

## Responses to reviewers ACP-2010-579

### Responses to review #1 by Walter Robinson

VOCALS REx was a very successful field project; there will be many papers published over the next several years that analyze or draw upon its results. It will be useful for the authors of these papers to have a single citable source that provides a succinct description of the experiment, both what was done and why. This paper ably meets this need. Moreover, readers of those other papers, who turn to this one, will find a compact description of the data available from REx, and this may motivate them to seek out these data for their own investigations - for this purpose it may turn out that the tables are of greater importance than the text. Overall, I suspect that this paper may be more cited than read, and it may be the tables, rather than the text, that receive the greatest attention, but this in no way diminishes its value.

We thank the reviewer for his constructive comments on the manuscript. We agree that this is unlikely to be read in the traditional sense of reading the entire manuscript. I suspect that it will serve a useful purpose in providing a central location for logistical aspects of the program that may avoid future replication in the subsequent research papers stemming from VOCALS-REX.

That said, there are three ways in which the paper could be improved.

1) Except for the Flexpart activity, the paper makes little to no mention of modeling activities. VOCALS-Mod is a separate and ongoing activity, but given the great effort to coordinate REx and Mod, I think it would be worth a paragraph to describe this coordination, discuss its influence on field activities, and perhaps to mention the very interesting Pre-VOCA activity.

This was a rather gaping omission on my part as lead author, and the reviewer is correct in highlighting this deficiency. In the revised version we provide a succinct but inclusive description of the associated modeling work associated with the project.

2) Sampling strategies from the different platforms necessarily represented compromises among the requirements and desires of posed by different types of measurements (I was present during some of those discussions for the C-130 – presumably similar conversations took place for the other platforms). It would be worthwhile to provide a sentence or two explaining the sampling strategies (e.g. aircraft times spent at different altitudes) for each of the major platforms, and the compromises these strategies represented.

We have included a few sentences to explain this in the revised manuscript, under Section 4.2 on aircraft missions, and Section 4.3 for the ship missions.

3) While I understand that this paper is NOT intended to discuss preliminary scientific results (and that to do so could diminish its archival value, to the extent that preliminary conclusions may prove false), but I think it would be valuable, and interesting, to discuss what, if any, modifications to field activities were made based on what was observed early on. In particular, I do not believe the paper mentions the

mid-experiment all-hands meeting in Arica, and how discussions during that meeting shaped field operations during the latter half of REx.

This is a good suggestion, and we have tried to incorporate this into the revised manuscript, particularly under the shipboard sampling (since the second leg really was designed somewhat in real time), but also with regard to the creation of the pollution survey missions which were felt by the participants to be more useful than the pollution lagrangian type missions that had been originally planned.

The paper is written clearly. The writing sort of falls apart, however, in the last paragraph on page 20774 - it reads as if it were caught in mid-edit. On page 20777, the text should be reviewed for consistency of tenses.

Agreed. Poor proof reading. We have corrected this in the revised manuscript.