



Permanent and ephemeral effects due to coastal flooding: the October 1954 flood reconstruction on the Sorrento peninsula (Southern Italy)

E. Esposito, S. Porfido, C. Violante

CNR- IAMC (Istituto CNR- IAMC (Istituto Ambiente Marino Costiero/Institute for Coastal Marine Environment), Naples, Italy (Eliana.Esposito@iamc.cnr.it)

Between 25 and 26 October 1954 the Amalfi Coast (Sorrento peninsula), was hit by an intense rainfall, with a locally amount exceeding 500 mm over 16 hours. This rainfall event induced the most important flood occurred along the Coast in at least three centuries. The severity of damage to structures and roads was extreme, flooding and massive debris flows were registered along a 50 km of steep rocky coast. Historical records reveal that although this type of rainfall event was exceptional, many of the areas affected by this flood have been similarly affected by flooding at least 60 times during the last 100 years. Detailed studies have been made on the Bonea drainage basin that was the most severely affected by the 1954 storm. Examination of the rainfall pattern obtained from meteorological data showed that the pattern of damage was generally consistent with the area of heaviest rainfall. Thus, an accurate reconstruction of the damaged area was made on the bases of a rich photographic documentation done before and after the 1954 flood. Using selected aerial photographs of the Amalfi Coast, a space distribution of slope movements have been also produced. The characteristics of slope movements on steep hillsides were examined for their size, geometry, type and nature of geologic materials.