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Welcome back to Spooler!

Dhruv Balwada, @BalwadaDhruv — Logout

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A thread by **Dr. Nancy Williams**

My ocean carbon people: Anyone else feeling overwhelmed by, among other things, the sheer number of air-sea CO2 flux-related studies this year? I'm loving it but OMG I can't keep up. Someone please write a review Or maybe we need a reading group? During my PhD, I worked on how to estimate pCO2 (and air-sea fluxes) from a float with a pH sensor. The CO2 system is a royal PITA and there's a lot we still don't understand so I'm glad to see so much renewed attention to these details. The plot is THICKENING. I see you, OGs

Ok here's a few, in no particular order, and I haven't read them all carefully...yet:

"Revised estimates of ocean-atmosphere CO2 flux are consistent with ocean carbon inventory" Watson et al. 2020, Nature Communications

<u>@jamieshutler</u> <u>@austropet</u> (nature.com/articles/s4146...)

"Contribution of Sea-State Dependent Bubbles to Air-Sea Carbon Dioxide Fluxes" Reichl and Deike 2020, GRL

(agupubs.onlinelibrary.wiley.com/doi/10.1029/20...)

"The ECCO-Darwin Data-assimilative Global Ocean Biogeochemistry Model: Estimates of Seasonal to Multi-decadal Surface Ocean pCO2 and Air-sea

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CO2 Flux" Carroll et al. 2020 JAMES <u>@austropet</u> <u>@jon_lauderdale</u> (<u>agupubs.onlinelibrary.wiley.com/doi/abs/10.102...)</u>

- "Current estimates of K1 and K2 appear inconsistent with measured CO2 system parameters in cold oceanic regions" Sulpis et al. 2020 Ocean Science Discussions <a href="mailto:oceanic goldones: 2020 Oceanic g
- "Global ocean spectrophotometric pH assessment : consistent inconsistencies" Alvarez et al. 2020 Environmental Science and Technology <u>@MartaAlvarezRo5</u> (<u>pubs.acs.org/doi/10.1021/ac...</u>)
- "A comparative assessment of the uncertainties of global surface ocean CO2 estimates using a machine-learning ensemble (CSIR-ML6 version 2019a)-Have we hit the wall?" Gregor et al. 2019 <u>@LukeGre</u> Geoscientific Model Development <u>(gmd.copernicus.org/articles/12/51...)</u>
- "A Simple Model of Chemistry Effects on the Air-Sea CO 2 Exchange Coefficient" Jørgensen et al. 2020 (onlinelibrary.wiley.com/doi/abs/10.102...)
- "Sea-ice loss amplifies summertime decadal CO2 increase in the western Arctic Ocean" Ouyang et al. 2020 Nature Climate Change (nature.com/articles/s4155...)
- "Estimating Air-Sea Carbon Flux Uncertainty Over the Tropical Pacific: Importance of Winds and Wind Analysis Uncertainty" Chiodi et al. 2019 Global Biogeochemical Cycles (onlinelibrary.wiley.com/doi/abs/10.102...)
- "External Forcing Explains Recent Decadal Variability of the Ocean Carbon Sink" McKinley et al. 2020 AGU Advances @OceanCarbon (onlinelibrary.wiley.com/doi/abs/10.102...)
- "Satellites will address critical science priorities for quantifying ocean carbon" Shutler et al. 2020 Frontiers in Ecology and the Environment openities.org/gamieshutler
 <a href="mailto:openities.o
- "Assessment of pH dependent errors in spectrophotometric pH measurements of seawater" Takeshita et al. 2020 Marine Chemistry <u>@Kenatmbari</u> (doi.org/10.1016/j.marc...)
- "Southern Annular Mode influence on wintertime ventilation of the Southern Ocean detected in atmospheric O2 and CO2 measurements" Nevison et al.

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2020 GRL (onlinelibrary.wiley.com/doi/abs/10.102...)

"Inferring Air-Sea Carbon Dioxide Transfer Velocities From Sea Surface Scatterometer Measurements" Ghobadian and Stammer, 2019 JGR Oceans (onlinelibrary.wiley.com/doi/abs/10.102...)

"Precipitation-induced reduction in surface ocean pCO2: Observations from the eastern tropical Pacific Ocean" Ho and Shanze 2020 GRL <u>@ david ho (agupubs.onlinelibrary.wiley.com/doi/epdf/10.10...)</u>