



The vital role of daily global aerosol and trace gas monitoring: a satellite perspective highlighting OMI and GOME-2 analysis of Eyjafjallajökull emissions

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The enormous social and economic impact caused by the ash cloud disruption of Western European air travel underscore the need for accurate, near-real time, global measurements of aerosol and trace gases. OMI and GOME-2 instruments provide daily global coverage of a variety of trace gases and aerosol parameters. Measurements of the presence of ash, aerosol optical thickness, and concentrations of SO₂ from these satellites as well as spectral data showing UV absorption by the ash from SCIAMACHY provided important information about the location of the plumes and the plume evolution. The near-real time data provided from these instruments within three hours of satellite overpass were used to inform the KNMI meteorologists to verify forecasts that helped determine safe boundaries for air travel. This work brings to light the need to further develop measurement networks with the capacity to quickly coordinate and synthesize satellite measurements of volcanic ash clouds with model output and ground-based observations.