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Proposal for Final Project

Proposed Topic: Flooding in Connecticut River during Hurricane Irene

In 2011 Hurricane Irene passed through New England and caused a huge flooding. The flow in Connecticut River was nearly 60 times higher than its normal flow, draining area of about 28 000 square kilometers. There were damages to roads, agricultural lands, and homes near the river bed. Although there are several flood control dams in the watershed, this flooding showed that there is still a lot of things to learn about preventing flood damages. Studying the flooding models can also help in predicting water levels and the area the flood might affect.

The purpose of this project is to examine the hourly change in precipitation and water surface elevations in the stream and to create a flood map using ArcGIS. To achieve this, different datasets will be obtained from NHD Plus Version 2 for the Northeast Region and from NFIE-Geo Version 2. Information for the discharge in the Connecticut River and the precipitation in the basin will be obtained from CUAHSI and NFIE –Geo Version 2.

The anticipated base datasets that will be used are: watersheds, subwatersheds, flowlines, stream gages, and precipitation gages. ArcMap will be used to analyze these datasets and to create maps for results presentation. Some of the tools that will be used are: Spatial Analyst Interpolation and Raster Calculations and Hydrology tools.