APRS

The Power of APRS

Madison County – May 6, 2009

Presented by:
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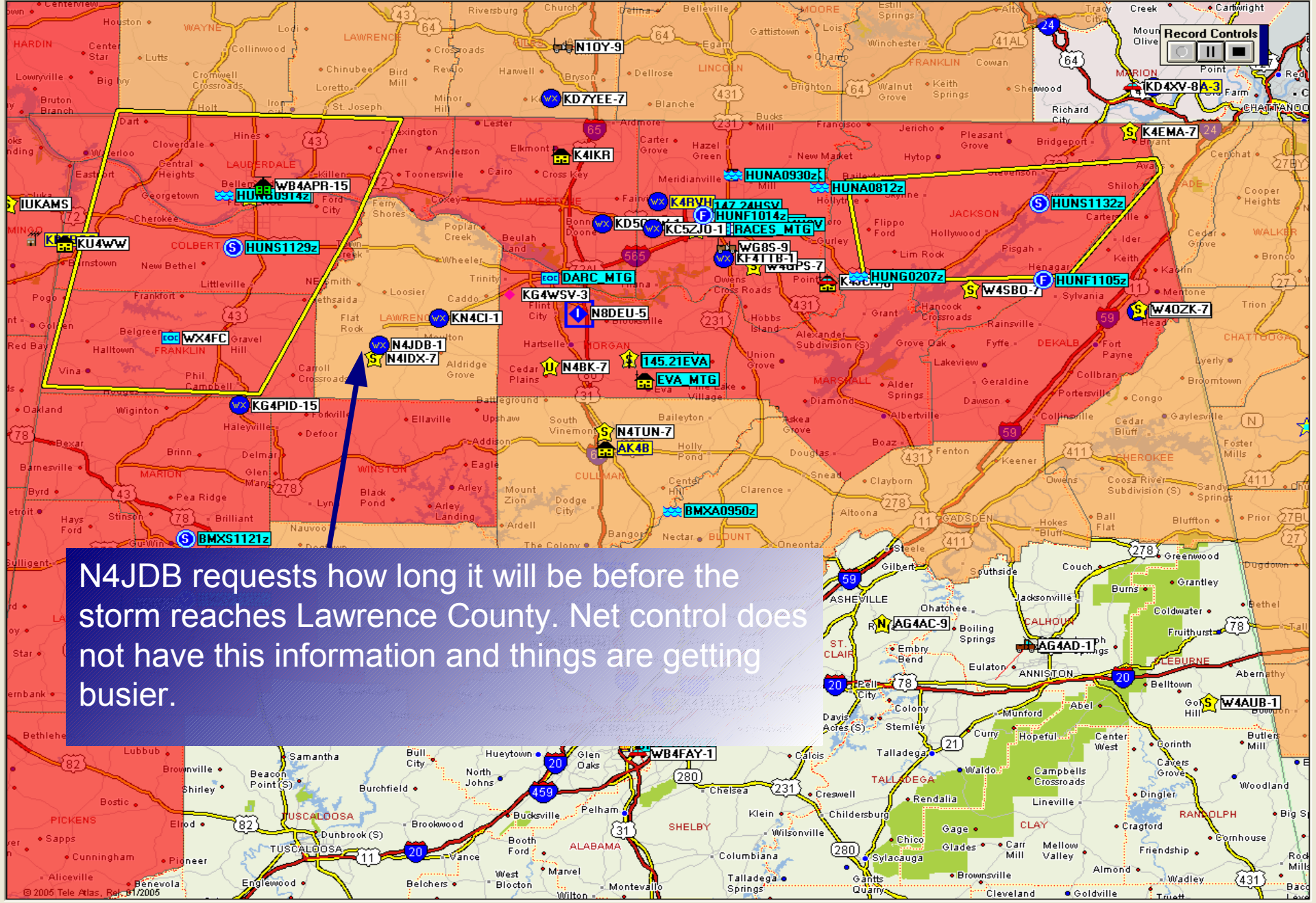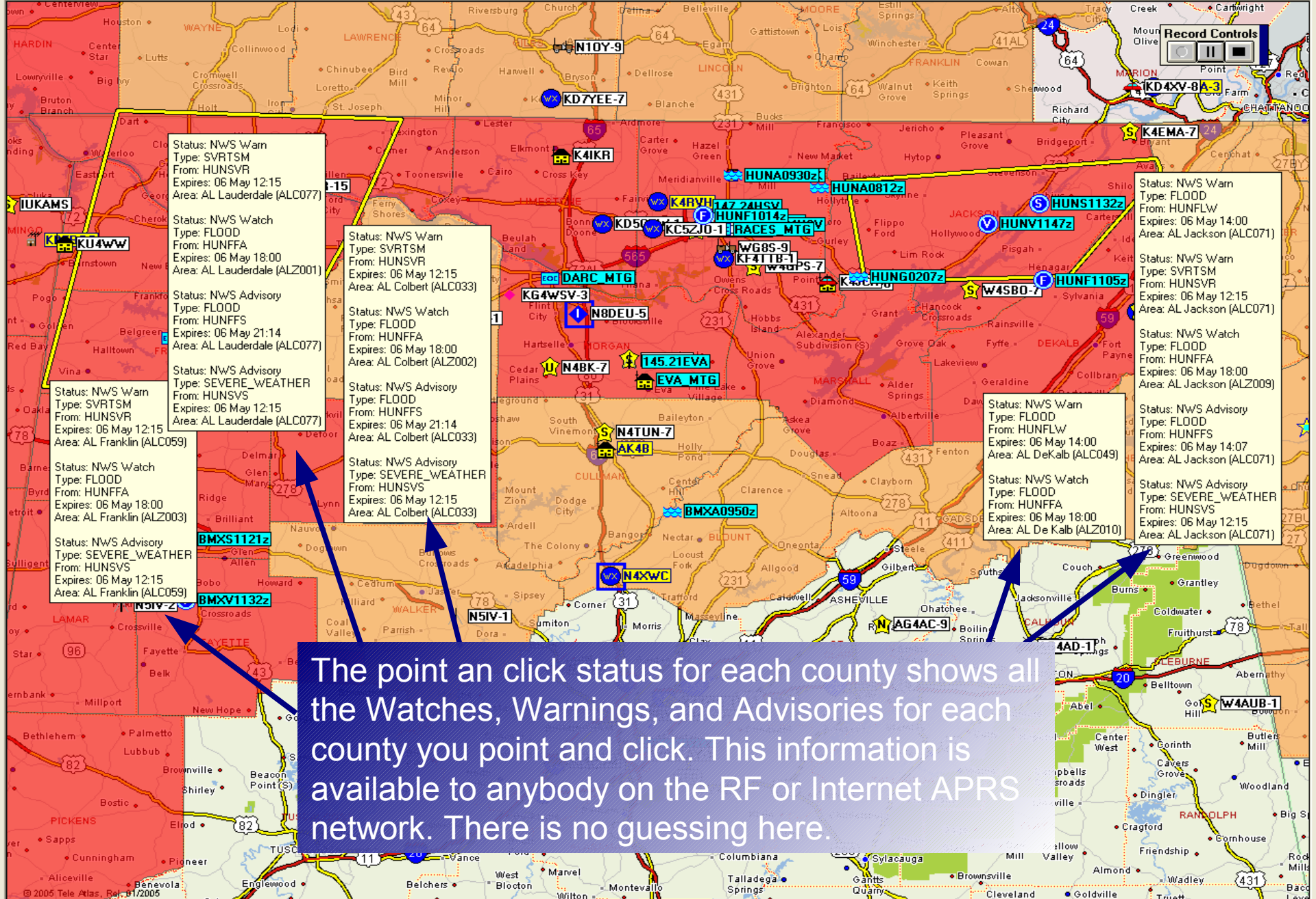
APRS - 06-MAY-09

