LANDSLIDE EVENTS AND THEIR IMPACT ON THE INFRASTRUCTURE IN THE UMBRIA REGION, CENTRAL ITALY

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We present the analysis of the impact of mass movements on the infrastructure in the Umbria Region of Central Italy. We use three landslide maps showing: A) an inventory of 4233 shallow and deep-seated landslides triggered by the rapid melting of a snow cover in November 1997, obtained through the interpretation of large scale aerial photographs flown few months after the event and extensive field surveys; B) a map showing the sites where landslides, chiefly rock falls, minor rock slides and topples, were triggered by earthquakes in September-October 1997, obtained through extensive field surveys; and C) an inventory of mostly deep-seated landslides triggered by a severe storm in December 1937, obtained thought the interpretation of medium-scale aerial photographs flown in 1941. These data sets are compared with: D) a landslide inventory showing mass-movements of various ages and types, obtained through the systematic interpretation of various sets of aerial photographs of different scale and vintage; and E) a catalogue of historical landslide events with damage to the infrastructure. The various landslide maps are then compared in a GIS with the spatial distribution of roads and of railways. The areas where landslides intersect or are very close to the roads and railways are identified. Preliminary considerations on the use of this information for planning purposes and for the rapid response to a catastrophic natural event are discussed.