

Northern Kentucky University 2018 Hazard Mitigation Plan

**Stakeholder Kick-Off Meeting
March 20, 2018**

Agenda

Welcome

Jeff Baker, NKU

Hazard Mitigation Planning 101

Josh Human, Stantec

**Hazard Ranking &
Identification Exercises**

John Bucher, Stantec

Data Needs & Next Steps

Josh Human, Stantec

Introductions

1. What is your name?
2. What agency or organization do you represent?
3. What is your role and how does it relate to hazard mitigation?

Why are you Here?

You are our Key Stakeholders:

- Awareness and **Champions** of the process
- Information gathering
- Utilize your expertise
- Local representation

Planning Team Objectives:

- Provide documents and data (information)
- Contribute to mitigation goals and actions
- Understand plan process and maintenance
- Offer feedback & reviews
- Obtain official adoption
- Update plan every 5-years
- This is YOUR PLAN

Hazard Mitigation 101

Risk

The potential that your community could be affected by a hazard event.

Mitigation

What your community can do to reduce losses resulting from hazard events.

**COMMUNITY
RESILIENCE**



A measure of your community's ability to utilize resources to prepare for, respond to, and recover/bounce forward from disasters.

Aligning our preparedness, response, and recovery activities...



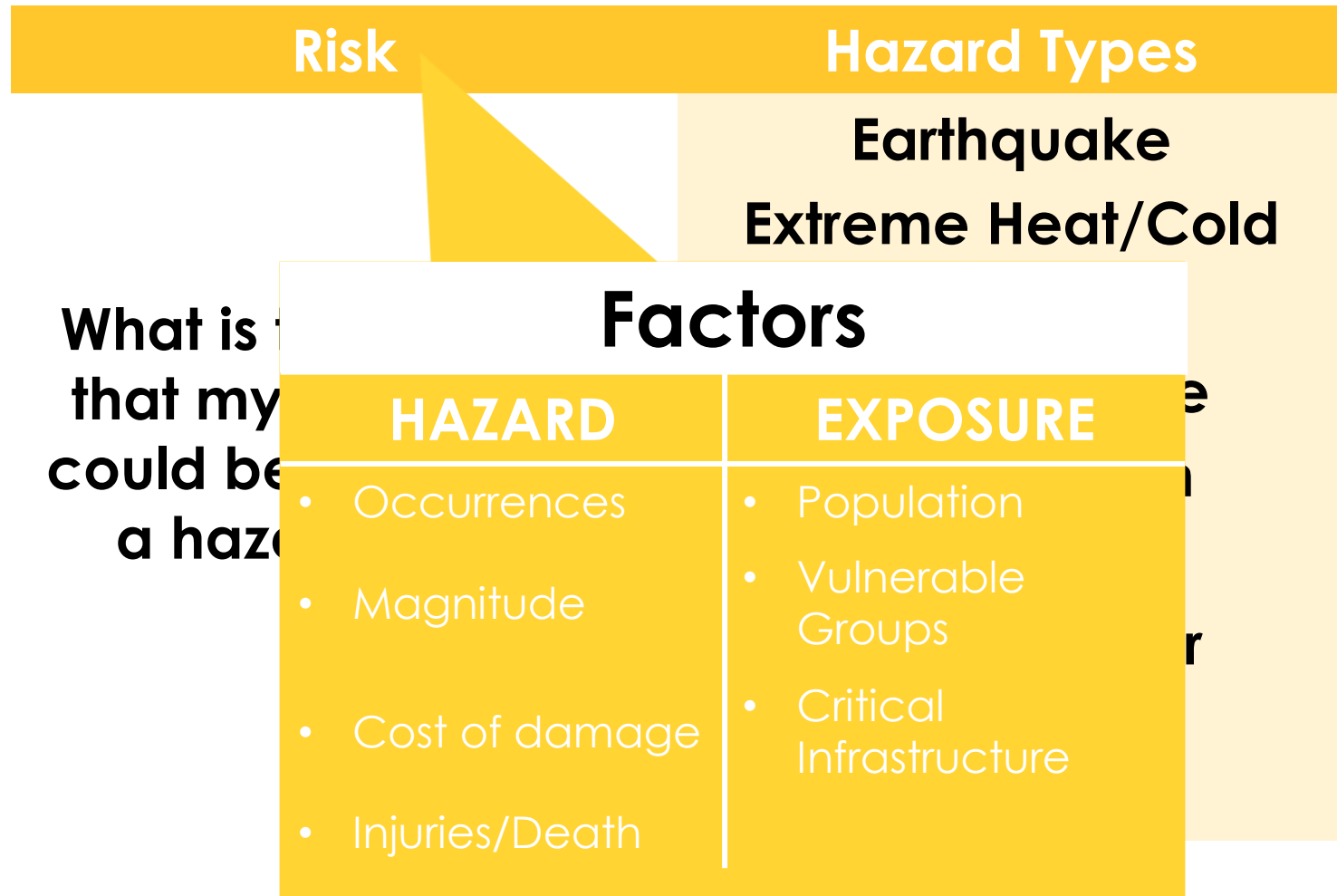
Emergency Support Function Plans

to effectively & collectively
respond to events
to reduce loss
of life and property

Hazard Mitigation Plan

to effectively & collectively
develop a strategy & methods
to reduce *the risk* of loss
of life and property

The lingo of the mitigation plan...



The lingo of the mitigation plan...

Mitigation	Strategy Types
<p>What can my community do to reduce death and damages resulting from hazard events?</p>	<ul style="list-style-type: none">• Prevention• Property Protection• Structural Projects• Natural Resource Protection• Emergency Services• Public Information and Awareness

Disaster Mitigation Act of 2000



FEMA

Mandates a Plan

Communities must have an approved plan in order to be eligible for Post-Disaster HMGP funding (projects and planning).

Establishes a process

What hazards affect our community?
What can we do to reduce losses from events?

Enables multi-sector participation

Encourages stakeholder involvement at all levels from initial planning to implementation of hazard mitigation activities

Enables community representation

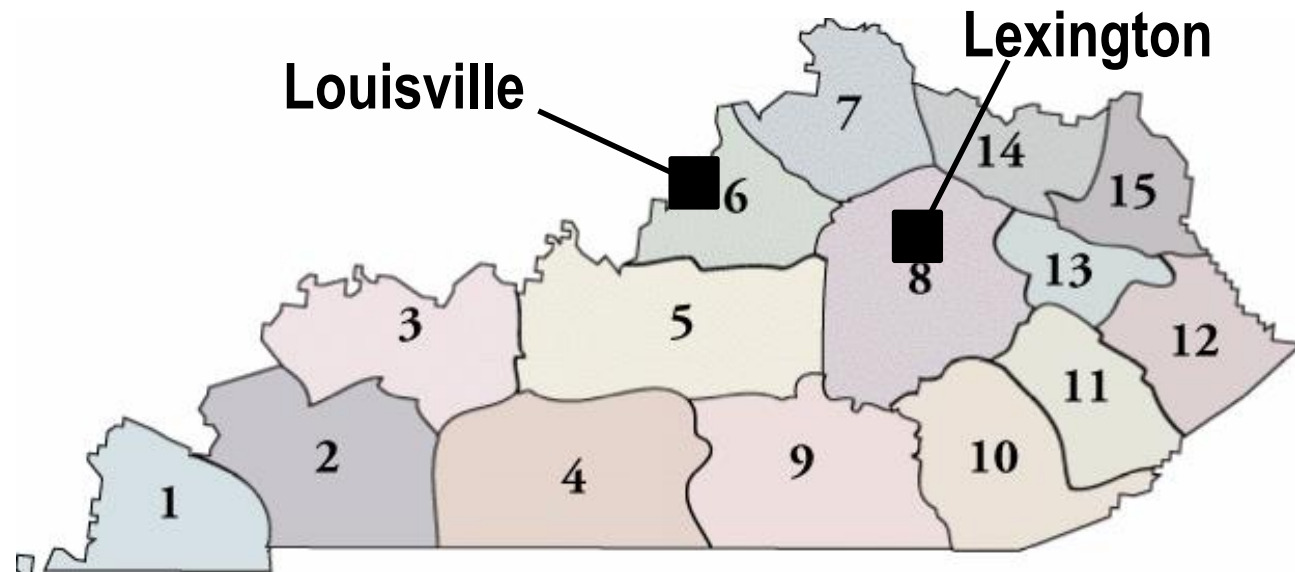
Encourages equitable planning processes by including stakeholder involvement of vulnerable populations.

