CONFIGURATION OF THE SEISMOGRAPHIC NETWORKS IN SAUDI ARABIA

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ABSTRACT

The Saudi Arabian National Digital Seismographic Network (SANDSN) was planned in late 1993, and King Abdulaziz City for Science and Technology (KACST) was entrusted with the responsibility of coordinating and implementing the construction of such a network. By the end of December 1998, the Network will be fully operated representing the third generation of seismic networks and seismic information system. SANDSN utilizes state-of-the-art broadband sensors and 24-bit dataloggers combined with real-time telemetry to monitor local and regional seismicity in the Arabian Peninsula. It consists of 32 free field stations equipped with 21 three components Streckeisen STS-2 broadband and 11 SS-1 short-period seismometers. The digital seismic data is transmitted via spread spectrum transceiver links and 9.6 leased telephone lines to the data acquisition and processing center (DAPC) located at KACST. The DAPC, consisting of two SUN Ultra -II workstations, providing a disk ring buffer of a high continuous data capacity for 7 days for all channels on hard disk, and for 90 days using on-line mass storage devices. The DAPC employs Antelope package software which facilitate automatic event detection, phase picking, event location and magnitude, graphing and reporting within tens of seconds. The seismic information databases are managed using the Center Seismic Studies CSS. 3.0 schema for relational database management system (RDBMS). The DAPC is also equipped with additional SUN-Sparc workstation dedicated for off-line accessing and processing of the seismic databases.We are developing procedures to allow better real-time access to SANSDN data via INTERNET and make it available to the scientific community.