



**US Army Corps  
of Engineers**  
Hydrologic Engineering Center

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# **Hydrologic Modeling System HEC-HMS**

## **Release Notes**

Version 2.0.3  
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## Introduction

Version 2.0 of the Hydrologic Modeling System (HEC-HMS) was completed in March 2000 and released for general use shortly thereafter. Several major defects have been repaired and prepared for the first update release since Version 2.0. The updated release is labeled Version 2.0.3, following several developmental test versions. The release uses a new installation program that requires any currently installed program version be uninstalled first; uninstalling the program does not affect any projects created by the user. The new version is available for computers running the Microsoft Windows 2000/NT/98/95 operating systems.

All documentation for Version 2.0 continues to accurately describe the use and application of the program with one exception. An error was found in the kinematic wave transform description on pages 64 and 65 of the User's Manual. The correct computation order is plane 1, plane 2, collector 1, collector 2, and main channel. The electronic version of the User's Manual was updated to make this correction.

The installation program and updated electronic User's Manual are available on the HEC website at <http://www.hec.usace.army.mil>.

## Installation

The installation program for Version 2.0.3 utilizes new technology to resolve several stability problems in the Version 2.0 installation program. Additionally, the installation process is more tightly integrated with the operating system. Use the following steps to install the updated release:

1. Uninstall any version of HEC-HMS present on the computer. Use the add/remove programs applet in the control panel to uninstall the program.
2. Download the installation program from the HEC website to a temporary folder on the computer.
3. Run the installation program. In Windows Explorer, double-click the icon for the installation program.
4. Follow the on-screen prompts to begin the installation process, specifying locations for program files, sample projects, and other required information.

5. Reboot the computer when the installation program finishes or before attempting to use the program.

## Closed Defects

A total of 26 defects have been repaired since the release of Version 2.0. The following defects are closed:

1. Unstable Muskingum routing caused the program to crash. The crash occurred if the routing was unstable enough to generate a large volume of negative outflow.
2. An incorrectly selected external DSS record could cause the program to crash. The crash occurred while selecting a gage in the meteorologic model if it was created as an external gage pointing to a discharge gage record. The defect is partially corrected by providing default C-part filters in the pathname selection screen.
3. Elements with a name 20 characters long could not be edited. Use of the longest-allowed name caused the basin model to attempt to rename the basin element to the same name when pressing the OK or Apply button in an editor.
4. The optimization parameter "All Subbasins" never changed from the initial value after completing the optimization; no optimization was performed.
5. Deleting a discharge gage used as observed flow in a basin model caused the basin model to become corrupted. The corruption occurred when the basin model was saved if the model was open when the gage was deleted.
6. The reservoir element table incorrectly added rows to the input table in blocks of 100.
7. The ordinates in the user-specified unit hydrograph transform were not saved to disk correctly. The saved ordinates could not be loaded when the basin model was opened.
8. The origin of the basin model screen was always (0, 0) even if the basin elements were located with a very large offset.
9. The program crashed when deleting a project with the All Project Files option.
10. Precipitation or flow data stored in a HEC-1 file with an interval on the IN card was incorrectly interpreted during

import. The interval was set as the computation interval specified on the IT card instead of the specified data interval on the IN card.

11. The program could crash when deleting a project. The crash occurred when deleting a project stored on removable media, such as a diskette, and the media was not in the drive.
12. The basin model incorrectly determined its change status under some conditions. The model interpreted most OK and Apply commands from editors as changing the model data even if there was no change prior to clicking the button. The basin model was saved more than necessary.
13. The program crashed when switching from any loss method to the soil moisture accounting method.
14. The "Divert To" field in the diversion editor did not correctly redraw after switching between diversions.
15. The loss rate tab did not correctly redraw after changing the method to deficit constant. The redraw did not occur correctly after returning from the recovery rates screen, after changing the loss method to deficit constant.
16. The process of saving the current optimization data was unclear; a save button was added to the screen.
17. A basin model did not load the original data if the "Forget Changes" option was used when closing a model that contained changes.
18. The program stopped responding if the OK or Apply button was clicked in the kinematic wave transform global editor.
19. Internal spaces were converted to underscores when specifying filenames. Empty files that contained no data were incorrectly created on computers running any of the Windows operating systems, which allow spaces in filenames.
20. No warning message was generated when the duration of maximum intensity in the frequency storm precipitation method did not match the time interval in the control specifications.
21. The input table in the diversion editor did not add a new last row when the current last row was used.

22. The program stopped responding under some conditions when opening a control specifications. The defect occurred when the current control specifications had changes and the changes were saved by clicking the Apply button before opening a different control specifications from the list on the project definition screen.
23. The DSS pathname selection screen did not remember the last-accessed file when creating new gages.
24. The loss rate data was not correctly updated after changing the transform method from kinematic wave to any other method. A compute following the transform change would often fail because precipitation data could not be found.
25. The program would crash under some conditions while computing a run that included a subbasin using the soil moisture accounting loss method. The crash only occurred if one or more layers were specified to have zero storage capacity.
26. The program would crash while drawing the basin model screen if the union of element coordinates had either zero width or zero height.

## Open Defects

A total of 4 major defects are currently open and undergoing investigation and repair. Additional minor defects are currently open and will be repaired after completion of priority items. The following major defects are open:

1. Precipitation occurring during the first time interval of a run is ignored under some conditions. It is ignored when the data is stored at a smaller interval than the time interval in the control specifications. All time intervals after the first interval correctly accumulate the precipitation data to the specified time interval. To avoid this defect, begin the run at least one time interval before the first precipitation data value.
2. The program will crash when opening a project that contains one or more files set to be read-only. To avoid this defect, use Windows Explorer to verify that none of the files in the project directory that are used by the program are set to be read-only. Chapter 4 in the User's Manual describes the files stored by HEC-HMS in the project directory.

3. The program will crash under some conditions when attempting to compute an optimization trial. The crash can only occur when a run and the optimization run both use the same basin model but different control specifications. The crash occurs while attempting to compute the optimization run immediately after computing the run. Avoid this defect by separately computing runs and optimization runs that share a basin model but use different control specifications.
4. The program may crash under some rare conditions when attempting to graph element results. The crash may occur before the graph has finished drawing. The crash may also occur when closing a graph. Exact behavior is highly variable and circumstances causing the crash are currently unknown.