Hazard Mitigation Plan Update

Steering Committee Meeting

September 29, 2022
10 a.m. – 12 p.m.
Agenda

- Safety Moment
- Welcome and Introductions
- Mitigation Successes
- What is Hazard Mitigation?
- Review of Planning Process
  - Schedule
  - Steering Committee Roles
  - University Involvement
  - Risk Assessment/Data Collection
  - Capability Assessment
  - Mitigation Strategy
  - Adoption and Plan Maintenance
- Funding Opportunities
- Next Steps
Invasive Species

- Report sightings to your local authority
- Plant native plants in your yard
- Regularly clean your outdoor equipment
Welcome and Introductions
Welcome and Introductions

University of Kentucky Team – Planning Team

- Laurel Wood
- Joe Monroe
- Nathan Brown
- Mandi Banahan
- Veronda Holcombe Lewis
- Jay Overman
- Cory Pelarski
- Robert Turner
- Sally Woodson

Stantec Team

- Kristen Hewes
- Christina Hurley
- Rebecca Leitschuh
- John Bucher
- Mike Greene
- Matthew Moy
- Sam Lee
Welcome and Introductions
Steering Committee

1. Name

2. Department or Agency

3. Do you have experience with hazard mitigation planning?

4. How can you help?
Recent Events – December Tornado, July Flooding

A key UK agriculture station that helps Kentucky farmers was destroyed by tornadoes

BY JENNET PASTOR
UPDATED AUGUST 03, 2022 3:35 PM

The UK Research and Education Center in Princeton took a direct hit from the powerful tornado that began in northwestern Arkansas and carved a path of destruction across the western half of Kentucky.

BY UNIVERSITY OF KENTUCKY

Historic July 26th-July 30th, 2022 Eastern Kentucky Flooding

JACKSON, KY

Overview

Between July 26th and July 30th, 2022, several complexes of training thunderstorms developed south of I-64 and brought heavy rains, deadly flash flooding, and devastating river flooding to eastern Kentucky and central Appalachia. These thunderstorms, at times, caused torrential rates of excess of 4.75” across complex terrain that led to widespread devastating impacts. While it did not rain continuously during this 4-day stretch, the overwhelming amounts of rain and resultant flooding led to 35 deaths and widespread catastrophic damage. Entire homes and parts of some communities were swept away by flood waters, leading to continued change to the landscape in the region. Over 1000 Kentucky residents and countless other residents in West Virginia and Tennessee were trapped in their homes and other buildings. These storms peaked on July 28th and the mid-morning hours on July 29th (the peak of the event), 13 warnings were issued, 5 of which were upgraded to a Flash Flood Emergency.

Radar-based rainfall estimates suggest that up to 14.5” of rain fell during the 4-day period in a narrow swath, with many areas reporting over 10” of rain. Most of the rain fell during the right of July 27th into the morning of July 28th, which is when the most devastating impacts were felt. The highest rainfall totals were observed in Johnson County, with a total of 14.8” recorded between July 27th and July 29th. This site, a cooperative (COOP) station at Carr Creek Lake, reported 9.76” from July 27th to July 29th. Following a report of 4.50” at an unknown site on the previous day. Another COOP site in Southfork reported 6.07” of rain for the 44-hour period ending 9am on July 29th. The rainfall total in Southfork from July 25th to July 29th was 11.97”. These rainfall values occurring in such a short period of time are incredibly rare; there is less than a 1 in 1000 chance for this much rainfall over this time in a given year.

The incredible rainfall also led to significant rises and flooding on many rivers in eastern Kentucky, including the main stem of the Kentucky River, North Fork and South Fork of the Kentucky River, Red River and Licking River. All floods were above major flood stage, reaching levels at 21 feet or greater. The previous record was 14.1” in 1937. The North Fork of the Kentucky River at Jackson also reached major flood stage, setting a new record crest of 43.7” (the previous record was 43.5” set in 1926). The river flooding caused a second round of destruction for communities in the region, and caused flooding and downstream effects that did not receive as much rainfall.
UK Mitigation Successes

- Blue Emergency Notification Towers
- WUKY Main Transmission Site
- Robinson Forest
- Tornado Safe Rooms
- Nicholasville Road, Culvert Upgrade and Alumni Drive Mitigation Project
  - 1,300 Linear Feet Stream Restoration
  - Detention Basins
  - Permeable Pavement

University of Kentucky
Why are we updating the plan?

