Travis County ARES
Weather Nets Refresher

May 2023

Portions Adapted from September 2015 Presentation

PRESIDENTIAL DISASTER DECLARATIONS

IN TEXAS SINCE 1953

- 50 Floods
- 26 Tornadoes
- 21 Hurricanes/Tropical Storms
- 4 Wildfires
- 2 Winter Storms
- 2 Explosions
- 1 Space Scuttle Debris Field

106 TOTAL

In the past 62 years 94% of disasters were due to the weather

ARRL/NWS MOU

UPDATED JUNE 2011

ARRL/ARES

ARRL agrees to encourage its volunteers, especially the ARES, to contact and cooperate with the NWS Warning Coordination Meteorologists to establish organized Skywarn networks with radio amateurs serving as communicators and spotters

NWS

The NWS agrees to work with ARRL/ARES volunteers to establish Skywarn networks and other weather emergency alert and relief systems

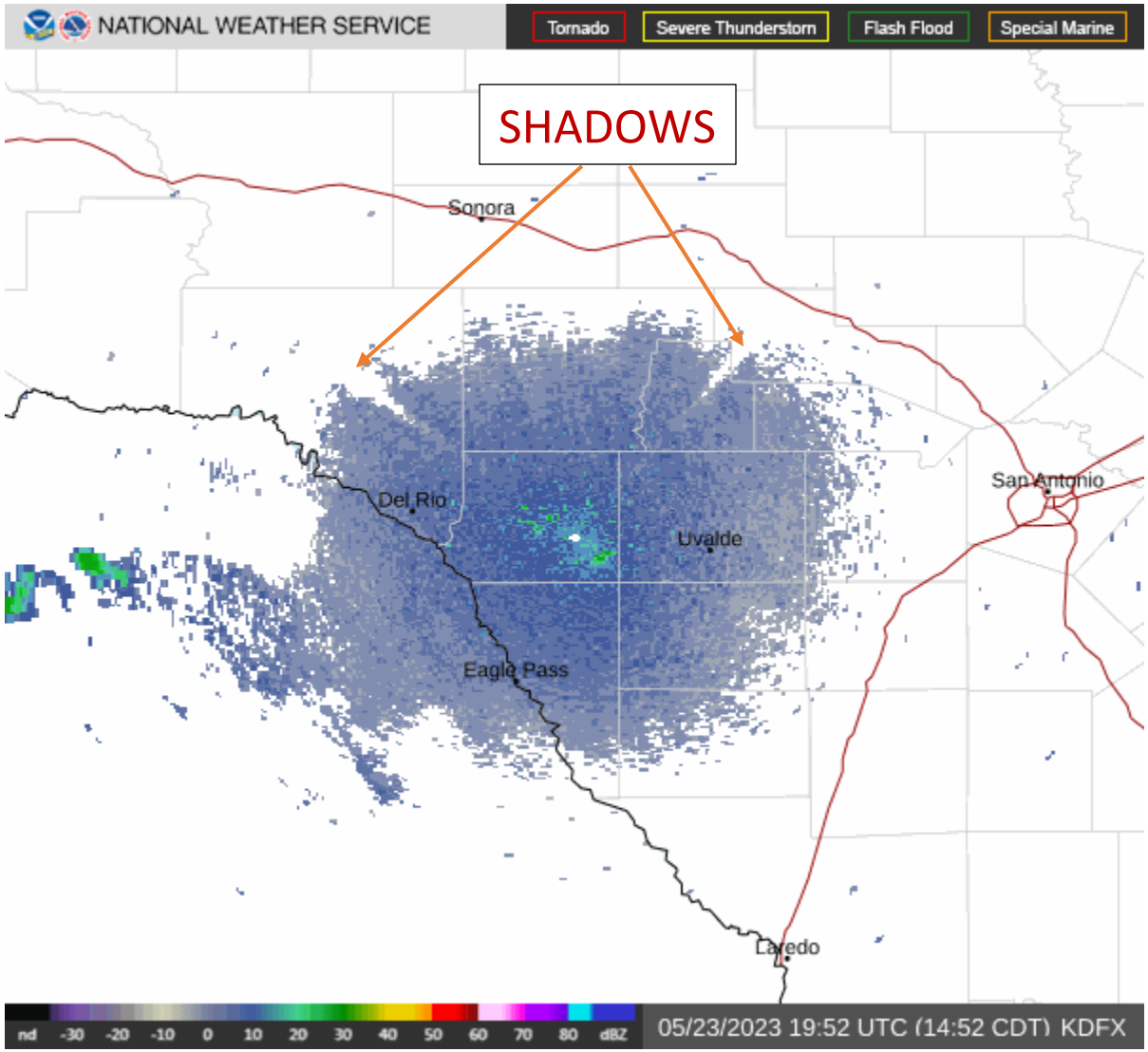
WHY WEATHER NETS?

