



REGION 3 FLOOD RISK ASSESSMENT Technical Assistance Worksheet

OVERVIEW

With the long-term goal of taking action to reduce risk, the Flood Risk Assessment is a critical part of understanding your data strengths and opportunities. This worksheet will help you work through what you have and what you need to conduct scientific analysis for an evidence-based risk assessment. This worksheet provides a series of questions to assist planners, floodplain managers, emergency management and other local officials in the decision-making around conducting a **Flood Risk Assessment** as part of the Hazard Mitigation Plan (HMP) or otherwise. By answering the questions provided in this worksheet, you will be able to identify available and desired data, team members, local capability, and the process to analyze data that will lead to an improved and more detailed Flood Risk Assessment. This will also guide you in developing more effective, objective and operational mitigation actions.

Reviewing the six sections of this worksheet, listed below, will help you better understand how to complete your scope of work as well as the logistics for completing the Flood Risk Assessment. These sections take into consideration the team you will work with, the area you are planning for, the data that are available, the analysis you would like to conduct and logistics such as timeline and funding.

TABLE OF CONTENTS

- 1. PURPOSE
- 2. PLANNING AREA REVIEW
- 3. PLANNING TEAM CAPABILITIES
- 4. DATA ANALYSIS
- 5. DATASET IDENTIFICATION
- 6. RISK ASSESSMENT UPDATE LOGISTICS

Flood Risk Assessment: An assessment that identifies the flood risks that can affect a community based on historical experience, estimates the potential frequency and magnitude of disasters, and assesses potential losses to life and property.

Tip: Click on any section of the table of contents to jump to that section in the document.



Note: Definitions for **bold and underlined** words are provided in the right-side column.

Flood Risk Assessment Technical Assistance Worksheet

PURPOSE

Before going through each section, it is important to determine what you want to accomplish with an updated or refined Flood Risk Assessment. The next few questions will help evaluate the goals and objectives for this Flood Risk Assessment.

Why are you going through this Flood Risk Assessment Worksheet?

Process	Check the Answer(s) that Best Apply
Updating a HMP as part of the five-year cycle to meet the requirements of 44 CFR 201.6.	
Doing an update to an HMP within the five-year cycle—for instance, conducting an annual review using newly collected flood hazard information.	
Preparing a grant application for a specific flood mitigation project.	
Looking to advance flood risk awareness and understanding in your planning area.	
Looking to develop a refined listing of at-risk structure values and potential loss estimates.	
Figuring out where risk is located and/or identifying hot spots of risk.	
Taking the first step in prioritizing risk mitigation projects.	
Seeking to understand the data needed to inform a future risk assessment (data gaps, data cleaning, etc.).	
Other (please fill in):	

From your experience, what flood risk does your community face? Please consider past flooding, potential future flood events and locations, and any other associated concerns.

What types of flooding may impact your community?

Flood Type	Check the Answer(s) that Best Apply
Coastal	
Nuisance	
Fluvial	
Ponding	
Urban	

Tip: This document can be applied to situations outside of a HMP update. Some examples include:

- A justification for mitigation project grants, or to assist with the prioritization of mitigation projects that you implement.
- If there has been a large shift in your flood risk and your community decision makers want to understand the implications prior to the next HMP update.

Tip: Think about how flooding types you identify may impact your Flood Risk Assessment as you go through this worksheet.

Coastal - flooding caused by waves, tides, storm surge or heavy rainfall from coastal storms.

Nuisance - is classified as any flooding that disrupts routine activities. It most commonly occurs at high tide.

Fluvial- river or stream overflow.

Ponding- the unwanted pooling of water on a surface (roadway, roof, etc.)

Urban- when stormwater infrastructure is insufficient for the amount and speed of rainfall.

Flood Risk Assessment Technical Assistance Worksheet

PLANNING AREA REVIEW

The following questions will help you define the planning or project area and take into consideration metrics used to assess risk in that area.

Instructions: If you are using this worksheet for a grant application, replace “planning area” with “project area/location.” For all other projects, proceed with the questions as they are written.

How would you define the planning area for this Flood Risk Assessment?

