Reevaluation of the Seismicity and seismic hazards of Northeastern Libya

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Libya, located at the northern margin of the African continent, underwent many episodes of orogenic activities. These episodes of orogenic activities affected and shaped the geological setting of the country. This study represents a detailed investigation that aims to focus on the seismicity and its implications on earthquake hazards of Northeastern Libya.

At the end of year 2005 the Libyan National Seismological Network starts functioning with 15 stations. The Seismicity of the area under investigation was reevaluated using data recorded by the recently established network. The Al-Maraj earthquake occurred in May 22nd 2005 was analyzed. This earthquake was located in a known seismically active area. This area was the sight of the well known 1963 earthquake that kills over 200 people. Earthquakes were plotted and resulting maps were interpreted and discussed. The level of seismic activity is higher in some areas, such as the city of Al-Maraj. The offshore areas north of Al-Maraj seem to have higher seismic activity. It is highly recommended that the recent earthquake activity is considered in the seismic hazard assessments for the northeastern part of Libya.