

GIS Applications in Hydrology and Hydraulics Questionnaire

March 21, 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. **Please return questionnaires by May 15, 2008.**

Name of Application, date, version number:

StreamStats (<http://streamstats.usgs.gov>)

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

Kernell Ries, kries@usgs.gov, 443-498-5617

Brief Description:

StreamStats is a Web application that provide users with information needed by engineers, land and water-resource managers, biologists, and many others to help guide decisions in their everyday work. StreamStats provides streamflow statistics, basin characteristics, and other information for USGS data-collection stations and for ungaged sites. Users can select data-collection station locations shown on a map interface and obtain previously published information for the stations. Users can also select any location along a stream and obtain the drainage-basin boundary, basin characteristics, and estimated streamflow statistics for the location. The estimates for ungaged sites are determined from USGS regional regression equations. A new version of StreamStats is nearing completion that will also provide the abilities to (1) navigate the stream network to locate streamgaging stations, dams, point discharges and other water-related features, (2) estimate flows at ungaged sites based on the flows at nearby streamgaging stations, and (3) allow other Web or desktop GIS applications to access StreamStats functionality remotely by use of Web services.

Platform/operating system:

Served through Windows-based computers, but use of Web site is not limited to Windows computers

Web-based or desk-top application ?

Web

Data Requirements:

None, except users need to be able to locate their sites of interest on a map.

Data format and compatibility:

No input files required

Will the application import and export data files ?

Tabular outputs are provided in html pages that can be saved in that format or as text, and tables on pages can be imported to Excel.

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

Yes. A number of programs have already been coupled to StreamStats, such as an application for Kentucky that generates time series of average daily temperature and precipitation over user-defined drainage areas. Some StreamStats functionality is also available as Web services, allowing other applications to directly access this functionality.

Are system and user documentation available? Are example applications available?

Documentation for the current version of the application is accessible through links from the StreamStats home page. Documentation for the new application is being prepared.

Does the application require prior installation of ESRI software? If so, which products?

Users only need a Web browser, such as Internet Explorer, to use StreamStats.

Is there a user group or hotline-type support?

Contact information is provided through a link on the StreamStats home page.

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.