



CHAPTER ONE: 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 Modernization (Map Mod) effort transformed most of the nation's 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. Map Mod provided reliable digital flood hazard data and maps for approximately 92% of the nation's population.

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 use, value, and accuracy of flood hazard mapping and related data, FEMA developed the Risk MAP Program. Risk MAP represents a philosophical and tactical shift in how FEMA delivers information necessary for flood hazard reduction. 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.

FEMA began the transition from Map Mod to Risk MAP during federal fiscal year 2009. Risk MAP combines flood hazard mapping, risk assessment and mitigation planning into one seamless program. It is an improved and integrated approach where hazards are identified and woven into watershed-based risk assessments and state/local mitigation plans. The intent of Risk MAP is to encourage partnerships and innovative uses of flood hazard and risk assessment data in order to reduce flood and other hazard risk.



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. (FEMA, 2019).

Figure 8: Risk MAP Vision



REGIONAL PRIORITIES

FEMA Region 10 has set the following regional priorities for Risk MAP Cooperating Technical Partners:

- The ability as a Risk MAP partner to utilize/leverage Risk MAP products that have or will be developed to integrate into a community’s or tribe’s every day risk reduction decision making.
- Identify local priorities and needs that overlap with the goals of Risk MAP, including addressing unmet flood hazard analysis and mapping needs.
- The ability to identify and advance mitigation projects in communities or tribes.
- Supporting the region’s ability to collect field survey and/or LiDAR collection cost-effectively for future flood mapping production and mitigation action.
- Projects that help the Region assess its New, Validated, and Updated Engineering (NVUE) floodplain miles and decrease paper inventory.
- Promote multiple benefit studies (i.e., multi-hazard, climate change, endangered species, etc.) in relation to Risk MAP.



FEMA REGION 10 RISK MAP PROCESS

FEMA Region 10 has developed a graphic of the Risk MAP process which can be viewed online at: https://www.commerce.alaska.gov/web/Portals/4/pub/RiskMAP/R10_Risk_MAP_Process_Graphic.pdf

The Risk MAP process graphic focuses on Risk MAP’s three primary components,

- **Mapping:** Flood Insurance Rate Maps and Flood Insurance Studies
- **Assessment:** Hazard risk assessment and modeling
- **Planning:** Strategy implementation and plan integration

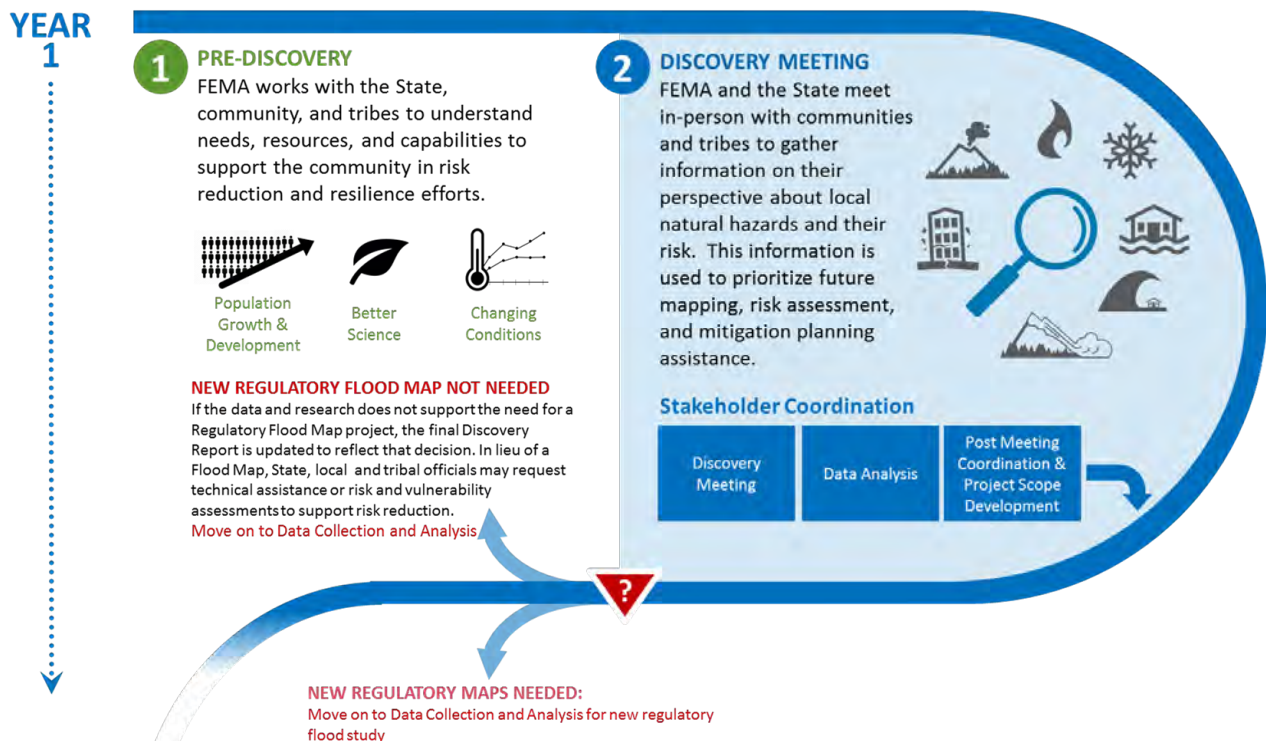
The process graphic illustrates the major phases of the multi-year Risk MAP process, which are described in detail here, beginning with Discovery:

Discovery

Discovery is the first part of the Risk MAP Process. After the State prioritizes a watershed for Discovery based on evaluations of risk, need, availability of elevation data, regional knowledge of issues, and local input, the communities within the watershed are asked if they would like to participate in a Risk MAP study.

The State Risk Map Coordinator will engage with the community to 1) identify that the community is interested in Risk MAP; 2) identify how the Risk MAP effort will align with local planning processes such as comprehensive planning, natural hazard mitigation planning, fire adaptation planning, and so forth; 3) identify the general natural hazard themes the community wished to focus on for the Discovery Meeting, and 4) identify an approximate timeline for hosting the Discovery Meeting. The process to collect data

Figure 9: Discovery





regarding local flood and other hazard risks will begin at this initial stage. FEMA has data on national and regional levels, however FEMA relies heavily on information and data provided by communities because local officials are able to provide a holistic view of their communities and their known risks. This provides a great opportunity to integrate local knowledge into the data collection process.

Discovery Meeting

During the Discovery Meeting, FEMA and the State will meet in-person with communities and tribes to gather information on their perspective about local natural hazards and their risk. Typically, FEMA will bring large, paper maps of the community to the Discovery Meeting and residents will be asked to mark up the maps based on their knowledge of local hazards. This information is used to prioritize future mapping, risk assessment, and mitigation planning assistance.

Post Discovery Meeting Coordination and Project Scope Development

If it is determined during Discovery that a Risk MAP project is appropriate for the community and the project involves flood engineering analysis, the project team will conduct additional coordination with the impacted community to discuss anticipated changes to the Flood Insurance Rate Map (FIRM) and Flood Insurance Study (FIS). If the data and research does not support the need for a Regulatory Flood Study (FIRMs and FIS), local and tribal officials may request technical assistance or risk and vulnerability assessments to support risk reduction.

Prior to work starting on any risk assessment or flood insurance study mapping, a meeting must be held with the community to share the scope of work and explain the deliverables resulting from the project. In addition to sharing the Scope of Work at this meeting, FEMA provides a Partnership Agreement to the community, a non-binding document that outlines roles and responsibilities during the Risk MAP study.

Discovery Report

The Discovery Report includes a section listing the data and information collected, including what data and information were received, when it was received, data sources, and an analysis of the data and information. A draft Discovery Report will be provided to the community and other stakeholders to review. The final version of the Discovery Report will outline the scope of work for the Risk MAP project agreed upon by FEMA, the State and the community.