Hazard Mitigation in Kentucky

STATE

REGIONAL
*multiple
jurisdictions*

LOCAL
*single
jurisdiction*



Regional Plans

Area Development Districts

Local Plans:

Louisville Metro

Lexington-Fayette Urban County Government

University of Louisville

University of Kentucky

Kentucky Community & Technical College System

Kentucky State University

Northern Kentucky University

Sections of The Plan

Element A. Planning Process

Element B. Hazard Identification & Risk Assessment

Element C. Mitigation Strategy

Element D. Plan Maintenance

Element F: Plan Adoption



Local Mitigation Planning Handbook

March 2013



FEMA

Planning Process

Guiding Principle:

Process is as important as the plan itself



Planning Process

Involve stakeholders and the public

To ensure stakeholders and citizens understand risks & vulnerability, and can work to support mitigation policies, actions, & tools.

Document the process

The plan will document the planning process, how it was prepared, who was involved, and how the public was involved.

Other elements of the Planning Process

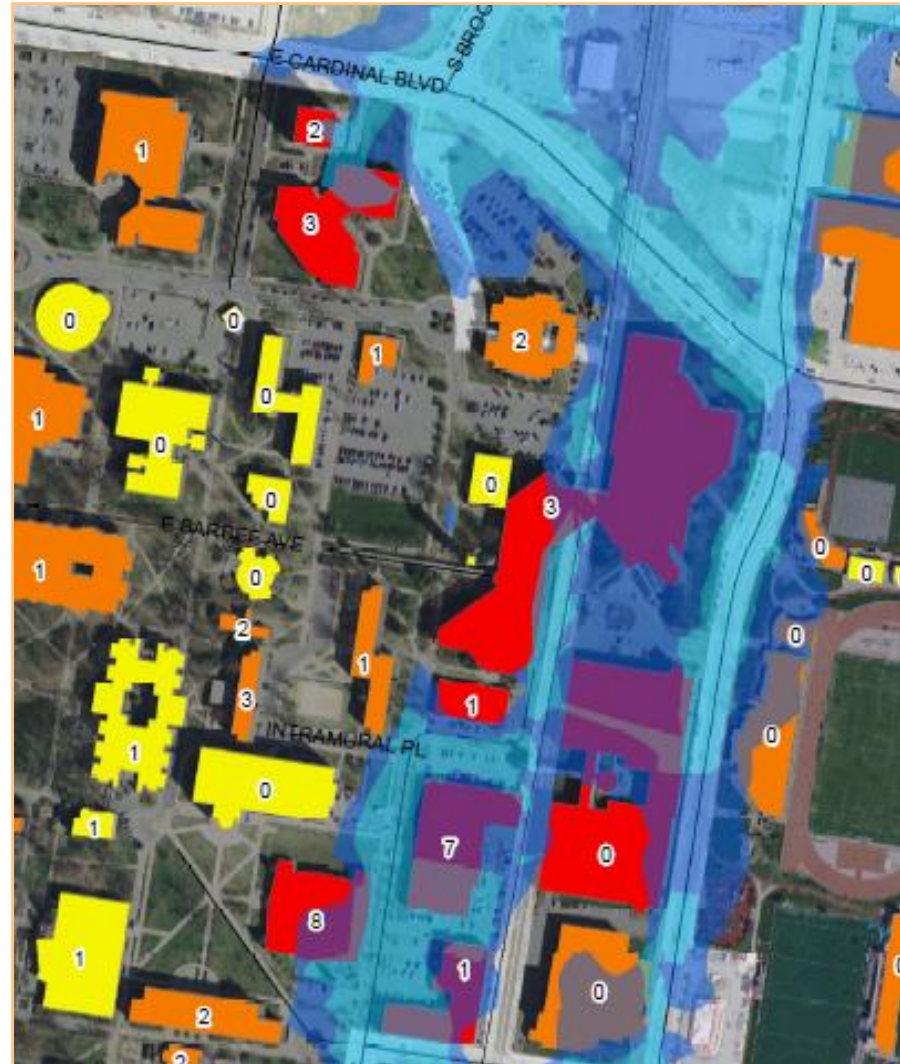
What plans or studies were incorporated?
How will the plan be implemented?

Risk Assessment

Includes a description of the type, location, and extent of all hazards that can affect the jurisdiction.

Includes previous hazard events and probability of future events.

Looking forward and backward
What could occur? Has occurred?
Where are our assets?
Where are our vulnerabilities?



Hazard Identification

- ☐ Identify Hazards
- ☐ Profile Hazards
- ☐ Assess Vulnerability

Dam/Levee Failure

Drought

Earthquake

Extreme Heat

Extreme Cold

Flood

Hail

Haz/Mat

Karst/Sinkhole

Landslide

Mine Subsidence

Severe Storm

Severe Winter Storm

Tornado

Forest fire

Risk Assessment

$$\text{Vulnerability Score} = \text{Exposure Score} \times \text{Hazard Score}$$

Vulnerability methodology was designed to be flexible and rely on GIS production.

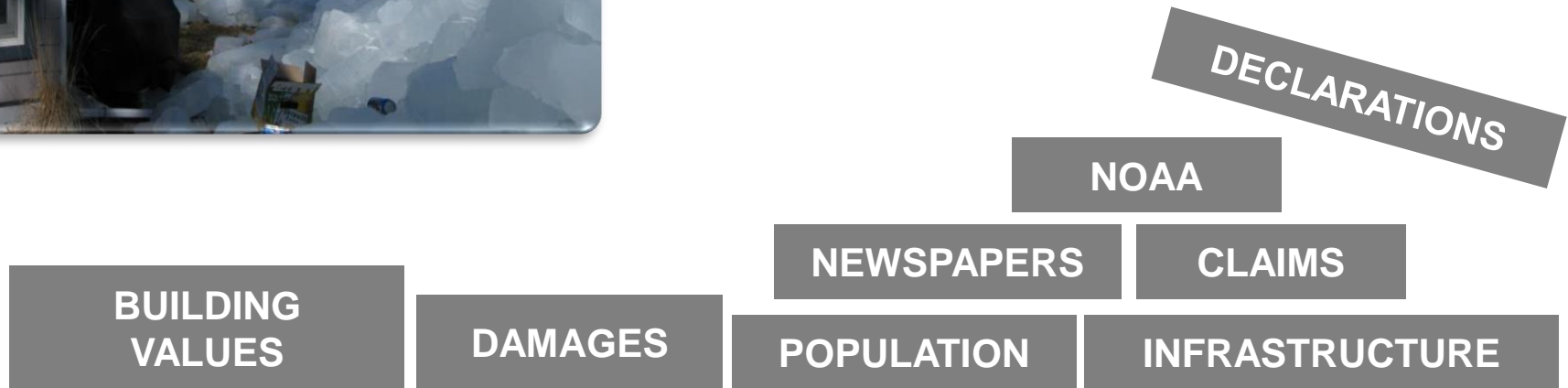
Methodology to achieve a “Vulnerability Score” is the foundation in our vulnerability/risk assessment. This Vulnerability Score is built on multiple layers of data and provides the foundation for the Plan.

Risk Assessment



What hazards have occurred?

Where is our potential exposure?

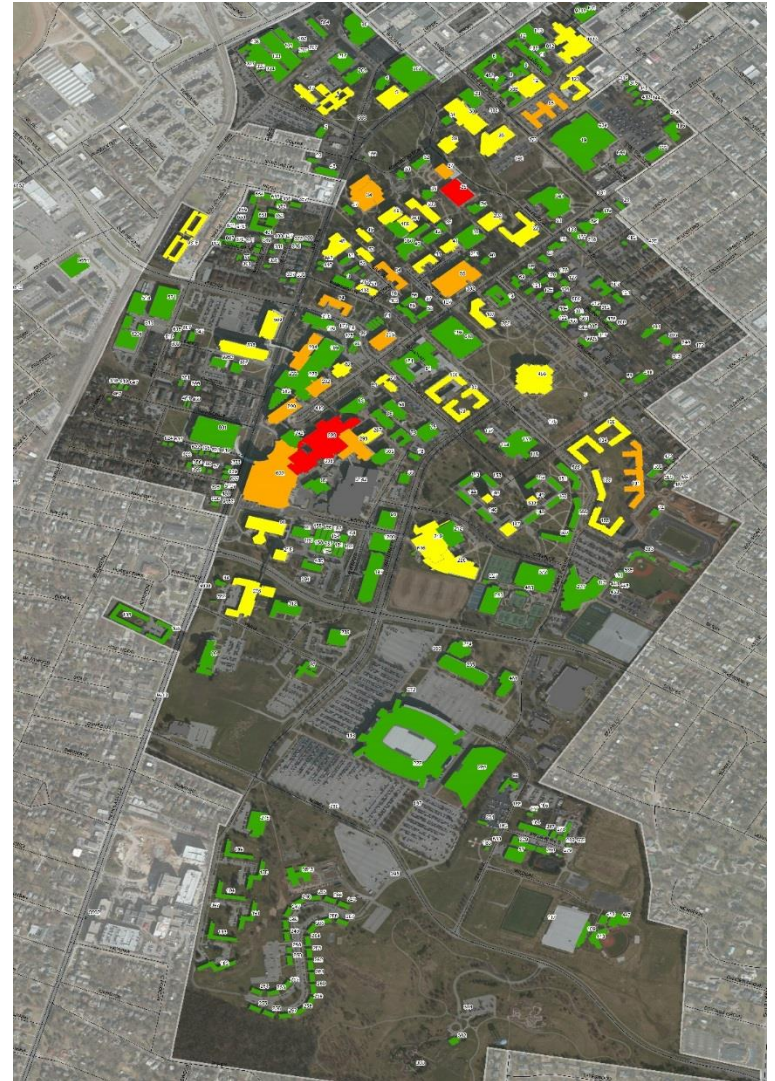


**Building Blocks to
Assessing Vulnerability**

Risk Assessment

Mapping Your Campus's Vulnerability

- Identifying vulnerable properties
- Target project areas
- Use assessment results to drive other planning initiatives



Mitigation Strategy

Guides the selection of activities to mitigate and reduce potential losses based on the risk assessment

Goals What long-term outcomes do you want to achieve?

