



# National Weather Service Southern Region Headquarters

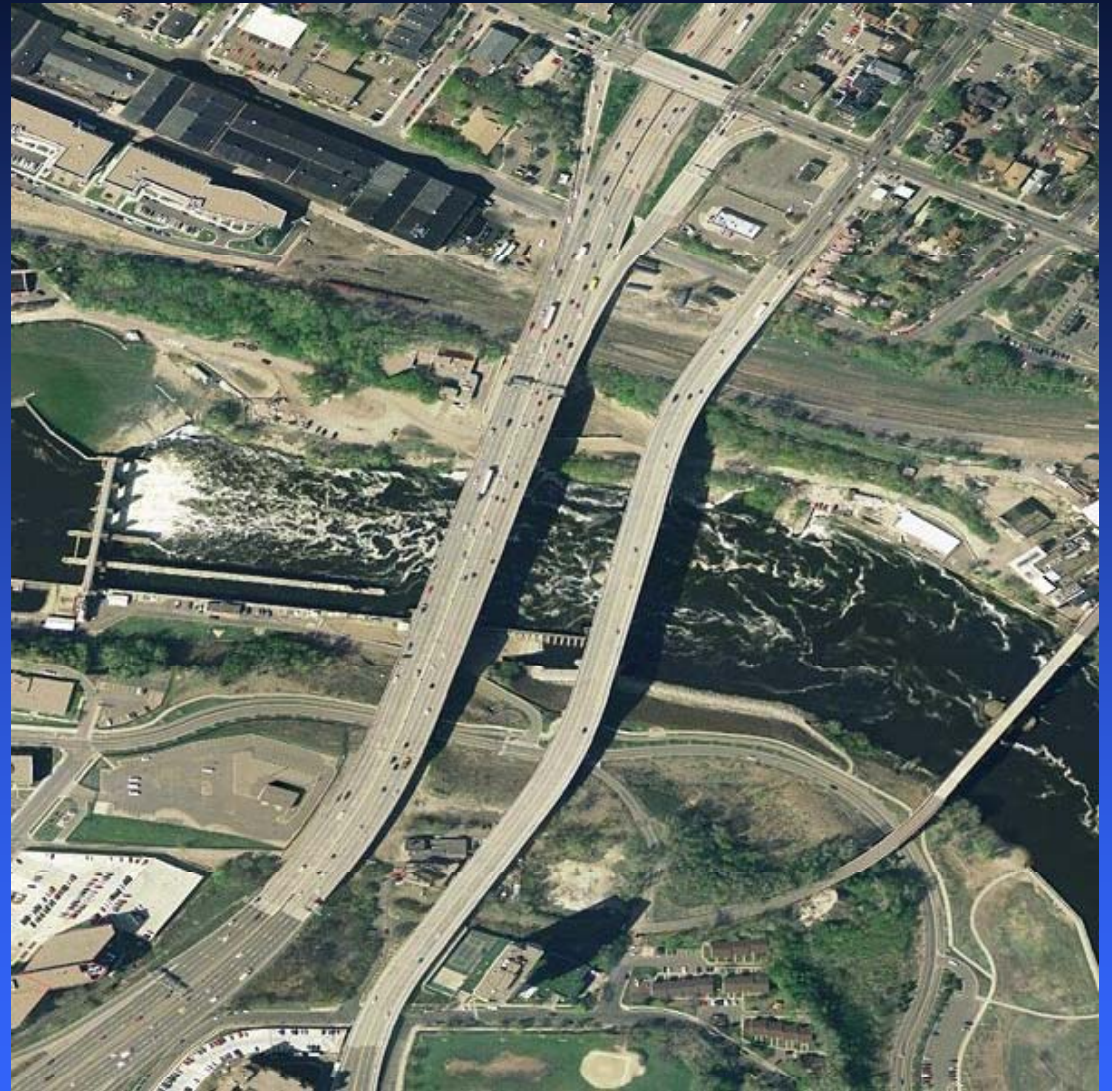
Michael A. Mach

**HAZ-Collect**   
speeding emergency messages to the public



NWS Southern Region

**Daily 140,000  
vehicles  
commute on  
the I-35W  
bridge over  
the  
Mississippi  
River in  
Minneapolis,  
MN.**



<http://www.srh.weather.gov>



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**During rush hour on August 1, 2007, the I-35W bridge structurally collapsed, plunging dozens of cars and their occupants into the river. 13 persons died. The calamity disrupted transportation, aimed a spotlight on public infrastructure, and evoked an outpouring of public response.**



<http://www.srh.weather.gov>



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Could this happen in south Texas? How will you **Communicate the Threat?**



<http://www.srh.weather.gov>



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## Non-Weather-Emergency Message (NWEM)



<http://www.srh.weather.gov>



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# All-Hazards Emergency Message Collection System



<http://www.srh.weather.gov>



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# What Is HazCollect ?

System developed by  
NWS in partnership  
with DHS/FEMA

Allows EM partners to  
generate NWEMs for  
automatic distribution  
through NWS  
Dissemination Systems

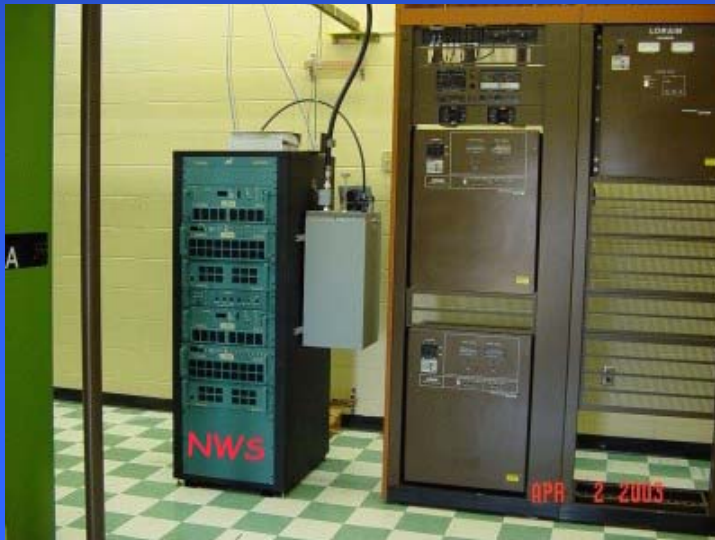


<http://www.srh.weather.gov>



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# Which NWS Dissemination Systems will be used to communicate the THREAT?



<http://www.srh.weather.gov>





NWR is an input to the FCC's Emergency Alert System.

EAS uses digital codes, identical to NWR SAME protocol, to identify key elements of a message to relay through radio, TV, and cable stations.

FCC mandates all radio, TV, and cable systems have EAS equipment, monitor 2 EAS sources (NWR is one), and carry Presidential messages.

EAS broadcasters voluntarily interrupt normal programming and/or place a "crawl" or icon near the edge of the TV.

SECC's and LECC's establish guidelines for non-weather emergency messages (Child Abduction Emergency – CAE).

