"Technical note: Harmonization of the multi-scale multi-model activities HTAP, AQMEII and MICS-Asia: simulations, emission inventories, boundary conditions and output formats" by Stefano Galmarini et al.

Response to reviewer 1

We wish to thank Dr. Stevenson for the comments and suggestions to the technical note. We agree with all suggestions and corrections proposed have been accepted and inserted and will include them in the paper.

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Response to reviewer 2

We wish to thank anonymous reviewer #2 for the comments and suggestions to the technical note, which help improve its clarity. Here follows a point-by-point reply.

With regard to the choice of ACP (and not GMD) for publishing this technical note- and since several of the co-authors are in the Special Issue editorial team, we provide a reply, more as editors than as authors. We agree with the reviewer that the GMD would have been a good journal to publish this note. However, at the time the HTAP-AQMEII-MICS-Asia special issue was initiated, we didn't foresee to have publications of this nature, and we therefore decided to not involve the GMD journal and editorial board. Unfortunately it is not possible to make this retrospectively a joint special issue either, and it would be exaggerated to do that for only one paper. Furthermore, we felt the need to link this background publication to the SI, but also recognized that this is not necessarily new science. Therefore we deliberately added 'Technical Note' in to the paper, in order not to create false expectations.

Major comment.
Following your request we will add tables with models, institutions for the three activities.

Minor comment

1-Activity phase numbers have been added
2 P2L2- corrected
3 P2L27 Indeed development of HTAP-FASST or similar tools is within the objectives of the TF HTAP, as means to integrate science in user-friendly tools for scenario assessments and policy advise.
4 P2L46 These issues are going to be addressed by the individual model developers and user when describing the model versioning in the individual publications that

will constitute the special issue or within a preface or concluding publication for the special issue. The point is very important and deserves a a more extended discussion in individual and overview papers rather than in this technical note. However, we do propose to include the follow sentence:

* Since the HTAP1 experiments models have been updated with newer parameterizations, include higher resolutions, and include more components. However, analysis within HTAP2 and other modeling activities, will have to demonstrate whether this has resulted in better constrained model results, and sensitivities to key-processes.

5 P3L3 We agree that in the policy framework TF HTAP is more looking at hemispheric/global issues, whereas the TF MM (Models and Measurements) is looking at regional (European) model/measurement issues- and in fact the two Task Forces collaborate on joint issues.
 We intended really to talk about the modeling experiments. A correction has been made in the text now referring to HTAP2 and the regional counterpart AQMEII3, rather than TF HTAP.
6 P4L3- corrected
7 As the reviewer probably realizes, interoperability is a goal worth pursuing, but with several hurdles on the road. HTAP and AQMEII communities have made important steps forward. The HTAP and ENSEMBLE formats can be converted into one another by means of dedicated software, thus allowing for consultability of the results by the two communities. HTAP2 results have been imported into the ENSEMBLES platform, but the AQMEII results have not been included in the MetNo platform yet. Lack of resources and time has prevented the full development of interoperability of AEROCOM and ENSEMBLE though in essence that can be realized technically once the data can be converted reciprocally into each other format. Interoperability in MICS have been somewhat slower, but we hope that this exercise will help to facilitate progress in interoperability for MICS as well.

The ultimate goal would be internationally agreed formats, with all meta-data included, and easy to implement (the latter is still a problem). The text has been streamlined with respect to this clarification point.
8- Figure 2. As mineral dust (and seasalt) are nowadays mostly interactively calculated in global models, it was considered to be a step-back by most modellers to use prescribed emissions (as was for instance done in AEROCOM phase 1). Regarding biomass burning emissions, we recommended GFED3, but explicitly allowed modelers to use also alternative inventories, recognizing the fact that currently there is no single biomass burning inventory that has been accepted as having outstanding performance with respect to others. Most of the model experiments do not focus on biomass/dust; however in the joint AEROCOM3 work, there are specific analyses of aerosol with regard to model' sensitivities to emissions.
9 P14L19- Both