



EGUsphere, referee comment RC1
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Comment on egusphere-2022-1336

Anonymous Referee #1

Referee comment on "Observed multi-decadal trends in subsurface temperature adjacent to the East Australian Current" by Michael P. Hemming et al., EGU sphere,
<https://doi.org/10.5194/egusphere-2022-1336-RC1>, 2022

Observed multi-decadal trends in subsurface temperature adjacent to the East Australian Current

This paper utilizes temperature measurements near the surface of ocean waters to determine whether a trend exists. The East Australian Current is on the western side of the South Pacific subtropical gyre. There have been hints that this current may be strengthening over time. These changes along with the impact of these waters both regionally and for the globe makes this subject important for the scientific community.

Can the authors explain why the two particular sites are chosen? Are they selected because of their measurement quality? Because they are the only sites available? Because they are at particularly important locations? What is the reason?

I see a discussion about the accuracy of sensors that are on each of the observing platforms. But what about systematic biases?

I don't see a reference or a discussion of figure 3 prior to the appearance of the figure. Perhaps I missed it?

In the second paragraph in Section 3.1, what I think are surprising results are discussed. That the warming rates at deeper layers exceed those at shallower layers. This behavior is discussed in depth in Section 4.1 with plausible physical mechanisms.

Did you mention any QC that is used on these measurements? If that was done, I missed it.

I also wonder how valuable it is to compare against quite old studies (Bindoff 1997 for example). I would think that limiting to studies done in the past decade or so would be wise. Perhaps they are not available?