

REQUEST FOR ADDITIONAL RESOURCES IN THE CURRENT YEAR FOR AN EXISTING EMI R&D PROJECT

Please submit the completed form via <https://www.ecmwf.int/en/support> (choose *Software and Computing*, then *Gain access to computing resources (create ticket)*) or send to special_projects@ecmwf.int

Country/Organisation: ITALY

Principal Investigator¹: ANDREA STORTO

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Project title: Enhancing regional and global ocean data assimilation

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Project account: SPITSTOR

Additional computing resources requested for year		8/21/26
High Performance Computing Facility	[SBU]	Additional 18M (for a new total of 27M)
Graphics Processing Unit Cluster - A	[GBU]	
Graphics Processing Unit Cluster - B	[GBU]	
Total DHS Data storage capacity	[GB]	
EWC resources		
Number of vCPUs	[#]	
Total memory	[GB]	
Storage	[GB]	
Number of vGPUs ³	[#]	

Continue overleaf

¹ The Principal Investigator is the contact person for this EMI R&D Project

Technical reasons and scientific justifications why additional resources are needed

The additional resources are asked because our data assimilation system has been upgraded and adapted to higher resolution configuration (CREG12, eORCA025) than those used previously. In the context of several projects (Copernicus Marine Service Evolution projects ORACS and F3O, and Horizon Europe ACCIBERG project, also in collaboration with ECMWF/Seasonal Prediction section), the experimental activities were initially planned to be run at coarser resolution, while during the projects' execution, it was agreed to increase the resolution to make the numerical experiments more realistic and with a resolution close to operational systems.

Specifically, the experiments being performed include: 1. Prediction tests with different river runoff in forecast mode (climatological runoff versus AI-based runoff) at eORCA025 resolution; 2. Hybrid data assimilation experiments at CREG025 and CREG12 configurations; 3. Stochastic physics ensemble experiments at eORCA025 resolution; 4. Stochastic BDY (lateral boundary conditions) ensemble experiments in the CREG025 configuration.