

Overview of the 24 May 2011 Tornado Outbreak



cimms

Kiel Ortega
OU/CIMMS NOAA/NSSL



Thanks to my co-authors and fellow damage surveyors

Howie Bluestein

Don Burgess

Gabriel Garfield

Jim LaDue

Kevin Manross

Brandon Smith

Rick Smith

Travis Smith

Jeff Snyder

Greg Stumpf

Eric Beamesderfer

John Cintineo

Kristin Calhoun

Jacob Carlin

Kim Elmore

Bethany Hardzinski

Jason Jordan

Aaron Kalfus

Rudolf Kaltenbock

Darrel Kingfield

Brian Koch

Dan Leins

Tim Marquis

Tim Marshall

Steve Martinatis

Sarah Mustered

Clark Payne

Scott Rudlosky

Pablo Santos

Chris Schwarz

Craig Schwer

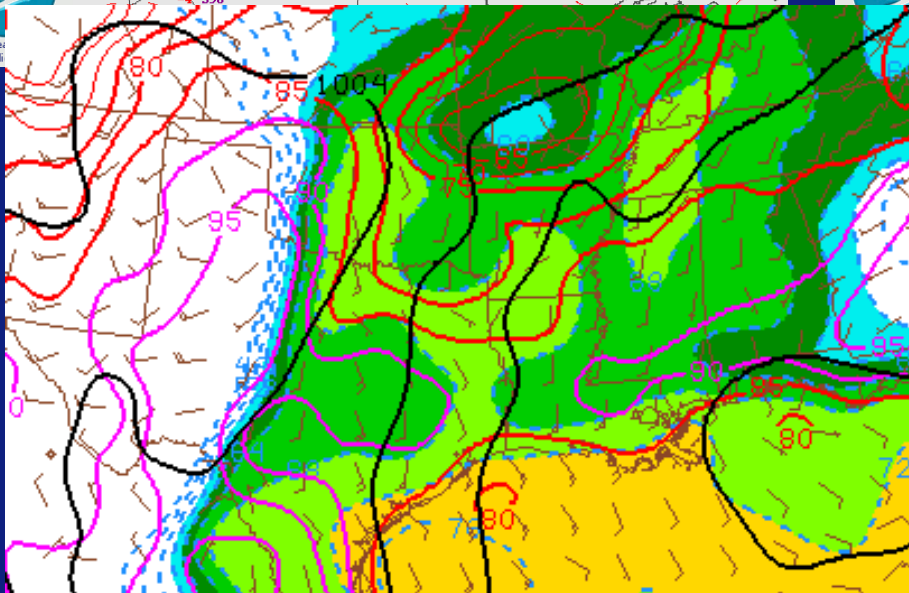
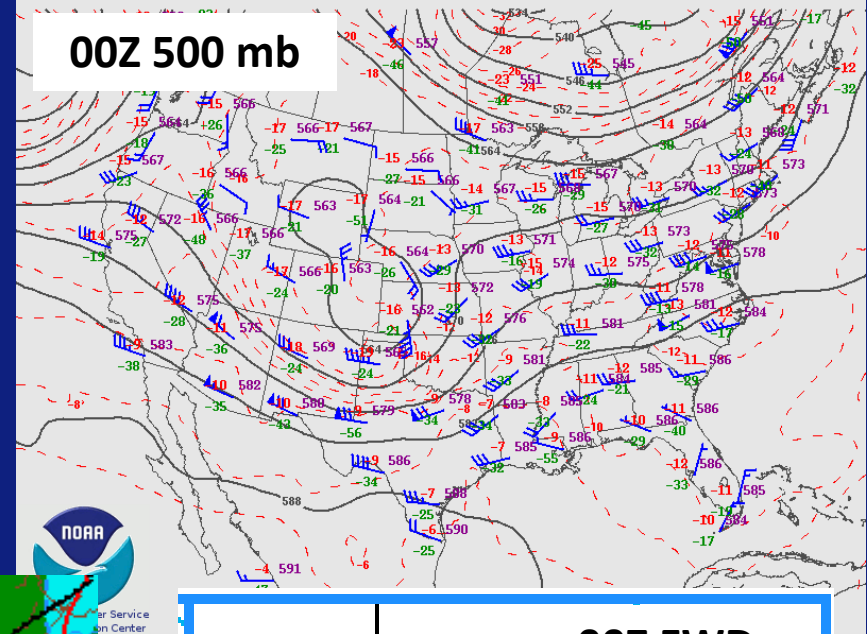
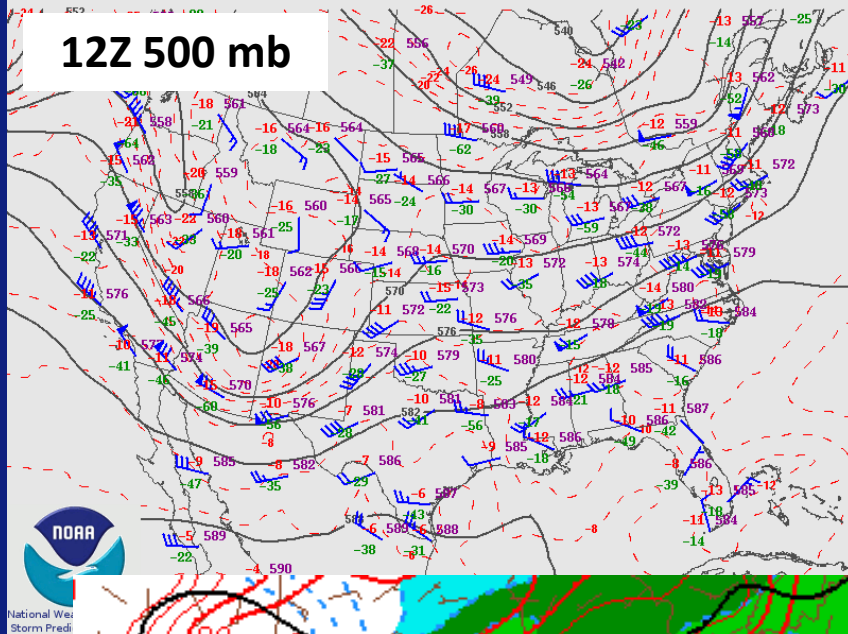
Kevin Smith