- NWS Radar Beam

0.5 to 19.5 degrees

above horizon

- Curvature of Earth hides storms below the radar straight beam
- Austin is 70 miles from the NWS radar in New Braunfels
- Radar does not show weather below 4,000 ft. in Austin


NATIONAL WEATHER SERVICE
Tornado
Severe Thunderstorm
Flash Flood
Special Marine
SHADOWS
Sonora
Del Rio
Uvalde
San Antonio
Eagle Pass
Laredo
nd -30 -20 -10 0 10 20 30 40 50 60 70 80 dBZ
05/23/2023 19:52 UTC (14:52 CDT) KDFX

GOALS

- Have a network of trained weather spotters in place to report severe weather
- Activate the WX when needed
- Coordinate reports from spotters in accordance with Skywarn manuals
- Encourage accurate reporting and limit low priority traffic when necessary
- Relay accurate and coordinated reports to the NWS, CTECC, and the public through the media

DOWNLOAD THIS NOW

Troy Kimmel's Weather Spotter Guide

http://www.la.utexas.edu/users/kimmel/skywarnbook.pdf

HELPFUL NWS LINKS

Point Forecast Matrix

https://forecast.weather.gov/product.php?site=NWS&product=PFM&issuedby=EWX

ACTIVATION TRIGGERS

- Request by the NWS
- NOAA weather radio broadcasts the activation of the spotter network
- The county is placed under a severe thunderstorm, flash flood, or tornado warning
- CTECC is activated for a weather related event
- At the direction of the TCARES Emergency Coordinator
- Frequency 146.94 (PL 107.2)
- Secondary 147.36 (PL 131.8)

