

Interactive comment on “Potential impact of DOC accumulation on $f\text{CO}_2$ and carbonate ion computations in ocean acidification experiments” by W. Koeve et al.

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The contribution of Koeve et al. (2011) is important because it could have serious implications on the set-up of ocean acidification experiments. It is critical that the potential problem of using C_T and A_T to estimate $f\text{CO}_2$ is re-assessed in the context of perturbation experiments. The problem of using A_T when the DOC production is high is briefly mentioned in the “*Guide to Best Practices on Ocean Acidification Research and Data Reporting*” (Gattuso et al., 2010) and a more extensive coverage may be needed in a subsequent edition.

I just want to highlight the fact that the potential discrepancy that is described by Koeve

C600

et al. (2011) is perhaps not very widespread. The reason is that phytoplankton perturbation experiments often use diluted cultures and benthic perturbation experiments often use open-water systems. In both cases there is either little or no accumulation of DOC. It would be useful to estimate the number of experiments published to date that are potentially affected.

Reference cited

Gattuso J.-P., Lee K., Rost B., Schulz K. & Gao K., 2010. Approaches and tools to manipulate the carbonate chemistry. In: Riebesell U., Fabry V. J., Hansson L. & Gattuso J.-P. (Eds.), *Guide to best practices for ocean acidification research and data reporting*, pp. 41-52. Luxembourg: Publications Office of the European Union.

Koeve W., Kim H.-C., Lee K. & Oschlies A., 2011. Potential impact of DOC accumulation on $f\text{CO}_2$ and carbonate ion computations in ocean acidification experiments. *Biogeosciences Discussions* 8:3797-3827.

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