



Recent seismicity in the Cinarcik basin, east Marmara: swarm activity on localized earthquake clusters

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We present the recent earthquake activity in the Cinarcik bassin, east Marmara, Turkey. This region is located at the western termination of the Izmit earthquake rupture ($M_w = 7.6$, 1999) and at proximity of the city of Istanbul. The ongoing activity is monitored by a recent dedicated short period network (CINNET). It allows us to capture the abundant earthquake activity down to small size events ($m_c=1.0$). Earthquakes location highlights several clusters of earthquakes which are persistent over the more than 2 years of continuous recording. These clusters are located in the vicinity and on both sides of the north Anatolian fault passing through the Cinarcik bassin. Temporal activity on these earthquake clusters is characterized by swarm patterns lasting several days and with numerous similar events. This is in sharp contrast with the activity on the north Anatolian fault which had few events over the monitoring period. We discuss implications of this new set of earthquake for the understanding of swarm activity on the active seismogenic structures in the Cinarcik Basin.