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Interactive comment on “Ocean acidification: setting the record straight” by A. J. Andersson and F. T. Mackenzie

Anonymous Referee #1

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The article sets out to address what the authors feel are a number of critical "misconceptions" regarding ocean acidification as it is being discussed in the scientific literature and communicated with the public. As currently written, the article is a somewhat awkward mix of an opinion piece and a selective review on four sub-topics related primarily to coastal seawater carbonate chemistry, laboratory chemistry manipulation techniques, net calcification on coral reefs and carbonate dissolution and buffering. Reading through the article, I basically agree with the main points of the authors, namely that as a community we should learn from previous experience, carefully assess data and design experiments tailored to specific environments, and not perpetuate overly simplistic interpretations and calculations of what can be a nuanced problem. In other words, rising atmospheric CO₂ will influence local biological communities to different extent, and as the field matures (and grows rapidly) we need to adopt a more sophisti-

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cated and rigorous approach to our analysis. Similar points have been made in other venues (e.g., the recent "Best Practices" handbook).

The article is worth publishing for its historical perspective that is often missing from current discussions, but I would like to see more science and less politics (or decide that it is simply an opinion piece and publish in another venue). I found some of the text in the introduction and conclusions complaining about how ocean acidification science is being presented in public to be too anecdotal and unsubstantiated for a typical research article, and these sections should be removed or substantially toned down. The justification for the review is sufficient, and the authors come off in some ways just as inflammatory as the (often un-named) people they are critiquing.

Within the actual body of the review, the four sub-topics are not addressed in sufficient depth, and in some cases the main message is rather bland (e.g., coastal regions and reefs have elevated pCO₂; alkalinity anomalies on reefs constrain net calcification and dissolution) and perhaps not nearly as controversial as the authors pose. Each of the subsections almost could be worthy of a study on its own right, but the authors present very little new information or data. I have seen almost all of these caveats or nuances in the recent flurry of workshop reports, and I think many researchers are already following many of the suggestions of the authors. Finally, the title is too broad and vague (and perhaps inflammatory in its own right) and needs to better reflect the findings presented for the four sub-topics reviewed.

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