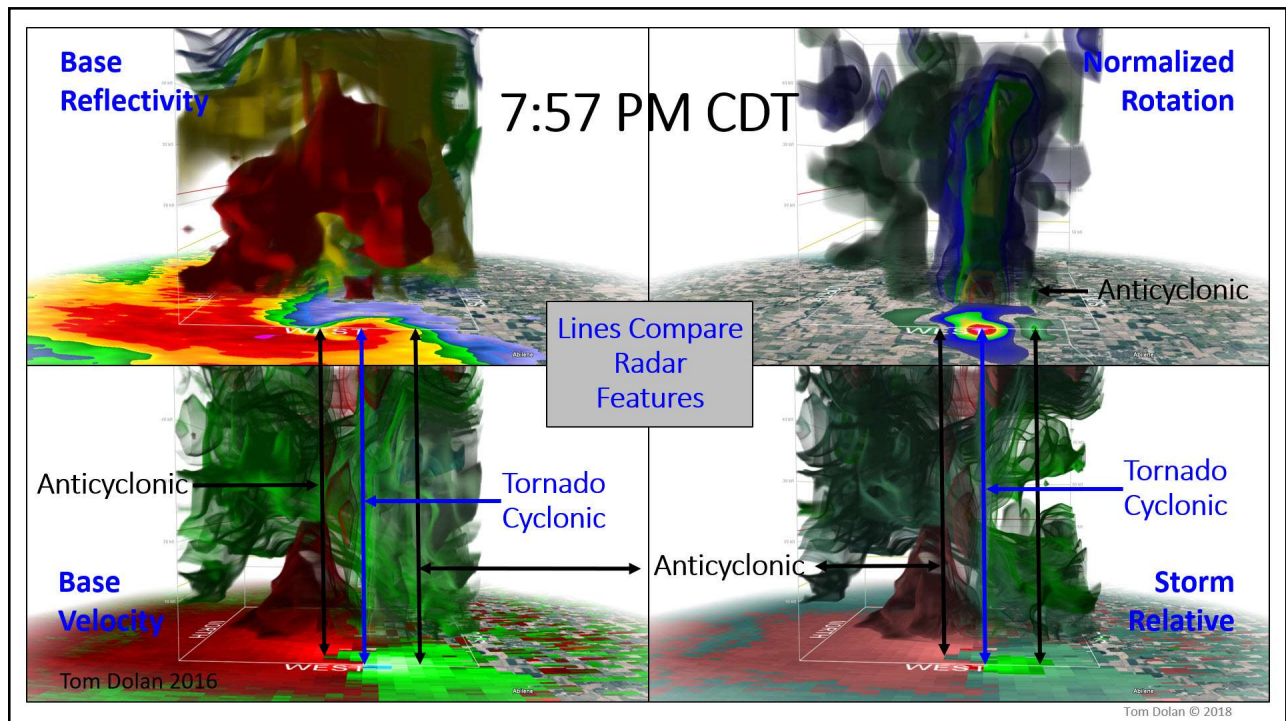
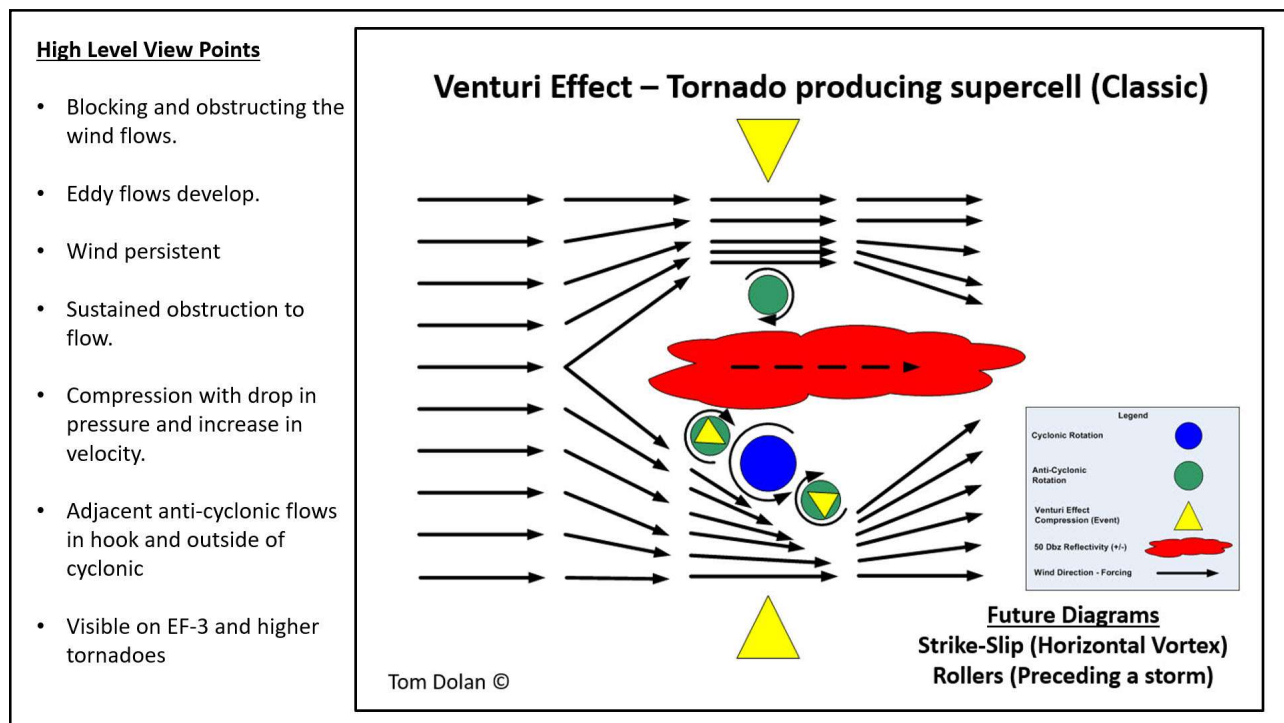
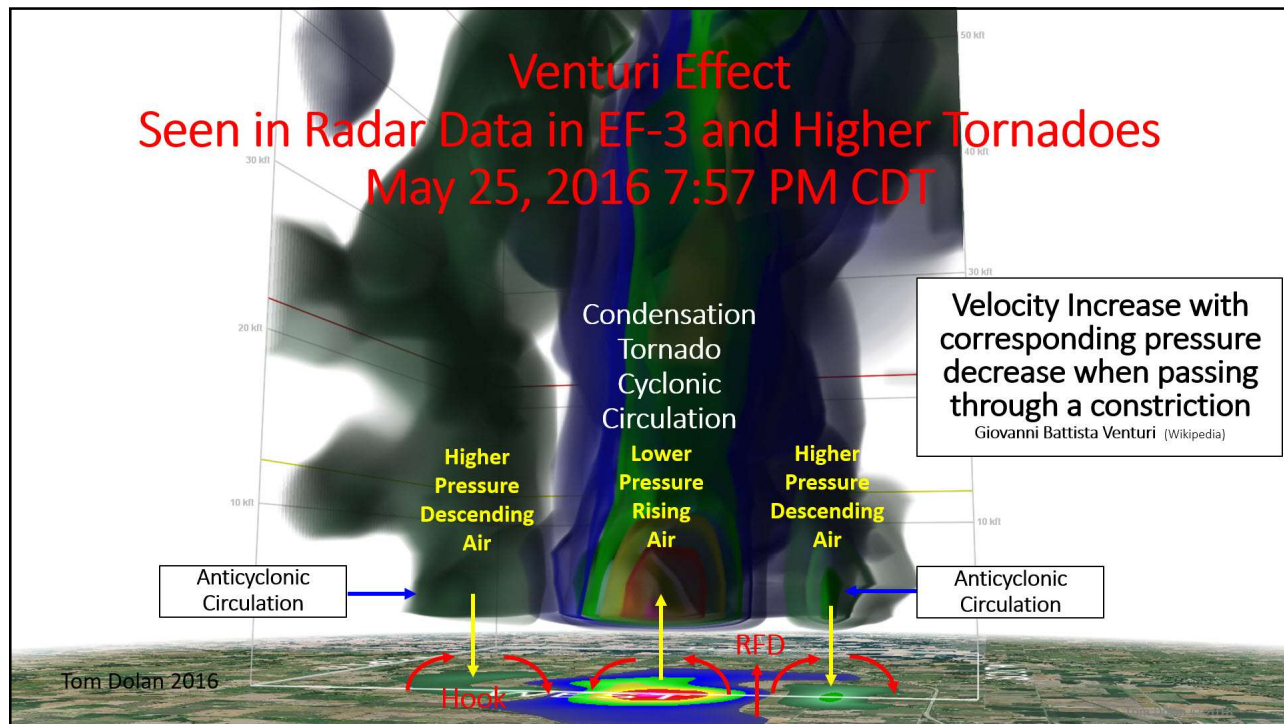
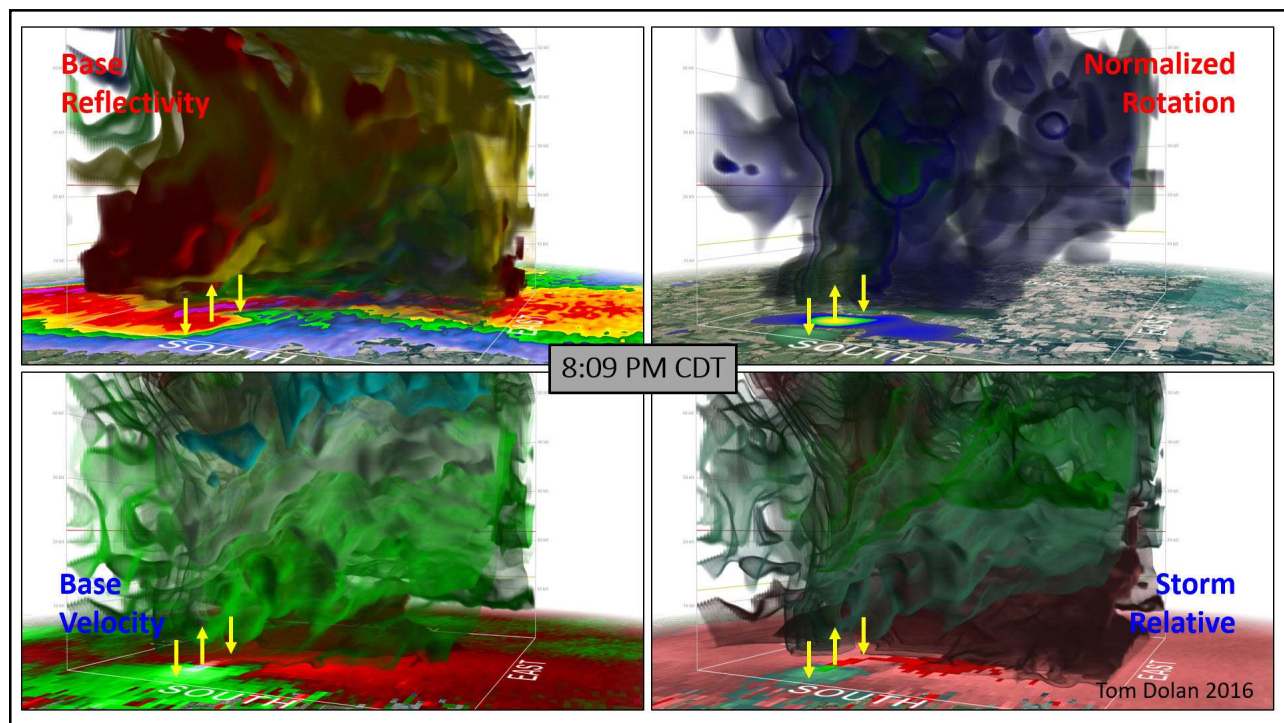
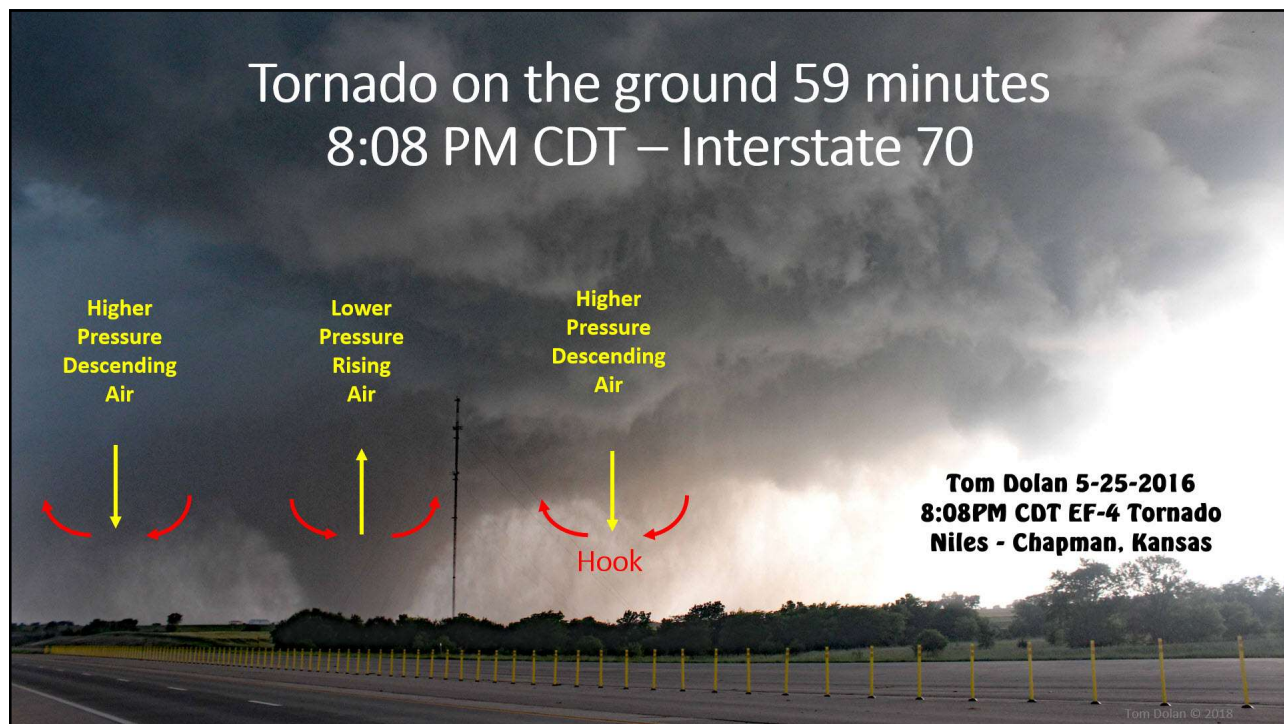