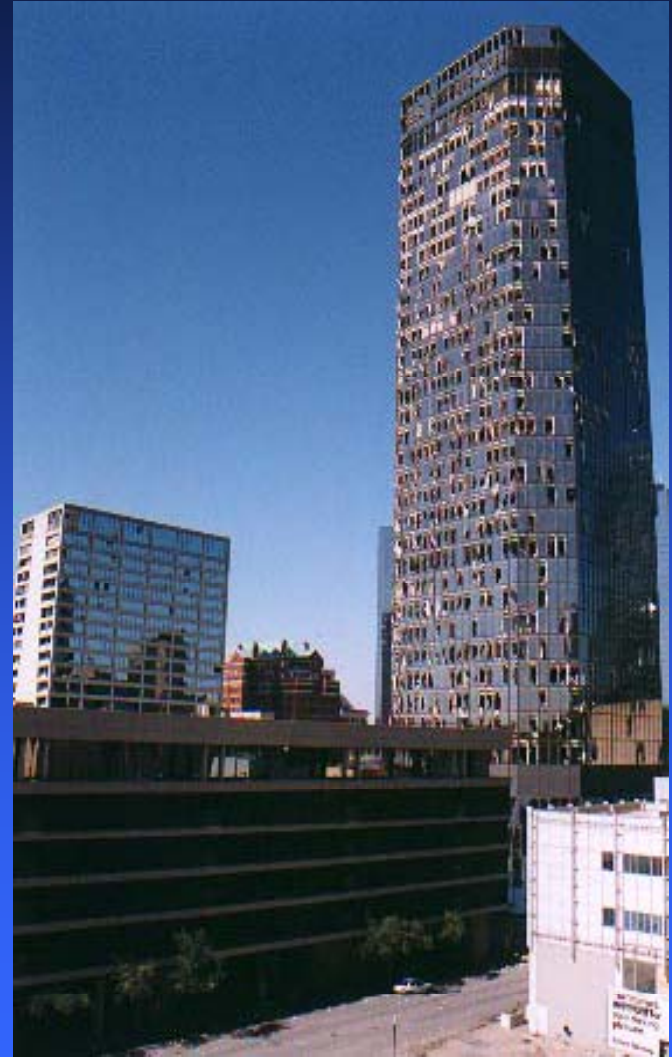
National Warning System that provides the President with the capability to address the nation during an emergency.





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## 80% of all EAS activations are associated with NWS Watches and Warning Statements



<http://www.srh.weather.gov>



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# NOAA Weather Radio

## From The National Weather Service



*Many models  
to choose from.*

- Continuous Broadcasts...all day, everyday.
- Broadcasts homeland security and civil emergency messages too!
- A **FREE** Service.
- Available at most electronic or department stores.

**Makes a great gift!**



<http://weather.gov/nwr>



- Public Alert Radios for Schools – 155K NWRs distributed via partnership between DOC, DHS, DOEd
- Indiana enacts a law requiring mobile homes to have NWR
- Streamline NWR at [Weatherunderground.com](http://Weatherunderground.com)

<http://www.srh.weather.gov>



# Emerging Generation of Receivers

## **SAME based – bursts of digital code**

- Specifies message originator
- Indicates type of hazards message
- states geographical area

## **Warning Alarm Tone**

- 1050 Hz tone





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# All-Hazards Info In Your Car



