

Interactive comment on “Diagnosing hydrological limitations of a Land Surface Model: application of JULES to a deep-groundwater chalk basin” by N. Le Vine et al.

E. Blyth (Referee)

emb@ceh.ac.uk

Received and published: 3 September 2015

This paper is very well written. The logic and clarity are excellent. The science is also very clear. The authors have tackled the issue of how to model chalk within a land surface model, including the issue of linking to a ground water model. The presentation is clear and the results very good.

There are only a few issues with the presentation I would like to make:

Firstly: can you name the model version at the end of each introduction of the improvements in Section 3. So at the end of 3.2, you could say 'this is referred to as

C3449

JULES+PDM' and at the end of section 3.3, you could say ' this is referred to as JULES+PDM+CHALK' etc. Then in Section 4 it is more obvious where they have come from.

Secondly: Can you refer to Figure 3 when you are explaining the dual curve in Section 3.3. It isn't clear from the text how the model would know which curve it should be using. In Figure 3 it is obvious.

Thirdly: The acronym CHESS stands for: Climate, Hydrology and Ecology research Support System. Although I quite like yours too! But we need to stick to one.

Fourthly: Can you have fewer and bigger graphs in Figure 2. We don't need so many examples of the same thing, but we need to see them better.

Apart from that, well done all on an excellent piece of work. This should really move the science on.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 12, 7541, 2015.