Brandon Wesbury

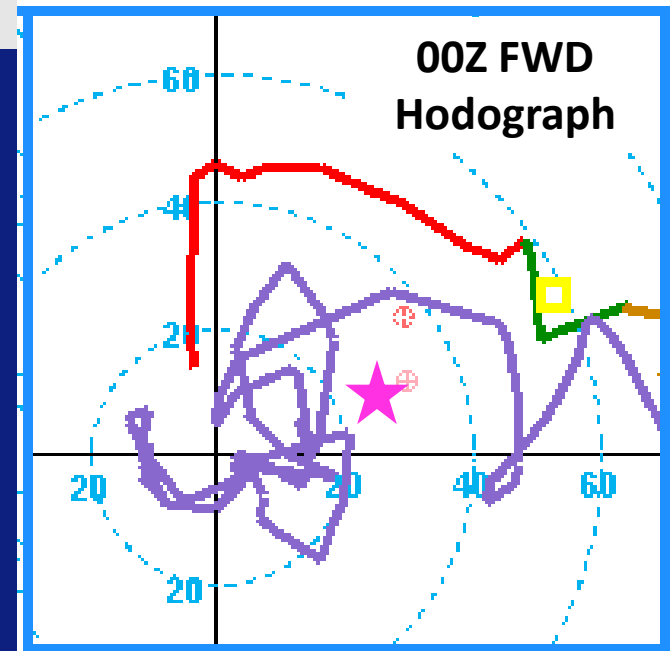
Andy Wood

Thank you also to WFO OUN staff for their helpful summary webpage, and CAP and OHP for aerial photographs.

Weather Briefing



21Z Surface Analysis (Upper 80s / Low 70s)



Resulting Event

- 5 main supercells
- 12 Tornadoes
 - 1 EF5, 2 EF4, 2 EF3, 2 EF2, 2 EF1, 3 EF0
- 11 deaths, 311 injuries
- Amazing reaction to forecasts and warnings