*Simple Text Services*

<http://www.srh.weather.gov>



# All-Hazards Radio Delivered By A Variety of Wireless Devices and Receivers

## Automotive Devices

- Radios
- GPS Units
- On Star



## PDA's



## PodCasts

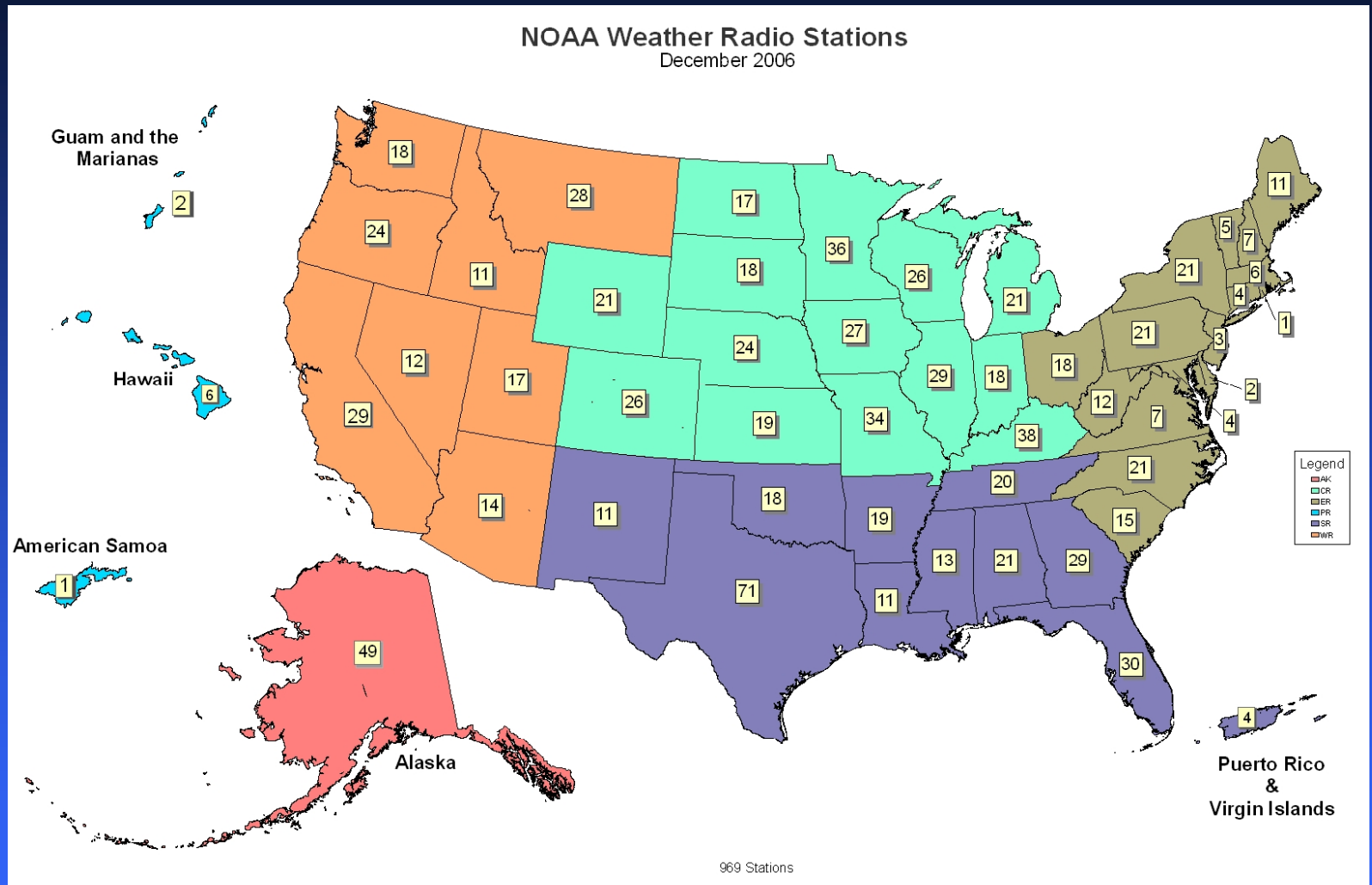


## Smart Phones





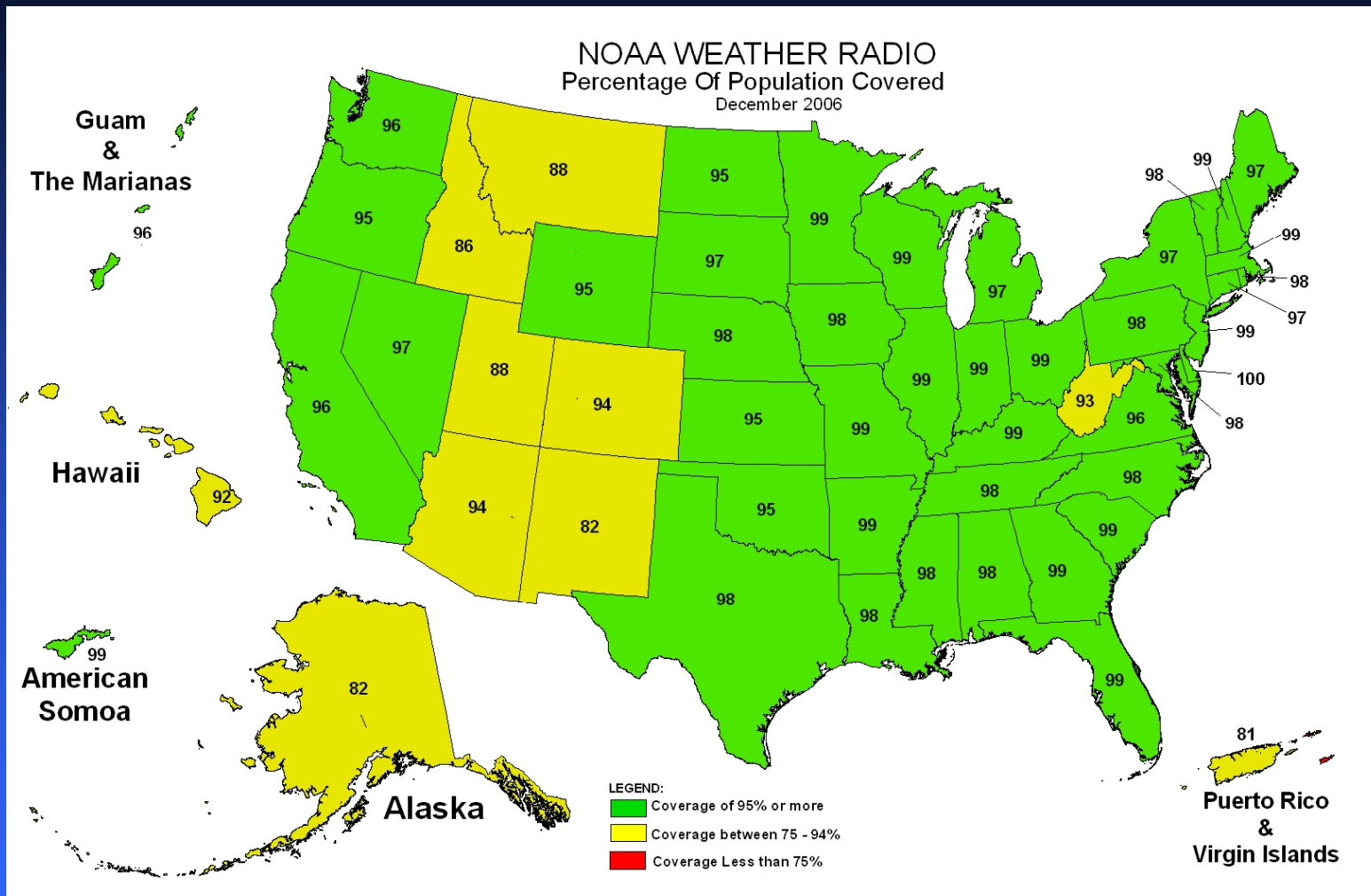
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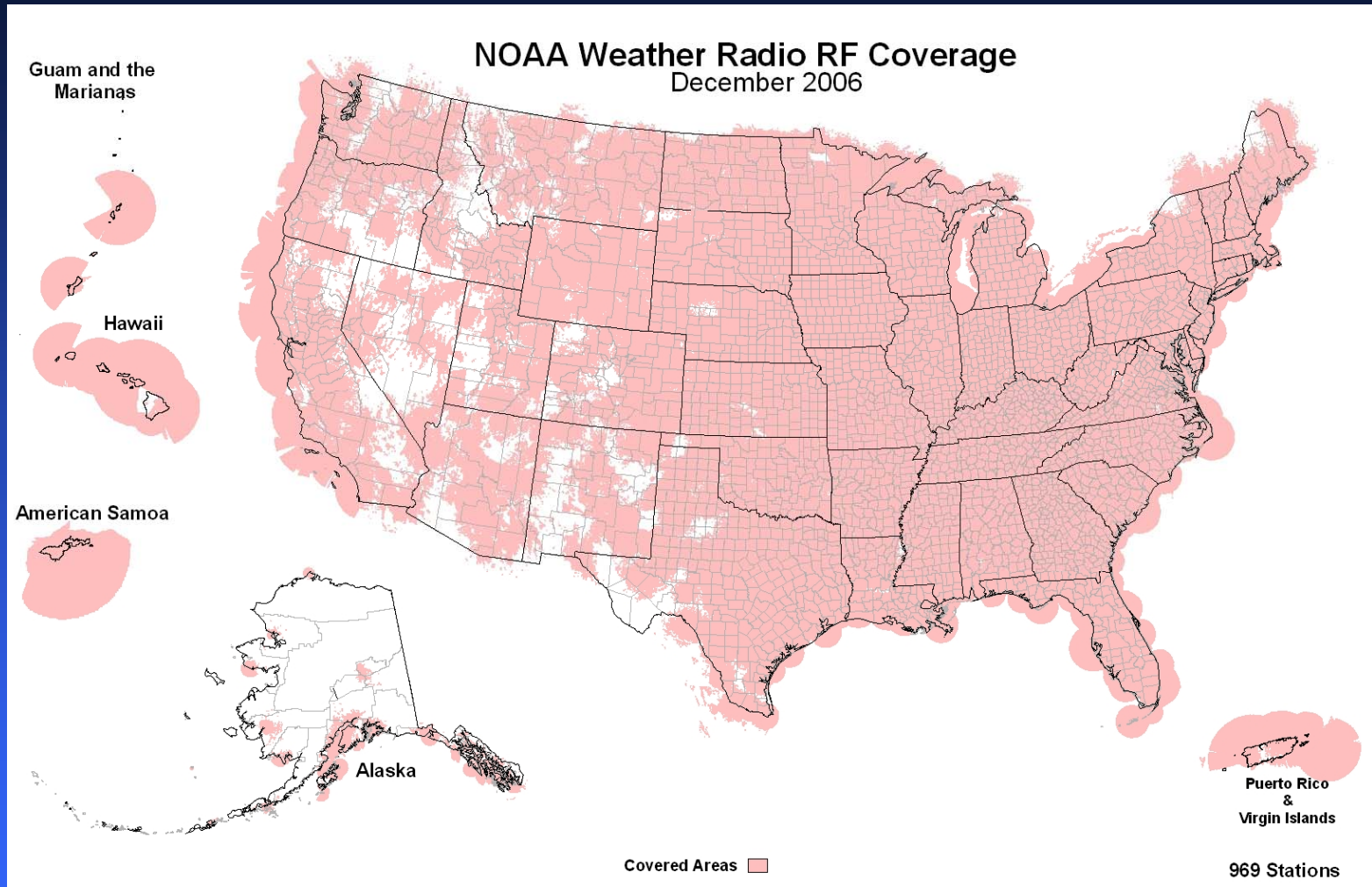


