

JUSTIFICATION OF RESOURCES

Directly incurred

Research staff

We request support for two PDRA's on Grade x Point x (36 months each), one based in Reading, the other one in Nottingham, for the following reasons. Firstly, success of this project strongly depends on the availability of a full-time researcher who will incorporate the latest soil physical theory regarding below-ground water (vapour) and heat transfer into the JULES land surface model, as well as being responsible for verification of the modified model.

Furthermore, driving and verification data, as well as surface boundary conditions need to be collated and combined from existing data sources to allow for model verification, sensitivity analyses and eventually impact studies. In addition, a full time researcher with good knowledge of numerical analyses and GCHPs will be required to develop GCHP code and incorporate this into JULES. This person will also be involved in the modelling studies mentioned above.

Also, we ask for 5.5 months worth of BGS research staff time in relation to the development of the groundwater model and incorporation of this into JULES. To accelerate the process of model improvement and meteorological data handling, and so to ensure the entire project progresses as scheduled, we seek funds for 12 months, 33% time for an NCAS-Climate based PDRA (currently being recruited) to assist and bring up to speed the PDRA responsible for Jules.

Finally, a small amount of funding is required for a field technician to install and ll amounnoND 1

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