

## **Cloud-aerosol interactions in the Met Office Unified Model**

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### *Abstract:*

Cloud and aerosol interactions are one of the greatest uncertainties in climate model predictions and potentially of importance for weather prediction. The improved representation of these processes in weather and climate models is a fundamental challenge for reducing this uncertainty. This talk will show examples from a new Cloud AeroSol Interacting Microphysics (CASIM) in the Unified Model for a range of different settings from subtropical to Arctic stratus, from midlatitude to tropical convection and from regional scales to global convection permitting simulations. We will explore whether current approaches to global aerosol-cloud interactions can capture the responses we see in simulations with more explicit representations of these processes.