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Aerosol data assimilation with data from multiple space-borne observation platforms

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Airborne particulate matter (aerosols) has a wide range of impacts on climate change, air quality, and human health. To mitigate these aerosol impacts, numerical aerosol prediction has become an operational and critical part of society's infrastructure around the world. In recent years, data assimilation techniques have been incorporated into numerical aerosol prediction with aerosol optical thickness (AOT) observed by onboard satellite imagers. In this study, we will develop a composite aerosol assimilation forecasting system that simultaneously assimilates observation data obtained from GCOM-C/SGLI and EarthCARE/ATLID in addition to Himawari 8/AHI and verify the impact of each data on forecast accuracy.