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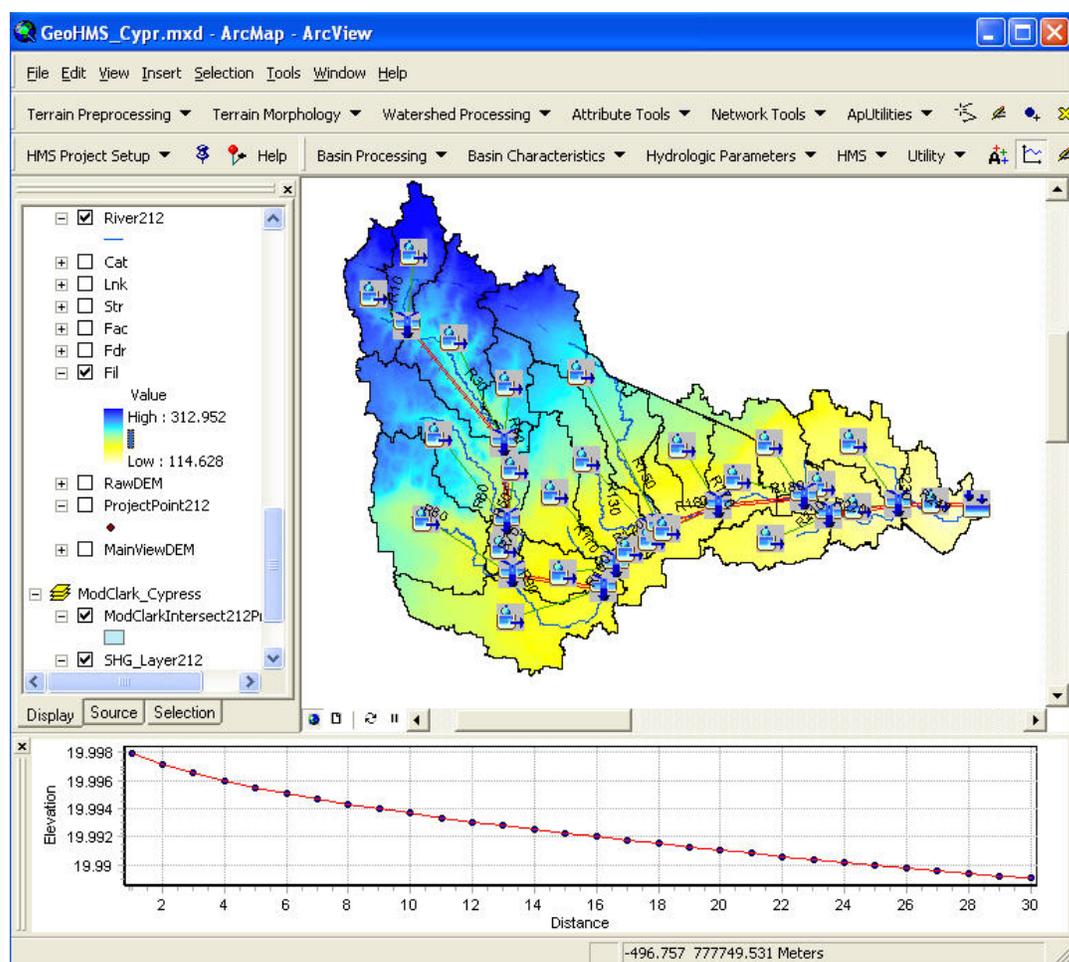
Flood&Coastal Storm Damage Reduction R&D Program

HEC-GeoHMS

Advanced Geospatial Support for Hydrologic Modeling

Description

The Hydrologic Engineering Center's Geospatial Hydrologic Modeling System (HEC-GeoHMS) is a geographic information system software based on ESRI's ArcGIS 9.2 and designed to analyze digital terrain data, delineate subbasins and streams, and generate hydrologic input files for HEC-HMS. The GeoHMS program comprises a graphical user interface (GUI), interactive tools, hydrologic parameter analysis components, data storage connection with Data Storage System (HEC-DSS), and data management capabilities.



Over the years, the Hydrologic Engineering Center and Corps field offices have utilized GeoHMS on numerous projects ranging from watershed studies to project planning to emergency response project. Originally based on the ArcView 3 platform, GeoHMS has been updated to ArcGIS 9.2 and incorporates many useful hydrologic techniques and guidelines like National Resources Conservation Service (NRCS) and grid-based NEXRAD rainfall for distributed spatial modeling approaches. New features and

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additional capabilities are constantly added from user's feedbacks and technological updates. These new features are packaged for future releases.

Benefits HEC-GeoHMS will allow Corps engineers to analyze terrain data and efficiently develop data inputs for hydrologic modeling with HEC-HMS. GeoHMS also provides the user with much control over the modeling process and develops hydrologic parameters that would be difficult with manual methods. Once hydrologic data structure with hydrologic elements and their connectivity are modeled in GeoHMS, it is easy to import this information into HEC-HMS for hydrologic flow computations. This product will save users time in data preparation and perform alternative scenario simulations.

Status The current release version of HEC-GeoHMS is a beta version updated to the ArcGIS 9.2. This version is scheduled for release in FY08. Additional capabilities will include: enhanced terrain processing, extensive physical parameter extraction, hydrologic parameter estimation, data storage connection with HEC-DSS, and meteorological model support. Previously, many GeoHMS versions were developed and released based on the ESRI's ArcView 3 platform.

Distribution Source(s) HEC-GeoHMS can be obtained from the HEC Web site at the following location:
www.hec.usace.army.mil.

Available Documentation Documentation for HEC-GeoHMS currently consists of a User's Manual, which is also downloadable from the HEC Web site. In addition to the User's manual, the software comes with context-sensitive help and example data sets. User's can install the example data sets and use them as a teaching aid for how to use HEC-GeoHMS.

Available Training There are currently training courses based on HEC-GeoHMS in the Corps Prospect course *Hydrologic Engineering Application of Geographic Information Systems* and *Advanced HMS*. In addition, HEC-GeoHMS is introduced in lectures and utilized in a workshop within the *Hydrology and Hydraulics for Dam Safety Studies* and *Basic HMS* class offered at HEC. To find out more about these classes, and when they are offered, visit the HEC Web site and look these classes up under the training area of the Web site.

Available Support Support for HEC-GeoHMS is available to all Corps employees. Corps users and vendors can either e-mail or call HEC with questions and/or comments. Additionally, all users of HEC-GeoHMS can provide bug reports or comments with suggestions through the HEC Web site.

Application HEC-GeoHMS has been used by numerous USACE Districts to develop inputs for hydrologic studies in HMS for a wide range of studies. HEC-GeoHMS was used the in the Sacramento / San Joaquin Comprehensive Study, Galveston District Buffalo Bayou Watershed, and Ketar Watershed Model in Ethiopia, Africa.

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Partners HEC-GeoHMS is developed by the Hydrologic Engineering Center through a Cooperative Research and Development Agreement (CRADA) with the Environmental Systems Research Institute, ESRI.