Data Collection and Analysis

During this phase of the Risk MAP process, funding will be secured for the project and local multi-hazard data will be collected. If the community participates in the National Flood Insurance Program and it has been determined that new regulatory floods maps are needed, LiDAR data will be collected and a regulatory flood study will be conducted.

Whether or not the Risk MAP project involves a regulatory flood study, the community will have the opportunity to have a series of risk and vulnerability assessments conducted which will result in non-



regulatory products and tools that can inform local decision-making regarding risk. For hazards that FEMA doesn't directly address, the community can apply to the Cooperating Technical Partners Grant Program for funding to assess hazards such as erosion, landslide, avalanche and others. The information from these hazard assessments will be included in the final Risk Report for the Risk MAP study.

Draft Workmaps

If it has been determined that new regulatory floods maps are needed, Draft Workmaps will be prepared during this phase of the Risk MAP process. Draft Workmaps are an interim product that FEMA shares with communities in advance of the release of the preliminary Flood Insurance Rate Maps (FIRMs) to get early input on the mapping and underlying data.

Flood Risk Review Meeting

Following the release of Draft Workmaps, FEMA and the State will hold a Flood Risk Review (FRR) Meeting with the local jurisdiction. The FRR Meeting provides local officials with an opportunity to review and ask questions about the flood study and its results. The meeting allows the project team to highlight the flood risk associated with the study so that local officials can begin communicating that risk to impacted residents and businesses. The FRR Meeting also gives local officials the opportunity to comment on areas where they believe risks are inappropriately mapped (understated or overstated). By identifying concerns early in the map development process, FEMA can avoid delays and costly revisions to the preliminary FIRMs following their release.

Figure 10: Data Collection and Analysis





Risk Reduction

During the Risk Reduction phase, the project team will share the results of the risk assessments that have been conducted as well as the draft Risk Report with the community and begin to identify strategies for risk reduction. For communities undergoing a regulatory Flood Insurance Study (FIS), preliminary Flood Insurance Rate Maps (FIRMs) will be produced and the regulatory process will begin for the adoption of the new FIRMs and FIS.

Risk Report

The Risk Report provides non-regulatory information to help local officials, floodplain managers, planners, emergency managers, and others better understand their natural hazard risk, take steps to mitigate those risks, and communicate those risks to their citizens and local businesses. Because the natural hazards often extend beyond community limits, the Risk Report provides hazard data for the entire Risk MAP project area as well as for each individual community. This also emphasizes that natural hazard risk reduction activities may impact areas beyond jurisdictional boundaries. Natural hazards are always changing, and there may be other studies, reports, or sources of information available that provide more comprehensive information.



The Risk Report is not intended to be regulatory or the final authoritative source of all natural hazard data in the project area. Rather, it should be used in conjunction with other data sources to provide a comprehensive picture of natural hazard risk within the project area.

