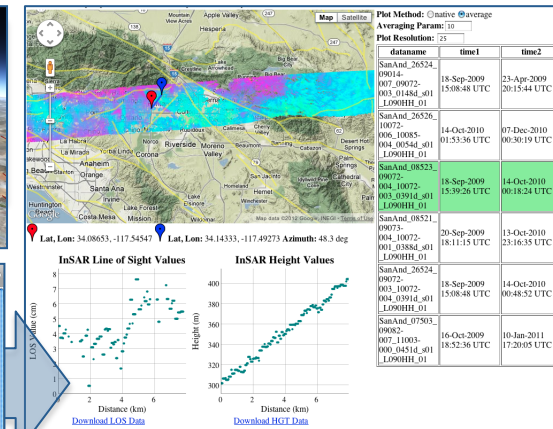
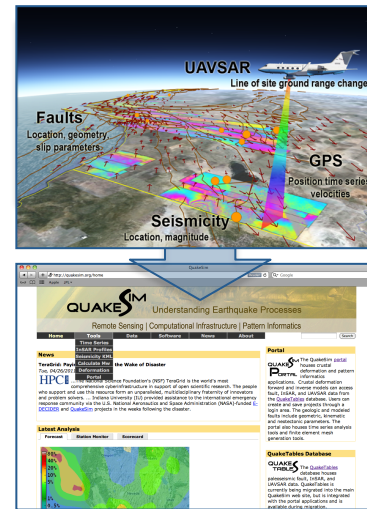


QuakeSim: Increasing Accessibility and Utility of Spaceborne and Ground-based Earthquake Fault Data

PI: Andrea Donnellan, JPL

Objective

- Extend the QuakeSim environment for improved modeling and understanding of earthquake and tectonic processes to improve earthquake forecasting.
- Make NASA crustal deformation, seismic and geologic data, and various earthquake simulation models available to the broader earthquake science community.
- Prepare for future InSAR missions using current infrastructure to carry out science definition modeling and develop infrastructure to assimilate and model the large data volumes from the mission.



Operational concept illustrates integration of observational data into a web services environment with modeling and analysis tools

Accomplishments

- Integrated modeling and analysis applications with QuakeTables and remote data services
 - Rapid and efficient modeling and analysis of remotely sensed data
 - Seamless interface for accessing, evaluating, modeling, and/or downloading data products for further analysis
 - Studies of creep events on faults north of the M 7.2 El Mayor - Cucapah earthquake rupture
- Developed pattern recognizers and inversion tools for analyzing geodetic imaging crustal deformation data
 - Outstanding performance in Southern California Earthquake Center forecasting and transient detection competitions
 - Improved earthquake forecasts for focused science experiments and disaster mitigation
- Released online tools for modeling and analyzing remotely sensed crustal deformation data
 - Easier analysis, modeling of, and access to UAVSAR and GPS data products
 - Data products produced automatically in response to earthquake events
 - Crustal deformation model and image following the M 5.8 Mineral Springs, Virginia Earthquake

Co-Is/Partners: Jay Parker, Robert Granat, JPL; John Rundle, UC Davis; Lisa Grant Ludwig, UC Irvine; Dennis McLeod, USC; Geoffrey Fox, Marlon Pierce, Indiana U; Walter Brooks, ARC

TRL_{in} = 4

TRL_{out} = 5