

PRELIMINARY ASSESSMENT OF THE IMPACT OF LANDSLIDES IN THE UMBRIA REGION, CENTRAL ITALY

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The Umbria Region of Central Italy has a long history of mass movements. Landslides range in from fast moving rock falls and debris flows, most abundant in mountain areas, to deep-seated, slow moving complex failures extending several hectares in the hilly part of the Region. Landslides occur every year in the Region, but the economic damage is largely unknown. In the framework of a nation wide attempt to evaluate landslide risk, we have completed a new landslide inventory map for the entire Umbria Region. The map was prepared through the systematic analysis of various sets of vertical aerial photographs, including 1:33,000 photographs flown in 1954-55, and 1:13,000 scale photographs taken in 1977. Landslides identified the aerial photographs were mapped at 1:10,000 scale on detailed regional topographic maps (CTR series). The new inventory supersedes all previous landslide maps prepared at smaller scales, and contains more than 45,000 landslides, for a total landslide area of about 770 sqkm, 10 percent of the entire region. We have used the new inventory map to complete a preliminary assessment of the impact of landslides in the Umbria Region. The inventory map, digitized and stored into a GIS, was superimposed to the available maps of land-use, of the distributions of built-up areas (towns, villages and dwellings), and of the infrastructure (including major and secondary roads, and railways). The location and extent of the built up areas, and of the section of roads and railways placed on landslide deposits were identified. An attempt was also made to compare the location and extent of these potentially dangerous sites with the distribution of the "sites at relevant landslide risk" identified by the Regional Government of Umbria, and studied by us in a previous work