

Hydrology/Hydraulics GIS Applications Workgroup

Minutes of teleconference May 5, 2009

Attended: Steve Haley, Jennifer Bountry, Bill Merkel, notekeeper.

Web Pages:

The web page for the workgroup is: <http://acwi.gov/hydrology/h2gisa/>

The web page for the Subcommittee on Hydrology (SOH) is: <http://acwi.gov/hydrology>

These teleconference minutes will be added to the web page.

Federal Interagency Hydrologic Modeling Conference

Participation in the conference was discussed. Abstracts are requested by July 1, 2009 for the conference which will be held June 27 – July 1, 2010. It was decided to submit an abstract paper concerning the Work Group. There is potential for individuals to submit an abstract concerning their work. There is also potential to set up computer demonstrations of various GIS applications. The deadline for abstracts is July 1.

Questionnaire

This is an updated list of GIS applications of H&H identified so far and information retrieved.

Model Name	Developer / Supporter	Questionnaire Returned	Included in Texas A&M model list	Comment
EPA Basins	EPA	yes		Data organization and analysis
Map Window	Idaho State Univ	yes		Open source GIS with DEM processing operations
HEC Geo-RAS	USACE	yes		Hydraulic modeling
HEC Geo-HMS	USACE	no	yes	Hydrologic modeling

Stream Stats	USGS	yes		Regression equations for peak discharge
NRCS Geo-Hydro	NRCS	Yes, two versions		Hydrologic modeling
AGWA	ARS	yes	yes	Data organization and analysis, modeling
GIS Weasel	USGS	yes		GIS data preparation tool
eCoastal	USACE	yes		Coastal engineering
HAZUS	FEMA	yes		Natural hazard analysis
GIS Hydro	U of MD	no		Hydrologic modeling in state of Maryland
NHD Plus	USGS	yes		Stream network data and analysis
SWAT	ARS	yes	yes	Hydrologic/water quality modeling

A CESU (Cooperative Ecosystem Studies Unit) agreement between the Bureau of Reclamation and Texas A&M to post the completed questionnaires has been approved for funding (\$20,000). A graduate student at Texas A&M with a background in GIS and hydrology will start working on the project in June.

Live Meeting

A Live Meeting demonstration of the American Forest CITYGreen GIS application was presented by Steve Haley. CITYGreen is a desktop GIS web application which can be used to estimate quantity and dollar value impacts on air quality and stormwater quality and also carbon storage and sequestration due to an increase or decrease of tree canopy in a given area. CITYGreen operates as an extension of ESRI GIS desktop products including ArcView 3.x, ArcGIS 8.x and ArcGIS 9.x including 9.3. The ArcGIS 8.x and 9.x versions also require the Spatial Analyst extension. Soil, air pollution, rainfall, and raintype information as well as other data for the entire U.S. are included with the downloaded package although alternative data may be substituted if the user desires. The user must provide land cover data either in the form of classified imagery or by digitizing land cover data from reference orthoimagery or some other source. Where land cover data is digitized by the user, CITYGreen includes the ability to merge and convert shapefiles to raster imagery necessary for analysis. Quantities of pollutants and runoff are estimated based on Federal and other research and then related to costs and savings from various scenarios of canopy cover and management. CITYGreen is a proprietary

application. However, since some models on the Texas A&M web site are also proprietary applications, CITYGreen will most likely be included in the group of applications.

Action Items from Teleconference:

1. Bill will write a draft abstract for the FIHMC. Steve and Jennifer agreed to be co-authors. The abstract will be sent out to the entire work group for comments by May 22.
2. The agreement with Texas A&M will require a good bit of coordination from the Work Group. Since the next teleconference is a couple months away, coordination will be done by phone, e-mail, and maybe Live Meeting. All Work Group members will be kept up-to-date on progress of the agreement and various decision points along the way.
3. If anyone would like to demonstrate a GIS application in hydrology, hydraulics, or water quality at the next teleconference, please let Bill know.

Next teleconference: Monday, July 13, 2009 at 11:00 AM eastern time.