


# Kentucky Urban Search and Rescue Initiative

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2022



Hwy 15 at Lost Creek, Breathitt County Eastern  
KY floods

# Introductions

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## **Captain Ryan Hogsten**

*Rescue Company 1*

*Lexington Fire Department*

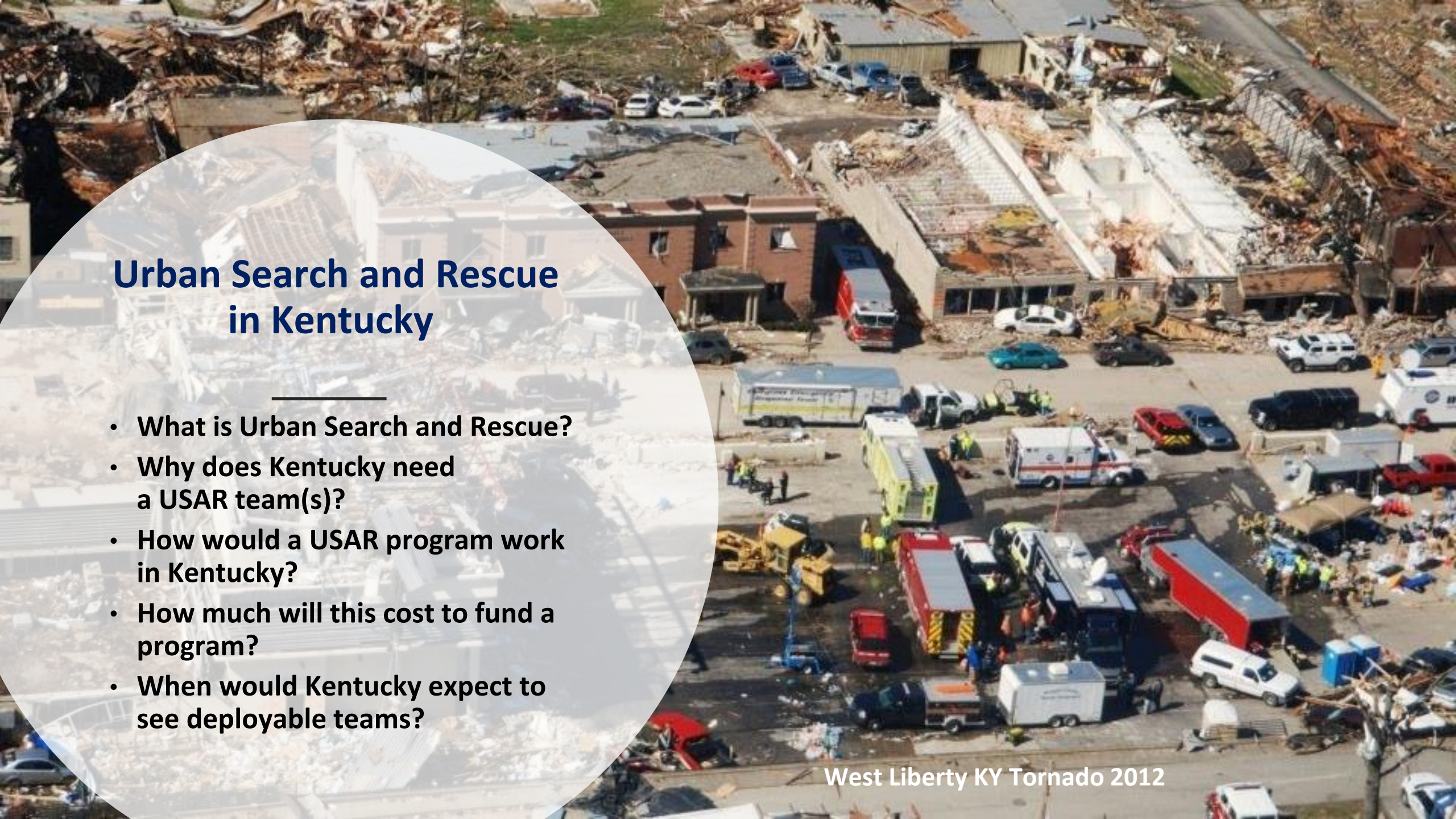
- 30 Years with Kentucky Fire Service
- 22 years with Special Operations-Urban Search & Rescue
- 17 years with OH-TF1 (FEMA Urban Search & Rescue)
- Multiple National/Statewide deployments including Hurricane Ian, Surfside FL, Candle Factory Mayfield KY, Mudslide/Collapse Stanton KY, Eastern KY Flood, Hurricanes, etc.
- 12 years as Structural Collapse Leader for Lexington Fire Dept.

