Natural Hazards and Earth System Sciences
Discussions

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Comment on nhess-2022-84

Jesper Neilsen (Referee)

Referee comment on "Assessing flood hazard changes using climate model forcing" by David P. Callaghan and Michael G. Hughes, Nat. Hazards Earth Syst. Sci. Discuss., https://doi.org/10.5194/nhess-2022-84-RC1, 2022

In interesting read Gents, and a lot of modelling Dave! I have a few points which would have made this an easier read for myself.

- The fact that the hydrology model was a flow routing model (no infiltration) could have perhaps been introduced earlier in the text and Figure 1.
- What is the "bias correction" in the regional models correcting and how big do these biases get?
- I see that LISFLOOD is used for very large domains. Perhaps a sentance or two explaining why the hydrologic model is still waranted would fit.
- Figure 2. The colours of the bathymetry and the associated colour bar have me believing that the catchment is stepped.
- Figure 2. What are the white patches? Could they be important?
- Line 278. The words "flow", "flow rate" and "discharge" are all used in this paper. Is discharge required?
- Line 231 and elsewhere. The word "constrain" is new to me in model development lingo.
- Figure 5 & 6. Wherever differences are plotted, I like the colourscheme to centre around white, with +ve value an increasing shade of red and -ve values a decreasing shade of blue, otherwise it is rather ambiguous.
- How many 1D structures were there in the original MIKE models and how big were they? I know we are doing comparisons here but we are also going to the effort of using a hydraulic model

Cheers,