

SCEC 2002 Annual Report: SCEC Strong Motion Database (SMDDB)

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With funding from SCEC the COSMOS (Consortium of Organizations for Strong-Motion Observation Systems) Virtual Data Center (<http://db.cosmos-eq.org>) continued to expand and refine its database and the website through which the strong-motion data are accessible. In late August the NSF Directorate of Engineering, Civil and Mechanical Systems, Geotechnical and GeoHazards Systems Program funded the VDC to support and expand the web-deployed database over a three-year period 9/1/2002–8/31/2005. Even before this award was made, we had improved the VDC.

DataBase Content Enhancements:

Available Data	10/1/2001	10/1/2002
Earthquakes	199	317
Stations	1744	2284
Acceleration Time Histories	11,537	15,403

The database was given a considerable boost with the addition of two large data sets in the last year: the set for the September 20, 1999, M 7.6 Chi Chi, Taiwan, earthquake added 408 stations; and the set for New Zealand added 98 earthquakes from 1966 to 1999 and 230 stations. The database also added from California the October 31, 2001, Anza, the May 14, 2002 Gilroy, the June 17, 2002 Bayview, and the Feb 22, 2002 California-Baja earthquakes (with 73, 24, 3 and 9 stations reporting, respectively). From Alaska, the February 6, 2002 earthquake and aftershock were added (9 and 12 stations reporting, respectively). Five magnitude 5 or greater earthquakes in Japan from December 2001-September 2002 were also added. The remaining increases are from older earthquakes and stations in Turkey, El Salvador and California, which were added as the data became available.

The database added 17 recordings from the November 3, 2002 M 7.9 Denali earthquake.

Additional Metadata:

The COSMOS VDC web site now displays response spectra plots for those records whose owners supply response spectra (USGS, CGS, and New Zealand), in addition to the time series plots. Plots are available at 2% and 5% damping, and for acceleration, velocity and displacement.

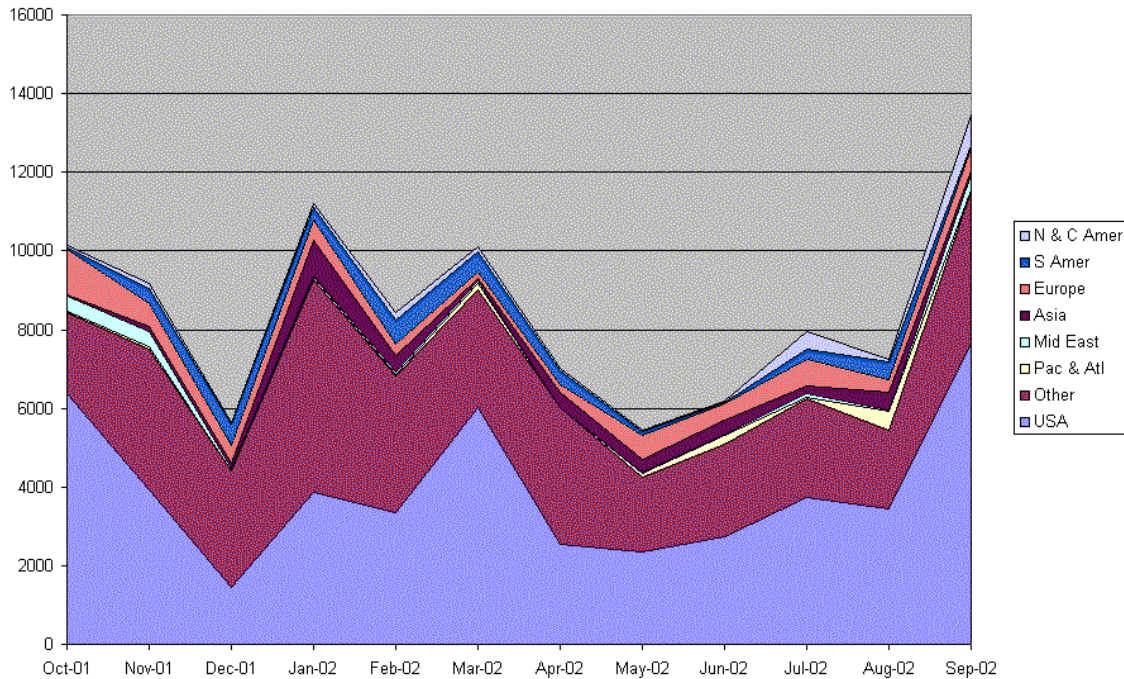
The user is now able to search on earthquake mechanism, for earthquakes for which that information is available.

Links to owner's station pages and to shake maps have also been included where that information is available.

Web Site Usability Enhancements:

In addition to augmentation of the data in the database, the COSMOS VDC website continues to modify and expand its user interface so that it is as clear and useful as possible. The web site now includes the capacity to zip up to 30 files at a time for more convenient downloads. Previously, the user had to download each acceleration

VDC Web Pages Visited by Area



Continuing Developments:

Performance and Security:

- Short term, adding a new disk in November
- Planning to move to another web server (Apache)
- Researching move to another OS and database
- Automating more of data capture and currency checking

Quality Control:

Jamison Steidl, Associate Research Seismologist

Additional Data:

- Continuing to acquire data from current sources (USGS, CGS, etc)
- Acquiring data from new sources (IITR in India)
- Interfaces/links to geotechnical databases, ANSS?
- Additional metadata in database from files & external sources

Ease of Use:

- User-selectable format from web page:
 - original, Cosmos format 1.2, Cosmos XML format
- Downloadable GUI converter from XML to legacy formats
- Using Java WebStart as deployment tool