

Interactive comment on “ESD Ideas: Global climate response scenarios for IPCC AR6” by Rowan T. Sutton and Ed Hawkins

Anonymous Referee #4

Received and published: 11 May 2020

This paper by Sutton and Hawkins presents a new proposal to better reflect geophysical uncertainties that surround the socioeconomic scenario uncertainty in projections of future climate change. The aim of the proposal is to provide more useful information for risk assessments.

The paper in my view can potentially provide a useful contribution to the framing of scenario projections. The suggested visualisation that shows how different thresholds are exceeded as a function of both the forcing and the uncertainty in the response, can provide useful additional insights to users of climate change data. At the same time, the contribution is very succinct and important aspects that are key components of risk assessments are not being covered or discussed. An important aspect in risk assessments is the likelihood connected to a certain hazard. In the proposal presented here,

C1

this dimension is not reflected upon. The authors have selected five different ECS levels, and represent them with equal weight. The same is true for the scenarios for which it is obvious that not all are equally likely. This raises immediate additional questions and issues. In particular, the suggested approach creates a great opportunity for biased representation of scientific evidence, which is skewed towards arbitrary selected extremes.

It would therefore be useful if the authors could give this aspect a bit more thought and come up with a suggestion of how likelihood (at least in the geophysical sense) could be incorporated in the visualisations in support of risk assessments.

Interactive comment on Earth Syst. Dynam. Discuss., <https://doi.org/10.5194/esd-2019-88>, 2020.

C2