

Hydrology/Hydraulics GIS Applications Workgroup

Minutes of teleconference March 3, 2009

Attended: Dave Goodrich, Steve Haley, Zhida Song-James, Nebiyu Tiruneh, 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. There is potential for the work group members to present information pertaining to GIS applications in hydrology and hydraulics.

There are several different avenues to discuss. One is writing a 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. We can also encourage employees in our own agencies to submit abstracts for the conference. 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 TAMU model list | Comment |
|------------|-----------------------|------------------------|-----------------------------|--------------------------------|
| EPA Basins | EPA | yes | | Data organization and analysis |
| Map Window | Idaho State Univ | | | Open source GIS with DEM |

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|----------------|---------|-------------------|-----|--|
| | | | | processing operations |
| HEC Geo-RAS | USACE | yes | | Hydraulic modeling |
| HEC Geo-HMS | USACE | yes | yes | Hydrologic modeling |
| Stream Stats | USGS | yes | | Regression equations for peak discharge |
| NRCS Geo-Hydro | NRCS | Yes, two versions | | Hydrologic modeling |
| AGWA | ARS | | 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 | | | Hydrologic modeling in state of Maryland |
| NHD Plus | USGS | yes | | Stream network data and analysis |
| SWAT | ARS | yes | | Hydrologic/water quality modeling |

When all are returned, the questionnaires will be zipped and sent out to work group members for review. An agreement between the Bureau of Reclamation and Texas A&M to post the completed questionnaires is in the final stages of contract review and negotiation. Jennifer Bounry will let the Work Group know when it has been finalized.

Live Meeting

A Live Meeting demonstration of the USGS Streamstats was presented by Bill of the NRCS. Streamstats is a GIS web application which can be used to estimate peak discharges based on USGS regression equations.

The web site for Streamstats is <http://water.usgs.gov/osw/streamstats/>. From that web page select State Applications. A status map of completed states and those in progress is displayed. A watershed in Vermont was demonstrated. From the interactive map of Vermont, various layers may be displayed including base layers (topographic), water (watershed boundaries and stream locations), and political boundaries. Zooming to a

location in the state can be accomplished in several ways. One is to use the Zoom option (draw a box). Other ways include entering a place name (town, city, etc), entering a latitude and longitude, or entering a stream name. After zooming close to the desired point along the stream system, the basin may be delineated by clicking on the point along the stream where the peak discharges are desired. After delineating the basin, there is an opportunity to check and revise it. Basin characteristics and flow statistics may then be selected. USGS Streamstats is a user-friendly application with much information available such as Frequently Asked Questions and USGS flow-frequency reports for the states.

Update on CUAHSI

Dave Goodrich gave a short update on activities of the Consortium of Universities for the Advancement of Hydrologic Science, Inc. The first focus of CUAHSI is on GIS data aspects, later to focus on modeling aspects.

Action Items from Teleconference:

1. Please let Bill know if you are interested in co-authoring a paper concerning workgroup activities at the Federal Interagency Hydrologic Modeling Conference. Please e-mail Bill and we can discuss developing an abstract to submit.
2. A live meeting demonstration of the City Green GIS application in hydrology presented by Steve Haley is scheduled for the next teleconference.
3. If there are any other GIS applications not in the above table, please e-mail information to Bill.
4. Dave Goodrich will send out an update from David Maidment on the activities of CUAHSI.
5. Bill will send the completed questionnaires out to the Work Group for review.

Next teleconference: Tuesday, May 5, 2009 at 11:00 AM eastern time.