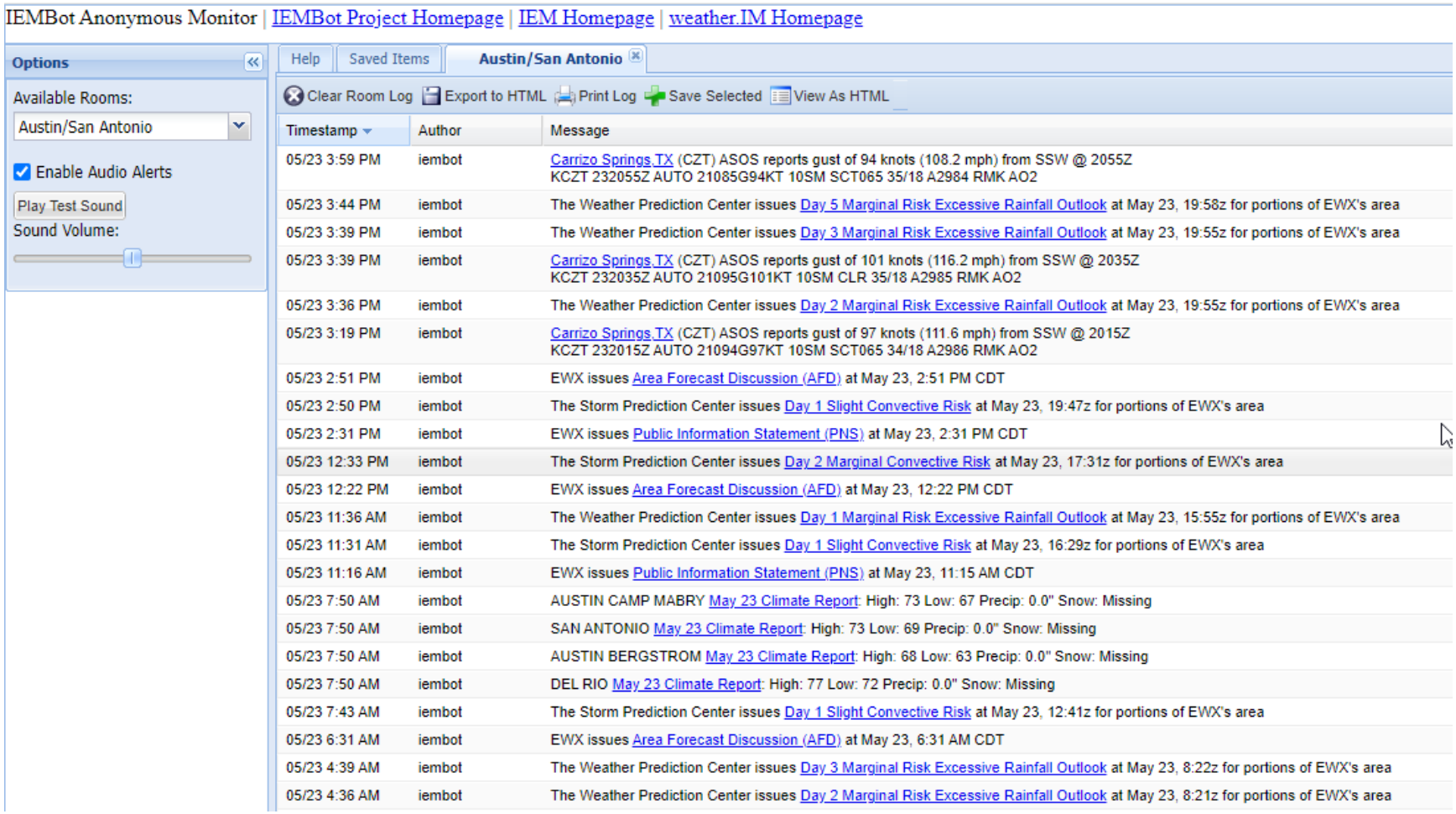
HELPFUL NWS LINKS

WATCHES, WARNINGS, AND ADVISORIES

For TC:
https://alerts.weather.gov/cap/wwaatmget.php?x=TXC453&y=1

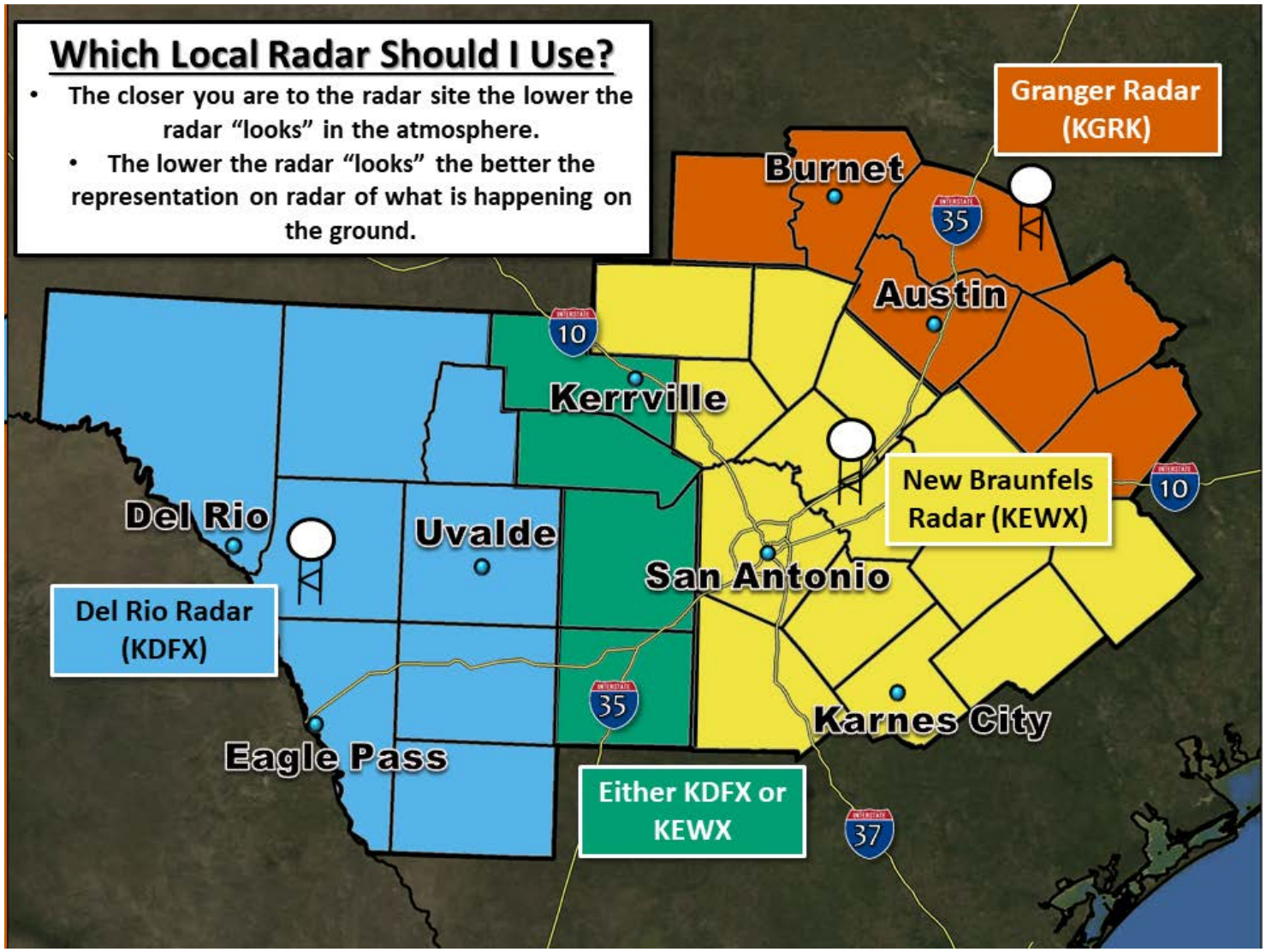
For all TX:
https://alerts.weather.gov/cap/tx.php?x=1