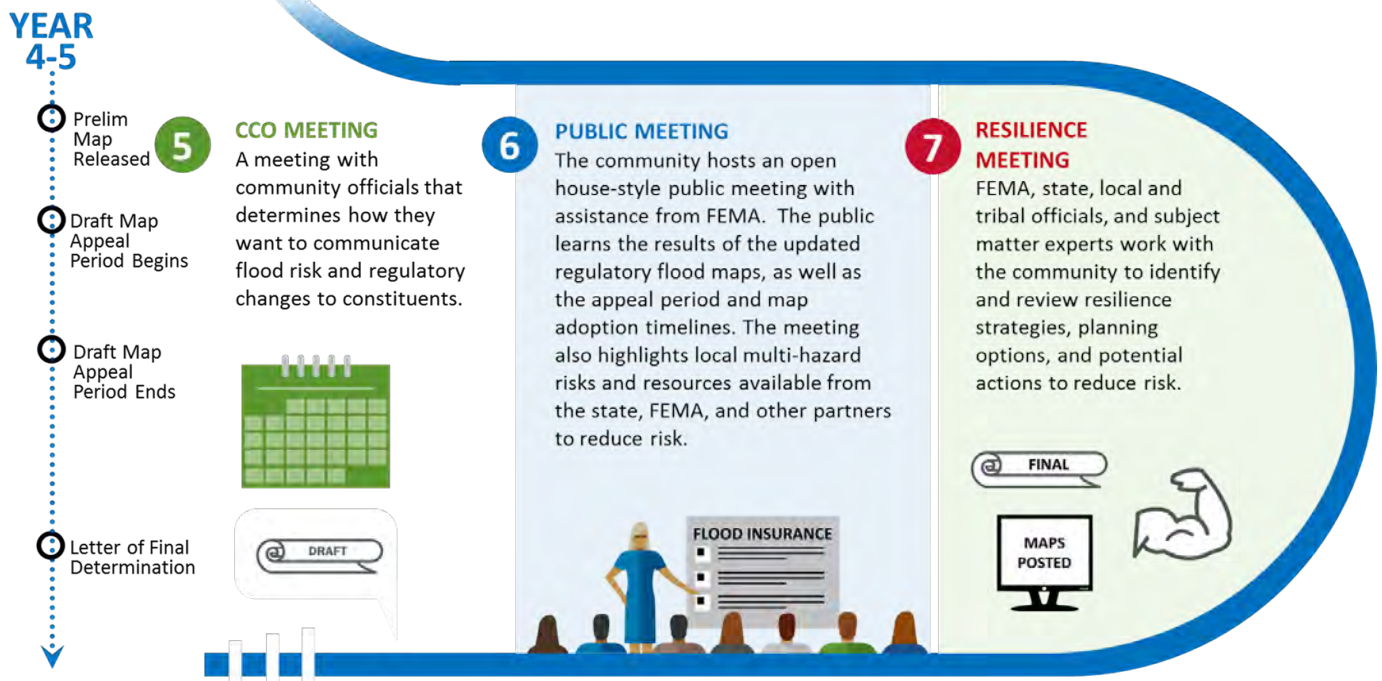
Preliminary Flood Insurance Rate Maps and Study

The release of the Preliminary Flood Insurance Study, Maps and Data is an important step in a community's flood mapping process. There are several benefits for the public and professionals in viewing their community's preliminary data before it becomes an effective FIRM:

- It allows the public to voice their opinions or concerns regarding how the data may affect them or to question data accuracy
- Insurance agents can compare existing FIRMs with preliminary FIRMs to see how their clients may be affected. However, policies cannot be written using preliminary data
- Loan and mortgage brokers can use preliminary data as a guide to determine whether a property may be mapped into a high-risk area, allowing the borrower to be informed of any changes or requirements before finalizing the loan
- Real estate agents and brokers can determine what changes are likely to occur and how it might affect any properties for sale
- Engineers, developers and builders can plan for safer construction



Figure 11: Risk Reduction



Consultation Coordination Officer (CCO) Meeting

After the release of preliminary FIRMs and the FIS report, FEMA holds meetings to present them first to community officials at the CCO Meeting. Any changes in flood risk will be explained and meeting participants will have an opportunity to provide feedback on the products. This is also the meeting where public outreach needs are discussed.

The CCO Meeting is required by Federal law - **44 CFR 66.5 (f)**:

(f) The community shall be informed in writing of any intended modification to the community's final flood elevation determinations or the development of new elevations in additional areas of the community as a result of a new study or restudy. Such information to the community will include the data set forth in paragraph (e) of this section. At the discretion of the Regional Administrator in each FEMA Regional Office, a meeting may be held to accomplish this requirement.

Public Open House Meeting

Once the preliminary FIRMs are released, the CCO meeting is held, and the 90-day appeal period is started, there is often a request for a public meeting. Most communities request and FEMA likes to support a public open house to help get the word out about the changes to the flood maps and to provide an opportunity for the community to get their questions answered on whether they are in a floodplain, what the flood insurance requirements are, and what the regulations are for floodplain development in these areas.

The format of the public meeting is an open house with a 15-minute simplified overview of the NFIP, the flood study, and the study process. The open house format is explained and an explanation is given of what questions can be answered at tables where subject matter experts are present.