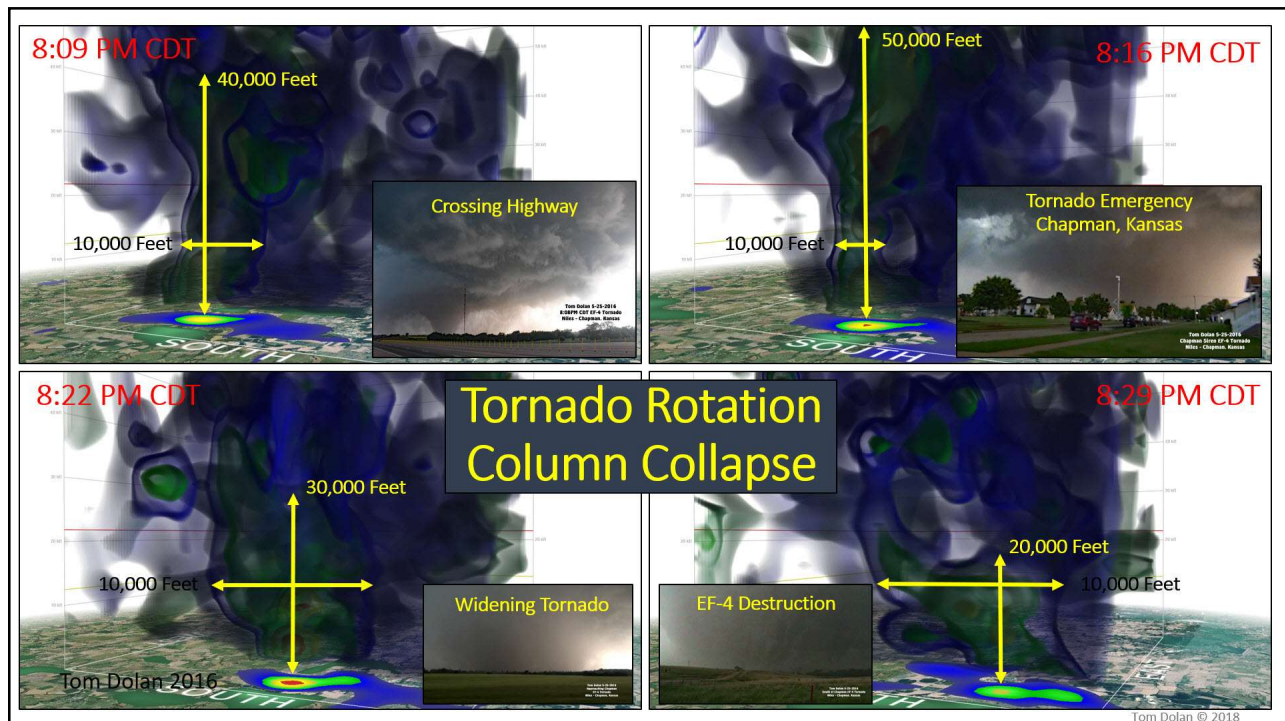
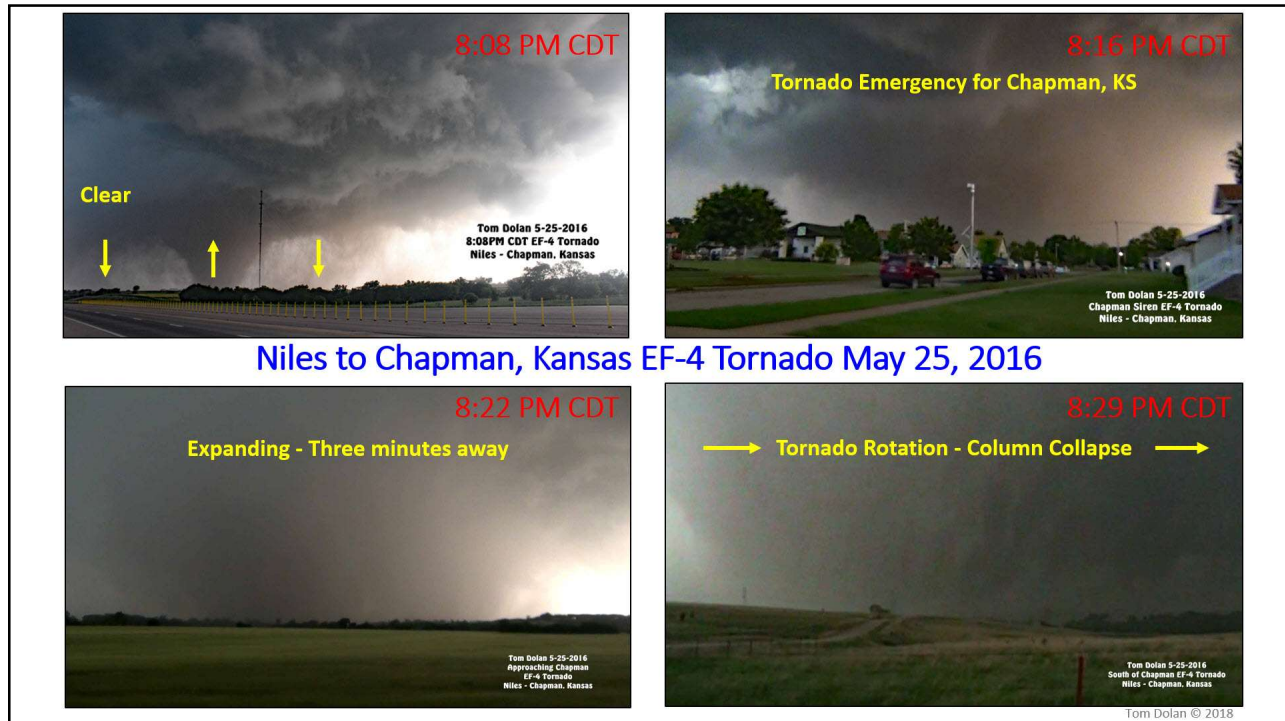
Niles to Chapman, Kansas EF-4 Tornado May 25, 2016

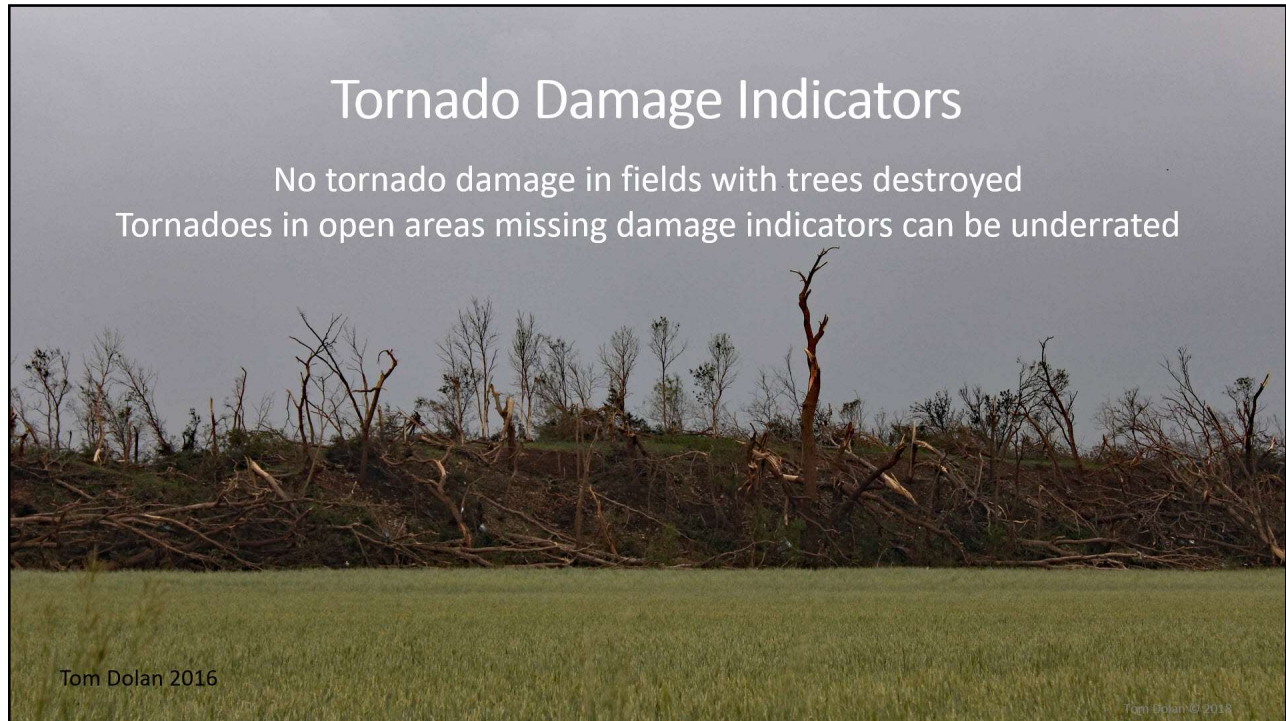
26 miles long EF-4 tornado was on the ground for 90 minutes

