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## AN UP-TO-DATE LAND DEGRADATION INVENTORY IN SUCEAVA PLATEAU USING DIGITAL ORTHOPHOTOGRAPHS

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### Abstract

The increased impact of human activities on soil resources in the last decades, combined with the environmental conditions specific to the hilly regions of North Eastern Romania such as the Suceava Plateau, intensified the soil degradation process, leading to soil productivity loss and landslides. An integrated environmental management of the regions with areas affected by land degradation should rely on an up-to-date inventory of degraded forms, within an extensive georeferenced database required in the decision making process. The objective was to develop a mapping methodology of land degradation based on aerial digital images, to assess its accuracy and to apply it within the specific conditions of Suceava Plateau. Each degradation form can be classified according to the predominant degradation process (land erosion, land displacement, industrial or home waste heaps) and afterwards divided in elemental units that generally require the same rehabilitation techniques. The results of the mapping accuracy assessments showed that the methodology established for land degradation mapping is reliable and can be used in areas with the same characteristics as the Suceava Plateau. Also, the accuracy of the boundary lines tracing was found to be less than image pixel size (0.5m). The information contained in the attached database is a start point in the ecological rehabilitation design, since it contains general geology, soil and degradation characteristics. A further development of the methodology should consist in the substantiation of a procedure to separate elementary units as homogenous areas with the same type of degradation, topography, geology and soils and which would require the same ecological rehabilitation design.

*Key words:* degradation, erosion, GIS, landslide, mapping

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