

Interactive comment on “The VAMOS Ocean-Cloud-Atmosphere-Land Study Regional Experiment (VOCALS-REx): goals, platforms, and field operations” by R. Wood et al.

D. Lenschow (Referee)

lenschow@ucar.edu

Received and published: 6 October 2010

This paper is an excellent overall summary of the VOCALS-REx field deployment and will be a very useful reference to all who plan to use the resulting data set. The emphasis is on description of the platforms, how they were deployed, under what conditions, and what kind of data were obtained. There is almost nothing about the modeling component of VOCALS-REx. There is also little discussion of the data quality and limitations, so in that sense, this paper is a necessary but insufficient resource for potential data users. It is mostly well written, with tables and figures that should be very useful to those interested in using the data. There is some unevenness in the writing, as

C8331

expected in a multi-authored paper of this type, and some sections need editing. The tables will be very useful to users, and the figures give a good feel for the overall scope of the experiment and the conditions encountered.

I have the following minor editorial comments:

p. 20771, l. 15: The way this sentence is worded, it says what the two central themes are designed to do, but not what are the two central themes.

p. 20111, l. 22: ...and give a summary...

p. 20773, l. 28: does "boundary layers" refer to both atmospheric and oceanic BLs? Otherwise, why is it plural?

p. 20774, l. 3: What is TOA? More generally, there is an appendix for acronyms, but only a few are listed. My suggestion is to either forget about the appendix, or make it more complete.

p. 20774, l. 16: how about a reference for the 40 W m^{-2} , 1 m (should use abbreviation) evaporation, and ocean mixed layer thickness?

p. 20774, l. 20: ...shallow ocean surface layer...maintained its temperature...

p. 20774, l. 24: the sentence starting with "The supply mechanism..." and the sentence following that need some editing. In fact, the whole paragraph needs clarification. Does "eddy processes in the SEP" refer to ocean and atmosphere?

p. 20775, l. 2: ...role in...

p. 20775, l. 23: ...requires a synergy...

p. 20776, l. 3: The sentence, "The VOCALS-REx hypotheses..." need editing. It seems to say that hypotheses are testing hypotheses.

p. 20777, top: Here again, lots of acronyms, not spelled out until later. Again, how about expanding the appendix?

C8332

- p. 20780, l. 17: How about a subheading to separate the GAUS from the Jose Olaya?
 - p. 20781, l. 7: ...airmasses...
 - p. 20781, l. 12: ...and soundings were made...
 - p. 20781, l. 24: ...during 4-15 November connected to the scanning...
 - p. 20783, l. 6: ...and the upper...
 - p. 20783, l. 10: ...on the WHO Upper Ocean Processes Group website...
 - p. 20784, l. 9: ...and can be used to study correlations among aerosols, cloud...
 - p. 20785, l. 3: VOCALS-REx...
 - p. 20787, l. 7: extra)
 - p. 20788, l. 3: radon
 - p. 20788, l. 10: were to: (i) map... What is meant by "property distribution"? (also l. 24
 - p. 20788, l. 14: ...up to 2000 m depth...200 and 800 m depth
 - p. 20788, l. 18: instead of "fronts and eddies," how about small (or micro) scale structures? this sentence needs some editing.
 - p. 20788, l. 25: This sentence also needs some editing. It reads as if the ensemble of eddy measurements influences the upper ocean.
 - p. 20789, l. 9: ...every half hour for the area bounded...W between11...
- Figure 10: The scales in Fig. 10, panels c & d are hard to read without considerable magnification.
- p. 20791, l. 8: Clouds are classified on all...
 - p. 20791, l. 13: A dedicated subset of imagery is available for browsing...

C8333

- p. 20792, para. starting with, "Forward simulations were..." needs editing. What is EDGAR?
 - p. 20793, l. 1: ...at the aircraft location...
 - p. 20793, l. 4: inventory, and the
 - p. 20793, l. 7: last sentence seems redundant. See p. 20792, l. 10.
 - p. 20793, l. 12: What does "directly" refer to?
 - p. 20793, l. 19: ...available as a "browse" ...
 - p. 20794, Conclusions: This section needs some editing. Also, the last two sentences seem unnecessary.
 - jp. 20794, Acknowledgements: It is not usually acceptable practice in publications to acknowledge coauthors.
- Table 1: add spaces (or lines) between hypotheses for separation.
- Table 2: Doppler. Also, did the C-130 have a surface radiation temperature sensor? short- and long-wave radiation sensors?
- Table 11: ...conducted in VOCALS-REx.
- Table A1: add more acronyms, or drop it.

Interactive comment on Atmos. Chem. Phys. Discuss., 10, 20769, 2010.

C8334