

# **LANDSLIDES AND ARCHAEOLOGICAL HERITAGE: SOME ASPECTS OF HAZARD AND RISK ASSESSMENT**

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This paper presents a first proposal for the assessment of landslide hazard and risk in archaeological sites: the problem is first defined and described in its various aspects, therefore the main components for the risk assessment procedure are discussed with specific reference to the peculiarities of archaeological heritage sites. Archaeological sites are often threatened by landslides due to natural conditions and also to man-made excavations. The general framework used by the engineering geologist to assess landslide hazard and risk can be applied, with some variations, also to the evaluation of risk in the specific case of archaeological sites. The main peculiarities of the archaeological heritage with respect to the different components of risk are the following: 1) the temporal assessment of hazard can be considered of secondary importance with respect to the prediction of spatial hazard and to the assessment of the type of mechanism, magnitude and evolution of the phenomena. 2) the elements exposed to risk are characterized by a high fragility and vulnerability so that they can be subject to serious loss even for low magnitude landslide events; 3) quantitative risk analysis in monetary terms is often impracticable, due to the invaluable importance of cultural heritage sites; 4) cultural and environmental constraints strongly limit the possibility to put into effect measures for risk mitigation which are usually employed for other types of element at risk. The case studied provide representative examples for the application of the methodology both for the relevance of their archaeological wealth and for their exposure to hydrogeological hazard.