

Geosci. Commun. Discuss., referee comment RC3
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Reply on RC1

Anonymous Referee #2

Referee comment on "Marine meteorological forecasts for coastal ocean users – perceptions, usability and uptake" by Christo Rautenbach and Berill Blair, Geosci. Commun. Discuss., <https://doi.org/10.5194/gc-2020-50-RC3>, 2021

Thank you for the opportunity to review this manuscript.

You have produced a paper on a very pertinent topic that, as you correctly identified, has not received a lot of attention thus far in the academic literature but is a topic that is highly relevant among specific communities of practice - in your case, the marine user community. I enjoyed reading about the approach you have taken and the potentially very promising comparative analysis.

However, I was somewhat disappointed by how sloppily the manuscript was put together. There are numerous typos, punctuation errors and mistakes in syntax and grammar (see e.g., ll. 9, 20, 26, 71, 97, 108, 126, 172, 256, 342, 345, 356, 357, 371, 403, 439, 463, 465, 471, 473, 477, 540 or 546), which thorough proof-reading should have revealed, especially since the lead author seems to be a native English speaker originally from South Africa. The abstract seems to have been put together in a hurry and is rather disjunct and unconvincing, especially since relevant context is not provided (e.g., what is the "proposed disconnect" you are referring to, and who "proposes" its existence?). An abstract should contain a short synopsis of the key conclusions reached, which are currently not highlighted in the abstract. Sadly, you are not selling your research convincingly if you do not place enough emphasis on a coherent, concise and convincing abstract.

The contextual section 2 of the MS would be better placed in the introduction and before the aims to allow for a better flow from the aims to the methods section. Also note that what you present is a methods section rather than a methodology per se. Section 2 and the Introduction appear to simplify a bit too dramatically, at least for my taste, the character and history of New Zealand and South Africa. Claiming that the two countries are climatologically similar and at similar latitudes is like stating that France and Algeria are at similar latitudes. There are significant latitudinal differences between S.A. and NZ, with the latter also consisting of more than 2 islands as you claimed on p. 5. It might also be worth noting that one is an island state (NZ) and the other is not (S.A.) You refer to

the coastlines of these two countries as "extreme", which made me wonder what you meant by that term.

The methods section raised more questions than it answered. You are posing some interesting and certainly relevant research questions but it is not clear whether these were the questions guiding your overall work and the design of the questions, or whether they were the questions asked in the questionnaire itself. The latter seemed to be the case, which I have not seen done in other survey questionnaires. You also claim to have aimed to "test the differences between the social norms, values and attitudes" (l 170) in NZ and S.A. user groups. This would have been very interesting as well as ambitious, but nothing of what you present in the MS links back to norms, values and attitudes. In fact, you do not provide a definition of these terms nor do you apply any of the established psychological tests that are typically used to explore these aspects. The research process you describe in your methods section left me somewhat puzzled - why was your initial step to formulate research questions, when these should have been identified well before you even set out to think about the survey as surely the questions you ask would determine the most appropriate methods to employ rather than the other way around? You should also explain how many questions you asked in the survey, what type of questions, how you distributed the survey and to whom and most importantly, how you obtained informed consent and protected the rights of the participants. You should also note where you obtained Human Ethics Consent for the survey. With the lead author based in New Zealand, I take it as a given that this has been done and it should be noted in the MS, even if only in form of a footnote. As the data analysis is concerned, the readers would appreciate learning a bit more about Romney et al.'s (1986) consensus model and whether it is still considered cutting edge. What is a UCINET software package? What were the limitations of your analysis and research approach?

Considering the relatively low number of participants, especially from South Africa, it would be prudent to discuss whether the results are actually comparable. You seem to simply assume that they are, but you do not even seem to have statistically significant sample sizes from S.A., especially not when diving them into recreational and commercial users. The figures you include in the paper should ideally be formatted in such a way that the different colours used in the pie charts can be easily distinguished. This is presently not the case, and I suggest linking the categories directly to the respective pie sections to make this clearer. You might also wish to separate the separate questions that you are presenting as subsections of Figure 1 into stand-alone figures, which would make referencing to specific parts of the figures much easier.

In l 255 you claim that "[f]rom these results it seems that most people will only look at a forecast once a day..." - nothing that you present in your MS shows that you can make such a conclusion, and you may wish to examine a bit better how you derive this conclusion. You argue that "[f]air representation was also received from the other districts" (in New Zealand) (l 287) but with 87% of your participant from Auckland, the Waikato, Wellington and Northland, this is not feasible.

The introduction to the CCA results need a bit more explanation of what exactly your process was and how you tested participants' knowledge. You are referring to knowledge and knowledge questions but do not share those with the readers. Instead you are

referring to user needs as "knowledge" but shouldn't this be rather classified as "perceptions or perspectives" seeing that it is highly subjective and will vary from participant to participant with no "right" or "wrong" option. Knowledge can only be tested if there are clear lines between what is a fact and what isn't, and perceptions cannot be evaluated for their "accuracy", nor can they be considered knowledge. How are you demonstrating, or calculating, consensus? What heuristics are you referring to (l 315) and what does "some level of consensus" (l 320) actually mean? What do the axes on the figures in section 4 depict? How have you calculated the consensus in Table 2, and why are in some cells the frequencies replaced by green or red ticks? Shouldn't the frequencies be shown as well? In l 403 you refer to "culturally correct answers" - surely this is a typo; if it isn't then I would strongly urge you to revisit some of the cultural geographical literature and reconsider the appropriateness of using such a term. You claim that users agreed on "a preferred forecast horizon (3-7 days)" (l 433), but in order to do this you must have provided other options. What were those? All in all, section 4 leaves quite a few questions for me, which I hope you can address in a revision of the MS.

Similarly, the discussion and conclusion would benefit from a more critical examination of what you have actually done in your research (compared information obtained from two countries with relatively small samples) vs. what you claim (cross-sectoral and cross-cultural research). What you have done is an important step in the right direction and deserves to be published but I think it is naive to make it sound as 'grander' than it was. You refer to the users having had "a lot of experience with coastal and ocean activities..." (l 472) but it is not clear how and why one could arrive at this conclusion from the data you collected. What do you mean by "their interpolation" (l 479) or "users' decision quality" (l 530) - these terms will have to be defined more clearly.

Overall, I think you have collected some interesting data that deserve to be published, and I am sure that you will be able to carefully review and revise your MS to bring it into a publishable form. I wish you all the best on this journey and look forward to seeing your work in the public realm.