GIS Applications in Hydrology and Hydraulics Questionnaire

September 30, 2008

The Subcommittee on Hydrology set up a workgroup to organize and publicize information on GIS applications in the fields of hydrology and hydraulics. This scope has been expanded to include related water quality, watershed management, and ecological sciences GIS applications. This work is intended to make information on GIS applications in hydrology and hydraulics more generally available. This questionnaire is designed to gather limited but key information about a particular GIS application in order for a potential user to decide if the application fits his/her computer system, data requirements, and physical system to be modeled.

These applications should be public domain and supported by user documentation. Availability on the web is not necessary if the application can be distributed on CD ROM or through e-mail requests. If a short abstract, fact sheet, or technical paper is available on the application, please attach a copy.

Name of Application, date, version number: MapWindow, August 30, 2008, Version 4.6.

Contact (with e-mail, web site, and/or phone number): www.MapWindow.org

Brief Description: MapWindow is an open source GIS which is public domain. The code is open which allows for developing extensions and applications. It has tools which allow analysis of grid and vector GIS data. An extension named TauDEM is available which performs analysis of digital elevation and stream vector data. Some of the analytical operations are burn streams, fill DEM, flow direction, flow accumulation, stream network analysis, watershed delineation, and more.

Platform/operating system: Windows XP or equivalent.

Web-based or desk-top application ? Desktop.

Data Requirements: The watershed delineation operation requires a DEM grid and optional stream vector layer. The general operation of MapWindow GIS accepts grid, vector, and image data layers.

Data format and compatibility: Data developed for use with ESRI software is compatible with MapWindow. Generic GIS data such as grid in ASCII grid format is compatible with MapWindow.

Will the application import and export data files ? MapWindow is a GIS which allows import of data for viewing and analysis. Data export ?

Is the application flexible to couple with external programs and user created executables?

Yes. The user may develop extensions within the MapWindow system and build layers and attribute tables acceptable to ESRI software.

Are system and user documentation available?   Yes from the web site.   Are example applications available? Example data and projects are available.

Does the application require prior installation of ESRI software? No.   If so, which products?

Is there a user group or hotline-type support? The web site has on-line help and bug reporting system.

Please return the questionnaire to William Merkel at william.merkel@wdc.usda.gov. If there are questions or concerns please contact him at 301-504-3956. Thank you.