




Tt TETRA TECH

Franklin County, Ohio Hazard Mitigation Plan – 2023 Update

**Planning Team Meeting – Risk Assessment and
Mitigation Strategy**
April 27, 2023

If you are joining virtually,
please enter your name and
department/agency in the
chat.

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Today's Agenda

1. Welcome
2. Progress Report
3. Public and Stakeholder Outreach
4. Risk Assessment Overview
5. Schedule
6. Questions/Next Steps/Wrap Up

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In-Kind Tracking





Jurisdiction: _____

Name: _____ Title: _____

Date	Start Time	End Time	# hours	Task Description	Hourly Rate	Total # hours x rate	Comments describe task in more detail
					\$		


Scan the QR code for the online form to enter your time.





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Project Schedule




- **Planning Process**
 - Ongoing
- **Update Risk Assessment**
 - Discuss risk assessment with municipalities – **TODAY!**
- **Public and Stakeholder Outreach**
 - Ongoing
- **Capability Assessment**
 - Ongoing
- **Mitigation Strategy**
 - Continue working with municipalities
 - Mitigation Strategy Workshop – **TODAY!**
 - Mitigation Actions due by **May 10th**
 - Additional support webinar week of May 1st
- **Plan Maintenance**
 - Utilizing the BATool to review/update actions from 2023 HMP
 - Finalize plan maintenance procedures – **April 25th**
- **Develop Plan**
 - Draft Plan to Core Planning Team – **by May 17th**
 - Draft Plan Presentation – **May 22nd**
 - Public Review Period – **May 24th – June 24th**
 - Draft to Ohio EMA – **June/July 2023**
 - Draft to FEMA – **July/August 2023**
 - Adoption – **September/October 2023**


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Participation Status




- Annex updates are in progress
- Next round of worksheets (online forms) will go out after today's meeting
 - Feedback on hazard ranking – **due May 10th**
 - Mitigation actions – **due May 10th**

- Franklin County
- **Mifflin (Twp)**
- **Bexley (C)**
- Minerva Park (V)
- Blendon (Twp)
- New Albany (C)
- **Brice (V)**
- **Norwich (Twp)**
- **Brown (Twp)**
- Obetz (C)
- Canal Winchester (C)
- Perry (Twp)
- Clinton (Twp)
- Plain (Twp)
- Columbus (C)
- Pleasant (Twp)
- Dublin (C)
- Prairie (Twp)
- Franklin (Twp)
- Reynoldsburg (C)
- **Gahanna (C)**
- Sharon (Twp)
- Grandview Heights (C)
- Truro (Twp)
- Grove City (C)
- Upper Arlington (C)
- Groveport (C)
- **Urbancrest (V)**
- Hamilton (Twp)
- **Valleyview (V)**
- **Harrisburg (V)**
- Washington (Twp)
- Hilliard (C)
- Westerville (C)
- **Jackson (Twp)**
- **Whitehall (C)**
- Jefferson (Twp)
- Worthington (C)
- Lockbourne (V)
- The Ohio State University
- Madison (Twp)
- Marble Cliff (V)

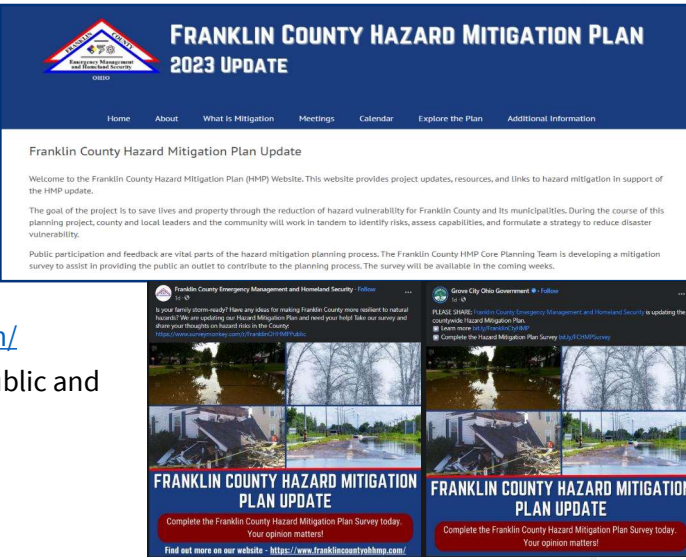

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Public and Stakeholder Outreach



- Public Outreach Toolkit –
 - Social media templates and posts
 - Printable materials
- Surveys
 - Stakeholders
 - Neighboring communities
 - Public
- HMP website – <https://www.franklincountyohhmp.com/>
- Planning Team meetings open to the public and stakeholders
- Thank you for helping with this!