Resilience Meeting

Risk MAP communities may choose to hold a Resilience Meeting to discuss the products and tools of the Risk MAP process. The Resilience Meeting is held in the community and led by FEMA, the State Risk MAP Coordinator and the Risk MAP Project Team. The meeting combines building-level analyses of hazard impacts with available resources. Information about FEMA programs, technical and administrative expertise from the State, and local knowledge of capacity is shared in an effort to help the community identify high-priority risk-reduction actions, and connect those actions to appropriate funding mechanisms. Before the Resilience Meeting, FEMA holds a webinar with prospective attendees of the Resilience meeting to review the content and results of the Risk Assessment, which helps prepare attendees for the Resilience Meeting.

During the first portion of the Resilience Meeting, State and Federal staff provide presentations covering:

- The Risk MAP Process Overview
- Hazard Data
- Risk Assessment Results
- Mitigation Actions
- Potential Funding Opportunities

In the second part of the Resilience Meeting, communities work with State and Federal staff to discuss local hazard concerns, mitigation priorities, implementation timelines, and funding opportunities. After the Resilience Meeting is held, mitigation actions and other information identified during the workshop will be integrated into the draft Risk Report, which will be finalized and presented to the community.

Figure 12: City of Seward Resilience Workshop





Resilience

During this final phase of the Risk MAP process, FEMA and the State Risk MAP Coordinator will work with the community to integrate Risk MAP information into local plans, implement the actions identified during the Resilience Meeting, and seek funding to implement projects identified during the Risk Reduction Phase. The State Risk MAP Coordinator may hold quarterly teleconferences to check-in with the community and notify local officials of progress on mitigation efforts.

During this phase, Risk MAP products and tools can inform or lead to a number of efforts including the following:

- New or Updated Hazard Mitigation Plan
- Infrastructure Mitigation Projects
- Housing Mitigation Projects
- Updated Building and Zoning Codes
- Local Land Use Plan
- Community Comprehensive Plan
- Analyses to protect-in-place, migrate infrastructure or to relocate

Figure 13: Resilience





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 Cooperating Technical Partners (CTP) Program was developed by FEMA for State, local, regional, or tribal organizations and universities with the interest, capability, and resources to be active partners in FEMA’s flood hazard mapping program. By becoming a CTP, a partner formalizes its contribution and commitment to the program ensuring better overall flood risk identification through the development of reliable and up-to-date flood maps.

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.

Objectives of the CTP Program

The overall objective of the CTP Program is to update the Nation’s flood maps through the following tasks:

- Recognize partners that are actively working to identify and map their flood risk while incorporating this information into official FEMA flood hazard data
- Maximize limited funding by combining resources and aligning State, local, regional, and tribal local goals with FEMA’s national objectives
- Maintain national standards consistent with National Flood Insurance Program (NFIP) regulations
- Build and maintain partner capabilities.

Benefits of Participation in the Program

The advantages and benefits of being a CTP include:

- Develop more detailed maps by incorporating local geospatial data into FEMA’s flood hazard maps
- Receive streamlined FEMA customer service, access to existing FEMA data, national recognition, technical assistance, and FEMA’s Mapping Information Platform (MIP)
- Mentoring support, shared best practices, online resources, and free training to achieve more efficient and effective flood risk development
- May be eligible to participate in the FEMA Community Rating System (CRS) and receive CRS credits for flood hazard reduction activities, which may result in discounted flood insurance premiums for property owners



CTP Relationship to Risk MAP

Through the Risk MAP Program, CTPs will continue to be involved with the creation of flood hazard data, but will also be involved with the risk assessment and planning activities within Risk MAP. CTPs are encouraged to create partnerships and relationships within their organization, especially with groups responsible for risk assessment and planning activities. These strategic partnerships at the State or local level enable FEMA and its partners to accomplish Risk MAP’s goals.

