

# **ANALYSIS OF LANDSLIDES TRIGGERED BY THE 23-24 NOVEMBER 2000 EVENT IN WESTERN LIGURIA, ITALY**

M. Cardinali (1), **F. Guzzetti** (1), P. Reichenbach (1), F. Cipolla (2), C. Sebastiani (2), M. Galli (3), P. Salvati (4)

(1) CNR-IRPI Perugia, via della Madonna Alta 126, 06128 Perugia, Italy, (2) SGA, V.le Cataldi-Bombirini 2/3, 16145 Genova, Italy, (3) Terra s.n.c., V.le Vittorio Veneto 14/A, 06050 Papiano, Italy, (4) Geologist, Bastia, Italy (F.Guzzetti@irpi.pg.cnr.it)

From mid-October to 22 November 2000 the Liguria Region experienced prolonged and intense rainfall, with cumulative values locally exceeding 1000 mm in 45 days. The already severe rainfall sequence ended on November 23-24 with a high intensity storm that locally dumped more than 200 mm of rainfall in 24 hours. The high intensity rainfall event occurred on steep and very steep slopes already saturated, locally at depth, causing flooding and triggering several hundreds soils slips and debris flows, and a few large, complex landslides. Slope failures caused 3 casualties and severe damage to the roads, the private houses, and the agriculture. Large and very large-scale colour aerial photographs were taken 45 days after the event in the areas most affected by the landslides. Through the interpretation of the 334 photographs covering an area of 500 km<sup>2</sup>, we prepared a landslide inventory map showing 1204 landslides, for a total landslide area of 1.6 km<sup>2</sup>. The size and type of failures triggered by the high intensity rainfall event differ significantly from the type and size of pre-existing (old and very old) landslides in the area. For the Ceriana Municipality, an area where the landslides were particularly numerous, historical information on a severe landslide event occurred on 8-11 December 1910 is available. This historical event triggered several hundreds landslides and produced severe economic damage. We attempt a preliminary comparison of the historical and recent landslide events.