Action Items What specific actions will the community take to reduce risk to hazards?

Action Plan How will the actions be prioritized and implemented?

Mitigation Goals

1. Protect lives
2. Protect Property
3. Policies and Practices
4. External Partnerships
5. Education and Outreach

Developing Mitigation Actions

UK Mitigation Action Plan

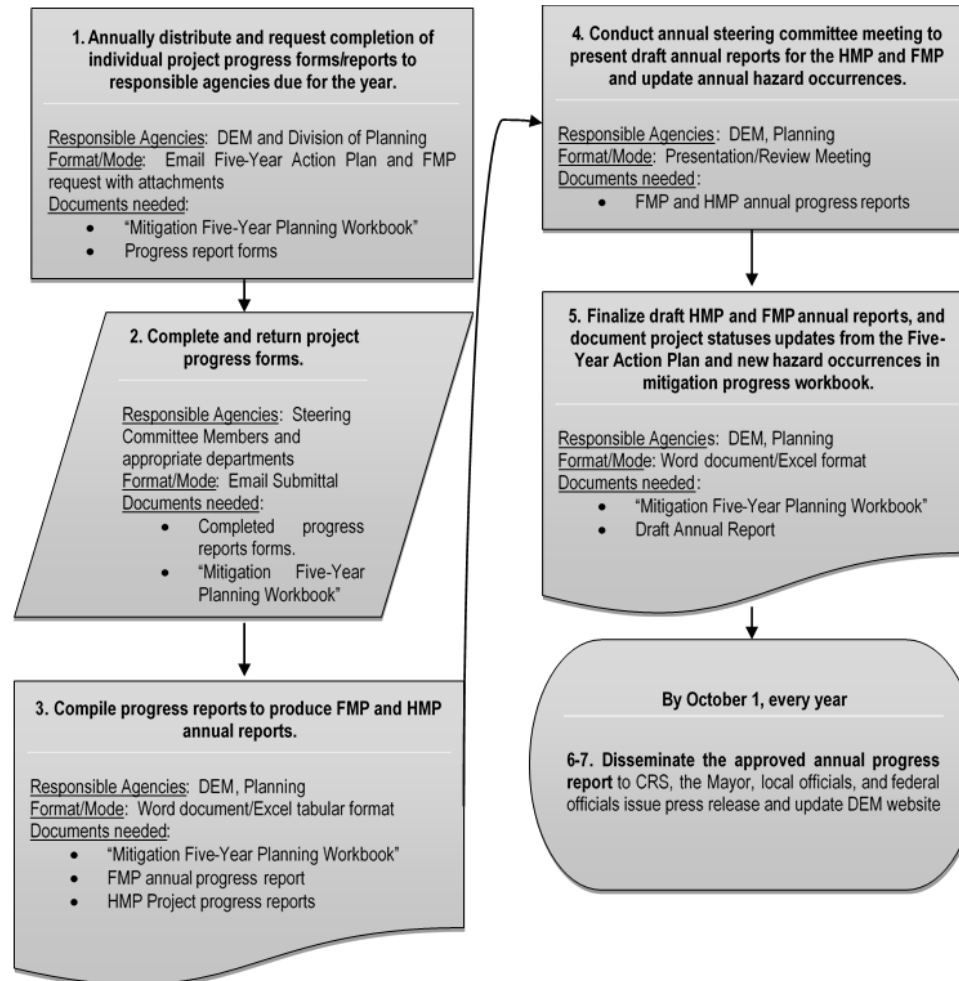
In accordance to FEMA regulations, the Mitigation Action Plan must be updated every five years. We need your help providing updates and feedback on the below action items so we can demonstrate progress to FEMA and maintain our eligibility for future mitigation funding and guide our Emergency Planning Workgroup efforts (see proposed action item #37). In addition, this is an opportunity to identify new action items to add to the plan.

If you have updates, additions, or corrections that you would like to submit, please contact
Andrea Pompei Lacy at andrea.pompei@louisville.edu or Laurel Wood at laurel.wood@uky.edu

Action	Description	Offices Responsible	2015
1	Conduct fuel break restoration (4-H camps).	Agriculture	
2	Work to connect 4-H camps to city sewer (London and Dawson Springs).	Agriculture	Complete
3	Construct retention and channel modification projects (Alumni Drive).	Facilities Management	In progress
4	Construct underground retention for Press Avenue watershed.	Facilities Management	Future
5	Create a bypass for main campus near Newtown Pike.	Facilities Management	
6	Identify NWS approved shelters in new and existing buildings.	EHS CMP	Ongoing
7	Educate on personal preparedness and usage of disaster supply kits.	CMP Housing Div. of Student Affairs	Ongoing
8	Complete Stormwater credit project.	Facilities Management EHS	Complete
9	Install Lightning Protection for campus buildings.	Facilities Management Parking & Transportation	Ongoing
10	Build storm shelters for extension facilities (4-H camps).	Agriculture	
11	Establish procedures and guidance for Student Affairs to manage hazardous events that might affect students and campus community.	CMP Div. of Student Affairs	Complete
12	Re-do utility lines at all 4-H camps throughout the state so that they are underground.	Agriculture	
13	Install Generators at all 4-H Camps and other Agriculture research facilities across the state.	Agriculture	
14	Schedule yearly visit by trained arborist to all 4-H Camps and other Agriculture facilities in order to assess trees and provide suggestions for regular branch trimming and tree removal.	Agriculture	
15	Develop and distribute baseline informational materials (print, video, etc.) on shelter recommendations.	Institution-wide	Ongoing

Plan Maintenance

Monitoring, Evaluating, and Updating the Plan

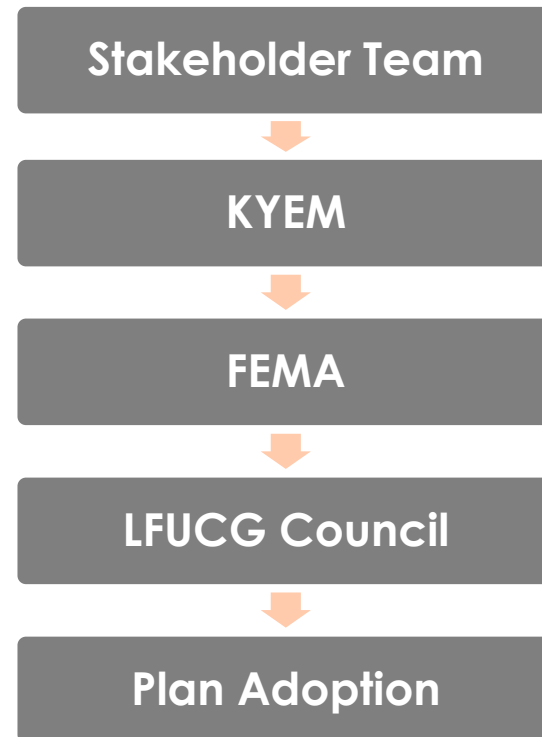


Plan Adoption

- The initial review will be by local Stakeholders (You)
- The plan will be sent to KYEM for initial review
 - Necessary fixes will be completed
- Off to FEMA for review
 - Necessary fixes will be completed
- NKU will adopt the plan and the plan will be valid for 5 years

**Target
Completion**

Early Fall



Recap: Mitigation Plan Elements

Element A. Planning Process

Element B. Hazard Identification & Risk Assessment

Element C. Mitigation Strategy

Element D. Plan Maintenance

Element F: Plan Adoption



Plan Workflow



Individual Stakeholder Meetings

- Data collection
- Mitigation Strategy Development
- Plan Maintenance
- Adoption Requirements