- Meet FEMA requirements for funding
- Build on previous successes
- Integrate with other plans and efforts
- Continued improvement - More actionable plan with improved coordination
- New FEMA guidelines
  - Climate Integration
  - Equity Considerations
Planning Process
## Hazard Mitigation Plan Sections

<table>
<thead>
<tr>
<th>Element A.</th>
<th>Planning Process</th>
</tr>
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<tbody>
<tr>
<td>Element B.</td>
<td>Hazard Identification &amp; Risk Assessment</td>
</tr>
<tr>
<td>Element C.</td>
<td>Mitigation Strategy</td>
</tr>
<tr>
<td>Element D.</td>
<td>Plan Maintenance</td>
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<tr>
<td>Element E.</td>
<td>Plan Adoption</td>
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Steering Committee Workshops

1. **Kick-off** - Today

2. **Hazard Identification** – Thursday, 10/27

3. **Risk Assessment** – Tuesday, 12/6

4. **Mitigation Strategy** – Late January

5. **Draft Plan** – April

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University of Kentucky
Steering Committee Roles

University Outreach
- Participate in workshops
- Share information regarding the planning process

Share knowledge
- University hazards
- Data
- Capability Assessment
- Mitigation Strategy

Review Draft Plan
University Involvement

Hazard Identification Workshop
Draft Plan Workshop
Online Engagement
- Survey
- Jamboard
- Website: Hazard Mitigation Plan | University of Kentucky Police Department (uky.edu)
Risk Assessment
Risk Assessment

General process:

- Data collection
- Hazard identification
- Profiles (current and future considerations)
- Structure-based results

FEMA profile requirements:
- Description
- Location
- Previous Occurrences
- Probability
- Severity
- Vulnerability

Hazards:
- Dam Failure
- Drought
- Earthquake
- Extreme Temperature
- Flood
- Forest Fire
- Hailstorm
- Karst/Sinkhole
- Landslide
- Severe Storm
- Severe Winter Storm
- Tornado
- *Hazardous Materials
- *Emerging Infectious Diseases
Risk Assessment Data Collection

**University-provided data:**
- GIS building footprints
- Hazard loss data for all recorded hazard occurrences (e.g., claims data)
- Building replacement values
- Building content values (included research and research equipment)
- Building condition codes
- Building hazardous contents
- Building occupancy
- Critical facilities

**Additional sources:**
- UK’s open data portal
- LFUCG
- Kentucky Area Development Districts
- Kentucky Geological Survey
Capability Assessment Data Collection

- UK Planning Documents
- Local Planning Documents that impact UK
- Stakeholder Interviews (Internal and external as determined by UK)
Mitigation Strategy
Mitigation Strategy

- Review Goals
- Review Existing Actions
- Develop New Actions
  - Risk assessment results
  - Capability assessment results
  - Interviews
  - University planning documents
  - Steering Committee
  - University input
- Outcomes
  - More actionable plan, with improved coordination and documentation
**Mission Statement**

The University of Kentucky (UK) Hazard Mitigation Plan (HMP) update is designed to sustain the university by mitigating damage and losses caused by natural hazards.

<table>
<thead>
<tr>
<th>GOAL</th>
<th>Description</th>
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<tbody>
<tr>
<td>1</td>
<td>Protect lives and reduce injuries from hazards and threats.</td>
</tr>
<tr>
<td>2</td>
<td>Protect university property, organizational information, and research from hazards and threats.</td>
</tr>
<tr>
<td>3</td>
<td>Enhance existing, or develop new University policies and practices that are designed to reduce damaging effects from hazards and threats.</td>
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<tr>
<td>4</td>
<td>Build stronger partnerships between government, educational institutions, business, and the community.</td>
</tr>
<tr>
<td>5</td>
<td>Build disaster preparedness through mitigation education and outreach.</td>
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## Mitigation Strategy

