

Reply to Rebecca Priestley

We thank the reviewer for another set of constructive comments. Our responses are below, in blue font.

I enjoyed reading this revised draft of the paper. The issues around clarity of language that I identified in the first draft have been resolved, and the paper is now clear and focused in its message.

I just have some small issues that, if resolved, will make the paper even more impactful and useful.

1. Looking at your definitions of practitioner and policymaker in the footnote on page 1, I'm wondering where 'policy advisers' fit? Under your definition would they count as practitioners? In New Zealand the policy adviser works for a government agency and "gathers evidence, analyses policy issues, develops policy options and prepares policy advice for defined policy issues" (I took this from an online job ad). I've not looked into how they are defined in other countries (or how much this job description is even used) but it seems to me that policy advisers are a key audience for this paper - but I don't think they'd define themselves as practitioners. If they are to be included in the word practitioners, perhaps that could be made clear?

We agree that policy advisors are a key audience. We think it is more straightforward to group them with practitioners than to create a separate category, so we modified the footnote as follows (new text in italics):

... Practitioners include staff charged with evaluating and developing solutions to climate-related risks who work for local, state/provincial, and national governments, land managers, corporations, and other public or private sector entities. *This term would also include policy advisors—those who analyze complex issues and develop options, given a defined policy.* We distinguish practitioners from policymakers—the legislators and other government officials who create laws and regulations.

2. In line 40, inside the brackets, I suggest the semicolon is replaced by a colon, or some other thought given to punctuation and structure to make it clear that DMDU is an abbreviation of the last four words, and is separate to the citation (it took me a while to figure out!)

Sorry for the confusion. We modified the sentence:

Researchers and practitioners have developed frameworks for decision making under deep uncertainty (DMDU) (Marchau et al., 2019a).

3. Lines 59–61, from ‘would say’ to ‘long run’ raised questions for me (if you’re drawing on philosophy of science there’s a lot to unpack with the statement ‘science can be objective’ and the next sentence lacked clarity) and I wondered if these lines were even necessary – the next paragraph is very clear and sets out the key points that Longino is making. I would suggest that the first two paragraphs of section 2 be revised to cut much of lines 59–61.

We cut much of lines 59–61 and combined the first two paragraphs of Section 2 into a single paragraph:

... Furthermore, many philosophers of science—including Helen Longino, from whose work we draw here—have argued that the organization of scientists in communities leads to greater understanding and more reliable predictions. Longino (1990) emphasizes ...

4. On line 85, the phrase ‘their attention may be drawn’ was passive in a way the rest of the paper is not – perhaps this could be rephrased as ‘they are likely to be exposed to’ or something similar (just a suggestion)

We switched to active voice:

When practitioners learn about climate research through media reports, they are likely to give undue attention to a small number of studies in high-impact journals ...

5. On line 89, I suggest that ‘If they rely on media accounts for the’ is changed to ‘If they rely on media accounts to alert them to’ – otherwise it suggests they’re getting their science from the media reports, rather than from the papers the media reports are covering.

That’s a good point. We changed the sentence as suggested.

6. On line 280, is ‘vetted’ the right word? This word is fine in its meaning of ‘evaluation or appraisal’ but it can also imply this is done for some kind of ‘official approval or acceptance’ which might go further than intended by this statement?

We meant “vetted” in the sense of evaluation and appraisal. To avoid confusion, we replaced “vetted” with “evaluated”.

7. Finally, a key message in this paper, set out in the abstract, and on page 4, and in the recommendations, is that science should only be considered actionable if ‘evaluated by a diverse group of scientific experts’. It’s made clear that this happens in the IPCC system, but do you have any other examples of where this happens? Or if it currently only happens in IPCC reports, how or where else might it happen? This doesn’t need to be fully set out in the paper but I think the paper should make it clear that either (a) we need new systems and structures to do this, or (b) there are already many examples (other than IPCC) of where this is done. Or is

this paper a specific call for IPCC advice to be the only science taken into account for sea level rise decision making? If so, this could be stated explicitly.

Thank you for the suggestion. While the IPCC reports are not the only place this happens, there are relatively few other examples (at least for sea-level projections), so we think new structures would be valuable. We added the following sentence at the end of the second paragraph of the Recommendations:

Since IPCC reports are infrequent, we recommend new structures that regularly bring together scientific experts to assess ongoing research on sea-level rise and other fast-evolving topics.

The last paragraph refers to the aim of PEERS to “create practice-centered collaboration with a diverse group of scientific experts”. This would be one such structure.