Hazard Ranking Exercise

Opinion Survey

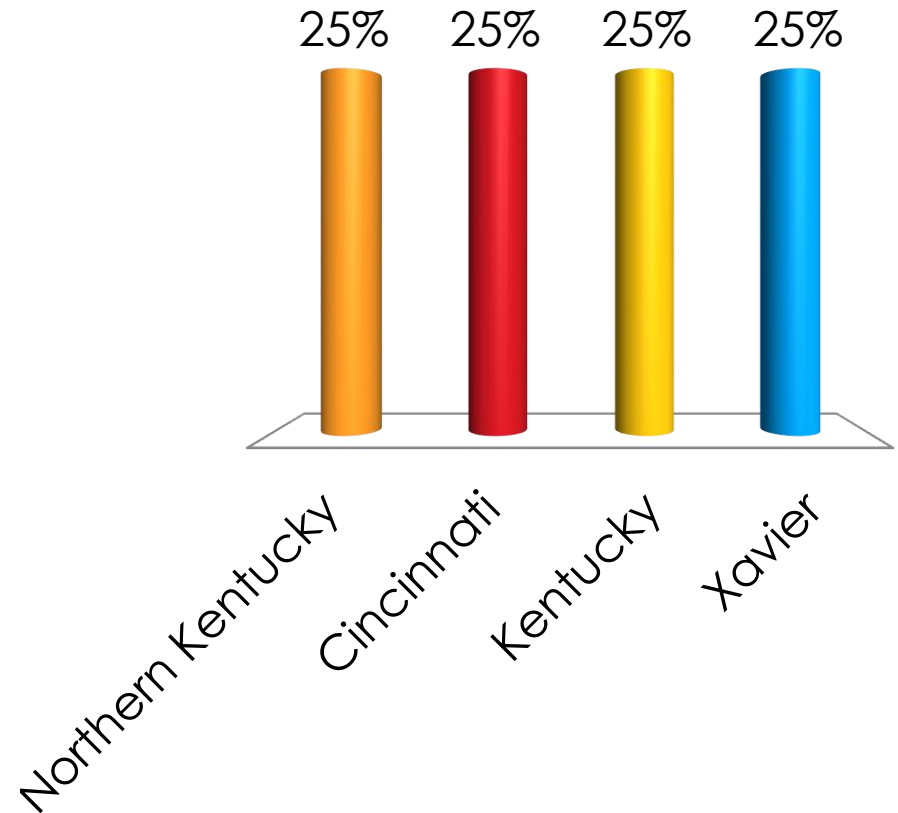
Not A Test



Hazard Ranking Exercise

What is your favorite college basketball team?

- A. Northern Kentucky
- B. Cincinnati
- C. Kentucky
- D. Xavier



Hazard Ranking Exercise

How concerned are you about the following hazards?

Dam/Levee Failure

Drought

Earthquake

Extreme Heat

Extreme Cold

Flood

Hail

Haz/Mat

Karst/Sinkhole

Landslide

Mine Subsidence

Severe Storm

Severe Winter Storm

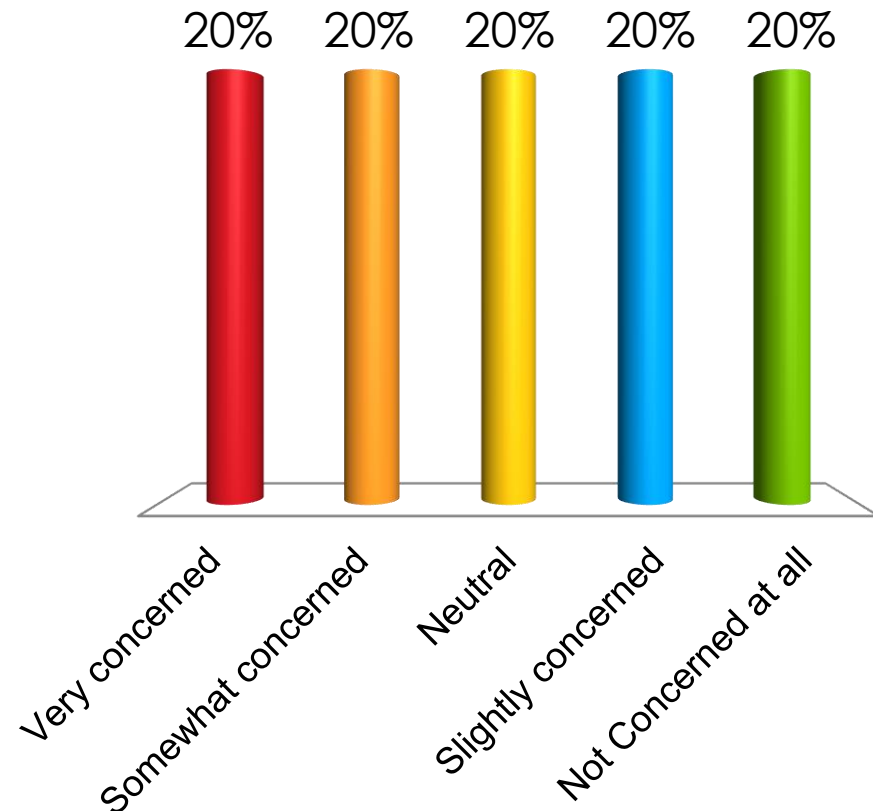
Tornado

Forest fire

Hazard Ranking Exercise

How concerned are you about hailstorms?

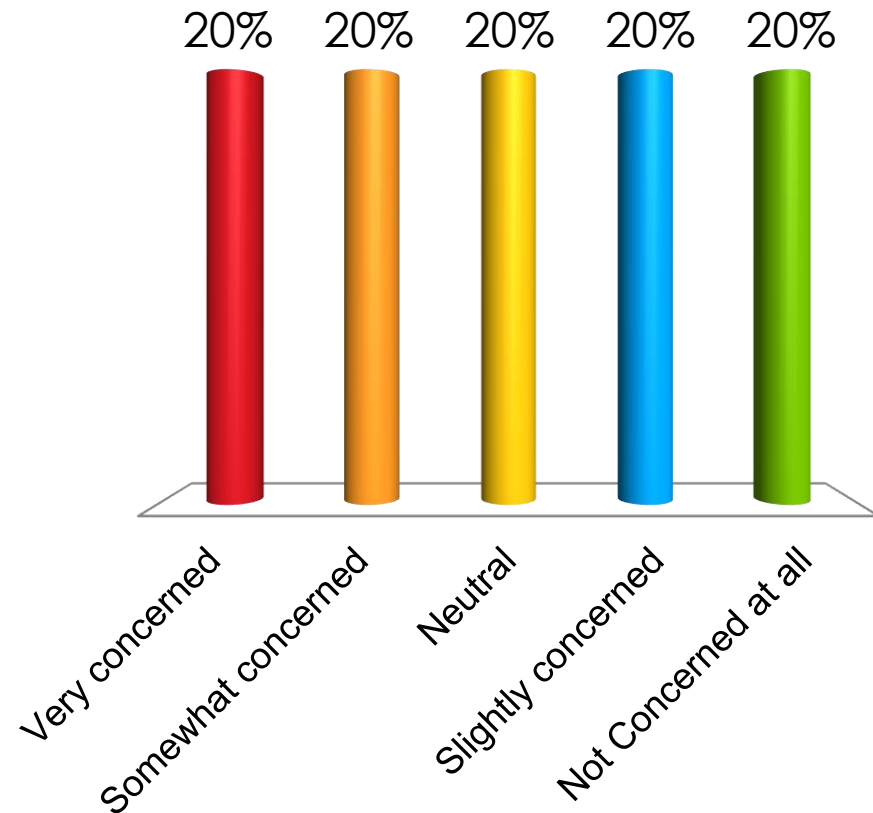
- A. Very concerned
- B. Somewhat concerned
- C. Neutral
- D. Slightly concerned
- E. Not Concerned at all



Hazard Ranking Exercise

How concerned are you about earthquakes?

