Research Within the WInSAR Consortium

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Abstract

The WInSAR consortium is a group of U.S. scientists engaged in radar remote sensing research, with major emphasis on InSAR applications in the western part of North America. We present here a summary of recent results by WInSAR scientists that have been enabled by the availability of ERS and Envisat data over North America. We have generated many long (~1000 km) strips of radar image over the San Andreas fault in California, and analyzed hundreds of individual ERS scenes. Our major areas of scientific interest include the Los Angeles basin, the San Francisco Bay area, much of the southern San Andreas fault zone, Long Valley Caldera, the Mojave Desert and other areas of tectonic/volcanic interest. We have also continued regular acquisitions for the co–seismic and post–seismic acquisitions over the area of the 1999 Hector Mine earthquake. Indeed, this earthquake has the best SAR coverage ever acquired and it has resulted in major improvements in our understanding of both the small–scale co–seismic deformation of faults in the Mojave Desert and the larger scale post–seismic deformation. We also continue development of InSAR techniques, including the application of persistent scatterer methods so that we can use Envisat and ERS data in regions of significant decorrelation. Here we present a number of the groups recent results and publications, and discuss future research directions for our community.