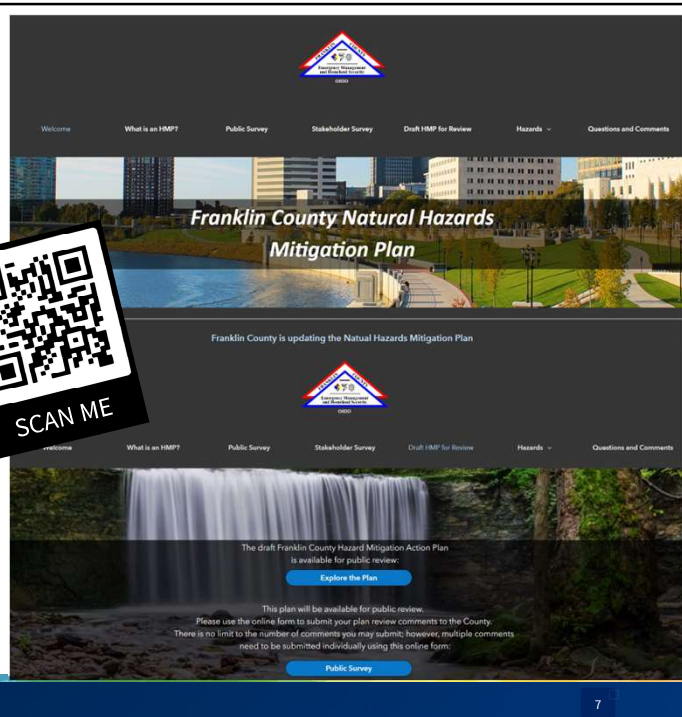



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StoryMap

- StoryMap is LIVE!
- We will send around another batch of social media graphics to promote the StoryMap – stay tuned!



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Risk Assessment

*How are the rankings calculated?
What is the preliminary ranking?*



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Hazards of Concern (2023 HMP)



- Dam/Levee Failure
- Disease Outbreak
- Drought
- Earthquake
- Extreme Temperature (heat/cold)
- Flooding (inland, flash, urban/stormwater, ice jam)
- Geologic Hazards (sinkholes, erosion)
- Invasive Species
- Severe Summer Weather
- Severe Winter Weather
- Tornadoes

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What is Risk?

- ✓ Hazard
 - *Something that has the potential to cause damage, injuries, and losses*
- ✓ Exposure
 - *People, property and infrastructure vulnerable to the hazard*
- ✓ Risk
 - *Probability and severity of damages to people, property, and infrastructure*



HAZARD vs RISK

A HAZARD is something that has the potential to harm you



RISK is the likelihood of a hazard causing harm



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Purpose of the Risk Assessment

