

EXECUTIVE SUMMARY

Every year, devastating floods impact American families by taking lives and damaging homes, businesses, public infrastructure, and other property. This damage could be reduced significantly by providing timely and reliable flood hazard information to the public so the public and community officials can make more informed decisions about their risk. In recognition of the connection between damage reduction and reliable flood maps, the President and the U.S. Congress have provided funding to date in fiscal year (FY) 02 through FY05, with additional funding anticipated through FY08, for Flood Map Modernization. The goal of Flood Map Modernization is

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to update the Nation's inventory of Flood Insurance Rate Maps (FIRMs). This Multi-Year Flood Hazard Identification Plan (MHIP) defines FEMA's plan for updating these maps.

As part of the U.S. Department of Homeland Security (DHS), the Federal Emergency Management Agency (FEMA) is the Federal agency responsible for administering the National Flood Insurance Program (NFIP). FEMA develops FIRMs to identify areas at risk of flooding, to determine flood insurance rates, and for floodplain management and mitigation activities.

Over the next several years, Flood Map Modernization will enable FEMA to provide to communities with flood risk flood maps and data that are more reliable, easier to use, and more readily available than ever before. FEMA's vision for this nationwide undertaking provides measurable results while spending taxpayer dollars wisely. Specifically, FEMA is:

- Networking the Nation using the latest Internet technology to provide access to general flood hazard, risk, and mitigation information. The information and functionality will be tailored to meet the needs of mapping partners, stakeholders, and the general public.
- Maximizing the use of local, State, and Federal resources, and transfer ownership and use of maps and data to localities and States by building and maintaining effective partnerships with community, State, and regional entities before and during development of maps and data. FEMA has already experienced considerable success with such transfers through the Cooperating Technical Partners (CTP) program.
- Reducing processing time and cost of map updates and increase accountability for spending by implementing results-oriented systems and standards that will facilitate the rapid exchange of data between mapping partners, stakeholders, FEMA staff, FEMA contractors, and other users.
- Communicating with mapping partners, stakeholders, and map users effectively, consistently, and continuously to maximize understanding of flood hazards and the risks that these hazards pose to life and property.

- Continuing to improve the quality and accuracy of national flood hazard data by developing geographic information systems (GIS)-based products with reliable technologies that meet enhanced technical standards (see section 7, Map Quality).

The flood maps are essential tools for mitigating flood hazards in the United States, but they have not been kept fully up-to-date because of limited funding. In early 2005, nearly 70 percent of the current flood map inventory was more than 10 years old. New and updated flood maps will provide crucial guidance for future building, development, and flood mitigation efforts. Section 1, Introduction, provides details about NFIP flood maps and their use, explains how the MHIP will guide the update of these flood maps, and lists the benefits of updating these maps.

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MHIP Benefits Stakeholders, Mapping Partners, FEMA, and Taxpayers

In support of the NFIP, FEMA has developed an inventory of more than 90,000 FIRM panels in various formats. With support and funding from the President and Congress, a comprehensive overhaul of this inventory is underway.

The complexity of this task requires a detailed plan for performance, schedule, and cost. This MHIP update presents FEMA's current plan for updating the Nation's flood maps and provides:

- A 5-year (FY05-FY09) sequence for DFIRM production based on anticipated funding for Flood Map Modernization
- A planning tool to enable all stakeholders to anticipate future workload requirements such as new flood zone determinations and ordinance adoptions
- A long-term vision to support the decision-making processes of local, State, and regional community partners
- A flexible tool that will allow FEMA and its partners to balance national goals and local mapping needs
- An input process that maximizes stakeholder involvement and clear communication (to maintain stakeholder awareness of the planning effort and encourage partners' participation and contributions)
- A methodology for funding distributions
- Planned costs and schedules for current and future map updates for counties, parishes, independent cities, and territories where there is flood risk
- A dynamic method to revise scheduling for flood map production for studies funded through FY08 (completed through FY10)

- A mechanism for clear reporting of progress for greater accountability
- An approach for establishing, based on the level of risk, the appropriate level of detail, accuracy, and analysis required to produce reliable maps (see section 7 of the FY04-FY08 MHIP [Version 1.0], November 2004)

