



Activity of the Slano Blato landslide as an example of a landslide behaviour in karstic hydrological conditions

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The Slano Blato landslide is nowadays more than 1290 m long, 60 to 400 m wide and 3 to 12 m deep with a volume of more than 800,000 m³. Its source area is located in the Eocene flysch formation on the foot of a large limestone karst plateau, called the Trnovski gozd, which overlooks the Vipava River valley in western Slovenia. The landslide in this locality was first mentioned about 200 years ago and in 1887 it flowed as a fast moving earthflow and reached and destroyed the main road in the Vipava River valley 2 km away from its origin. The restoration of the landslide area took over 10 years and was finished in 1906. The landslide was triggered again in November 2000, when a large slump was initiated within the old fossil landslide. From this source area, it has been moving downslope mainly as a slow moving viscous earthflow with occurrences of rapid mudflows during rainy periods initiated in wet earthflow masses. It exhibits periods of different activity. In dry periods or in freezing conditions it behaves as a group of several slow to moderately fast moving landslides. In rainy periods it moves much faster with maximal displacements, which have measured up to 90 metres a day. Today, it still presents hazard to relatively new residential houses in the village of Lokavec at the toe of the slope. In the paper, analyses of data of intensive monitoring of landslide movement and data on material properties gathered in laboratory as well as field geological survey data will be presented together with rainfall data from three local rainfall gauging stations in the Slano Blato landslide area as well as from three official rainfall gauging stations of the Environmental Agency of the Republic of Slovenia from the Vipava River valley (Bilje at 55 m a.s.l.) and from the karst plateau (Mrzla Rupa at 930 m a.s.l.; Otlica at 835 m a.s.l.), and discharges from the nearby karst spring Hubelj.