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## ***Interactive comment on “Particulate matter, air quality and climate: lessons learned and future needs” by S. Fuzzi et al.***

**S. Fuzzi et al.**

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The MS is well written and very wide. It is important step forward in aerosol – climate – air quality interactions. However, there are minor items, which will improve the quality of the paper further.

We thank the reviewer for the appreciation of our work and also for the criticisms which we address specifically below.

Generally: It would be important to discuss more on continental feedback loop corresponding to marine CLAW hypothesis (Kulmala et al., 2004).

The issue is certainly mentioned in the paper and, in our opinion, given the current

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structure of the paper, it is not justified to add further discussion.

Page 551: There are newer references on mass composition measured by AMSs than mentioned there.

New references have been added to the source apportionment section, especially to mention the ensemble-based techniques used to apportion PM<sub>2.5</sub> and PM<sub>10</sub>. On the other hand, source apportionment studies based on AMS measurements are already extensively treated in the manuscript and the authors do not feel the need to increase the number of references in this section.

Page 554: Wrong reference – instead of Kulmala et al (2012) should be Kulmala et al. (2011), both given in reference list.

Reference corrected.

When discussing on NPF, the most recent overview paper, should be mentioned. (Kulmala et al., 2014)

Reference added.

Page 560: Actually ELVOC were already predicted by Kulmala et al. (1998)

Reference added.

Page 570: Dry and wet deposition measurements performed at Boreal forests are mainly missing (see e.g. Laakso et al. 2003)

The reviewer is correct, but this interesting paper does not really tell us much about the exchange processes and contributes little to the mass flux, so it would be a rather contrived argument to include it. There are other papers in this general area, which we do not refer to as the section has been structured to work through what we know and explain advances in understanding. Unless additional papers helped advance knowledge, they were not included.

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Page 704: The scoring system is unclear. It seems in table caption that 3 is maximum, still the average score is over 3.

Table and caption have been modified to take this comment into consideration.

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Interactive comment on Atmos. Chem. Phys. Discuss., 15, 521, 2015.

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