Weather Ready:
Establishing a Robust Hazardous Weather Response Plan and Getting Recognized for It

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NOAA/NWS Jackson, KY
The Need for a Robust/Diverse Severe Weather Plan

Presidential Disaster Declarations

2015 Kentucky Disaster Declarations

**DR-4216 (Feb 15-22)**
severe winter storms, snowstorms, flooding, landslides, and mudslides

**DR-4218 (Mar 3-9)**
severe winter storm, snowstorm, flooding, landslides, and mudslides

**DR-4217 (Apr 2-17)**
severe thunderstorms, tornadoes, flooding, landslides, and mudslides

**DR-4239 (Jul 11-20)**
Kentucky Severe Storms, Tornadoes, Straight-line Winds, Flooding, Landslides, and Mudslides
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Winter Weather Extremes

Storm Total Snowfall - Monday February 16, 2015

Storm Total Snowfall - March 4th & 5th, 2015

Observed Lowest Minimum Winter Temperature at Williamsburg KY
(Missing Data for Winter of 1954-1955)
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Temperature Extremes

Ohio Valley Extremes in Maximum Temperature (Step 1)
Annual (January-December) 1910-2014

Maximum Temperatures
for the 24 hour period ending around 8 am ET Saturday, June 30, 2012

Minimum Temperatures
for the 24 hour period ending around 8 am ET Friday, February 20, 2015
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Increasing Frequency of Extreme Precipitation

Ohio Valley Extremes in 1-Day Precipitation (Step 4*)
Annual (January-December) 1910-2014

U.S. Climate Extremes Index
https://www.ncdc.noaa.gov/extremes/cei/

National Weather Service
The Need for a Robust/Diverse Severe Weather Plan

Tornadoes Happen…Even in the Mountains!

Kentucky’s Documented Tornadoes – 1950 through Today

Every Kentucky county has seen tornadoes!

West Liberty, KY - 2012
Society is Prepared for and Effectively Responds to Weather-Dependent Events
Introduction to NWS Preparedness Recognition Programs
Weather Ready Nation Ambassadors

Uncle Sam WANTS YOU to be a

http://www.nws.noaa.gov/com/weatherreadynation/amb_tou.html
The Weather-Ready Nation Ambassador initiative is the National Oceanic and Atmospheric Administration’s (NOAA) effort to formally recognize NOAA partners who are improving the nation’s readiness, responsiveness, and overall resilience against extreme weather, water, and climate events.

Any organization across all levels of government, businesses large and small, non-profit and non-governmental organizations, and academia can become a WRN Ambassador.

- Promote Weather-Ready Nation messages and themes to your stakeholders.
- Engage with NOAA personnel on potential collaboration opportunities.
- Share your success stories of preparedness and resiliency.
- Serve as an “Example” by educating employees on workplace preparedness and encouraging personal preparedness at home.
Weather Ready Nation Ambassadors

Why Should I Apply?

As a WRN Ambassador, the National Weather Service will formally recognize your organization.

You will be able to prominently display the WRN Ambassador logo and use your local NWS office as a resource to enhance your weather safety plans.

Periodic emails to WRN Ambassadors will provide information such as links to newly posted outreach material on relevant hazards, as well as updates on experimental or newly operational NOAA products, services, or data.
Weather Ready Nation Ambassadors
Success Stories!

Christian Appalachian Project
- **Member** of East Kentucky Weather Preparedness Committee
- **Developing a Disaster Preparedness Activity book** to hand out to camp **kids** each summer.
- **Speaking** to all the groups that come and work a week at a time on home repair from April through October about **Disaster Relief Program** along with a hand-out with information on **disaster preparedness**.

Kentucky Mountains Amateur Radio Club
- **Volunteers** to take part in annual Skywarn Recognition Day event at local NWS Office
- **Organizes SKYWARN Spotter Training classes** for the **community**
- **Provides timely reports** of severe weather to local NWS office

National Weather Service
The StormReady® Recognition Program

The StormReady program is a partnership with emergency management that helps reduce risk and increases community resilience to weather hazards.
StormReady® guidelines have been modified to better align with the National Incident Management System (NIMS)

Command and Management

- Establish an effective working relationship between emergency management and the local NWS office

Communication and Information Management

- Maintain a Communications/Dispatch Center that serves as a 24-hour warning point (WP) and EOC with redundant methods for receiving NWS info and relaying this info to the public*
- Ensure WP & EOC are able to monitor weather & flood observation data

Preparedness

- Ensure hazardous weather and flooding are addressed in formal emergency management plans
- Conduct community preparedness programs on hazardous weather and flooding

