



Map Modernization

<p>Why Modernize?</p>	<p>Map Modernization is responding to National Flood Insurance Program (NFIP) requirements and feedback provided by Federal, State, and local Program stakeholders.</p> <ul style="list-style-type: none"> • Flood hazard conditions are dynamic, and many NFIP maps may not reflect recent development and/or natural changes in the environment. • Updated NFIP maps can take advantage of revised data and improved technologies for identifying flood hazards. • Up-to-date maps support a flood insurance program that is more closely aligned with actual risk, encourage wise community-based floodplain management, and improve citizens' flood hazard awareness. • Local communities and various stakeholders desired more timely updates of flood maps and easier access to the flood hazard data used to create the maps. • Map Modernization is a cornerstone for helping community officials and citizens be better prepared for flood-related disasters.
<p>What's Different?</p>	<p>Flood Map Modernization uses state-of-the-art technology to increase the quality, reliability, and availability of flood hazard maps and data.</p> <ul style="list-style-type: none"> • Advanced engineering streamlines studies/mapping projects and improves results. • Capturing interim data throughout the study/mapping project process enables access to mapping products earlier in the process. • Refined standards result in improved data quality. • Flood maps are delivered in an industry-standard Geographic Information System format, which allows users to view information in a graphical format and add or remove layers of data according to their needs. • Spatial visualization makes it easier to view and analyze the information. • The FEMA Mapping Information Platform (MIP) gives stakeholders improved access to flood hazard data through the Web; flood maps and data may be accessed online via the MIP during the study/mapping project process as data become available. • The MIP promotes data sharing with mapping partners, improves interoperability with existing data sources, and makes flood map updates quicker and cheaper.
<p>Who Will Make it Happen?</p>	<p>Map Modernization is a collaborative process and a new way of doing business, cutting across all layers of government and other organizations.</p> <ul style="list-style-type: none"> • Federal Emergency Management Agency (FEMA) data are shared with other Federal agencies. • FEMA partnerships with State, regional, and local stakeholders allows Partners to choose their level of involvement in mapping tasks such as collecting, updating, and adopting flood data. • Fostering collaboration with Federal, State, and local partners, Map Modernization will help improve and maintain the quality of the flood hazard data produced for the National Flood Insurance Program. • The FEMA-contracted National Service Provider, known as the Mapping On Demand Team, is assisting FEMA with improving consistency throughout the Nation and streamlining the goals of Map Modernization through innovation and partnerships. • In collaboration with mapping partners and other stakeholders, FEMA has developed a 5-year plan called the Multi-Year Flood Hazard Identification Plan (MHIP) for updating the Nation's flood hazard data.

For more information Contact:

- NJDEP Office of Engineering and Construction, Bureau of Dam Safety and Flood Control, P. O. Box 419, Trenton, NJ 08625
David Rosenblatt, Administrator or John H. Moyle, PE, State NFIP Coordinator
 Tele: (609) 292-2296; Fax: (609) 984-1908; Web: www.state.nj.us/dep/floodcontrol
- New Jersey Office of Emergency Management, Division of State Police, P. O. Box 7068, West Trenton, NJ 08628-0068
SFC Robert Little, State Hazard Mitigation Officer
 Telephone: (609) 963-6963; Fax: (609) 530-3649; Email: Little.robert@gw.njsp.org

How will it Help?	<p>Map Modernization provides more accurate and up-to-date flood hazard information and enhances community officials' and citizens' decision-making and their ability to manage risks and other issues locally.</p> <ul style="list-style-type: none"> • New data reflecting current flood hazard conditions enables citizens to more reliably assess their flood risk and take appropriate action to mitigate (i.e., reduce their physical and financial vulnerability to flooding). • The more accurate risk information that will result from Map Modernization will help local citizens choose the appropriate amount of flood insurance to purchase. • Map Modernization provides a more comprehensive approach to economic development, mitigation planning, and emergency response. • Communities will be more effective in managing flood risks, land use, water resources, disaster recovery, and other responsibilities. • Communities will be empowered to update maps and data as changes occur. • Goals and outcomes will be aligned among mapping partners. • The Mapping Information Platform supports integration of multi-hazard data and provides a broader view of total risk.
Who Benefits?	<p>Map Modernization touches a broad array of National Flood Insurance Program stakeholders who will see different benefits, including the following:</p> <ul style="list-style-type: none"> • Community planners and local officials gain an improve understanding of the flood hazards and risks that affect their community. • Builders and developers have detailed information for making decisions on where to build safely and how construction can affect flood hazards. • Insurance agents and companies, real estate agents and companies, and lending institutions have one-stop access to flood map updates and upcoming changes. • Homeowners and business owners are able to make more informed decisions about their current flood risks.

