

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 2022

Project Title: An evaluation of the advanced model physics in cycle 46 of HARMONIE-AROME with particular emphasis on the new microphysics, radiation and surface schemes.

Computer Project Account: dum

Principal Investigator(s): Emily Gleeson

Affiliation: Met Éireann

Name of ECMWF scientist(s) collaborating to the project
 (if applicable)

Start date of the project: 01-01-2022

Expected end date: Am looking for a continuation to the end of 2023.

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)			35 M	0 M
Data storage capacity	(Gbytes)				

Summary of project objectives (10 lines max)

To thoroughly test the new surface and upper-air physics options in CY46 of HARMONIE-AROME.

Summary of problems encountered (10 lines max)

A version that can be tested for surface physics only became available at the end of June. The new microphysics (LIMA) and radiation (ecRAD) schemes are not fully implemented in CY46 so these will be tested in CY48 – I'm applying for an extension for this reason.

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

Surface and some upper-air settings will be thoroughly tested during the second half of this year. In particular, we have uncovered an issue with clouds, caused by some microphysics and cloud droplet number concentration settings. Testing of this has commenced.

List of publications/reports from the project with complete references**Summary of results**

Some experiments are currently running but no analysis has yet been carried out.