

Interactive comment on “Late Holocene intensification of the westerly winds at the subantarctic Auckland Islands (51° S), New Zealand” by Imogen M. Browne et al.

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Dear Imogen,

Your manuscript “Late Holocene intensification of the westerly winds at the subantarctic Auckland Islands (51° S), New Zealand” is a very interesting contribution for the knowledge of past climate, and ocean reconstructions at the Southern Hemisphere. In general, the quality of the information described in the manuscript is good, as well as the figures and tables. With humility and to enhance the writing of your scientific contribution my main suggestions are: 1) to include in the study area climatological modern data description related to precipitation and runoff discharge if exists, and 2)

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re-organize the discussion, and results chapter. The discussion is too long and not focused on the topic described in the title of this manuscript. I believe that the chapters 5.4.1, 5.4.2, and 5.4.3 could be nicely summarized in a discussion table.

Also there are minor changes to be done in order to highlight the results of this interesting investigation.

1. Between lines 15 and 25: You mention “Drainage basin response”, “Hydrographic response”, and “vegetation response”. All in relation to SHWW variability. I believe that is necessary to clarify such “responses” because is too vague. This would make easier for the reader to have a better comprehension of what you want to say when you mention such “responses”.

2. There is an inconsistency with the term between the meaning of C/N lines 18, and 83. ... “monitor influxes of lithogenous, and terrestrial vs marine organic matter”. ... Lithogenous has nothing to do with organic matter provenance I believe.

3. Between lines 87, and 94: I suggest addressing these questions to the discussion chapter. In the introduction I would only leave open the question that can be fully addressed by the results presented in this manuscript.

4. First paragraph between lines 117 to 121: I suggest to move this historical information to the introduction chapter.

5. Between lines 121 to 125: I suggest to move this paragraph to continue in line 103 as. ... At the present, shelf waters surrounding the Auckland. ...

6. Paragraph starting in line 123 to line 127: I suggest to move to the introduction chapter, considered as an author’s hypothesis that also justifies this study.

7. In the Methods chapter I suggest to move lines 137 and 140 (about seismic profiles results) to the result chapter of the manuscript.

8. In the discussion chapter I suggest to move lines from 284 to 294 somewhere to the

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introduction chapter or include into the study area as a regional setting.

9. Between lines 299 to 300 you mention "we speculate". Also use this starting in sentence in line 318. I suggest for the discussion chapter starting sentences that enhance the value of the data presented in this investigation.

10. Error in line 471 because the cited reference does not describe inorganic carbon, it describes biogenic carbonate.

11. Figure 1. There is a universe of stars in the figure. In general, I suggest resizing (to observe detailed view of piston corer as you wrote in the captions), and labelling again the pannels because there are two figures more, not only one. Is necessary to indicate site 36P4 in bigger pannel (c). Would be interesting to include modern climatological data in the area (for example, precipitation curves and/or runoff discharge) since the interpretation of sediments is based on organic matter provenance proxies. I suggest to use another forms and colors to make differences on what is written in the text. See other error on figure: rhombus overlapping red star in the bigger (c) pannel.

12. Figure 2. Is necessary to indicate site on figure sites 36P4 and 39P4.

13. Figure 7. In relation to interpretation on organic matter provenance I suggest to look at the paper of Perdue and Koprivnjak, 2007 where they use molar N to C ratios to define end members and discriminate between terrestrial and marine organic carbon.

I hope all these recommendations would improve the communication of your manuscript.

My best regards and success,

Claudia M. Aracena P.

Interactive comment on Clim. Past Discuss., <https://doi.org/10.5194/cp-2017-52>, 2017.