Planning Area	Check the Answer(s) that Best Apply
County	
Community	
Region	
Other (please fill in):	

Is this the same planning area identified in the current approved HMP? If not, what has changed?

Why did you choose this planning area? How will focusing on this specific area help you achieve the goals you identified?

Tip: Some communities focus on assessing risk by municipality, county, region, or watershed. Think about what might be most effective for your Flood Risk Assessment as well as who else faces similar risks and how to engage them.

Tip: For multi-jurisdictional plans, the Risk Assessment must assess each jurisdiction’s risks where they vary from the risks facing the entire planning area.

Tip: This question will inform your scope of work. Please reach out to your State Hazard Mitigation Planner with any questions.

Flood Risk Assessment Technical Assistance Worksheet

PLANNING TEAM CAPABILITIES

The following questions focus on building a team to complete the Flood Risk Assessment. The questions in this section will help you identify existing and desired team members and the skillsets you may need to complete an actionable Flood Risk Assessment.

Instructions: For jurisdictions updating the Flood Risk assessment as part of their HMP update, please answer the questions on this page. For everyone else, please skip ahead to the next page.

PLAN DEVELOPMENT

Who is developing the plan? Some examples may include the **Plan Owner**, a consultant team, local entities, etc. Provide name and title.

Does the Plan Developer have the following things necessary to develop or update the Flood Risk Assessment?

Please put a check next to any of the following capabilities the Plan Developer has.

Capability	What tools are needed to fulfill this capability?	Who has the capability?	
		You/Your Jurisdiction	Outside Source <i>(consultant, university, etc.)</i>
Technical Skills			
Training			
Equipment/Software			

If you do not know what tools would be most helpful BUT you know the problem you are trying to solve, please document those challenges below.

Plan Owner: The entity sponsoring development of an HMP including:

- States or DC for their own hazard mitigation planning efforts.
- Counties or PDCs for multi-jurisdictional HMPs.
- Individual communities or Disaster Resistant Universities (DRU) for single-jurisdictional HMPs.

Plan Developer: The person, agency or contractor facilitating the planning process.

Flood Risk Assessment Technical Assistance Worksheet

ASSEMBLING THE RISK ASSESSMENT TEAM

To complete an accurate and thorough Flood Risk Assessment, it is important to build the right team. Some of the common roles involved are provided below. Please fill in the individual(s) who will be involved. If it is not yet determined, identifying the appropriate agency or department is a good first step. For jurisdictions with teams filling these roles, please identify the team lead.

The **Planner** is the person leading the Flood Risk Assessment, convening groups for discussion as applicable, collecting information, and facilitating the development of the Risk Assessment. While we call this role “Planner,” it may be an Emergency Manager or other position in your community. This role may be held by the Plan Developer identified for the entire HMP update process, or it may be assigned by them.

Position	Name	Title
Planner		

The **Data Specialist** role builds awareness of available data sources and collects and analyzes data that may be applicable to the Flood Risk Assessment.

Position	Name	Title
Data Specialist		

The **GIS Specialist** is in charge of collecting and displaying spatial data for the Flood Risk Assessment (e.g. **critical facilities**, land use, tax assessment data). Think about who can help you gather spatial data locally, as well as who may have knowledge on where to get spatial data from state agencies and national resources.

Position	Name	Title
GIS Specialist		

Who else has information that is helpful to include in the Flood Risk Assessment? In the table below, include anyone who may be able to provide additional insight.

Name	Agency/Department	Professional Title

Tip: The Data Specialist role could be filled by more than one person who knows where to find local data. There could be some overlap between this role and the Planner and GIS Specialist roles.

Tip: Some Plan Developers have found detailed, well-maintained datasets from their university partners.

Critical Facilities: Facilities that provide services and functions identified as essential to a community, especially during and after a disaster.

Tip: This question will help you identify potential planning partners you may want to involve on the Hazard Mitigation Planning Team if you are doing a full plan update.

Tip: Additional planning team members may become evident as you go through the Data Identification section.

Flood Risk Assessment Technical Assistance Worksheet

DATA ANALYSIS

This section illustrates how your available data aligns with different data analysis techniques, which in turn will help you decide which technique(s) can be used for your Flood Risk Assessment.

