Geogr. Fis. Dinam. Quat.
32 (2009), 57-66, 8 figg.

ADRIAN CIOACĂ (*) & MIHAELA DINU (**)

RECENT EVOLUTION OF THE GEOMORPHIC PROCESS IN THE MOUNTAIN SPACE IN BRAŞOV COUNTY (Central Romania) (***)

ABSTRACT: CIOACĂ A. & DINU M., *Recent evolution of the Geomorphic process in the Mountain space in Braşov County (Central Romania).* (IT ISSN 0391-9838, 2009).

The relief of Braşov County includes two basin units, drained by the river Olt and its tributaries. One is bordered by piedmonts (Bârsa Country and Făgăraş Country), being a wide hilly habitat (the southeastern part of the Transylvania Plateau) and the other is a mountain area with a great morphogenetic and altitudinal diversity (Făgăraş, Piatra Craiului, Bucegi, Bârsei, Ciucaş, Întorsurii, Perşani and Baraolt Mountains). The main ecosystems of Braşov county are well balanced, corresponding to the relief steps: mountain (over 700 m represent 40% of the county surface), hills and basins (around 400 and 700 m, extending on around 60% of the county surface). Territorial units of the county overlap on two morphostructural units: the Carpathians mountains and the Transylvanian Depression.

This disposal favors specific ecosystems diversification: The mountain area of the county belongs to the two mountain building structures: crystalline - Mesozoic unit belonging to the Oriental and Southern Carpathians and the Cretaceous flysch unit of the Curvature Carpathians. Their characteristics define the environment conditions, differentiated in their turn according to the petrographic formation, detailed relief, bio-climate range.

Based on a sequential series of observations undertaken by the authors during the last 40 years, there has been discovered a series of changes, both in the rhythmical nature and amplitude of the geomorphic processes as well as in their typology. In the alpine and sub-alpine floor of the Făgăraş, Bucegi and Piatra Craiului Mountains there has been observed an intensification of the debris flow rhythmicity, on the avalanche lanes, as well as an increase in the quantity of materials transferred by the low basins floods. As an exemplification, there have been offered several case studies made in the Făgăraş Mountains (Sâmbăta glacial cirque). On the low and medium mountains level of the Braşov county (Întorsurii, Perşani, Baraolt Mountains), in addition to the debris flow processes, there have also many gravitational processes have also occurred, affecting the forests (Perşani, Vârghiş, Găunoasa and Vulcăniţa basins), analyzed by the authors during the years 1968, 1977, 2003, and 2005. The studies of the geomorphological processes are accompanied by in analyses of the environmental factors that favored their evolution.

KEY WORDS: Geomorphological processes, Mountain relief, Braşov County, Romania.

INTRODUCTION

For over half a century, increasingly severe climate phenomena, and particularly their impact on other environmental factors, in our case on the relief, has encouraged research on current geomorphic process. Thus we could speak of both a methodological and space revival for these investigations, resulting in a diversification of concepts regarding current morphodynamics. Moreover, following optimization of the use of the territory several issues have been brought to the attention of geomorphologists, as a side effect of enhanced and repeatable geomorphic processes over the same area or even their expansion. Focusing studies on catastrophic geomorphic risks has only been a step away that most of us have no hesitated to take. Taking into account the fact that their increasingly aggressive media coverage hasn't always complied with scientific facts. Geomorphologists have a duty to develop this research and to become socially involved.

The issue of climate change, a concept that tends to replace that of cyclic (periodic and non-periodic) climate oscillations, has had a significant echo both in the scientific world and in political, economic and cultural circles, as well as decision-makers in our country and all over the world.

The present study (inside the CEEX/22/2006 Romanian Project) provides a scientific support for the management of natural and human resources in rural communities in the mountain area of Braşov County (fig. 1). In order to assess the status of environmental factors and the limits of areas affected by various geomorphic risks, researches into current morphodynamics, primarily geomorphic processes, has relied on our expertise during the past 4 decades into other Romanian Carpathian and Subcarpathian areas (Dinu & Cioacă, 1997). This has allowed us o assess not only geomorphic risks in the area but also their impact on land use (Cioacă & Dinu, 2003). Thus we answer the call of *The International Association of Geomorphologists* (Zaragoza,

(*) *«Spiru Haret» University, Faculty of Geography, Bucarest.*
(**) *Romanian American University, Faculty of Economy of Domestic and International Tourism, Bucarest.*
(***) *12th Belgium-France-Italy-Romania Geomorphological Meeting - IAG «Climatic change and related landscapes» (Savona, 26-29 September 2007).*