GOES-R Volcanic Ash Risk Reduction: Operational decision support within NOAA’s Rapid Refresh (RAP)

- Volcanic emissions and plume model was coupled with WRF-Chem model.
- Model evaluation has been ongoing since 2010.
- Case studies showed promising results and high potential for WRF-Chem to be used as a future operational volcanic ash prediction tool.
- A GOES-R Volcanic Ash Algorithm was developed by Mike Pavolonis to derive ash cloud height and ash mass loading.
- The FY14-15 R3 project will provide WRF-Chem case studies for algorithm validation.
- We aim to implement volcanic ash parameters within NOAA’s Rapid Refresh (RAP) modeling system.
- We will prepare the modeling framework to initialize operational ash prediction models with GOES-R data.

Potential future RAP modeling scheme incorporating quality controlled GOES-R Advanced Baseline Imager (ABI) Volcanic Ash Algorithm.

Provide experimental Rapid Refresh volcanic ash prediction and pathways to implement the GOES-R Volcanic Ash Algorithm in RAP and WRF-Chem

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