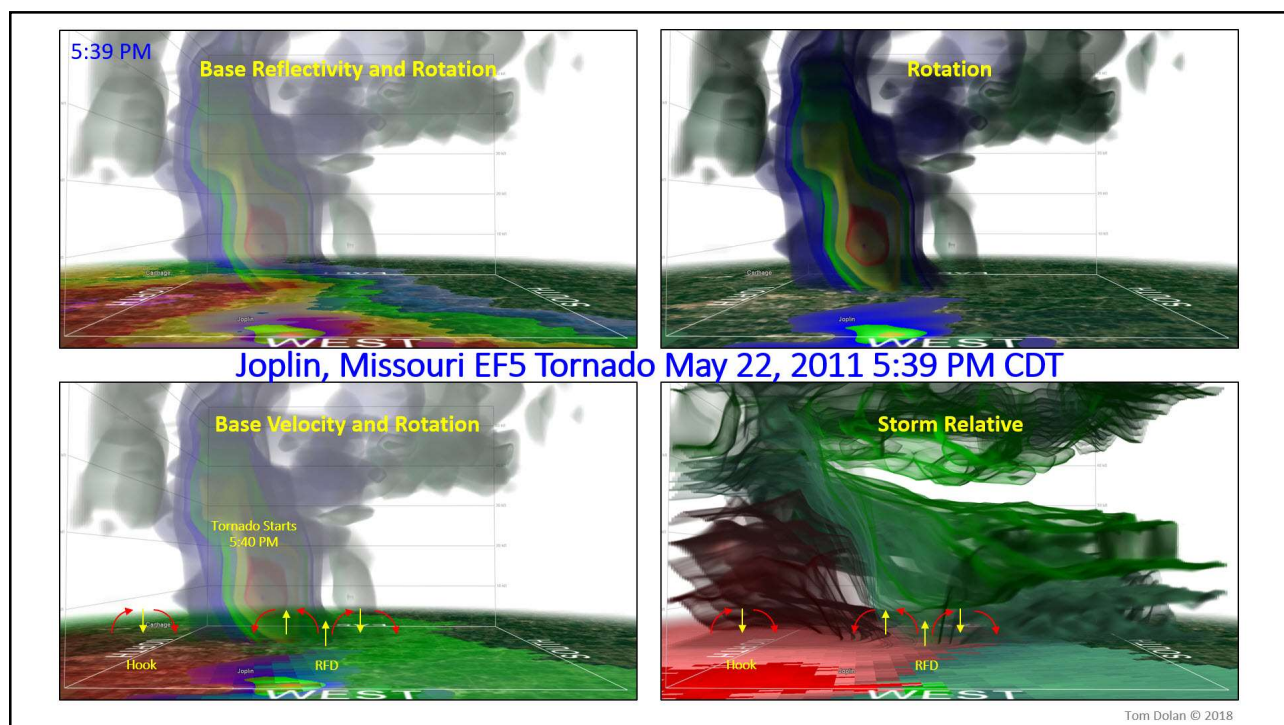
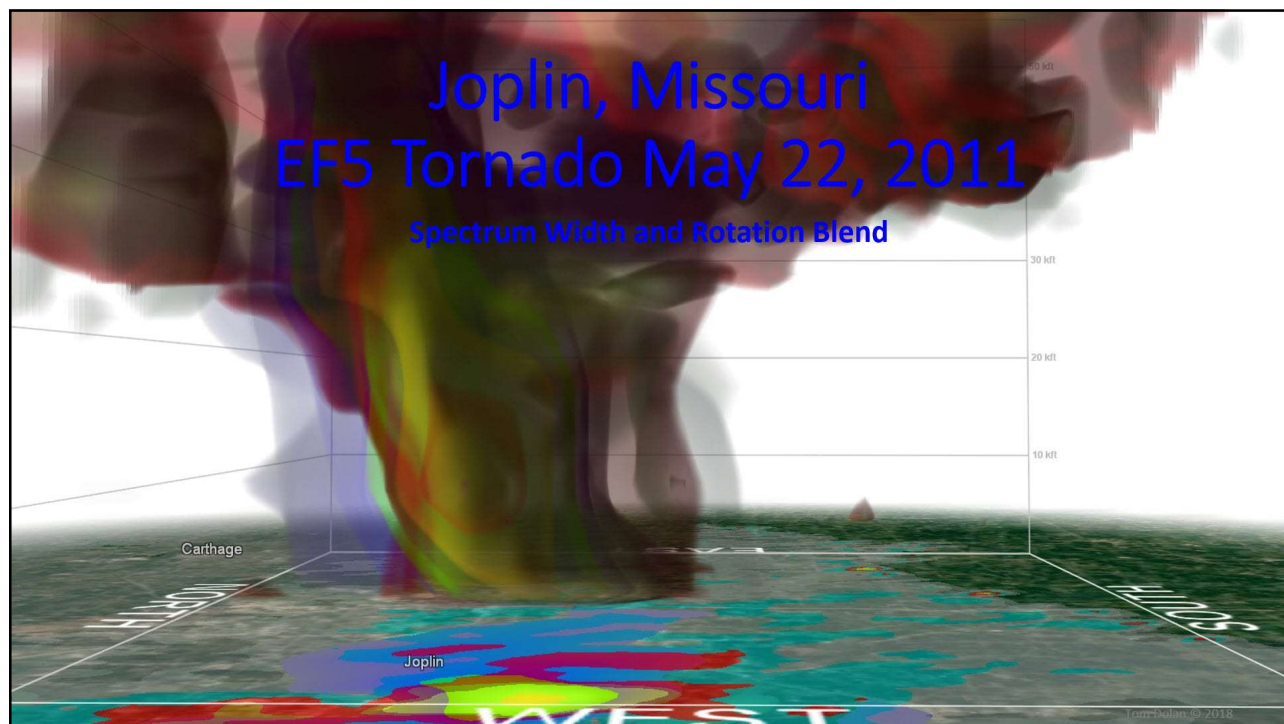


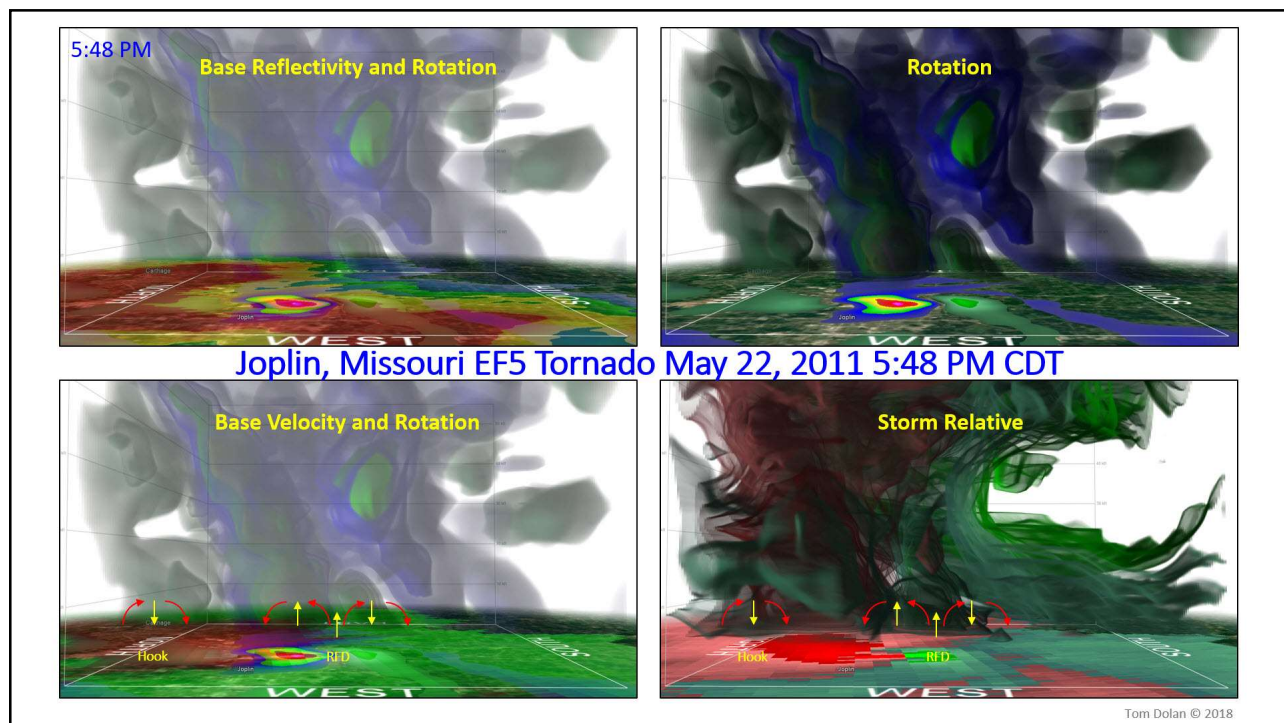
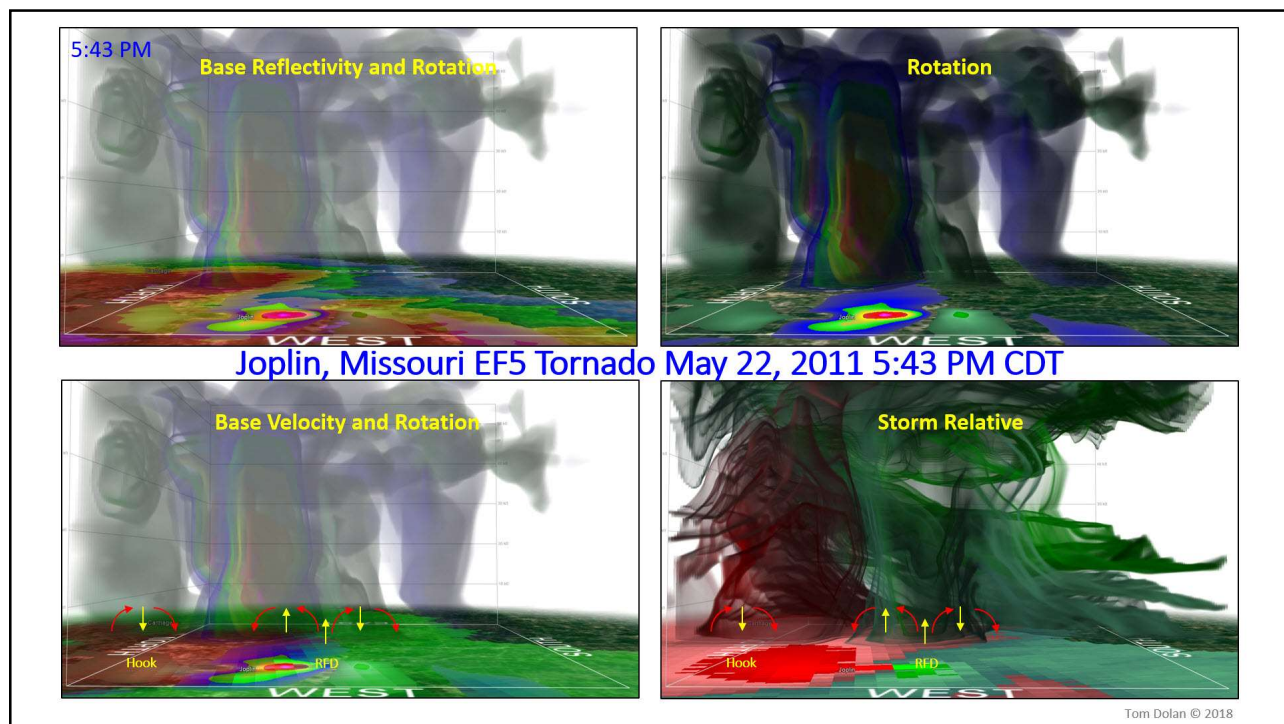


