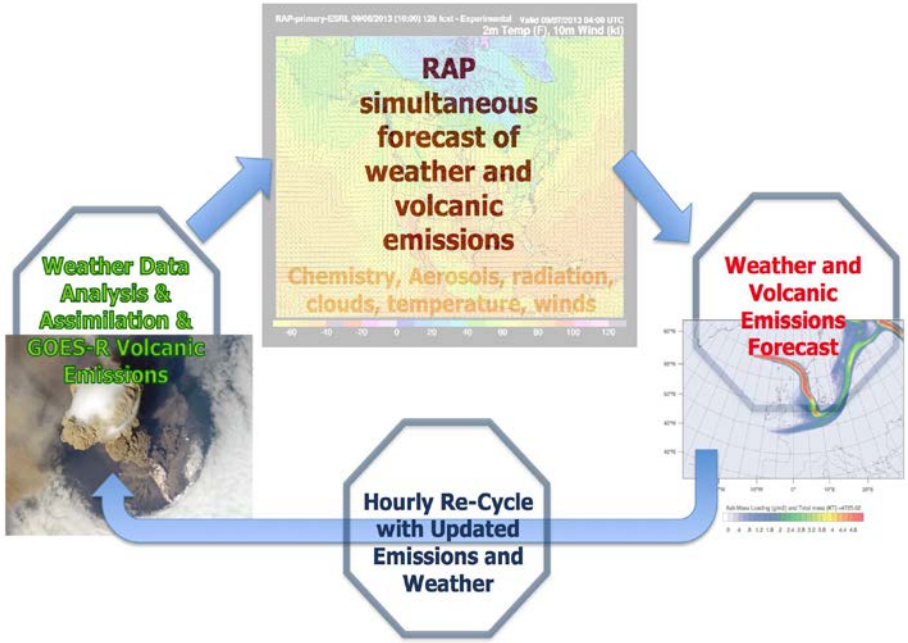
GOES-R Volcanic Ash Risk Reduction: Operational decision support within NOAA's Rapid Refresh (RAP)

- 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

Martin Stuefer and Peter Webley (*University of Alaska Fairbanks*), Georg Grell (*NOAA Earth Systems Research Laboratory*) in collaboration with Michael Pavolonis (*NOAA/NESDIS*)