* It is only necessary for facilities to have WP/EOC capabilities during business operations and/or when facility is open to the public.
The StormReady® Recognition Program
Requirements for Receiving NWS Warnings & Information

- NOAA Weather Radio
- National Warning System (NAWAS)
- NWSChat
- EMWIN receiver
- Statewide law enforcement telecommunications
- Wireless Emergency Alerts (WEA)
- Amateur Radio Transceiver
- Alerts received through private weather company
- Television/Radio/Internet/Social Media

Guideline 2.1: NWS Warning and Information Reception

<table>
<thead>
<tr>
<th>Population:</th>
<th>&lt; 2,500</th>
<th>2,500 - 14,999</th>
<th>15,000 - 40,000</th>
<th>&gt;40,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintain the required number of ways for the WP and EOC to receive NWS warnings and information</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
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</tbody>
</table>

*INWS MOBILE ALERTING
Receive customized text message and e-mail alerts for National Weather Service products that you care about.

NWSChat

*iNWS & NWSChat services only available to NWS core partners*
The StormReady® Recognition Program

Requirements for Warning Notifications

- Cable or broadcast TV EAS overrides
- Local flood warning system
- Plan for siren/megaphone notification on emergency vehicles
- Outdoor warning sirens
- WEA capability throughout the jurisdiction
- Social media account and plan for usage
- Amateur radio operator network
- Telephone mass notification system
- Telephone tree for critical facilities
- Service provided by private weather company

Guideline 2.2: Warning Dissemination

<table>
<thead>
<tr>
<th>Population:</th>
<th>&lt; 2,500</th>
<th>2,500 - 14,999</th>
<th>15,000 - 40,000</th>
<th>&gt;40,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintain the required number of ways for the WP and EOC to disseminate warnings</td>
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<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Operate Public Alert™ certified NOAA Weather Radio receivers in key public facilities</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
The StormReady® Recognition Program

Requirements for Weather Monitoring Capabilities

- NWSChat
- Hazardous weather and flood monitoring system from private weather company
- Internet
- Video camera system
- Television/radio
- Two-way radio
- EMWIN
- Roadway sensors
- Local flood monitoring system (IFLOWS)
- Lightning detection system
- Locally owned weather station
The StormReady® Recognition Program

Requirements for Preparedness Activities

KYEM typically holds these exercises every year. Contact your local county EM for more information.

Statewide Annual Tornado Drill Exercise occurs each Spring

Seasonal Hazardous Weather Awareness Campaigns from the NWS

SKYWARN Weather Spotter training provided by local NWS office
I’m interested in establishing a hazardous weather plan but do not have the resources necessary to meet those requirements…
An entity that promotes the principles and guidelines of the StormReady program, but does not meet the guidelines for full StormReady Site recognition. StormReady recognition of the county or community in which the entity resides is not a requirement to achieve Supporter designation.
The StormReady® Recognition Program
StormReady Supporters in Kentucky

### State Parks
- Barren River Lake State Resort Park
- Big Bone Lick State Historic Site
- Blue Licks Battlefield State Resort Park
- Buckhorn Lake State Park
- Carr Creek State Park
- Carter Caves State Park
- Columbus Belmont State Park
- Cumberland Falls State Resort Park
- Dale Hollow State Resort Park
- Ft. Boonesborough State Park
- General Burnside State Park
- General Butler State Resort Park
-_gray_ Graue Lake State Park
- Green River Lake State Park
- Greenbo Lake State Resort Park
- Jenny Wiley State Resort Park
- Kenlake State Resort Park
- Kentucky Dam Village State Resort Park
- Kingdom Come State Park
- Lake Barkley State Resort Park
- Lake Cumberland State Resort Park
- Lake Malone State Park
- Levi Jackson State Park
- My Old Kentucky Home State Park
- Natural Bridge State Resort Park
- Nolin Lake State Park
- Paintsville Lake State Park
- Pennyrile Forest State Resort Park
- Pine Mountain State Resort Park
- Rough River Dam State Resort Park
- Taylorville Lake State Park
- Tim Hortons Camp Kentuken
- Yatesville Lake State Park

*State park with full StormReady site status. Also listed under StormReady government site category.*