Lookeba tornado

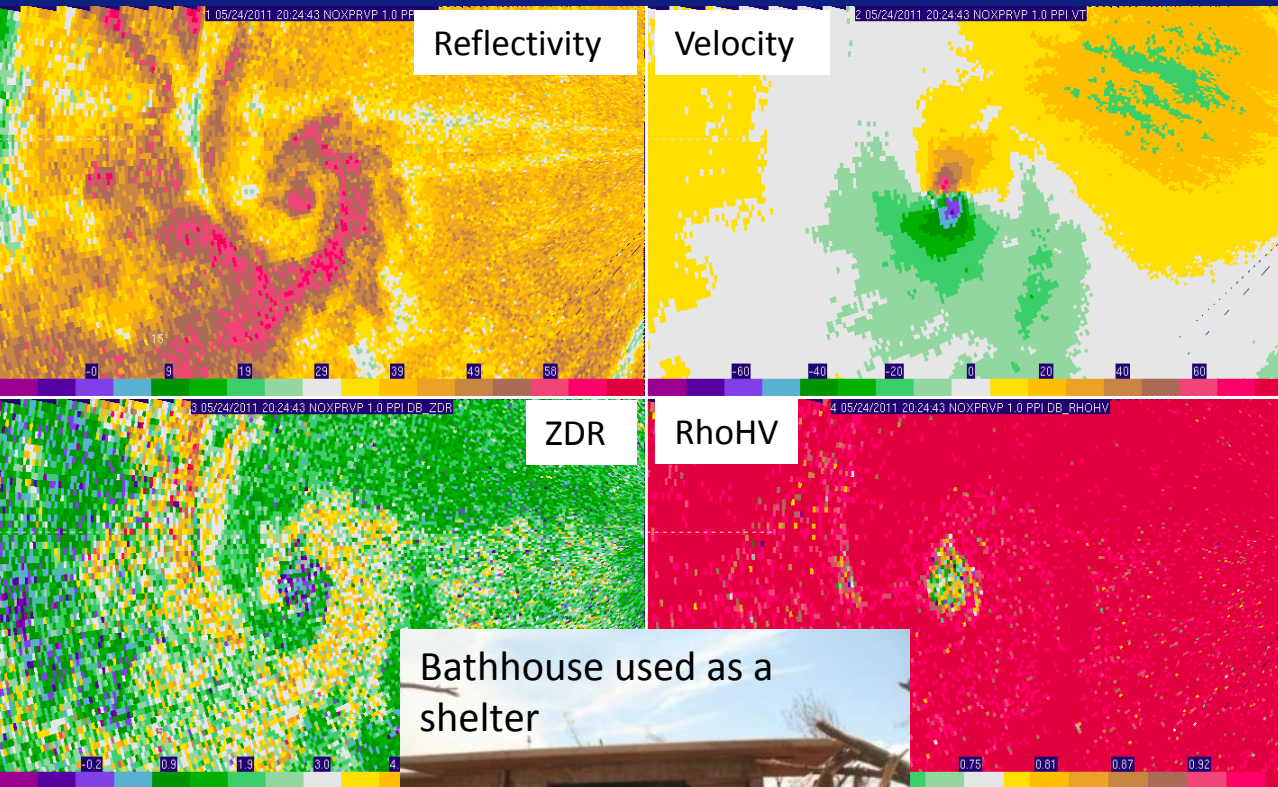


Goldsby tornado w/ forming tornado



Canton Lake

- Canadian Campground
 - 80/133 campsites and 69/69 trailer sites occupied
 - No fatalities at campground