<http://www.srh.weather.gov>





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<http://www.srh.weather.gov>



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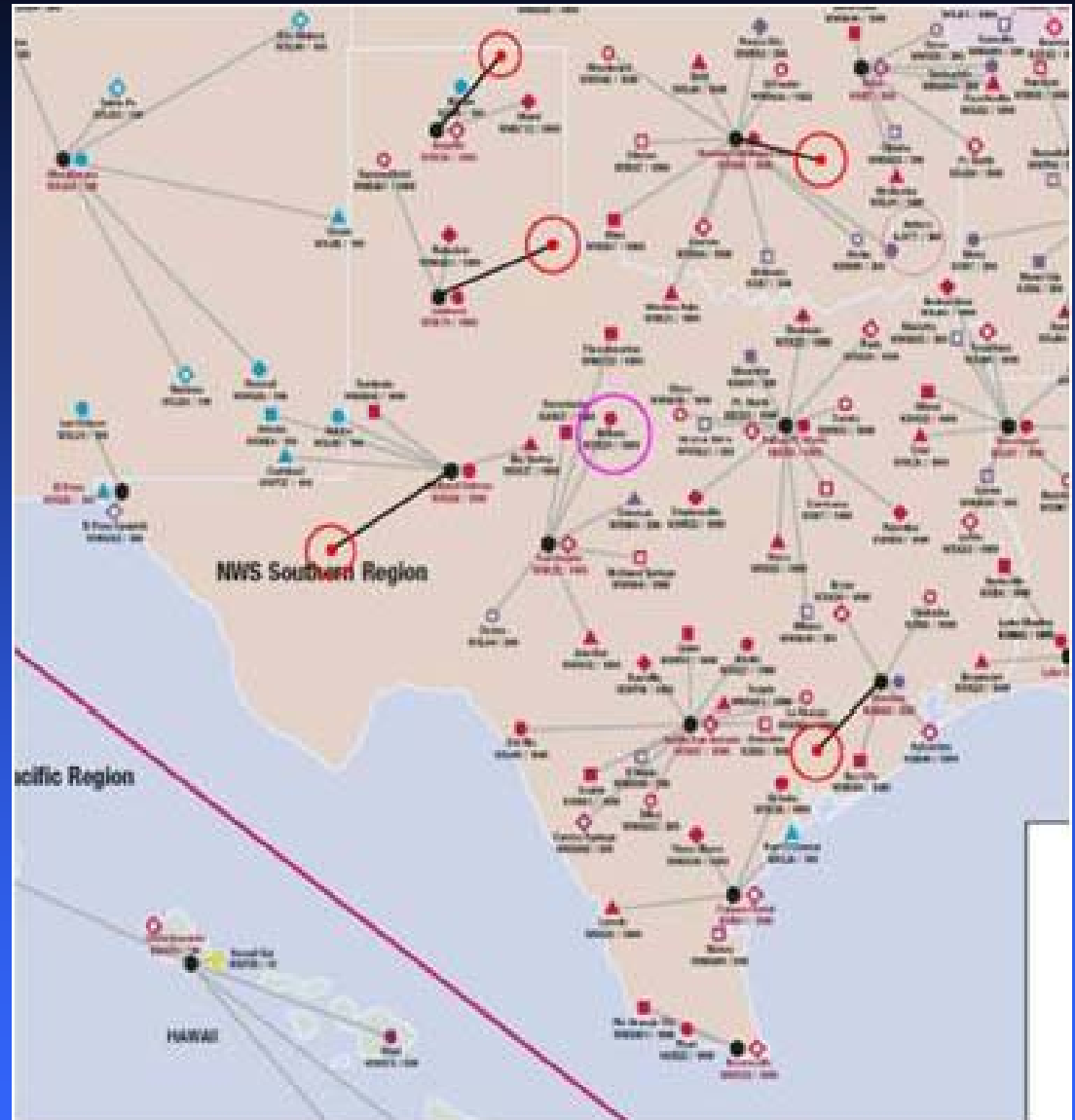
## NWR Expansion in south Texas

LCRA – 6 sites

Medina Electric  
COOP - 4 sites

Rio Grande  
Electric COOP  
- 2 sites

Guadalupe Co  
EM – FEMA



<http://www.srh.weather.gov>



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# HAZ Collect

All-Hazards Emergency Message  
Collection System

## Responsibility

NOAA is assigned the responsibility by FEMA's Federal Response Plan to provide public dissemination of critical pre and post event information on the NWR All Hazards.

<http://www.srh.weather.gov>



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## Non-Weather Related Emergency Messages

1. Administrative Message (ADR)
2. Avalanche Watch (AVA)
3. Avalanche Warning (AVW)
4. Child Abduction Emergency (CAE)
5. Civil Danger Warning (CDW)
6. Civil Emergency Message (CEM)
7. Earthquake Warning (EQW)
8. Evacuation Immediate (EVI)
9. Fire Warning (FRW)
10. Hazardous Materials Warning (HMW)
11. Law Enforcement Warning (LEW)
12. Local Area Emergency (LAE)
13. Network Message Notification (NMN)
14. Nuclear Power Plant Warning (NUW)
15. Radiological Hazard Warning (RHW)
16. Shelter in Place Warning (SPW)
17. 911 Telephone Outage Emergency (TOE)
18. Volcano Warning (VOW)

NWS Website on EAS codes and Definitions:

[http://weather.gov/os/eas\\_codes.shtml](http://weather.gov/os/eas_codes.shtml)

<http://www.nws.noaa.gov/directives/010/pd01005018c.pdf>

***<http://www.srh.weather.gov>***



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## Child Abduction Emergency (CAE)