### Extension Services
- Anderson County Extension Service
- Ballard County Extension Office
- Bath County Extension Office City
- Breathitt County Extension Service
- Bullitt County Extension Service
- Christian County Cooperative Ext. Serv.
- Daviess County Extension Office
- Elliott County Extension Office
- Estill County Extension Office
- Fleming County Extension Office
- Floyd County Extension Office
- Grayson County Extension Service
- Henry County Extension Service
- Johnson County Cooperative Ext. Office
- Kincaid Lake State Park
- Lee County Cooperative Extension Serv.
- Lyon County Cooperative Ext. Service
- Magoffin County Extension Office
- Martin County Extension Office
- Menifee County Extension Office
- Montgomery County Extension Office
- Morgan County Extension Office
- Oldham County Extension Service
- Pike County Extension Service
- Powell County Cooperative Extension Service
- Rowan County Extension Office
- Spencer County Extension Service
- Trimble County Extension Service
- Wolfe County Cooperative Extension Service

### Other Supporter Sites
- Creation Museum
- East Kentucky Network
- Harlan County Health Rehabilitation Center
- Hickman County Schools
- Kentucky Speedway
- Mayville Community Technical College, Rowan Campus
- Muhammad Ali Center, Louisville
- Pathway Baptist Church
- Muhlenberg County Extension Service
- SE KY Community and Tech College
  - Cumberland
  - Harlan
  - Middleboro
  - Pineville
  - Whitesburg
- St. Mary School System
- Towne Square Mall, Owensboro
- University of KY Research & Education Center
- Wolfe County Health Rehabilitation Center
The StormReady® Recognition Program
Steps to Take to Get Recognized as StormReady

Here’s the Process to Get Started:

✓ Contact your local NWS

✓ Apply at [http://www.stormready.noaa.gov/apply.htm](http://www.stormready.noaa.gov/apply.htm)

✓ Arrange a site visit & any necessary training from local NWS office

✓ Receive Local Advisory Board approval
The StormReady® Recognition Program

StormReady Perks!

- Great PR! Get recognized with a photo op and/or recognition ceremony.

- Jurisdictions recognized as StormReady can receive **25 community rating points** toward lowering their flood insurance rates. Additional community rating points can be earned for community preparedness outreach and education conducted on flood hazards.
  - See CRS Coordinator’s Manual, FIA-15/2013 for details.
The StormReady® Recognition Program

StormReady Recognition

**StormReady Hero Award**
- Special National level recognition formally recognizing individuals within a StormReady community in which lives have been saved as a direct result of those individuals’ proactive actions, personifying the NWS StormReady program
- Only 7 StormReady Hero Awards have been given out since 1999

**StormReady Champion Award**
- Special local or state level recognition for an individual or organization for exceptional service, achievement and/or leadership through the StormReady program

Magoffin County Judge Executive Charles “Doc” Hardin and Emergency Manager Mike Wilson honored by StormReady Hero Award following actions during March 2nd, 2012 tornado.
Lightning Safety Toolkits

Toolkit and a Recognition Program
Lightning Safety Toolkits

Some Lightning Stats

- In the United States, there are about 25 million cloud-to-ground lightning flashes every year.
- Lightning can strike 10 to 20 miles away from the parent storm.
- Each year, more than 400 people are struck by lightning.
- Although it has decreased in the last 30 years, lightning continues to be one of the top weather killers in the United States.
- Only about 10% of people who are struck by lightning are killed, leaving 90% with various degrees of disability or life-long health problems.
Lightning Safety Toolkits

Who is Eligible?

- Outdoor Stadiums
- Racetracks
- Amusement/Water Parks
- Golf Courses
- Concert Venues
- Little League Facilities
Lightning Safety Toolkits

http://www.lightningsafety.noaa.gov/toolkits.shtml

Lightning Resources
- For the Media
- Myths and Facts
- Teachers
- Kids and Teens
- Toolkits for Organizations, Venues
- Multimedia
- Lightning Photos
- Information, Brochures
- International, Links, Partners

Toolkits for Organizations and Large Venues
- Golf Courses, Parks and other Outdoor Venues
- Lifeguards
- Stadiums and Large Venues
- Counties and Communities

Check out our safety and outreach web pages as well.

When Thunder Roars, Go Indoors!
Lightning Safety Toolkits
Keys to Preparing a Venue

Information Reception/Weather Situational Awareness

Decision Support Standards

Public Notification Plan

Protection/Sheltering Program

Education
Lightning Safety Toolkits

Getting Recognized

Toolkit Review

Safety Plan Submission
- Local NWS office
- With or without StormReady® recognition

Approval of Plan

Media Event
Questions?
Important Links & Contacts

Weather Ready Nation Ambassador Information & Application:

StormReady Program Website:
• [http://www.stormready.noaa.gov/](http://www.stormready.noaa.gov/)

Lightning Safety Toolkits & Information:
• [http://www.lightningsafety.noaa.gov/toolkits.shtml](http://www.lightningsafety.noaa.gov/toolkits.shtml)