

# How to Respond to Tornadoes



Joplin, 2011

# 2017 All Hazards Webinar Series

*How to Respond to to Floods*

*March 17*

*How to Respond to to Tornadoes*

**April 21**

**How to Respond to to Wildfires**

**June 7**

**How to Respond to to Hurricanes**

**June 27**

**Hazard Response – A Year in Review**

**November 8**

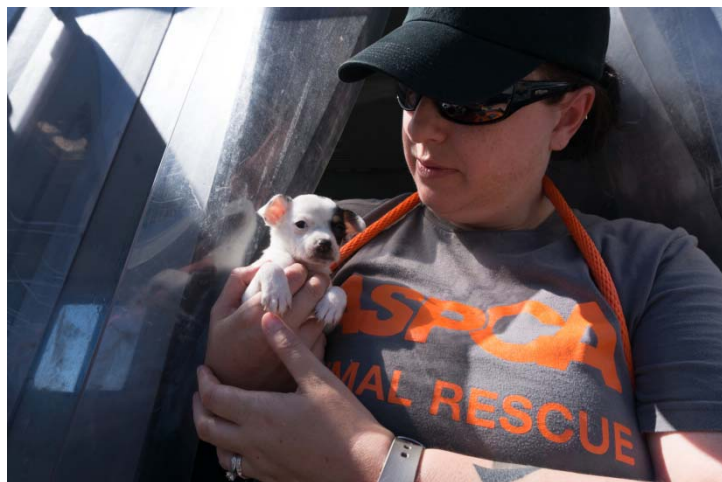


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# Agenda

- Introductions
- Anatomy of a tornado
- Tornado Facts
- ASAR activities in tornadoes
- Community Preparedness: Enhancing Response Capabilities



# ASPCA Field Investigations & Response (FIR)



FIR partners with animal welfare organizations, law enforcement and emergency management to respond to natural disasters and animal cruelty across the United States.

## Disasters

- Floods
- Hurricanes
- Tornados
- Earthquakes
- Fires
- Disease Outbreaks

## Cruelty

- Hoarding
- Puppy Mills
- Animal Fighting
- Farm Animals
- Horses
- Single acts of cruelty

# 2016 – A Year of “Largest”

- Largest dog/cat seizure: The Haven, NC.
- Largest backyard livestock seizure: Westport, MA.
- Largest cat quarantine facility: H7N2 Outbreak, NYC
- Largest geographic response: four states H. Matthew



# FIR's 2016 Impact by the Numbers

**Twenty Six**

*Deployments in 2016*

7 *disaster*

18 *cruelty*

1 *infectious disease*



**54**

*Investigations*



**35**

*Consultations*

**Three Hundred  
& Fifty Six**

*Criminal charges filed*



**Fourteen**

*Trainings provided*

**Impacting**

**889**

*attendees*

**10,578** **Animals impacted**

(animals rescued + animals assisted)