Status of the NJ NFIP Flood Insurance Map Modernization Studies			
County	Status	Preliminary	Effective
Atlantic	Presently not funded under Map Modernization		
Bergen	Pre-scoping not performed	2004	2005
Burlington	Limited pre-scoping completed	2008	2009
Camden	Limited pre-scoping completed – initial	2008	2009
Cape May	Presently not funded under Map Modernization		
Cumberland	Presently not funded under Map Modernization		
Essex	Pre-scoping not performed	2005	2007
Gloucester	Not currently planned	2008	
Hudson	Limited pre-scoping package completed	2005	2006
Hunterdon	Limited pre-scoping package completed	2007	2009
Mercer	Limited pre-scoping package completed	2008	2009
Middlesex	Limited pre-scoping package completed	2008	2009
Monmouth	Pre-scoping not performed	2008	2009
Morris	Limited pre-scoping package completed	2009	2010
Ocean	Limited pre-scoping package completed - initial	2008	2009
Passaic	Pre-scoping not performed	2006	2007
Salem	Presently not funded under Map Modernization		
Somerset	Pre-scoping not performed	2005	2007
Sussex	Full scoping completed	2008	2009
Union	Pre-scoping not performed	2004	2005
Warren	Full scoping completed	2008	2009

Pre-scoping identifies water bodies and inventory of existing flood information.

Flood Insurance Rate Maps (FIRMs), Digital FIRMs and Flood Insurance Studies (FISes) are available online at FEMA's Map Service Center (fema.gov), click on Product Catalog at top of page. See tutorial on home page for creating and printing your own "Firmette" of desired section of map with north arrow, scale, panel # (free). Note that on FIRM itself, the FIRM index shows the location of the Map Repository where maps and reports can be viewed.

Preliminary DFIRM's are available online at the Regional Management Center (RMC) at rmc.mapmodteam.com/RMC2/. Although they have not been adopted, these are suitable for planning purposes. Note that the RMC website will be including maps and tables showing availability of Preliminary DFIRMs and FIS reports.

Q3 Data (both Digital Flood and Coastal Barrier Resource Areas (CBRA) Data are available online for all of New Jersey (Flood Disk 18, September 1996) at FEMA's Map Service Center under the Product Catalog. If DFIRMs or preliminary maps are not available, then Q3 data are appropriate and suitable for planning purposes.

Flood Hazard Mapping News

The Federal Emergency Management Agency's (FEMA) Mitigation Directorate maintains and updates the National Flood Insurance Program (NFIP) maps. To keep up with the latest developments in Flood Hazard Mapping, please visit What's New in Flood Hazard Mapping. You can also sign up for e-mail updates using the "Flood Hazard Mapping News e-mail updates" link at the top of this page. For more information you may e-mail or call a Map Specialist in the FEMA Map Assistance Center; toll free, at 1-877-FEMA MAP (1-877-336-2627)

Paper to Digital Transition: Beginning on or after October 1, 2009, FEMA will provide a single paper flood map and Flood Insurance Study (FIS) to each mapped community. FEMA will convert all other distribution of maps and FIS reports for digital delivery. FEMA will continue to provide free digital map products and data to Federal, State, Tribal, and local NFIP stakeholders. FEMA announced this change in the Federal Register (PDF, 43KB), Vol. 23, No. 76, issued on October 23, 2008.

User Groups:

- Engineers, Surveyors, and Architects - Products, services, and publications available to engineers, surveyors, and architects.
- Floodplain Managers - Resources available to floodplain managers including, guidance documents, contacts, and training resources.
- Homeowners - Locate and obtain copies of flood maps, understand how to read them, and request a map change believed to be warranted.
- Insurance Professionals and Lenders - Sources of information available specifically for insurance professionals and lenders involved with the NFIP.

