

Earth Syst. Sci. Data Discuss., author comment AC1  
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## Reply on RC1

Jiye Zeng et al.

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Author comment on "A new estimate of oceanic CO<sub>2</sub> fluxes by machine learning reveals the impact of CO<sub>2</sub> trends in different methods" by Jiye Zeng et al., Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2022-71-AC1>, 2022

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Thanks to the reader for the comment.

Strictly speaking, YEAR was not included in training machine learning models directly. Instead, the annual increase rates of CO<sub>2</sub> at decadal scales were extracted by an iteration method and the rates were used to remove the trend in CO<sub>2</sub> measurements. The trend removed (or normalized) data were used for training the models. The iteration method used machine learning to remove the dependence of CO<sub>2</sub> on SST, SSS, MDL, CHL, LAT and LON and used linear regression to removed the dependence of CO<sub>2</sub> on YEAR.

In addition to citing the referenc of the iteration method, we will put the description in the next revision.