

The Southern California Seismic Network (SCSN), Modernization for Earthquake Early Warning

Marcos Alvarez, Glenn Biasi
United States Geological Survey
malvarez@usgs.gov

The Southern California Seismic Network (SCSN) has been continuously monitoring earthquakes that occur from central California just south of San Luis Obispo to the U.S.-Mexican border since 1920. This network is cooperatively operated and maintained by the U.S. Geological Survey and Caltech, with funding from both federal and state sources. The SCSN is a part of the California Integrated Seismic Network (CISN), and also a contributing regional seismic network within the Advanced National Seismic System (ANSS). With a wide scientific and public mission, the network has developed into a multipurpose observatory capable of satisfying multiple operational objectives. With over 460 stations, this real-time digital network now comprises strong motion, weak-motion, and broadband instrumentation. A primary function of the network is to deliver reliable, low latency data. To this end we have implemented strategies to transmit data using multiple and overlapping methods to ensure data delivery during significant events.

In support of the ShakeAlert™ Earthquake Early Warning (EEW) System, additional stations are currently being installed across Southern California. The design of these stations incorporates instrumentation and techniques that maximize the signal-to-noise ratios of the seismic wave field as well as reduce the latency of data transmission for EEW. In this presentation we discuss the performance of the SCSN, showing noise characteristics and data latency.