



---

## THE RELATION BETWEEN THE LANDSLIDE ACTIVITY AND IRREGULAR RAINFALL AND SNOWMELT IN THE CODRULUI HILLS, ROMANIA

**Viorel-Ilie Arghiuș<sup>1\*</sup>, Corina Arghiuș<sup>2</sup>, Alexandru Ozunu<sup>1</sup>, Eugen Nour<sup>3</sup>,  
Gheorghe Roșian<sup>1</sup>, Liviu-Octavian Muntean<sup>1</sup>**

<sup>1</sup>*Babeș-Bolyai University, Faculty of Environmental Sciences and Engineering, 30 Fântânele Street,  
400294 Cluj-Napoca, Romania*

<sup>2</sup>*"Gh. Lazăr" National Pedagogical College, 55 Al. Vaida Voevod Street, Cluj-Napoca, Romania*

<sup>3</sup>*Maramureș County Inspectorate for Emergency Situations, 87 Vasile Lucaciu Street, 430401 Baia Mare, Romania*

---

### Abstract

The paper presents the impact of the irregular rainfall events and snowmelt triggering landslides in the Codrului Hills region, located in the North-Western part of Romania. The field research conducted over the past 10 years and the comparison with other studies from regions with similar conditions (hilly regions in the North Hungarian Mountains) has revealed a close relationship between the activation/reactivation of the medium and shallow landslides and the weather conditions. The research concluded that the new landslides and the reactivation of the old ones are mainly the result of a favourable combination between a high amount of precipitations in winter and heavy rainfall early in the spring.

*Key words:* landslide, rainfall, snowmelt

*Received: November, 2010; Revised final: January, 2011; Accepted: January, 2011*

---

---

\* Author to whom all correspondence should be addressed: e-mail: [arghius.viorel@ubbcluj.ro](mailto:arghius.viorel@ubbcluj.ro); Phone/Fax: 0400264583378