Ocean Science

Discussions

EGU

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Interactive comment on "The CORA 5.2 dataset: global in-situ Temperature and Salinity measurements dataset. Data description and validation" *by* Tanguy Szekely et al.

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This review have pointed out many smalls parts of the text that needed to be clarified and/or formulated differently. We managed to do so in the last version of the text, improving the global quality of the text.

Most of these comments concerned the sections describing the dataset and the analysis method. There were however almost no questions relative to the paper discussion and conclusion.

The following points are specifying which action have been take reguarding to the re-

viewer's comments.

p 1, l 3: ARGO only needs a capital A as it is not an acronym – this is true elsewhere in the paper as well.

- Done

p 2, l5 : is should be in

- Done

p 2, l 8 : : 2013 not 3013

- Done

p 2, l 10 : CORA always seems to be in capitals - is it an acronym? If it is, what does it stand for? If it isn't why is it in capitals?

- CORA stands for Coriolis Ocean dataset for ReAnalysis. It has been changed in the text.

p 2, l13 : whereas -> conversely

- Done

p 2, l 21 : Consider putting n and n-1 in italics

- Done

p 2, l 23 : You switch between global heat content, ocean heat content and global ocean heat content quite a lot in this paragraph, it's best to be consistent.

- The text has been accordingly changed.

p 2,l26 : These Cheng and Boyer references don't appear in the reference list.

- The reference have been added in the bibliography section

p 2, l 29 : Inconsistent referencing style.

- Done

p 3, l 50 : Telecommunication

- Done

p 3, l 70 : No need to start a new paragraph here.

- Changed

p 3, 73 : l what about between 1965 and 1970?

- The sentence have been reformulated

p 4, l 91 : Can you explain why the yearly number of XBT profiles strongly decreases?

- Done

p 3, l 110 : Treated as an independent profile as opposed to what? Averaging?

- The sentence have been reformulated

p 6, l160 : Not sure what this sentence is trying to say? What are the redundant tests?

- The sentence have been reformulated

p 6, l 164 : I'm not sure the < signs are the right way round here. I would read this as DEPTH < -2.5m, as in negative depths, but earlier (line 75) you have referenced depths in the ocean as being negative. Please check for consistency.

- The text have been changed for more consistency

p 6 , l 177 : If most of the density inversions are caused by salinity spikes are these also picked up by the spike check or are they too small to be picked up by this?

- The sentence have been reformulated

p 7, l 191 : Are "hedgehog" type profiles very spiky ones? It may be worth clarifying this.

C3

- Some precision have been added.

p 7, l209 : Just the upper and lower adjacent cells in the same grid column or do you look at surrounding grid boxes as well?

- The sentence have been reformulated

p 7, l 212 : Is this not quite a deep continental shelf criterion? Please give a reference explaining this value.

- The sentence have been reformulated

p 7, l 214 : I couldn't find this reference? Is it meant to be in prep for 2019?

- This second paper is under review. The reference have been updated to clarify this point.

p 7, l 205 : Explain what the ISAS objective analysis field does? Makes comparisons to an objective analysis field I assume? Also, spell out ISAS if it is an acronym.

- The exact framework of the ISAS objective analysis method is given in the referenced paper.

p 7, l 224 : Are these different from the stability checks?

- The sentence have been reformulated

p 8, l 228 : Do these tests flag a significant number of data after the minmax test has already been performed?

- The text have been rewriten to answer to this point.

p 8, l 245 : This is the first time you've mentioned different levels of flags. It is probably worth adding in a short paragraph somewhere explaining what flags a profile/ value could get? Is it good, probably good, bad, probably bad?

- The flag level signification have been added in a paragraph in the previous section.

C4

p 8, l 249 : You reference a deeper layer on line 288. If you go down deeper can you specify the depth of these layers as well? The layer depth has been specified.

p 8, l 261 : Are the r_l and r_L always 5 degrees regardless of lat and long values? what are the l(i,j) and L(i,j) the lat and long of the profiles? Although I'm not sure what the i and j stand for - please explain further. Are G(i,j) then the weights given to individual values?

- The correlation function parameters have been explained.

p 8, equation 2 : What's T bar _p? I would have thought the mean temperature of a profile, but this doesn't necessarily make sense in a single grid cell? I'm confused what's being averaged here.

- The sentences have been reformulated to better explain the objective analysis framework.

P 8, l282 : This seems to be repetition of the paragraph on lines 243-245? But with reference to another objective analysis - I suggest merging this paragraph with the earlier one to avoid confusion.

- The paragraphs have been merged.

p 8, l 289 : Do you mean drift in where they're located or drift in the measurement values? Please clarify.

- The signification of drift has been specified.

p 9, l 306 : Do you know why?

- Actually, we do not, but the answer of this question is not within the scope of this study.

p 9, l 351 : Why are these two time periods split when they are contiguous?

- The sentences have been reformulated.

p 11, l 382 : I'm not sure how lines 373-375 link to the rest of the paragraph as it doesn't seem to be explaining the spikes? Having now read on I see that these spikes are explained later, please move that explanation here instead.

- The sentences have been reformulated

p 12, l 385 : Is this over all layers or just the 0-50m layer? Please specify.

- The sentence has been reformulated

p 12, l 387 : which other layers? Those that aren't 75-125m in depth?

- The sentence has been reformulated

p 13, l 434 : You use last twice.

- The sentence has been reformulated

p 13, l 443 : Not entirely sure what these sentences from line 440 mean?

- The sentence has been reformulated

Please also note the supplement to this comment:
https://www.ocean-sci-discuss.net/os-2018-144/os-2018-144-AC2-supplement.pdf

Interactive comment on Ocean Sci. Discuss., https://doi.org/10.5194/os-2018-144, 2019.