IEMBOT MONITOR (https://weather.im/iembot/)



Timestamp	Author	Message
05/23 3:59 PM	iembot	Carrizo Springs,TX (CZT) ASOS reports gust of 94 knots (108.2 mph) from SSW @ 2055Z KCZT 232055Z AUTO 21085G94KT 10SM SCT065 35/18 A2984 RMK AO2
05/23 3:44 PM	iembot	The Weather Prediction Center issues Day 5 Marginal Risk Excessive Rainfall Outlook at May 23, 19:58z for portions of EWX's area
05/23 3:39 PM	iembot	The Weather Prediction Center issues Day 3 Marginal Risk Excessive Rainfall Outlook at May 23, 19:55z for portions of EWX's area
05/23 3:39 PM	iembot	Carrizo Springs,TX (CZT) ASOS reports gust of 101 knots (116.2 mph) from SSW @ 2035Z KCZT 232035Z AUTO 21095G101KT 10SM CLR 35/18 A2985 RMK AO2
05/23 3:36 PM	iembot	The Weather Prediction Center issues Day 2 Marginal Risk Excessive Rainfall Outlook at May 23, 19:55z for portions of EWX's area
05/23 3:19 PM	iembot	Carrizo Springs,TX (CZT) ASOS reports gust of 97 knots (111.6 mph) from SSW @ 2015Z KCZT 232015Z AUTO 21094G97KT 10SM SCT065 34/18 A2986 RMK AO2
05/23 2:51 PM	iembot	EWX issues Area Forecast Discussion (AFD) at May 23, 2:51 PM CDT
05/23 2:50 PM	iembot	The Storm Prediction Center issues Day 1 Slight Convective Risk at May 23, 19:47z for portions of EWX's area
05/23 2:31 PM	iembot	EWX issues Public Information Statement (PNS) at May 23, 2:31 PM CDT
05/23 12:33 PM	iembot	The Storm Prediction Center issues Day 2 Marginal Convective Risk at May 23, 17:31z for portions of EWX's area
05/23 12:22 PM	iembot	EWX issues Area Forecast Discussion (AFD) at May 23, 12:22 PM CDT
05/23 11:36 AM	iembot	The Weather Prediction Center issues Day 1 Marginal Risk Excessive Rainfall Outlook at May 23, 15:55z for portions of EWX's area
05/23 11:31 AM	iembot	The Storm Prediction Center issues Day 1 Slight Convective Risk at May 23, 16:29z for portions of EWX's area
05/23 11:16 AM	iembot	EWX issues Public Information Statement (PNS) at May 23, 11:15 AM CDT
05/23 7:50 AM	iembot	AUSTIN CAMP MABRY May 23 Climate Report: High: 73 Low: 67 Precip: 0.0" Snow: Missing
05/23 7:50 AM	iembot	SAN ANTONIO May 23 Climate Report: High: 73 Low: 69 Precip: 0.0" Snow: Missing
05/23 7:50 AM	iembot	AUSTIN BERGSTROM May 23 Climate Report: High: 68 Low: 63 Precip: 0.0" Snow: Missing
05/23 7:50 AM	iembot	DEL RIO May 23 Climate Report: High: 77 Low: 72 Precip: 0.0" Snow: Missing
05/23 7:43 AM	iembot	The Storm Prediction Center issues Day 1 Slight Convective Risk at May 23, 12:41z for portions of EWX's area
05/23 6:31 AM	iembot	EWX issues Area Forecast Discussion (AFD) at May 23, 6:31 AM CDT
05/23 4:39 AM	iembot	The Weather Prediction Center issues Day 3 Marginal Risk Excessive Rainfall Outlook at May 23, 8:22z for portions of EWX's area
05/23 4:36 AM	iembot	The Weather Prediction Center issues Day 2 Marginal Risk Excessive Rainfall Outlook at May 23, 8:21z for portions of EWX's area