## **Lieutenant Doug Hargreaves**

*Executive Officer of Special  
Operations*

*Lexington Fire Department*

- Presented on the behalf of Kentucky at 2022 SUSAR Conference
- 30 years with Kentucky Fire Service
- 18 years with Special Operations-Urban Search & Rescue
- 5 years with OH-TF1 (FEMA Urban Search & Rescue)
- Multiple National/Statewide deployments including Hurricane Irene, Candle Factory Mayfield KY, Clay City Flooding, Mudslide/Collapse Stanton KY, Eastern KY Flood, etc.
- Statewide Operations Manager during Eastern KY Floods

An aerial photograph showing the aftermath of a tornado in West Liberty, Kentucky, 2012. The scene is filled with rubble, destroyed buildings, and debris. Several emergency vehicles, including ambulances, fire trucks, and utility vehicles, are visible on the ground. A large white circular overlay is positioned on the left side of the image, containing text.

## Urban Search and Rescue in Kentucky

- **What is Urban Search and Rescue?**
- **Why does Kentucky need a USAR team(s)?**
- **How would a USAR program work in Kentucky?**
- **How much will this cost to fund a program?**
- **When would Kentucky expect to see deployable teams?**

West Liberty KY Tornado 2012

# What is Urban Search and Rescue in 2022?

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- Urban search and rescue is a type of technical rescue operation that involves the highly trained and organized teams.
- These teams can locate, extricate, and provide initial medical stabilization of victims trapped in an **urban** and **rural** areas.
- Once described as mainly a team for structural collapses due to natural disasters, war, terrorism or accidents. Teams today are used for all type of disasters.
- They are known as an organized All-Hazards Team that follows FEMA guidelines



Candle Factory, Mayfield KY  
Western KY Tornado



Surfside FL, Condo Collapse

## What are the capabilities of a Task Force?

- Physical search and rescue operations in damaged/collapsed structures
- Emergency medical care for entombed survivors, task force personnel and search canines
- Reconnaissance to assess damage and needs, and provide feedback to local, state, tribal, territorial and federal officials.
- Assessment/shut-off of utilities to houses and other buildings
- Hazardous materials surveys/evaluations

# What are the capabilities of a Task Force?

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- Structural/hazard evaluations of buildings needed for immediate occupancy to support disaster relief operations
- Stabilizing damaged structures, including shoring and cribbing operations on damaged buildings
- Hazardous Materials Equipment Push Packages for operations in a contaminated environment
- Search and rescue operations in a water environment



Breathitt County Morning  
Operational Brief

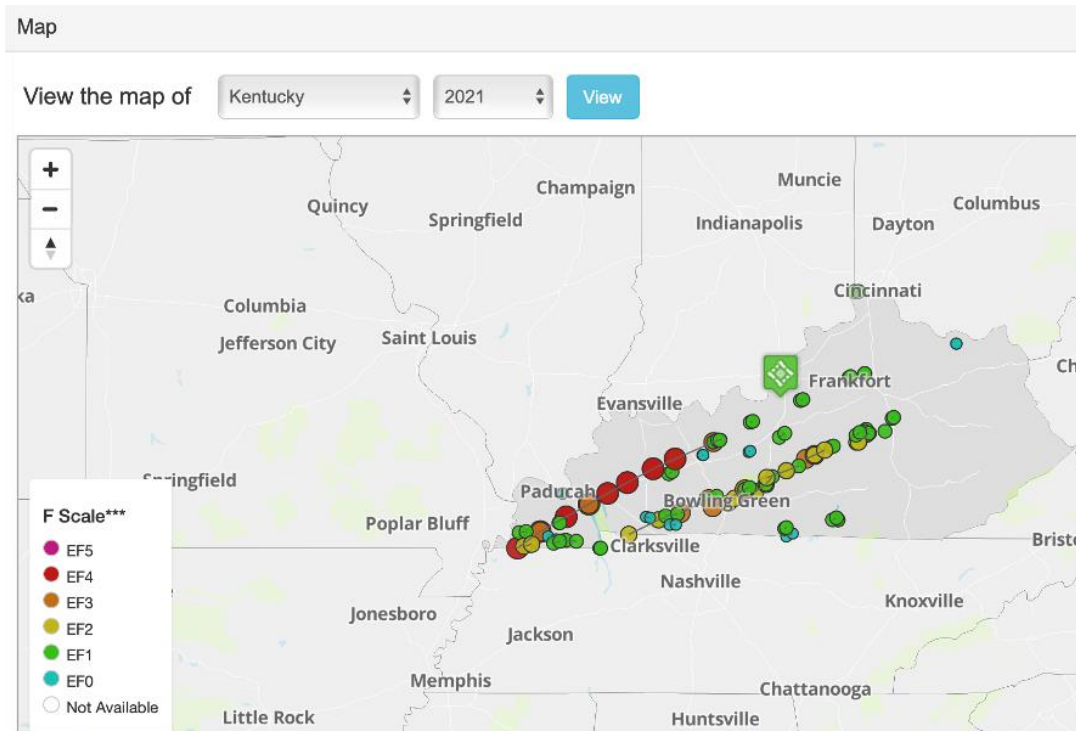
# Why Urban Search and Rescue?

