



# Science and Engineering Visualization Challenge Entry Form



Entries must be postmarked no later than May 31, 2003

Entries will not be returned

Title of Work: Land Subsidence at the Lost Hills Oilfield, California

Entry Category: Photographs  Illustrations  Active and/or Multimedia

Name(s): Vincent J. Realmuto Role/title: animator  
Please print

Robert Crippen scientist/investigator  
Please print

\_\_\_\_\_  
Please print

\_\_\_\_\_  
Please print

Use another sheet for additional team members.

Contact Person: Vincent J. Realmuto

Institution: Jet Propulsion Laboratory

Address: M.S. 168-414

480 Oak Grove Drive

Pasadena, CA 91109

E-mail address: vincent.j.realmuto@jpl.nasa.gov

Phone number: 818-354-1824

Fax number: 818-393-3134

I (we) warrant that this entry is original and has been independently developed by me and/or members of my team and does not violate the copyright or other personal or proprietary right of another person or team of people. Further, I (we) attest that I (we) will be able to grant to *Science* and *Science Online* non-exclusive publication and web rights if our entry places first, second or third in any category or honorable mention.

SEE ATTACHED

Contact person is responsible for distributing information received from the competition and/or sponsors to all other members of the team.

**Descriptive Summary of Submission (100 words):** Describe the final product and the basic approach used to create the final product. Also include a succinct description of the resources utilized and a rationale of why the visualization will be an aid to science or engineering and how the concepts are better communicated to the end user.

This animation depicts the cumulative subsidence, due to oil extraction, of the Lost Hills Oilfield between 1982 and 2000. The subsidence was calculated as the difference between a USGS digital elevation model (DEM), circa 1982, and a DEM generated data acquired during NASA's Shuttle Radar Topography Mission (SRTM) in 2000. A Landsat overlay provides the geographic and spatial context. Animation techniques provide close-ups of the individual fields, and accentuate the changes in topography by exaggerating the subsidence (300 X) and cycling between the 1982 and 2000 elevations.