Flood Map Modernization (Map Mod): Through Map Mod, FEMA is transforming the Nation's flood maps into more reliable, easier-to-use, and readily available maps. The Multi-Year Flood Hazard Identification Plan (MHIP) describes the strategy, schedule, and budget developed by FEMA for producing flood hazard data and maps to administer the NFIP. It is a living document that is updated annually through a collaborative process to engage stakeholders. As part of its commitment to improve the Nation's flood hazard maps and in response to stakeholder feedback, FEMA performed a comprehensive review of Map Mod. This review is referred to as the Mid-Course Adjustment. As a result of the Mid-Course Adjustment, FEMA prioritized funding based on a goal of mapping 90 percent of the Nation's highest-risk areas.

Risk MAP (Mapping, Assessment, and Planning) Strategy: Building upon the successes of Map Mod, FEMA is developing a vision for flood hazard mapping efforts that will start in Fiscal Year 2009. The Risk MAP (Mapping, Assessment, and Planning) Strategy will enable FEMA to improve, maintain, and expand the flood hazard identification while leveraging more benefits and community action from updated NFIP maps.

Cooperating Technical Partners (CTP) : The CTP Program is an innovative approach to creating partnerships between FEMA and participating NFIP communities, regional agencies, and State agencies that have the interest and capability to become more active participants in the FEMA Flood Hazard Mapping program.

Status of Map Changes: Floodplain managers, engineers, community officials, citizens who are actively involved in updating flood hazard data and maps, and other interested stakeholders may obtain information on ongoing map change activities, priority map changes, Letters of Final Determination, and Base Flood Elevation notices.

Forms, Documents, and Software: FEMA's Mitigation Directorate offers various application forms, documents, and software to assist the public. **Online Tutorials:** FEMA has developed several multimedia tutorials to provide in-depth training on different facets of the NFIP and to support FEMA's public education and outreach efforts as part of Map Mod.

Frequently Asked Questions: Answers to the most Frequently Asked Questions are provided for the following user groups: Homeowners, Engineers, Surveyors, and Architects, Insurance Professionals and Lenders, and Floodplain Managers.

Website visitors experiencing accessibility problems are encouraged to send email to webmaster@fema.gov.

***DFIRM Database Requirements:** Information about the spatial database used to store the Geographic Information System (GIS)-based attributes of the DFIRMs is provided in Appendix L of the Guidelines. Appendix L includes information on database design considerations, technical content, and metadata requirements. Appendix L also describes the tables and fields contained in the DFIRM Database. The DFIRM Database is designed to facilitate access to, as well as collection, storage, and processing of, data developed by FEMA for the NFIP. The DFIRM Database will enable FEMA, FEMA contractors, and FEMA mapping partners to share data necessary for hydrologic and hydraulic (H&H) modeling and DFIRM production. In addition, the DFIRM Database will enable maps to be rapidly updated and revised in the future.*

The use of GIS as a component of the DFIRM Database allows the mapping and engineering data elements to be linked to physical features, georeferenced, and overlaid as needed. This, in turn, allows the database to support a wide variety of existing and visionary FEMA engineering and mapping products, such as automated H&H modeling and mapping; Web-based publishing of digital map products; and direct links between base maps, work maps, H&H modeling, and mapping elements.

The DFIRM Database content will vary based on the data available and/or developed for a particular flood study/mapping project. All DFIRMs will contain certain standard features:

- A base map that is distributed with the digital files;

- The features shown on a printed Flood Insurance Rate Map (e.g., floodplain boundaries, Base Flood Elevations, regulatory floodways, cross sections, bench marks);
- Electronic Flood Insurance Study (FIS) report text, tables, and Flood Profiles; and
- [Federal Geographic Data Committee](#)-compliant metadata.

