Becoming WeatherReady in the 21st Century
There’s More To It Than Just Looking at Clouds!

Joe Sullivan
NWS Louisville
University of Kentucky Hazard Mitigation Plan
March 31, 2015
"The National Weather Service (NWS) provides weather, hydrologic, and climate forecasts and warnings for the United States, its territories, adjacent waters and ocean areas, for the protection of life and property and the enhancement of the national economy. NWS data and products form a national information database and infrastructure which can be used by other governmental agencies, the private sector, the public, and the global community."
The Problem We Face

WITTYOK

What
I
Think
You
Oughta
Know

WINK

What
I
Now
Know
"I can see into my room because all the walls are gone. My TV is in the parking lot and the door to my room is on the stairs. My room is pretty much destroyed."

Kate Johnson, Union University Sophomore
February 6, 2008
“The fact that no one died on this campus is a real testimony of the preparedness this campus and administration had here.”

Tennessee Governor Phil Bredesen – February 7, 2008
It’s not all Tornadoes
Be Ready for ALL Weather!

Weather-Ready Nation
National Oceanic and Atmospheric Administration
What is Weather Ready?

- All-encompassing effort to **protect life and property**
- Partnerships (Ambassadors)
- SkyWarn is a key component

weather.gov/com/weatherreadynation
Building a Weather Ready Nation

• Prepare *(Mitigation/Terminology)*

• Monitor *(Situation Awareness/Info Exchange)*

• React/Respond *(Safety Actions)*

• Repeat *(for EVERY event!)*
Prepare Before the Storms

Mitigation

Know the Terminology
Mitigation and Preparation

For contents, visit Ready.gov or RedCross.org
Mitigation and Preparation

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National Oceanic and Atmospheric Administration
Prepare Before the Storms

Mitigation

Know the Terminology
Say What?

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Know your Weather Terminology

**Severe Thunderstorm:** A storm that produces winds of 58 mph and/or hail 1” or greater in diameter.

**Tornado:** A *violently rotating column of air*, in contact with the ground and the base of a thunderstorm. Not all tornadoes look like a funnel and not all funnels are tornadoes. ROTATION is the key.

**Flash Flood:** A rapid rise of water usually due to heavy rain upstream. *KY and IN’s most common weather killer.*
Know your Weather Terminology

- **Watch**: A Severe Weather Watch is issued when severe weather is possible...but not imminent

- **Warning**: A Severe Weather Warning is issued when severe weather is occurring, imminent or has a high probability of occurring

Get Ready!

Go!!!

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Train at Your Convenience

https://www.youtube.com/NWSLouisville

Basic SkyWarn Modules
- The Basics of Weather Warnings
- How the Weather Works
- Storm Spotting
- Information Exchange

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Know Your NWS!

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National Oceanic and Atmospheric Administration
Become an Ambassador!

Weather-Ready Nation

National Oceanic and Atmospheric Administration

About
NOAA's Weather-Ready Nation is about building community resilience in the face of increasing vulnerability to extreme weather and water events.

News Feed
- Atlanta Weather-Ready Nation Ambassador Moves City into Gear
  After a crippling snowstorm, Atlanta knew that it had to do better.
- Historical Hurricane Tracks
  This interactive mapping application easily searches and displays global tropical cyclone data.

Find us on Facebook
- U.S. National Weather Service

NOAA Social Media
- YouTube: NOAA Youtube
- Facebook: NOAA's Facebook
- Twitter: NOAA Twitter Feed
- Facebook: NWS Facebook
Monitor When Storms Develop

Situation Awareness

Information Exchange
Parable of the 5 blind men

What does YOUR elephant look like?
The Warning Process:

1-800-292-5588
Poor Sitation Awareness

Hiroo Onoda

- Japanese Intelligence Officer
- Sent to Lubang Island, Phillipines December 26, 1944
- VJ Day: August, 1945
- Onoda “surrender”: February 20, 1974
- 29 years!
Situation Awareness

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It wasn’t that long ago...

That watching the weather meant watching the skies

Common types of clouds in the troposphere

- **Cirrocumulus** (mackerel sky) above 18,000 feet
- **Cirrus** above 18,000 feet
- **Altocumulus** 6,000 to 20,000 feet
- **Altostratus** 6,000-20,000 feet
- **Stratocumulus** below 6,000 feet
- **Stratus** below 6,000 feet
- **Cumulus** below 6,000 feet
- **Cumulonimbus** from near the ground to above 50,000 feet

National Oceanic and Atmospheric Administration
In the 21st Century...

