

Dear Dr. Gattuso,

Thank you very much for all the work that you have done on the paper! We have finalized all the corrections. Please find our point-by-point answers below.

Sincerely,
Filippa Fransner and co-authors

- Fig. 2: it would be great to make this figure and its legend self-explanatory. Could you mention the units of CT and of H⁺ change, specifically mention in the legend that pHi is initial pH, also in the legend the pH scale?

We have revised the figure as suggested, and think that it is now much better!

- 221: at at

Corrected

- 378: Fig. 3d

corrected

- Fig. 4: it would be great to have the color code of the future scenarios shown in the figure rather than described in the legend; mention the fact that this is pH on the total scale (also in other figures even though it is mentioned once at the beginning.)

We added the color codes for the future scenarios in the figure, and now mention that pH is on total scale. We also revised the other figures accordingly.

- Table 4, S2, S10 and Fig. 7, 8, 13, S1, S18, S21: Indicate that the acronyms identify basins which are defined in Fig. 1 (definitions are often though not always given in the supplementary material but I suggest to refer to Fig. 1). That is the minimum to be done. It would be even better to provide the basin names in full, on two lines if needed.

We have provided the basin names in full in all related figure and table captions.

- Fig. 6 is perhaps a bit small. Make sure that the final one has the proper size and resolution.

Done

- 517: 2 °C

corrected

- Fig. 14 and : spell out "residuals" in full on the plot (it is not longer than "temperature")

Done

- 647: This work builds on Skjelvan et al. (2014)

corrected

- 650: climatology

corrected

- Data availability: please add the urls of the datasets stored in the NECI and NMDC databases.

Added

- Table S2 and S3, S4, S5: In most instances, it does not make sense to provide 2 decimal places considering the (relatively large) SEs.

We changed table S2 (for temperature), so that it displays one decimal place. For the other tables, however, we decided to stick with two. In these tables, in some cases the significance of the trend depends on the second decimal, and we prefer being consequent with the numbers of decimals within one table.

- Fig. S5: add space between a number and the unit (4000 m)

Done

- Fig. S16: there is no yellow. By the way, it would be a good idea to keep the blue here and replace the yellow color, which is more difficult to read, in previous figures.

We corrected it so the time series figures have the same color coding in the main manuscript and the supplementary. We made the yellow darker, more orange, to make it more visible.