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USGS/USNSN/ANSS

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ANSS

The Advanced National Seismic System (ANSS) is a major national initiative that will serve the needs of the earthquake monitoring, engineering, and research communities as well as national, state, and local governments, emergency response organizations, and the general public. . The nascent ANSS has begun to organize, modernize, standardize and stabilize seismic monitoring in the United States. The fully implemented ANSS will organize and manage seismic and associated data collection and distribution, and provide new products and services to a wide range of traditional and new partners, collaborators, and cooperators in the engineering, emergency response and mitigation, government, scientific, educational, industrial, and business communities as well as the general public. Fully implemented, the ANSS will provide (1) alerts within a few seconds of imminent strong earthquake shaking, (2) rapid assessments of the distribution and severity of earthquake shaking for use in emergency response, (3) data and information necessary to issue warnings of a possible tsunami from an off-shore earthquake, (4) data and information necessary to issue warnings of volcanic eruptions, (5) information for correctly characterizing earthquake hazards and for improving building codes, (6) critically needed data on the response of buildings and structures during earthquakes, for safe, cost-effective design, engineering, and constructions practices in earthquake-prone regions, and (7) high-quality data fundamental to NEHRP-supported mitigation research. The *Technical Guidelines for the Implementation of an Advanced National Seismic System, V. 1.0* was completed and published (online) during 2002.

Funding of $3.9 million for the ANSS was appropriated in the fiscal year (FY) 2002 federal budget. That money targeted installation of real-time national broadband and urban strong motion instruments in the San Francisco Bay, Seattle, Reno, Hawaii, Anchorage, Memphis, and Salt Lake City areas with the majority of stations being installed in populated areas near buildings and other structures.

USNSN

The USNSN is in transition to become the national component of the ANSS. The full USNSN station list may be obtained from the web via wwwneic.cr.usgs.gov/neis/usnsn/usnsn_home.html. This list is updated regularly. In addition, the USNSN acquires data from foreign broadband stations in near-real-time. In all, the USNSN automatically acquires over 2000 data channels with an aggregate data volume of about 1 Gbyte/day. Of this data, about 200 Mbytes/day are archived (two copies each) onto optical storage (an aggregate of nearly 600 Gbytes to date). At the same time, the USNSN distributes more than 450 Mbytes/day of seismic data to the research community via an AutoDRM (autodrm@usgs.gov) and the IRIS DMC. Real-time data is provided to ten RSNs including the Pacific and Alaska Tsunami Warning Centers, to augment regional and teleseismic monitoring. At its current rate, by the end of FY02, the USNSN will collect, process, and provide about 300 Gbytes of very high quality raw and derived seismic data to the seismological community, locate more than 20,000 seismic events, and generate more than 1,400 seismic alarms. Data from four stations is provided continuously in real-time to the National Data Center (NDC) for nuclear test ban monitoring purposes.

NEIC

The NEIC is in transition to become the Interim ANSS national operations center. All existing NEIC systems are undergoing upgrade or modification to support the ANSS data and products described in the The *Technical Guidelines for the Implementation of an Advanced National Seismic System, V. 1.0*