

A first database for landslide studies in densely urbanized areas of the intertropical zone: Abidjan, Côte d'Ivoire

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Landslides, a natural phenomenon often enhanced by human misuse of the land, may be a considerable threat to urban communities and severely affect urban landscapes, taking its death toll, impacting livelihood, and causing economic and social damages. Our first results show that, in Abidjan city, Ivory Coast, landslides caused more than fifty casualties in the towns of Attécoubé and Abobo during the last twenty years. Although informal landslide reports exist, map information and geomorphological characterization are at best restricted, or often simply lacking. Here, we aim at constituting a comprehensive landslide database (localization, nature and morphometry of the slides, slope material, human interference, elements at risk) in the town of Attécoubé as case study in order to support a first analysis of landslide susceptibility in the area.

The field inventory conducted so far contains 56 landslides. These are mainly translational debris and soil slides, plus a few deeper rotational soil slides. Affecting 10-25°-steep, less than 10-m-high slopes in Quaternary sand and mud, they are most often associated with wild constructions either loading the top or cutting the toe of the slopes. They were located by GPS and tentatively dated through inquiries during the survey. While 12 landslides were accurately dated that way from the main rain seasons of 2013 to 2015, newspapers analysis and municipal archive consultation allowed us to assign a part of the rest to the last decade. Field inquiries were also used to collect information about fatalities and the local conditions of landsliding. This first landslide inventory in Attécoubé provides clues about the main potential controls on landsliding, natural and anthropogenic, and will help define adequately anthropogenic variables to be used in the susceptibility modelling.