

Interactive comment on “Southeast Atmosphere Studies: learning from model-observation syntheses” by Jingqiu Mao et al.

Anonymous Referee #2

Received and published: 14 March 2017

This paper discusses recent results and open questions regarding air quality in the southeast U.S. It summarizes the first analyses of the Summer 2013 field campaigns and outlines open questions. It provides recommendations for directions and methods of future analyses of these campaigns.

I think this paper would benefit greatly if it were re-written as a review of our current understanding of the Southeast Atmosphere and less as a report of the workshop in 2015. The workshop could certainly be mentioned in the introduction, but it seems unnecessary to mention it in the abstract and elsewhere in the paper. A workshop summary does not seem appropriate for a journal article in ACP, but a review of results and analyses, and guidance for future research, certainly is. To make it more generally accessible, it would greatly benefit from a more explicit description of all the field campaigns and measurement sites. Thus, in addition to the specific comments below, I feel

C1

a more general re-write of the paper is necessary to make it useful to the community beyond those who participated in SAS.

Specific, technical comments:

The subtitle, “learning from model-observation syntheses”, seems a bit awkward. The author list lacks any representation from the NCAR C-130 NOMADSS experiment. Even if the PIs of NOMADSS (i.e., Alex Guenther) were unable to attend the workshop they should be invited to contribute to this paper, which serves as an overview of the Southeast Atmosphere Studies consortium of field campaigns.

A few more figures would be valuable. For example, illustrating some of the findings discussed in Section 4.2 and only referenced with “in preparation” papers. Also a figure in the Introduction showing the flight tracks of the aircraft campaigns and locations of measurement sites would be useful.

I.102: “the HO₂+RO₂ reaction” - RO₂ is not a single compound, so this is not a single reaction.

I.623: “a-1” - missing superscripts

I.625: The MODIS instrument is onboard the Aqua and Terra satellites.

I.814: misplaced comma: . . .lower, and those from MEGAN generally higher, than. . .

Interactive comment on Atmos. Chem. Phys. Discuss., doi:10.5194/acp-2016-1063, 2016.

C2