

Interactive comment on “An Overview of the Surface Ocean Aerosol Production (SOAP) campaign” by Cliff S. Law et al.

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The manuscript involves an overview of the SOAP campaign which involves identifying relationships between biogeochemistry and marine boundary layer aerosol in the remote ocean. Several measurements were conducted in biologically productive waters east of New Zealand. The introduction of the manuscript is well written and provides a detailed background of previous work on the subject. The remainder of the manuscript thoroughly describes the measurements made throughout the campaign. While the manuscript is well written, only basic results comparing measurements to previous campaigns or models, are mentioned. It is mostly an overview of the measurements made and not the results or analysis. I realize the manuscript is an overview paper and the authors can not include all the results of other manuscripts that are in the works,

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but I was expecting a bit more analysis or at least some key findings followed by a citation to another SOAP manuscript where I can learn more. Based on the current manuscript, I do not know what manuscripts or analysis I should look forward to. Overall, I suggest accepting the manuscript after minor revisions. I encourage the authors to clearly identify some key findings.

Thank you for these comments. We acknowledge that we do not identify all the findings of the SOAP campaign, although we do include the results from all SOAP papers published to date and cite these accordingly. In addition, we include some unpublished SOAP results as pers. comm. or submitted, with 9 published and submitted papers cited that discuss SOAP campaign results. We also present new data, by using from a number of research voyages in the South Pacific to refine the regional DMSsw mean. Nevertheless, to address this referees', and also Ref 1's comments, we have adjusted the title of the paper to reflect that this overview only contains preliminary results (“An Overview and Preliminary Results of the Surface Ocean Aerosol Production (SOAP) campaign”).

Pg. 11. I may have missed it, but were particles dried before they were measured?

We have now clarified this in the figure 9 legend: “Ambient RH measurement was used for RH correction of the PCASP, Hi Vol and SMPS, and diffusion driers (Silica Gel) were used on the inlet of the UFO-TDMA and VH-TDMA.”

Line 390 - is there analysis behind this or is this speculation based on the marine conditions?

This is now supported by the following additional information: “These findings are supported by preliminary modelling results with the ACCESS-UKCA model which has been used to simulate the additional impact of emissions of marine secondary organic carbon, with respect to observations from SOAP on the local scale (Woodhouse, pers comm.)”

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