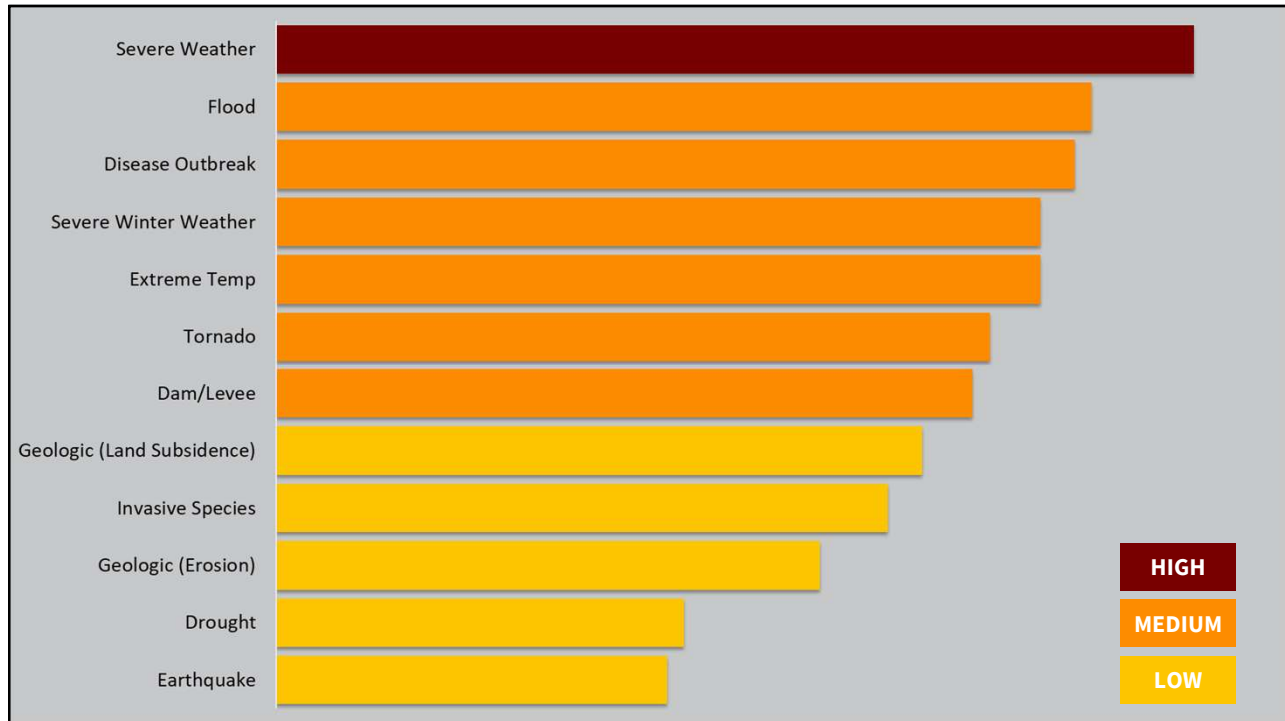
- To get a better understanding of the risks you face
- Initial results based on available data
- Quantitative data (population/structures exposed, structural damages within hazard zones) used when available
- Qualitative community input (such as unmapped flood areas) integrated to adjust results
- Local community input to adjust relative rankings

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What We Looked At

Hazard	Population	Property	Economy
Dam/Levee Failure	Entire Population	Entire Building Stock	Entire Replacement Costs for all Buildings
Disease Outbreak	Vulnerable populations (65+, >5, Disabled, and Poverty)	Entire Building Stock	Entire Replacement Costs for all Buildings
Drought	Vulnerable populations (Poverty)	Entire Building Stock	Entire Replacement Costs for all Buildings
Earthquake	Population exposed to 250- and 1,000-MRP	Buildings exposed to 250- and 1,000-MRP	Damage to buildings exposed to 250- and 1,000-MRP
Extreme Temperature	Vulnerable populations (65+, >5, Disabled, and Poverty)	Entire Building Stock	Entire Replacement Costs for all Buildings
Flood	Population located in 1% SFHA	Buildings located in 1% SFHA	Replacement costs of buildings in 1% SFHA
Geologic (erosion)	Population located in areas of K-factor soils ≥ 0.49	Buildings located in areas of K-factor soils ≥ 0.49	Replacement costs of buildings in areas of K-factor soils ≥ 0.49
Geologic (land subsidence)	Population located in areas of karst rocks	Buildings located in areas of karst rocks	Replacement costs of buildings located in areas of karst rocks
Invasive Species	Entire Population	Entire Building Stock	Entire Replacement Costs for all Buildings
Severe Weather	Entire Population	Entire Building Stock	Entire Replacement Costs for all Buildings
Severe Winter Weather	Vulnerable populations (65+, >5, Disabled, and Poverty)	Entire Building Stock	Entire Replacement Costs for all Buildings
Tornado	Entire Population	Entire Building Stock	Entire Replacement Costs for all Buildings

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Municipal Hazard Rankings (Preliminary)


