5 Accomplishments

- Advanced usage of hyperspectral satellite measurements for volcanic cloud monitoring (e.g. more detailed information on cloud composition)
- Improved (more accurate and timely) volcanic cloud detection utilizing pattern recognition techniques in combination with spectral methods
- Development of eruption alerting applications (e.g. ESA and NOAA)
- Integration of satellite observations and dispersion models (additional development for operational applications and broader are utilization are needed)
- International collaboration on inter-comparing different satellite-based methodologies

7 Challenges

- Ensuring consistent geostationary satellite capabilities and continuation of space-based lidar measurements
- Developing methods to integrate different satellite measurements into quantitative products that mitigate limitations of single sensor approaches and benchmark performance (validation)
- Integrating satellite data with non-satellite data and models (cross-cutting goal)
- Developing policies on information flow from advanced applications such as satellite-based eruption alerting
- Continued international collaboration to integrate best remote sensing practices into real-time applications that are sustained and contribute to the global harmonization of operational capabilities (cross-cutting goal)
- Sustained commitment to user training (cross-cutting goal)
- Managing "Big Data"
- **Overall: Generation of coherent information in support of decision making**