

EGU24-2221, updated on 20 May 2024

<https://doi.org/10.5194/egusphere-egu24-2221>

EGU General Assembly 2024

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An assessment of the infrastructural and temporal barriers constraining a near-term implementation of a global stratospheric aerosol injection program

Wake Smith

Yale University, Yale School of the Environment, United States of America (wake.smith@yale.edu)

Model of stratospheric aerosol injection deployment scenarios have often assumed that a global sunscreen could be applied to the earth on relatively short notice, perhaps in response to a climate emergency. This emergency response framing confuse the time scales associated with the commencement of such a program. Once deployed, stratospheric aerosols could cool the earth quite quickly, but such a deployment would require aircraft and other infrastructure that does not currently exist. Given the span required to develop and certify a novel aircraft program and thereafter to build a fleet numbering in the hundreds, scenario builders should assume a roughly two-decade interval between a funded launch decision and the attainment of a target level of cooling.