SPECIAL PROJECT PROGRESS REPORT

All the following mandatory information needs to be provided. The length should *reflect the complexity and duration* of the project.

Reporting year	2024
Project Title:	ACCORD common codes maintenance Special Project
Computer Project Account:	**SPFRACCO**
Principal Investigator(s):	Claude FISCHER
Affiliation:	Météo-France
Name of ECMWF scientist(s) collaborating to the project (if applicable)	---
Start date of the project:	1/1/2022
Expected end date:	31/12/2024 (**a request for continuation will be submitted this year**)

Computer resources allocated/used for the current year and the previous one

(if applicable)
Please answer for all project resources

		Previous year		Current year	
		Allocated	Used	Allocated	Used
High Performance Computing Facility	(units)	15 MSBU	1 MSBU	20 MSBU	2.1 MSBU
Data storage capacity	(Gbytes)	10.000		10.000	

Summary of project objectives (10 lines max)

The goal of this SP is to provide resources to the ACCORD consortium in order to (1) enhance its capability towards a common maintenance of the shared NWP codes and (2) further develop and ensure the portability of the tools used for this maintenance. The planned activity covers the installation of technical validation testing tools (and testing input data - DAVAÏ -), the installation of tools for user-oriented evaluation of testing results ("ciboulaï", web interfaces, archive of test results), the installation of ACCORD code releases, the installation of compile tools, of user-specific code archives (e.g. "packs" for GMKPACK etc.), the execution of technical benchmark tests as defined in DAVAÏ, by submission on the ECMWF HPC machine.
In 2022-2023, efforts on getting started with the Bologna HPC and setting up training for ACCORD Members (who are not familiar with the ECMWF environment) have taken a significant amount of time.

This overall activity falls under the strategic goal of ACCORD to move towards a common working practice on code integration and testing of new releases.

Summary of problems encountered (10 lines max)

No particular issues since the setup of Davaï at ECMWF in 2022.

Summary of plans for the continuation of the project (10 lines max)

The plans are to continue develop and use DAVAÏ and related tools for testing new code versions. These developments include further improvements of the tools themselves, and progressively adding new NWP components in the test benchmarks. Two other thematics are proposed to be tackled in the continuation of this project: the design and development of a common scripting in ACCORD, and the design of a physics-based validation procedure suitable for scientific R&D as well as for enhancing the benchmark of metrics and tests of new code versions.

List of publications/reports from the project with complete references

The most appropriate current references are the talks about the new ACCORD working practices on the common codes, given at the All Staff Workshop in April this year:

- SANTOS Daniel: ACCORD system activities and perspectives
- MARY Alexandre: Cycles and co
- FISCHER Claude: The PM's talk

Summary of results

In 2023-2024, the use of Davai by ACCORD members has been settled and a growing number of users regularly use the tool, and this Special Project's resources, for the validation of code contributions. That includes in particular:

- contributions to CY49T1 carried out in the autumn of 2023,
- the validation of cycles CY49T1 and CY49T2 themselves during their construction.

The resources have otherwise also been used for R&D of flow-dependent DA algorithms, e.g. LAM/OOPS 4DVar developments in ACCORD.