MHIP Facilitates Long-Term Planning

The MHIP provides mapping partners with a dynamic plan for updating flood maps, starting in FY04. FEMA plans to update the MHIP twice annually, and the plan is flexible enough to support the national goals while accommodating:

- Variability in funding
- Evolving needs
- New and updated data and technology
- Continuing FEMA and stakeholder input

This MHIP update addresses flood map projects funded from FY04-FY08 (some studies were funded and started in FY03 and prior) and anticipated to be completed by FY10. The plan gives FEMA, its partners, and stakeholders a high-level look at total Flood Map Modernization costs and a more detailed look at planned map production costs and schedules.

The MHIP provides a county-level look at planned mapping activities, including proposed project funding and schedules (appendix A), and presents a series of maps reflecting the schedules (appendix B).

MHIP Helps FEMA Achieve National Flood Map Modernization Goals

Ultimately, FEMA's goal is to improve public safety through the availability of reliable flood risk data. This is expressed in table ES-1 as Flood Map Modernization's Key Performance Parameter (KPP). FEMA plans to increase the safety for at least 85 percent of the U.S. population through availability of accurate flood risk data in GIS format. To achieve this goal, FEMA has set targets for Key Performance Indicators (KPIs) through FY09 (production is scheduled for completion in FY10). KPIs 1 and 2, shown in table ES-1, are designed to measure population for whom maps are available online and population for whom counties have adopted effective maps. FEMA also uses other KPIs not directly related to map production to measure the success of the Flood Map Modernization program. Other KPIs measure leveraging of mapping partner contributions and CTP participation.

Table ES-1. Flood Map Modernization National Performance Goals

Key Performance Parameter (KPP)	Threshold	Objective
KPP: Population whose safety is improved through availability of accurate flood risk data in GIS format	85%	100%

Key Performance Indicator (KPI)	KPI Targets					
	FY04	FY05	FY06	FY07	FY08	FY09
KPI 1: Population with digital GIS flood data available online	20%	50%	65%	75%	85%	97%
KPI 2: Population with adopted flood maps that meet quality standards	10%	20%	35%	50%	70%	90%

Note: KPIs 1 and 2 are cumulative.

The long-range planning in this MHIP gives FEMA a clear path to meeting these national goals while balancing community and State mapping needs. Flood Map Modernization will provide modernized maps (that is, up-to-date, reliable, digital flood hazard data in GIS format) to all areas of the Nation with flood risk.

In March 2004, the U.S. Government Accountability Office (GAO) issued Report GAO-04-417, entitled “Flood Map Modernization: Program Strategy Shows Promise, but Challenges Remain.” In this report, GAO recommended that FEMA develop and implement useful performance measures that define FEMA’s progress in increasing stakeholders’ awareness and use of the new maps, including improved mitigation efforts and increased participation rates in purchasing flood insurance. The KPIs outlined in this plan capture FEMA’s goals for updating flood hazard data and maps for the Nation, but refinement of these goals throughout the life of the Program may be warranted.

MHIP Process Provides for Clear Communication

Clear communication among community, State, and regional partners; FEMA Regions; and other stakeholders is critical to the success of Flood Map Modernization. Stakeholder input has been and will continue to be of utmost importance as Flood Map Modernization moves forward. To date, FEMA has drawn input from State and FEMA Regional Office reports and business plans for Flood Map Modernization; from FEMA’s Mapping Needs Update Support System (MNUSS); and from stakeholder groups, informal working groups, and other sources. FEMA also gave stakeholders the opportunity to submit comments on the FY04-FY08 MHIP (Version 1.0), released in November 2004. The stakeholders who have provided input represent a wide range of groups. As the MHIP development and update process continues, FEMA will continue to solicit input from these and other stakeholders. Continuous and consistent lines of communication at multiple levels will drive the development and update process, resulting in better-informed stakeholders and users and better mitigation planning.

A total of 32 government agencies, State and national associations, and private entities submitted comments during the 2-month comment period that followed release of the FY04-FY08 MHIP (Version 1.0).

