

Clim. Past Discuss., referee comment RC1  
<https://doi.org/10.5194/cp-2022-39-RC1>, 2022  
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## Comment on cp-2022-39

Anonymous Referee #1

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Referee comment on "1750 years of hydrological change in southern Australia: a bivalve oxygen isotope record from the Coorong Lagoon" by Briony Kate Chamberlayne et al., Clim. Past Discuss., <https://doi.org/10.5194/cp-2022-39-RC1>, 2022

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This paper is one in a series by the authors which look at the use of the bivalve *Arthritica helmsi* as an indicator of past hydrologic and climate change. It builds upon previous papers which look at modern and museum specimens of this species and its suitability for isotopic studies. This study is located in an area of significant interest in Australia, with regards water management, cultural connections and understanding past hydrologic conditions. The study is well-constructed, and the findings clearly presented. The establishment of the local reservoir effect for radiocarbon dating is particularly to be commended. The results are of significance not only in addressing a long-running debate in the palaeohydrology of the Coorong Lagoon, but also in adding another high-resolution climate record for southeast Australia over the past ~2000 years, allowing more robust comparisons regionally and globally.

Specific comments attached.

Please also note the supplement to this comment:

<https://cp.copernicus.org/preprints/cp-2022-39/cp-2022-39-RC1-supplement.pdf>