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Earth System Science Data Discussions

Interactive comment on "Future Flows Hydrology: an ensemble of daily river flow and monthly groundwater levels for use for climate change impact assessment across Great Britain" *by* C. Prudhomme et al.

Anonymous Referee #2

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General comments

This paper is describing a very useful dataset for assessing the impact of climate change on hydrological variables (and beyond), as a complement to Prudhomme et al. (2012). It is generally well written and should deserve publication in Earth System Science Data. I have only minor comments detailed below.

Specific comments

P1162, L12-17 : It would be appropriate to cite a very recent study covering the whole of the UK (Christierson et al., 2012) and based on UKCP09 products (change factors but also the 11-member RCM ensemble as in the present study), from a study commissioned by UK Water Industry Research, and therefore directly relevant for adaptation purposes.

P1164, L18-21: I suppose the input data for computing PET are those bias-corrected and disaggregated. Please make it clear, and refer here again to Prudhomme et al. (2012), to make sure the reader understand that climate inputs used for deriving this hydrological data sets are described elsewhere.

P1164, L23: CLASSIC is not yet defined

P1164, L256-27: Why not using (at least) a sine curve for avoiding potentially high discrepancies from one month to another? Please justify your approach.

P1164, L15-20: I would put this paragraph right after the list of hydrological model types.

P1170, L16-28: Please define here what is shown in the "performance" (groundwater level catchment) and "performance band" (river flow catchment) cells of the catchment sheet tables. As emphasized by the authors, information about this hydrological modelling performance is of the uttermost importance for a suitable use of these data.

More generally, a "readme" file helping the user in describing and interpreting each catchment sheet would be in my opinion more than useful for this data set (I'm sure something already exists), and should be included in the supplementary files as well.

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Technical corrections

P1165, L11: Hybrid model -> Hybrid models (to be consistent with previous items)

P1169, L5-6: “is not of importance”, please rephrase

References

Christierson, B. v., Vidal, J.-P. and Wade, S. D. Using UKCP09 probabilistic climate information for UK water resource planning, J. Hydrol., 424-425, 48-67, doi: 10.1016/j.jhydrol.2011.12.020, 2012

Prudhomme, C., Dadson, S., Morris, D., Williamson, J., Goodsell, G., Crooks, S., Boelee, L., Davies, H., Buys, G., Lafon, T., and Watts, G. Future Flows Climate: an ensemble of 1-km climate change projections for hydrological application in Great Britain, Earth Syst. Sci. Data, 4, 143-148, doi:10.5194/essd-4-143-2012, doi: 10.5194/essdd-5-1159-2012, 2012

Interactive comment on Earth Syst. Sci. Data Discuss., 5, 1159, 2012.