

## **GIS for Floodplain Management**

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**Abstract.** Floodplain management covers a broad spectrum of activities to assist engineers, planners and administrators make informed decisions for the management of flood prone areas. Complex water resources models produce large quantities of output data that are difficult for people without expertise to understand and act accordingly. Specifically, it is hard to relate the model inputs/outputs directly to the real world to assess and validate the appropriate representation of the reality. GIS use in civil and environmental engineering ranges from mapping to engineering modeling, assessment, and decision making. GIS is used for spatial analysis and visualization in engineering to assist the planning, design and implementation of the engineering projects. GIS provides tools for managing, analyzing, and mapping geographic data. GIS integrated with other systems such as enterprise databases, knowledge management and decision support systems, modeling could form an excellent visual framework to support all information and associated processing needs for floodplain management activities. Effective and efficient floodplain management strategies can be assessed, planned, designed, and implemented with the help of the GIS integrated systems. However, the effective use of GIS for floodplain management relies on developing interfaces between GIS, models, and other systems. This paper explains the uses of GIS in floodplain management and describes the ways to generate GIS integrated systems to address floodplain management concerns holistically.

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