

Reply to Associate Editor Manmohan Sarin regarding “Hydrological cycle amplification imposes spatial pattern on climate change response of ocean pH and carbonate chemistry” by Allison Hogikyan and Laure Resplandy.

1. Abstract, line 6: Authors may like to replace the word 'culprit' with mechanism or process.

The sentence now reads: “Here, we investigate spatial patterns in the climate effect on surface-ocean acidification (and the closely related carbonate chemistry) in an Earth System Model under a rapid CO<sub>2</sub>-increase scenario, and identify a different driving process.”

2. Section 2.2, line 127: Please consider clarifying 'where this error is small'. This sounds very qualitative statement!

The sentence now reads: “...we restrict our analysis to the mixed layer, where this error is very small relative to the changes driven by temperature and freshwater effects (as demonstrated in Figures 3 and A1, A2).”

Thank you for your careful consideration.

Sincerely,

Dr. Hogikyan, Dr. Resplandy