Instructions: *The types of analyses and examples described in this section could apply directly to HMP updates, so keep this in mind. If you are working on a grant application, reference resources such as the Plan Implementation and Grants Development Project Assessment Worksheet to help figure out what analysis you might need to complete.*

OVERVIEW

There are three basic Risk Assessment analysis techniques: **1)** Historical Analysis; **2)** Exposure Analysis; **3)** Scenario Analysis. The following includes an overview of each technique. Most Flood Risk Assessments involve multiple techniques.

HISTORICAL ANALYSIS

Historical Analysis uses recorded impacts of past flood events on the community and its assets to predict future impacts and anticipated losses with the premise that whatever has happened before, can happen again. The results are useful for identifying target assets for mitigation actions and establishing mitigation priorities.

The **National Flood Insurance Program (NFIP)** has performed the analysis to identify properties that meet or exceed RL/SRL criteria, and lists of these properties are available through your State NFIP Coordinator. It is important to note that this data requires certain clearance levels, so it cannot be publicly shared.

EXPOSURE ANALYSIS

Exposure Analysis estimates anticipated flood effects based on comparing hazard and critical facility information using **GIS overlays**. This technique results in the total number and/or value of critical facilities located in the **Special Flood Hazard Area (SFHA)**. The results are useful for comparing the relative impacts of flooding on different locations within a planning area and allows you to focus attention on more detailed asset-by-asset or structure-by-structure analyses.

Exposure Analysis looks at the location of assets in relation to floodplains. Examples of the distinctions that can be made through exposure analysis are:

- Location in the regulatory floodway and 1%-annual-chance floodplain or SFHA = High Vulnerability
- Location in the 0.2%-annual-chance floodplain (or “500-year”) floodplain = Moderate Vulnerability
- Location outside mapped floodplains = Low Vulnerability

Tip: *It is important to remember that more than one technique may be applicable for your planning area as part of a comprehensive Flood Risk Assessment.*

National Flood Insurance Program (NFIP): *A program managed by FEMA that provides flood insurance to help reduce the impact of floods.*

GIS Overlays: *An operation that looks at multiple spatial datasets in relation to one another. For the Flood Risk Assessment, the floodplain may be looked at in relation to critical facilities and user-defined structures using a GIS overlay.*

Special Flood Hazard Area (SFHA): *The area where the NFIP floodplain management regulations must be enforced and the area where mandatory purchase of flood insurance applies.*

Tip: *When thinking about what analysis you are going to do, consider whether there are ways to improve the previous Flood Risk Assessment Process.*

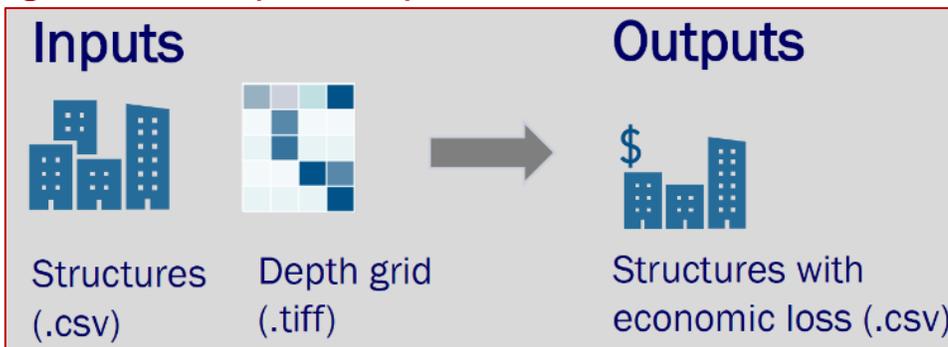
Flood Risk Assessment Technical Assistance Worksheet

SCENARIO ANALYSIS

Scenario Analysis determines the impacts of a hazard on community or individual assets by comparing the anticipated hazard magnitude and extent with asset locations and characteristics. FEMA's Hazus software determines the potential impacts for different levels of flooding and provides estimates for direct damage, casualties, facility downtime, etc. These estimates provide a basis for planning if no detailed asset-by-asset data are available. With more detailed information on individual assets, Hazus can provide flood loss estimates on an individual basis.