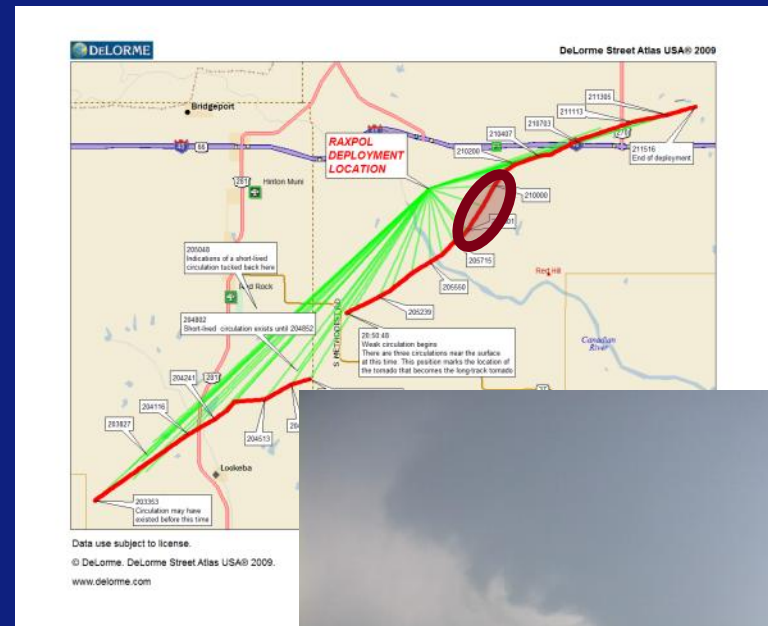
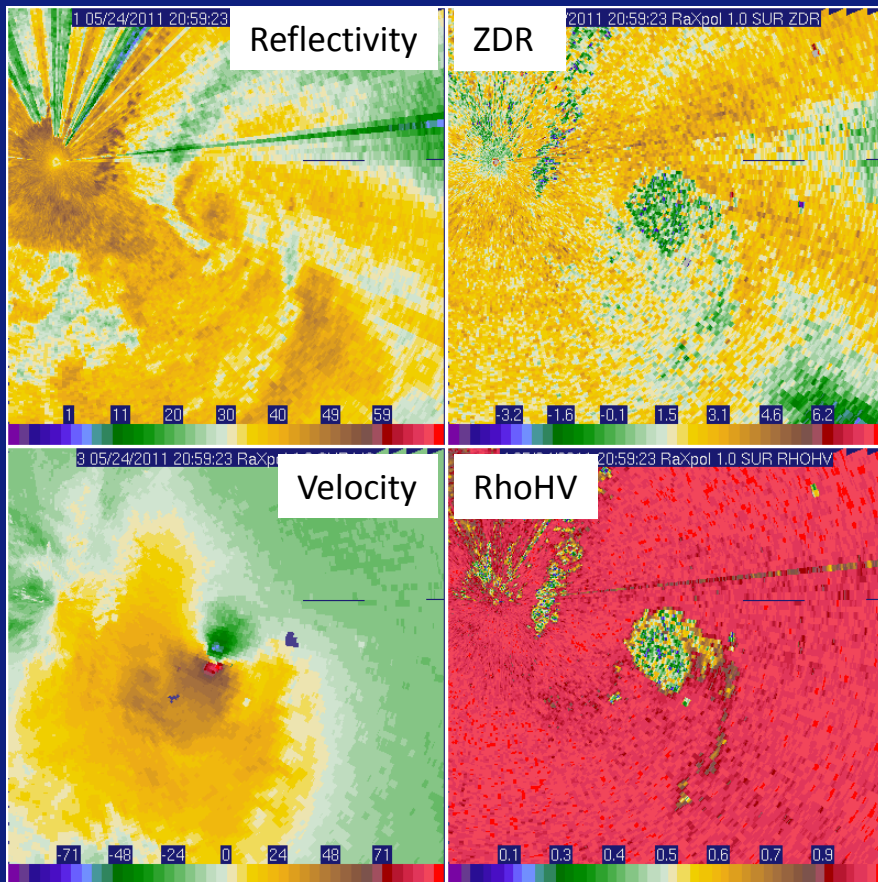


Courtesy Tim Marshall

© Tim Marshall

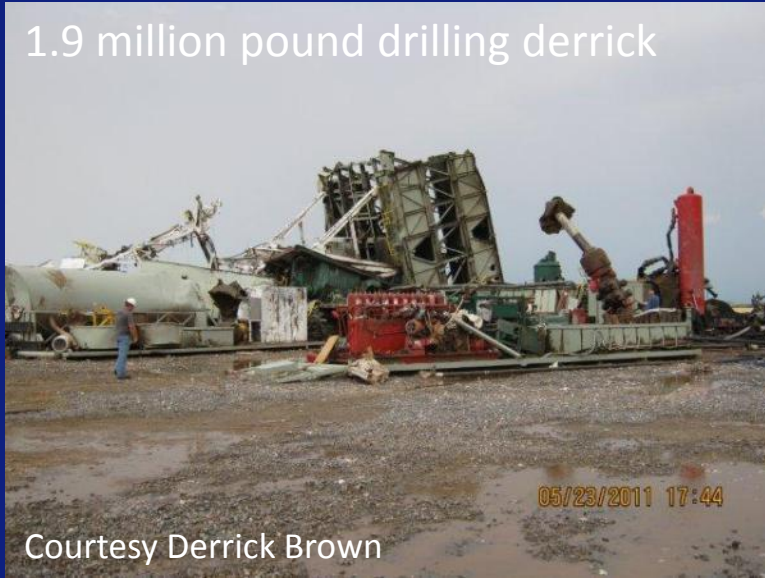
Radar Observations

- TDWR, KTLX/KVNX, KOUN, MPAR, OU-PRIME, CASA, NOXP, RaXPoI, DOW
 - 3 of the tornadoes were observed by mobile radars



