

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: HAZUS-MH, Nov. 2007, MR3 (1.3)

Contact (with e-mail, web site, and/or phone number): Eric Berman,
www.fema.gov/plan/prevent/HAZUS , eric.berman@dhs.gov, 202-646-3427

Brief Description:

HAZUS-MH is a loss estimation methodology that supports FEMA's mitigation efforts at all levels (federal, state and local) by assessing the risk & estimating potential loss from multiple natural hazards: earthquakes, floods, and hurricane winds. In HAZUS, current scientific & engineering knowledge is coupled with Geographic Information Systems technology to produce estimates of hazard-related damage. It takes into account impacts of a hazard event such as - Physical damage: damage to residential & commercial buildings, schools, critical facilities, and infrastructure; Economic loss: lost jobs, business interruptions, repair & reconstruction costs; and Social impacts: impacts to people, including requirements for shelters & medical aid. HAZUS fills a nationwide need for a risk assessment and loss estimation methodology (a modeling tool). It assists state & local governments with the development of their Disaster Mitigation Act 2000 Hazard Mitigation Plans. HAZUS was developed and is maintained by, National Institute of Building Sciences (NIBS), at their site and is distributed by FEMA upon request. HAZUS uses geospatial technology to map and display hazard data and the results of damage and economic loss estimates for buildings and infrastructure, and the impact on populations. Loss estimates produced by HAZUS are based on current scientific and engineering knowledge of the effects of hurricane winds, floods, and earthquakes. NIBS maintains committees of hurricane wind, flood and earthquake experts to provide technical oversight & guidance to HAZUS. Mitigation efforts offer the best and most cost-effective methods of addressing the impacts associated with disasters. The primary purpose of hazard mitigation planning is to help communities identify the most effective policies, actions, and tools to decrease risk and the potential for future losses.

Platform/operating system: Windows

Web-based or desk-top application ? Desk top

Data Requirements: All included for level 1

Data format and compatibility: ESRI

Will the application import and export data files ? Yes, we have the CDMS tool in HAZUS

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

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

Does the application require prior installation of ESRI software? Yes
If so, which products? ArcView / ArcEditor with spatial analysis

Is there a user group or hotline-type support? Yes, both 800 number and users groups

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.