

Hazus Flood Hazard Import Tool

The Hazus Flood Hazard Import Tool is an open source tool that allows Hazus users to quickly search, download, and prepare publicly available flood hazard data for import into a Hazus flood Study Region.

About Hazus

Hazus is a nationally standardized risk modeling methodology that combines expertise from many disciplines to create actionable risk information that increases community resilience. It is distributed as free GIS-based desktop software with a collection of inventory databases for every U.S. state and territory. Hazus identifies areas with high risk for natural hazards and estimates physical, economic, and social impacts of earthquakes, hurricanes, floods, and tsunamis.

The [Hazus Program](#), managed by FEMA's Natural Hazards Risk Assessment Program (NHRAP), partners with other federal agencies, research institutions, and regional planning authorities to ensure Hazus resources incorporate the latest scientific and technological approaches and meet the emergency management community's needs.

The Flood Hazard Import Tool (FHIT)

Accurate risk assessments depend on hazard information produced by experts in each hazard scientific community. However, flood hazard data is not readily available to all communities. The Hazus Team developed FHIT as an open-source tool that allows Hazus users to rapidly access and incorporate publicly available flood hazard data for a Hazus flood analysis. The tool was designed to download Coastal, Riverine and Storm Surge flooding depth grids.

For our first release FHIT only supports The ADvanced CIRCulation (ADCIRC) storm surge model depth grids meaning there is not yet data available to download for a Riverine Hazard Type. ADCIRC depth grids are summarized by year, weather type (tropical or synoptic), storm name and date, and advisory number. The Hazus Team has plans to add other flood hazard data sources to future releases of the tool.

What is ADCIRC?

ADCIRC is a highly developed system of computer programs for solving the equations of motion for a moving fluid on a rotating earth. These programs utilize the finite element method in space and therefore can be run on highly flexible, irregularly spaced grids. ADCIRC is commonly used to predict storm surge and coastal flooding events by creating flooding hazard data outputs, in the form of depth grids, based on its forecasts. These depth grids are accessed by FHIT and used in Hazus to estimate flood damages.

To learn more about ADCIRC, check out the [ADCIRC Homepage](#).



FEMA

The Hazus team’s collaboration with the ADCIRC program was fostered through the [Coastal Resilience Center](#), a university-led Department of Homeland Security’s Center of Excellence established by the Department’s Science and Technology Directorate’s Office of University Programs.

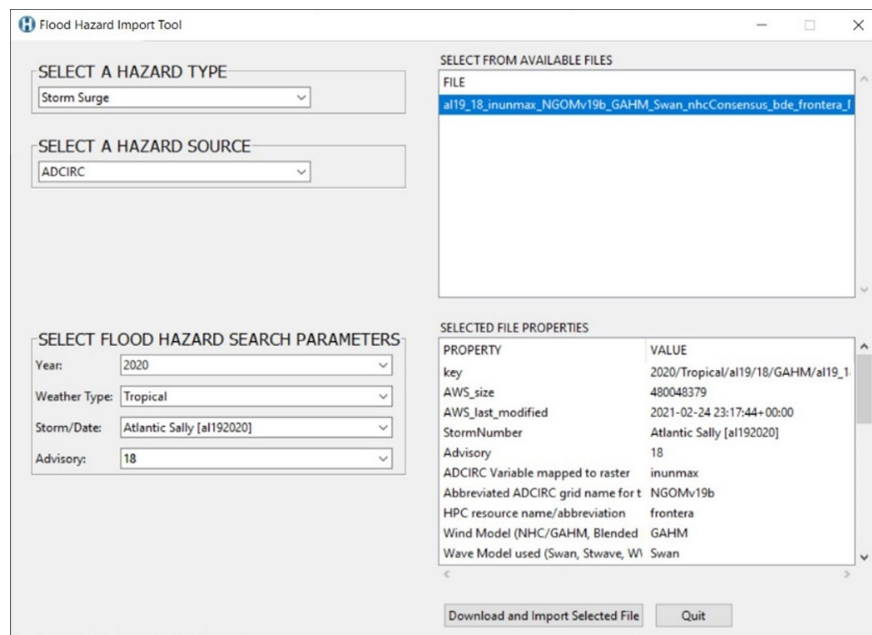


Figure 1. An example of the FHIT interface as it accesses Storm Surge data from ADCIRC.

Getting Started with FHIT

- Visit [FEMA’s Map Service Center Hazus Page](#) under the Hazus Program Updates and Open Source Tools tab to download the tool and access documentation.
Please Note: FHIT requires Hazus, ArcGIS Desktop, and Miniforge to be installed on your computer.
- Select a “Hazard Type” from the drop-down list.
Please Note: coastal flood hazard data is the only available Hazard Type at this time.
- Select the “Hazard Source” you would like to retrieve flood data from. “
Please Note: ADCIRC is the only available Hazard Source at this time.
- Select the “Flood Hazard Search Parameters” – Year, Weather Type, Storm/Date, and Advisory.
- Highlight the flood hazard data you want to import into your Study Region and select to “Download and Import Selected file.”
Please Note: Depth grids are saved to the following location, C:\HazusData\HazardInput.
- Run a Level 2 Hazus Flood Analysis using the depth grid downloaded by FHIT.
Please Note: All steps for running the flood analysis in Hazus remain the same.

For more information on running a Level 2 Hazus Flood Analysis check out our Hazus YouTube Videos and Hazus User & Technical Manuals at the links below.

Hazus Resources

The Hazus Program offers technical guidance, training, and information about ongoing and recent projects to help stakeholders complete successful risk assessments. Please review the resources listed below for assistance using Hazus and reach out to the Hazus Team with questions.



[Self-Guided Course Materials](#)



[YouTube Videos](#)



[Sign up for Risk Assessment Guidance](#)



[Visit the Hazus Loss Library](#)



[User & Technical Manuals](#)



[Contact the Hazus Team](#)