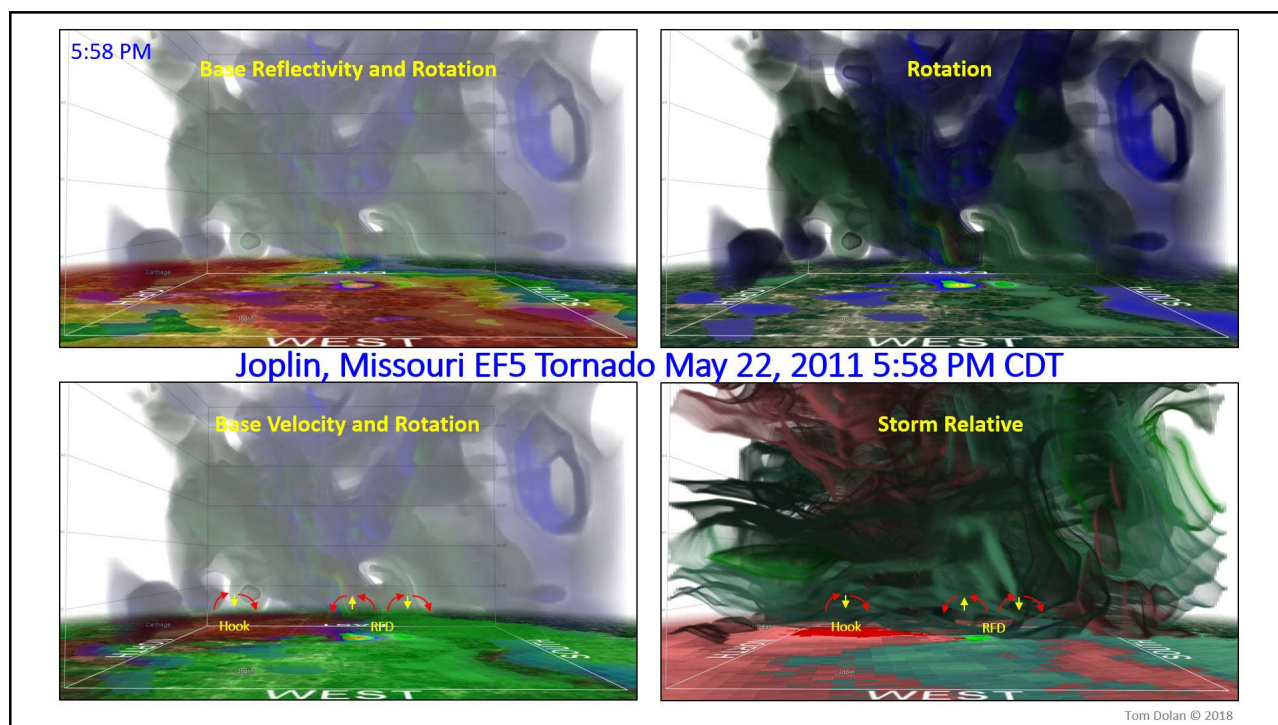
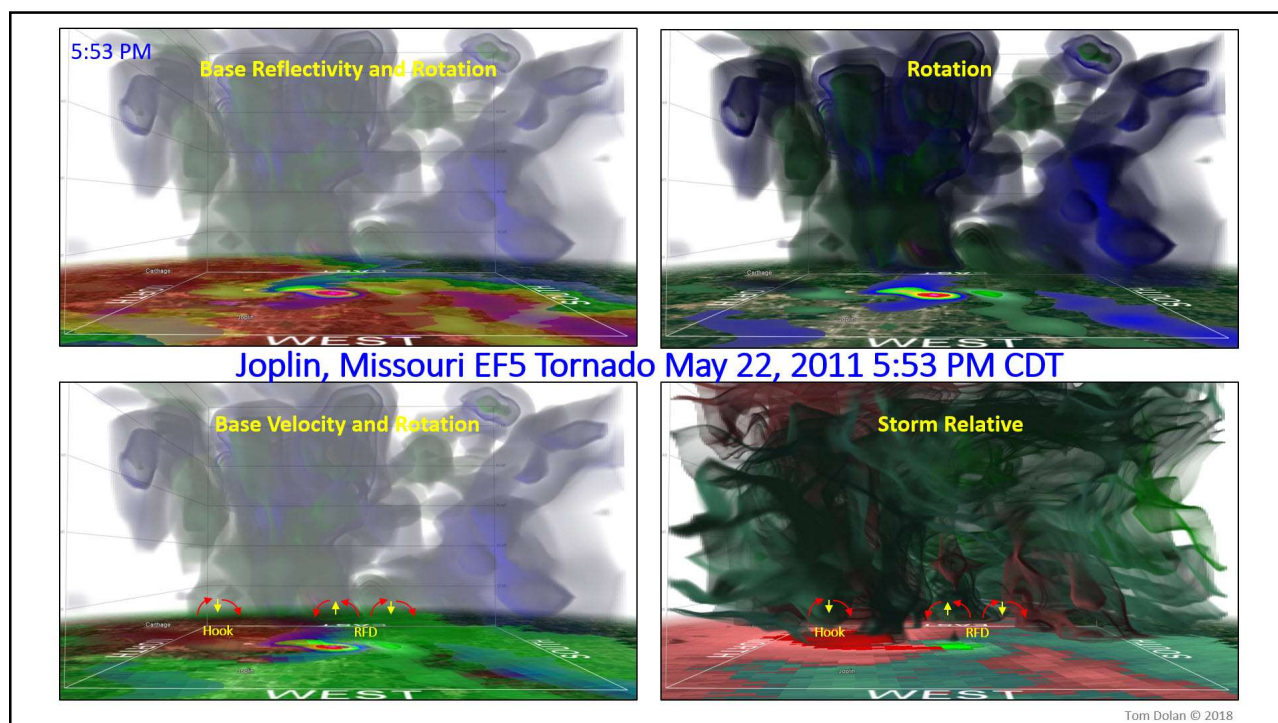