- **Flooding**
- **Tornados**
- **Earthquakes**
- **Hurricanes**
- **Ice Storms**
- **Infrastructure Collapse**

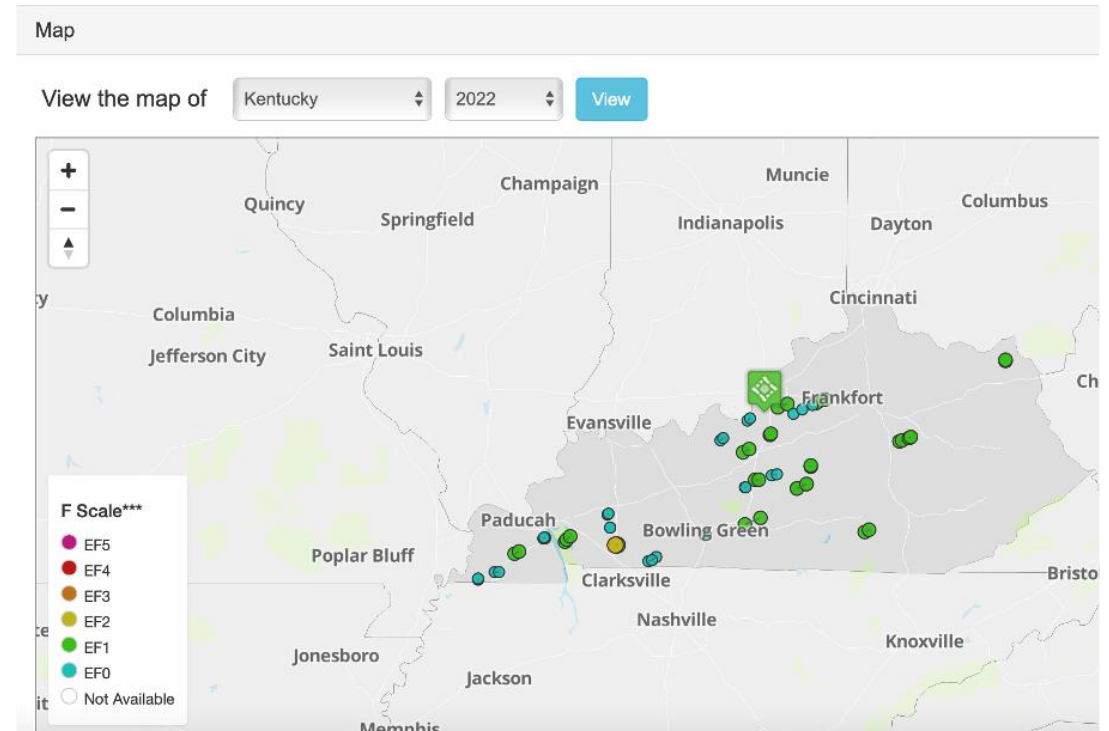
Clay City Floods of 2021

# Interesting Facts

- The trend of these tornados is to start in the southwest part of Kentucky.
- Travel northeast through Bowling Green, Louisville, Lexington and Frankfort



