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APPENDIX B
Interferometric Synthetic Aperture Radar Map of the 2008 Wells Earthquake

by

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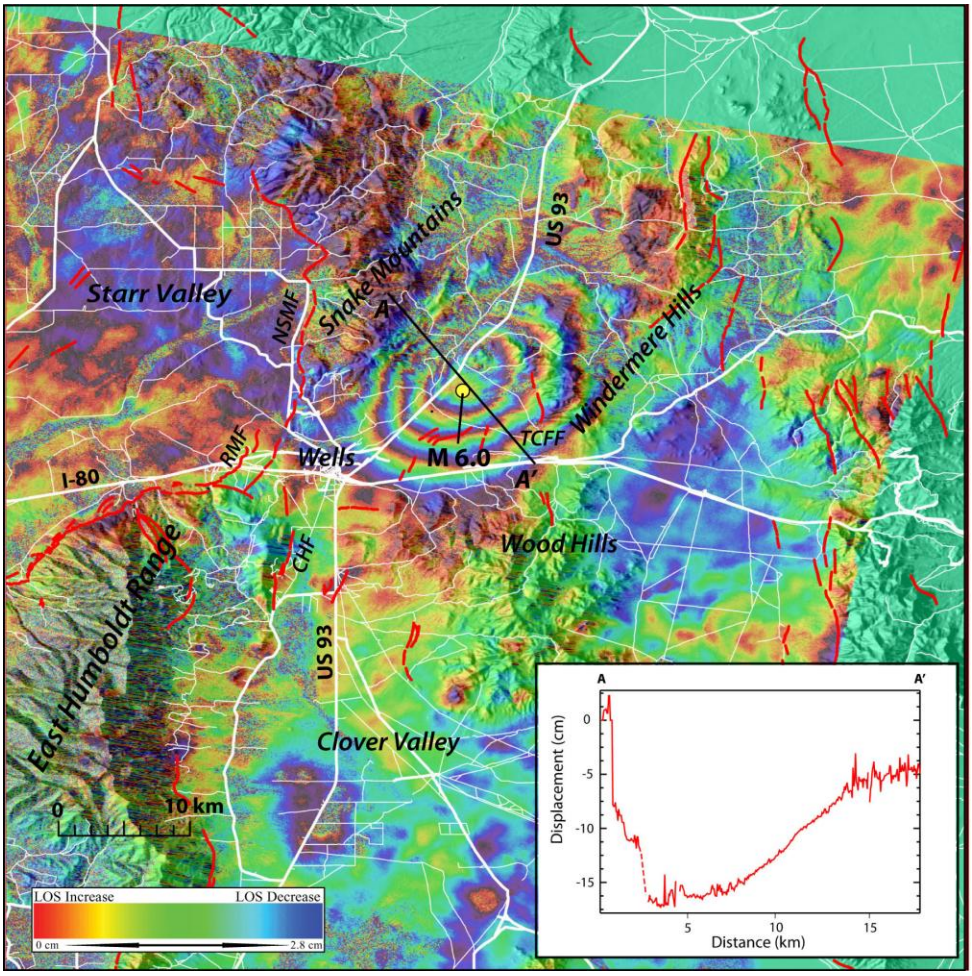

Interferogram showing ground deformation associated with the February 21, 2008 Wells earthquake. Image was processed from two descending Envisat radar pairs covering the time period August 13, 2007 to May 19, 2008; processing was done by J.W. Bell in the Nevada Bureau of Mines and Geology InSAR Laboratory using data provided by the WInSAR archives at UNAVCO. Each red-yellow-blue color cycle (fringe) in the bullseye represents 2.8 cm of radar line-of-sight change; deformation is distributed over a 20-km-long, northeast-southwest, elongated bowl showing a maximum co-seismic ground displacement (subsidence) of more than 15 cm at the epicenter (profile A–A'). Quaternary fault traces from U.S. Geological Survey (2006) shown in red; CHF, Clover Hill Fault; NSMF, northern Snake Mountains fault; RMF, Ruby Mountain fault; TCFF, Town Creek Flat fault.

REFERENCES AND ACRONYMS USED

U.S. Geological Survey, 2006, Quaternary fault and fold database of the United States: website: http://earthquakes.usgs.gov/regional/qfaults.

Envisat (Environmental Satellite) is a polar-orbiting Earth-observing satellite built and operated by the European Space Agency with instrumentation used to monitor Earth's environment. It was launched on the 1st March 2002 aboard an Ariane 5 into a Sun synchronous polar orbit at a height of 790 km (±10 km). Parameters measured include ozone concentration, aerosols, surface stress for earthquake potential, sea level heights, and fires.

UNAVCO, Inc. is an incorporated, tax-free corporation, originally a university consortium created in 1984, that provides global navigation satellite system based services to geoscience research and its associated organizations.

InSAR is an abbreviation for interferometric synthetic aperture radar, a remote sensing technique that uses two or more synthetic aperture radar (SAR) images to generate maps of surface deformation or digital elevation by measuring the differences in the phase of the waves returning to the satellite or aircraft. The technique can potentially measure centimeter-scale changes in deformation over timespans of days to years. It can be used for geophysical monitoring of natural hazards such as earthquakes, volcanoes, and landslides, and also in structural engineering, such as monitoring of subsidence and stability of structures.