

Interactive comment on “Landslide susceptibility assessment of the part of the North Anatolian Fault Zone (Turkey) by GIS-based frequency ratio and index of entropy models” by Gökhan Demir

Anonymous Referee #1

Received and published: 28 December 2016

The manuscript deals with the landslide susceptibility assessment for the the part of the North Anatolian Fault Zone which is one of the active dextral strike-slip fault zone extending for about 1200 km along northern Turkey. The eastern part of the fault zone more prone to landslides and many destructive landslides happened in the last 20 years in the region. In the present study, 63 cases (69%) out of 91 observed landslides were randomly selected for modeling, and the remaining 28 (31%) cases were used for the model validation. Subsequently, landslide susceptibility maps were produced using frequency ratio and index of entropy models. The verification results show that frequency ratio model performed slightly better than index of entropy . The interpretation of the susceptibility map indicated that distance to streams, roads and

C1

slope degree play major roles in landslide occurrence and distribution in the study area. Indeed, the area includes one of the major river system namely the Kelkit river and along which several landslides are actively occurring especially in the spring time, and the main road bounding the east to the West goes through this river system for about 200 km. The results of this this study will be useful in order to protect the regional and local natural hazards in the region and could assist planners and engineers for reorganizing and planning of future road construction in the area.

The MS stands ready for publication scientifically, but before publication I recommend the author to use a much better location map for the area (Figüre 1) indicating the location of the NAFZ and the main settlements clearly.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., doi:10.5194/nhess-2016-327, 2016.

C2