

Name of simulations	Description of setup	ΔAIE_{tot} (W m^{-2})
NOSOALVDMS	None of the SOA produced through Reaction (R3) is allowed to nucleate new particles. Reaction (R3) is thus replaced with $\text{DMS} + \text{OH} \rightarrow 0.75 \cdot \text{SO}_2 + 0.5 \cdot \text{HO}_2 + 0.143 \cdot \text{SOA}_{\text{SV}}$.	+0.25
NOSOALVBVOC	None of the SOA produced through Reaction (R6) is allowed to nucleate new particles. Reaction (R6) is thus replaced with $\text{monoterpene} + \text{O}_3 \rightarrow 0.15 \cdot \text{SOA}_{\text{SV}}$.	+0.26
NOSOA	No SOA production from DMS oxidation. Reaction (R3) is thus replaced with $\text{DMS} + \text{OH} \rightarrow 0.75 \cdot \text{SO}_2 + 0.5 \cdot \text{HO}_2$.	+0.14
NACTOFF	No activation from particle mixture number 1 (Kirkevåg et al., 2018). This mixture corresponds to the nucleation mode in modal aerosol schemes, and this is where we find the newly formed SOA and SO_4 aerosols.	-0.03
DIURNALNO3	Add a daily cycle to the concentrations of NO_3 that come from prescribed monthly mean values.	+0.26
FREEMET	Apply free meteorology instead of nudged winds.	+0.3 ± 0.2