If there is sufficient detailed information for structures, Scenario Analysis can also be conducted using FEMA's Flood Assessment Structure Tool, or "FAST," which is an open source tool that can be used to rapidly analyze structure-level flood risk. FAST provides planners, analysts and policymakers with a free and user-friendly tool to characterize flood risk in their communities using completely open methods and technology. The goal of the tool is to make Flood Risk Assessments quicker, simpler and more cost effective. The outputs provided by the tool can be used for both Exposure and Scenario Analyses.

Figure 1: FAST Tool Inputs and Outputs



It is unusual to find all the data needed for high-level Scenario Analysis. For this type of analysis, structure data should have the following attributes: longitude and latitude, occupancy, building cost, building area, number of stories, foundation type, first floor elevation, contents value and inventory value.

DATA ANALYSIS TECHNIQUES SELECTION CHECKLIST

The most effective approach for your Flood Risk Assessment may be to use aspects of one or more of the techniques. Use the information above to fill in the table on the next page to help you review the Flood Risk Assessment in your current approved HMP and determine if the current available data supports any different or enhanced techniques.

Resource: Information on the FAST Tool
(https://www.fema.gov/sites/default/files/2020-09/hazus_fast-factsheet.pdf.)

Resource: Download the FAST Tool
(<https://github.com/nhra-p-hazus/FAST>)

Tip: Possibly more so than other data analysis techniques, it is important to consider who may be conducting the Scenario Analysis, e.g.:

- Planning Consultants, who should be proficient in technical requirements.
- In-house GIS staff, who may be able to run a program such as Hazus.
- Local floodplain managers, who may be more comfortable conducting a spreadsheet analysis.

Flood Risk Assessment Technical Assistance Worksheet

Data Analysis Checklist			
	Historical Analysis	Exposure Analysis	Scenario Analysis
Questions Regarding the Previous Flood Risk Assessment			
Was the technique used in your current approved HMP? (check all that apply)			
For each technique you employed, what data were used?			
Please summarize the results.			
For previous Flood Risk Assessments developed as part of an HMP, what were the comments provided by the state or FEMA R3 in Plan Review Tool (PRT) (if any) for this analysis?			
Questions Regarding this Flood Risk Assessment (if applicable):			
What data have you identified in the Data Identification section that can be used for this technique?			
What technique(s) do you plan to use in your Flood Risk Assessment based on available data?			
What are the anticipated results?			
For a Flood Risk Assessment being conducted as part of an HMP update, how will this assessment address any state or FEMA PRT comments?			

Flood Risk Assessment Technical Assistance Worksheet

DATASET IDENTIFICATION

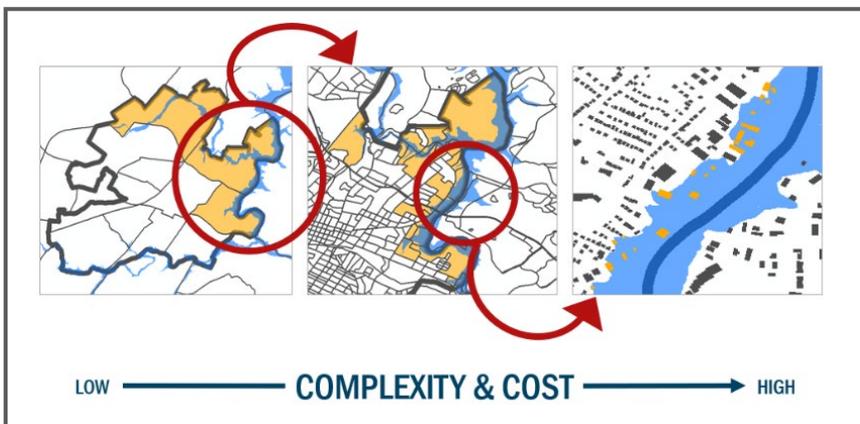
As part of the Flood Risk Assessment, you should identify datasets to look at flood risk and community vulnerability. This section walks you through identifying and tabulating available data for your Flood Risk Assessment, including determining the most current version of FEMA's Flood Insurance Rate Maps (FIRMs) and the level of detailed information available for critical facilities.

