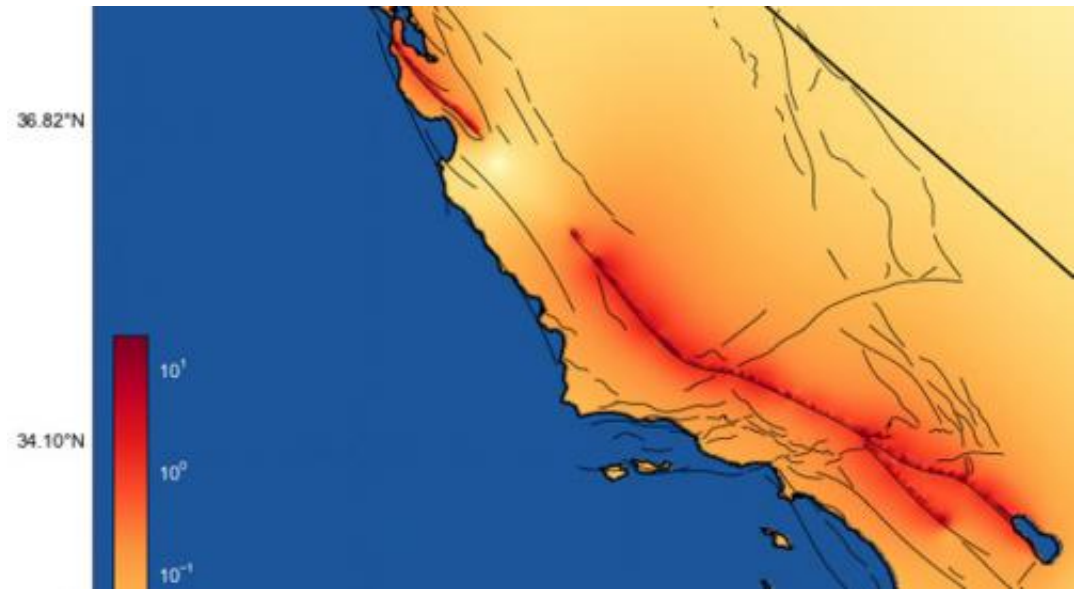
First mobile NASA app and QuakeSim share agency's 2012 Software Award

September 21 2012, by Sonja Alexander, Rachel Hoover And Alan Buis



The total ground deformation caused by a simulated magnitude 8.0 earthquake on the San Andreas fault. This is the largest event from a 30,000 year interacting earthquake fault simulation using QuakeSim's Virtual California. Instead of mimicking an exact series of observed events, Virtual California simulations create a large catalog of possible earthquake sequences. Image Credit - University of California, Davis

NASA's first mobile application and software that models the behavior of earthquake faults to improve earthquake forecasting and our understanding of earthquake processes are co-winners of NASA's 2012 Software of the Year Award. The award recognizes innovative software

technologies that significantly improve the agency's exploration of space and maximize scientific discovery on Earth.

Software engineers at NASA's Ames Research Center in Moffett Field, Calif., developed the NASA App for mobile platforms including the iPhone, iPod touch, iPad and Android phones and tablets. The NASA App currently has more than 9.6 million user installations and receives more than three million hits per day on average.

The NASA App gathers the agency's online content, breaking news, image and video collections, news and image feeds, social media accounts, and more in one easy-to-use location that aids public access to science, technology and engineering discoveries. The app's creators are program manager Jerry Colen, software engineer John Freitas and new media specialist Charles Du.

QuakeSim, developed at NASA's Jet Propulsion Laboratory (JPL) in Pasadena, Calif., is a comprehensive, state-of-the-art software tool for simulating and understanding earthquake fault processes and improving earthquake forecasting. Initiated in 2002, QuakeSim uses NASA remote sensing and other earthquake-related data to simulate and model the behavior of faults in 3-D both individually and as part of complex, interacting systems. This provides long-term histories of fault behavior that can be used for statistical evaluation. Quakesim also is used to identify regions of increased earthquake probabilities called hotspots.

Studies have shown QuakeSim to be the most accurate tool of its kind for intermediate earthquake forecasting and detecting the subtle, transient deformation in Earth's crust that precedes and follows earthquakes. Its varied applications include scientific studies, developing earthquake hazard maps that can be used for targeted retrofitting of earthquake-vulnerable structures, providing input for damage and loss estimates after earthquakes, guiding disaster response efforts, and

studying fluid changes in reservoirs, among others.

More information: For more information about NASA's Inventions and Contributions Board, visit: icb.nasa.gov

Provided by NASA

Citation: First mobile NASA app and QuakeSim share agency's 2012 Software Award (2012, September 21) retrieved 19 April 2024 from https://phys.org/news/2012-09-mobile-nasa-app-quakesim-agency.html

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.