

Modern seismic network development in Iraq

Iraq lies in an area prone to intense earthquake activity. Global networks recorded nearly one hundred Mw > 5.0 earthquakes in nearby regions since 2000. The Iraq Seismic Network was established in the late 1970s and became operational in the early 1980s. However, recording and reporting of seismic data has been intermittent, leading to a large gap in regional seismic data collection. Seismic research in Iraq did not advance during a long period of national instability. In 2014, the U.S. Department of Energy's Seismic Cooperation Program, through Lawrence Livermore National Laboratory (LLNL), re-engaged and trained local scientists in Iraq to install stations, improve the quality of seismic monitoring, and modernize seismic hazard mapping in Iraq. Currently, the Iraq Seismological Observatory, including participants from Iraqi universities and other research organizations, operates eleven broad-band seismic stations in Iraq. Six of these stations provide open data to the international community (three in real-time) through the Incorporated Research Institutions for Seismology's Data Management Center. LLNL has collaborated extensively with Iraqi experts on modernizing seismic hazard maps based on a new Probabilistic Seismic Hazard Assessment. In 2017, the Iraqi government incorporated the updated hazard maps into new seismic design criteria in the national building code.

Primary author: GOK, Rengin (Lawrence Livermore National Laboratory)

Presenter: GOK, Rengin (Lawrence Livermore National Laboratory)

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