**6,346** **Animals assisted**  
(consultations + investigations)

**4,232** **Animals Rescued**



# Nearly 2,000 Unique Responders







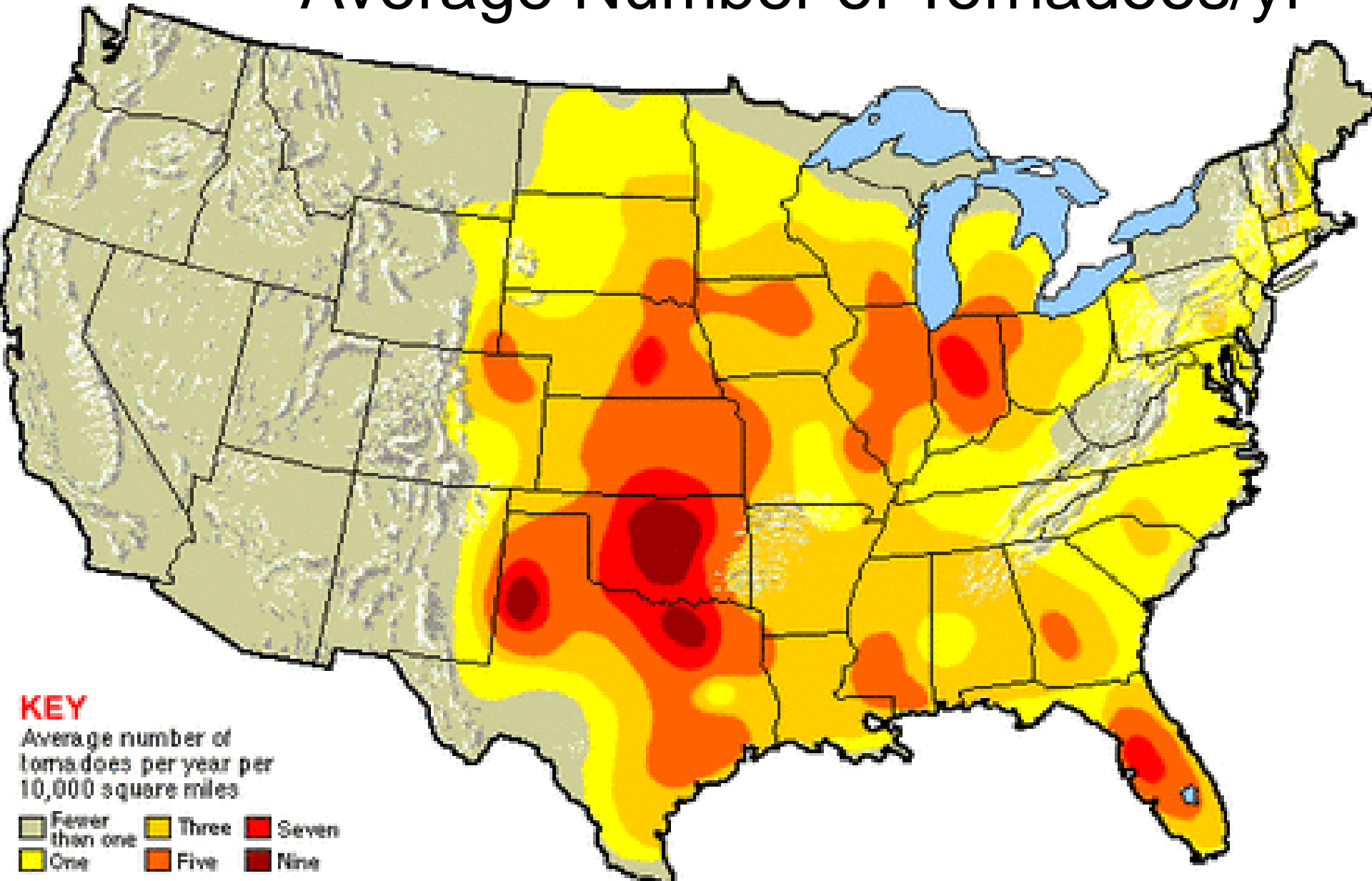
# Tornado Factoids

- Occur in many parts of the world, including Australia, Europe, Africa, Asia, and South America
- U.S. is number one with about 1,200 tornadoes yearly
- Peak “tornado season” is different throughout the U.S.
- Tornadoes can happen at any time of year and at any time of the day – though peak time is 4–9 p.m.
- Can occur over all kinds of terrain and density
- Often travel SW to NE
