

# **A Web-Based Outreach Course on Earthquakes in Southern California**

Robert S. Yeats

Dept. of Geosciences, Oregon State University, Corvallis, OR 97331

I am developing prototype Web-based courses on the societal implications of earthquake science. Each course begins with the science: geologic time, plate tectonics, concepts of faulting, seismology, and tectonic geodesy, followed by descriptions of earthquake environments affecting the region. The science part concludes with forecasting and with secondary effects: strong ground motion, liquefaction, landsliding, and tsunamis. Societal response includes earthquake insurance, earthquake engineering, building codes, land-use zoning, and earthquake programs at the federal, state, and local level. A section is included on strengthening the home against earthquakes and developing a family earthquake response plan.

In spring, 2005, I will teach a Web-based course on the Pacific Northwest, using *Living with Earthquakes in the Pacific Northwest - 2nd ed.*, (2004, OSU Press) as a text. At the same time, with SCEC support, I am developing a course for southern California with many common elements with the Pacific Northwest course. Differences include the more sophisticated seismic and geodetic networks and the greater understanding of fault systems being developed at SCEC, the different earthquake environments (San Andreas fault system, other strike slip faults onshore and offshore, and Transverse Ranges), the California Earthquake Authority for earthquake insurance, and state and local programs, including building codes, the Alquist-Priolo Act, and the Seismic Hazard Mapping Act. The course will present in lay language the various earthquake models being developed at SCEC, with advice from the CEO group. California leads the country and perhaps the world, but there is much left to do. Texts will include *Living with Earthquakes in California* (2001, OSU Press) and SCEC's new edition of *Putting Down Roots in Earthquake Country*.

The southern California course will be made available to those wishing to teach their own course, either at the college level or short courses for emergency management personnel. Visual aids will be provided, including lesson plans for those subjects with which the instructor may be less familiar (insurance or engineering, for example). For a discussion of course philosophy, see Yeats, R. (2003), *Seismological Research Letters* 74:625-627.