Instructions: If you are updating your HMP, use this section to comprehensively assess the data in your community. If you are applying for a grant, you may not need all this data, depending on your specific project. Use this as an opportunity to think about datasets that will be helpful to your project and assess where you will obtain this data. If you're unsure of the availability, quality, or extent of data, reach out to colleagues and work on this section together.

LOOKING BACK AT YOUR PREVIOUS FLOOD RISK ASSESSMENT

At what scale is flood risk assessed (e.g. municipal, block group, parcel level; or low, medium, high complexity)? (visual example with Figure 1).

Figure 2: Risk Assessment Level of Effort



Is the same data available throughout the planning area, or will you have to pull data from various sources to cover the entire planning area? For example, for a countywide study, you may be able to obtain countywide data, but if there is no countywide data, you may have to look for data at the municipal level.

Tip: Think about your community's risk and what data you need to inform decision-makers to take action to reduce that risk. For example, if your community needs funding or political will to complete the HMP-identified **mitigation actions**, consider what data may help. Do you have the necessary data for a Benefit Cost Analysis (BCA)? How would the values determined from the BCA help leverage the Flood Risk Assessment?

Mitigation Action: A specific action, project, activity, or process taken to reduce or eliminate long-term risk to people and property from hazards and their impacts.

Tip: Your analysis output depends on your data input, so keep in mind the scale of data available as that may inform your opportunities for analysis and the scale of your output. It may impact cost as well.

Flood Risk Assessment Technical Assistance Worksheet

LOOKING AT WHAT NEW DATA CAN BE INCORPORATED

What new and existing products or datasets are available for your planning area that were previously unavailable or that you did not use before?

Dataset	Description

Are there any datasets that do not exist that you would want to develop for this Flood Risk Assessment or a future one?

Dataset	Description

Tip: Consider what data you will need in the future to accurately assess risk to reflect new or changing land uses and development, future conditions, etc.

Tip: You have already identified team members with data development capabilities in the Planning Team Capabilities Section. How can those team members assist in data development?

Tip: This is a good place to also consider plan integration. For example, think about whether there are any studies, models, plans, etc. your community has conducted related to flooding. Is there a way data or findings from those can be integrated into this Flood Risk Assessment?

Tip: If localized data are not available, there are often statewide or nationwide datasets available that can be used.

Tip: You may want to revisit this set of questions after going through the Data Analysis section.

Flood Risk Assessment Technical Assistance Worksheet

DATA REVIEW: PARCEL AND BUILDING STOCK DATA

Structure data can increase the level of detail and options for analysis in your Flood Risk Assessment. The following are options for datasets that can be used to locate structures relative to the floodplain.

User-Defined Facility Datasets	Who Owns the Data/Is There a Request Process?	When Was the Dataset Last Updated?	What Format is the Dataset In?	Are the Data Continuous Throughout the Planning Area?
Building Footprints				
Address Points				
Parcels				

Please put a check next to any of the following attributes included in a dataset identified above. Clarify which dataset(s) the attributes are included in. Note that typically these attributes are included in the parcel dataset, but depending on who is managing the dataset, the information may be included elsewhere:

Attribute	In a dataset? If so, which dataset?
Building Values	
Structure Material	
First Floor Elevation	
Foundation Type	
Number of Stories	
Land Use/Zoning Code	

Tip: Your HMP is required to provide a general description of land uses and development trends within your planning area so that hazard risk is considered in future land use decisions.

Resource: *The Pursuing Structure Based Risk in Kentucky Storymap* (<http://arcg.is/Oui45C>) gives an overview of how the Kentucky Division of Water piloted structure-based Flood Risk Assessments to develop an evolving risk score, which can be applied directly to property values as they change over time. The data compiled for your Flood Risk Assessment could potentially be applied in a similar way to this best practice.

Consider the following example when identifying a building footprint dataset

Overarching Dataset	More Detailed Dataset	Most Detailed Dataset
Microsoft Building Footprints	State Developed Building Footprints	County or Locally Developed Building Footprints (if dataset is comprehensive and up to date)

Flood Risk Assessment Technical Assistance Worksheet

DATA REVIEW: CRITICAL FACILITIES DATA

Critical facilities provide services and functions essential to a community, especially during and after a disaster. Identifying these facilities allows communities to analyze how these structures may be at risk and consider what can be done to protect them. When going through the following table please note that critical facilities are community defined, and the datasets listed below are just typical examples.