HELPFUL NWS LINKS



Source: weather.gov/ewx/radar

HELPFUL NWS LINKS

RADAR

Enhanced:

https://radar.weather.gov/

Standard South Plains (Regional)

https://radar.weather.gov/ridge/standard/SOUTHPLAINS_loop.gif

Standard EWX (New Braunfels):

https://radar.weather.gov/ridge/standard/KEWX_loop.gif

EWX WFO

Web Site: www.weather.gov/ewx

Our Facebook page:
https://www.facebook.com/NWSSanAntonio

Our Twitter feed...
https://twitter.com/NWSSanAntonio

NET ACTIVATION LEVEL

Level One

- A severe thunderstorm watch is in effect, but no severe weather is in the area
- The net operates in informal mode
- Net Control may take check-ins and record location of participating stations
- Net Control appoints
  - ✓ Back-up Net Control
  - ✓ Liaisons with the NWS, participating TV stations, & other area nets
  - ✓ Net Control for an alternative net, if required
- Reports follow the TCARES WX Reporting Template

TCARES WX REPORT TEMPLATE

Travis County WX Net Report

___/___/___

Location (use streets/highways/or known landmarks):_____
Reporting Station Call Sign: _____
Receiving Station: _____
Information Passed To: _____ **at:** _____
Time of Reported Event: _____
(Circle any of the following observed)
Tornado Funnel Cloud Rotating Wall Cloud
Hail (state size in terms of U.S. coin): _____
Wind gusts in excess of 50 mph: _____
_____Measured by anemometer _____ Estimated via Beaufort Scale
Creeks or streams flooding out of their banks
Water over a road or street
Rain accumulation in excess of 1" _____ Time period measured _____
Wind damage: _____
Lightning damage: _____
Downed trees Downed large branches Downed power lines

Additional Information:

ROLES

- **Base Station Spotters** reporting weather at their location
- **Mobile Station Spotters** volunteer to go to specific area of the county without a participating station (we are spotters, not storm chasers)
- **Net Control Station**
  - ✓ Monitors informal nets and decides when to move to Level 2 formal net
  - ✓ Takes check-ins and records active locations
  - ✓ Logs reports
  - ✓ Maintains WX protocol according to Activation Level
  - ✓ Appoints Liaisons to the NWS and TV stations
  - ✓ Completes After Action Reports
  - ✓ Determines when Activation Level Three is necessary

ROLES

- **Back-up Net Control**
  - ✓ Assists Net Control with recording check-ins/check-outs
  - ✓ Assists with logging reports
  - ✓ Switches roles with Net Control each hour or as needed
- **Alternative Net Control** (When Activation Level Three is needed)
  - ✓ Performs Net Control Functions on the 147.36 Back-up frequency
  - ✓ Takes Severe Weather reports while Tornado reports remain on the 146.94 net
- **Liaisons**
  - ✓ NWS Liaison – shares reports with the NWS in New Braunfels
  - ✓ CTECC Liaisons – shares reports between EOC and the WX net
  - ✓ TV Station Liaisons – shares report with their assigned TV station