2021



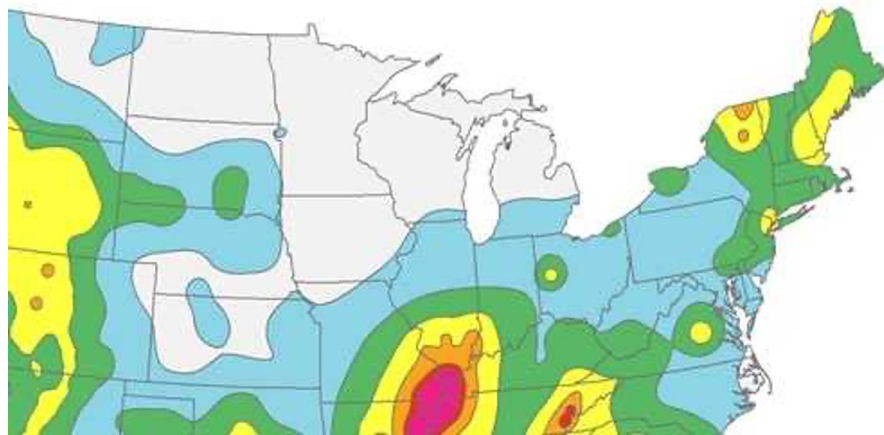
2022



# Interesting Facts

- New Madrid Fault
  - Capstone 2014 (Liquefaction of Western Ky)
- Flooding deaths 1996-2020
  - Ranked 5th in the United States

## Earthquake Risk



Highest hazard



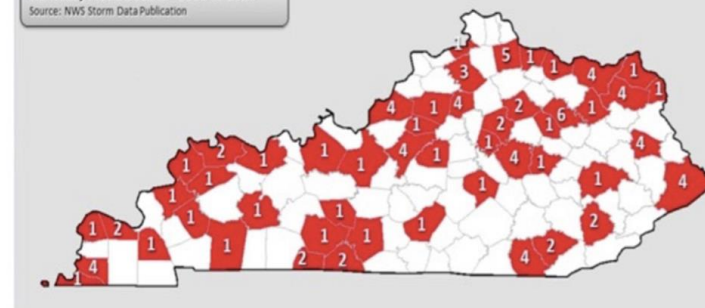
Lowest hazard

## Kentucky Flood Death History

Weather.gov > Jackson, KY > Kentucky Flood Death History

Jackson,  
Weather Forecast

Kentucky Flood Deaths – 1996 to 2020  
Source: NWS Storm Data Publication



Kentucky Flood Deaths – 1996 to 2020		
Location	Deaths	% of Total
Vehicle	66	66%
Already in Water	17	17%
Mobile Home	8	8%
Outside	6	6%
Permanent Home	3	3%

Source: NWS Storm Data Publication

Total Kentucky Flood Deaths between 1996 and 2020: 100

Total Flood Deaths across the U.S. between 1996 and 2019: 2,202

Even though Kentucky accounts for only a little over 1% of the U.S. population, flood deaths between 1996 and 2020 in the state accounted for over 4% of the total flood deaths that occurred across the United States!