Jurisdictions	Hazard Ranking											
	Dam/Levee	Disease Outbreak	Drought	Earthquake	Extreme Temp	Flood	Geologic (Erosion)	Geologic (Land Subsidence)	Invasive Species	Severe Weather	Severe Winter Weather	Tornado
Bexley (C)	Low	Medium	Low	Low	Medium	Medium	Low	Low	Low	High	Medium	Medium
Blendon (T)	Low	Medium	Low	Low	Medium	Medium	Low	Low	Low	High	Medium	Medium
Brice (V)	Low	Medium	Low	Low	Medium	Medium	Low	Low	Low	High	Medium	Medium
Brown (T)	Low	Low	Low	Low	Low	Medium	Low	Low	Low	High	Medium	Medium
Canal Winchester (C)	Low	Medium	Low	Low	Medium	Medium	Low	Low	Low	High	Medium	Medium
Clinton (T)	Low	Medium	Low	Low	Medium	Medium	Low	Low	Low	High	Medium	Medium
Columbus (C)	Medium	Medium	Low	Low	Medium	Medium	Low	Low	Low	High	Medium	Medium
Dublin (C)	Medium	Low	Low	Low	Low	Medium	Low	Low	Low	High	Medium	Medium
Franklin (T)	Medium	Medium	Medium	Low	Medium	Medium	Low	Low	Low	High	Medium	Medium
Gahanna (C)	Low	Medium	Low	Low	Medium	Medium	Low	Low	Low	High	Medium	Medium
GrandView Heights (C)	Low	Low	Low	Low	Low	Medium	Low	Low	Low	High	Medium	Medium
Grove City (C)	Low	Medium	Low	Low	Medium	Medium	Low	Low	Low	High	Medium	Medium
Groveport (V)	Low	Medium	Low	Low	Medium	Medium	Low	Low	Low	High	Medium	Medium
Hamilton (T)	Low	Medium	Low	Low	Medium	Medium	Low	Low	Low	High	Medium	Medium
Harrisburg	Low	Medium	Low	Low	Medium	Medium	Low	Low	Low	High	Medium	Medium
Hilliard (C)	Low	Low	Low	Low	Low	Medium	Low	Low	Low	High	Medium	Medium
Jackson (T)	Low	Medium	Low	Low	Medium	Medium	Low	Low	Low	High	Medium	Medium
Jefferson (T)	Low	Medium	Low	Low	Medium	Medium	Low	Low	Low	High	Medium	Medium
Lithopolis (V)	Low	Medium	Low	Low	Medium	Medium	Low	Low	Low	High	Medium	Medium
Lockbourne (V)	Low	Medium	Low	Low	Medium	Medium	Low	Low	Low	High	Medium	Medium
Madison (T)	Low	Medium	Low	Low	Medium	Medium	Low	Low	Low	High	Medium	Medium
Marble Cliff (V)	Low	Medium	Low	Low	Medium	Medium	Low	Low	Low	High	Medium	Medium
Mifflin (T)	Low	Medium	Low	Low	Medium	Medium	Low	Low	Low	High	Medium	Medium

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Municipal Hazard Rankings (Preliminary)




