Paul Lundgren Bio

My research interests span volcano geodesy, earthquakes, fault slip and anthropogenic stressing processes. Since joining the Jet Propulsion Laboratory in 1989 following a one-year postdoc in Italy, my research has spanned seismological analyses of shallow and deep earthquakes, GPS observations of seismic cycle deformation in Costa Rica, and the establishment of GPS sites therein, to applying interferometric synthetic aperture radar (InSAR) and InSAR time series along with in-situ geodetic observations to volcano processes. In each area of interest, data analysis and interpretation have been used to constrain analytical and numerical models for fault and volcano sources. My experience with InSAR goes back to 1997 working with ERS data for Mt. Etna volcano. Since then working with many co-investigators around the world I have been in the forefront of applying InSAR along with other geodetic and seismic data to studying seismic cycle and volcanic processes through numerical and inverse mechanical source modeling approaches. More recently my interests have expanded to include differential repeat topography for studying volcanic and potentially other solid Earth processes through NASA's Surface Topography Vegetation (STV) Decadal Survey Incubation program. Finally, I feel that the forefront in understanding fault slip and volcano processes lies in observing and modeling their dynamic processes. For example, in volcanology we are developing fluid mechanical-chemical dynamic models constrained by geodetic and thermal/gas time series.