Alabama Packet Radio System

- **The weather net was activated around 6:30am on 06-MAY-09**
- **Every county in the HUN NWS area in North Alabama had pending warnings except for 2 that had watches posted**
- **As the net became active some of the pending bulletins were announced**
- **With APRS we have a full view of what was active instantly to augment the Voice Net**
- **It was a busy morning**
- **All those on the Voice Net did an outstanding job**

File   Terminal   Stations   Messages   Map   Logs   Lists   Action   Options   Setup   Help

Record Controls

N4JDB requests how long it will be before the storm reaches Lawrence County. Net control does not have this information and things are getting busier.

06:35:24R N4JDB-1>APTW01,KE4ROC-8*,AL3* <UI Len=50>:
_05060634c122s007g013t...r012p000P106h..b10099tRSW

EM74FV

34.52.81N
85.31.52W

The point an click status for each county shows all the Watches, Warnings, and Advisories for each county you point and click. This information is available to anybody on the RF or Internet APRS network. There is no guessing here.

Remember Sonny, N4JDB, who requested how soon the storm would reach Lawrence County. His home APRS weather station is right in the path of the NWS bulletin at 1213z, but Sonny does not know it yet and things are so busy nobody remembers his request. With APRS the message is clear and concise. This is information Sonny needs immediately. With APRS we know it immediately!

Record Controls

A spotter reports a Tornado heard near Browns Ferry Rd and Balch Rd. An object is placed on the map titled TOR_SPOTD. Just click on the location, select Object Editor from the Action menu, and enter the data and the symbol type.