# History of USAR in Kentucky

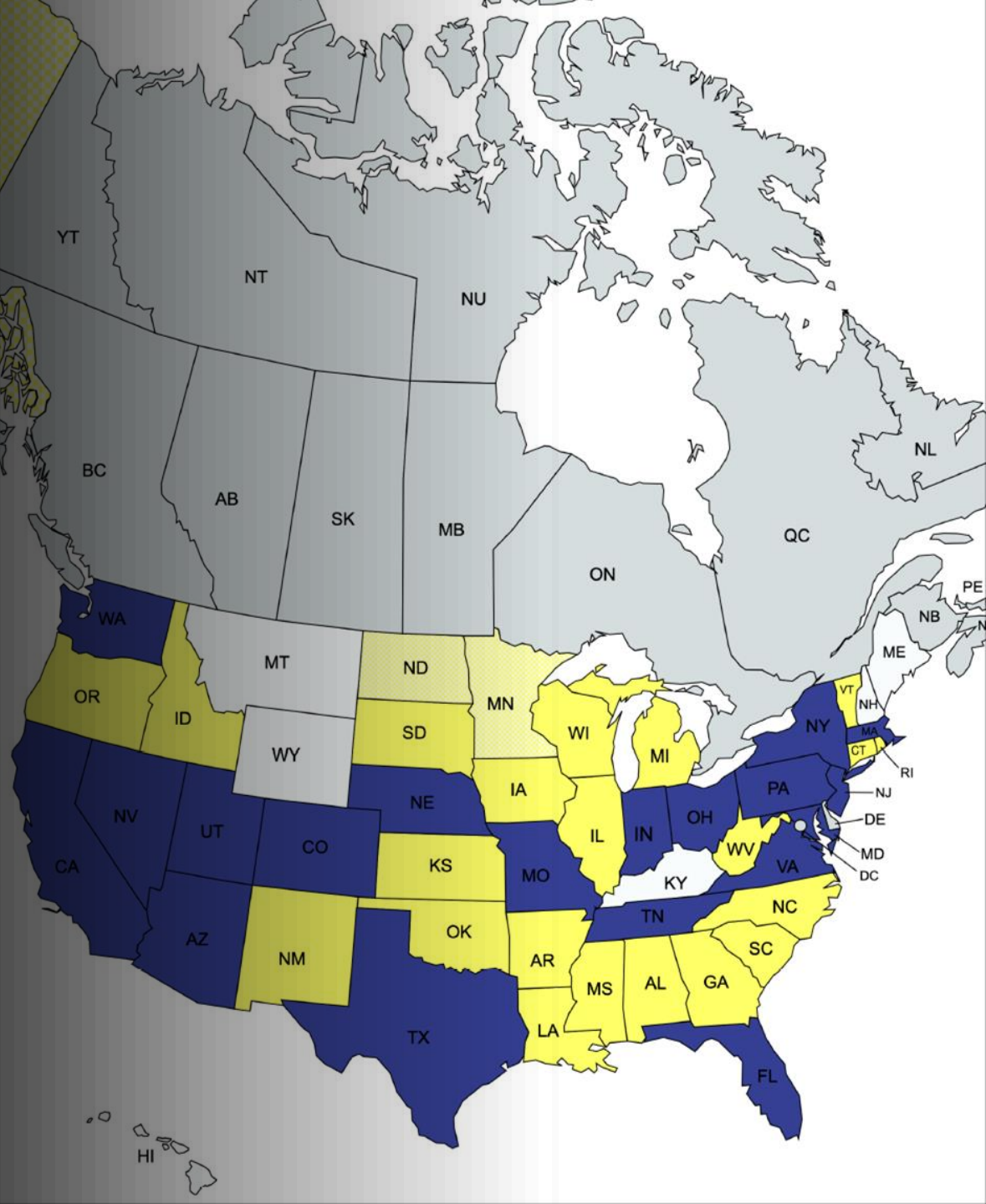
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- Since 2010 it is estimated that over 180 firefighters have received this highly skilled certification
- These firefighters stretched from across the state. These include cities from Paducah to Ashland and Louisville to Campbellsville.
- A committee was formed and tried for 5 years (2012-2017) to make this much needed statewide team a reality.
- First responders travel to connecting states and join their federal or state teams.
- In the last 12 months Kentucky has had 2 historic disasters that were the largest tornado in Kentucky's history killing 80 and a 1000-year flood killing 39.



# State/Federal Urban Search and Rescue teams in the country

- All States that border Kentucky have state and regional teams
- Federal teams that border Kentucky:
  - OH-TF1
  - MO-TF1
  - TN-TF1
  - IN-TF1
  - VA-TF1 and VA-TF2

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- States with Federal USAR Teams
  - States with state USAR Teams
  - States with out a formal USAR Team
  - States with a formal response plan

# How would a USAR program work in Kentucky?

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- **Evaluation of the current and past Kentucky response systems. This has been an ongoing process ever since September 11, 2001.**
- **Define a mission statement**
- **Develop an accredited program that should be a stand-alone division under the umbrella of a larger entity.**
  - The most ideal spot would be under Kentucky Emergency Management. However, it could fit under any agency that has a responsibility of response.
- **Develop accredited response teams that are strategically placed throughout the state with different levels of training, and capabilities.**

# Kentucky USAR Mission Statement

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**The mission of the Kentucky Urban Search and Rescue Program is the coordination, development and maintenance of the state effort to provide resources to locate and extricate victims entrapped by man-made or natural disasters as well as to conduct other life-saving operations with integrity, courage, and dedication maintaining unified leadership within a sustainable organizational structure.**



