

EROSION RISK MAP AS A TOOL TO URBAN AND TERRITORIAL PLANNING AND ENVIRONMENTAL MANAGEMENT

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This paper presents the results of the studies concerning soil erosion risk analysis in the urban areas of Presidente Prudente and Álvares Machado (São Paulo State - Brazil), comprising the drainage basins of Cedro and Limoeiro rivers. Erosion is one of the most damaging geological process occurring in Brazil, and responsible for considerable economical losses and environmental degradation in São Paulo State. Two kinds of geological approaches were made in the studied area,: a engineering geological mapping and a detailed and specific analysis of the different types of linear erosions. A geologic, geomorphologic, pedologic and land use survey were conducted in 1:25.000 scale. Also for the urban areas every observed linear erosion were identified, described and mapped in 1:2.000 scale. The results were presented in two different types of geotechnical maps: the erosion susceptibility map and the erosion risk map. The erosion susceptibility map shows the different compartments of the area regarding to the natural erodibility of the terrains. The erosion risk map also presents the erosion susceptibility of the area, but considering the human actions due to the land use process. The erosion risk map shows different compartments of risk to man-made erosion. Finally, the study contains a rank of the most damaging active erosions occurring in the outlined risk area, aiming to define the major control works. The analysis of risk to erosion processes considered parameters referred to the potential losses to each one of the major active erosion features.