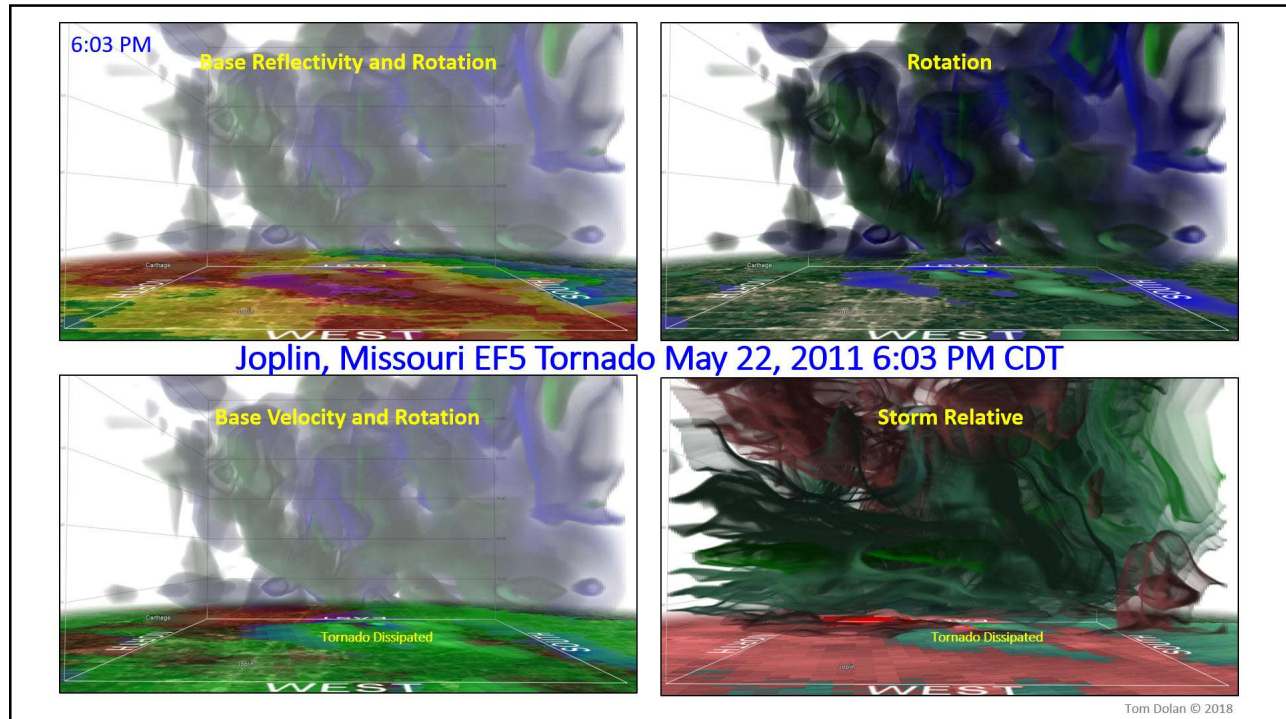


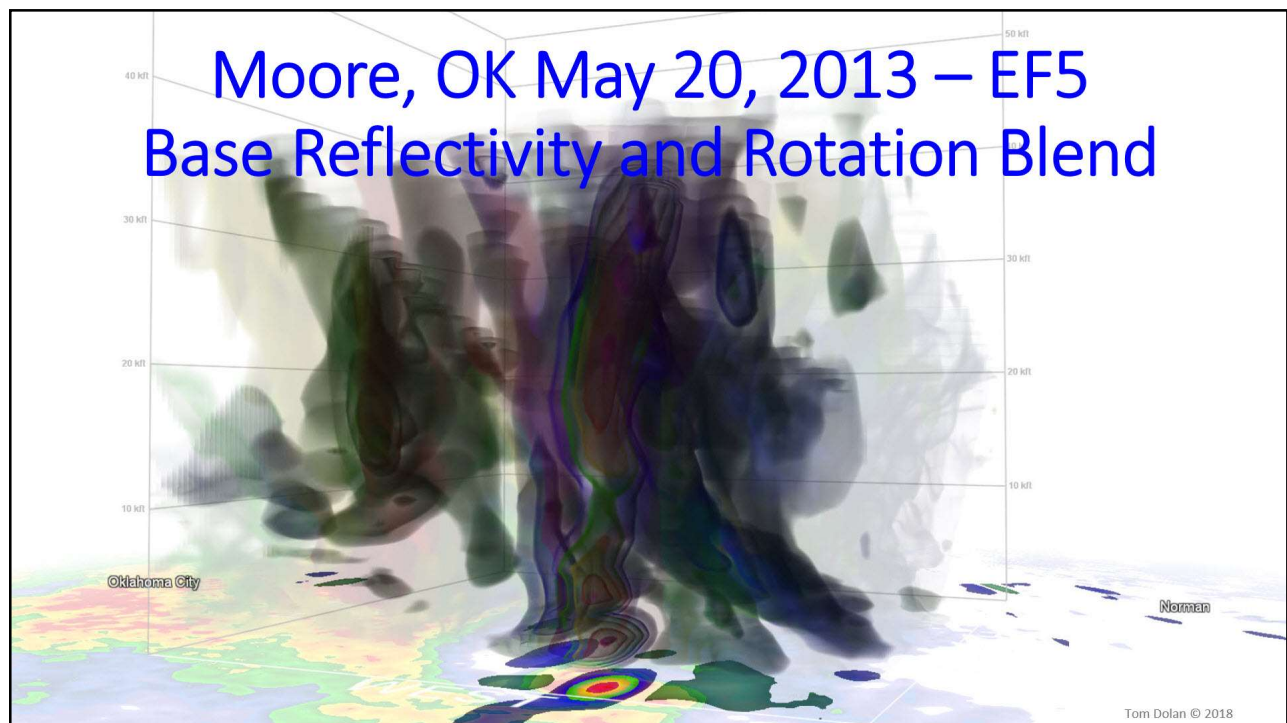


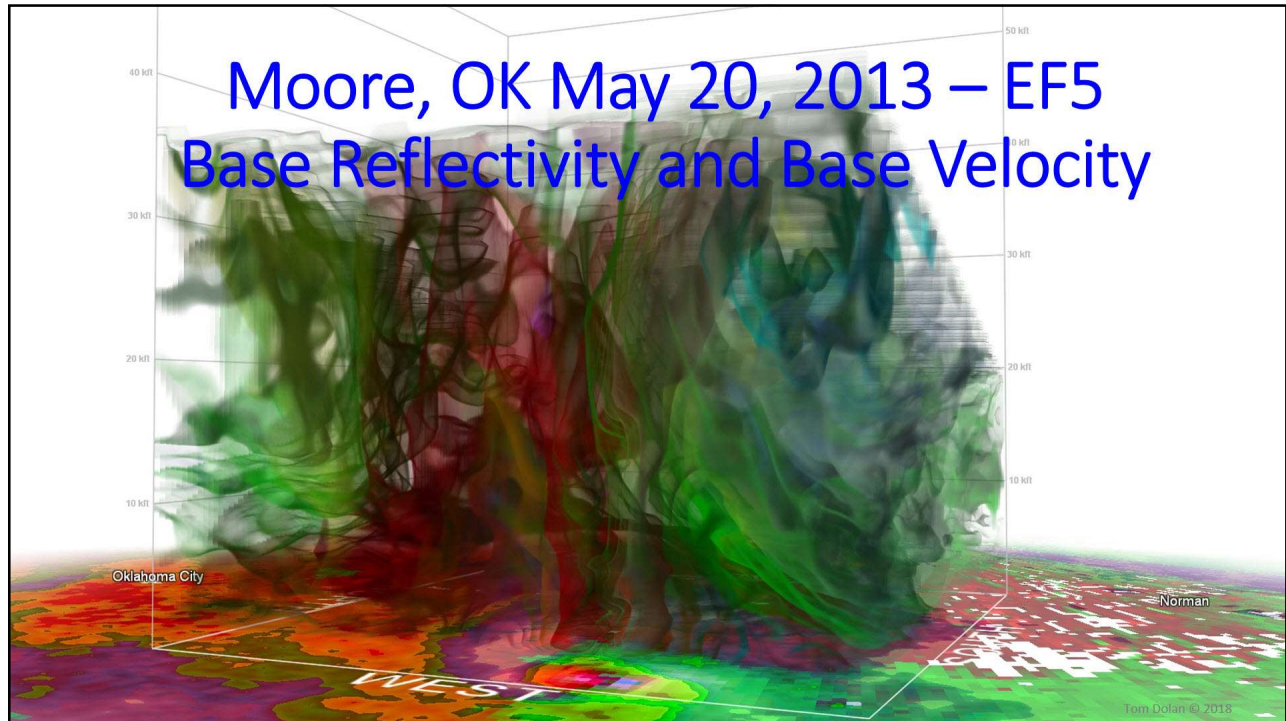


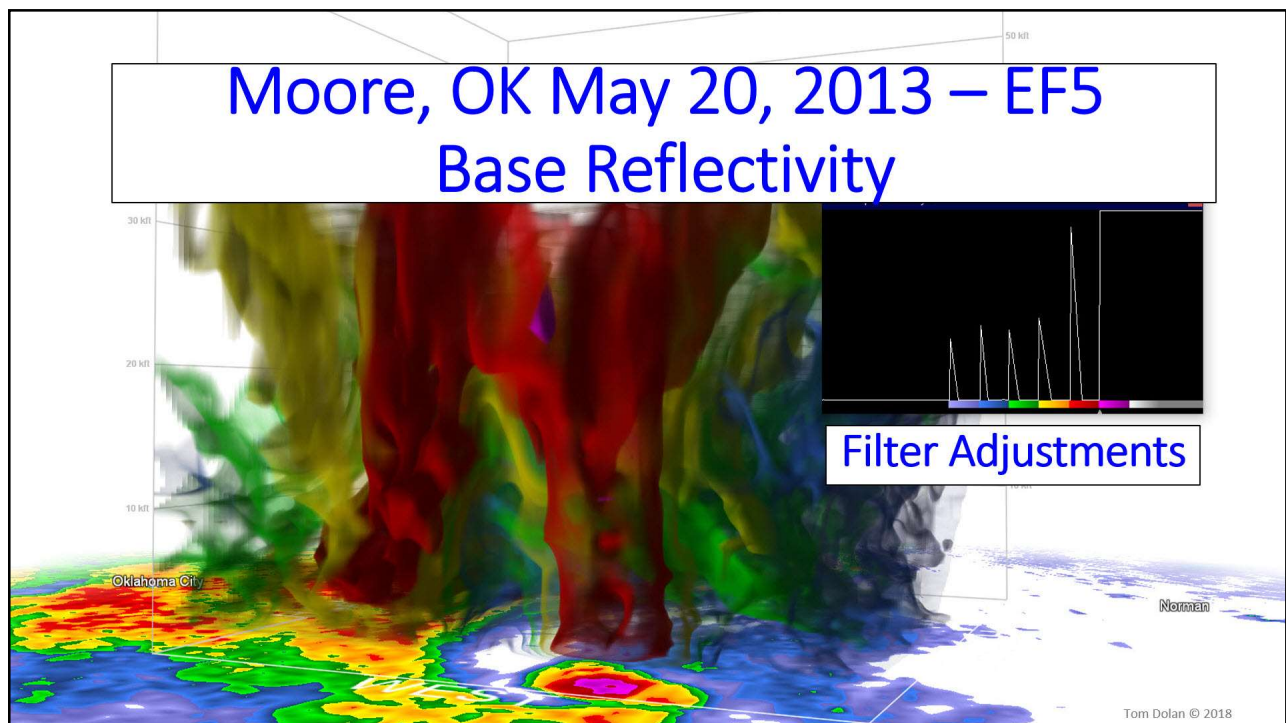
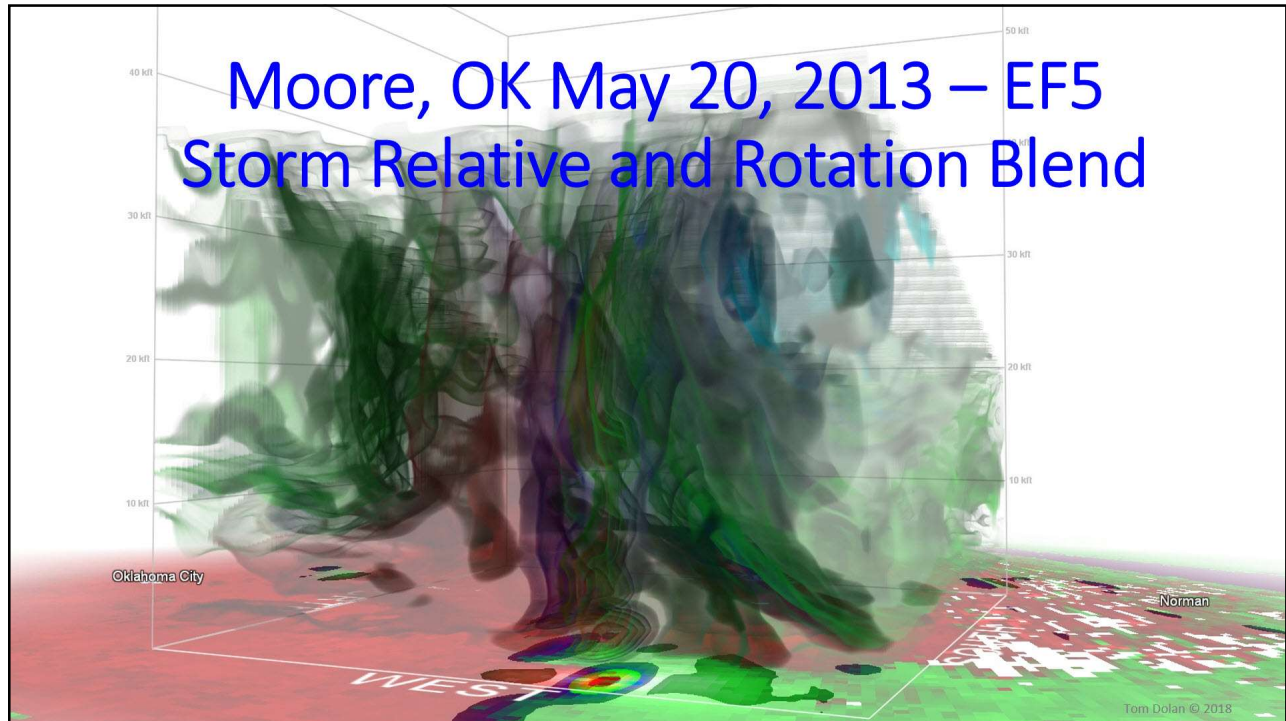


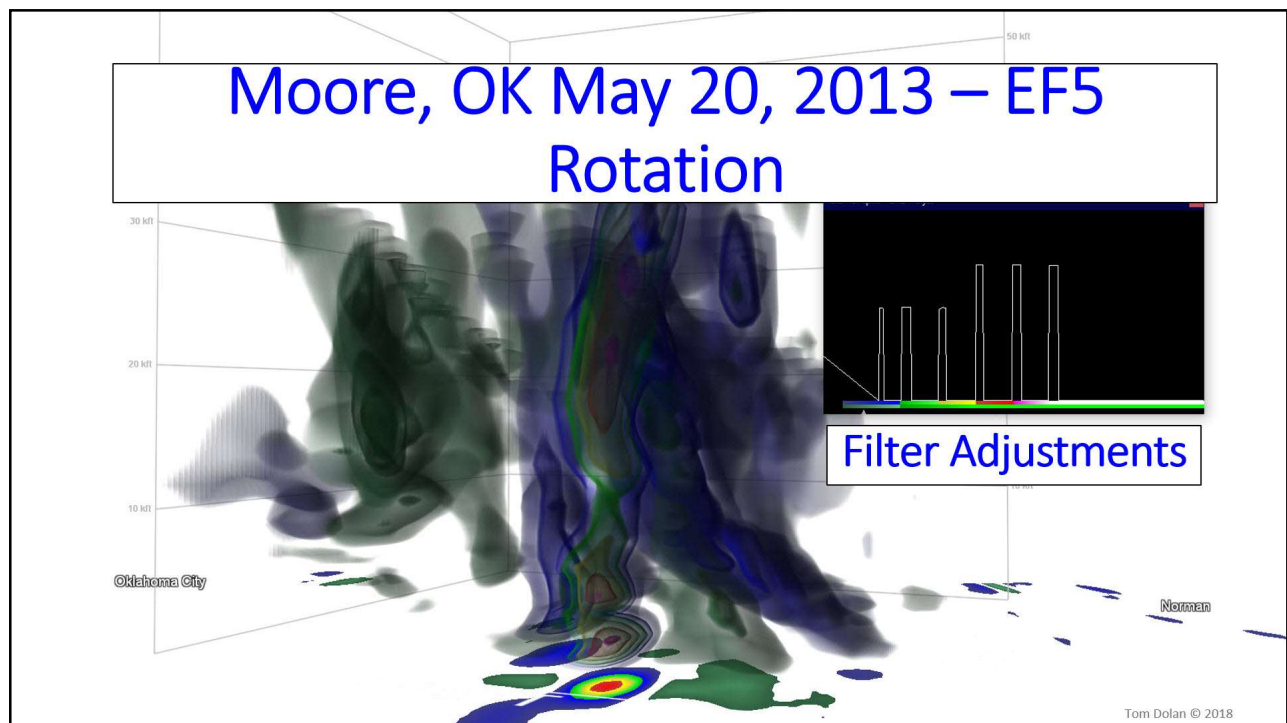
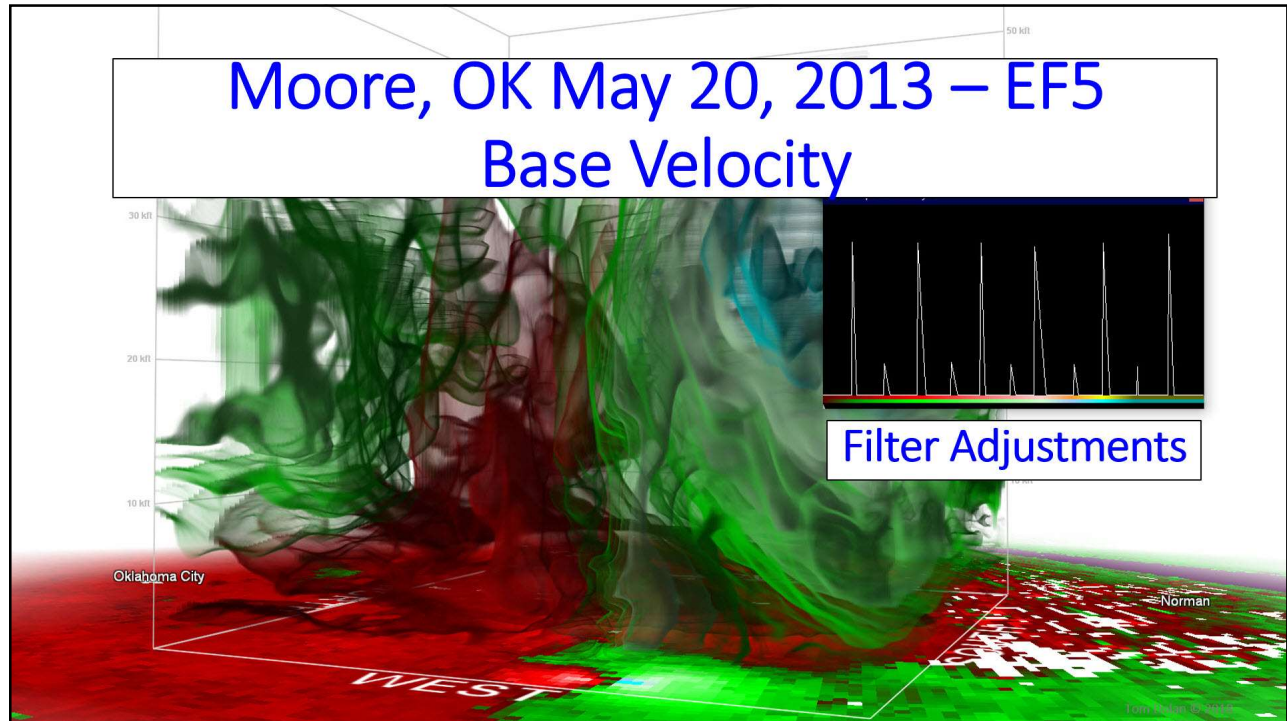


