Geophysical Research Abstracts
Vol. 15, EGU2013-7678, 2013
EGU General Assembly 2013

GIS and Remote Sensing based zonation map for volcaniclastic debris flow susceptibility: a case study from area surrounding the Vesuvius (Campania Region, Italy)

Marina Bisson (1), Claudia Spinetti (2), and Roberto Sulpizio (3)

(1) Istituto Nazionale di Geofisica e Vulcanologia, Rome, Italy , (2) Istituto Nazionale di Geofisica e Vulcanologia, Pisa, Italy , (3) Dipartimento di Scienze della Terra e Geoambientali, Università di Bari, Bari, Italy

The volcanic areas affected by pyroclastic deposits and significant hillslopes can be considered zone with high proneness for triggering volcaniclastic debris flows. In fact, in presence of heavy and/or persistent rainfall, loose pyroclastic covers can be remobilized and generate volcaniclastic flows causing disastrous effects. The most important volcanoclastic debris flow in the Campania Region (Italy) has been the Sarno-Quindici event occurred on May 5-6, 1998 that caused the death of more than 150 people and relevant damages to villages at the foot of the Apennine Mountains in the circumvesuvian area. In order to improve the volcaniclastic flow hazard zonation in the area surrounding the Vesuvius volcano, we propose a methodological approach based on remote sensing analyses combined with morphometric study derived from a Digital Elevation Model having a spatial resolution of 10 meters to identify the drainage basins potentially more prone to generate volcaniclastic flows. The satellite high-medium resolution data will be used to derive the land cover mapping. The elaborations will be performed in the GIS environment and the combination of identified drainage basins with the land cover classes will provide the map classifying the areas according to different degree of susceptibility for triggering debris flows.