

*NSF-Sponsored Post-Earthquake Geotechnical
Reconnaissance Efforts*

03/16/04 GeoRecon WG Meeting: 10 am - 6 pm

UC Berkeley Faculty Club “E Room”

NEED

Earthquake engineering is an experience-driven field

The importance of detailed mapping and surveying of damaged areas relative to general damage surveys cannot be overemphasized as they provide the hard data of the well-documented case histories that drive the development of many of the empirical procedures used in practice.

OBJECTIVES

The Geotech. Recon. Working Group will develop a systematic approach to conducting the NSF-sponsored post-EQ reconnaissance efforts.

This project is seeking to establish a system that formalizes the manner in which post-earthquake reconnaissance efforts are organized by the GeoPrograms of NSF.

Anticipated Research Accomplishments

Geotech. Recon. WG and AP meet to promote and incorporate:

1. Use of new technologies for EQ reconnaissance
2. Use of existing technologies in an improved coordinated manner to document performance
3. Better training of those involved in EQ reconnaissance efforts, both in terms of effectiveness and safety; provide access to equipment required for state-of-the-art surveying
4. Timely and accurate results for the post-EQ survey efforts in terms of web-based short reports, data files, and final reports
5. A systematic mechanism for responding to EQs through the NSF SGER program (develop similar to COSMOS?)

THE NAME OF THE ACTIVITY

GeoRecon?

A company named “GeoRecon International” exists.

Other Key Action Items:

- **Better incorporation of activity within USGS Cir. 1242**
- **Opportunities and challenges:**
 - a. **NSF cyberinfrastructure initiative and NEES collaborative research**
 - b. **Earthquake reconnaissance tools: GIS integration GPS/video/picture**
 - c. **Use of geologic data and techniques, and the role of the practitioner**
 - d. **Satellite and other aerial imaging data for use in EQ reconnaissance**
 - e. **Development of quantitative data (lessons learned from past EQs)**
 - f. **Rapid dissemination of post-EQ reconnaissance data**
 - g. **Systematic collection and archiving of post-EQ data considering the EERI document "Collection and Management of Earthquake Data: Defining Issues for An Action Plan"**

Key action items (cont.):

Agenda for first advisory panel/working group meeting

Plan for workshop to reach broader audience

Working Group and Advisory Panel

Working Group: J.-P. Bardet, D. Frost, R. Kayen, W. Lettis, E. Rathje, N. Sitar, T.L. Youd, and J. Bray as Chair

Advisory Panel: : D. Bloomquist (LIDAR), R. Borchardt (USGS), R. Boulanger, L. Cluff (Geologist), M. Crawford (satellite imaging), R. Crippen (NASA satellite imaging), C. Edwards (TCLEE), S. Kramer, R. Hanson (Structural Engineer), L. Harder (State of CA), T. Holzer (USGS), I.M. Idriss, J. Love (EERI LFE & Structural Engineer), J. Martin, R. Olsen (U.S. Corps of Engineers), T. O'Rourke (EERI), R. B. Seed, P. Somerville (SCEC), J. Stewart, K. Tierney (Social Scientist), and H. Yeh (Tsunami Researcher)

Key Action Items (cont.):

Response to Next Major Earthquake:

- a. Threshold for Response
- b. Decision Process and Coordination
- c. Application for NSF SGER Funds
- d. Execution
- e. Other Issues