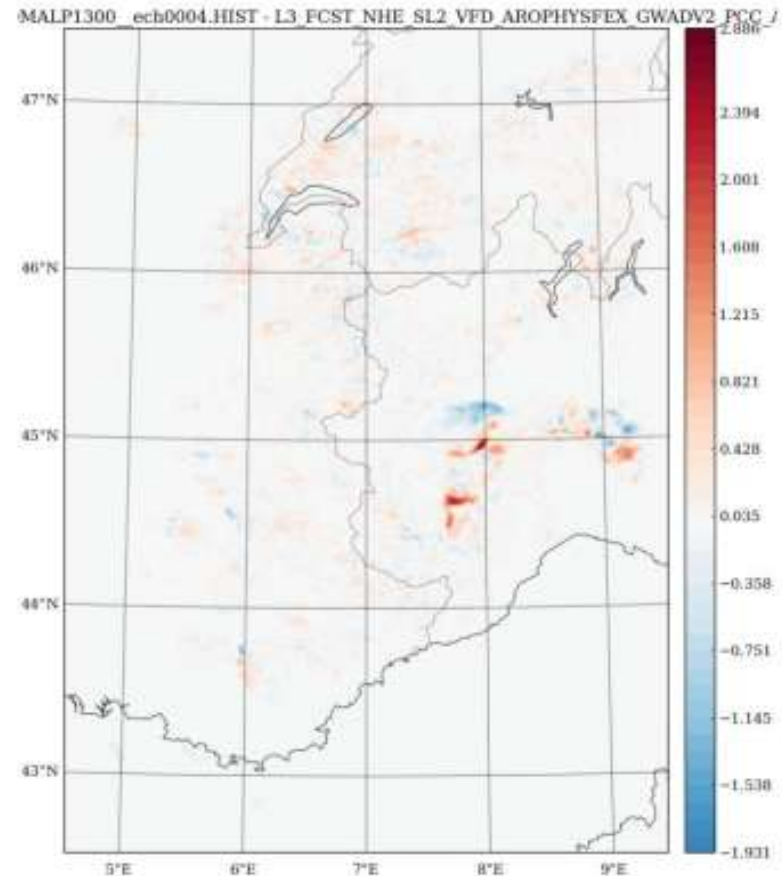
- About 12.5 FTE / year in Rolling Work Plan 2020
- New options to be tested in most recent cycles:
  - technical test with a « toy-AROME » model run in single precision with an early version of CY47T1 (Abdenour Ambar & Philippe Marguinaud)
  - new data assimilation objects can be defined using the OOPS code layer, and tested *separately from (and in parallel to)* the forecast model codes (A. Mary, E. Arbogast, T. Montmerle, R. Stappers)
- Reminder: about 1 FTE/year of « phasers » invited to Toulouse; regular participation of LACE System Coordinator to phasing

# Common code maintenance (COM2)

- A. Ambar (with P. Marguinaud)



**Fig.31:** Differences of **S090.TEMPERATURE.ech0004** spectral norms between **DP** runs and reference.



**Fig.32:** Differences of **S090.TEMPERATURE.ech0004** spectral norms between **SP** runs and reference.

# ACNA activities (Maria Derkova)

- Preparation and chairmanship of LTM meetings
- Participation to HMG/CSSI meeting and Rolling Workplan
- Coordination of porting of CY43T2 export version (codes) – see next slide
- Initial and lateral boundary conditions from Arpège model (coupling files):
  - Tests of LBC files from CY43T2\_op2 Arpège e-suite
  - Coordination of LBC files changes requested by Aladin partners
  - Support for MF for implementing those changes (Sept-Nov 2019)
  - Testing the new climate file generation tool « Climake » developed by GMAP

# ACNA: porting of CY43T2 in Aladin countries

Algeria	operational	operational	ported
Austria	compiled	compiled	not yet
Belgium	operational	?	compiled
Bulgaria	ported	?	not yet
Croatia	ported	ported	not yet
Czech R.	operational	operational	operational
France	operational	e-suite	exported
Hungary	not yet	?	not yet
Morocco	?	compiled	compiled
Poland	operational (ALARO)	ported	ported
Portugal	not yet	not yet	started
Romania	not yet	not yet	not yet
Slovakia	ported	ported	ported
Slovenia	operational	e-suite	ported
Tunisia	ported	ongoing	not yet
Turkey	operational (AROME)	ported	not yet

September 2019 – March 2019 - September 2018

# Aladin Code Architect activities (Daan Degrauwe)

ATLAS extensions for LAM: interface to spectral transforms, grid-to-grid interpolations, multi-grid solver from SPDY2.2 task in RWP

« mitraille » testing tool for CY46 was ported to EC's CRAY, then handed over to Hirlam System team (for testing a Harmonie-Arome configuration)

Working out a code contribution procedure for Surfex codes (the « double-commit » principle)

Development of a scalable solver based on the multi-grid approach (task defined in RWP SPDY2.2)

# Data Assimilation Starters Kit activities (Maria Monteiro)

2019 Working Days held in Sept, jointly with LACE DA Wds; in addition, several coordination video-conferences held throughout the year

Baseline cycling tools available and ported in all DAsKIT countries, with surface analysis (CANARI)

Combining with upper-air 3D-VAR analysis has started, using a set of agreed observation types (WMO BUFR SYNOP, TEMP and (E-)AMDAR data)

Next steps:

- pre-processing of TEMP (WMO BUFR);
- resume efforts towards a combined surface/upper-air DA solution;
- there is an interest to have regular DA users' training;
- there is also some interest on the DA coding training, conditioned to man power issues;
- information and material available at the DAsKIT link on the Aladin website: <http://www.umr-cnrm.fr/aladin/spip.php?rubrique74>



# Perspectives 2020

## Météo-France:

- switch operations to new HPC (June or July 2020)
- first scientific e-suite on new HPC: global and LAM EPS systems at same resolution as deterministic, IFS convection and radiation schemes in Arpège, new observations etc.

## Cycles:

- CY48 jointly with ECMWF (January – March/April), CY48T1 (autumn);
- continue developing the new testing tool « davai », make it available to all staff;
- continue adapting working practices for building & validating new code versions
- under discussion: data assimilation code training days in 2020 (Toulouse?)

Next important IFS code overhaul in preparation: prepare the codes for porting to new architectures like GPU (i.e. hybrid CPU/GPU)

Partners: continue porting of CY43T2 to local operations; porting next export version (still to be defined)

# sunum bitti. İlginiz için teşekkür ederim

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- The talk is over. Thank you for your attention