

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: Portugal.....

Principal Investigator¹: Emanuel Dutra (ptb).....

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Other researchers: Wilhelm May (sre)
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Project title: Using Earth Observations to constrain land-atmosphere interactions
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Project account: SPPTDUTR

Additional computer resources requested for	2020
High Performance Computing Facility (units)	1500000
Data storage capacity (total) (Gbytes)	-

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 coupled AMIP simulations with the EC-EARTH climate model only started this year. Several simulations were already performed testing land-cover as in ERA5/ERA-Interim and with the new vegetation from the LPJG vegetation model. Each simulation requires about 700kSBU. We would like to perform another two experiments testing vegetation clumping. In the past two years the project used only a fraction of the requested SBU (21% 500k SBU in 2018, and 32% 800k SBU in 2019) as it was not possible to perform the most computationally expensive simulations in 2018/19. These extra resources are fundamental to better understand the role of vegetation clumping in defining effective vegetation cover and its impact on simulated Land Surface Temperature. These results with EC-EARTH complement the ongoing analysis of 1 year nudging experiments with the IFS.