Jurisdictions	Hazard Ranking											
	Dam/Levee	Disease Outbreak	Drought	Earthquake	Extreme Temp	Flood	Geologic (Erosion)	Geologic (Land Subsidence)	Invasive Species	Severe Weather	Severe Winter Weather	Tornado
Mnerva Park (V)	Medium	Medium	Low	Low	Medium	Medium	Low	Low	Low	High	Medium	Medium
New Albany (C)	Low	Low	Low	Low	Low	Medium	Low	Low	Low	High	Medium	Medium
Norwich (T)	Low	Low	Low	Low	Low	Medium	Low	Low	Low	High	Low	Medium
Obetz (C)	Low	Medium	Low	Low	Medium	Medium	Low	Low	Low	High	Medium	Medium
Perry (T)	Low	Low	Low	Low	Low	Medium	Low	Low	Low	High	Medium	Medium
Pickerington (C)	Low	Low	Low	Low	Low	Medium	Low	Low	Low	High	Medium	Medium
Plain (T)	Low	Low	Low	Low	Low	Medium	Low	Low	Low	High	Medium	Medium
Pleasant (T)	Medium	Medium	Low	Low	Medium	Medium	Low	Low	Low	High	Medium	Medium
Prairie (T)	Low	Medium	Low	Low	Medium	Medium	Low	Low	Low	High	Medium	Medium
Reynoldsburg (C)	Low	Medium	Low	Low	Medium	Medium	Low	Low	Low	High	Medium	Medium
Riverlea (V)	Low	Low	Low	Low	Low	Medium	Low	Low	Low	High	Low	Medium
Sharon (T)	Low	Medium	Low	Low	Medium	Medium	Low	Low	Low	High	Medium	Medium
Truro (T)	Low	Medium	Low	Low	Medium	Medium	Low	Low	Low	High	Medium	Medium
Upper Arlington (C)	Medium	Medium	Low	Low	Medium	Medium	Low	Low	Low	High	Medium	Medium
Urbancrest (V)	Low	Medium	Medium	Low	Medium	Medium	Low	Low	Low	High	Medium	Medium
Valleyview (V)	Low	Medium	Low	Low	Medium	Medium	Low	Low	Low	High	Medium	Medium
Washington (T)	Low	Low	Low	Low	Low	Medium	Low	Low	Low	High	Medium	Medium
Westerville (C)	Medium	Medium	Low	Low	Medium	Medium	Low	Low	Low	High	Medium	Medium
Whitehall (C)	Low	Medium	Low	Low	Medium	Medium	Low	Low	Low	High	Medium	Medium
Worthington (C)	Low	Medium	Low	Low	Medium	Medium	Low	Low	Low	High	Medium	Medium


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Review Preliminary Rankings



Hazard Mitigation Plan 2023 Update | Franklin County
Hazard Ranking Review

Please send all electronic Word versions of this worksheet to Emily Vassallo (Tetra Tech) by May 10th
Email: Emily.vassallo@tetratech.com

Jurisdiction: City of Bevely

Name/Title of Individual Completing Worksheet: _____

What is a Hazard Ranking?
Hazard Ranking is used to understand your community's vulnerabilities to hazards and to prioritize projects and activities for mitigation.

Hazard Ranking is determined by quantitative and qualitative factors including:

- The calculated probability of a hazard occurring based on historical data.
- Impacts to people, property, and the economy based on GIS data and analysis of exposure.
- The degree to which climate change will affect future occurrences based on best available data.
- Adaptive Capacity, which is the ability your community has to respond to the hazard based on ordinances, mitigation strategies and procedures, and readiness.

What is my Hazard Ranking?
The following table represent the calculated rankings for the hazards of concern for your community. Please review the calculated rankings and indicate whether or not you want to adjust the ranking. If you are changing the ranking, please provide detail as to why you are changing the ranking. **REMEMBER, for every hazard of concern, you need at least one mitigation action.**

Table 1. 2023 HMP Municipal Hazard Rankings

Hazard	Agree with draft Hazard Ranking (Y/N) If No, indicate preferred ranking.		What changes in mitigation or other conditions have resulted in the change in hazard ranking since 2017?
	Draft 2023 Ranking Based on RA Results	2017 Ranking	
Dam/Levee	Low	Low	
Disease Outbreak	Medium	Medium	
Drought	Low	Low	
Earthquake	Low	Low	
Extreme Temp	Medium	Medium	
Flood	Medium	Medium	
Geologic (Erosion)	Low	Low	
Geologic (Land Subsidence)	Low	Low	
Invasive Species	Low	Low	

Hazard Mitigation Plan 2023 Update | Franklin County
Hazard Ranking Review

Please send all electronic Word versions of this worksheet to Emily Vassallo (Tetra Tech) by May 10th
Email: Emily.vassallo@tetratech.com

Jurisdiction: City of Bevely




Name/Title of Individual Completing Worksheet: _____

What is Adaptive Capacity?
Adaptive capacity describes a jurisdiction's current ability to protect from or withstand a hazard event.

- Weak** adaptive capacity means the jurisdiction does not have the capability to effectively respond, which leads to an increase in vulnerability. Examples include weak/outdated/inconsistent plans, policies, codes/ordinances in place, no redundancies, limited to no deployable resources, limited capabilities to respond, long recovery.
- Moderate** adaptive capacity means minimum requirements are in place, moderate capabilities; mitigation measures are identified but not implemented widespread; jurisdiction can recover but needs outside resources.
- Strong** adaptive capacity means the jurisdiction does have the capability to effectively respond, plans/policies exceed minimum requirements; deployable resources all of which decreases vulnerability.