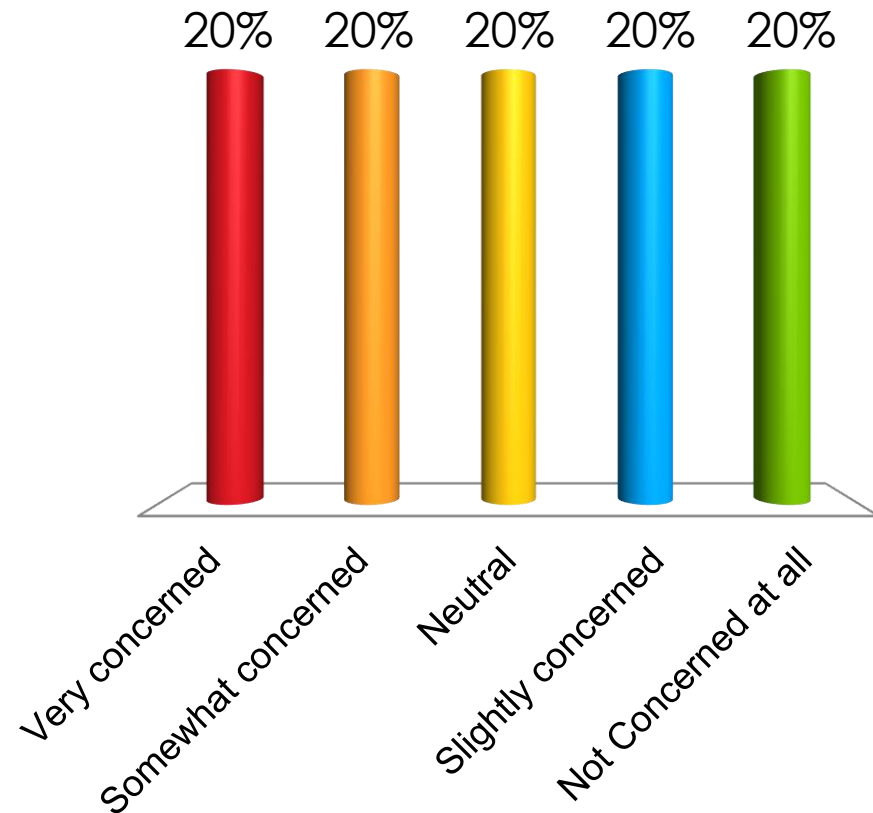
- A. Very concerned
- B. Somewhat concerned
- C. Neutral
- D. Slightly concerned
- E. Not Concerned at all



Hazard Ranking Exercise

How concerned are you about severe storms?

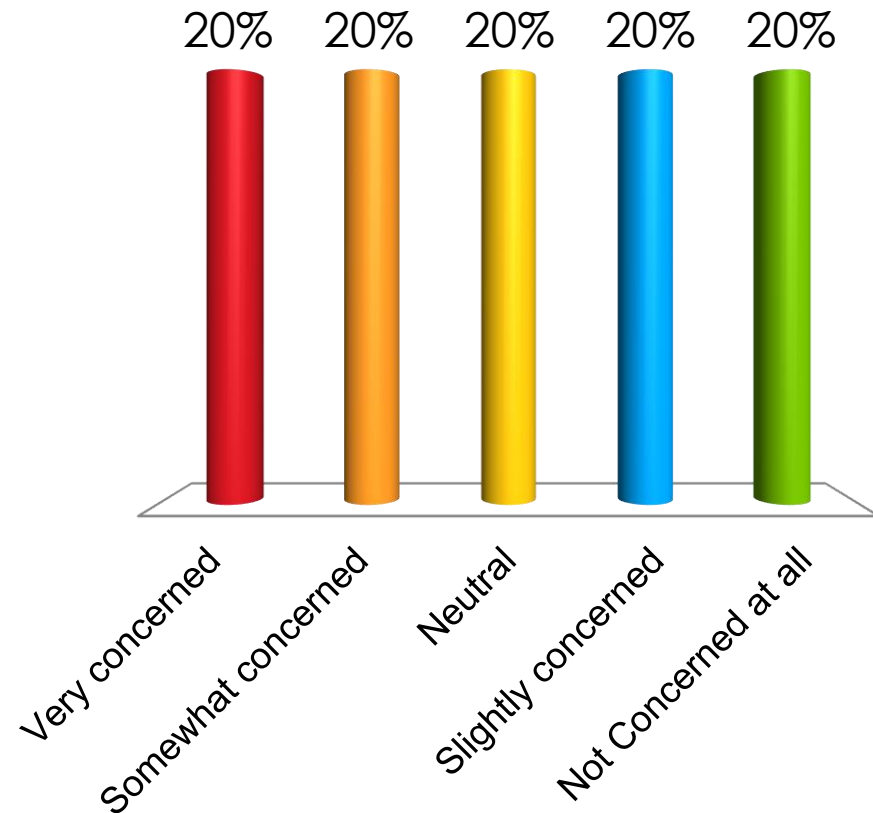
- A. Very concerned
- B. Somewhat concerned
- C. Neutral
- D. Slightly concerned
- E. Not Concerned at all



Hazard Ranking Exercise

How concerned are you about extreme cold?

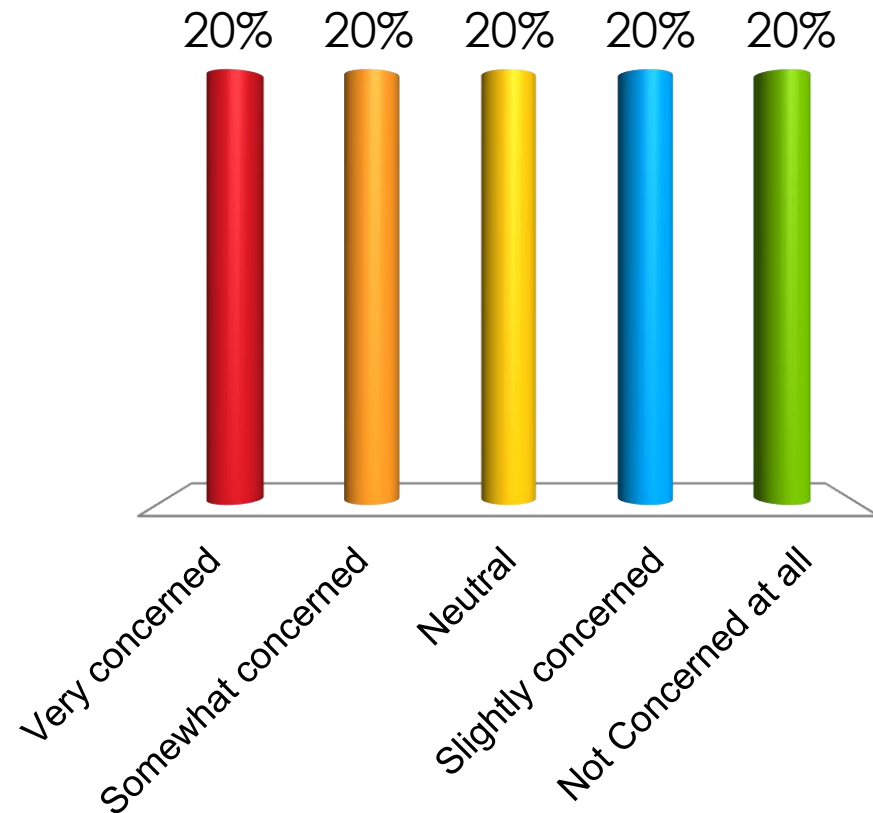
- A. Very concerned
- B. Somewhat concerned
- C. Neutral
- D. Slightly concerned
- E. Not Concerned at all



Hazard Ranking Exercise

How concerned are you about forest fires?

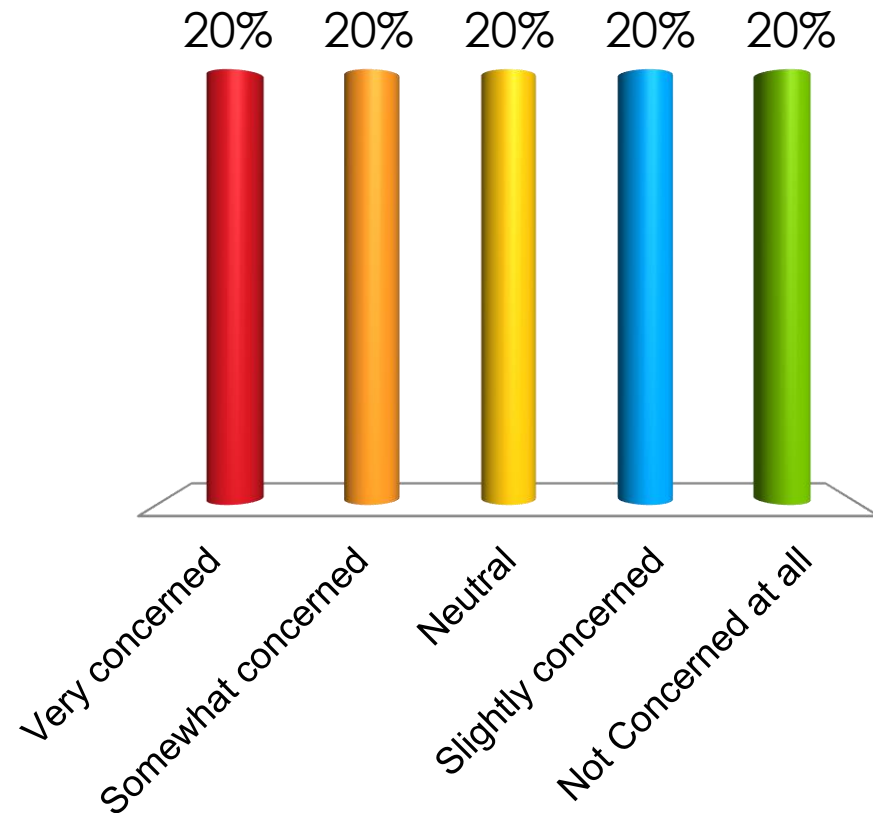
- A. Very concerned
- B. Somewhat concerned
- C. Neutral
- D. Slightly concerned
- E. Not Concerned at all



Hazard Ranking Exercise

How concerned are you about dam/levee failure?

