



Comparison between different field classifications of building damage caused by slope instabilities: A gypsiferous slope case study

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Buildings, infrastructures and people settled on the top of urban slopes are vulnerable to damage caused by slope instabilities. Therefore, the assessment of landslide-induced damage is necessary to understand the level of risk exposure and the nature of the potential vulnerability to this natural hazard. Additionally, the study of the infrastructures and buildings damaged can contribute to the knowledge of the causes of the instabilities, jointly with an understanding of the impact that human have on these factors. In this work, the study performed in the town of Finestrat (Alicante, SE Spain) is presented. The historic city centre of Finestrat is partially built atop of a gypsum Keuper steep slope affected by a rock spread, and is one of the most visited tourist attractions of the Alicante province. Some buildings located on the top of this slope exhibit significant damage, mainly consisting of cracks on walls and tilts, affecting their structures and even, in some cases, their stability. In this work, a preliminary classification of the level of damage of the buildings caused by the slope instabilities is performed applying simple damage recording schemes proposed by different researchers. The study has been developed mainly on field, collecting data, such as the materials used in the construction, the type of foundation and the architectural features, in addition to the observed damage. Finally, an analysis of the advantages and drawbacks of the existing classifications, which can be applied for this kind of works, has been done. The results show that some of the analysed damage recording schemes are an interesting tool to study the mechanisms that cause the damage in the buildings affected by slope instabilities.