

RECENT SEISMIC ACTIVITY IN THE NORTHERN RED SEA

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ABSTRACT

Seismicity of the Northern Red Sea appears to be low compared to the rest of the Red Sea . Sixty eight earthquakes during the period 1964-1993 had body-wave magnitudes between 3.8 and 6 . On February 18 ,1983 , a swarm of earthquakes began in the northern Red Sea and lasted for about 5 days . More than 180 local earthquakes were recorded between 25.79° - 26.89° N latitudes and 34.74° - 35.57° E longitudes, 12 of which were discernible enough on seismograms to establish epicenters and magnitudes . The majority of seismic activity of this swarm is clustered in the area located between lat. 26.7° and 27.3° , on or close to at least one transform fault trending in the northeast direction .

The most remarkable earthquake swarm sequences is the migration of epicenters northward about 100 km in 5 days with focal depths less than 20 km suggesting that the seismic activity and lithospheric deformations are restricted to the crust and upper mantle .

This study and historical data confirm that the seismic activity in the region is mainly of the swarm- type and mainly attributed to the subsurface magmatic activities and diapiric structure which are usually associated with complex faulting .