

A GIS-Based Approach to Floodplain Mapping

An Abstract of
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ABSTRACT

The purpose of this project is to create digital inundation maps to aid the Nature Conservancy in its restoration planning for the part of the Emiquon floodplain along the Illinois River, and to serve as a model for similar work over the whole floodplain. The project presents an approach for automated floodplain mapping using a combination of GIS and GIS-related software including the desktop GIS program ArcView, HEC-RAS and HEC-GeoRAS. HEC-RAS is hydraulic software that prepared water surface profiles for different flood estimates. HEC-GeoRAS is an ArcView extension that links the HEC-RAS model to ArcView and maps inundation depths

In this project, inundation maps are produced for 1.5, 2.33, 10, 50 and 100 year flood estimates. The maps for 1.5 and 2.33 year flood estimates should be helpful for allocating areas for different plant species, whereas the other three maps (for 10, 50 and 100 year flood conditions) should aid in the designing of minor structural control