FEMA'S RISK MAP PROGRAM

FEMA's flood hazard maps are one of the essential tools for flood hazard mitigation and implementation of the NFIP in the United States. These maps are used an estimated 20 million times annually in the private and public sectors. Lending institutions and insurance companies use them to identify who needs flood insurance and to determine flood insurance rates. Community planning officials, land developers, and engineers use them for designing new buildings and infrastructure to avoid flooding. Most importantly, states and communities use them for hazard mitigation planning and emergency management. Finally, federal agencies use them when implementing Executive Order 11988, Floodplain Management, which requires federal agencies to avoid short- and long-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative.

FEMA's Map Mod effort transformed the majority of the flood hazard mapping inventory to 21st century digital technology and restored confidence in the reliability of floodplain boundaries, while making some updates to underlying engineering data. Map Mod's large-scale overhaul of the nation's flood hazard maps included data collection and analysis, map production, product delivery, and program management activities. Once completed, Map Mod will provide reliable digital flood hazard data and maps for approximately 92% of the nation's population (FEMA, 2009).

The dynamic nature of floodplains requires ongoing analysis of flood hazards to maintain a reliable and valid data inventory. Failing to keep current with the changing and dynamic nature of watersheds ultimately leads to unwise decisions that place homeowners and communities at increased risk of flooding. Conversely, overstated hazards not based on accurate data can result in potentially unnecessary construction costs and incorrect insurance rating decisions. Accurate and reliable flood hazard information is a necessary component of ensuring the fiscal soundness of the NFIP.

In order to leverage the successes of Map Mod and further enhance the usability, value, and accuracy of flood hazard mapping and related data, FEMA developed the Risk MAP Strategy (or Program). Risk MAP represents a philosophical and tactical shift in how FEMA delivers information necessary for flood hazard reduction (FEMA, 2009). The focus has shifted from digitizing maps (Map Mod) to evaluating flood hazard data needs, meeting flood hazard data needs, expanding data availability, and improving data accessibility (Risk MAP).

As part of its activities related to the NFIP, FEMA began the transition from Map Mod to Risk MAP during federal fiscal year (FY) 2009. Risk MAP combines flood hazard mapping, risk assessment tools, and mitigation planning into one seamless program. It is an improved and integrated approach where flood hazards are identified and woven into watershed-based risk assessments and state and local mitigation planning efforts (FEMA, 2009).

The intent of Risk MAP is to encourage beneficial partnerships and innovative uses of flood hazard and risk assessment data in order to maximize flood loss reduction.

Vision

Risk MAP's overall vision is to work collectively with state, local, and tribal entities to deliver quality data that increases public awareness and leads to action that reduces risk to life and property. It also encourages informed risk management decisions and actions to mitigate risk through a consistent risk-based approach to assessing potential vulnerability and losses and providing the tools to communicate the message. By analyzing and illustrating flood risk, communities and the American public can better understand their risk and make informed decisions to reduce overall vulnerability (FEMA, 2009).

Goals

Risk MAP's primary objectives include: 1) assessing the nation's flood risk and using the information to increase public awareness of risk; 2) increasing public awareness of risk from natural hazards and establishing a baseline of local knowledge and understanding of risk management concepts; 3) ensuring 80% of the nation's flood hazards are current including accurate and valid data; and 4) continuing to meet statutory requirements of the NFIP through assessing on a watershed basis, the need to revise and update all floodplain areas and flood risk zones identified, delineated, or established (FEMA, 2009).

Table 1. Risk MAP Program Goals

Goal	Description
1	Address gaps in flood hazard data to form a solid foundation for flood risk assessments, floodplain management, and actuarial soundness of the NFIP.
2	Ensure that a measurable increase of the public's awareness and understanding of risk management results in a measurable reduction of current and future vulnerability to flooding.
3	Lead and support states, local, and tribal communities to effectively engage in risk based mitigation planning resulting in sustainable actions that reduce or eliminate risks to life and property from natural hazards.
4	Provide an enhanced digital platform that improves management of limited Risk MAP resources, stewards information produced by Risk MAP, and improves communication and sharing of risk data and related products to all levels of government and the public.
5	Align Risk Analysis programs and develop synergies to enhance decision-making capabilities through effective risk communication and management.

Source: Risk MAPping, Assessment, and Planning (Risk MAP) Multi-Year Plan: Fiscal Years 2010 – 2014 (FEMA, 2009)

LIFECYCLE

The concept and progression of Risk MAP is best described as a "lifecycle" with the overall purpose of reducing losses to life and property. Flood hazard mapping is used for risk assessments, which are incorporated into mitigation plans where risk reduction measures are identified for future action.

