

## **Hydrology/Hydraulics GIS Applications Workgroup**

### **Minutes of teleconference January 7, 2009**

Attended: Dan Wickwire, Dave Goodrich, Shea Burns, Steve Haley, Zhida Song-James, 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.

Since there are several months to decide what to do, feedback from work group members is requested. There will very likely be representatives from our various agencies which will be submitting abstracts without the knowledge of the work group. Bill is a member of the SOH and thus will be able to review the abstracts after they all have been submitted and participate in grouping these into technical sessions.

However, this does not mean the work group cannot take a pro-active role in the conference. Various actions to be considered are 1) requesting representative of our own agencies to submit abstracts, 2) co-authoring a paper about the activities of the work group, 3) setting up computer demonstrations, and 4) organizing a short course. Whether or not the work group takes a more active part or not, it is nevertheless a very worthwhile conference to attend.

Dave Goodrich expressed interest in including AGWA in a short course organized by the Work Group. A proposal is to have a ½ day short course. It could include 1 hour on each of 4 GIS applications. We should discuss these options at our next teleconference.

## 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 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.

## **Live Meeting**

A very interesting Live Meeting demonstration of AGWA was presented by Dave Goodrich and Shea Burns of the Agricultural Research Service. AGWA is the Automated Geospatial Watershed Assessment tool.

AGWA is a GIS interface to the models SWAT and Kinos2. The basic data used by AGWA are digital elevation, soil, and land use. Other data are optional. One use for AGWA has been to analyze changes in hydrology due to land use changes. SWAT is a large scale watershed model to analyze hydrology and water quality. AGWA prepares data for input for the SWAT model. After the large watershed has been analyzed, if further detail is needed for smaller areas, then Kinos2 is applied to the smaller areas.

There are about 900 registered users of AGWA worldwide. The web site for AGWA is <http://www.tucson.ars.ag.gov/agwa> . From that web page select register. After registering and logging in, AGWA may be downloaded. A tutorial is available for new users to orient themselves on the tool's capabilities.

### **Action Items from Teleconference:**

1. Work group members are requested to consider what role the work group should take in the upcoming Federal Interagency Hydrologic Modeling Conference. Please e-mail comments to Bill and we can discuss these at our next teleconference.
2. Workgroup members having an interest in a live meeting demonstration of their GIS application in hydrology, hydraulics, or water quality should let Bill know. One can be scheduled for the next teleconference.
3. If there are any other GIS applications not in the above table, please e-mail information to Bill.

**Next teleconference:** Tuesday, March 3, 2009 at 11:00 AM eastern time.