EF-Scale Considerations

1.9 million pound drilling derrick



Courtesy Derrick Brown

Courtesy John Cintineo



Courtesy Jason Jordan

Forecast/watch/warning response

School and church closings announced

Submitted by Kim Query
Tuesday, May 24th, 2011, 1:19pm

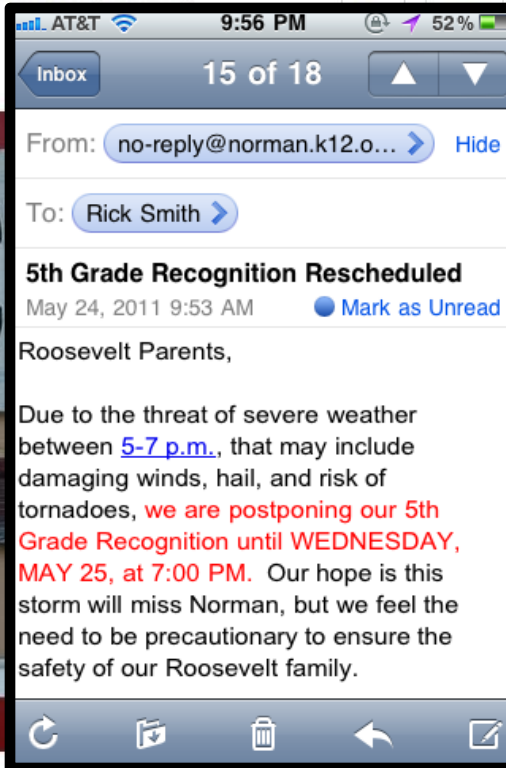
Topics: Business, News, Schools



A few schools and churches have decided to play it safe and cancel activities in preparation for severe weather.

The following businesses and schools have decided to close for Tuesday, May 24, 2011.

- DeVry University- Night Classes Canceled Tonight
- Family Expectations - PM Services/ Activities Canceled Today
- Heritage College- PM Classes Canceled Tonight
- JD McCarty Center- Events/ Activities Canceled Tonight
- Messiah Luthern Church- PM Services/ Activities Canceled Today
- Messiah Luthern School- PM Services/ Activities Canceled Today
- Metro Tech- Closing at 3 p.m. Today
- Mid-Del Tech- Night Classes Canceled Tonight
- OU Children's Physicians- Closing at 3 p.m. Today
- OU Physicians- Closing at 3 p.m. Today
- Oklahoma City Public Schools- PM Services/ Activities Canceled Today
- Oklahoma City University- Closing at 3 p.m. Today
- Parent's Assistance Center- Closing at 3 p.m. Today



NWC lecture hall serving as community shelter



Courtesy Bethany Hardzinski

- OKC shut down in early afternoon
 - Tinker AFB 2nd shift instructed not to come in
- Unforeseen problems
 - Shelters filled up HOURS before event
 - Non-designated sites used as shelters (including break-ins!)
 - “Rush hour” occurred just as event began

Other Considerations

- Broadcast coverage
 - Many impacted citizens stated that receiving information on their specific storm difficult because the station they tuned to at the time focused on one storm
- Stopping traffic in front of storms
 - Hard right turn by El Reno tornado...traffic was stopped on I40 due south of where this occurred
- House designs
 - Interior rooms?
- Why did people act...
 - So early?
 - What was different?

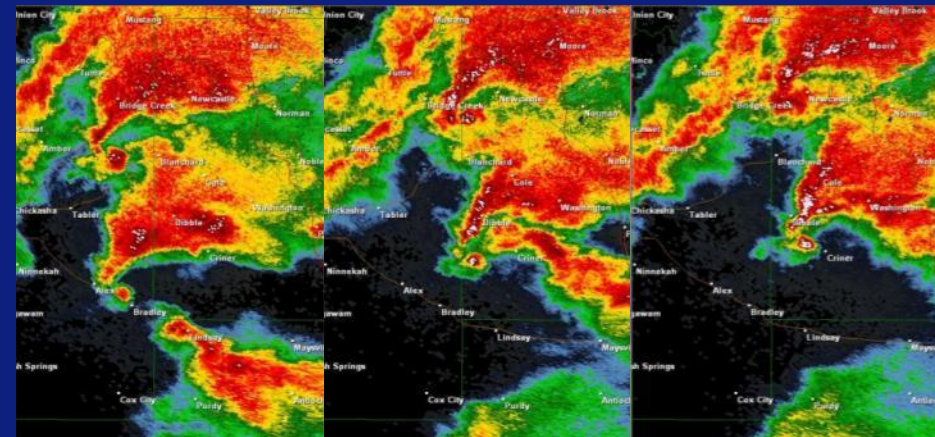


24 May 2011 Outbreak

- Low number of fatalities for 3 significant tornadoes near populated metro area
- Diverse radar dataset collected
- Highlights potential issues with EF-scale and determination of EF-ratings
- Amazing community response to not only warnings, but forecasts and watches
- Severe weather risk mitigation a spectrum-wide responsibility
 - Builders, business leaders, emergency management, local government, meteorologists, society at-large and **individuals!**



Chickasha and Washington Supercells



2231Z

2239Z

2243Z