• Weather watching is a **virtual** activity
To stay on top of the weather...
You need to mix the old with the new
#1 Rule: Know where you are!
Online Awareness

- **NWS RADAR**
- **Weather.gov**
  - Limited data
  - Limited resolution
  - Desktop
SmartPhone Awareness

- Mapping
- RADAR
- Lightning
- Warnings
- Twitter
- (FaceBook)
Warning maps on Twitter

Tornado Warning
Valid until October 7th, 2014 at 8:15 PM EDT

Impact Statistics
Population: 65,781
Area: 203 square miles
Miles of interstate: 19
Miles of railroad: 30
Public Schools: 21
Hospitals: 2
Airports: 0
National Parks: 0

Storm Information
Moving to the East at 50 MPH
Hail up to 1.25 inches in diameter
Tornado Radar Indicated

NWS Tornado Warnings @NWSTornado user reply.
Tornado Warning including Georgetown KY, Oxford KY, Stamping Ground KY until 8:15 PM EDT

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Smartphone Awareness

iPhone Apps

Weather-Ready Nation
National Oceanic and Atmospheric Administration
Smartphone Awareness

Android Apps

Weather-Ready Nation
National Oceanic and Atmospheric Administration
iPhone
Android
It's not Rocket Science

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It’s not Rocket Science
Monitor When
Storms Develop

Situation Awareness
Information Exchange

Weather-Ready Nation
National Oceanic and Atmospheric Administration
Getting YOUR info to us:

Let the NWS know what you observed, to help protect others!

For critical information – like a developing or on-going tornado, **CALL US!**
IF you can do so safely...

A picture is worth a thousand words, and a video is worth a million!

LMK.ops@noaa.gov
Getting YOUR info to us:

mPING

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National Oceanic and Atmospheric Administration
Getting YOUR info to us:
Social Media and Weather

Government Organization
NOAA's National Weather Service is building a Weather-Ready Nation by providing better information for better decisions to save lives and livelihoods.

Weather-Ready Nation
National Oceanic and Atmospheric Administration
Getting YOUR info to us:

#KYwx

#SSwx

Weather-Ready Nation
National Oceanic and Atmospheric Administration
Getting YOUR info to us:

[Facebook Page of US National Weather Service Louisville Kentucky]

Timeline:
- US National Weather Service Louisville Kentucky
- Community & Government
- Add A Category

Timeline Posts:
- What have you been up to?
- An approaching cold front will bring increasing cloudiness tonight with a chance of light rain toward dawn. Temperatures will bottom out in the upper 20s to mid 30s after midnight and then rise toward dawn. Thursday will be windy with rain... See More

Recent Posts:
- Tonight: Increasing Clouds
- Thursday: Cloudy With Rain, Showers, and Windy

About:
- Facebook posts do not always reflect the most current information. For current official info, visit http://weather.gov/louisville.
- http://www.weather.gov/louisville

Apps:
- Weather-Ready Nation
- National Oceanic and Atmospheric Administration
Getting YOUR info to us:

Joe Sullivan
@wcm_wx_man

WCM with @NWSLouisville. Iowa Stad. Cyclones fan. My thoughts and comments (especially gas price rant!) are my own (who else'd could they be?)

Louisville, KY
weather.gov/louisville
Joined November 2011

Tweets Tweets & replies Photos & videos
4,284 835 819 1,440 10

Louisville Trends
Todd Grantham
Marshall Lynch
Valentine's Day
Snapchat
Sam Smith
UofL
The Inquirer
Walton House
PL 1C4
Xbox

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Getting YOUR info to us:

Meteorologist Joe Sullivan

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- Where have you worked in the past?
- Warning Coordination Meteorologist at US National Weather Service Louisville Kentucky and Meteorologist at U.S. National Weather Service (NWS)
- Studied Meteorology at Iowa State University. Attended from 1982 to 1986.
- Lives in Louisville, Kentucky.
- From Fort Dodge, Iowa. Born on April 15, 1964 (50 years old).

What's on your mind?

Meteorologist Joe Sullivan

January 26 at 12:19pm - Twitter

Recognize the old @Letterman stand-by? Trying to figure out how to clip the vid into a 7-sec Vine. #blizzardof2015 http://t.co/2fm3kmprN

Weather-Ready Nation
National Oceanic and Atmospheric Administration
The Bottom Line:

Weather-Ready Nation
National Oceanic and Atmospheric Administration
Questions?

"The forecast for today: scattered arrows."

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@JoeNinoWxman

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