FEMA categorized the comments to discern which issues were most frequently raised by stakeholders. Some comments reflected issues specific to individual locations, while others were more universal in nature. Section 2, Stakeholder Input, provides a list of the topics raised most often, as well as FEMA's responses. These topics include:

- Map quality
- Coordination, training, outreach, and stakeholder engagement
- Program scope and funding
- Local issues

Section 2 also provides details on FEMA's current and planned methods for soliciting and incorporating stakeholder input. Appendix C, Flood Map Modernization Business Plans, provides an overview of each business plan that was submitted to FEMA by State and CTP mapping partners by April 8, 2005, and was considered during the development of this MHIP.

MHIP Provides Risk-based Distribution of Funds, Balancing National Goals and Local Needs

The process used to distribute funding for mapping projects is evolving and will continue to do so. In FY03, FEMA convened a group of stakeholders to gain a better understanding of what they saw as key factors for making cost and schedule decisions as Flood Map Modernization moved forward. Several of the factors identified involved flood risk. FEMA therefore distributed FY03 funding to be generally commensurate with flood risk.

In GAO's March Report, GAO also recommended that FEMA continue to align resources with flood risk. Aligning available resources with risk will continue to be a major driver for funding distribution decisions and will allow the inclusion of other factors that better represent risk. Section 7 of the FY04-FY08 MHIP (Version 1.0), dated November 2004, contained guidance for enhanced mapping standards to align level of study with flood risk.

FEMA adjusted funding distributions in FY04 to reflect the fact that there is a minimum cost for producing each flood map, regardless of the number of map panels produced, and to reflect both projected and past growth (only past growth was considered in the FY03 funding distribution). For this MHIP, FEMA assumed funding distribution percentages at FEMA's regional level to be constant for FY04 through FY08. Figure ES-1 shows the factors considered during the funding distribution process for FY03, FY04 and FY05, and FY06 and beyond.