TOR_SPOTD

Object Editor

Last Updated

Delete

Identifier	**Latitude**	**Longitude**
TOR_SPOTD	34.42.43N	086.46.08W

Comment

N

W   E

S

Symbol   **O'ly**

Tornado

Auto update
object posit ☐   Active object ☒
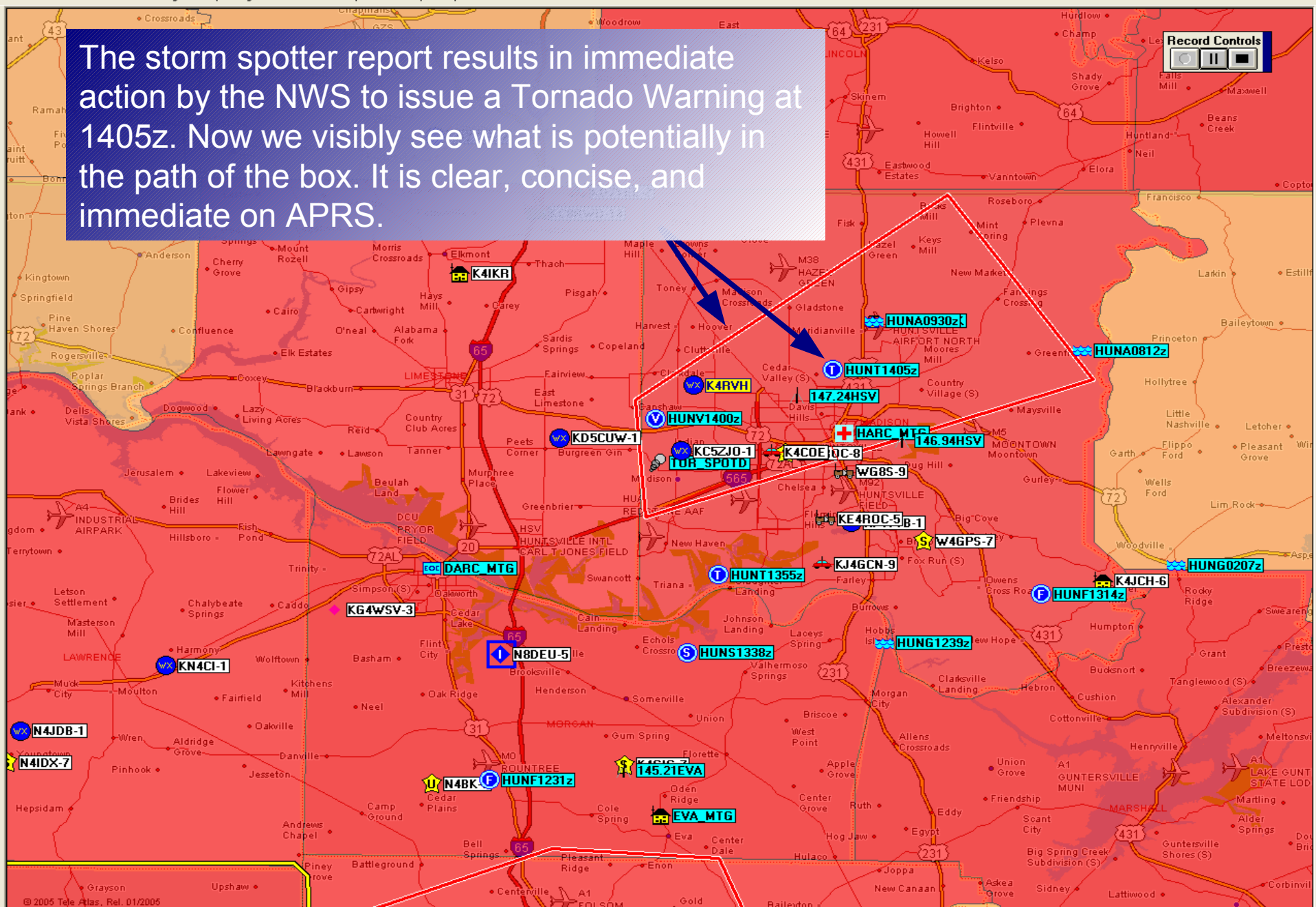
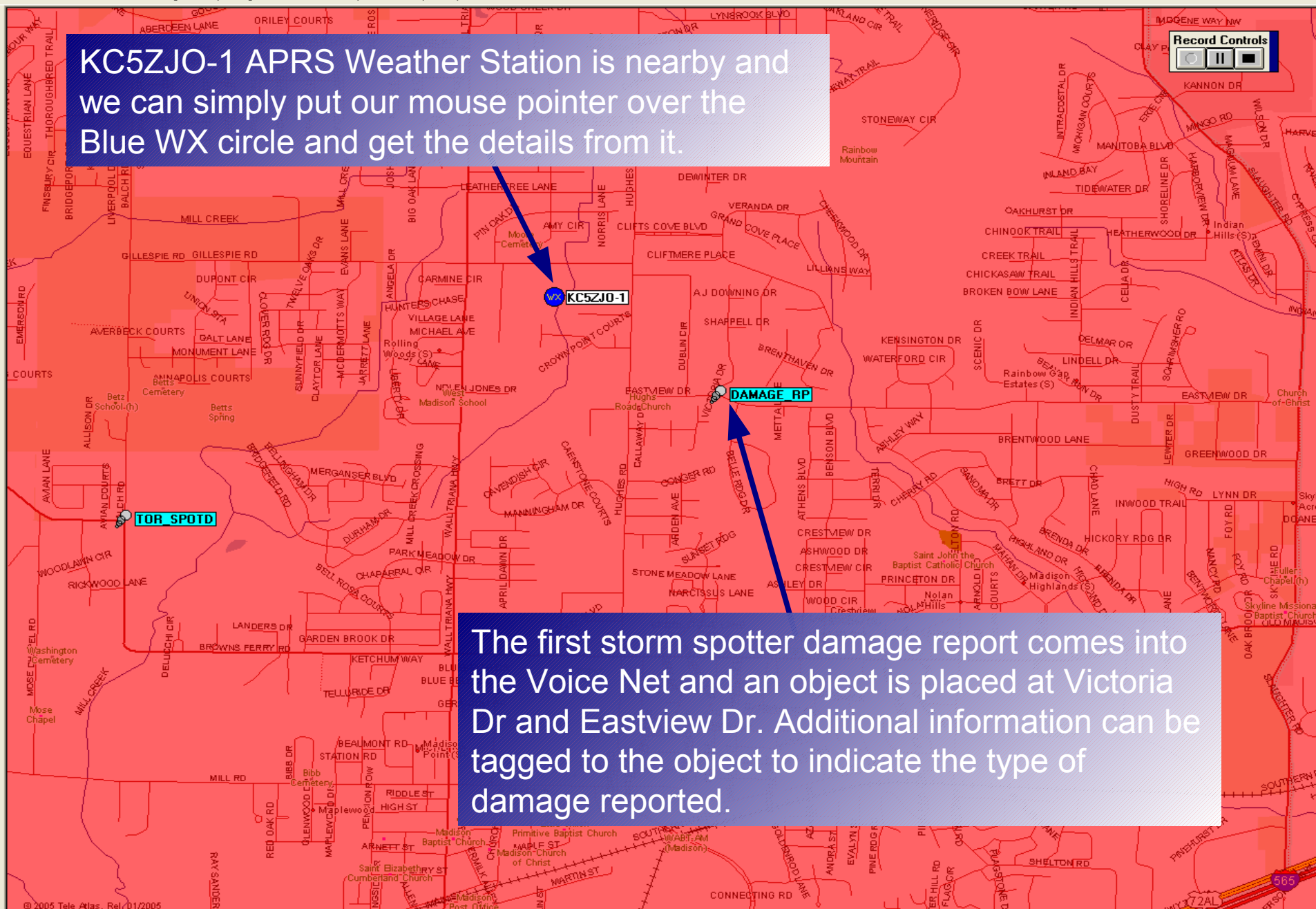**Course**   **Speed**