# Accredited USAR Program and Teams in Kentucky

## *Emergency Management Accreditation Program (EMAP)*

- EMAP, is the voluntary standards, assessment, and accreditation process for disaster preparedness programs throughout the country, which fosters excellence and accountability in emergency management and homeland security programs.
- During the development stages the USAR program would follow the 44 standards that apply to USAR Resources as they relate to EMAP certification.
- *The Urban Search and Rescue Standard covers:*
  - Program Management
  - Finance
  - Planning and Procedures
  - Incident Management
  - Alert and Mobilization
  - Training and Exercises
  - Resource Management and Logistics



# How would a USAR Program work in Kentucky?

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- The Kentucky USAR Program would have oversight of the regional teams and task forces.
- It would provide financial responsibility over Task Forces and Regional Teams
- It would provide uniformed training for each of the teams. This organizational component would allow the entire state to be trained as one.
- It would allow standardization on what equipment is purchased, how it is distributed, and would be consistent.
- This would allow volunteer and paid departments a resource for assistance and expertise
- This would allow for state-wide response teams at the hands of the Governor, KY Emergency Management, local Emergency Managers, and others to call upon when disasters strike.

# How would a USAR Program work in Kentucky?

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## Positions

- KY USAR Program Director
- KY USAR Program Asst. Director of Operations
- KY USAR Program Asst. Director of Planning
  - (4) Part Time Training Officers
- KY USAR Program Asst. Director of Logistics
  - (4) Part Time Logistics Officers
- KY USAR Program Finance Officer
- KY USAR Program Administrative Assistant