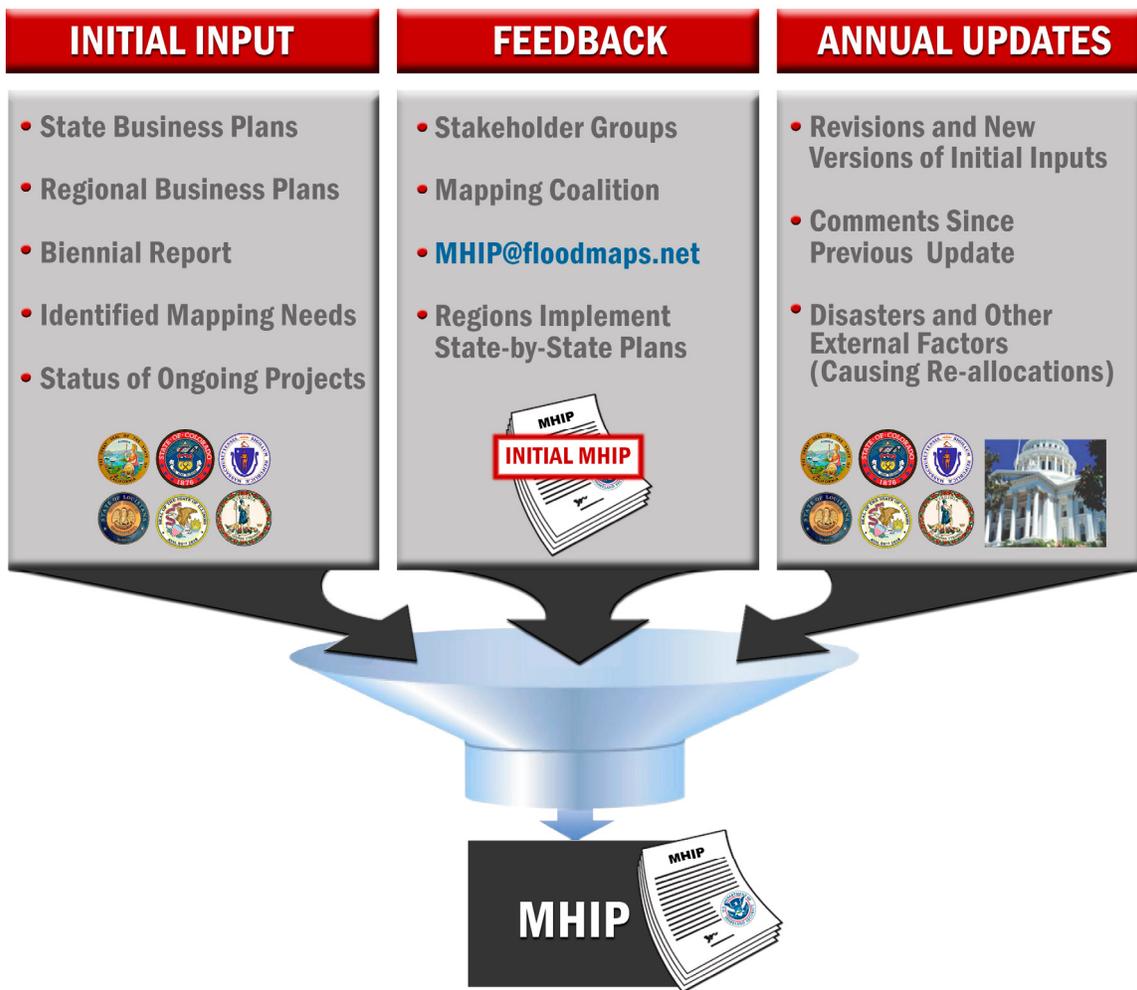


Figure ES-1. Flood Map Modernization Process

FEMA will continue to make adjustments to regional distributions to reflect the degree to which projects are completed and other considerations, such as the ability to maximize use of data produced by others. FEMA will consider adding or adjusting sequencing factors if they are determined to be critical. Table ES-2 shows FEMA’s planned funding distribution to the Regions.

In addition, FEMA will consider the relative need exhibited by counties and communities and their ability to take advantage of leveraging opportunities. Section 3, Distribution of Funds to the Regions, provides details on the FY04 and FY05 funding distribution for map production and planned funding for future years.

Table ES-2. Map Production Funding Distribution by Region, FY04-FY08

Region	FY04 Funding ¹	FY05 Funding ¹	FY06 Funding ²	FY07 Funding ²	FY08 Funding ²
1	\$4,206,000	\$5,315,000	\$5,661,000	\$5,827,500	\$5,827,500
2	\$9,420,000	\$11,475,000	\$12,087,000	\$12,442,500	\$12,442,500
3	\$9,752,000	\$12,047,000	\$12,852,000	\$13,230,000	\$13,230,000
4	\$35,722,000	\$35,725,000	\$38,097,000	\$39,217,500	\$39,217,500
5	\$12,798,000	\$17,222,000	\$18,207,000	\$18,742,500	\$18,742,500
6	\$17,583,000	\$23,159,000	\$26,775,000	\$27,562,500	\$27,562,500
7	\$7,411,000	\$10,115,000	\$10,710,000	\$11,025,000	\$11,025,000
8	\$5,432,000	\$6,908,000	\$7,191,000	\$7,402,500	\$7,402,500
9	\$11,462,000	\$13,517,000	\$15,453,000	\$15,907,500	\$15,907,500
10	\$4,572,000	\$5,849,000	\$5,967,000	\$6,142,500	\$6,142,500
Total	\$118,358,000	\$141,332,000	\$153,000,000	\$157,500,000	\$157,500,000

Notes: 1 – Actual
2 – Proposed

MHIP Identifies Current DFIRM Production Progress

Flood Map Modernization flood study projects are now in progress. FEMA is monitoring the ongoing activities related to these projects, including DFIRM production and adoption. This MHIP provides information on the funding, and preliminary and effective status of flood study projects funded in FY03 through FY05, as well as future years.

Through the end of FY04, FEMA distributed preliminary DFIRMs to communities in 211 counties, and effective DFIRMs were available for communities in 112 counties. By the second quarter of FY05, significant study efforts have been funded; it is planned that studies will have started for more than one-third of the Nation’s counties by the end of FY05.

