

Title

Geoprocessing of hydro-morphometric index for automated sedimentation and erosional models – (Application test in Macta river –Sikkak NW of Algeria)

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Abstract:

Geoprocessing of hydro morphometric through the topographic Digital Elevation Model “DEM” allows customization prototypes and models dedicated to the automated sediment mapping like sediment transport in rivers, erosive sedimentation on landforms, debris flow, concentration of flows and finally their segmentation to erosive sensitivity. These geoprocessing models are communicated between the various GIS platforms (local and server). It is intuitive tools of manipulation and dialogue in decision-making by integrating the bathymetric data according empirical approach of hill reservoirs and dams for good management of territory development. We are interested for sediments and their transportation in the near river basin characterization (Watershed of Sikkak - Macta River - NW of Algeria). The rainfall erosivity affects the sediments deposition and their velocity from the junctions of flow accumulation (increasing the coefficient of Manning) which reveal the higher concentration. The geoprocessing models in this context prove the results high consistency for mapping geovolume in 2D/3D during the automated sedimentology models integration.