

Rate-induced tipping in natural and human systems

Reviewer 3 Responses

We are grateful for the constructive reviewer comments received on our manuscript. These comments are repeated below in italic type. Our responses are coloured blue and given in normal type. New text copied from our revised manuscript is presented in quotations.

Response to Reviewer 3

This manuscript explains the concepts related to the rate-induced tipping and cites the relevant literature along. As such, it is not really a review, I would rather call it a “pedagogical review”, and it is somehow up to the editors to decide if it fit the scope of the present journal. My opinion on the subject is that it does fit.

It is well written and could almost be published as is, but I have some suggestions on the first two figures to help the reader (including me).

For Figure 1, I would be more descriptive of what is what in the Figure. I had trouble understanding the links between panel a and b at first glance. I have a proposal below:

Anyway, the authors could change it differently, as long as it becomes clearer.

We thank the reviewer for the suggestions, we will add the following annotations to panel (b) to aid the understanding of the figure: add a black arrow and label indicating the shift in the stability landscape, add labels for the “initial threshold position”, “initial stability landscape”, and “new stability landscape”.

For figure 2, for each panel, I would add besides the external forcing evolution as a function of time for the two different curves, as is done in Figure 4. For it is crucial not to lose the reader at this crucial point.

Agreed, and thank you for this suggestion, above each panel we will add time series of the external forcing.

Note that the resolution of the figures is not sufficient for printing (screen is ok).

We will provide figures in the required specification by the publishers when applicable.