



US Army Corps
of Engineers

UPPER MISSISSIPPI RIVER SYSTEM

As of 28-Jan-25

FLOW FREQUENCY STUDY

PROJECT SUMMARY

The current Upper Mississippi River and Illinois River flow frequency study, completed in 2004, was created using a period of record ending in 1998. Since then, frequent and record setting major floods have occurred. The flood of 2019 was historic with regards to flood heights and in its duration. Many communities between Dubuque, Iowa, and St. Louis, Missouri, have experienced the majority of their top ten flood crests in the past 20 years. The Illinois River has experienced the same unprecedented flooding.

This effort will update the flood flow frequency profiles on the Upper Mississippi River from Birds Point (River Mile 2.0) to Anoka, Minnesota (River Mile 864.8), and the Illinois River from Grafton (River Mile 0.0) to Dresden Island Lock and Dam (River Mile 271.5). The study will utilize input data gathered during the previous flow frequency effort, augmented with new observed data from present, adding at least 25 years of new hydrologic data.

USACE continually engages with watershed stakeholders through its various programs and authorities. These stakeholders routinely ask what the effects these recent common and historic floods are on the previously calculated frequencies and have requested this data be included when making water resource decisions. The benefits of an updated study on the Upper Mississippi and Illinois Rivers will be realized immediately and ensure water resource decisions are made using current and accurate data, providing considerable value to the nation.

OBJECTIVES



1 Update flow frequency and associated water surface profiles for the Upper Mississippi and Illinois Rivers



2 Improve confidence and reliability of flow frequencies on the UMR and IWW for FRM planning

PROJECT STATUS

The project was partially funded in Fiscal Years 2021-2023 for development of a detailed scope of work, inventorying existing data and performing Part I of an Engineering Change Bulletin 2018-14 Climate Change Assessment. With funding received in Fiscal Year 2024, the team will complete formulation of a Hydrologic Engineering Management Plan (HEMP), consult with internal and external experts regarding the HEMP, and will initiate development of a hydraulic routing model.

If additional funding is provided, other major tasks in this effort include:

- Development of homogeneous unregulated and regulated daily flow time series
- Perform Part II of the Climate Change Assessment
- Annual peak mainstem flow frequency analysis
- Development of hydraulic profiles
- Finalize report and study products

EST. COST

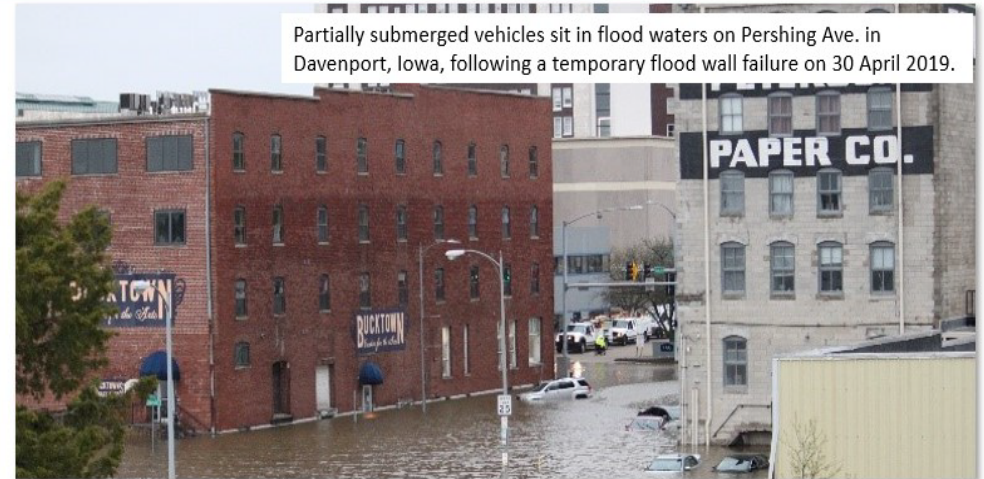
\$3.6M



SCAN FOR
MORE
INFORMATION

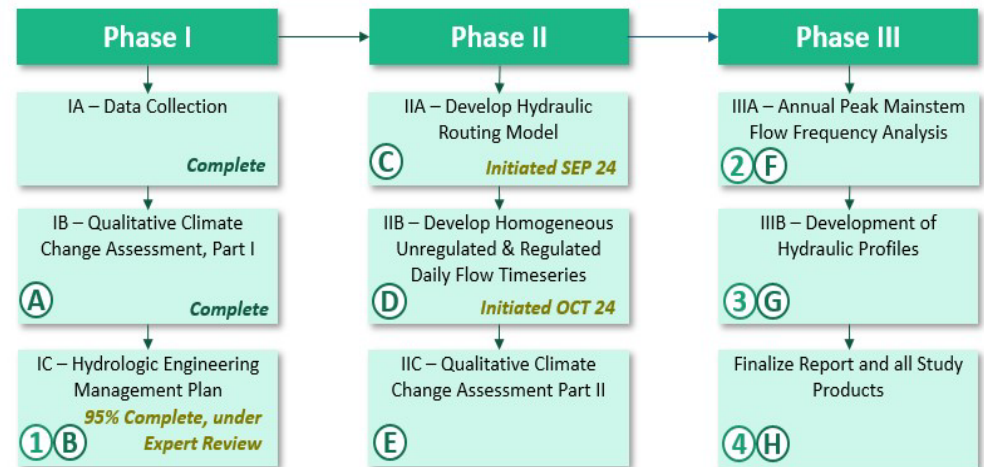


COLLABORATING
AGENCIES



Partially submerged vehicles sit in flood waters on Pershing Ave. in Davenport, Iowa, following a temporary flood wall failure on 30 April 2019.

PROJECT STUDY PHASES AND PRODUCT REVIEWS



Expert Reviews: (A) Climate I; (B) HEMP; (C) Hydraulic Model; (D) Homogeneous Flow; (E) Climate II; (F) Frequency Curves; (G) Hydraulic Profiles; (H) Final Report

Stakeholder/Public Reviews: (1) HEMP; (2) Frequency Curves; (3) Hydraulic Profiles; (4) Final Report



Mississippi Valley Division
Rock Island District
St. Louis District
St. Paul District