- Avg cost/yr for recovery is \$400M – similar to hurricanes
- El Nino v. La Nina effects
- Climate change?

# More Interesting Tidbits

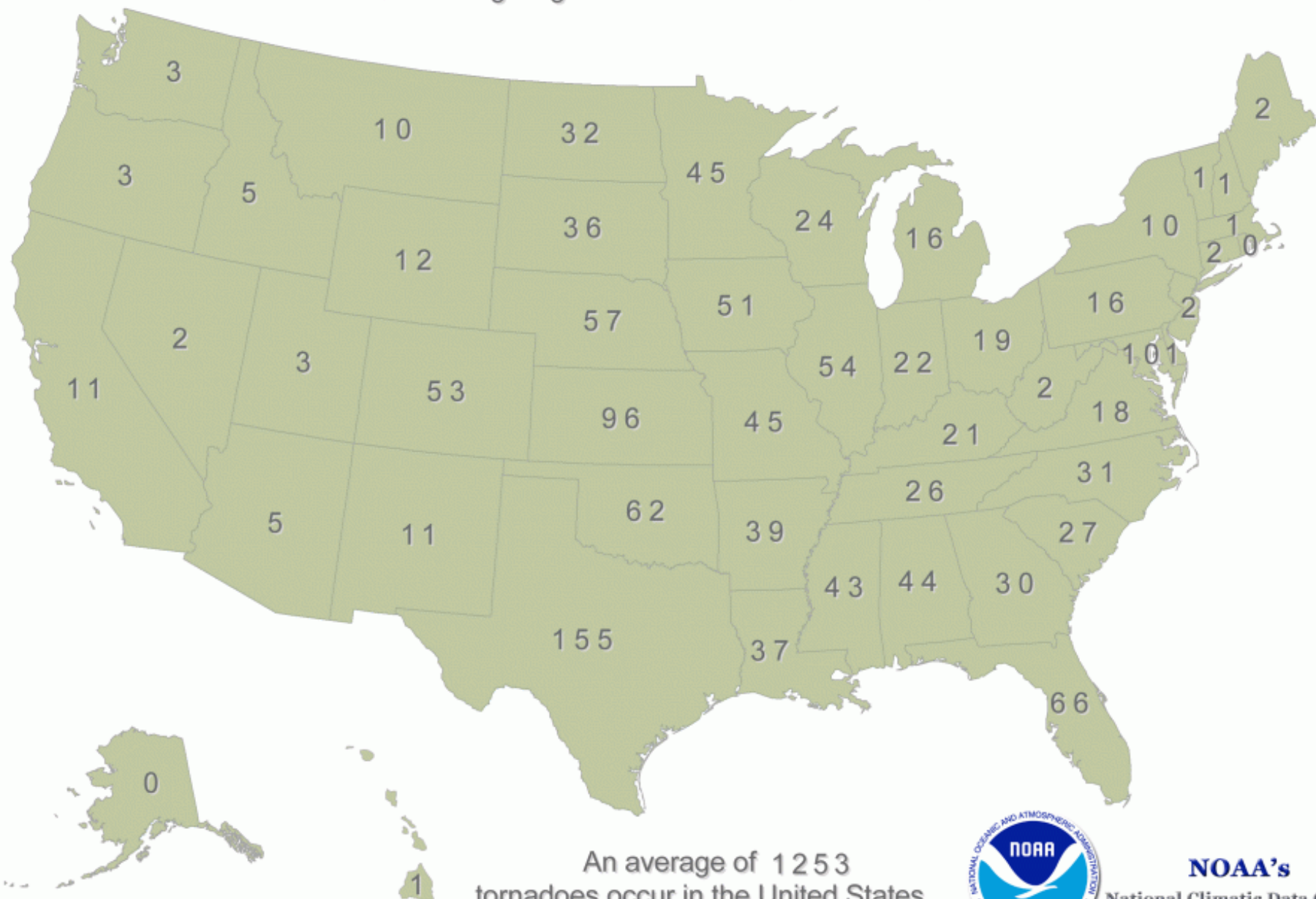
- 96.0 % of states have seen strong/significant tornadoes (EF-2+), or greater
- Only Alaska and Nevada have not reported tornadoes of this strength
- Alaska is the only place with a maximum tornado at the weakest end of the scale
- 64% of states have been impacted by a violent tornado (EF-4 or EF-5)
- 40%, have been impacted by an EF-5
- Only 1% percent of tornadoes are *violent*

