



A Consortium for CONvection-scale modelling  
Research and Development

## Cycles and contribution practices

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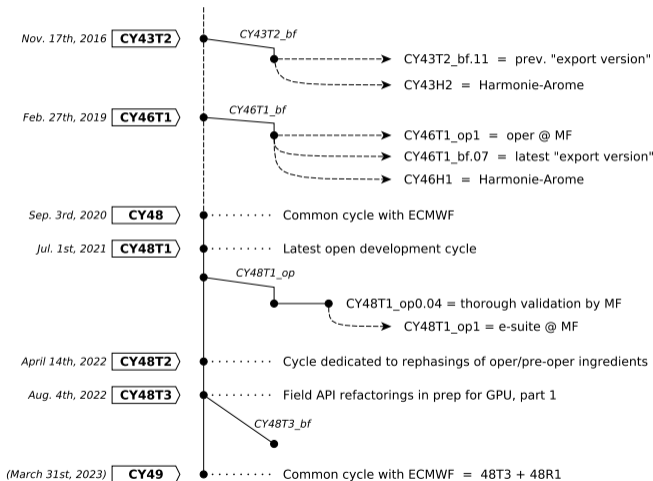
## ① Cycles

## ② Contribution practices

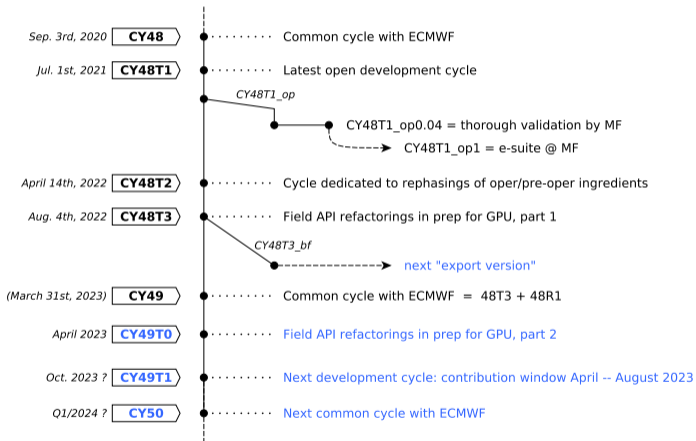
# Outline

- ① Cycles
- ② Contribution practices

**Recent and upcoming cycles**



**Recent and upcoming cycles**



## CY49

- Convergence of ECMWF and MF/Accord Git repositories : common history
- Satisfactory status of validation for a common cycle, albeit not perfect :
  - Arpege TL/AD tests not entirely satisfactory
  - LAM TL/AD gives wrong results
  - SLHD, LDRY\_ECMWF, COMAD hard-coded changes inducing numerical differences
  - Snow scheme of IFS not compatible with old IFS files (Fullpos IFS→LAM)
  - OOPS Arome minimization phasing issue
  - IR obs. operators – RTTOV 12 & new coefs : large numerical differences

↪ These remaining issues will have to be further investigated...

Thanks to P.Smolikova, P.Saez, H.Petithomme, F.Suzat, R.El Khatib, Ch.Payan, E.Arbogast, Ph.Marguinaud, O.Marsden, F.Vana ...

## CY49T0

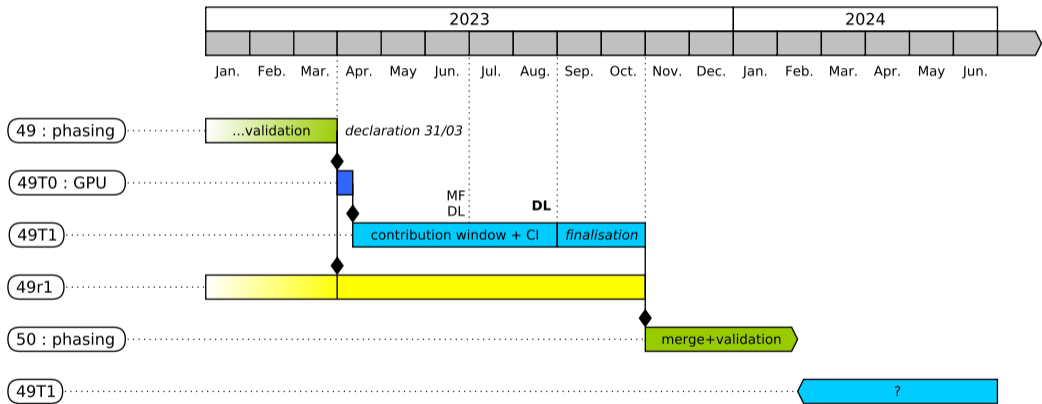
- Second part of refactorings around CPG, in preparation for GPU, using “*Field API*”
- Development ready on 48T3
- Descriptive document of the changes of paradigm in the fields data flow
- Basis for contributions to 49T1

## CY49T1

## Next ACCORD Development cycle

- Call for contribution April → August 2023  
Target declaration Oct. 2023
- Contents :
  - Surfex v8.1<sup>++</sup> ( $\approx$  48T2 + 46H1)
  - PHYEX
  - rephasings MF e-suite 48T1\_op1
  - ... (<https://docs.google.com/spreadsheets/d/1h2ft2F10N4WMrz61faeu6xk6fOGI0Hgy9UrguW4lTTY/>)
- Continuous Integration on ACCORD forge
- Will be a basis for next MF e-suite






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## ACCORD Forge

Web platform hosting consortium-wide repositories and their associated communication environment (wiki, ticketing, integration requests, reviews...)

