

Seismicity of the northernmost part of the Red Sea (1995-1999)

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Abstract

Seismicity in the northernmost part of the Red Sea has been studied using data from Hurghada Seismological Network in addition to readings from the existing neighbouring networks. Relocated events in addition to data from national centers are used to obtain a complete and true picture for the seismicity of the area. The spatial distribution of earthquakes defines three earthquake zones in the Gulf of Aqaba and three zones at the entrance of the Gulf of Suez and southern tip of Sinai Peninsula. The thermal activity and the triple junction nature control the activity in this area. The activity defines also an active trend extending from the southern tip of Sinai Peninsula to the median zone of the Red Sea. The seismicity of this trend is probably related to the active spreading zone associated with the opening of the Red Sea. The *b*-values are derived for the entrance areas of the two gulfs and for Gulf of Aqaba. Values of *b* are 1.35 for the triple junction region, 1.13 for the activity before the 22 November 1995 Gulf of Aqaba mainshock and 1.25 for the aftershocks of this event.

Key words: seismicity, Gulf of Suez, Gulf of Aqaba, aftershocks, Red Sea.