# Average Number of Tornadoes/yr



# Average Annual Number of Tornadoes

Averaging Period: 1991 - 2010

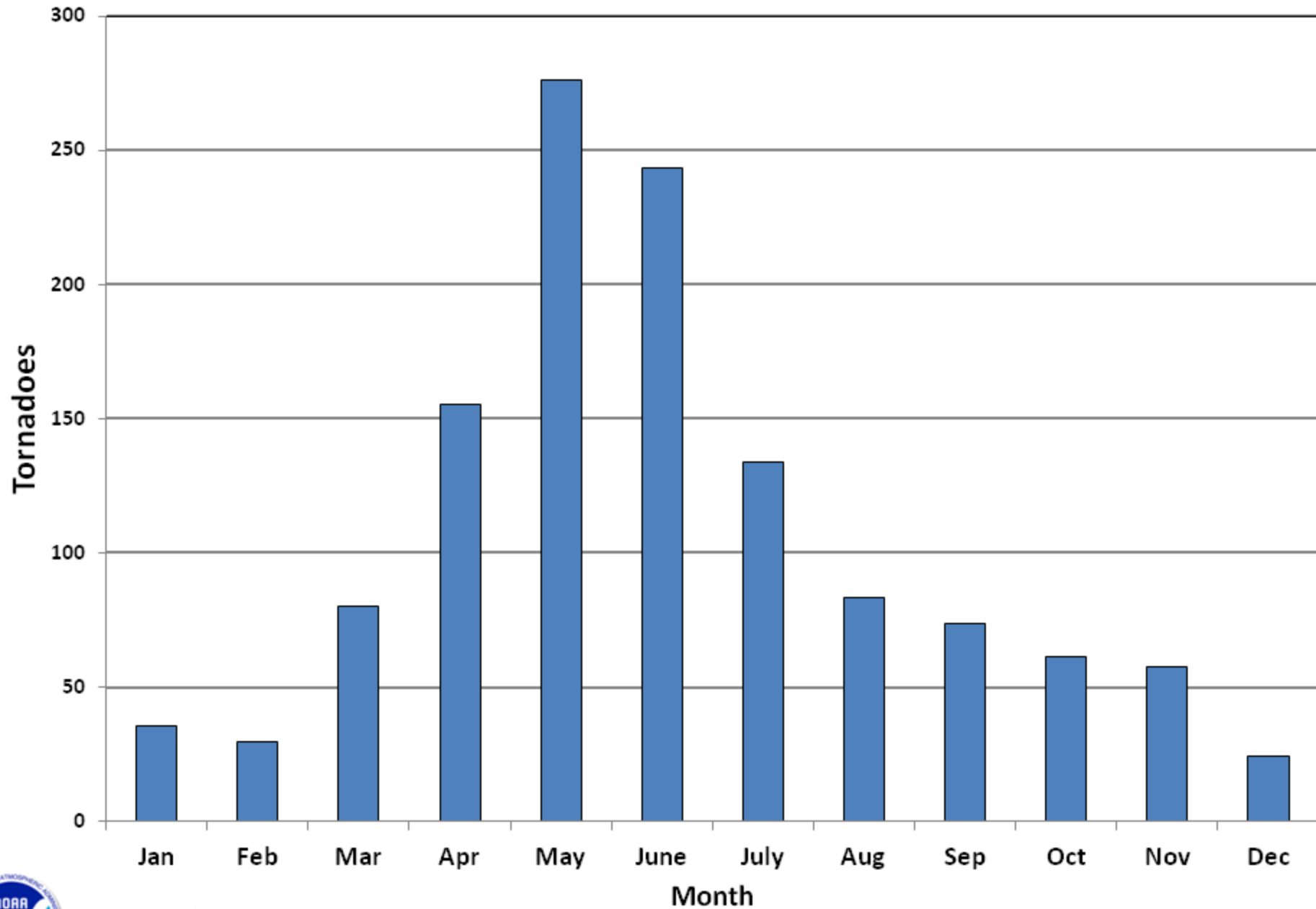


An average of 1253  
tornadoes occur in the United States  
each year



**NOAA's**  
National Climatic Data Center

# U.S. Tornado Averages by Month 1991-2010



# JANUARY TORNADO RISK



# FEBRUARY TORNADO RISK





# MARCH TORNADO RISK



# APRIL TORNADO RISK



# MAY TORNADO RISK



# JUNE TORNADO RISK



# JULY TORNADO RISK



# AUGUST TORNADO RISK



# SEPTEMBER TORNADO RISK



# OCTOBER TORNADO RISK



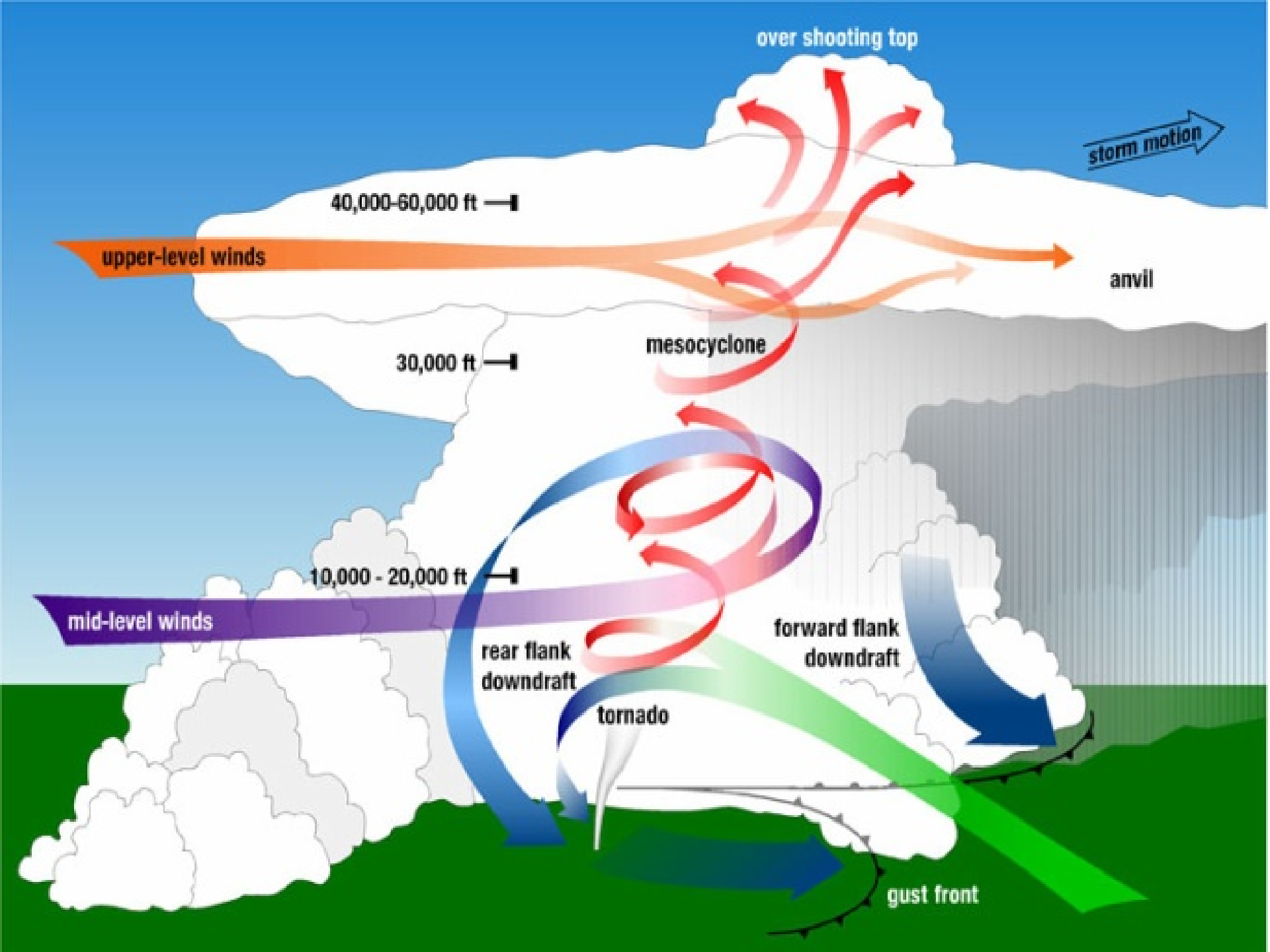


# NOVEMBER TORNADO RISK

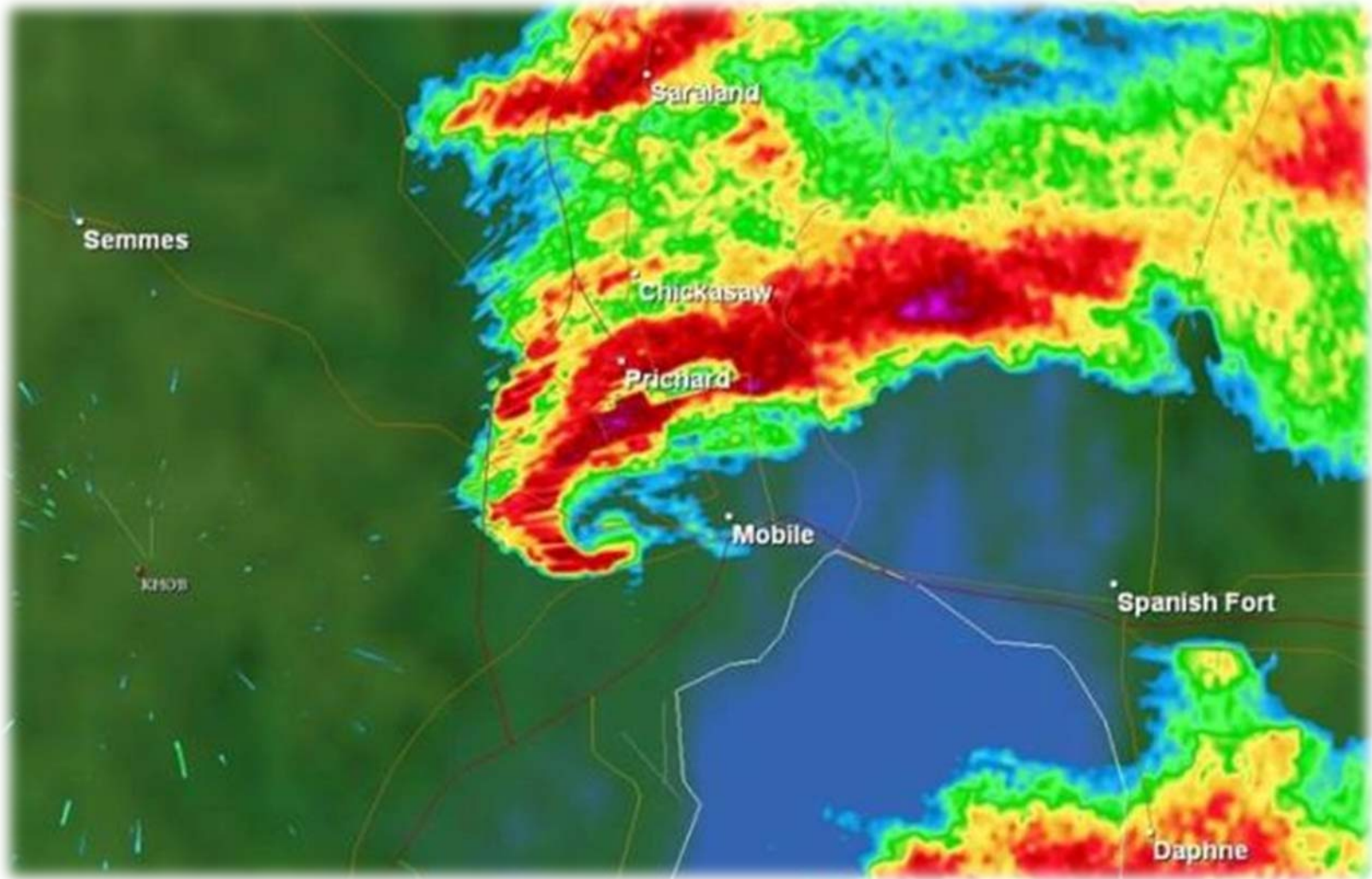


# DECEMBER TORNADO RISK



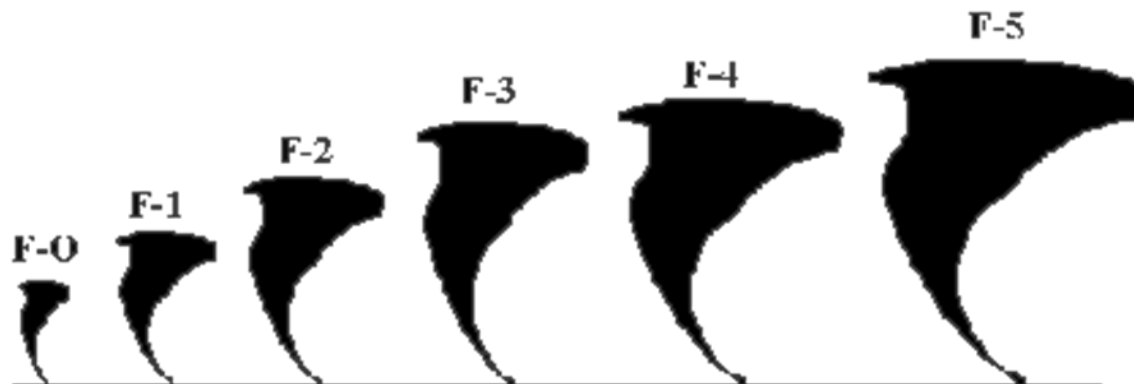


# Radar Images: Hook Echo



## Enhanced Fujita Scale

<b>EF-0</b>	65–85 mph winds
<b>EF-1</b>	86–110 mph
<b>EF-2</b>	111–135 mph
<b>EF-3</b>	136–165 mph
<b>EF-4</b>	166–200 mph
<b>EF-5</b>	>200 mph



# Alert Systems

- Tornado Watch
- Tornado Warning

## TWC: TOR:CON Index

**8+** Very high probability of a tornado

**6** - High probability of a tornado

**4** - Moderate chance of tornado, hail and/or high wind gusts

**2** - Low chance of tornado, but hail and/or high wind gusts

**0** - Near-zero chance of a tornado or a severe thunderstorm

TOR:CON index ranges from 0 to 10. Multiply value by 10 to get percentage chance of a tornado within 50 miles.



# Personal Safety

Build an emergency kit

Include pet/animal supplies

