



## ABSTRACTS

### 12. Iuliana Maria Parvu, Adrian Grigore Parvu: Analiza riscurilor in cazul dezastrelor naturale utilizand tehnologia LiDAR

*The evolution of technology has led to significant advances in electronics, IT and graphics, enabling the development of precision laser scanning technology.*

*LiDAR technology involves scanning a surface with laser waves, resembling radar detection, but with the difference that in stead of radio waves it uses light.*

*The ability to process dense point clouds in an efficient and cost-effective manner has facilitated a multitude of 3D data acquisition applications in areas such as topography, environment, forest resource valuation, flood risk areas, etc.*

*This paper presents the flooding risk analysis using LiDAR technology based products.*

*World practice has shown that floods can not be avoided, but they can be managed and their effects can be reduced through a systematic process that leads to a number of measures and actions designed to help decrease the risk associated with these phenomena.*

*According to Government Decision no. 972/2016, flood risk management is thus the result of a large combination of preventive measures and actions prior to the occurrence of the phenomenon, operational ones during the course of the floods and those undertaken after floods (reconstruction and lessons learned as a result of the phenomenon).*

*The case study refers to the basin of the Valea Roşie River, a affluent of the Crişul Negru River in Bihor County. This area was chosen because it is one of the areas with significant potential flood risks identified within the Crişuri Basin Water Administration.*

*The area of interest is the residence village of the administrative-territorial unit Roşia with a population of 1979 inhabitants and 630 households, according to the 2011 Population and Housing Census.*

*This study was based on TopRo5 spatial data, a product of the CNC and the data obtained in the ongoing ANCPi project – “Geographical Information for the Environment, Climate Change and EU Integration”– LAKI II (Land Administration Knowledge Improvement). Based on the digital terrain and surface models for the Roşia area, possible scenarios were made in the case of floods, thus determining the affected land areas and affected households.*

#### Organisers



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