Critical Facilities Datasets	Who Owns the Data/Is There a Request Process?	When Was the Dataset Last Updated?	What Format is the Dataset In?	Are the Data Continuous Throughout the Planning Area?
Critical Facilities				
Hospitals and Medical Facilities				
Emergency Operation Center				
Fire Stations				
Police Stations				
Schools (public schools, private schools, day care facilities)				
Airports/ Heliports				
High Potential Loss Facilities				
Nuclear Power Plants				
Dams				
Military and Civil Defense Installations				
Locations with Hazardous Materials				
Oil Facilities and Pipelines				

Flood Risk Assessment Technical Assistance Worksheet

Critical Facilities Datasets	Who Owns the Data/Is There a Request Process?	When Was the Dataset Last Updated?	What Format is the Dataset In?	Are the Data Continuous Throughout the Planning Area?
Infrastructure Systems				
Potable Water Facilities (Reservoirs and Treatment Plants) and Pipelines				
Wastewater Facilities and Pipelines				
Power Utilities				
Transportation (roads, railways, waterways)				
Communication Systems/ Centers				
Energy Pipelines and Storage				

Tip: High potential loss facilities and infrastructure systems datasets will not be included in the Hazus run, but they can be used in different types of analyses that may provide additional insight to the Flood Risk Assessment. If these datasets exist as GIS data for your area, it is beneficial to use it.

Tip: When thinking about data that might apply to flood risk, also think about cascading impacts, or impacts that occur as a direct result of an initial event. For example, high velocity flood waters may cause a landslide. In this case, the landslide would be a cascading impact.

Tip: Some data might require certain clearance levels to access the data and/or display it. This is important to consider when you are collecting data and when you are sharing it in your plan. Some data may need to be placed in a secure appendix and not in the general Risk Assessment (e.g. protected critical infrastructure information, personally identifiable information, etc.).

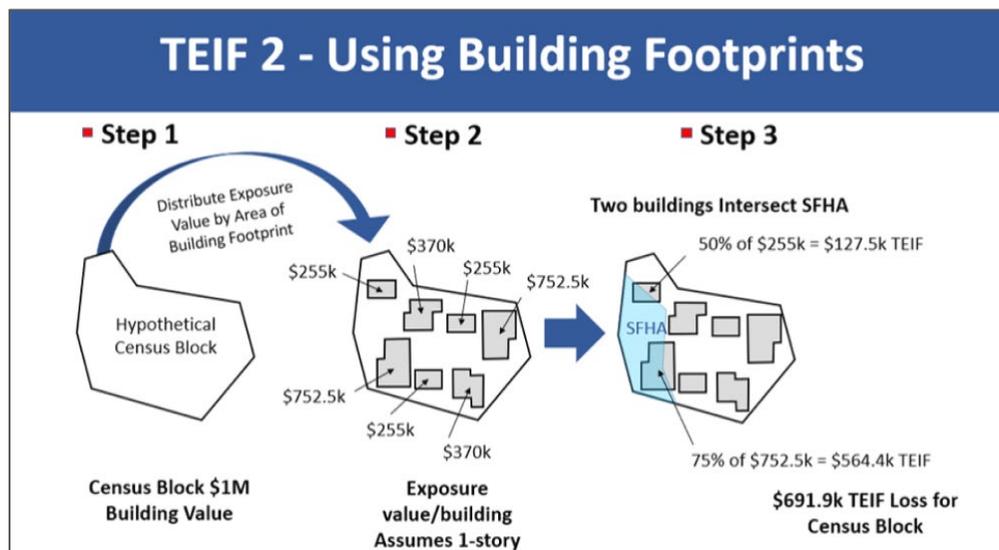
Flood Risk Assessment Technical Assistance Worksheet

DATA REVIEW: FLOOD RISK ASSESSMENT DATA

It is also important to identify existing Flood Risk Assessment datasets to determine what types of analyses you are able to perform. The following are common Flood Risk Assessment Datasets.

