

## Development of GISHydro 2005 – Phase I

### Problem

This research project involved the continued development and evolution of the GISHydro2000 program. This program automates the hydrologic analysis of any watershed within the State of Maryland or draining into the state (except for the Susquehanna and Potomac Rivers). It is important to continually develop, maintain, and update this program as new data become available, new techniques or reporting are desired, and for compatibility with other GIS products produced or used by the State of Maryland

### Objectives

1. Maintain and expand the Maryland spatial database of topography, land use, soils, and precipitation data.
2. Interface GISHydro2000 with the peak flow fixed region equations allowing for calculation of floods of all return frequencies, presentation of error bounds, gage weighting, and performance of calculations across physiographic boundaries.
3. Develop tools for velocity method of time of concentration calculation.
4. Develop and implement a Web-based version of GISHydro.

The main deliverable of this project is a revised version of GISHydro2000 – delivered as a self-installing executable program as well as through a web interface.

### Description

The tasks in this project ranged widely from maintenance to development of a new web-based version of this program. Throughout the project period, spatial data in the form of land use, soils, and precipitation information were continually added and updated to the spatial database as they became available and known to the P.I.

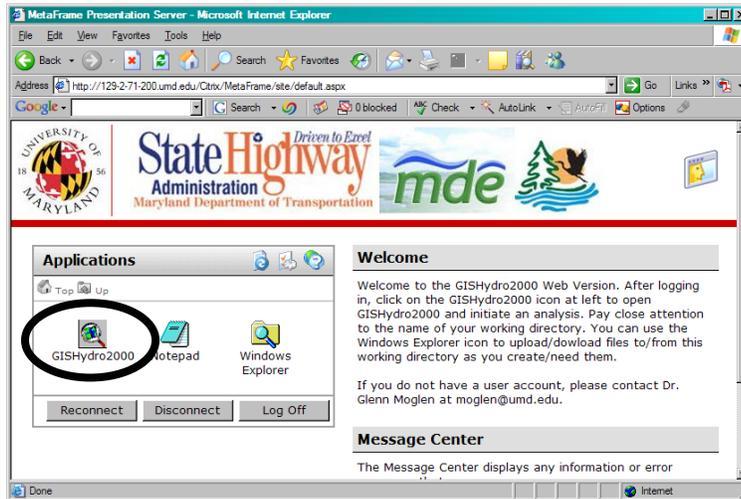
A major area of effort to this program was the development of a set of tools for travel time calculation. There was a strong emphasis on developing tools that could be used interactively by the user to develop and modify travel time concentration calculations in an iterative manner.

## Description Continued:

Another major area of effort for this project was the development of a web-based version of GISHydro. More information on the tasks developed as a part of this project can be found in the appendix of the full report.

## Results

This project attained all tasks outlined in the objectives section. Interim versions of the GISHydro2000 program were posted at the GISHydro website and updated over the course of the project. A final version of the GISHydro2000 software was developed and posted on May 6, 2006 (subsequently updated on June 6, 2006). A small screen-shot of web-based version of GISHydro2000 access page is shown below.



## Report Information

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