deg   kt

Ok   **Cancel**

If we know the course and speed of the Object we can make it move and update automatically. This is what APRS does when a beacon is not heard from a moving mobile station if enabled. A new post puts it back on course.

File Terminal Stations Messages Map Logs Lists Action Options Setup Help

Record Controls

The storm spotter report results in immediate action by the NWS to issue a Tornado Warning at 1405z. Now we visibly see what is potentially in the path of the box. It is clear, concise, and immediate on APRS.
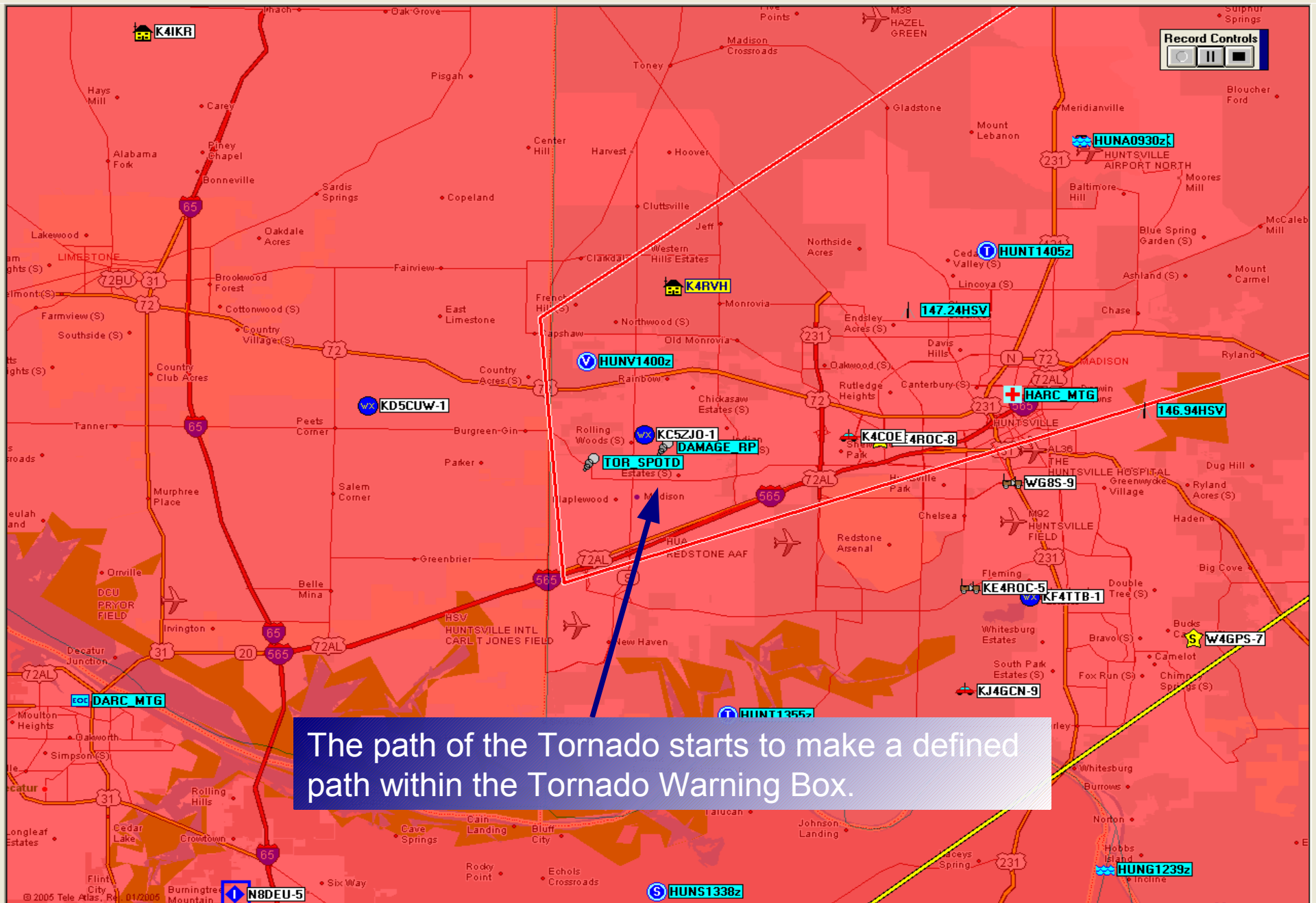
K4IKR

HUNA0930z

HUNA0812z

HUNT1405z

K4RVH

147.24HSV

HUNV1400z

HARC_MTG 146.94HSV

KD5CUW-1

KC5ZJO-1 K4COE OC-8

TOR_SPOTD

WG8S-9

KE4ROC-5 B-1

W4GPS-7

DARC_MTG

KJ4GCN-9

HUNT1355z

HUNG0207z

KG4WSV-3

HUNF1314z

HUNG1239z

N8DEU-5

KN4CI-1

HUNS1338z

N4JDB-1

145.21EVA

N4IDX-7

N4BK HUNF1231z

EVA_MTG

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EM64VI

09:06:47R BMXSVS>APRS,TCPIP,N8DEU-5,W4GPS-7,WIDE2-1* <UI>:
:BMXV1333z*061415z3255.20NV08803.60W/WSevere Wx Advisory {6DXAB

34.21.21N
86.11.85W

The path of the Tornado starts to make a defined path within the Tornado Warning Box.

