ASSESSMENT OF EROSION FACTORS AND CONTROL MEASURES IN THE CĂLINA HYDROGRAPHIC BASIN

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Abstract

The Călina hydrographic basin, located in the Central Moldavian Plateau, presents a complex natural framework shaped by geological, geomorphological, hydrological, and climatic factors. This study aims to analyze the basin's structure, relief, hydrography, and ecological processes that influence its current landscape. Data on sedimentary layers, tectonic influences, erosion dynamics, and land use provide insights into the region's environmental sustainability. The findings highlight the importance of monitoring geomorphological processes and implementing conservation strategies to mitigate erosion and enhance agricultural productivity. The study further examines the role of slope inclination, precipitation patterns, and human activities in accelerating soil degradation. By analyzing erosion-prone areas, this research proposes targeted soil conservation techniques, such as afforestation and contour farming, to improve land stability. The conclusions emphasize the need for sustainable land management practices to preserve the basin's natural balance and ensure long-term agricultural productivity. Furthermore, comparative analysis with similar studies on soil fertility and erosion control from other regions provides a broader context for assessing the effectiveness of proposed measures.

Keywords: Călina Basin, hydrography, geomorphology, erosion, environmental