Future hazard identification requirements are developed and the cycle starts anew. Risk MAP's lifecycle is comprised of three substantive areas including mapping, assessment, and planning (FEMA, 2008).

Figure 4. Risk MAP Lifecycle

Table 2. Risk MAP Lifecycle

Goal	Description
1	Focuses on the flood hazard data identification with a broader emphasis towards supporting Risk MAP data needs. By improving the data collection, maintenance, and delivery of data, FEMA ensures assessments and plans have the right information at the right time.
2	FEMA will describe the effects of hazards on people and built environment through effective, user-targeted products. FEMA will encourage more detailed, multi-hazard assessments from federal, state, and local partners. Additionally, FEMA will improve the ability to assess future conditions and built environments (through state/local plans) to help measure the potential reduction in risk through probabilistic and scenario-based analysis. Ultimately, over time, the actual risk reduction must be quantified, measured, and tracked.
3	Demonstrated progress in state, tribal, and local mitigation plans to fully utilize Risk MAP products that are timely, targeted, and accurate. Mitigation plans rely on risk assessment information for communities to analyze, incorporate into plan updates, and identify actionable strategies that reduce risks. Success is dependent upon effective risk communications, incentives, and guidance across federal, state, and local levels to encourage effective follow-through in mitigation planning.

Source: FEMA's Risk MAP Strategy – Integrating Mapping, Assessment, and Mitigation Planning (FEMA, 2008)

Implementation

A cornerstone of FEMA's Risk MAP Program is collaborating with state, local, and tribal entities to reach program goals. In administering the Risk MAP Program, FEMA utilizes mapping partners to update flood hazard data and maps. FEMA will also rely on local communities, regional entities, tribes, and state agencies to ensure updated information is used in making informed decisions regarding planning, community development, and hazard mitigation. FEMA has developed seven primary strategies for implementing the Risk MAP Program including:

- Study Prioritization
- Elevation Data Acquisition
- Watershed Approach
- Engineering and Mapping
- Risk Assessment
- Mitigation Planning Support
- Risk Communication

Cooperating Technical Partners Program

Central to FEMA's Risk MAP Program is collaboration and cooperation established by mapping partnerships with state, local, and tribal entities to update flood hazard data and maps. The Cooperating Technical Partners (CTP) Program is an innovative approach to creating these partnerships between FEMA and participating local communities, regional entities, tribes, and state agencies that have the interest and capability to become more active participants in the FEMA flood hazard mapping program.

The purpose of the CTP Program is to provide, through a Cooperative Agreement, funds to ensure that the CTP entity can perform program management and technical mapping-related activities. Each participating CTP community enters into an agreement with FEMA to do certain mapping projects documented in mutually agreed upon Mapping Activity Statements (MAS). In addition to the State of Alaska, participating CTP communities in Alaska include the Municipality of Anchorage, the City and Borough of Juneau, the Matanuska Susitna Borough, and the Fairbanks North Star Borough.

There are several beneficial reasons for partnering with state, tribal, local, and regional organizations to produce Digital Flood Insurance Rate Maps (DFIRMs) under the NFIP:

- The data used for local permitting and planning will also be the basis for the DFIRMs, facilitating more efficient floodplain management;

- The CTP Program provides the opportunity to interject a tailored, local focus into a national program; thus, where unique conditions may exist, the special approaches to flood hazard identification that may be necessary can be taken;
- The partnership mechanism provides the opportunity to pool resources and extend the productivity of limited public funds; and
- For participating in the CTP Program, community partners will receive Community Rating System (CRS) credits, which may lead to discounted flood insurance premiums for property owners.

The following are fundable program management activities under the CTP Program:

- State and Local Business Plans and/or updates (required);
- Managing Technical Mapping Activities (required where technical activities are funded);
- Outreach;
- Providing training to state and local officials;
- Staffing;
- Pilot Projects (as defined by the FEMA Regional Office);
- Mentoring;
- Minimal Map Panel Printing (up to $5,000 must not be covered under another FEMA grant program already); and
- Coordinated Needs Management Strategy (CNMS) data collection/population.

In support of the CTP Program, FEMA has committed to do the following:

- Recognize the contributions made by FEMA's state, tribal, regional, and local
- partners by providing timely and accurate flood hazard information;
- Maximize the use of partner contributions as a means of leveraging limited public
- funds to the fullest extent while maintaining essential NFIP standards;
- Provide training and technical assistance for partners when appropriate; and
- Facilitate mentoring to increase capability for both existing and potential partners.