Record Controls

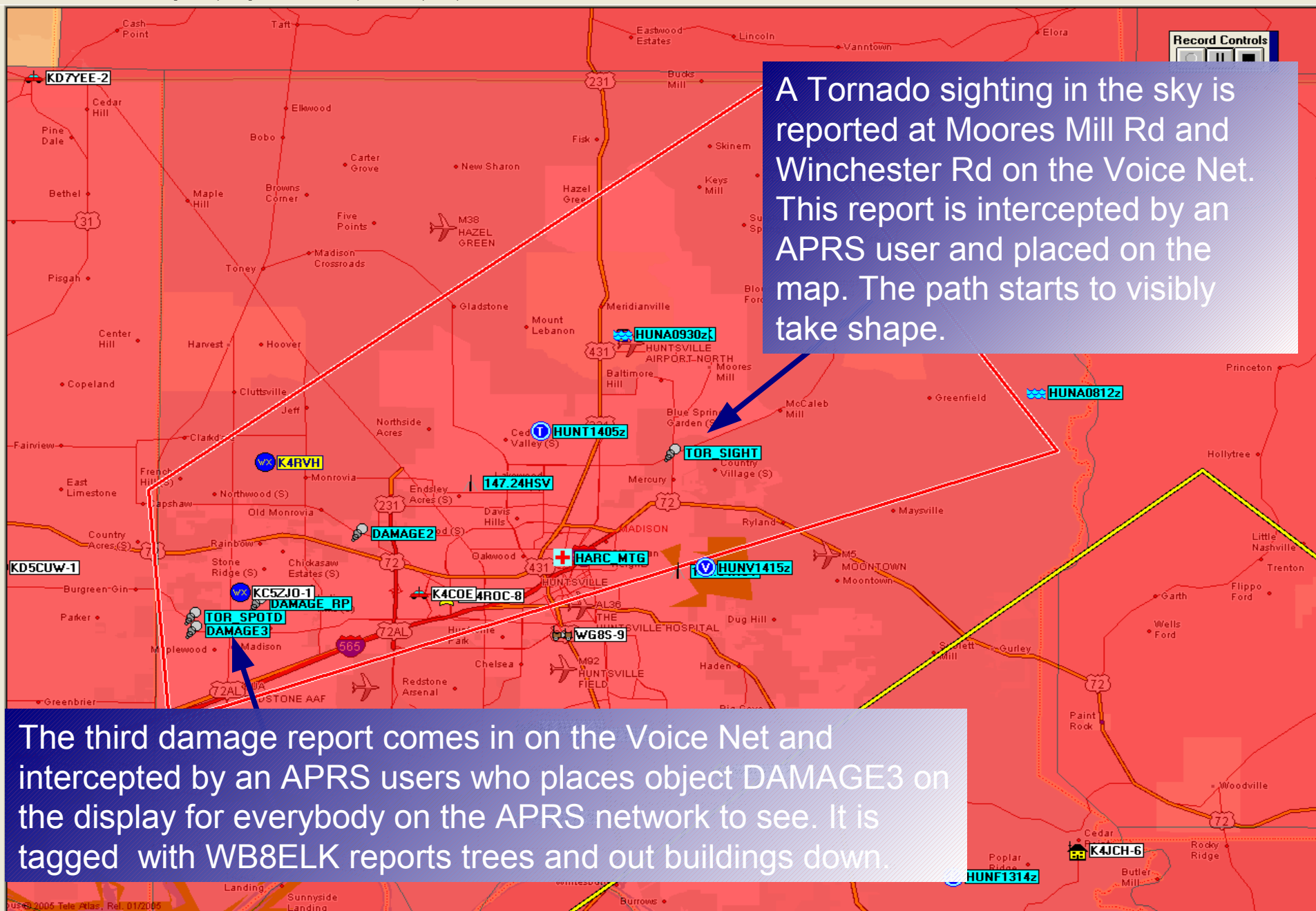The second damage report comes in on the Voice Net and intercepted by an APRS users who places object DAMAGE2 on the display for everybody on the APRS network to see. It is tagged with minor damage reported when you move your mouse pointer to the tornado icon for details.