<http://www.srh.weather.gov>



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# Civil Danger Warning (CDW)



Ben Osborne

<http://www.srh.weather.gov>



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# Civil Emergency Message (CEM)



<http://www.srh.weather.gov>



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## Evacuation Immediate - EVI



U.S. 1, Florida Keys



Howard Franklin Bridge,  
Pinellas County Florida



<http://www.srh.weather.gov>





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# Fire Warning (FRW)



<http://www.srh.weather.gov>



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# Law Enforcement Warning (LEW)



<http://www.srh.weather.gov>



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# Hazardous Materials Warning



<http://www.srh.weather.gov>



# Hazardous Materials Warning (HMW)

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# Local Area Emergency (LAE)



<http://www.srh.weather.gov>



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## 911 Telephone Outage Emergency (TOE)



<http://www.srh.weather.gov>



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# Nuclear Power Plant Warning (NUW)



<http://www.srh.weather.gov>



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# Radiological Hazard Warning (RHW)



<http://www.srh.weather.gov>





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## Emergency Action Termination - EAT

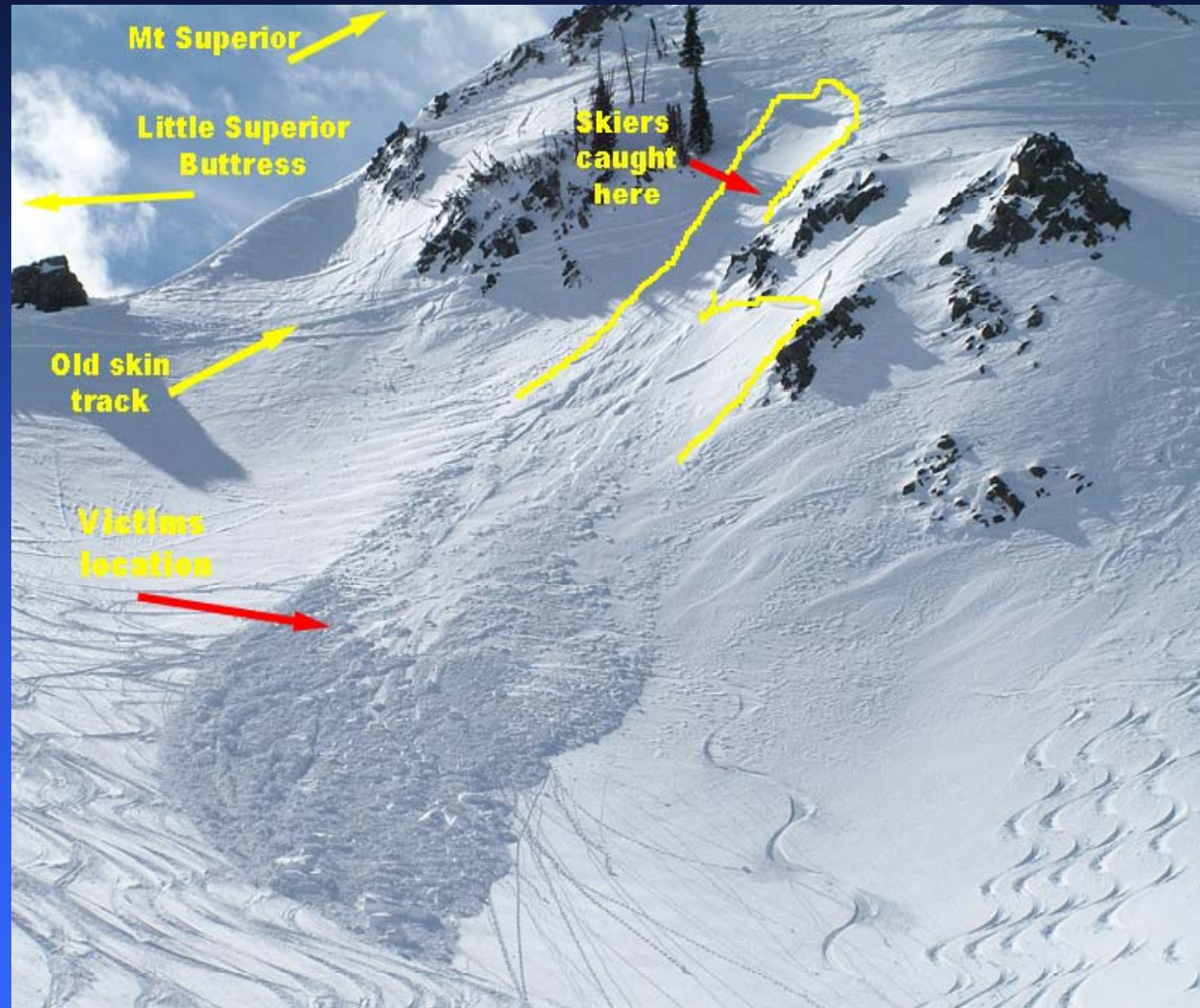


<http://www.srh.weather.gov>



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## Avalanche Watch (AVA) / Warning (AVW)



<http://www.srh.weather.gov>



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# Administrative Message (ADR)



<http://www.srh.weather.gov>



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## Generating a NWEM through **HazCollect**



<http://www.srh.weather.gov>



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# What's the NWEM Operational Flow?

