Ocean Science Discussions

Ocean Sci. Discuss., referee comment RC1
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Comment on os-2021-15

Anonymous Referee #1

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-RC1, 2021

The paper presents a comprehensive analysis of significant seawater salinity anomalies along the Chinese coast. It is a tutorial demonstration of the new powerful options available from the new TEOS-10 standard with respect to sea salt composition variations. Caused by riverine dissolved lime discharge, significant anomalies are found similar in magnitude to those of the Baltic, unexpectedly, as the China Sea is not a semi-enclosed basin.
The GSW salinity-anomaly climatology does not include the anomalies described here and may require a similar regional CaCO3 "exception" as already implemented for the Baltic.
There are no technical or language problems of the paper to be raised.

Publication of this novel and instructive study is recommended with only few minor edits.

Technical corrections:

Abstract: "Instead of silicate, CaCO3 originating... " Say why silicate is mentioned here

line 116: spell out GSW

line 211: typo "heavily influenced"

line 241: spell out PIC