Family communication plan

Know your egress routes

Monitor NOAA weather or radio/TV

Watch the skies

Dark, often greenish sky

Large hail

Large, dark, low-lying cloud (particularly if rotating)

Loud roar, similar to a freight train





# Personal Safety

- Safe room, basement, storm cellar, or lowest level.
- If no basement, go to center of small interior room on lowest level (closet, interior hallway) away from corners, windows, doors, and outside walls.
- Put as many walls as possible between you and the outside.
- Get under a sturdy table and use your arms to protect your head and neck.
- In a high-rise building, go to a small interior room or hallway on the lowest floor possible.
- Put on sturdy shoes.
- Do not open windows.

# Tornado Hazards

- Hazardous driving conditions
- Slips and falls due to slippery walkways
- Falling and flying objects such as tree limbs and utility poles
- Sharp objects including nails and glass
- Electrical hazards from downed power lines
- Falls from heights
- Exhaustion from working extended shifts
- Heat and Dehydration





Steve Sisney, The Oklahoman / AP



# Training: ASAR Operations

**Reference FEMA 509-1. The ASAR Operations will be an Animal Care and Handling Specialist, plus the following skills.**

ICS 100, 200

IS 700, 800

IS 10, 11

Animal Control, Capture and Behavior (NACA) (8 hr)

Awareness Level HAZMAT course

Animal Handling Experience

Introduction to SAR

Animal Emergency Sheltering

Human First Aid and CPR