In addition to the elements listed above, some DFIRM Databases may contain pertinent backup engineering data needed by FEMA, FEMA contractors, and FEMA mapping partners for FEMA-contracted flood studies/mapping projects, community-initiated map revisions, or map maintenance activities. The DFIRM Database includes information needed for core NFIP functions such as insurance rating and compliance monitoring. The DFIRM Database includes sufficient data to allow users to reproduce the Flood Profiles and water-surface elevations. Additionally, the DFIRM Database stores original products and intermediate products of high value and/or wide applicability. The DFIRM Database does not include all intermediate data developed in the course of conducting the flood study/mapping project. Some of the DFIRM Database features may be stored in GIS mapping layers or related tables, but not shown on the paper DFIRM product.

The DFIRM Database specifications contain the following additional defined spatial and non-spatial data items and tables:

- Subbasins with links to discharges, storm data, and regression equations;
- Gages, including rain gages, river gages, and coastal gages;
- Nodes with links to node discharge data and zipped hydrologic models;
- Profile base lines;
- Overbank flow paths;
- Additional cross section data, including links to a frequency (rating) table and the zipped hydraulic models;
- Additional coastal transect data, including links to the zipped coastal models;
- Primary frontal dunes;
- Modeled coastal shorelines;
- Outline of the studied area(s) with links to FEMA case information;
- Photographs, sketches, and similar documents linked to spatial features;
- Documentation for variable data that may be developed for the flood study/mapping project (e.g., topographic data, land use, soils, roughness);
- Zipped files containing general information on methodology (e.g., Technical Support Data Notebook defined in Appendix M of the *Guidelines*); and
- Zipped FIS report components (e.g., FIS text, Flood Profiles, Floodway Data Tables).

Sample DFIRMs

Three full-size [sample DFIRMs](#) are accessible through the FEMA Library. They include a DFIRM Map Index and two different versions of a prototype DFIRM panel. The sample DFIRM panel is presented as a black-and-white DFIRM with a vector base map and a color DFIRM with a Digital Orthophoto Quadrangle (DOQ) base map.

This prototype of Flood County, USA, is a hypothetical example of a DFIRM product. The prototype was prepared for a single FIRM panel. Normally, the DFIRM will include all the digital data for an entire community or county.

This group of single panel samples, suitable for plotting, consists of several DFIRMs. A sample Map Index, a sample black-and-white DFIRM, and a sample color DFIRM. The black-and-white DFIRM was produced using a vector base map. The color DFIRM was produced using a DOQ as the base map, and is available in 2 resolutions, 300 and 600 DPI. All community names and numbers, as well as the map numbers, are hypothetical.

Digital Q3 Data

The digital Q3 Flood Data product was an early digital mapping product developed by FEMA. FEMA created the digital Q3 Flood Data products by scanning (producing raster or grid data files) paper versions of effective FIRMs and vectorizing (converting to lines and areas) select data features into a countywide format.

The digital Q3 Flood Data product was designed to serve FEMA's needs for disaster response activities, NFIP activities, risk assessment, and floodplain management. The product was designed to support planning activities, some Community Rating System (CRS) activities, insurance marketing, mortgage portfolio review, FEMA's Response and Recovery activities, and to assist in floodplain management activities at a local level. Base Flood Elevations are not included, so its use is limited. These products are being replaced on a county-by-county basis by DFIRMs and DFIRM Databases.

Additional information on the Q3 Flood Data product, including a series of Frequently Asked Questions, sample Q3 Flood Data products for 10 counties, a User Guide, and product specifications, is accessible through the [Product Information](#) page on the FEMA Map Service Center Website.

What is Digital Q3 Data? Q3 Flood Data is a digital representation of certain features of FEMA's Flood Insurance Rate Maps, intended for use with desktop mapping and Geographic Information Systems technology. Digital Q3 Flood Data has been developed by scanning the existing FIRM hardcopy and [Digital Q3 Data FAQs](#) vectorizing a thematic overlay of flood risks. The vector Q3 Flood Data files contain only certain features from the existing FIRM hardcopy.

How can I View Digital Q3 Data? The data is available via the:

- [ESRI Hazard Mapping Website](#) - allows you to enter a location and select from several hazard types.
- [Map Service Center](#) - provides Q3 data in CD-ROM format in addition to providing Coastal Barrier Resource Area (CBRA) Q3 Data

You will need Geographic Information System (GIS) software to view the data. The data is available in the following formats:

- Digital Line Graph (DLG)
- ARC/INFO
- MapInfo ®