

EGU2020-7745

<https://doi.org/10.5194/egusphere-egu2020-7745>

EGU General Assembly 2020

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## Bounding global aerosol radiative forcing of climate change

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Aerosol radiative forcing plays an important role in the attribution of past climate changes, estimates of future allowable carbon emissions, and the assessment of potential geoengineering solutions. Substantial progress made over the past 40 years in observing, understanding, and modelling aerosol processes helped quantify aerosol radiative forcing, but uncertainties remain large.

In spring 2018, under the auspices of the World Climate Research Programme's Grand Science Challenge on Clouds, Circulation and Climate Sensitivity, thirty-six experts gathered to take a fresh and comprehensive look at present understanding of aerosol radiative forcing and identify prospects for progress on some of the most pressing open questions. The outcome of that meeting is a review paper, Bellouin et al. (2019), accepted for publication in *Reviews of Geophysics*. This review provides a new range of aerosol radiative forcing over the industrial era based on multiple, traceable and arguable lines of evidence, including modelling approaches, theoretical considerations, and observations. A substantial achievement is to focus on lines of evidence rather than a survey of past results or expert judgement, and to make the open questions much more specific.

This talk will present the key messages and arguments of the review and identify work that show promise for improving the quantification of aerosol radiative forcing.

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