

REQUEST FOR ADDITIONAL RESOURCES IN THE CURRENT YEAR FOR AN EXISTING SPECIAL PROJECT

Please submit the completed form via <https://www.ecmwf.int/en/support>

MEMBER STATE:ITALY.....

Principal Investigator¹:Stefano Federico.....

Affiliation:

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Project title: Improvement on NWP prediction at the short-range for high impact meteorological events
.....

Project account: **SPITFEDE**

Additional computing resources requested for year		2025
High Performance Computing Facility	[SBU]	6,000,000
Total DHS Data storage capacity	[GB]	0
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 Special Project

Technical reasons and scientific justifications why additional resources are needed

The reason for asking for additional resources is the need to compare the results of WIVERN data assimilation with other wind data sources, specifically Atmospheric Motion Vectors (AMV) and ASCAT. Four experiments, in which different data sources are assimilated, are foreseen: a) ASCAT alone, b) AMV alone; c) AMV+ASCAT+WIVERN; d) AMV+ASCAT. The comparison with the experiment WIVERN alone (already done and reported in the progress report of the second year) will give the opportunity to quantify the impact of WIVERN DA with other data sources, both considering each data source assimilated alone or together with other data sources.

In the second year we performed several simulations of WIVERN DA in the ensemble framework defined for Ianos (background ensemble, WIVERN DA every 3h and every 24h). Considering the number of simulations (51 for each experiment), their length of the forecast range (60 h) and the number of grid points of the WRF model, the SBU requested for each ensemble experiment is about 1,000,000. So, four experiments require 4,000,000 SBU. Nevertheless, considering the post processing, possible errors and additional unplanned simulation, we request additional 6,000,000 SBU.