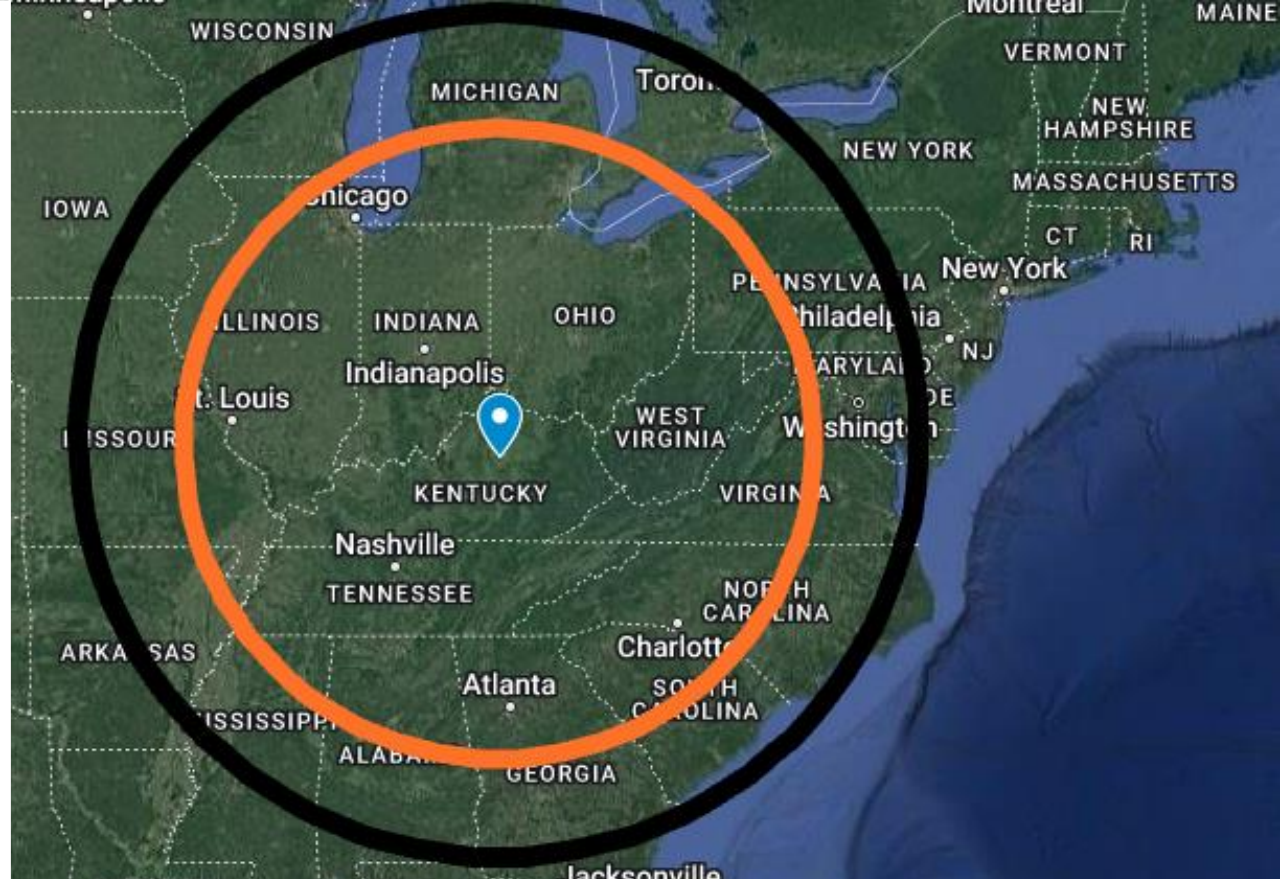
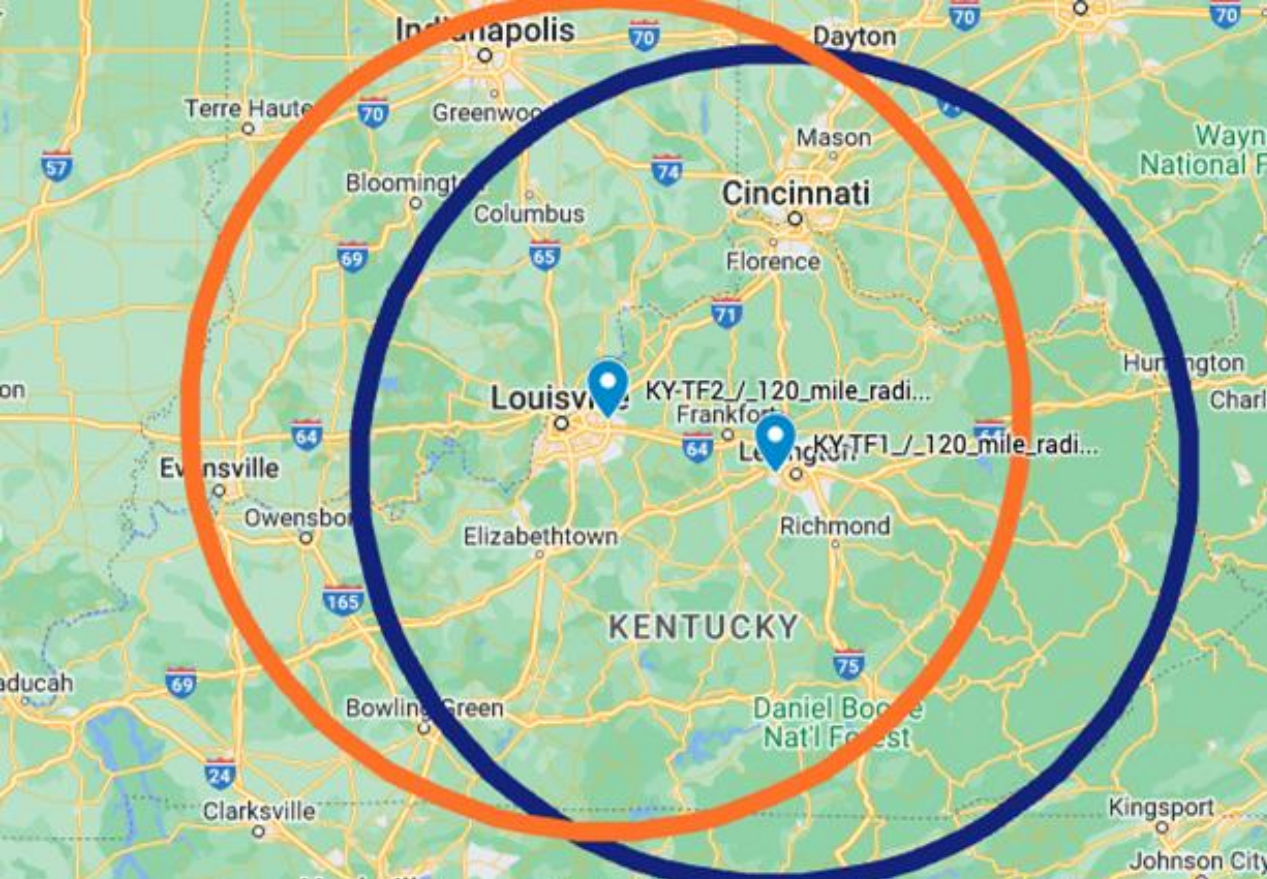