MHIP Provides Mechanism for Forecasting and Sequencing DFIRM Production

FEMA has forecasted map production for flood maps funded through FY08 (production may take up to 2 years or more beyond initial funding to complete) using data compiled by FEMA’s Regional Offices, contractors, and other mapping partners. FEMA will review and update this data regularly at the regional level and will compile and evaluate the data at the national level. These regular reviews will help FEMA evaluate its effectiveness in meeting Flood Map Modernization production goals and report on current progress. Section 5, FY05-FY10 Production Forecast, offers a detailed description of FEMA’s process for sequencing of flood study projects to meet national goals and provide reliable, digital flood hazard data for all areas of the Nation at flood risk. Appendix A shows the planned fiscal year for initial funding, issuing of preliminary maps, and completion of effective maps, as well as planned funding for each year, for every county nationwide.

MHIP Provides a Means for Reporting Progress Toward National Goals and Performance Metrics

The MHIP reports on actual production of map updates for fiscal years past and, as available, for the past portion of the current fiscal year. The MHIP also provides forecasts of out-year map update production in the context of FEMA's national KPP for Flood Map Modernization. Through the first two quarters of FY05, FEMA has provided updated flood maps for 20 percent of the population (KPI 1) and 10 percent have adopted maps (KPI 2).

FEMA anticipates that by the end of FY05, 40 percent of the population will have digital GIS flood data available online.

Based on data available as of April 8, 2005, FEMA anticipates that by the end of FY05, 40 percent of the population will have digital GIS data available online and 17 percent of the population will have effective maps that meet quality standards.

FEMA expects to meet the target for KPI 1, and to approach the target for KPI 2 in FY06. Section 6, Production Analysis, provides details about anticipated achievement by KPI, by fiscal year.

MHIP Addresses Map Quality

Mapping quality standards discussed in section 7 of the FY04-FY08 MHIP (Version 1.0), released in November 2004, are being incorporated into the *Guidelines and Specifications for Flood Mapping Partners*. The public will have the opportunity to comment as part of this process of incorporating section 7 quality standards into the *Guidelines and Specifications*.

MHIP Identifies Cost-Saving Processes, Procedures and Tools

Digital maps provide many benefits. They are easier to use, distribute, and maintain; and less expensive to update than paper maps. They will provide a uniform structure across the Nation for flood hazard data. In addition, they will provide improved delineation of flood hazard zone boundaries, and greater utility for flood risk identification, floodplain management, and the NFIP.

MHIP Allows FEMA to Build on the National Flood Layer

Flood Map Modernization provides an infrastructure and resource investment that allows management of flood hazard information, including data identification, collection, coordination, access, analysis, and dissemination of hazards data for risk mitigation activities. FEMA's National Flood Layer and Mapping Information Platform (MIP), at www.hazards.fema.gov, will provide access to and delivery of shared data resources nationwide. This infrastructure and network of users and data resources will provide the structure to coordinate, partner, develop, and apply reliable flood data and information to support risk management applications and operations.

MHIP Updates

FEMA released its initial plan for implementation of Flood Map Modernization, the FY04-FY08 MHIP (Version 1.0), in November 2004. This Draft FY05-FY09 MHIP (Version 1.5) is FEMA's first revision of that plan. FEMA plans two updates per year, as shown in table ES-3, with the draft plan scheduled for release in the spring and the final plan scheduled for release in the fall.

FEMA will continue to seek the input of stakeholders to ensure that the plan reflects national goals and stakeholder needs. The cyclical process will continue with planned releases through FEMA's Flood Hazard Mapping Web site in the spring and fall of each year. The latest plan will supersede the prior plans.

Table ES-3. MHIP Development Schedule

Timing	Planning Activities
Fall 2004	Release FY04-FY08 MHIP (Version 1.0)
Fall-Winter 2004	Business planning Stakeholder input
Winter 2004-2005	Update sequencing Revise MHIP
Spring 2005	Release Draft FY05-FY09 MHIP (Version 1.5)
Summer 2005	Stakeholder input Update sequencing
Fall 2005	Revise MHIP Release FY05-FY09 MHIP (Version 2.0)