

Dear Louise, thank you for your comments on our responses to the reviews. Below, we briefly respond (in black) to your comments (in blue):

Thank you for engaging so thoroughly in the discussion process. As per your responses to the three comments (CC1, RC1 and RC2), please incorporate the changes you propose into your revised manuscript.

Yes, we will do. We already have a revised version of the manuscript ready, but are waiting for that step in the GC process.

In addition, please consider these additional comments from myself:

- As per RC2, please consider briefly highlighting the different actors of climate communication (e.g., knowledge brokers) in the introduction (i.e., not only discussion). While your focus on scientists, partly to keep the scope of your article realistic, makes sense, I believe that briefly mentioning other actors that exist in this sphere would help set the scene a bit more completely and do these various actors' and their important work justice.

This is a good idea. We have now added a sentence to the first sentence of section 1.1. in our revised manuscript: "While there are other actors who engage in climate communication (e.g. communication professionals, knowledge brokers), we chose to [...]"

- Please state that you use the different roles of scientists for your literature evaluation (section 2.2), as you did for the three levels of evaluation at the end of section 2.1.

A good point. We have now added a section to the end of section 2.2: "Again, we used these three roles of scientists to review the climate communication activities that are described in the literature."

- In your process for the literature review, you mention selecting articles based on whether they describe the "impact" of climate communication activities. Yet in section 2.1 you highlight two lower levels ("output" and "outcomes"), which you report on in the results. And none of the articles you retained evaluate the "impact" the climate communications activities, as reported in section 4.3. Can you please address this inconsistency between your methods and the results?

This is a very good comment; you are right that this was an inconsistency in the original manuscript. In the revised manuscript, we now rephrase the sentence in section 3.1 to "(2) the study describes *the output, outcome, and/or impact* of climate communication activities."

- Please consider adding key outputs/outcomes/impacts (point 3 of your analysis, sections 4.2 and 4.3) to your table in Appendix A.

We have tried this in an earlier version of the manuscript, but the table became too unwieldy; as it was sometimes difficult to summarise the output, outcome and/or impact in a few sentences. We thus prefer to keep it as is.

- From your evaluation of these 7 articles, can you comment on whether there are any patterns emerging on the type of activity, the audience reached, and the goal of the study? For example, are there specific activity formats that seem to be preferentially used with specific audiences or goals (and ultimately impacts)? This article may be of interest: <https://doi.org/10.5194/gc-2-39-2019>

We have looked into whether we could discern any patterns, but seven articles are just too few to make meaningful/robust statements. We don't want to overspeculate and therefore leave the analysis of patterns to a potential follow-up study in a few years' time, when hopefully the number of articles on the evaluation of science communication activities by climate scientists has increased significantly.

- You could consider writing "outputs" and "outcomes" in italics in sections 4.2 and 4.3, like you do for "impacts", so we quickly make the link with the three levels of evaluation you present in section 2.1.

This is a good idea; we have changed this in the revised manuscript.

- Please address potential limitations of your search criteria in a bit more depth in the discussion. Here are some ideas of topics that could be addressed: potentially missed articles due to the selection of keywords, outcomes not published as articles, but in other formats such as internal reports (which you mention), blog posts, or conference presentations.

We have added a paragraph to the discussion section of the revised manuscript:

"Of course, we might have missed evaluations because of too stringent search terms (Table 1). We could have missed relevant keywords, although for example a test to extend the search with the keywords 'dialogue' and 'participatory' only seemed to lead to false positives. Alternatively, evaluations of science communication activities could have been published outside of the peer-reviewed literature, as for example internal reports, blog posts or conference presentations."

- This GC editorial currently in discussion highlights support for scientists to become better communicators, among other things, and could be of interest: <https://doi.org/10.5194/egusphere-2023-3121>

While this is a very interesting editorial, we prefer to keep our cited literature to published papers as much as we can. We are confident that your editorial will get the attention and recognition that it deserves as soon as it is published.

- It is not very common to include new content/references in the conclusion section (one-to-last paragraph). Please consider moving this new content earlier in the paper instead, perhaps in the discussion section.

We have moved this paragraph to the discussion section in the revised version of the manuscript.

- I am not sure whether your approach for highlighting studies included in the review (*) will work with the format of GC papers. If it doesn't, these could perhaps be identified in a new table in the appendix instead, as I think it's indeed useful to highlight them.

Yes, this is a good idea. We have included a list of the seven articles in Appendix A in the revised manuscript.