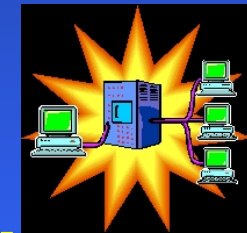
**Incident occurs**



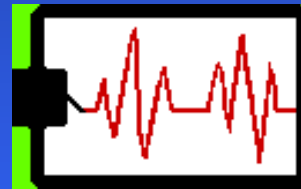
**Message Prepared**



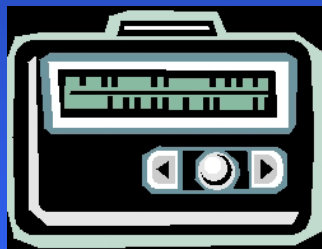
**Message Posted via DMIS**



**Message in HAZCollect**



**Reformatting to include Text-to-Speech Technology**



**Broadcast over NWS Dissemination Systems**

**Systems**

<http://www.srh.weather.gov>



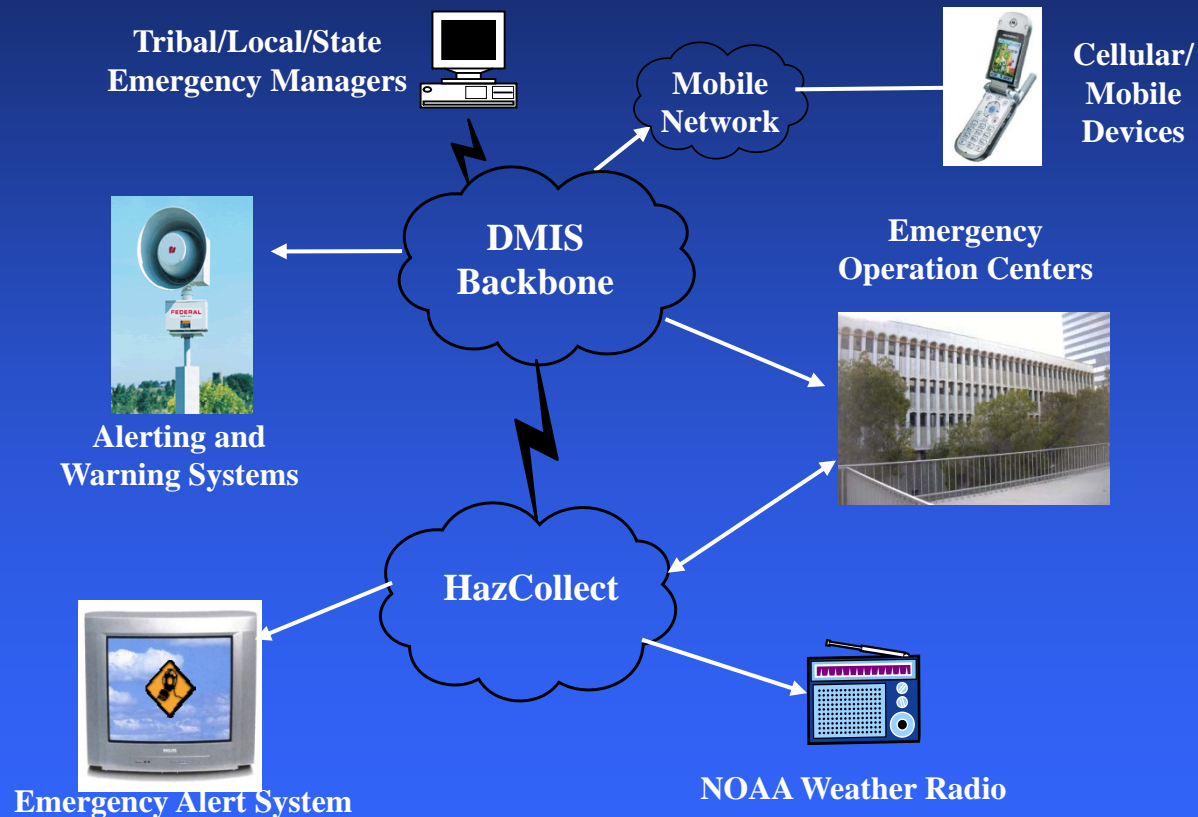
# HAZ Collect

## Software requirements:

- **CAP-enabled**
  - software must conform to the industry accepted **C**ommon **A**lerting **P**rotocol – that allows full exchange of information
- **Interface with DMIS**
  - commercial software (Blue 292, EMnet, E Team, Oasis, WebEOC, or others) must be able to interface with DMIS for authentication to occur and EM to enter message
- **Enables the HAZCollect server**
  - to properly format messages for insertion and transmission across NWS comms lines



Common Alert Protocol (CAP) allows communication between all these various systems and devices because they all adopt the industry standard.





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# DISASTER MANAGEMENT™ INTEROPERATIONS



Improving Disaster Response by enabling responders to share information seamlessly between organizations

<http://www.srh.weather.gov>





# HAZ *Collect*

- Uses existing PC software and hardware
- Speeds computer communications

(An emergency message takes 7 minutes to process today, with HAZ *Collect* that time will be reduced to 2 minutes)
- Errors are minimized by eliminating manual steps currently employed
- Message sources are authenticated for secure transmission



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# HAZCollect

## Minimum Participant Requirements

Approved



- be a member of a DHS/DMIS registered COG
- authorized under an existing plan (EAS plan, MOU, Amber Alert plan, etc.) to issue emergency alerts
- if not specifically named in a plan as an agency authorized to issue emergency messages, you will likely require state EMA approval to issue NWEMs
- Received adequate training by DMIS Responder Group regarding the creation and posting of NWEMs

<http://www.srh.weather.gov>



# HAZCollect COGS



## Collaborative Operational Group (COG)

HAZCollect COGS may be local, regional, statewide groups that are authorized to create NWEMS for dissemination to the public.

For a COG to be able to “broadcast” NWEMs the following must be completed:

- COG identified/registered in DMIS
- COG received broadcast rights through NOAA
- HazCollect Review Group (HRG) approved the COG

NWSH (1), SRH (1), WFO (1), WFO/SLO (1)



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# DISASTER MANAGEMENT™ INTEROPERATIONS

## Collaborative Operational Group (COG) Participant Levels

### Local COG

- City EOC
- Fire Rescue
- Police Dept
- Local Hospital
- County 911
- Sheriff Dept
- County EM
- Public Utilities

### State COG

- Governor's Office
- State Police
- State EM
- National Guard
- Tribal Government's

### Federal COG

- Department of Homeland Security
- Department of the Treasury
- Environmental Protection Agency
- Health and Human Services
- Department of Transportation
- FEMA
- Department of Energy
- Department of Justice
- State Department
- Defense Department
- Department of Agriculture
- Department of Commerce
- Department of the Interior
- FCC

### Non-Government

- American Red Cross
- Utility Companies
- Salvation Army
- Telecommunications Providers
- Railroad Companies

<http://www.srh.weather.gov>



# HAZCollect

## COG Level of Participation

### Example A

- A city's fire department is registered as a COG but it is not permitted to issue alerts according to city/county/state EM plans. The fire department may monitor but **not** have access to **HazCollect**.





# HAZCollect

## COG Level of Participation

### Example B

- A county EMA is a registered COG and is responsible to alert and warn the public. The state EMA asserts jurisdictional authority and requires that the state EMA Duty Officer approve all NWEM issuances. The county EMA can monitor but will **only** have access to *HazCollect* upon approval of the state EMA.



St. Johns County  
**Department of Emergency Management**  
4455 Avenue A - Suite 102 - St. Augustine, Florida 32095 - (904) 824-5550  
[www.sjcemergencymanagement.org](http://www.sjcemergencymanagement.org)

● [Home](#) ● [Local Weather](#) ● [Site Map](#) ● [Send Email](#)

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[SJ Home](#) | [FEMA](#) | [Red Cross](#) | [Florida DEM](#) | [National Weather Service](#)



# HAZCollect

## COG Level of Participation

### Example C

- State EAS plan and MOU with the NWS indicates that the state EMA will issue all local and state NWEMs from a registered *HazCollect* 'State' EMA COG.

