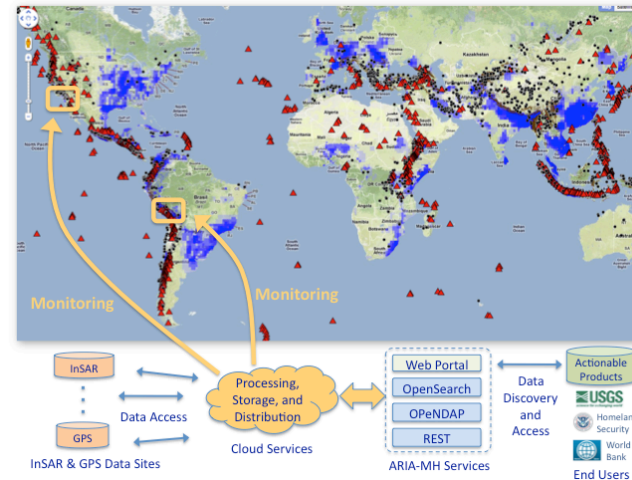


# Advanced Rapid Imaging and Analysis for Monitoring Hazards (ARIA-MH)

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## Objective

- Develop a service-oriented hazard/disaster monitoring data system enabling both science and decision-support communities to monitor ground motion in areas of interest with InSAR and GPS data
- Enable high-volume, low-latency, and automatic generation of NASA Solid Earth science data products (InSAR and GPS) to support hazards monitoring
- Enable improved understanding through visualization, mining, and cross-agency sharing of results
- Enable interoperable discovery, access, and sharing of derived actionable products for hazards monitoring via Google Earth and provide geodetic products to USGS Hawaiian Volcano Observatory in collaboration with NASA Applied Sciences



ARIA-MH enabling rapid generation of high-volume InSAR and GPS products for hazards monitoring and disaster situational awareness

## Accomplishments

- Transformed SAR and GPS Science Data Production from an artisan to a production capability producing SAR scenes, interferograms and metadata available within hours of observation instead of months.
- Enabled highly interactive access to the processed SAR Level 2 and 3 data products with automatic data-driven processing and notification based on event or user-defined hazard triggers with real-time result visualization.
- Demonstrated the value of cloud-enabled ARIA to the research and applied science communities by providing adhoc emergency re-processing of OCO-2 data and Napa/Nepal earthquake response.
- Demonstrated operationally by Hawaiian Volcano Observatory and Alaska Volcano Observatory for Kilauea volcano monitoring and near real-time continuous processing of COSMO-SKYMed data with UNAVCO
- Influenced NISAR to select Cloud Computing instead of data center approach for mission science data processing.

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TRL<sub>in</sub> = 3 TRL<sub>out</sub> = 7