SPECIAL PROJECT PROGRESS REPORT

Progress Reports should be 2 to 10 pages in length, depending on importance of the project. All the following mandatory information needs to be provided.

Reporting year   …2016…………………………………………………….……

Project Title: …Evaluating land surface model uncertainty and strategies for improved forecast skill………………………………………………………….……
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Computer Project Account: … **20160523**
………………………………………………………….……

Principal Investigator(s):   … Professor Hannah Cloke
Professor Anne Verhoef

Affiliation: University of Reading
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Name of ECMWF scientist(s) collaborating to the project
(if applicable)   ………….……

Start date of the project: …2016………………………………………………….

Expected end date: …2018………………………………………………….……

Computer resources allocated/used for the current year and the previous one
(if applicable)
Please answer for all project resources

		Previous year		Current year	
		Allocated	Used	Allocated	Used
High Performance Computing Facility	(units)	NA	NA	250000	10.24
Data storage capacity	(Gbytes)	NA	NA	3000	9

Summary of project objectives
(10 lines max)

30/06/16

Improving the skill of flood and drought forecasts driven by numerical weather prediction requires developments in land surface modelling (LSMs). Particularly important is the representation of soil moisture, infiltration and runoff processes and the feedbacks to the energy cycle. For drought prediction this is particularly important at the seasonal forecasting scale. Here we evaluate land surface model uncertainty and strategies for improved forecasts skill using CHTESSEL, JULES and other LSMs driven by forecasts over a variety of time horizons.

Summary of problems encountered (if any)
(20 lines max)

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Summary of results of the current year (from July of previous year to June of current year)
This section should comprise 1 to 8 pages and can be replaced by a short summary plus an existing scientific report on the project
CHTESSEL was run forced with earth2observe 3hourly data over the UK using the newest Broadwell Cray nodes.
The trial runs over Europe were performed as well.

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List of publications/reports from the project with complete references

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Summary of plans for the continuation of the project

(10 lines max)

- rerunning a 'background' case for Wansbeck/Morpeth event - forced with E2OBS.
- Compilation of Jules and also running this case with CHESS forcing data (1km resolution).
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Once the large scale simulations are performed successfully with both codes, we will run a high resolution (~100m) ensemble runoff (re)forecast for a 2008 Morpeth event .

We are also doing gridded CHTESSEL climate experiments for European domain using E2OBS forcing dataset.

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