

Ocean Sci. Discuss., referee comment RC3
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Comment on os-2021-15

Anonymous Referee #3

Referee comment on "Estimating the Absolute Salinity of Chinese offshore waters using nutrients and inorganic carbon data" by Fengying Ji et al., Ocean Sci. Discuss., <https://doi.org/10.5194/os-2021-15-RC3>, 2021

The authors present the Absolute Salinity Anomaly distribution in Chinese shelf waters where the Absolute Salinity Anomaly is expected to be largely affected by river waters. These information about the Absolute Salinity Anomaly and dataset used are valuable and should be published by Ocean Science, because to observe these shelf waters might be difficult by countries other than China. I have some comments for this manuscript, and it is recommended that these comments are considered before publication.

Data availability: Is the dataset used in this manuscript publicly available? A data availability statement should be noted.

Line 1: A term "China Sea" in the title is unclear. It should be changed correctly, such as "Chinese shelf waters" or "Chinese offshore waters" from the text, or "the Bohai, Yellow, East China and South China Seas" for more correctly.

Lines 98-99: "Total Alkalinity ΔTA " should be changed to "Total Alkalinity (TA)", and "Total Dissolved Inorganic Carbon, ΔDIC " should be changed to "Total Dissolved Inorganic Carbon (DIC)".

Line 101: "Ryan (2014)" should be changed to "Ryan et al., (2014)". Also, Feistel (2011) is cited at Line 117, but it does not exist in the references. Please check all citations and references.

Line 104: Please explain what $\Delta N[Ca^{2+}]$ is, similarly to the explanation of $\Delta [NTA]$ above (Lines 98-99).

Line 145: Judging from Table 1, "from 0 to 0.30 g kg⁻¹" should be changed to "from -0.05 to 0.28 g kg⁻¹". Also, Lines 159 and 266 should be corrected accordingly.

Line 157: The minimum value (-0.05 g kg⁻¹) seems to be quite large negative value. It should be noted which property (TA or DIC) contributes to the large negative value.

Line 241: "PIC" should be changed to "Particulate Inorganic Carbon (PIC)".