

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

MEMBER STATE: Italy

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Project title: Evaluation of coastal climate trends in the Mediterranean area by means of high-resolution and multi-model downscaling of ERA5 reanalysis

Project account: SPITBRAN

Additional computer resources requested for	2019
High Performance Computing Facility (units)	3 000 000
Data storage capacity (total) (Gbytes)	6000

Continue overleaf

Technical reasons and scientific justifications why additional resources are needed

Key points:

1. We have produced about 8 years (out of 10) of the regional hindcast foreseen in the Special Project Request for the current year. Only the BOLAM and MOLOCH data (that is the atmospheric data) were produced, whereas we decided to perform the WW3 simulations (wave data) on the PI's computer facilities.
2. All the SBUs allocated for the current year were consumed (accounting week 03/2019).
3. Data produced were stored in the ECFS filesystem and occupy more space than requested in the Special Project Request Form: 10 years of the atmospheric hindcast need about 3.5 TB (instead of 1.0 TB).
4. A preliminary analysis of the atmospheric hindcast produced by the BOLAM and MOLOCH models, fed by ERA5 reanalyses, showed a good agreement with observations. To have an idea, in Table 1 we report the RMSE, BIAS and correlation coefficient of the 2 m temperature hourly data from BOLAM and MOLOCH verified versus observed values for a specific automatic weather station (Ponza Island, Italy)

	RMSE	CORR	BIAS
BOLAM	2.85	>0.9	-1.65
MOLOCH	2.28	>0.9	-0.71

Table 1: verification scores obtained comparing the BOLAM and MOLOCH 2 m hourly temperature data against observations in Ponza Island for the year 2013.

For the above reasons, we request additional resources to:

- complete the atmospheric hindcast foreseen for the current year, (the years 1998 and 1999 in addition to some months in 2000 are missing),
- adequate the ECFS data storage capacity to the actual size of the data produced.