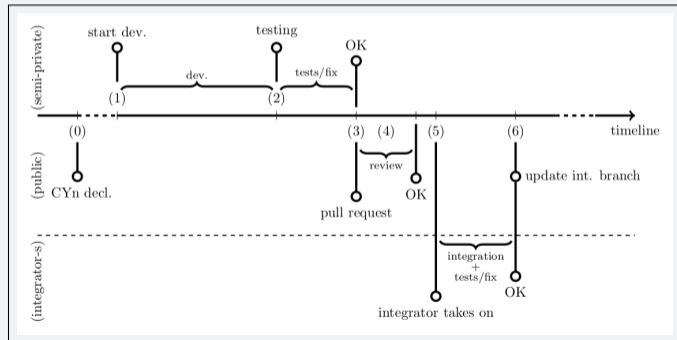
<https://github.com/ACCORD-NWP>

- **IAL** (IFS-Arpege-LAM) *private* repository : official portal for contributions to 49T1
- Series of **training webinars** to be organised this spring, combined with Davai webinars : information and registration on [https://opensource.umr-cnrm.fr/projects/accord/wiki/accord\\_forge\\_Spring2023\\_Webinars](https://opensource.umr-cnrm.fr/projects/accord/wiki/accord_forge_Spring2023_Webinars)
- Getting started :
  - Set your  **GitHub** account, **using an explicit identifier** and professional email address
  - Request membership by email to Daniel Santos Munoz and/or Alexandre Mary, indicating your Github identifier and associated email address

## IAL repository on ACCORD Forge

- **Git repository to clone :**  
`git clone https://github.com/ACCORD-NWP/IAL.git`
- **Pull requests (PR) :** request form for integration of a branch into a T cycle  
Template description message, addressing **documentation, validation, numerical, computational and configuration impacts**
- **Issues :** where to report an issue found on any cycle.  
Visible to anyone : discussions, cross-references to commits, branch or PR fixing the issue in several target cycles
- **Watch :** get email notifications at each new Issue and/or PR
- **Guidelines** for contribution will be found in the repository's `README.md` & subsequent `.md` files (starting from CY49)

# Continuous Integration



(Anticipate contribution → AL/IL)

- 1 Develop branch
- 2 Test, (Fix)
- 3 Push + Integration request  
*[forge]*
- 4 Review  
*[forge]*
- 5 Merge, Test, (Fix)
- 6 Update integration branch  
*[forge]*

## DAVAI validation system

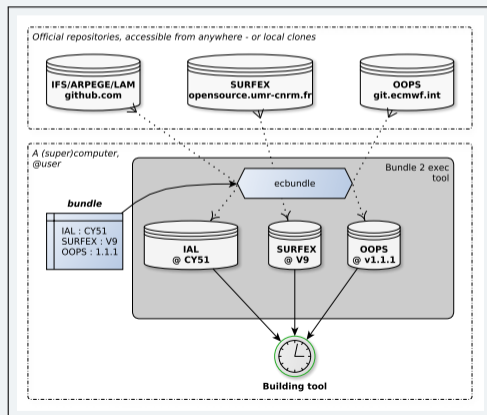
- **Porting** to ECMWF : ~OK
- **Accessible dashboard** : <https://www.umr-cnrm.fr/davai/>
- **Bundling-ready**
- Systematic testing of **SP** on a subset of configurations
- **Required** for contributions to 49T1, on **belenos** or ECMWF's Atos@bologna
- **Getting started** : cf. <https://github.com/ACCORD-NWP/DAVAI-env> and there-mentioned User Guide

## DAVAI trainings

- **Users-oriented webinars** for 49T1 contributors : *cf. above link*
- **Developers-oriented WW** (porting, maintaining, addition of tests) : Nov.2022 (→ introducing ALARO tests) + spring 2023

## Bundling

*Trend* : externalised sub-projects (oops, fiat, ectrans, SURFEX, FA-LFI, PHYEX...) independantly versioned, and coherently gathered via a **bundle** for the build



- CY49 :
  - oops
  - (fiat)
  - (ectrans)
- in gmkpack : → hub/
- Tools for wrapping (ec)bundle+gmkpack :  
IAL-build on ACCORD forge
- Historisation of bundles :  
IAL-bundle on ACCORD forge

## Bundle example for OOPS in CY49

projects :

- IAL :

git : <https://github.com/ACCORD-NWP/IAL.git>  
version : CY49

- oops :

git : <https://github.com/ACCORD-NWP/oops.git>  
version : feature/develop-IFS-CY49T0

- fckit :

git : <https://github.com/ecmwf/fckit.git>  
version : 0.6.4

- eckit :

git : <https://github.com/ACCORD-NWP/eckit.git>  
version : mf\_1.4.4\_for48T2

- ecbuild :

git : <https://github.com/ecmwf/ecbuild.git>  
version : 3.1.0



Thank you for your attention  
Comments, questions?