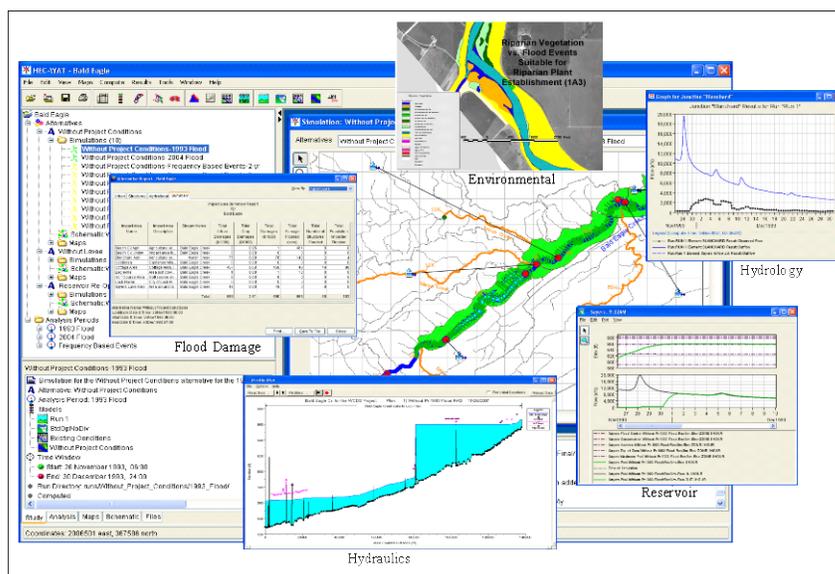




HEC-WAT

Description

The Watershed Analysis Tool (HEC-WAT) is new software developed by the Hydrologic Engineering Center (HEC). The goal of the WAT is to help Corps offices perform all types of water resources studies in a coordinated and comprehensive fashion. The WAT accomplishes this goal through an interface that streamlines and integrates tools commonly applied by the District and Division offices to perform water resources studies in an efficient and coordinated manner.



It will streamline and integrate the tools commonly applied by the District and Division offices so that more efficient and coordinated modeling and planning may be performed.

Software such as HEC-HMS, HEC-SSP, HEC-RAS, HEC-ResSim, HEC-DSSVue, HEC-FIA, HEC-EFM, HEC-GeoRAS, and HEC-GeoHMS are currently implemented within HEC-WAT thus allowing a study team to perform many of the necessary hydrologic, hydraulic, and planning analyses all orchestrated from a single interface. The WAT is able to integrate various pieces of software knowing little about the individual software's code, through the concept of a "plug-in". The WAT provides a framework to coordinate the study, while the individual pieces of software provide the analytical computations.

As the WAT matures, additional pieces of software outside of the HEC family (i.e., GSSHA, FLO-2D) will be incorporated into the WAT that will allow additional analyses and decisions to be made.

The WAT's common, central framework allows the user to: load GIS based layers; establish stream networks and schematics; identify locations where models would share information; define the modeling programs and their sequence order; import and edit existing models; develop new models; organize and store data; organize and develop

alternatives, analysis periods, and simulations; run modeling programs directly; and, view and compare alternative results.

Benefits HEC-WAT modeling teams will benefit because they will develop their models in a closely coordinated manner, track progress of other models, and automatically retrieve results from previous model runs thus assuring more efficient and coordinated results. The management team will benefit by using a common interface to track project status through each modeling component and displaying results during public and project status meetings.

Status The alpha version of HEC-WAT was demonstrated at a Peer Review in June 2006, with 14 different Corps offices and one engineering firm representative participating in the review. The development process began in FY 2004 and a Beta Version of the WAT was released in March 2008. Version 1.0 release of HEC-WAT is scheduled for 2010.

In FY 2008, work was started on adding the capability to perform system-wide benefit analyses which includes flood risk management (FRM) to HEC-WAT. This FRM option will help meet a major USACE goal for performing and using risk and reliability assessments that match the complexity and frequency of the assessments.

Distribution Source(s) HEC-WAT is obtainable from the following location:
www.hec.usace.army.mil/software/hec-wat.

Available Documentation Documentation for HEC-WAT currently consists of a User's Manual, which is included with the install package. In addition to the User's manual, the software comes with an example data set. Users can install the example data set and use it as a teaching aid on how to use the WAT.

Available Training There is currently no separate training course based solely on using HEC-WAT. However, the WAT is introduced in lectures within the "Water & Watershed" and "CWMS Modeling for Real-Time Water Management" classes 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-WAT will be available to all Corps employees. Corps users will be able to email or call HEC with questions and/or comments. Additionally, all users of the WAT will be able to provide bug reports or comments with suggestions through the location provided under Distribution Source(s).

Application HEC-WAT can be used by Corps offices to perform water resources studies in a coordinated and comprehensive fashion. Beta tests have been performed on the Dry Creek Flood Control System near Healdsburg, California, the Putah Creek watershed in California, and the Bald Eagle Creek watershed in Pennsylvania. Currently HEC is developing an HEC-WAT study for the Sacramento River Bank Protection Project (SRBPP), an application on the Columbia River basin has begun using HEC-WAT with the FRM option to evaluate alternatives using EAD and other criteria, and, HEC-WAT watersheds are being developed from CWMS watersheds that were part of a project performance reporting and analysis study (Bald Eagle Creek, Scioto River, Rogue River, Iowa River).

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