

Nat. Hazards Earth Syst. Sci. Discuss., author comment AC3
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Reply on RC3

Julia Rulent et al.

Author comment on "Distribution of coastal high water level during extreme events around the UK and Irish coasts" by Julia Rulent et al., Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2021-118-AC3>, 2021

Line 2: lead is a repetition to the first half of the sentence. Maybe better "trigger"

Done.

Lin 76-Line83: Could you please briefly elaborate on why the model performance is less good at locations such as Newlyn, Newport and Cromer? Are these very special locations that are difficult to model?

There is a different plausible explanation for each TG as to why the bias was higher than at most stations.

In Newlyn there seem to be a lag between the TG and model reference level, with the model underestimating high tides and low tides peaks of a relatively constant value.

In Newport the TG seem to be within a harbour (see <https://www.psmsl.org/data/obtaining/stations/351.php>), while in Cromer the TG had problems during 2014 and was not levelled during that period (see <https://www.psmsl.org/data/obtaining/stations/1632.php>), which could explain part of the bias.

However, we do not know for sure why the difference is greater in these locations.

Line 120: Am I reading the plot wrong? Isn't the overall maximum of Hs along the Shetland Islands?

Shetland Islands also have some of the highest Hs, but the single overall maximum point is over the west of Ireland. As per your comment on Figure 5, the maximum points were marked on the plot.

Caption Figure 2: (S)chematic

Done.

Figure 3: The text says that Hs have been 138% higher than the climatological mean, but

the map looks like that it is far below 100 in most areas. Probably something wrong with the colorbar?

Thank you for noticing this, it is an error that has now been corrected. These numbers refer to a different experiment and not the data plotted on the figure. The correct numbers were replaced. The Hs is only 35% higher than on average, while the surge 106% higher than on average. Sorry about this.

Figure 5: I think it might be helpful to mark the location of the overall maximum within each of the maps as the colorbar is not very easy to read.

Done.

Figure 8: (M)ean

Done.

Line 160: hazards(s)

Done.