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Seismicity of Eastern Turkey: A Case Study
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The March 8, 2010 Basyurt-Karakocan Earthquake (MlISK=6.0 ; 04:32 L.T.) occurred on the East Anatolian Fault (EAF) in Elazig Province. 42 People were killed and 137 people were injured. Over 100 villages and hamlets which were closely located to the epicenter were affected by the earthquake. The Basyurt, Gokdere and Kovancilar were the most affected villages and in general this area falls within the deformation field in the East Anatolian Fault Zone. It was observed that the aftershocks were densely distributed in SW-NE direction. In this study, we have analyzed the faulting mechanism solutions of 14 earthquakes (M>4.0) in the region and their source characteristics. The fault plane solution of the main shock revealed that the earthquake occurred with a left lateral strike slip faulting. The March 8, 2010 Basyurt-Karakocan Earthquake demonstrated that the region sustains the earthquake activity under the effect of strike slip tectonic regime. When the regional faulting structure is taken into account, it can be considered that the Basyurt-Karakocan Earthquake has occurred in Bingol-Palu fault system with the fracture of NE-SW main direction fault segments in the East Anatolian Fault Zone. The estimated intensity distribution map was prepared and delivered to the relevant public institutions immediately after the earthquake by KOERI. The earthquake intensity was estimated as Io=VII around the epicenter, and this was confirmed by field studies. The estimated PGA distribution map, the loss and damage maps were also prepared in a short time after the earthquake and sent to the relevant public institutions as well.

キーワード: seismicity, fault plane solutions, aftershock, Elazig earthquake
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