EGU23-12786, updated on 29 Jan 2024
https://doi.org/10.5194/egusphere-egu23-12786
EGU General Assembly 2023
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Constraining regional and global ocean carbon fluxes in RECCAP2

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Keeping global warming in line with the Paris Agreement requires rapid reductions in CO_2 emissions. Tracking these reductions demands a thorough bookkeeping of natural and anthropogenic carbon fluxes. The second REgional Carbon Cycle Assessment and Processes (RECCAP2) activity of the Global Carbon Project aims to accurately assess land and ocean CO_2 sources and sinks through the efforts of hundreds of scientists around the globe.

For the ocean component, regional budgets are developed for the global ocean and five large regions for the period 1980-2018. In addition, four 'special focus' themes, namely the biological carbon pump, the seasonal cycle, the coastal ocean and model evaluation are addressed. We use state-of-the-art ocean models and observation-based datasets to provide robust estimates of regional CO_2 budgets and constrain their uncertainties. Here, we will provide an overview of RECCAP2 activities, and showcase key results focusing on mean ocean carbon fluxes, and their trends and variability.

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