Minnesota’s Quick Pick Floodplain Model Viewer

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Bradford Hartley Jr., GISP, CFM - Stantec

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Agenda

1. What is CNMS
2. Why it is Important
3. How Can Minnesota Use it
4. Who Can Benefit
5. Questions
1 WHAT IS CNMS?
What is CNMS

Coordinated Needs Management Strategy

• National geospatial inventory of stream centerlines representing FEMA floodplain studies
• Dynamic database
• Stores a variety of attributes
  - Flood Insurance Rate Map
  - Flood Insurance Study
  - Check information
What is CNMS

- Validity of existing FEMA floodplain modeling using
  - Physical environment, Climate patterns, and Engineering (PCE) factors
  - Series of engineering analysis
What is CNMS

• Mapping Needs
  - Where do we need new studies?
  - Where do I have model discrepancies?
  - Where do we have deficient studies?
2 Why IT IS IMPORTANT?
Why it is Important

FEMA

Communities

Scoping, Outreach, etc.

Planning

Existing Floodplain Study, Validated

New Floodplain Study Request (from scoping/outreach, etc.)

Floodplain Studies

NVUE Reporting

12.3 miles Valid Study

3.7 miles To Be Studied: Need

5.2 miles Ongoing Study

Flooding Source Centerlines
Why it is Important

• New, Validated, and Updated Engineering (NVUE)
Why it is Important

- Enhanced fields
- Linking tables
- Quarterly deliverables
- Communication
3

HOW CAN MINNESOTA USE IT?
MN DNR GOOD Project
Get Out Our Data

These Types of Models

Not These Types of Models
MN DNR GOOD Project
Model Inventory
## Model Inventory Tracking

<table>
<thead>
<tr>
<th>CNMS gdb date</th>
<th>County</th>
<th>Water Name</th>
<th>Existing Reach ID</th>
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<th>Split or Merged?</th>
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Why do we need an online model viewer?

Hi, I'm looking for a model for the Sauk River in Stearns County. Do you have it?

Hi, can you tell me if you have a model for the Kettle River in Pine County?
Working with MNIT on Model Viewer Web Application

Online web map which public users can access and use to download Hydraulic models
Working with MNIT on Model Viewer Web Application

• What about when we have multiple models for one CNMS Reach ID?

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FEMA Hydraulic Model Download Application

General Disclaimer:

The models available are electronic copies of the input files used to calculate the floodplain limits and water surface profiles. The DNR does not guarantee these models to be the legal models for FEMA purposes. It is the user’s responsibility to confirm that these models are the effective models for the FIS in question. Dates of models listed and model extents shown are not guaranteed to be accurate. Additional models not listed may be available.

All models are provided “as is” without any kind of guarantee as to their accuracy or applicability for a particular purpose. The user assumes all risks concerning the suitability and accuracy of the models. These models may contain technical inaccuracies or typographical errors. The DNR assumes no responsibility for and disclaims all liability for any such errors in the models.

Read the full disclaimer here.
Model Viewer - Main Page
About this application:

This application allows the user to go to an area of interest either by panning and zooming, or using the search function. If there is a model available there, the user will then be able to click on the stream segment to view model information and download the model. If a model is listed, the user can click on the model for more information. There may be multiple models listed for one stream segment. This includes the original model and updates or LOMRs.

The user is responsible for verifying the extent, date, and details of the model. This application is a work in progress and will be updated regularly. DNR staff are working on getting older models included in this application. More information on where models exist can be found on the Floodplain Program’s website at http://dnr.state.mn.us/waters/watermgmt_section/floodplain/index.html. For more information, please refer to the Help/FAQ button.
Model Viewer-Search Function

DOWNLOAD

County or Stream Name

Name | County | Type
--- | --- | ---
Forest Prairie Creek | Le Sueur | stream
Long Prairie River | Todd | stream
Mound Prairie Creek | Houston | stream
Prairie Creek | Rice | stream
Prairie River | Itasca | stream
Prairie River | Carlton | stream

Address or City

Coordinates

Public Land Survey

Township | Range | Section
--- | --- | ---

West | East
Model Viewer-Zoom to Feature

FEMA HYDRAULIC MODEL DOWNLOAD

Selected Stream: Prairie Creek
County: Rice
Flood Zone: A

Click on a model for more details.

Effective Analysis Date | Model Used | Model Date | Download
--- | --- | --- | ---
2008-07-01 | HEC-RAS 31.3 | 2008-07-01 | Download

Help/FAQ
Search
Selected Stream Info
About This Application
Model Viewer-Model Download

FEMA HYDRAULIC MODEL DOWNLOAD

Selected Stream: Prairie Creek
County: Rice
Flood Zone: A

Click on a model for more details.

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Model Details:

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Model Viewer-Multiple Models
Model Viewer Website

http://www.dnr.state.mn.us/waters/watermgmt_section/floodplain/fema_app.html
GOOD Project Takeaways

• Lessons learned
  – Model names and names in table match exactly
  – Tracking and reporting CNMS changes

• Next steps
  – Continue inventorying models
  – Work with IT on automation for web viewer updates
Who Can Benefit

✓ Reduce costs
✓ Avoid duplication of work
✓ Spark innovation
✓ Increased stakeholders
✓ Better data integrity
QUESTIONS
Questions

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