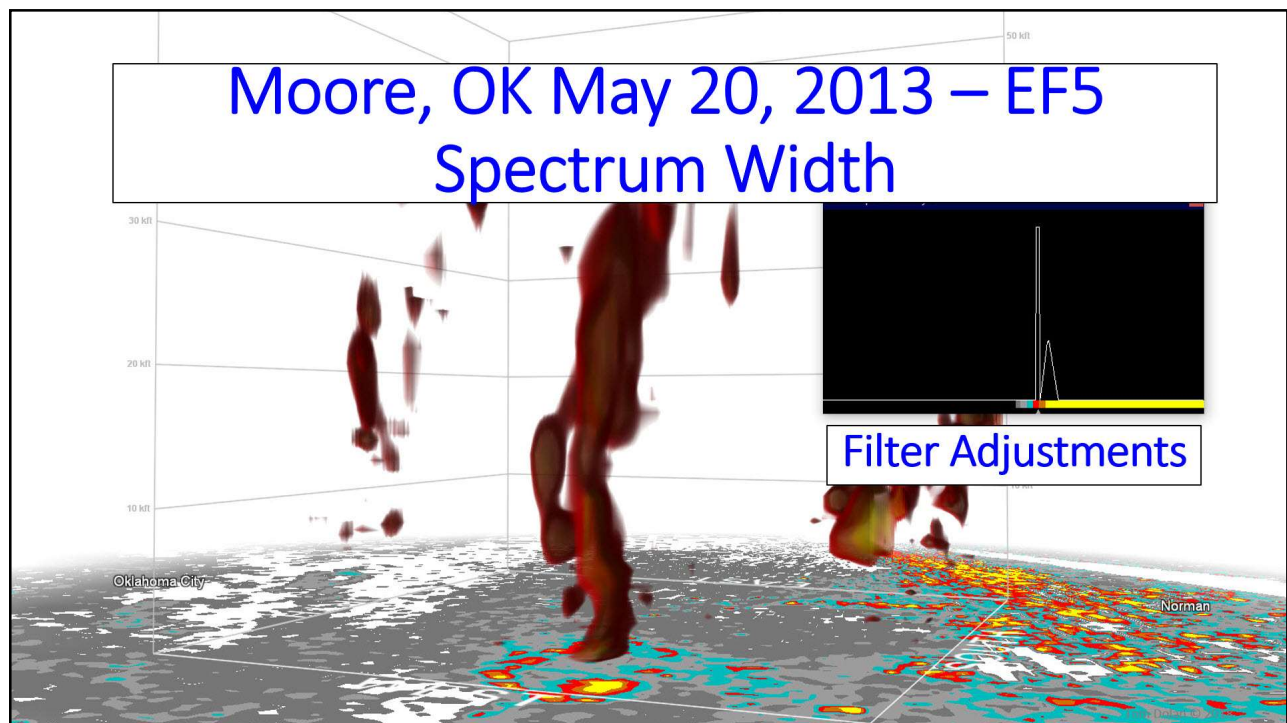
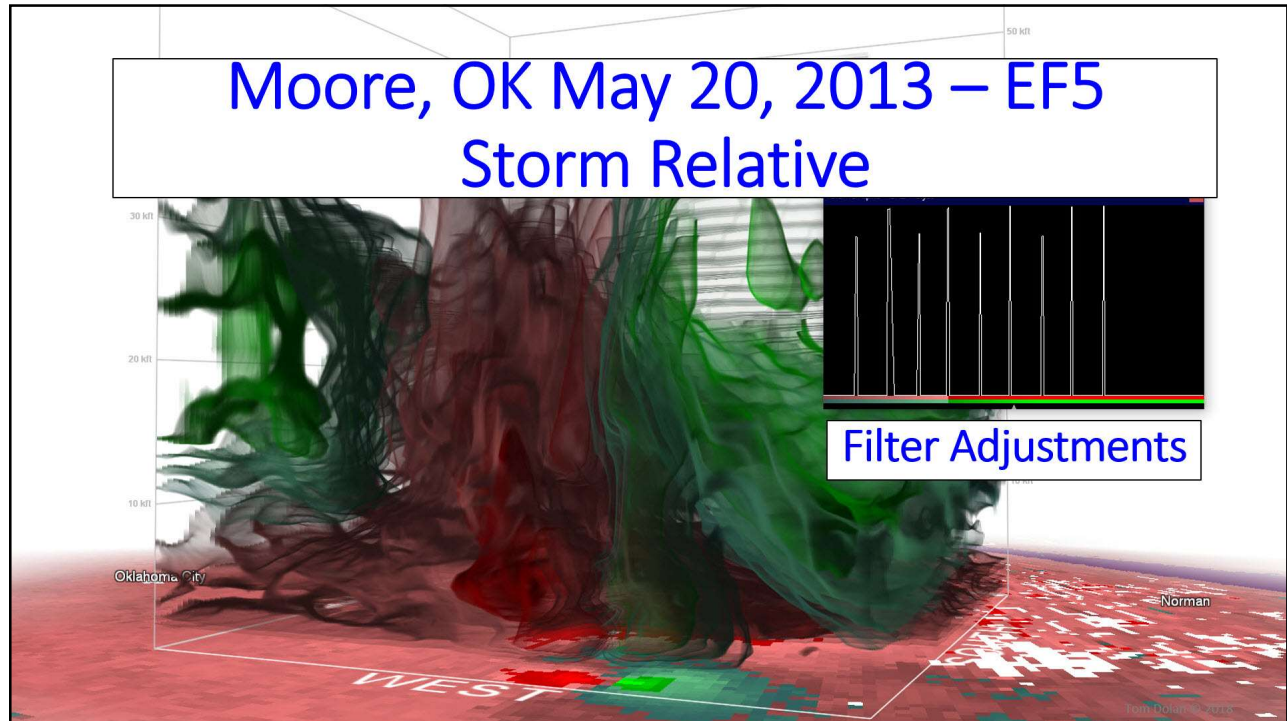


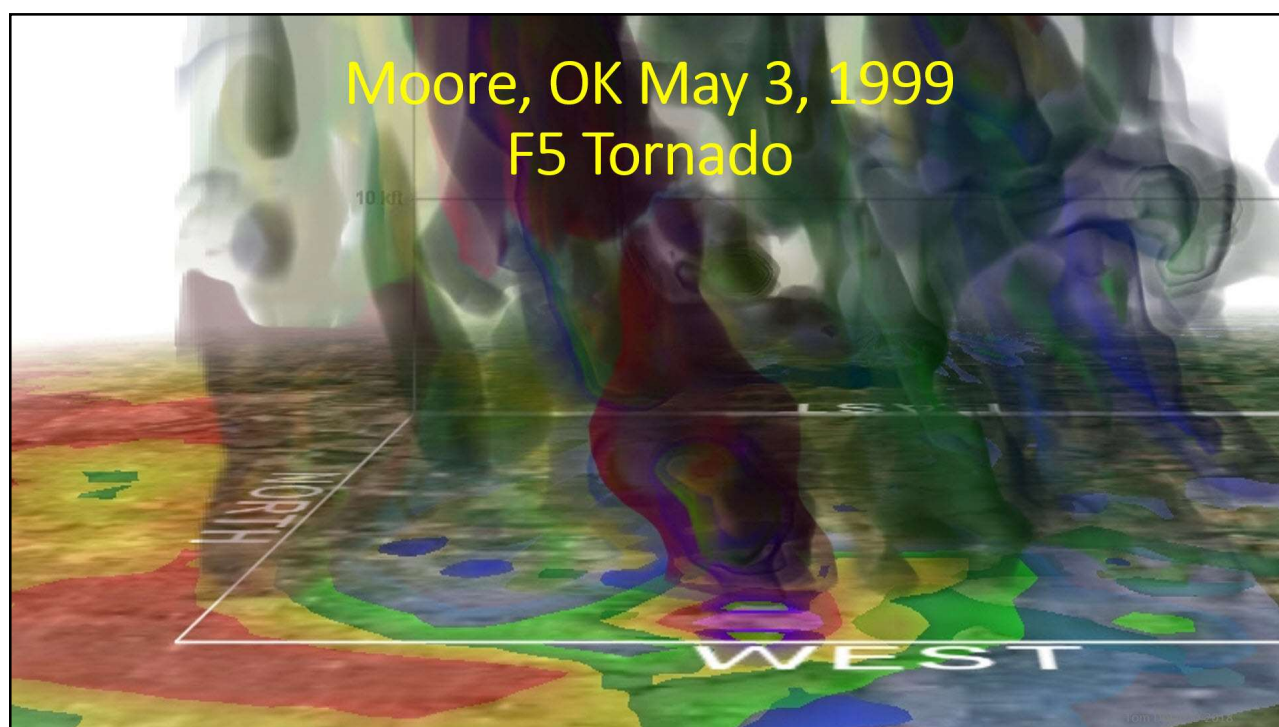


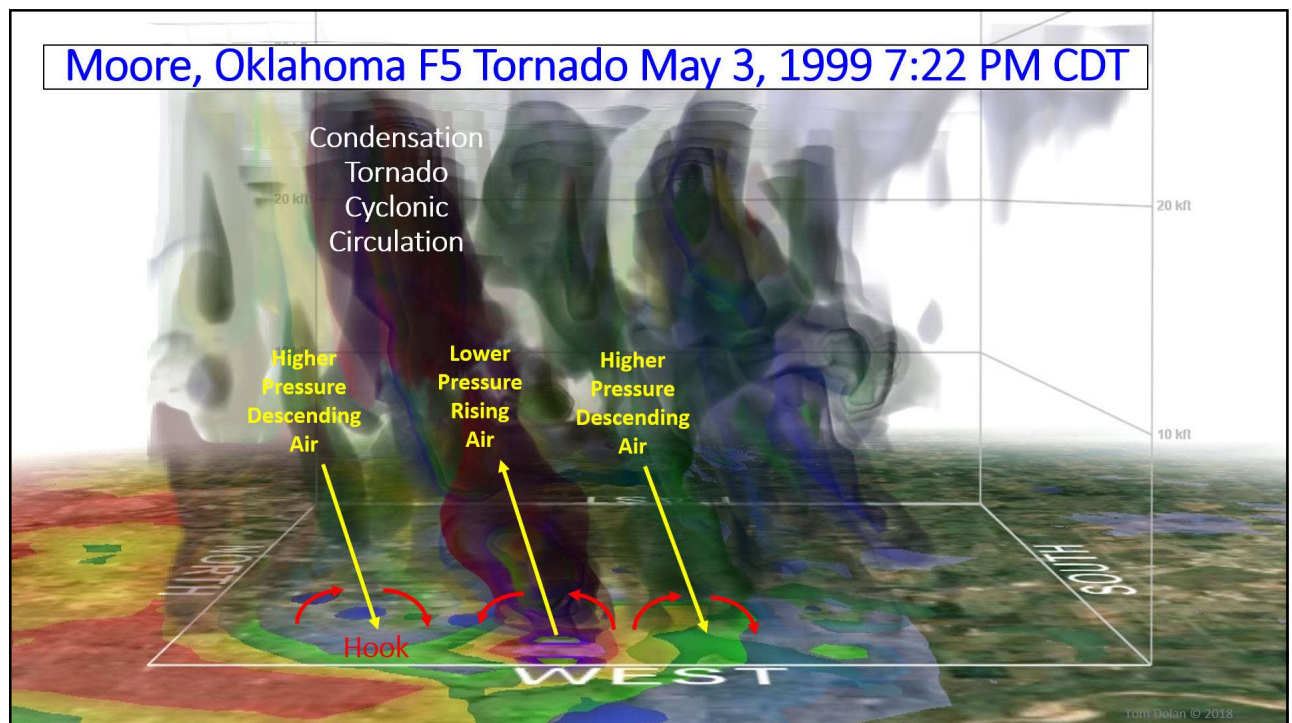
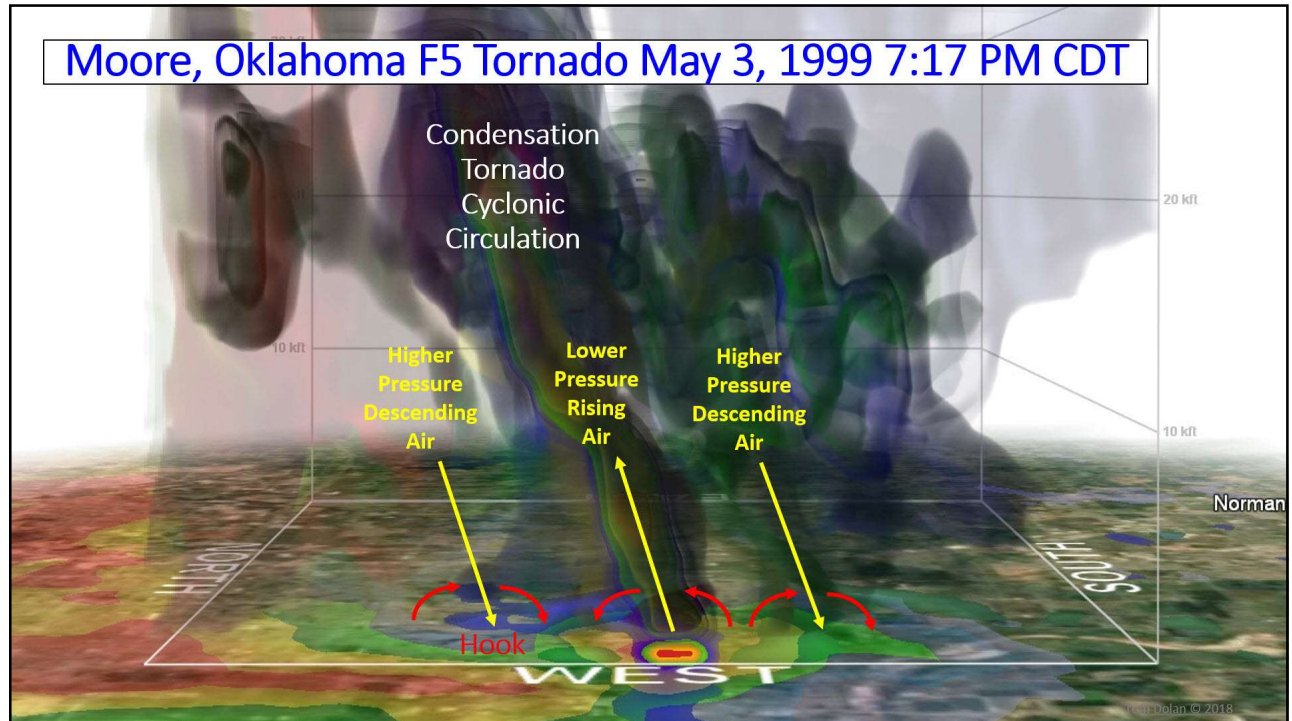


