

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: UNITED KINGDOM

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Project title: Arctic sea-ice, ENSO and seasonal prediction skill in the mid-latitude winter circulation

Project account: SPGBSTRO

Additional computer resources requested for		2023
High Performance Computing Facility	(units)	5,000,000
Data storage capacity (total)	(Gbytes)	0

Continue overleaf

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

Technical reasons and scientific justifications why additional resources are needed

NB: This is a 2nd request for additional units. My previous request for additional units was based on an estimate which seems to have been wrong based on current progress. I am therefore requesting another 5 million SBUs to ensure completion of these experiments. Apologies for the nuisance. The justification is the same as before, and included again for convenience:

The special project units are intended to be used to carry out a bespoke seasonal hindcast with altered boundary forcing, in order to assess the impact of teleconnections from the Arctic and ENSO. In order to do this assessment it is necessary to compare the bespoke hindcast against a 'Control' hindcast in which default settings are used.

When we applied for these units originally the intention was to make use of such a 'Control' hindcast that we had carried out using the previous incarnation of this special project. However, that 'Control' hindcast used a cycle of the IFS which sadly has not been ported to the new Atos machine (CY47R1). The new bespoke experiment will therefore necessarily have to use a more recent IFS cycle, and will therefore not be directly comparable to the existing Control. This poses a clear obstruction to scientific interpretation, since we won't be able to exclude the possibility that changes in forecast skill are due to the different IFS cycles used.

We therefore request additional units so that we can generate a new Control hindcast using the exact same IFS cycle as the bespoke hindcast we will generate. This will allow for a clean comparison and better science.