HUNA0930z

HUNT1405z

147.24HSV

DAMAGE2

KD5CUW-1

HARC_MTG

146.SHSV

KC5ZJO-1

K4COE   KE4ROC-8

DAMAGE_RP

TOR_SPOTD

WG8S-9

KE4ROC-5

KF4TTB-1

HUA
REDSTONE-AAF

HSV
HUNTSVILLE INTL
CARL T JONES FIELD
New Haven

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09:20:03R K4GIG-7>APZWX,AL2-2 <UI C Len=50>:
!!00500080027E0001278C02CD03E8----005E022F00000014

34.44.31N
86.42.42W

UI-View32 V2.03 [Precision Mapping V7 Server]

File Terminal Stations Messages Map Logs Lists Action Options Setup Help

Record Controls

A Tornado sighting in the sky is reported at Moores Mill Rd and Winchester Rd on the Voice Net. This report is intercepted by an APRS user and placed on the map. The path starts to visibly take shape.

The third damage report comes in on the Voice Net and intercepted by an APRS users who places object DAMAGE3 on the display for everybody on the APRS network to see. It is tagged with WB8ELK reports trees and out buildings down.

EM64RR   09:30:01R HUNSVS>APRS,TCPIP,N8DEU-5* <UI>:
          :HUNV1423z*061432z3405.40NV08646.80WWSevere Wx Advisory {6ENAB

34.44.28N
86.30.97W

The damage reports are intercepted from the Voice Net and objects are placed on the map. Note that the TOR_SPOTD object has been removed near DAMAGE4 and DAMAGE3 where it was first reported. Since there was a new sighting across town it was deleted. When an object is deleted a command goes out to all stations on the APRS network to remove it from their maps. The path can take on a definitive shape with the reports. Also note the NWS Tornado Warning Box has expired and disappeared. We also know where the spotters are to warn them as well. It is visible, clear, and concise with no abiguity on APRS.

DAMAGE2

KC5ZJO-1

K4COE   KE4ROC-8

DAMAGE_RP

DAMAGE4
DAMAGE3

APRS – Get the Picture?

- It should be clear APRS delivers real time information
- We know where the NWS bulletins are located
- We know where the spotters are located
- We know where damage has been reported
- The picture of danger is clear and concise
- APRS fills in the missing gaps of the picture
- Messages can be sent via the APRS data network when the voice repeater is out of range for some spotters
- APRS augments the SKYWARN Voice Net
- A Voice Net can be up an running quickly with all the NWS bulletins at their fingertips with APRS
- Why wait until somebody staffs the NWS station
- The time between danger and death is too short

APRS – Get the Picture?

- **Situational awareness is key to precise and timely information**
- **What happens when an area is so devastated and there are no street signs**
  - **With APRS we know where you are**
  - **Reports can be plotted easily**
  - **Information is immediate**
- **Want NWS bulletins faster with more meaning to situational awareness?**
  - **Faster than NOAA weather radio alert**
  - **Faster than SKYWARN Voice Net alert**
- **Get on the APRS tactical communication data network**

Next Step?

- **APRS can help solve these questions**
  - **Should we activate?**
  - **Should we continue with an informal net?**
  - **What spotters may be in danger?**
- **Was this informative?**
- **Is there any interest in APRS?**
- **If yes, then we can begin to discuss the simple hardware and software requirements**
- **You might be surprised that you already have most of what you need**

APRS WEB sites

- **www.aprs.org**
- www.openaprs.net
- www.aprs.fi
- **www.findu.com**
- www.tapr.org
- www.qsl.net/n8deu
- **www.sv2agw.com/ham/default.htm**
- **www.xastir.org**

News Groups

Sign up at http://www.tapr.org

- **APRS News**
- **APRS SIG**
- **APRS HT**
- **APRS Spec**
- **APRS Sat**

Software for APRS

Software downloadable from the Web

- **APRSdos**
- **MacAPRS**
- **WinAPRS**
- **javAPRS**
- **palmAPRS**
- **Waypoint**

- **APRS Plus**
- **APRSdigi**
- **UIView**
- **APRSPoint**
- **AGWTracker**
- **XASTIR**

APRS

The Automatic Packet Reporting System

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