Pet First Aid

Safe Boat Handling (USCG approved)

Slackwater Rescue (16 hr)

Wildland Fire Safety Awareness for the Animal First-Responder or higher

Animal Decontamination

# Field Rescue Work

- Compromised Structure
- Confined Space
- Trench Rescue
- H/LA Rescue
  
- Helmet
- Gloves
- Boots
- Lighting
- Comms
- Eyes/nose/mouth protection
- Protective clothing



# Animal Search and Rescue

- Request for Assistance – Activation
- Assessment
- Rescue: Owner Request, Incidental (at-risk), Community
- SAR Challenges
- Extrication or SIP
- Field Intake
- Field Staging
- Transport
- Shelter Intake
- Emergency Sheltering
- Reunification



# Authority Having Jurisdiction

- All disasters occur and are managed locally **unless delegated**
- In most jurisdictions, animals “belong” to animal control
- If a County is overwhelmed, they can submit a request for outside resources
  - Interlocal
  - CARTs
  - NGOs
  - State → Federal



# Thou shall not self-deploy!



# Assessment



## ASPA - Initial Damage Assessment Form

<b>Date of Assessment:</b>	<b>Requesting Agency &amp; Contact Info:</b>	<b>Assessor &amp; Contact Info:</b>
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<b>GPS or Physical Address:</b>	<b>County/Parish</b>	<b>*EMERGENCY NEEDS*</b> <input type="checkbox"/> NO <input type="checkbox"/> YES
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**OWNER/BUSINESS INFORMATION** (Last, first, middle or name of business; phone # and/or email)

