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reevaluation of seismicity and seismotectonics of Libya

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Libya is located at the northern margin of the African continent, which is bordered by the Alpine tectonic belt of the Atlas Mountain and by the active belt beneath the southern Mediterranean. Libya underwent many episodes of orogenic activity of the Caledonian and Hercynian in the Paleozoic during Cretaceous, Middle Tertiary, and Holocene time. These episodes of orogenic activity affected the region and shaped the geological setting of the Country. As a result a number of sedimentary basins were formed separated by intervening arches.
At the end of the year 2005 the Libyan national seismological network (LNSN) starts functioning with 15 stations. In this study the seismic activity of Libya is reevaluated using the new data recorded by Libyan national seismological network. Fault plane solution was estimated for 17 earthquakes recorded by the Libyan National Seismograph Network in northwestern Libya.
At first glance the seismic activity map shows dominant trends of seismicity with most seismic activity concentrated along the northern coastal areas. Four major seismic trends were quite noticeable. A first trend is a NW-SE direction coinciding with the eastern boarder of the Hun Graben. A second trend is also a NW-SE direction in the northeastern offshore Tripoli area. The other two trends were located in the western Gulf of Sirt and Cyrenaica platform. The rest of seismicity is diffuse either offshore or in land, with no good correlation with well-mapped faults.
A result of fault plane solution suggests that normal faulting was dominant in the westernmost part of Libya; strike slip faulting was dominant in northern-central part of Libya. The northern-eastern part of the country suggests that dip-dip faulting were more prevalent.