# How would a USAR Program work in Kentucky?

- Establish a *Type 1 team* that would consist of several areas of responsibility
  - Search
  - Rescue
  - HazMat
  - Medical
  - Planning
  - Safety
  - Canines
- Highly skilled Structural Collapse and All-Hazard Rescue for *24hr* work cycles
- Deployed for up to 14 days and 3 days self sufficient
- FEMA model is 70 personnel for a Type 1
- The Type 1 Task Force would be three deep in these positions.
- *Located in Central Kentucky/ Lexington area*

# How would a USAR program work in Kentucky?

- Establish a *Type 3 team* that would consist of several areas of responsibility
  - Search
  - Rescue
  - HazMat
  - Medical
  - Planning
  - Safety
  - Canines
- Highly skilled Structural Collapse and All-Hazard Rescue for *12hr* work cycles
- Deployed for up to 14 days and 3 days self sufficient
- FEMA model is 35 personnel for a Type 3
- The Type 3 Task Force would be three deep in these positions.
- *Located in Jefferson County/ Louisville area*



# Task Force Response Times

2-hour Response Times  
(120 Mile Radius )

6-hour and 8-hour response times  
(360 Mile Radius)  
(480 Mile Radius )

# How would a USAR program work in Kentucky?

- Establish **(10) Regional teams** that would consist of several areas of responsibility
  - Search / Rescue (Type 1 Heavy Rescue Team)
  - Swiftwater Rescue Team (Type 2 Swiftwater Team)
- Highly skilled All-Hazards Responders for **12hr** work cycles
- Able to respond very quickly
- FEMA model is 12 personnel for this type of team.
- A Regional Team would be three deep in these positions.
- **Located in each of the 10 current Emergency Management Regions**



# Coverage of 10 Regional Teams

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Each circle is having a 60-mile radius

# How much would a USAR Program cost the Commonwealth of Kentucky?

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- We took into the consideration the following:
  - FEMA, SUSAR, NFPA, and EMAP guidelines
  - Realistic times for developing, and training.
  - Equipment and Fleet
  - Current supply chains
  - Geographics of Kentucky
- Overall cost to fund a Kentucky USAR program
  - **Year 1**     \$12,875,000
  - **Year 2**     \$12,959,000
  - **Year 3**     \$ 3,149,000
  - **Year 4-10** \$ 3,024,000



# When would Kentucky expect to see deployable teams?

- Projected timeline Kentucky USAR program
  - **Year 1**
    - Establish the USAR program.
    - Establish 5 deployable regional teams.
    - KY-TF1, and KY-TF2 would be deployable on a limited basis.
    - Membership advanced training
  - **Year 2**
    - Establish the remaining 5 deployable regional teams.
    - KY-TF1, and KY-TF2 would be fully deployable.
    - Membership advanced training.
    - Start annual 3-day state mobilization exercise.



## Scenario 1

- A tornado has touched down in the western part of the state.
- The local jurisdiction responds and determines that they need assistance from their regional team.
- The State EOC is notified, and they issue a state incident number. The State EOC along with the regional team notifies the KY USAR command staff of an incident.
- Once the regional team arrives on scene, team leadership will perform a size up of the incident and request additional regional team(s) and task force(s) if needed.
- KY USAR command staff will then have regional teams and task forces dispatched to the appropriate areas.





## Scenario 2

- There are reports from local and state meteorologist that potential heavy rains and flooding are issued for a part of the state.
- KY USAR would place regional teams in that part of the state and closest task force on alert. They would start to pre-roster a team.
- Local and regional EM directors may request for type 2 water rescue regional team(s) to stage in an area. This will prevent delays in a response. A state incident number would be created.
- Once the local jurisdiction has become unable to support the mission then they can request for response from a regional team



## **Scenario 3**

- **A Category 4 hurricane is predicted to make landfall in 3 days.**
- **The state of Alabama has requested the following from the state of Kentucky through EMAC:**
  - **(1) Type 3 USAR team**
  - **(4) Type 2 Swiftwater teams**
- **State of Kentucky accepts their request and deploys the needed resource to assist their state needs**

**The time is now to prepare, equip, and train our first responders to respond to Kentucky's next disaster.**

**A Kentucky  
USAR program is the right choice**

***Thank you  
Any Questions?***



Eastern KY Flood