

SCEC REGIONAL SEISMICITY MODULE

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INVESTIGATIONS

The development of the educational module "**Investigating Earthquakes through Regional Seismicity**" continued through 1998. The primary focus of this past year's activities included: 1) working closely with the Development of Earth Science Curricula (DESC) group to develop a "story line" (Figure 1) for the module, and to enhance the effectiveness of the activities for use in a classroom situation; 2) rearranging the previously created materials to follow the organization of the newly developed storyline; 3) completing, obtaining scientific reviews for and releasing Section 1, "*What is an Earthquake*", at the SCEC meeting and to the public on the SCEC_DC WWW pages; and, 3) working towards the completion of Section 2, "*The Distribution of Earthquakes*". Previously created products such as monthly and yearly animations and histograms for Southern California seismicity were also updated regularly and made available on the WWW by John Marquis.

RESULTS

Portions of the educational module were presented throughout the year to a variety of groups focused on different educational levels and goals. These outreach methods began with presenting an early version of the module at the 1998 Technology in Education Conference & Exposition (Tech'98) for Community Colleges in Santa Clara. Both at the conference, and in working with SCEC Scientists teaching at the undergraduate level, the module is well received. Feedback includes comments from the scientific reviewers who reported that they plan to use it for their classes in Physical and Earthquake geology. Presentations were also made at the IRIS annual meeting "Teaching Seismology Using Educational Software education workshop", and version 1.0 (Section 1 - "*What is an Earthquake*") was released and presented at the SCEC annual meeting and education workshop. This section of the module covers such topics as the properties of faults, fault rupture, fault scarp formation, calculating slip rates and recurrence intervals, and the relationship of tectonic forces to fault types and distribution. Completed portions of the module, as well as portions of Section 2 - "*The Distribution of Earthquakes*" were presented at the Fall 1998 AGU Union session "Innovations in Undergraduate Geoscience Education and K-12 Earth Science Teacher Preparation". Section 2 covers the geographic distribution of earthquakes, e.g. to faults, volcanic features, and topographic features, as well as their distribution in time, e.g. aftershock decay rates, foreshocks, mainshocks, and aftershock distributions.

Since its "official" release in October, interest and access to the module on the internet has been steadily increasing (Figure 2). With its availability on the WWW, educators from elementary school to college levels are beginning to test the module's effectiveness in classroom situations. These comments are being compiled by us, as well as the DESC on-line group, and are being used to improve the module at its current High School and Undergraduate education levels. In the future, the experience we gain with this release of the module will be used to develop versions of the module for middle school and lower High School educational levels. In addition to its educational



Figure 1

use, the module as presently released is also providing an excellent resource on earthquakes for the general public, and is increasing the visibility of the SCEC Education program to a variety of interested communities.

REGIONAL SEISMICITY MODULE URL

<http://www.scecdc.scec.org/Module/module.html>

WWW ACCESS TO MODULE IN 1998

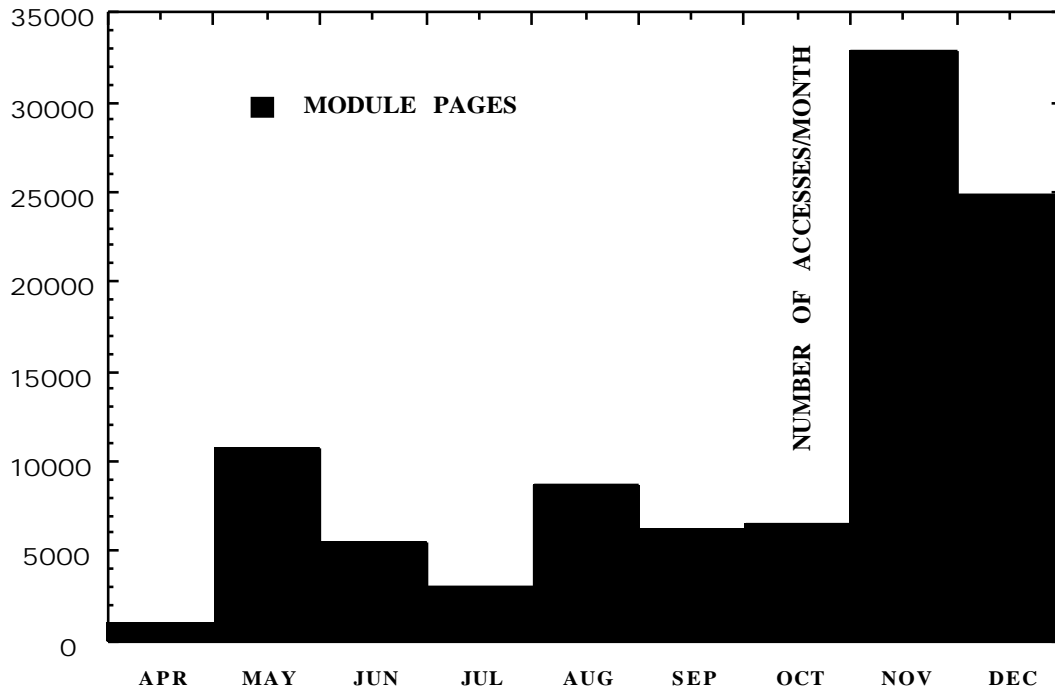


Figure 2

PUBLICATIONS

Marquis, J. Hafner, K, and Hauksson E., 1998, Investigating Earthquakes through Regional Seismicity: <http://www.scecdc.scec.org/Module/module.html>, (abstract) Fall 1998 AGU meeting

Marquis, J., Hafner, K, and Hauksson, E. 1998, Investigating Earthquakes through Regional Seismicity: <http://www.scecdc.scec.org/Module/module.html>, 1998 SCEC Annual Meeting

CONFERENCES & WORKSHOPS PARTICIPATED IN

1998 Technology in Education Conference & Exposition, May 1998, Santa Clara California; presented "SCEC Science Modules: Interactive On-line Earthquake Education for the Southern California Earthquake Center"

SCEC Education Program Review and Comparison to California State and National Education Standards: A Workshop, May 9, 1998.

Teaching Seismology Using Educational Software, July 8, 1998, A workshop sponsored by the IRIS Education and Outreach Committee

California Earthquake Research Center Outreach Team (CERCOT) Planning & Partnerships
Workshop, July 28, 1998

Development of Earth Science Curricula (DESC) Group Meeting at UC Irvine, December 3, 1998

**UNDERGRADUATE PROFESSORS WHO HAVE USED OR HAVE EXPRESSED
INTEREST IN USING THE MODULE**

Dr. Gerry Simila - CSUN
Dr. Michael Forrest - Rio Hondo College
Dr. Lisa Grant - Chapman College
Dr. Sally McGill - Cal State San Bernardino