LIAISONS WITH OTHER NETS

Williamson County

- **146.64 (PL 162.2) Primary**
- **146.700 (PL 110.9) Back-up**
- **147.080 (PL 100.0) Back-up**

Bastrop County

- **Bastrop 442.725 (PL 114.8)**
- **Elgin 442.800 (PL 114.8)**
- **Flag Hill 443.000 (PL 114.8)**

Burnet County

- **Burnet 147.020 (PL 88.5)**

Hays/Caldwell Counties

- **Hays/Caldwell 444.150 (PL 114.8)**
- **San Marcos 147.100 (No Tone) Back-up**

Saltgrass Link System (Gulf Coast & East Texas)

- **Austin node 442.450 (PL114.8)**

NET ACTIVATION LEVEL

<u>Level Two</u>

- A severe thunderstorm warning has been issued
- The net operates in formal mode
- Priority is placed on severe weather reports
- Check-ins are secondary and taken as time allows
- Identification in reports includes call sign and location using streets, roads or known landmarks
- Reports limited to Skywarn manual items

(See following slides)

REPORTING TO EWX WFO

1. NWSChat login

2. Severe Weather Reports ONLY

(Unlisted Number/Do Not Release)

3. Report severe weather via Twitter using #eWXspotter

REPORTING TO EWX WFO

TEL Method

Time – When did it happen?

Event – What did you observe?

Location – Where did this occur?

FUNNEL CLOUDS/ TORNADOES

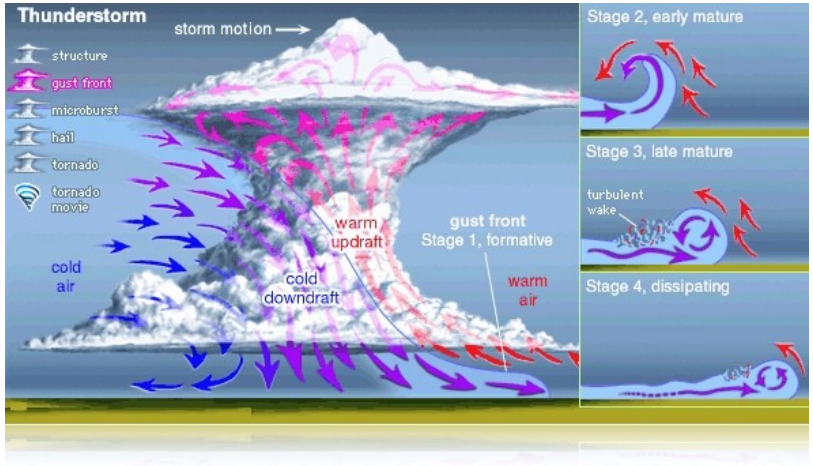
- Time of first sighting
- Still visible?
- On the ground or aloft
- Direction of movement
- Damage or injuries

FLOODING

- Rainfall Total
- Rainfall intensity
- Length of heaviest rainfall
- Flooding of low water crossings underpasses or overflowing banks
- Evacuations or likely evacuations

WINDS
(58 MPH OR MORE)

- Time gust front hit
- Wind speed
  - ✓Beaufort scale
  - ✓Anemometer reading
- Wind direction
- Duration of high wind
- Damage



HAIL

- Size (1 inch or larger)
- Duration of hail storm
- Damage

NET ACTIVATION LEVEL

Level Three

- **A Tornado Warning has been issued for Travis County or an actual tornado has been spotted by trained spotter**
- **Priority is placed on communicating these reports to the NWS, CTECC, and media outlets**
- **An alternative net is activated on the 147.36 repeater to handle Level one & two reports**

HOW MANY TORNADOES DO YOU SEE?

TORNADO ON THE GROUND WITH ROTATING DEBRIS

FUNNEL CLOUD
(ROTATING, BUT NOT ON THE GROUND)

SCUD CLOUD

(Associated with a gust front flowing out of the precipitation core at right)

No Rotation

TAIL CLOUD
(LOW HANGING, TAPERING CLOUD)

No Rotation

DISCUSSION