

MAPPING OF SOIL EROSION RISK IN CROATIA WITH APPLICATION OF GIS TECHNOLOGY

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Soil damage done by water erosion is a grave problem both in Croatia and worldwide, with serious consequences to economic development, and especially to agriculture, forestry and water management. To prevent its adverse effects, soil protection from erosion should be an integral part of land management. Assessment of soil erosion risk and production of erosion risk maps are among the measures to be undertaken to this end. As described in the paper, the risk of soil erosion by water in Croatia was assessed using the qualitative cartographic method of the CORINE program and maps of potential and actual erosion risk (scale 1:300.000) were made for the entire area of the Republic of Croatia. Modern computer equipment and GIS technology were applied in erosion risk mapping. Low potential risk of soil erosion by water was estimated for the largest part (42.3%) of the Republic of Croatia. Moderate potential erosion risk was determined on 24% and high potential erosion risk on 32% of the studied area. Low actual risk of soil erosion by water was recorded on as much as 53.4% of the studied area, moderate actual risk on 32%, and high actual risk on 13% of the overall area. The Geographic Information System of soil erosion established in Croatia enables its users to acquire all the required information, from data on the main input parameters to the final results of the soil erosion risk assessment. This is an example that justifies the application of the GIS technology in erosion mapping. The produced maps of potential and actual erosion risk as well as the GIS of soil erosion in Croatia constitute the main sources of information required for planning sustainable land use and soil protection in the Republic of Croatia.

Keywords: soil erosion risk, mapping, CORINE program, Croatia, GIS