Flood Risk Assessment Datasets	Who Owns the Data/Is There a Request Process?	When Was the Dataset Last Updated?	What Format is the Dataset In?	Are the Data Continuous Throughout the Planning Area?
Most Recent Total Exposure in the Floodplain <i>(e.g. 2.1 in 2020)</i>	FEMA owns the data. The dataset is publicly available.	August/September 2019	Geodatabase	Yes
National Risk Index	FEMA owns the data. The dataset is publicly available accessed.	November 2020	Online map. Data can be downloaded as a shapefile or .csv.	Yes
Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	FEMA owns the data, and your State Hazard Mitigation Officer can request the data on your behalf.			
Alternative Planning Area Risk Assessments <i>(e.g. watershed-, state-, or FEMA-developed).</i>				

Figure 3: Steps for Conducting TEIF Analysis - the more detailed the data inputted, the better the output will be. In this example, rather than using the full census block building value, the TEIF analysis looks at individual structure value and exposure levels to estimate a more detailed loss.



RL property: Any insurable building for which the NFIP paid two or more claims of more than \$1,000 within any rolling 10-year period, since 1978. A RL property may or may not be currently insured by the NFIP.

SRL property: has at least four losses each exceeding \$5,000, or when there are two or more losses where the building payments exceed the property value.

Tip: Reach out to your SHMO for information on any existing Flood Risk Assessments performed in your planning area.

Flood Risk Assessment Technical Assistance Worksheet

DATA REVIEW: FLOOD HAZARD DATA

This table will help you identify what data you need to examine flood risk such as floodplains, past flood events, etc.

Flood Risk Assessment Datasets	Who Owns the Data/Is There a Request Process?	When Was the Dataset Last Updated?	What Format is the Dataset In?	Are the Data Continuous Throughout the Planning Area?
NOAA National Centers for Environmental Information (NCEI)	NOAA. There is no request process.	2020	.csv	Yes
FIRMs	FEMA. There is no request process.	Depends on study area.	Shapefile	Yes
Flood Studies				

DATA REVIEW: ADDITIONAL DATA

Other considerations for risk include the population, economy and natural resources. The table below provides the opportunity to think about data that will help you address additional factors in your Flood Risk Assessment.

Flood Risk Assessment Datasets	Who Owns the Data/Is There a Request Process?	When Was the Dataset Last Updated?	What Format is the Dataset In?	Are the Data Continuous Throughout the Planning Area?
Population Data	U.S. Census Bureau. There is no request process.	2019 ACS data are the most recent available data.	.csv	Yes
Economic Data	The U.S. Census Bureau. There is no request process. <i>*Note state and local economic data may also be available.</i>	2017 NAICS is the most recent available data.	.xlsx	Yes
Natural Resources (e.g. water sources, soils, parks, etc.)	<i>*You may have collected some of this data when collecting critical facilities.</i>			
Topographic Data (e.g. LiDAR data, elevation data)				

Do the data available satisfy the intended purpose(s) you identified at the beginning of this worksheet?

Tip: LiDAR data can be used in a number of ways to develop needed datasets, including depth grids, building footprints, property elevation analysis, and more.

Flood Risk Assessment Technical Assistance Worksheet

RISK ASSESSMENT UPDATE LOGISTICS

Now that you have identified the resources that you will need and your approach to conducting the Flood Risk Assessment, consider the following questions as you think about how to support its development.

Instructions: All projects should establish a timeline and consider project funding. Use this section to assess these timing and logistics factors.