**Protect lives and minimize injuries from hazard events.**

<table>
<thead>
<tr>
<th>Action</th>
<th>Benefit-Cost</th>
<th>Timeframe</th>
<th>Hazards Addressed</th>
<th>Description</th>
<th>Offices Responsible</th>
<th>Funding</th>
<th>CHAMPS Module(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Medium</td>
<td>1-2 years</td>
<td>Flood</td>
<td>Construct retention and channel modification projects (Alumni Drive).</td>
<td>Facilities Management</td>
<td>Grants Internal External</td>
<td>Projects Manage Projects</td>
</tr>
<tr>
<td>1.2</td>
<td>High</td>
<td>3-5 years</td>
<td>Applicable to All Identified Hazards</td>
<td>Install generators at identified university facilities.</td>
<td>CMP Physical Plant Division College of Agriculture</td>
<td>Internal External</td>
<td>Projects Apply for Funds</td>
</tr>
<tr>
<td>1.3</td>
<td>Very High</td>
<td>As Needed</td>
<td>Forest Fire</td>
<td>Conduct fuel break restoration (4-H camps).</td>
<td>College of Agriculture</td>
<td>Internal</td>
<td>-</td>
</tr>
<tr>
<td>1.4</td>
<td>Very High</td>
<td>When Needed</td>
<td>Severe Storm Tornado</td>
<td>Identify MWS approved shelters/FEMA safe rooms within and existing buildings.</td>
<td>CMP EHS</td>
<td>Internal</td>
<td>Projects Apply for Funds</td>
</tr>
<tr>
<td>1.5</td>
<td>High</td>
<td>2-4 years</td>
<td>Earthquake, Severe Storm Tornado</td>
<td>Build storm shelters/safe rooms for 4-H camps and apply seismic retrofits to Western KY 4-H camps near the New Madrid fault.</td>
<td>CMP College of Agriculture CPM</td>
<td>Internal External</td>
<td>Projects Apply for Funds</td>
</tr>
<tr>
<td>1.6</td>
<td>High</td>
<td>When Needed</td>
<td>Applicable to All Identified Hazards</td>
<td>Identify and procure additional warning communication systems (digital media boards, network pop-ups, voice-over IP, etc.).</td>
<td>MP Div of Student Affairs Housing IT</td>
<td>Internal External</td>
<td>Projects Apply for Funds</td>
</tr>
<tr>
<td>1.7</td>
<td>High</td>
<td>When Needed</td>
<td>Severe Storm Tornado</td>
<td>Identify areas and pursue safe room construction.</td>
<td>CMP College of Agriculture</td>
<td>Internal External</td>
<td>Projects Apply for Funds</td>
</tr>
<tr>
<td>1.8 (new)</td>
<td>Medium</td>
<td>3-5 years</td>
<td>Karst/Sinkhole</td>
<td>Conduct assessment, monitor and incorporate structural designs and new construction requirements for areas susceptible to subsidence including non-campus locations.</td>
<td>CMP CPM Facilities Information Service Facilities Management GIS Kentucky Geological Survey</td>
<td>Internal</td>
<td>-</td>
</tr>
</tbody>
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Adoption and Plan Maintenance
Adoption and Plan Maintenance

- Regularly scheduled check in meetings
- Document progress and needs
- Coordinating funding and grant opportunities
Funding Opportunities
Funding Opportunities

- Hazard Mitigation Grant Program (HMGP)
- Flood Mitigation Assistance (FMA)
- Building Resilient Infrastructure and Communities (BRIC)

Next Steps
Next Steps

- University Hazard Identification Meeting on October 27, 2022
- Data Collection for Risk and Capability Assessments
- Interviews
- Review Mitigation Strategy

Dear Colleague:

Thanks to your notable contributions to the university community in the past, as well as the efforts of your colleagues, the University of Kentucky Hazard Mitigation Plan was approved in February 2010 and again on March 10, 2016.

The Plan has kept the university in compliance with federal hazard mitigation planning standards resulting from the Disaster Mitigation Act of 2000, as contained in 44 CFR 201.6. The current Plan is approved for a period of five years. As a result, UK is eligible to apply for state and federal funds for mitigation and disaster assistance grant programs administered by the Federal Emergency Management Agency (FEMA).

This plan is a critical part of how we take care of our people — a core principle in UK’s strategic plan. In this spirit, I ask for your commitment to the 2023 University of Kentucky Hazard Mitigation Plan Update. Steering Committee members will include university stakeholders throughout campus and the greater Lexington community. Your contributions and expertise will guide hazard mitigation activities over the coming years.

Your commitment is imperative to the success of the Plan’s goals:
1. Protect lives
2. Protect university property
3. Enhance existing or develop new university policies
4. Build and strengthen partnerships
5. Increase campus community understanding
6. Integrate risk reduction strategies

The 2023 update to the University of Kentucky Hazard Mitigation Plan will be a collaborative effort between the UK Police Department’s (UKPD) Division of Crisis Management and Preparedness; the UK Hazard Mitigation Plan Steering Committee; state and local agencies; and Stantec Consulting Services, Inc.

In the coming months, you will begin receiving invitations to participate in five Steering Committee meetings that will be held on campus and will take place between September 2022 and May 2023.

I deeply appreciate your willingness to serve our community in such an important way and look forward to your involvement and input. For more information, please do not hesitate to contact Laurel Wood, Director of Business Continuity for UKPD, at cmp@uky.edu or 859-257-6655. You also can find more information here.

Thank you for all you do to advance Kentucky.

Eric Monday
Executive Vice President for Finance and Administration
Questions and Contact Information

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Thank you!