**Interactive comment on** “Aerosol exposure versus aerosol cooling of climate: what is the total health outcome?” by J. Löndahl et al.

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Editorial Decision

The discussion paper by Löndahl et al. received very critical comments in the public review and discussion. Two referees recommended rejection of the paper from publication in ACP, one recommended acceptance after major revision. As the responsible editor, I decided to accept the revised manuscript for publication in ACP for the following reasons:

1) The manuscript proposes a new integrative way to compare aerosol effects on climate and human health.
2) Due to the high complexity and large uncertainty of aerosol effects on climate and human health, new attempts for integrative comparison of these effects are necessarily also subject to large complexity and uncertainty. Thus, integrative approaches are difficult to pursue and easy to criticize for oversimplification.
3) Nevertheless, speculative studies proposing a new and integrative way of dealing with complex problems can be valuable for scientific progress by triggering further research that may lead to more detailed and precise results (see e.g. papers related to the CLAW hypothesis).
4) I think that the paper by Löhndahl et al. has the potential for triggering important developments in the integrative assessment of aerosol effects on climate and public health. Therefore, I took the editorial decision and responsibility to accept the paper for publication in ACP.

In ACP like in most other peer-reviewed scientific journals it is exceptional but admissible that an editor accepts a manuscript for publication although the majority of referees recommend rejection. According to the editorial guidelines of ACP and other journals of the European Geosciences Union (EGU) as well as of the American Geophysical Union (AGU) and of other scientific publishers, “The editor has complete responsibility and authority to accept a submitted paper for publication or to reject it. The editor may confer with other editors or referees for an evaluation to use in making this decision.”

http://www.atmospheric-chemistry-and-physics.net/review/obligations_for_editors.html
http://www.ago.org/pubs/authors/manuscript_tools/journals/pub_guidelines.shtml

In spite of having taken an editorial decision against the recommendation of two referees, I would like to emphasize that the critical referee comments were not neglected, and that the referees’ efforts in the review process are highly valued and not wasted.

Due to the public nature of the review and discussion process in ACP, the referees’ comments and criticism will remain visible for future readers of the scientific paper, and future studies shall reveal if and to which degree the authors’ approach and the
referees' concerns are valid.
For the time being and for the reasons outlined above, I take the editorial responsibility for acceptance and publication of the revised paper in ACP, as confirmed by the handling editor's name given at the end of the published paper.

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