



FEMA



NFHL GIS Services

The Federal Emergency Management Agency (FEMA) provides access to the National Flood Hazard Layer (NFHL) and related data through GIS services, which are made available through a variety of different protocols. You can use the services to add web-based digital flood hazard maps, or access mapping attributes, within a variety of applications. FEMA publishes new Flood Insurance Rate Maps (FIRMs) in the form of paper maps, digital map images and digital geospatial flood hazard data like those in the NFHL. When used appropriately, these representations are equivalent to one another and represent official FEMA designations of Special Flood Hazard Areas (SFHAs), base flood elevations (BFEs), insurance risk zones and other regulatory information.

If you plan to use the map images provided by the Web Mapping Services (WMS) for official purposes, ensure that imagery and other map information displayed with the flood data meet FEMA's standards for map accuracy. Links to specific services can be found [here](#).

What is a GIS Service?

A GIS service provides web-based access to the NFHL database. It allows users to generate map images, query attribute information, or even directly download data.

The NFHL GIS services support several protocols. An ArcGIS REST service is exposed for users of ArcGIS Desktop or ArcGIS Online. A WMS-compliant service is offered for users to generate map images and perform queries. A WFS-compliant service is offered to support small data downloads and queries.

All NFHL GIS services support the Web Mercator Sphere projection commonly used in most modern web mapping applications.

Viewing Flood Hazard Data Using NFHL GIS Services

FEMA's GIS services portray the full range of NFHL map features and supporting information. The map symbology is generally consistent with that of the FIRM Panels except in cases where symbology has been changed to increase readability (such as Coastal Transects and Transect Baselines).

The layers are split up into four main scale groups (see Appendix A).

Commonly Used Layers

Flood Hazard Zones

This layer indicates the regulatory flood zones as designated by FEMA. This is the primary layer showing the flood risk for a given area. The symbology for this layer is identical to that appearing on the FIRM Panels and is recommended to be viewed as a transparent overlay. More detailed flood zone labels (including Static BFE, Velocity, and Elevation values) can be seen when zoomed in past 1:10,000 scale.

Flood Mapping Products

To learn more about FEMA's flood mapping products, please visit <https://www.fema.gov/flood-mapping-products>

Flood Map Service Center

To view and buy flood maps and data visit the Flood Map Service Center website at <http://msc.fema.gov>

Use the Map Service Center to find your official flood map, access a range of other flood hazard products, and take advantage of tools for better understanding flood risk

For information and resources associated with using or requesting changes to FEMA Flood Maps, please visit the Flood Hazard Mapping website at <http://www.fema.gov/national-flood-insurance-program-flood-hazard-mapping>

Customer Service

Direct your questions or comments about the FEMA NFHL application to MIPhelp@riskmapcds.com

For specific questions about NFHL GIS Services please call or email a FEMA Map Specialist at 1-877-FEMA-MAP or FEMAMapSpecialist@riskmapcds.com

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Cross-sections

Normally, any FIRM that has associated flood profiles has cross sections. These lines usually represent the locations of channel surveys performed for input into the hydraulic model used to calculate flood elevations. The NFHL GIS services show the cross-section features with labels showing flood elevation and the cross-section letter as shown on a FIRM.

Base Flood Elevations

This layer indicates the computed elevation to which floodwater is anticipated to rise during the base flood. The BFE is the regulatory requirement for the elevation or flood proofing of structures. The relationship between the BFE and a structure's elevation determines the flood insurance premium. The NFHL GIS services show BFE features with labels indicating flood elevation.

FIRM Panels

This layer depicts FIRM Panel boundaries, with labels showing the FIRM Panel number and effective date for each area. Users can reference the FIRM Panel number to retrieve FIRMs from the Map Service Center

LOMRs

This layer shows the boundaries of map revisions made by Letters of Map Revision, with labels indicating the case number and effective date for each revision.

Appendix A: Scale Reference

Out Beyond 1:250,000

NFHL Availability

1:250,000 and Greater

LOMRs

LOMAs

FIRM Panels Base Index

Topological Low Confidences Areas River Mile Markers

Datum Conversion Points Coastal Gages

Gages Nodes

High Water Marks Station Start Points Profile Baselines Water Lines

CBRS Areas Political Jurisdictions Hydrologic Reaches

Submittal Information Alluvial Fans

1:100,000 and Greater

PLSS Boundaries Coastal Transects

Subbasins

1:50,000 and Greater

Transect Baselines

Limit of Moderate Wave Action Levees

General Structures Primary Frontal Dunes Flood Hazard Boundaries

Flood Hazard Zones (labels greater than 1:10,000)

Water Areas

1:24,000 and Greater

Cross-sections

Base Flood Elevations

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