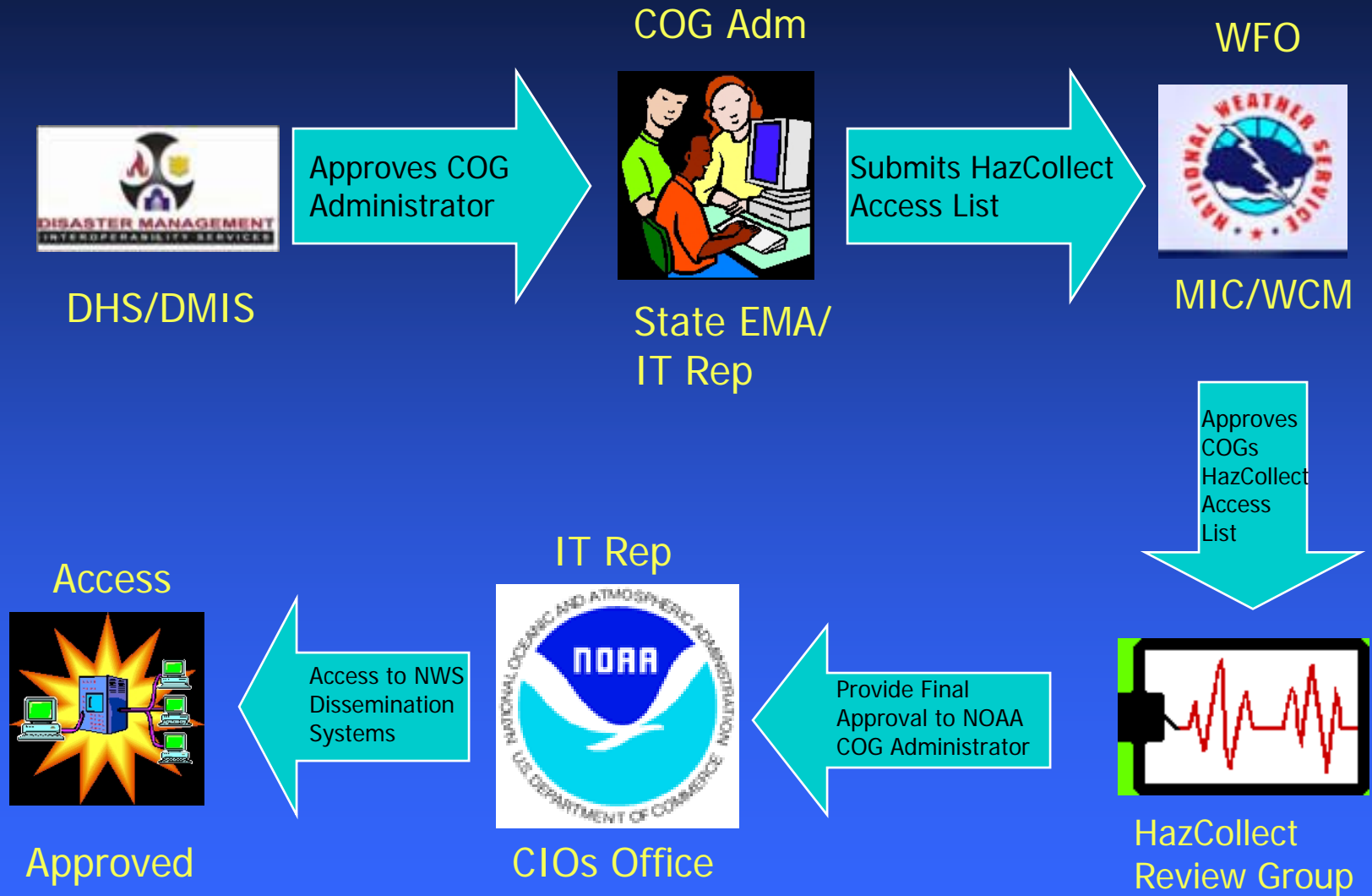


<http://www.srh.weather.gov>



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# HAZ Collect Approval Chain



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# Creating a New NWEM

## Alert Detail/Additional NWEM Information

- Click on **Event** (required) to select the type of NWEM that will be generated.
- You may choose to click on the **Information button** to see a detailed description of the **Event Type**

Additional NWEM Information

\*Event: [Dropdown Menu]

Headline: 911 Telephone Outage Emergency

\*Description: Administrative Message/Follow up Statement  
Avalanche Warning  
Avalanche Watch  
Child Abduction Emergency  
Civil Danger Warning  
Civil Emergency Message

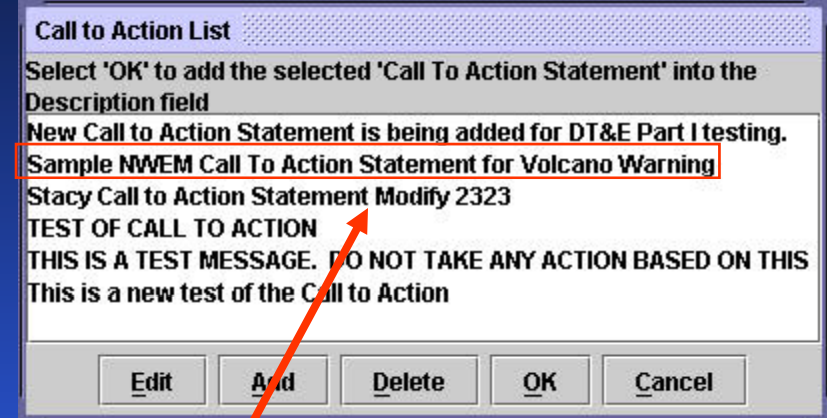
[Information Button]



# Call To Action to Description

- Click on the **ellipsis** button  to view the **Call To Action List**.

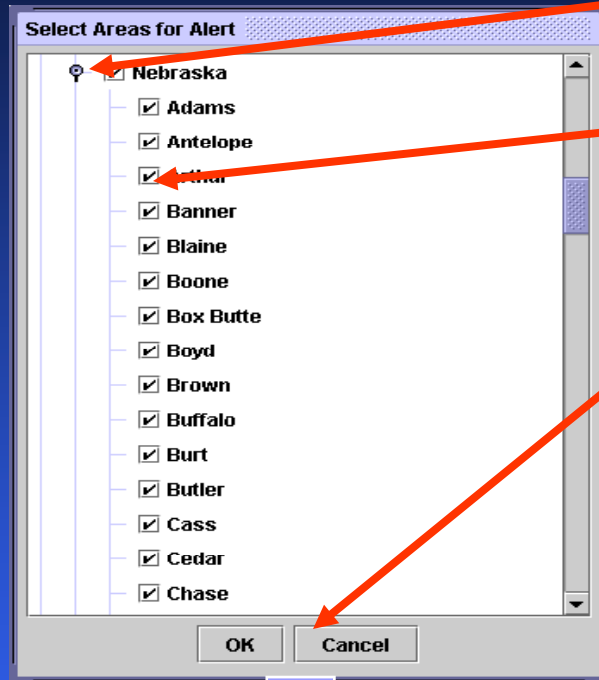
- The **Call To Action List** screen opens and statements may be **created** and **saved**.



The **Call To Action List** displays all previously defined **Call to Action** statements. Choose a statement that suits your current needs, then select the **OK button** to add the statement to the **Description field**.