Figure 14: Potential CTP Partner Life Cycle

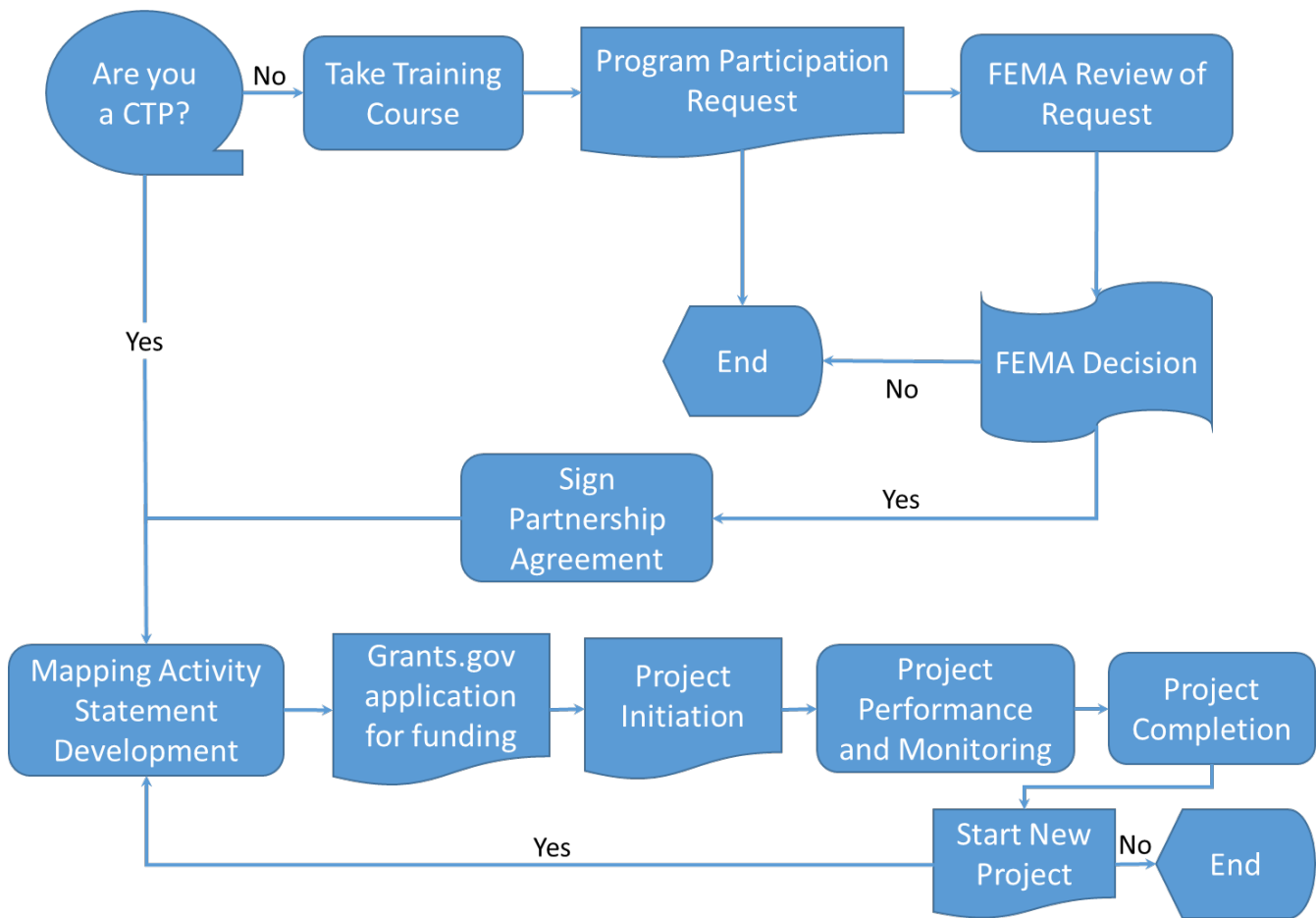




Figure 15: Flooding in Wasilla, Alaska Neighborhood, 2012



Photo: Jon Burn, Battalion Chief, Matanuska-Susitna Borough Fire Department