Table 2. 2023 HMP Municipal Adaptive Capacity

Hazard	Preliminary Ranking	What should we indicate for your community's adaptive capacity for each hazard?
Dam/Levee	Moderate	
Disease Outbreak	Moderate	
Drought	Moderate	
Earthquake	Moderate	
Extreme Temp	Moderate	
Flood	Moderate	
Geologic (Erosion)	Moderate	
Geologic (Land Subsidence)	Moderate	
Invasive Species	Moderate	
Severe Weather	Strong	
Severe Winter Weather	Moderate	
Tornado	Moderate	



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Review Preliminary Rankings




Hazard	Draft 2023 Ranking Based on RA Results	Agree with draft hazard ranking (Y/N)? If No, indicate preferred ranking.	What changes in mitigation or other conditions have resulted in the change in hazard ranking since 2018?
Dam/Levee	Low	Yes	
Disease Outbreak	Medium	Yes	
Drought	Low	Yes	
Earthquake	Low	Yes	
Extreme Temp	Medium	Yes	
Flood	Medium	No - High	Stormwater flooding causes significant damage; flood should be ranked as high
Geologic (Erosion)	Low	Yes	
Geologic (Land Subsidence)	Low	Yes	
Invasive Species	Low	Yes	
Severe Weather	High	Yes	
Severe Winter Weather	Medium	Yes	
Tornado	Medium	No - Low	The City has never experienced a tornado; tornado should be ranked as low



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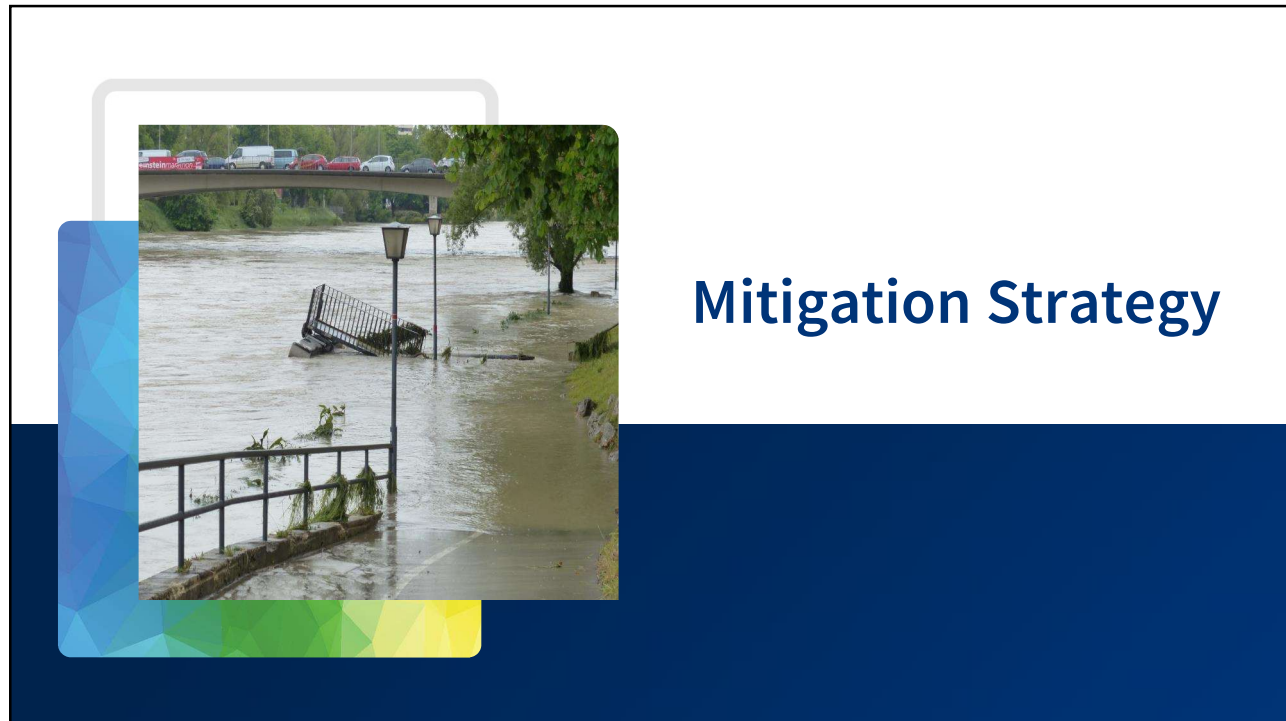
Review Preliminary Adaptive Capacity



