



DETAILED STUDY FOR THE ZONING OF THE HIGHEST HYDROGEOLOGICAL RISK AREAS IN MOUNTAIN BASINS

Technical-operative team and consultants

Basin Authority of the Liri-Garigliano and Volturno Rivers, Caserta, Italy

Abstract

This work shows the most significant results of a detailed study for the zoning of the highest hydrogeological risk areas of mountain basins in Volturno river basin. The study concerned a pilot area of some mountain basins of 35 territorial municipality in the Basin Authority of the Liri-Garigliano and Volturno rivers which are characterized by a complex morphology and by different types of hazards (*flowslides, debris flow, falls and hyperconcentrated flows*).

The methodology used is synthesized as follows. Lithotypes have been defined through the analysis of aerial photographs, studies of detail and inspections; models have been chosen after the geologic and geomorphologic classification for the analysis of the phases of initiation and propagation of the flowslides. For the initiation phase the models, on wide area selected, were the “grid-based” type as Shastab and Trigrs models; for the propagation phase, it has been used the Flo-2D model. The prior parameters calibration of the used models has been made through the analysis of a significant known phenomenon of landslide. An application of the methodology proposed will be shown for one of the studied mountain basins.

Corresponding author:

Massimo Morea

Basin Authority of the Liri-Garigliano and Volturno Rivers

Viale Lincoln – 81100 Caserta, Italy

E-mail: m.morea@autoritadibacino.it