<b>1. DISASTER EVENT (NAME OR TYPE, AND DATE)</b>	<b>2. Accessibility:</b> Air    Boat    Road
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3. ANIMAL DAMAGE INFORMATION							
	Roaming	Injured	Missing	Carcasses	Good	Sustainable	Poor
Pets							
Cattle							
Dairy							
Equine							
Sheep/Goats							
Captive Wildlife							
Exotics/pocket pets							
Comm. Poultry							
<b>Overall Animal Health</b>	<b>(report by species; Good – Sustainable – Poor)</b>						
<b>Water Source</b>	Fresh Water	Flood Water	Salt Water	None			
<b>Animal Food</b>	1 month supply	1 week supply	3 day supply	None			

**4. WILDLIFE INTERACTIONS**  
 Did you experience any wildlife interactions?  
 No     YES    If yes, please list species and location and continue below:  
 \_\_\_\_\_  
 If YES, was the wildlife activity normal or abnormal for the species?  
 NORMAL     ABNORMAL     NOT SURE

**5. CROP LOSSES (EXCLUDING TIMBER)**  
 TOTAL ESTIMATED ACRES DESTROYED IN COUNTY/PARISH: \_\_\_\_\_

6. INFRASTRUCTURE LOSSES IN COUNTY/PARISH		
	# Destroyed	# Open for Business
Private Veterinary Clinics		
Pet Shelters (include city locations under #8)		
Animal Feed & Supply Stores		
Livestock Sale Markets		
Boarding Facilities and Fairgrounds		
Commercial Pet Food & Supplies		
Fencing (report by # of Farms observed)		

7. IMMEDIATE NEEDS		
	# PETS	# LIVESTOCK
VETERINARY ASSISTANCE		
FOOD		
LIVESTOCK CONTAINMENT EQUIPMENT		
SHELTER		
LIVESTOCK IDENTIFICATION		

**8. ASSESSOR RECOMMENDATIONS:**

Reassessment in \_\_\_\_ days.

Send in Task Force of \_\_\_\_ responders with specialized experience in: \_\_\_\_\_

No follow-up needed

Pet shelter locations (cities): \_\_\_\_\_







# Prioritizing Rescue

1. Human
2. Human and animal
3. Animal\*\*



*Stay out of the debris field and stay clear of human rescue efforts until that operation is concluded*

# Animal Rescue

Rescue requests

Dispatch

Owner requested/community concerns

Incidental (at-risk)

Field request



Extricate or  
Feed-in-place?



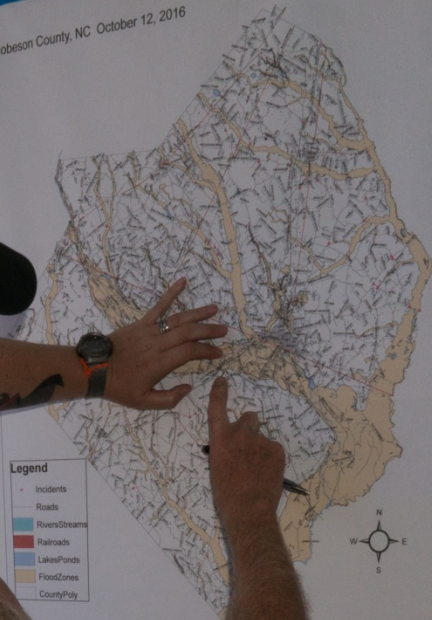


# Feeding-in-Place





Robeson County, NC October 12, 2016



Have a plan!!



## Field Rescue Form

Responder \_\_\_\_\_

ID Number \_\_\_\_\_

Date/Time \_\_\_\_\_

(Dept- year-case#-initials-#) (D-2013-03-DG-01)

Address/GPS coordinates \_\_\_\_\_

Contact info to reclaim animal \_\_\_\_\_

	Species	Breed	Description/ID	Condition
Animal info:	_____	_____	_____	_____
Animal info:	_____	_____	_____	_____
Animal info:	_____	_____	_____	_____
Animal info:	_____	_____	_____	_____
Animal info:	_____	_____	_____	_____





**Know your access/  
field staging sites**

# Field Staging





BURGER KING

KING

City Park

RVM

Small text on the pet carrier.



