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

Please email the completed form to special_projects@ecmwf.int.

MEMBER STATE: …………ITALY…………………….…..…

Principal Investigator[1]: ……Stefano Federico……………………………….……

Affiliation: ……ISAC-CNR (Institute for Atmospheric Sciences and Climate - National Research Council)…
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Address: …………………………………………………………….……
Via del Fosso del Cavaliere 100, 00133 Rome
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Other researchers: ……Claudio Transerici……………………………….……
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Project title: …Study of different configurations of the RAMS model for precipitation and lightning forecast over Italy at high horizontal resolution …………….……
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Project account: **SPITFEDE**

Additional computer resources requested for	2019
High Performance Computing Facility (units)	1,000,000
Data storage capacity (total) (Gbytes)	/

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[1] The Principal Investigator is the contact person for this Special Project

Continue overleaf

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Technical reasons and scientific justifications why additional resources are needed

During the year 2019, there was the need to explore the performance of lightning data assimilation for a long period of time (1 year) and to evaluate this performance for the Very-Short-term Forecast (VSF) of precipitation (3h) compared to the control run, without lightning data assimilation. For this reason, we asked for additional two million of SBU to perform, at least in part, this experiment during this year. Examining the output of the numerical experiment, we discovered that some of the simulations are affected by mistakes and must be run again.

Also, we are preparing a paper on the lightning data assimilation in RAMS@ISAC model for a challenging case study in Italy. For this case, a simulation at 2km horizontal resolution over the whole Italy was necessary (it should finish today) in RUC (Rapid Update Cycle data assimilation) configuration. This simulation required a quite large amount of SBU (500,000 considering again some tuning of the model), which is another reason for asking for additional resources.