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Near real-time EOS satellite volcanic cloud data for mitigating aviation hazards

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Volcanic clouds are a hazard to aircraft and passengers that can be avoided if given timely information about the position and extent of the cloud. Existing operational ash cloud detection methods are very labor intensive and subject to false alarms and failed detections. Data from two Earth Observing System research satellites will be utilized to augment operational programs under a NASA Cooperative Agreement. Sulfur dioxide, a unique tracer for the magmatic eruptions that affect aircraft at normal cruise altitudes, and volcanic ash are both measured by the Ozone Monitoring Instrument (OMI) on the Aura spacecraft and by the Atmospheric Infrared Sounder (AIRS) on the Aqua spacecraft. Automated eruption alarms and new graphical products, delivered in near real-time to operational agencies, will be developed to reduce the manual image screening effort and to improve the reliability of hazard detection.