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Model Description Paper 01 Sep 2011

The Joint UK Land Environment Simulator (JULES), model description – Part 1: Energy and water fluxes

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Abstract. This manuscript describes the energy and water components of a new community land surface model called the Joint UK Land Environment Simulator (JULES). This is developed from the Met Office Surface Exchange Scheme (MOSES). It can be used as a stand alone land surface model driven by observed forcing data, or coupled to an atmospheric global circulation model. The JULES model has been coupled to the Met Office Unified Model (UM) and as such provides a unique opportunity for the research community to contribute their research to improve both world-leading operational weather forecasting and climate change prediction systems. In addition JULES, and its forerunner MOSES, have been the basis for a number of very high-profile papers concerning the land-surface and climate over the last decade. JULES has a modular structure aligned to physical processes, providing the basis for a flexible modelling platform.

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