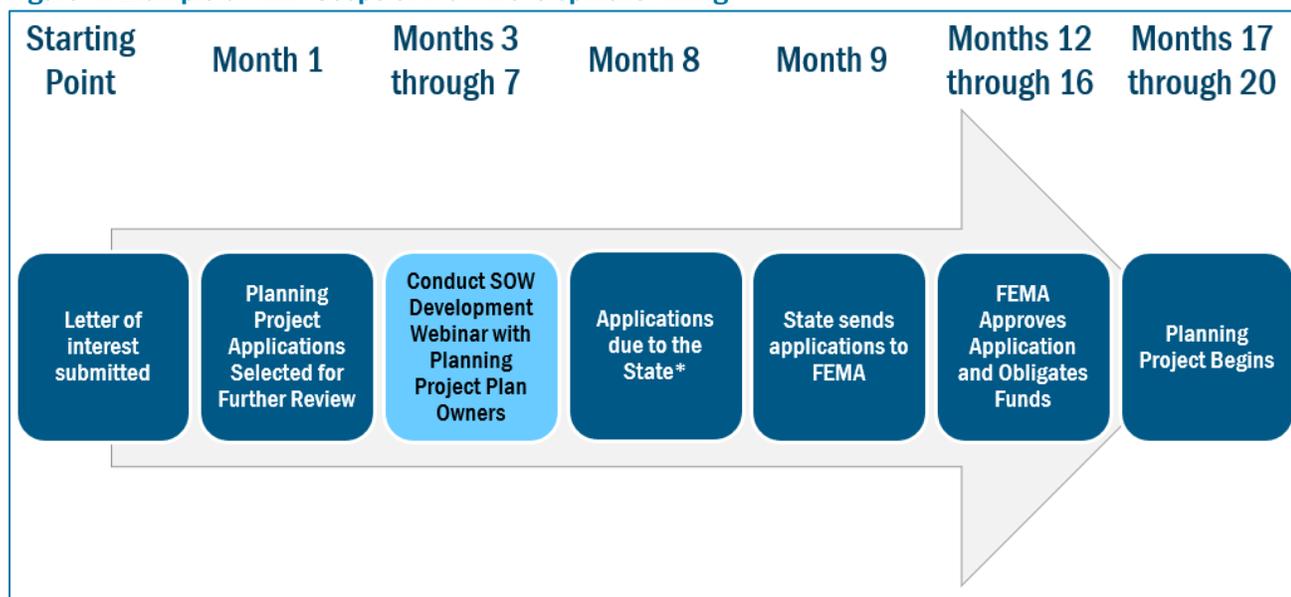
Tip: It is important to take into consideration the time it takes to hire a contractor, the time it takes to get a grant for the plan update, how soon work on the plan can begin, when the plan needs to be updated, etc.

PROJECT TIMEFRAME

Has a timeline for the Flood Risk Assessment been established? Fill in the table below with a draft timeline for the project.

Step	Description	Timeframe

Figure 4: Example of HMP Scope of Work Development Timing



Flood Risk Assessment Technical Assistance Worksheet

FUNDING

While developing a Flood Risk Assessment, it takes time to collect and build relevant datasets, conduct the assessment, analyze vulnerability, etc. **How do you intend to fund this Flood Risk Assessment?** Please consider each phase of Risk Assessment development and implementation and list each phase/task below; include the costs of any data or tools that will be necessary to complete each phase.

Phase/Task or Tool	Estimated Cost

REASSESSING PROJECT PURPOSE

Having gone through all of the questions, this is an opportunity to think about your purpose for this project and how your answers may have impacted them.

In the Data Identification section of this worksheet you addressed whether the available data satisfied your identified purpose. **If you answered yes to that question, how will this data be incorporated into the intended purpose of your plan or project?**

If you answered no, how will this gap in available data be addressed? Consider the following:

Questions	Answers
What data do you need to fill those gaps?	
Could you find or develop these data for the Flood Risk Assessment?	
Who will be preparing existing data for analysis? Who will be creating new required data for analysis?	

What do you want to see happen with the results from the new Flood Risk Assessment? Take a look back at the first question you answered in this worksheet about your purpose for going through this process. Has anything changed?

Tip: It is important to take into consideration how much it may cost to pay the team preparing the Flood Risk Assessment, resources you may need to obtain, etc.

If you are unsure how much a Flood Risk Assessment will or should cost, inform yourself through placing a Request for Proposal or Request for Information out to local contractors or consultants prior to proceeding with the Flood Risk Assessment.

Tip: Additional discussions may be needed as a result of the data availability conversation to determine timing and eligibility for data development and funding.

Tip: For additional instruction on how to develop a project and application to the appropriate funding source, please contact your FEMA Regional Planner.

Tip: Take a look back at the first question you answered in this worksheet. Has anything changed having gone through this exercise?