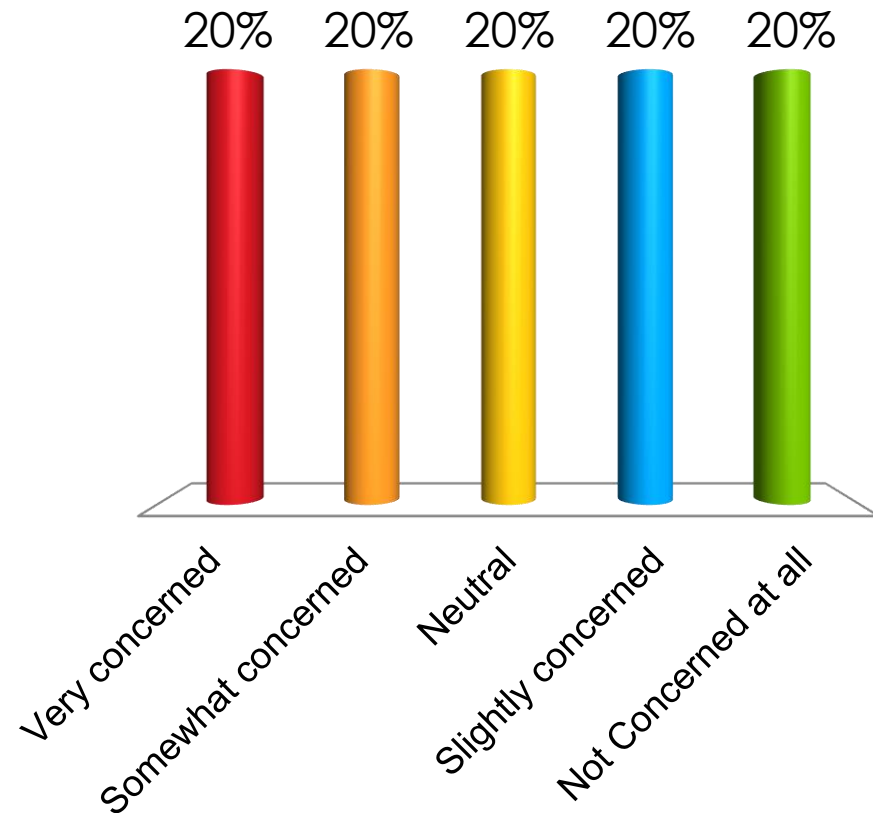
- A. Very concerned
- B. Somewhat concerned
- C. Neutral
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- E. Not Concerned at all



Hazard Ranking Exercise

How concerned are you about drought?

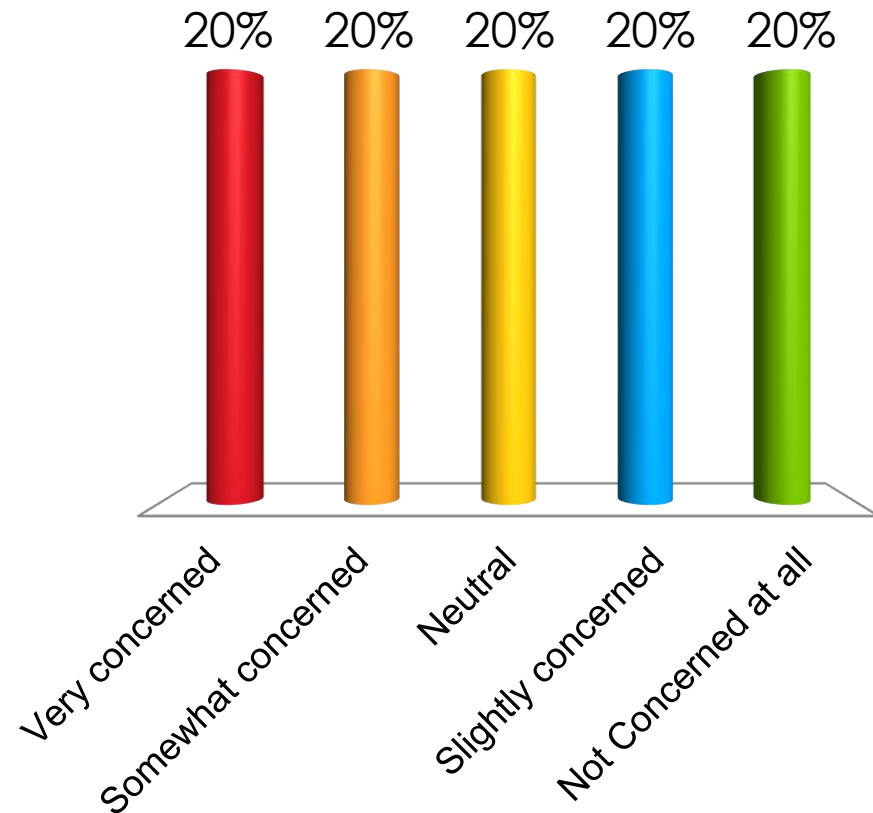
- A. Very concerned
- B. Somewhat concerned
- C. Neutral
- D. Slightly concerned
- E. Not Concerned at all



Hazard Ranking Exercise

How concerned are you about tornadoes?

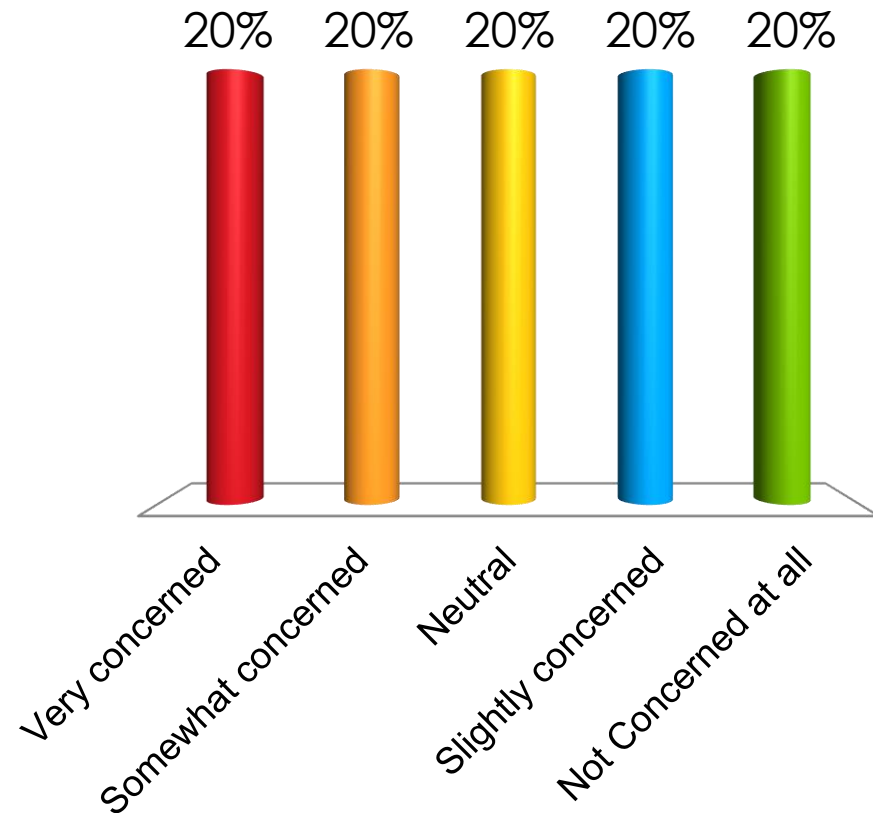
- A. Very concerned
- B. Somewhat concerned
- C. Neutral
- D. Slightly concerned
- E. Not Concerned at all



Hazard Ranking Exercise

How concerned are you about extreme heat?