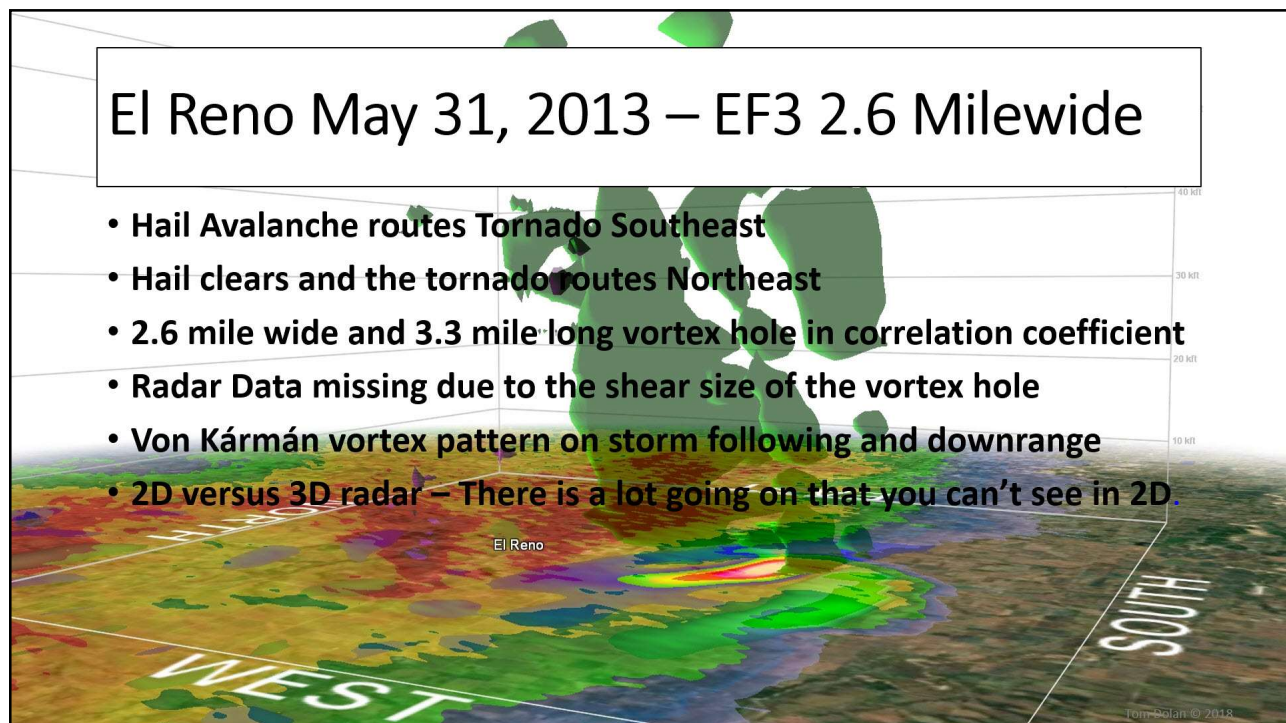
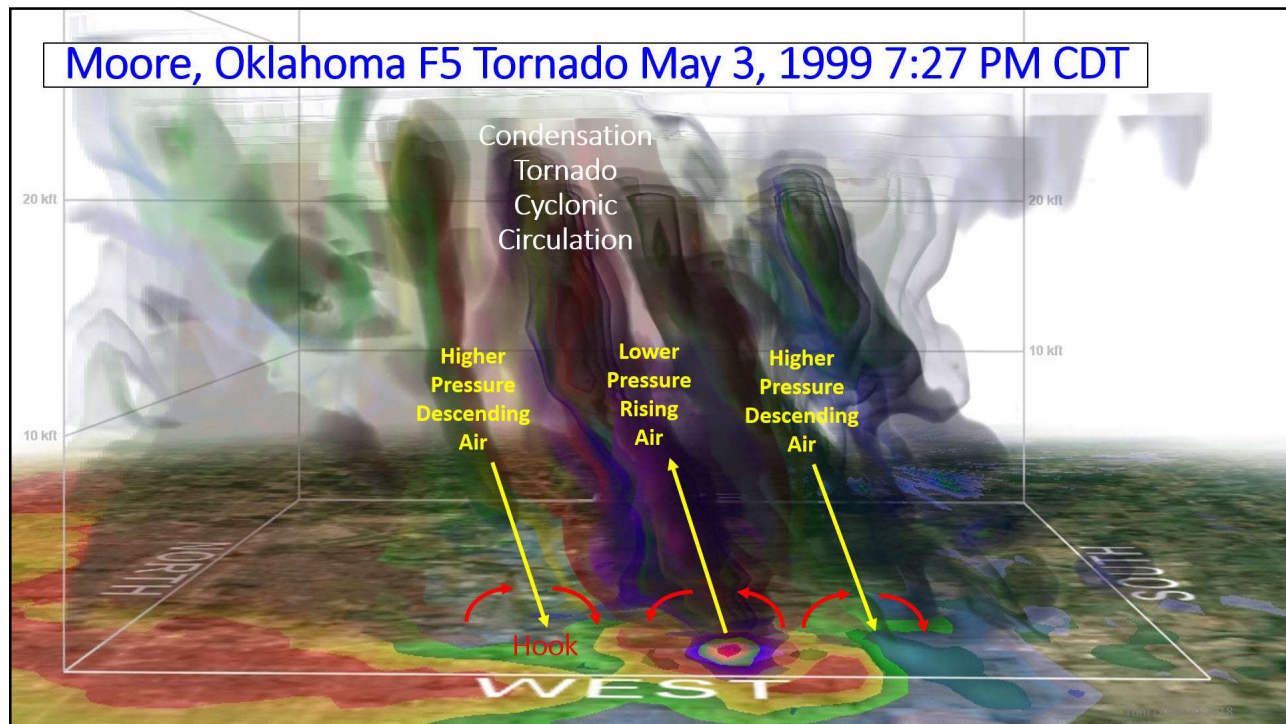


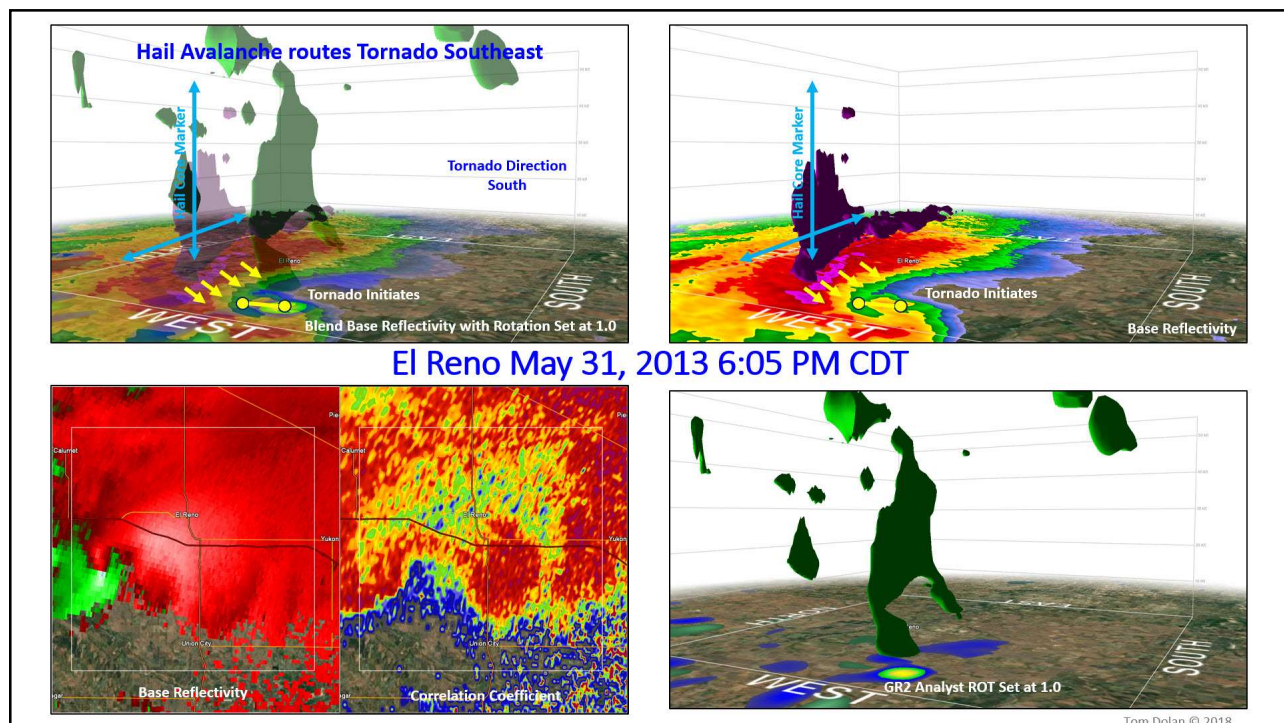
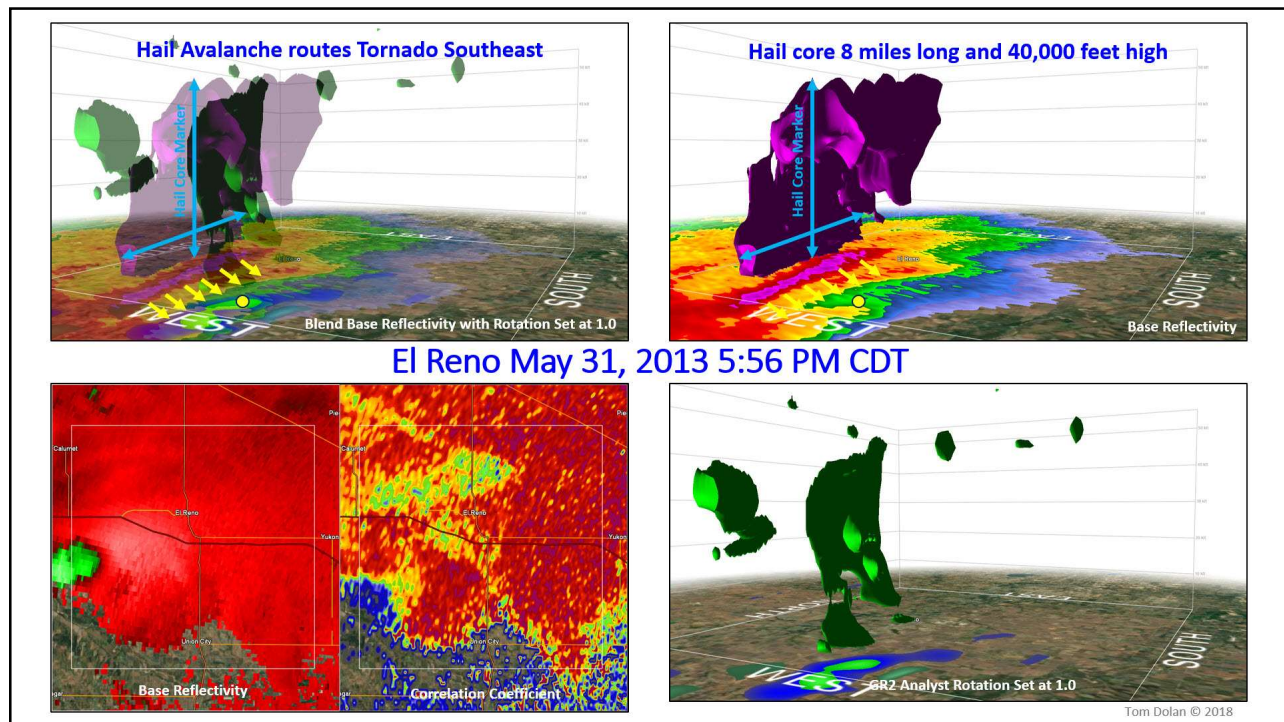


