

2007 SCEC Annual Report

**Workshop on the California Statewide Community Fault
Model**

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Proposal Categories: Workshops
Primary Focus Area: USR
Primary Discipline Group: Geology
Science objectives: C, A3, B1

WORKSHOP REPORT

Summary

As part of the proposed workplan to develop a California statewide Community Fault Model, we organized and convened a workshop to bring together scientists with the goal of advancing such a model. With 25 attendees participating actively, we were productive in collecting input on a strawman model. The input was delivered and summarized in tables listing each of the more than 160 faults discussed. These comments and suggestions provide a clear basis for constructing a initial statewide CFM.

Progress toward a statewide CFM

In conjunction with the USGS (T. Brocher and R. Graymer), we convened a workshop titled “Workshop on the California Statewide Community Fault Model” at the USGS Menlo Park facility, Bldg 3 Conference Room on 1/25/08. The conference room was well suited for the workshop in that it provided multiple projection facilities and ample room for all participants. The goal of the workshop was to bring together scientists knowledgeable in the fault architecture of Northern California to collect information and discuss the 3d structure of the fault network in 5 geographic regions. R. Graymer was instrumental in putting together a list of invitees (about 35). Of those, a large fraction (25 total, see table) attended, in part owing to the fact that many were in Menlo Park for another USGS meeting in the days leading up to the workshop.

The one day workshop was organized by first introducing the purpose of the meeting with presentations by J. H. Shaw and T. Brocher (see SCEC project report) and then by offering an overview by A. Plesch of the structure and composition of existing 3d fault models. The strawman model was shown as a live 3d model on a secondary screen and was very helpful in supporting the subsequent fault-by-fault discussions. These discussions were subdivided into geographic areas. The SF Bay area discussion was lead by R. Greymer, the S. Coast Ranges/S. San Joaquin Valley discussion by T. Brocher, the N. Coast Ranges/ Sacramento Valley discussion by C. Wills, as well as the Sierra Nevada discussion, and finally the Cascadia/Klamath Mts. discussion by R. McLaughlin. Each participant received a printed copy of a spread sheet containing a list of faults discussed as a handout and was encouraged to provide written comments. These commented spreadsheets were collected at the conclusion of the workshop, summarized by R. Graymer, and provided to the workshop organizers as electronic documents. This system of preparing and conducting the workshop made it possible to work through most of the about 160 faults identified. As a general result, it was determined by the workshop participants that the strawman fault inventory was rather complete, particularly in populated regions such as SF Bay area. Faults in other areas, such as the N. Coast Ranges, are arguably less well known, and thus will be an important focus for our subsequent efforts. In detail, many specific suggestions on fault geometries were provided. These suggestions included pointers to supporting data including geologic maps and other documentation such as the new USHS National Seismic Hazard Maps, that will help support improved fault representations in the new statewide model.

The workshop was successful in its two goals: we enabled lively scientific exchange with a large group of stakeholders, and collected a wealth of valuable information relevant to the construction of statewide California Fault Model. We anticipate that this group will continue to work together to help construct, evaluate, and support the statewide CFM.

List of participants:

C. Thurber, U. Wisconsin
J. Lienkaemper, USGS
H. Ryan, USGS
J. Watt, USGS
R. Simpson, USGS
D. McPhee, USGS
V. Langenheim, USGS
W. Ellsworth, USGS
S. Hecker, USGS
R. McLaughlin, USGS
C. Prentice, USGS
R. Jachens, USGS
T. Brocher, USGS
R. Graymer, USGS
C.T. Onishi, visitor
J. Murphy, USGS
G. Fuis, USGS
Stu Nishenko, PG&E
Chris Wills, CGS
G. Saucedo, CGS
K. Knudsen, CGS
T. Dawson, USGS
Andreas Plesch, Harvard
J. H. Shaw, Harvard