# Transport



# Emergency Sheltering Joplin, 2011



Dog Food





# Trapping







Administrative  
Offices

ASPCA

ASPCA  
Animal Rescue

ASPCA

ASPCA

ASPCA

ASPCA

ASPCA

ASPCA

# Reunification

- Coordination with other rescue groups, local, and state agencies
- Social media and agency websites
- Good photography
  - Identify first, show photos – then
  - Photo boards
- Proof of ownership
  - ID and contact information
- Release form



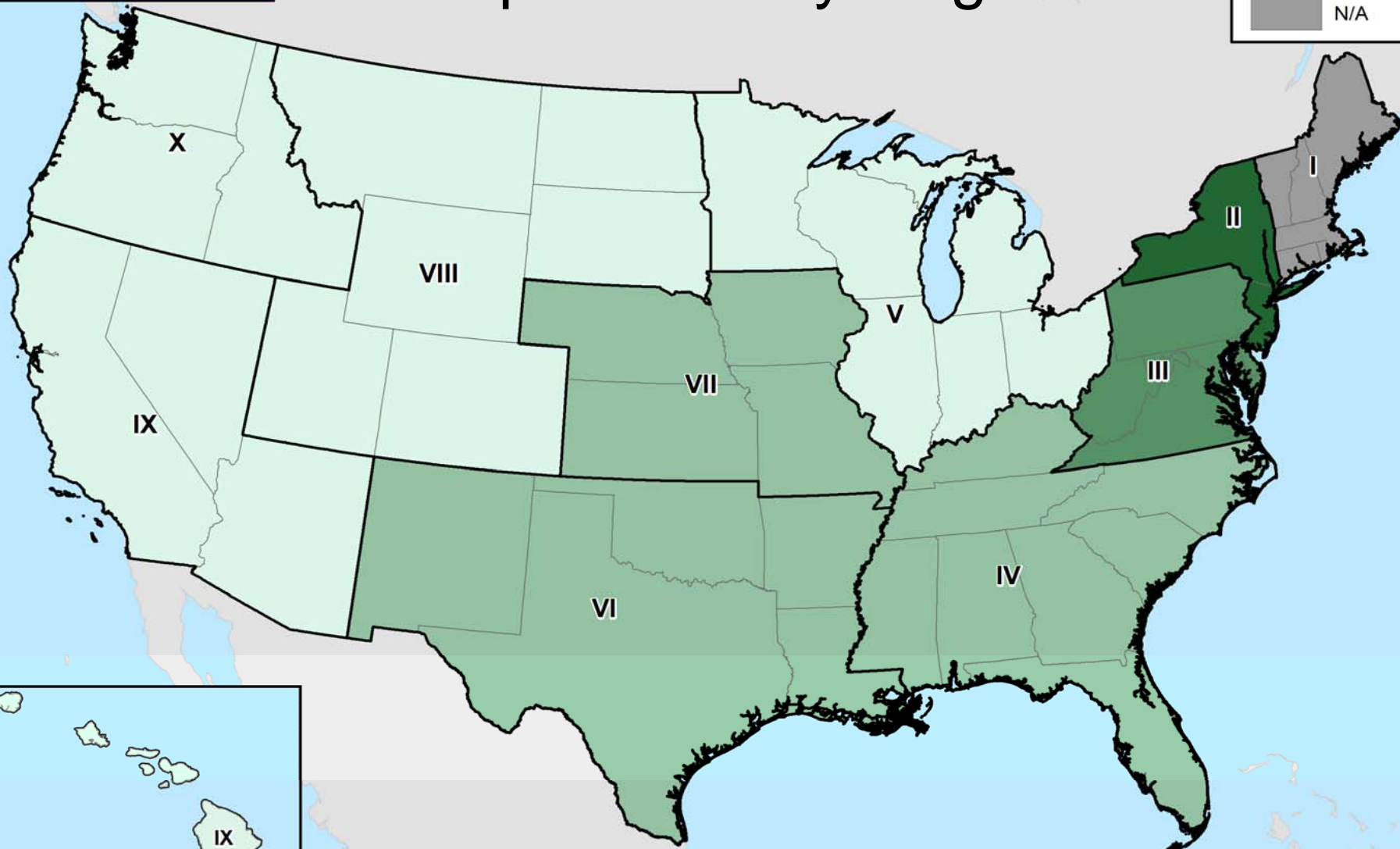
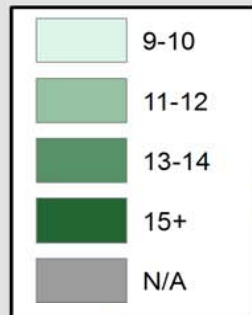
# Our goal...

To do our part to build stronger, more disaster resilient communities by enhancing their ***animal response capabilities.***





# Animal Response Capabilities by Region



# Community Preparedness Checklist

An animal-specific Preparedness Checklist identifying the components we recognize as being critical for a community to be **disaster resilient**

## Areas of Focus:

- Essential infrastructure
- Organization & leadership
- Risk assessment
- Equipment & systems
- Search and rescue
- Personnel, volunteers, training



# Is your community ready?

Can you manage a tornado in your area today?

- a. Agreements in place
- b. Relationships established
- c. Rescue equipment and safety protocols
- d. Training
- e. Adequate number of trained responders/staff
- f. Caches of supplies

# See you in June!

*How to Respond to Wildfires*

*Wednesday, June 7, 3-4 pm EDT*

