



FEMA



Flood Risk Tools

The Federal Emergency Management Agency (FEMA) provides tools for communities to use to better understand the natural hazard risks their communities face. These tools can assist communities in preparing hazard mitigation plans, communicating about flood risks with residents and business owners and creating a platform to discuss strategies with other community officials to minimize future risks due to natural hazards. These tools – including datasets, a database, narrative report and maps – are commonly referred to as non-regulatory flood assessment and risk datasets and non-regulatory products. These products will be prepared for all communities within a Discovery Watershed and delivered at the conclusion of the Discovery effort.

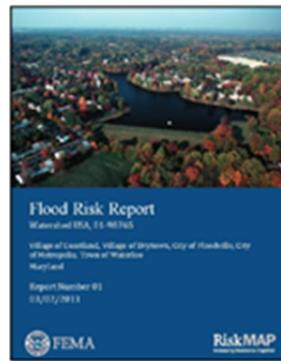
Community floodplain administrators and local governments will be provided these resources to support their typical planning and management activities. FEMA’s goal is to partner with local communities to further reduce exposure to losses and damages from flooding and other natural hazards. Communities will find the datasets and products beneficial for:

- Hazard Mitigation Planning Updates/Preparation
- Floodplain Management and Community Rating System
- Community General, Comprehensive, or Investment Planning
- Public Outreach
- Flood Risk Reduction & Grant Application Prioritization/Support
- Response and Recovery Planning

Flood Risk Report, Flood Risk Map, Flood Risk Database, and Flood Risk Assessment

The **Flood Risk Report** provides stakeholders with an overview to better understand flood hazard and risk exposure within their community, watershed, or other geographic area. The report parallels the Flood Insurance Study (FIS) report by providing a narrative for the flood risk assessment methodology and results. The maps, data and information included in the report can assist local communities in preparing for natural hazards before disaster strikes.

The report provides risk assessment information at both the community and watershed levels, providing a large and small scale look at economic impacts flooding may cause to a community. The report places emphasis on risk reduction activities that may have impacts beyond the specific stream or community. The report will also provide risk assessment information that can be incorporated into mitigation plans.



Planning for Risk

Risk is the possibility of suffering harm or loss; danger; a factor, thing, element, or course involving uncertain danger; a hazard.

Hazard mitigation planning is the process State, Tribal, and local governments use to identify risks and vulnerabilities associated with natural disasters, and to develop long-term strategies for protecting people and property from future hazard events.

What is HAZUS?

HAZUS-MH is a powerful risk assessment methodology for analyzing potential losses from floods, hurricane winds, and earthquakes.

Quantification of Risk Allows Communities to Analyze:

- **Physical damages** to residential/commercial buildings, schools, critical facilities, and infrastructure
- **Economic losses**, including lost jobs, business interruptions, repair and reconstruction costs; and
- **Social impacts**, including estimates of shelter requirements and displaced residents following a disaster event

RiskMAP
Increasing Resilience Together



FEMA



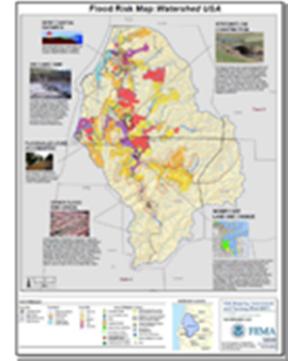
The report will also include a **Flood Risk Map** that depicts select flood risk data for jurisdictions within the project area, emphasizing that risk reduction activities may have an impact beyond the site.

The **Flood Risk Database** will be the primary source to access information collected and developed during the flood risk assessment process. The Flood Risk Database parallels the Flood Insurance Rate Map database. It is a project-level database that includes flood risk assessment data collected, created, and analyzed during the flood risk project. FEMA will publish and maintain the database in a standardized form to support national, state, regional, and local distribution. Viewing tools are currently under development, to provide users without access to Geographic Information System (GIS) software, the ability to visualize and understand the multiple flood risk datasets contained within the database.

Flood Risk Assessments help guide community mitigation efforts by highlighting areas where risk reduction actions may produce the highest return on investment. Building on the foundation of the 2010 nationwide HAZUS Level 1 Average Annualized Flood Loss (AAL) Study, basic refined HAZUS loss estimation analyses will be done for flooding sources with default HAZUS building stock information. Where local building environment data is available, enhanced HAZUS or other risk assessment analyses are possible. Communities are encouraged to pursue enhanced analyses where possible by providing FEMA with additional GIS data such as parcel data, building footprints, or elevation certificates. Communities may also provide additional funding to support analysis enhancement. The results of both the basic refined and enhanced HAZUS analysis can be incorporated into hazard mitigation plans.

Features and Benefits

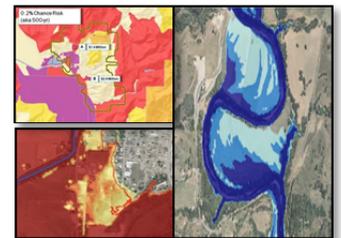
- Identifies areas of higher flood risk by census block
- Quantifies potential future flood losses to existing structures
- Improves ability to identify effective actions to reduce flood risk, or areas requiring higher building code requirements, or use of flood resilient designs and construction materials
- Supports flood risk planning through improved risk quantification
- Supports disaster recovery planning by showing areas of highest expected damages



Flood Risk Map



Flood Risk Database



	Estimated Potential Losses for Flood Event Scenarios											
	Total Inventory		10% (10-yr)		2% (50-yr)		1% (100-yr)		0.2% (500-yr)		Annualized (\$/yr)	
	Estimated Value	% of Total	Dollar Losses	Loss Ratio	Dollar Losses	Loss Ratio						
Residential Building/Contents	\$94,495,000	77%	\$10,439,000	11%	\$13,571,000	14%	\$19,273,000	20%	\$32,925,000	35%	\$176,000	0%
Commercial Building/Contents	\$15,127,000	12%	\$2,112,000	14%	\$3,225,000	21%	\$4,337,000	29%	\$4,925,000	33%	\$109,000	1%
Other Building/Contents	\$13,073,000	11%	\$1,660,000	13%	\$2,195,000	17%	\$3,620,000	28%	\$5,430,000	42%	\$79,000	1%
Total Building/Contents	\$122,695,000	100%	\$14,211,000	12%	\$18,991,000	15%	\$27,230,000	22%	\$43,280,000	35%	\$364,000	0%
Business Disruption	N/A	N/A	\$760,000	N/A	\$1,259,000	N/A	\$2,011,000	N/A	\$4,074,000	N/A	\$18,000	N/A
TOTAL	\$122,695,000	N/A	\$14,971,000	N/A	\$20,250,000	N/A	\$29,241,000	N/A	\$47,354,000	N/A	\$382,000	N/A

Flood Risk Assessment- found in the Report

Additional information on using these resources is available from FEMA:

Use of Flood Risk Database and Products: <http://www.fema.gov/library/viewRecord.do?id=4976>

Risk Communication: <http://www.fema.gov/library/viewRecord.do?id=4786>

RiskMAP
Increasing Resilience Together