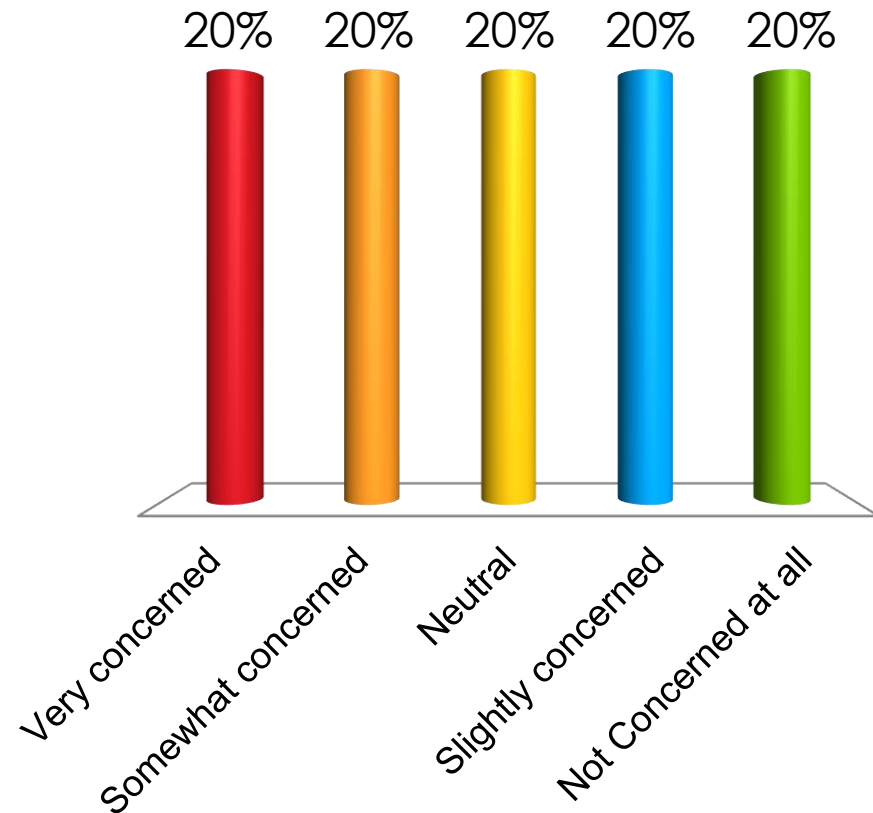
- A. Very concerned
- B. Somewhat concerned
- C. Neutral
- D. Slightly concerned
- E. Not Concerned at all



Hazard Ranking Exercise

How concerned are you about HazMat?

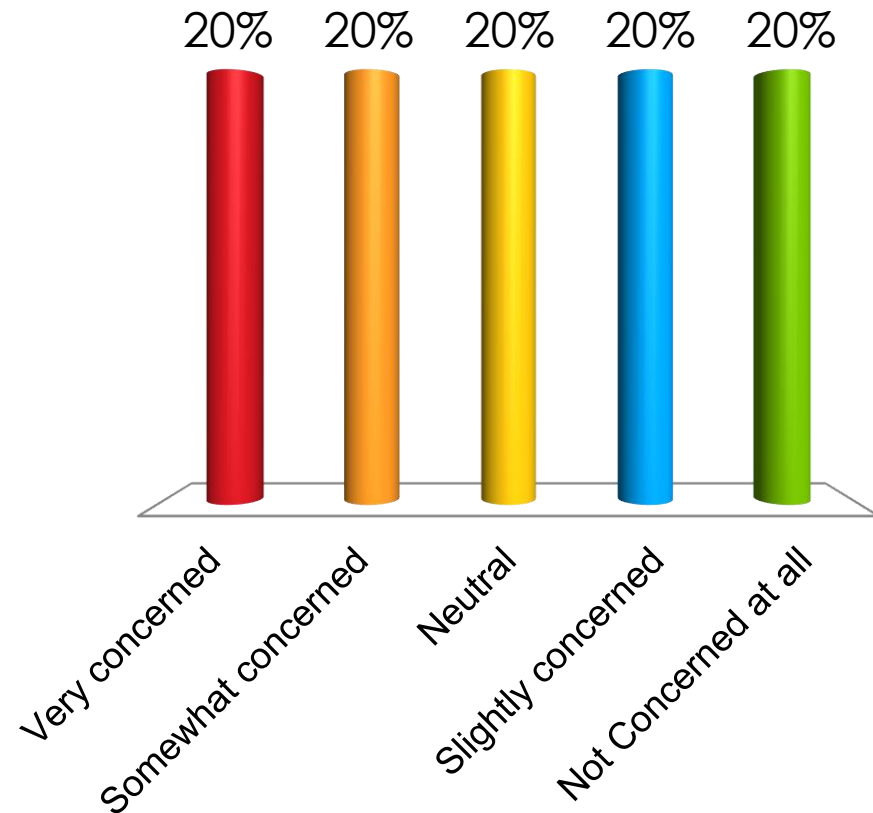
- A. Very concerned
- B. Somewhat concerned
- C. Neutral
- D. Slightly concerned
- E. Not Concerned at all



Hazard Ranking Exercise

How concerned are you about landslides?

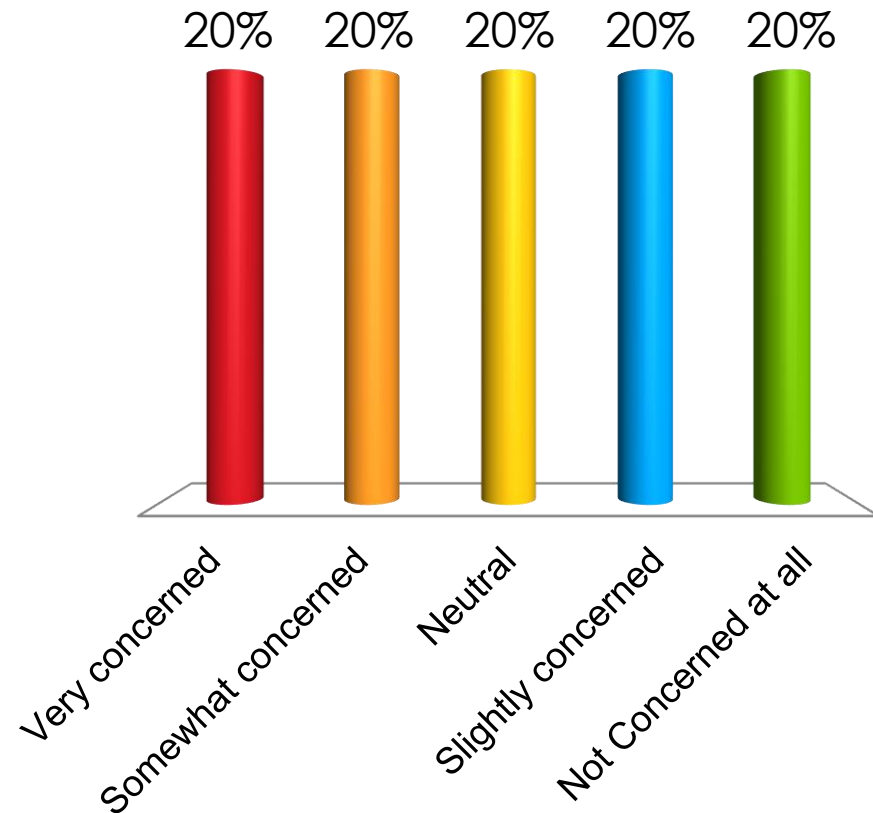
- A. Very concerned
- B. Somewhat concerned
- C. Neutral
- D. Slightly concerned
- E. Not Concerned at all



Hazard Ranking Exercise

How concerned are you about severe winter storms?