Hazard	Preliminary Ranking	What should we indicate for your community's adaptive capacity for each hazard?
Dam/Levee	Moderate	
Disease Outbreak	Moderate	
Drought	Moderate	Weak – many residents rely on surface water and we do not have backup water sources in the event of a severe drought
Earthquake	Moderate	
Extreme Temp	Moderate	
Flood	Moderate	
Geologic (Erosion)	Moderate	
Geologic (Land Subsidence)	Moderate	
Invasive Species	Moderate	
Severe Weather	Strong	
Severe Winter Weather	Moderate	Strong – the City experiences winter weather every year and we have programs and resources to decrease our vulnerability
Tornado	Moderate	


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Mitigation Strategy

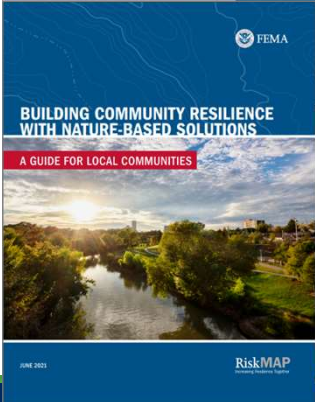
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How do you reduce risk?

- How do you reduce risk for a hazard?
 - **Manipulate the Hazard**
 - Structural flood control (e.g., flood walls, levees)
 - **Reduce/Eliminate Exposure**
 - Acquire floodprone properties
 - **Reduce Vulnerability**
 - Retrofit (e.g., floodproofing structures)
 - **Increase Capability**
 - \$, preparation, technical assistance, planning enforcement



Mitigation Ideas
A Resource for Reducing Risk to Natural Hazards



BUILDING COMMUNITY RESILIENCE WITH NATURE-BASED SOLUTIONS
A GUIDE FOR LOCAL COMMUNITIES

FEDERAL EMERGENCY MANAGEMENT AGENCY
RISKMAP

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Using Your Mitigation Strategy to Reduce Risk



- What is a **Mitigation Strategy**?
 - A group of projects or actions to reduce the impacts of the hazards of concern on your community
 - Plans and Regulations
 - Structure and Infrastructure Studies and Projects
 - Natural Systems Protection Studies and Projects
 - Education and Awareness Programs
- Terms to describe the Mitigation Strategy include:
 - **Mitigation Action Plan** or **Action Plan**
 - **Mitigation Projects** or **Initiatives** or **Actions**

Your Mitigation Strategy table is included in your annex. We will use online forms to collect details on the actions you will include in the 2023 Update.



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Where do you need to focus?



- **Stronger connection** between the risk assessment and mitigation strategy
- **More specific, achievable actions**
 - Specific projects, in specific locations, in a specific timeframe
 - Focus on socially vulnerable populations and underserved communities
- **Diverse actions**
 - You need at least **one action per hazard of concern**. Think about actions that can cover multiple hazards.
 - Include a variety of action types (e.g., plans, floodproof critical facilities, outreach programs, etc.)



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Other Mitigation Actions to Consider



- Local Disaster Debris Management Plans
- Substantial Damage Management Plan
- Actions to address high-hazard or significant-hazard dams
- Public education and outreach programs
- Generators at critical facilities and community lifelines
- Floodproofing critical facilities and community lifelines
- Addressing repetitive and severe repetitive loss properties

Mitigation Ideas

A Resource for Reducing Risk to Natural Hazards

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Mitigation Strategy Online Form



- We will be collecting input on mitigation actions through an online form
- Complete one form per action (<https://forms.office.com/r/CJJLQXEvUY>)
- We will be providing additional information to help with the actions
- Any questions, reach out!
- All forms are **due May 10th**

Franklin County HMP - Mitigation Strategies

Please use this form to develop your mitigation strategy. One form is needed for each strategy/action and FEMA requires one action per hazard of concern. However, one action can address multiple hazards. If you need assistance, please reach out to Heather Appar (heather.appar@tetratech.com).