# Assigning the Broadcast Area



- Click on the “lollypop” to open the tree to geographic areas
- Click on the **checkbox** by the locations to select areas to receive the NWEM.
- Click **OK** to close the window and return to the Additional NWEM Information window and retain the desired areas. (Click **Cancel** to close the window without retaining the areas.)
- The table in the **Areas** tab will be updated with a list of the selected area(s) including the county and unique numeric geographic identifier (**FIPs** or **Geocode**) of the county.

*Areas:	Description	Geocode
	Adams	31001
	Antelope	31003
	Arthur	31005
	Banner	31007
	Blaine	31009



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000  
WOUS44 KEWX 251343  
SPWEWX  
TXC453-251645-

URGENT - IMMEDIATE BROADCAST REQUESTED

**SHELTER IN PLACE WARNING**

TEXAS EMERGENCY MANAGEMENT AGENCY AUSTIN/SAN ANTONIO TEXAS  
RELAYED BY NATIONAL WEATHER SERVICE AUSTIN/SAN ANTONIO TX  
843 AM CDT THU MAY 25 2006

THE FOLLOWING MESSAGE IS TRANSMITTED AT THE REQUEST OF THE  
TEXAS GOVERNOR'S DIVISION OF EMERGENCY MANAGEMENT AUSTIN TEXAS.

THERE IS A CHLORINE LEAK FROM A TANKER IN THE 9200 BLOCK OF EAST  
HIGHWAY 290. RESIDENTS IN THE CHIMNEY HILLS AND WALNUT TRACE  
SUBDIVISIONS SHOULD REMAIN IN THEIR HOMES, TURN OFF THEIR AIR  
CONDITIONER, CLOSE WINDOWS AND DOORS, AND LISTEN TO MEDIA  
FOR FURTHER UPDATES. THERE IS NO NEED TO EVACUATE, HOWEVER  
CHLORINE CAN BE AN IRRITANT IF INHALED. RESIDENTS NEEDING TO  
LEAVE THAT AREA SHOULD DO SO BY GOING NORTH ON SPRINGDALE  
THEN WEST ON FURGESON.

\$\$

<http://www.srh.weather.gov>



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FPUS54 KEPZ 011052 LOC  
ZFPSPN

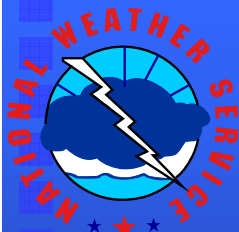
PRODUCTO DEL PRONÓSTICO POR ZONAS FOR  
SOUTHWEST-SOUTHCENTRAL NM-FAR WEST TEXAS SERVICIO  
NACIONAL METEOROLÓGICO DE EL PASO TX/SANTA TERESA NM  
350 AM MST MARTES 1 DE MARZO 2005

TXZ055-020400-  
EL PASO-INCLUYENDO EL MUNICIPIO DE...EL PASO  
350 AM MST MARTES 1 DE MARZO 2005.

HOY...MAYORMENTE SOLEADO. MÁXIMAS ALREDEDOR DE 69 GRADOS. LOS VIENTOS DEL SUROESTE 10 A 15 MILLAS POR HORA Y CAMBIARÁN DE PUESTO AL EL NOROESTE EN LA TARDE. .ESTA NOCHE...MAYORMENTE DESPEJADO. LAS MÍNIMASALREDEDOR DE 35 GRADOS. LOS VIENTOS DEL OESTEALREDEDOR DE 10 MILLAS POR HORA EN EL ATARDECERY ESTARÁN LEVES Y VARIABLE.

.MIÉRCOLES...NUBOSIDAD CRECIENTE. LAS MÁXIMASALREDEDOR DE 70. EL VIENTO LEVE Y VARIABLE QUESOPLARÁ DEL NOROESTE ALREDEDOR DE 10 MILLAS POR HORA EN LA TARDE.

<http://www.srh.weather.gov>



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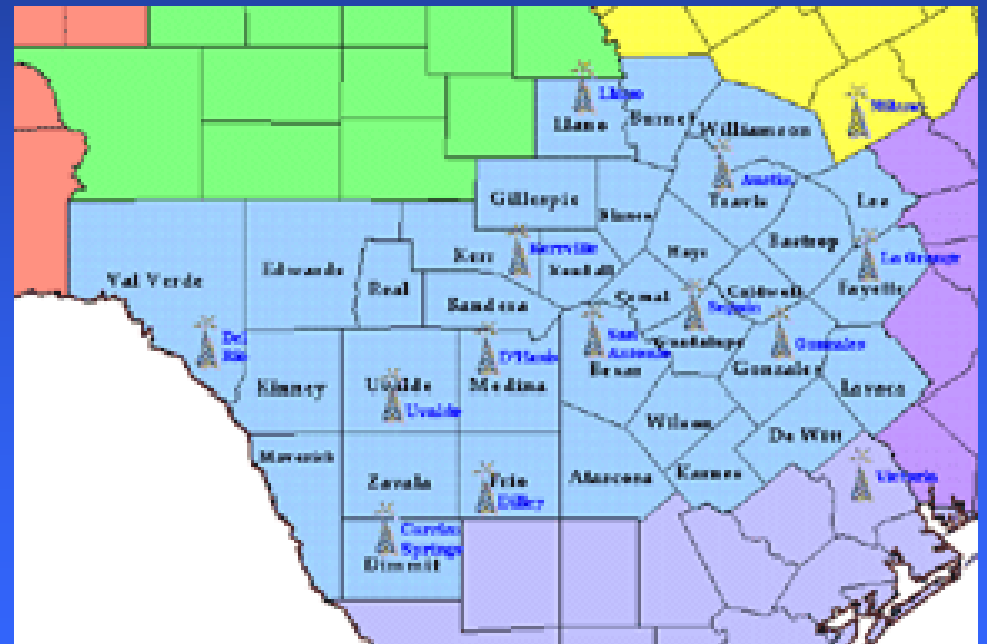


**MARK TRAIL CHAMPIONS  
NOAA WEATHER RADIO—  
THE VOICE OF THE NATIONAL WEATHER  
SERVICE**

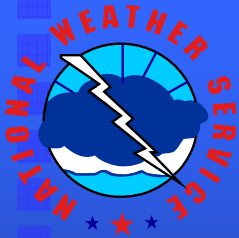
NOAA WEATHER  
RADIOS SHOULD BE  
AS COMMON IN  
HOMES AND PUBLIC  
PLACES AS SMOKE  
DETECTORS!

**NOAA**  
Weather Radio

Mark Trail image courtesy of North America Syndicate, Inc., World Rights Reserved



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# When Disaster Strikes Be Prepared to Communicate the Threat!





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## Websites

**NWS** [weather.gov/os/hazcollect](http://weather.gov/os/hazcollect)

**DMIS** [www.dmi-services.org](http://www.dmi-services.org)

**FEMA** [www.fema.gov](http://www.fema.gov)

**ED.gov** <http://public-alert-radio.nws.noaa.gov/>

**Weatherunderground**

[www.weatherunderground.com/wxradio/index.html](http://www.weatherunderground.com/wxradio/index.html)

**Q & A**

<http://www.srh.weather.gov>