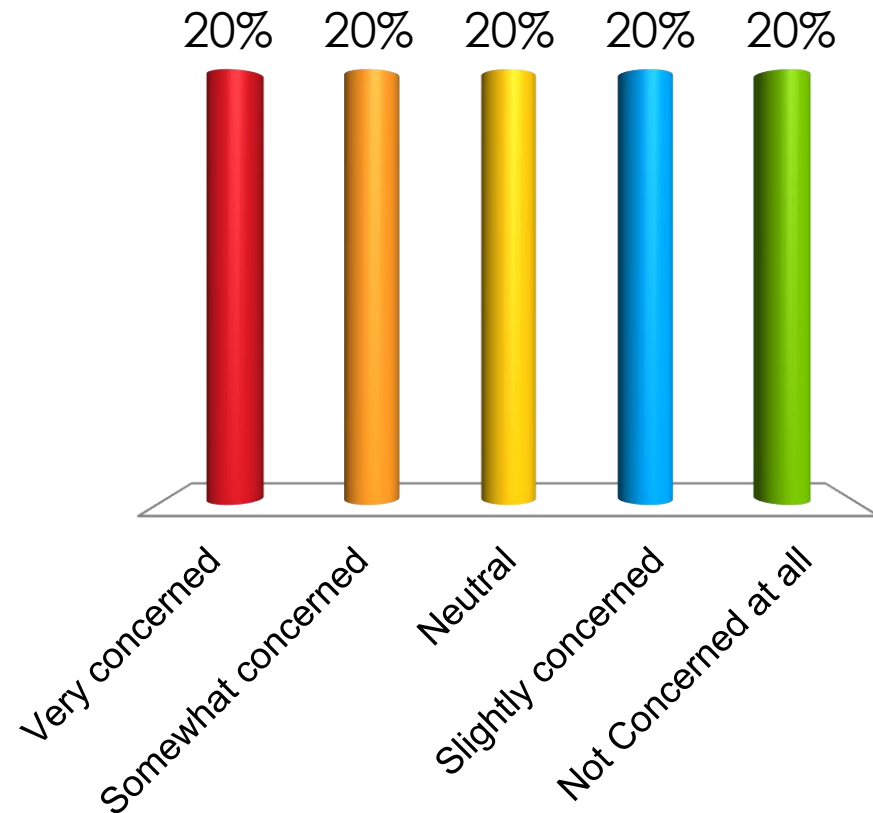
- A. Very concerned
- B. Somewhat concerned
- C. Neutral
- D. Slightly concerned
- E. Not Concerned at all



Hazard Ranking Exercise

How concerned are you about sinkholes and karst?

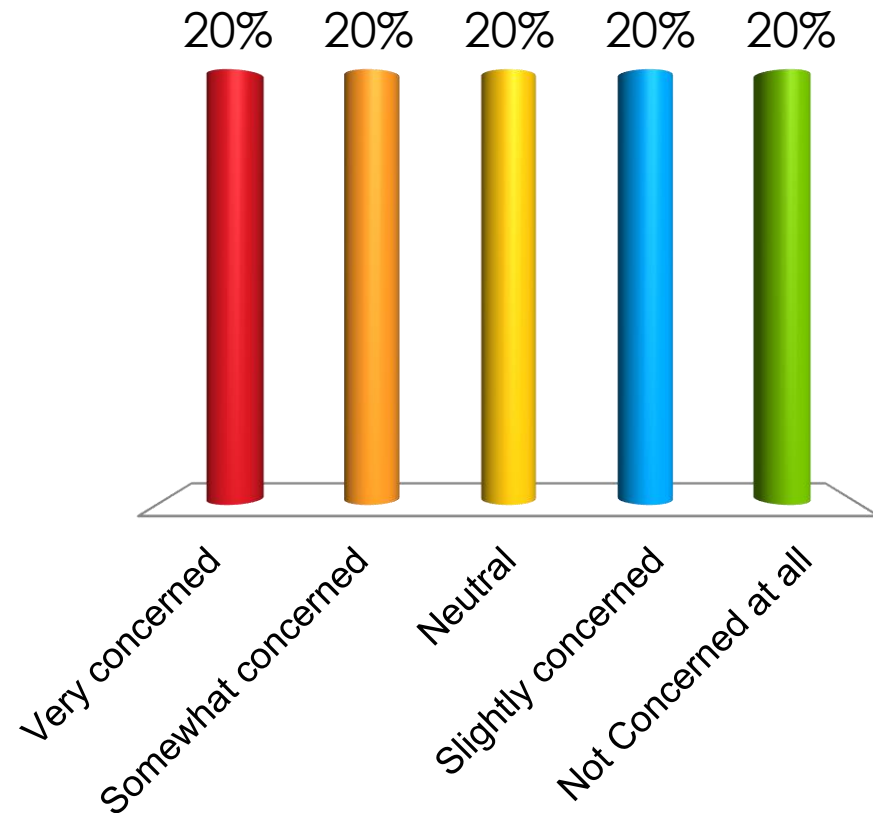
- A. Very concerned
- B. Somewhat concerned
- C. Neutral
- D. Slightly concerned
- E. Not Concerned at all



Hazard Ranking Exercise

How concerned are you about flooding?

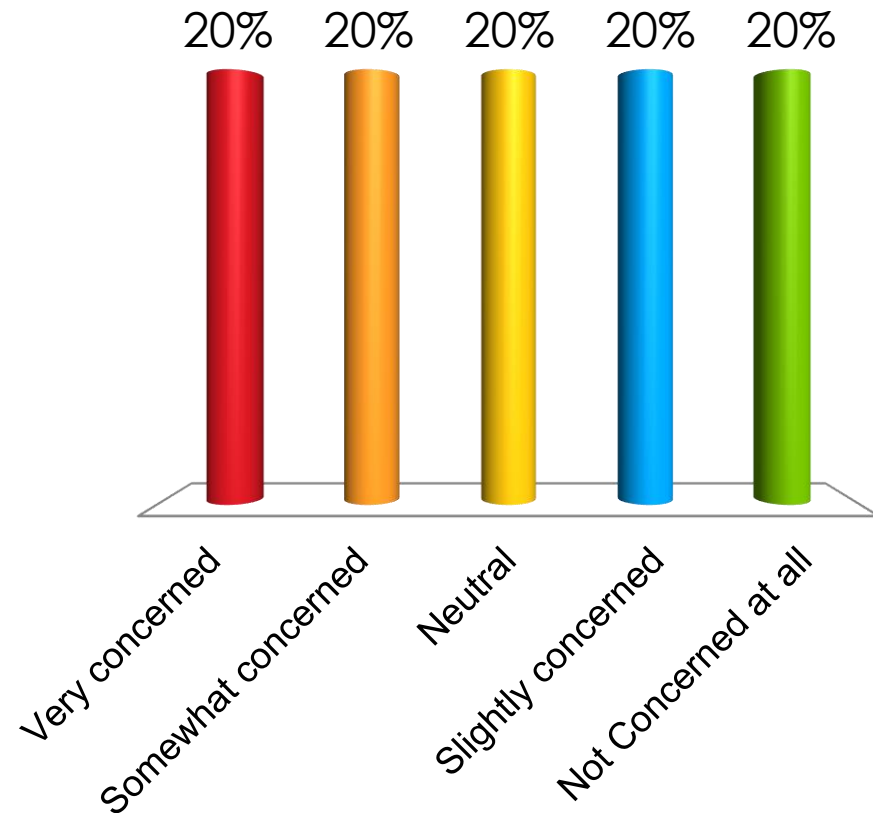
- A. Very concerned
- B. Somewhat concerned
- C. Neutral
- D. Slightly concerned
- E. Not Concerned at all



Hazard Ranking Exercise

How concerned are you about mine subsidence?

- A. Very concerned
- B. Somewhat concerned
- C. Neutral
- D. Slightly concerned
- E. Not Concerned at all



Hazard Identification Exercise

Dots and Hazards

Three Tables

1. Atmospheric: Severe Storms, Severe Winter Storms, Hail, Tornado, Extreme Heat, Extreme Cold
2. Geologic: Karst/Sinkhole, Earthquake, Mine Subsidence, Landslide
3. Other: Forest fire, Haz/Mat, Drought, Flood, Dam/Levee Failure

Data Needs

Look at Back of Agenda

Exposure

- Population
- Building replacement values
- Building content value
- Building condition
- Critical facilities
- Hazardous materials
 - Radioactive materials
 - Biological agents

Hazard

- Hazard occurrences
- Hazard losses
- Geographic extent



Data Needs

Critical Facility Data	Replacement Costs, building materials, content costs, current building conditions, Geo-Referenced Locations (Building Footprint)
Hazard Occurrence Data	Insurance Claims, Number of Tornadoes or Floods that have happened in certain areas
Loss Data	Dollar amounts from each event
Hazard Boundary Data	Floodplain, Karst, and Landslide
Infrastructure	Roads, Bridges, Dams, Utilities

Data Needs

Format Types: GIS, Excel, Access

Geographic Information Systems (GIS)

- ☐ GIS architecture facilitates an inventory of assets.
- ☐ Ability to visualize on a map which buildings/areas are more vulnerable.
- ☐ GIS architecture allows for a model to calculate vulnerabilities via the digital database created for the vulnerability assessment.



Next Steps

- Data and Information Capture
- Capability and Public Survey
<https://www.questionpro.com/t/AJ8IIZbnMB>
- Set Date for Next Meeting

NKU Hazard Mitigation Plan Contacts

Jeff Baker, Director
Safety and Emergency Management
bakerje@nku.edu
859.572.6522

Josh Human
Stantec
josh.human@stantec.com
502.618.5873

John Bucher
Stantec
john.bucher@stantec.com
502.212.5044