...

* Required

Contact Information

Complete this section with your contact information.

1. Name *

Enter your answer

2. Title *

Enter your answer

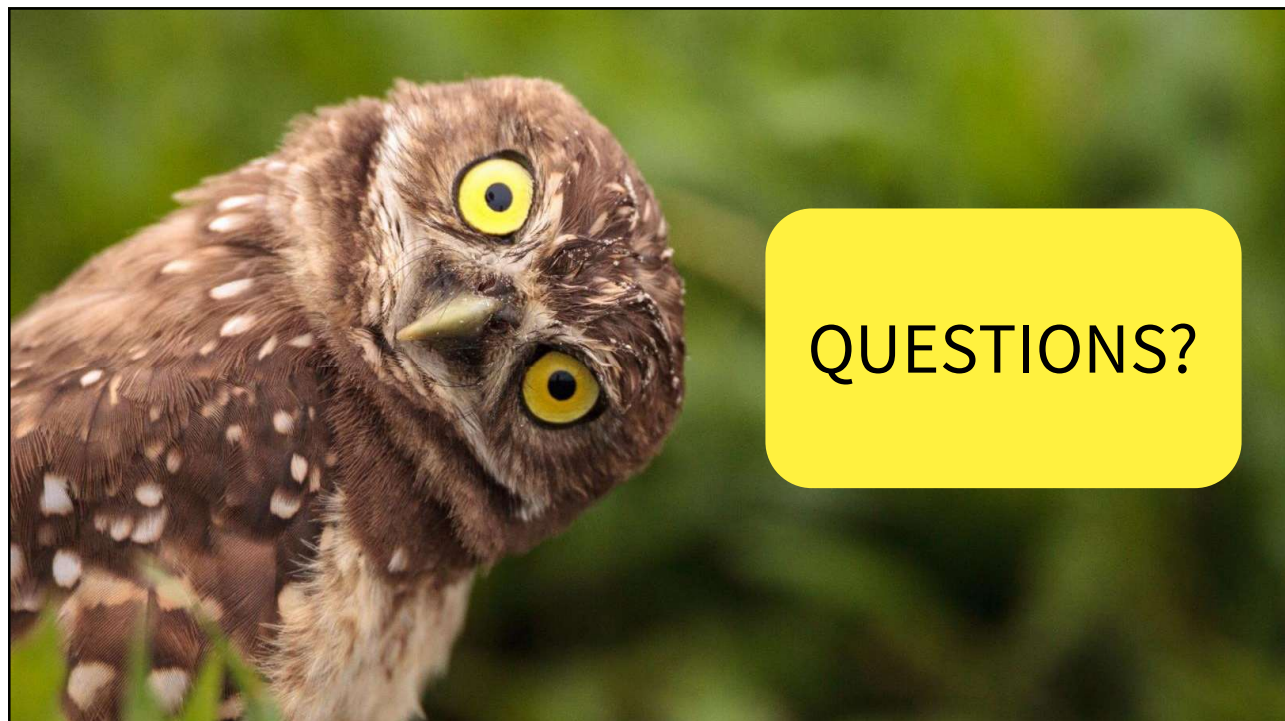
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Example



Problem Type	Location	Problem	Solution
Lack of Backup Power at a Critical Facility	Obetz Police Department	The police department does not have backup generator.	Determine the proper size generator and fuel source; purchase and install generator at the Obetz Police Department . This will provide continuity of operations during power outages.
Flooding Heavy Rain Floods Basement/First Floor	Gahanna – west side of Big Walnut Creek	In periods of heavy rain sewer systems on the West Side of Gahanna have the potential to cause sewer backups in residential basements.	Complete a feasibility study of the sewer system in Gahanna to understand causes of flooding and identify ways to address flood risk. Once the study is completed, the City will determine which projects to complete first to reduce or eliminate flooding.

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**Thank
You!**

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