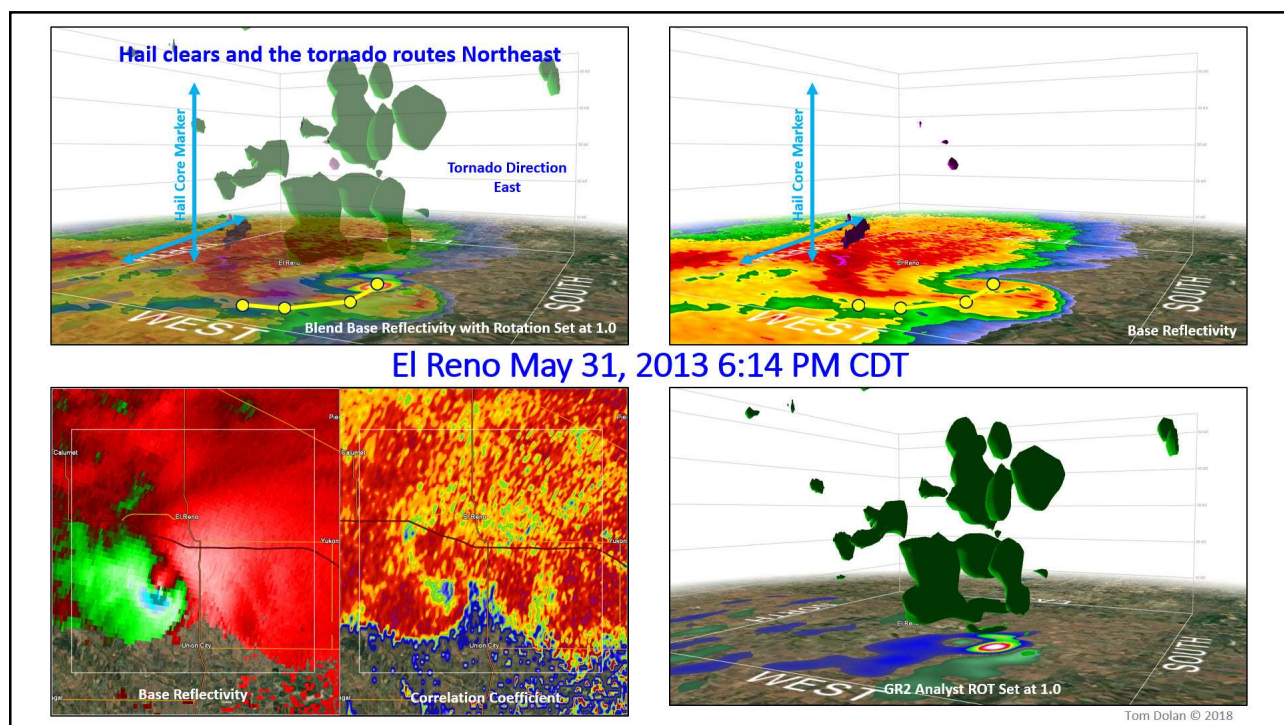
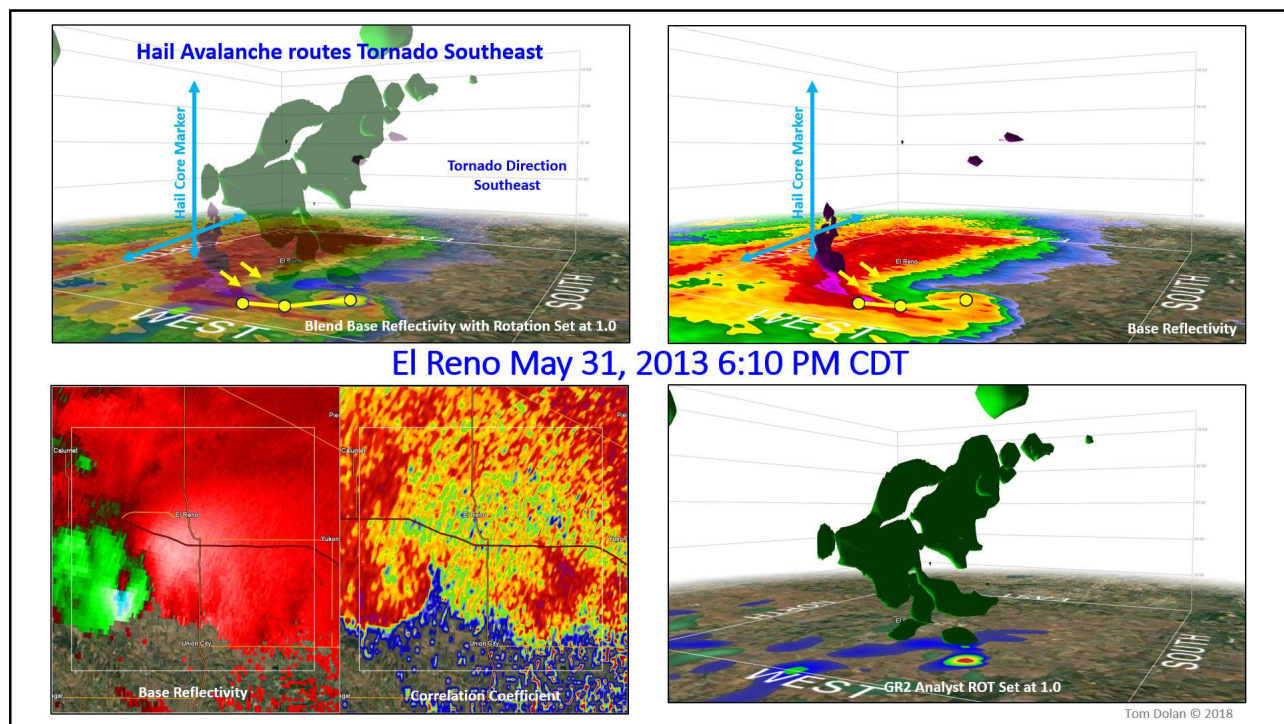


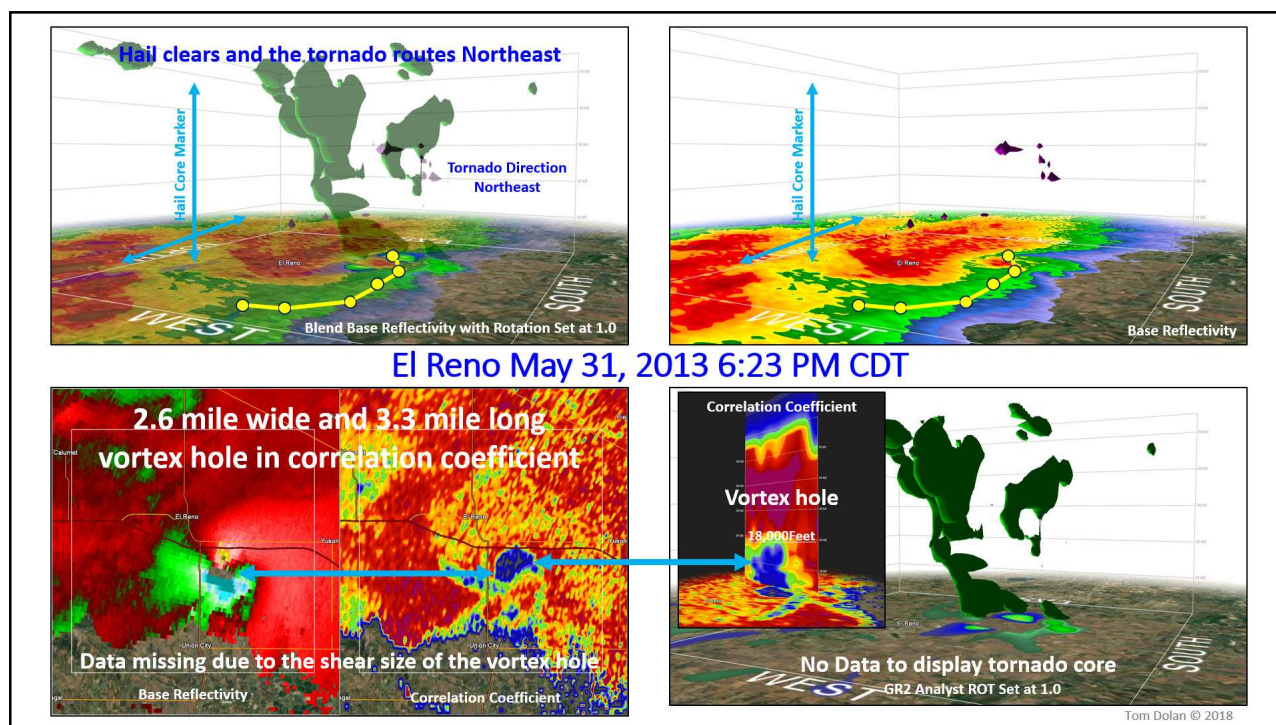
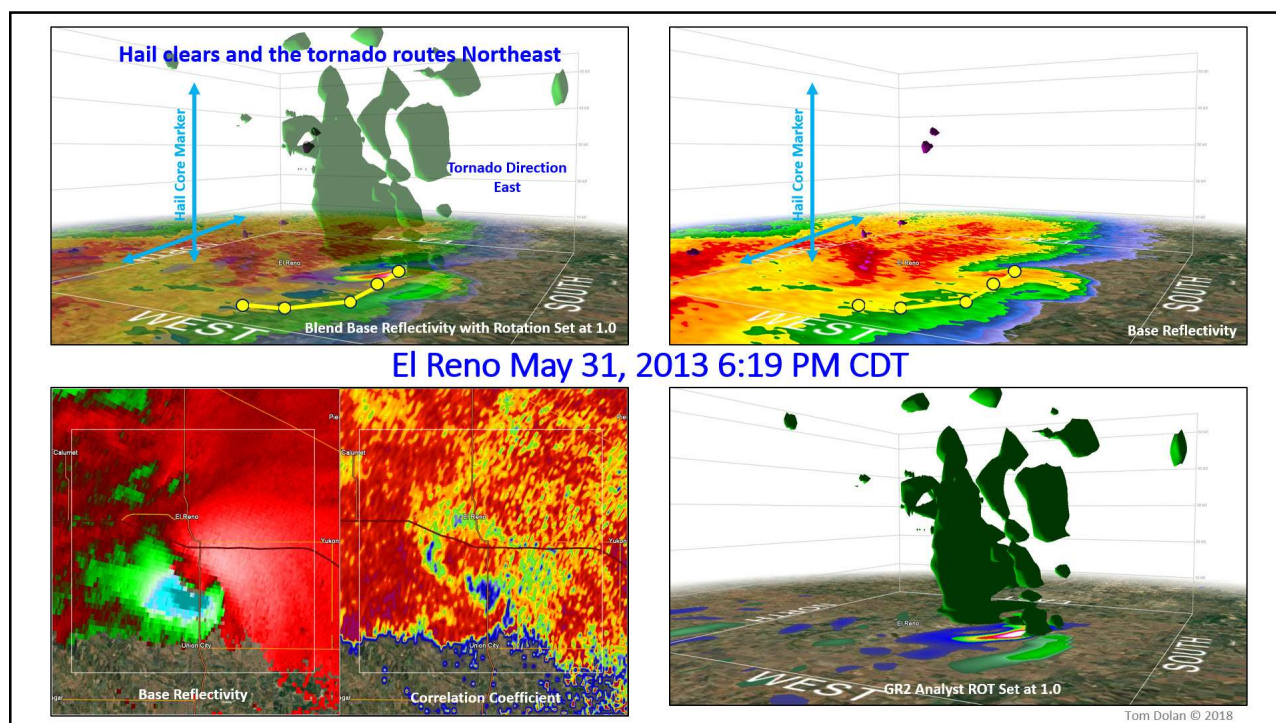


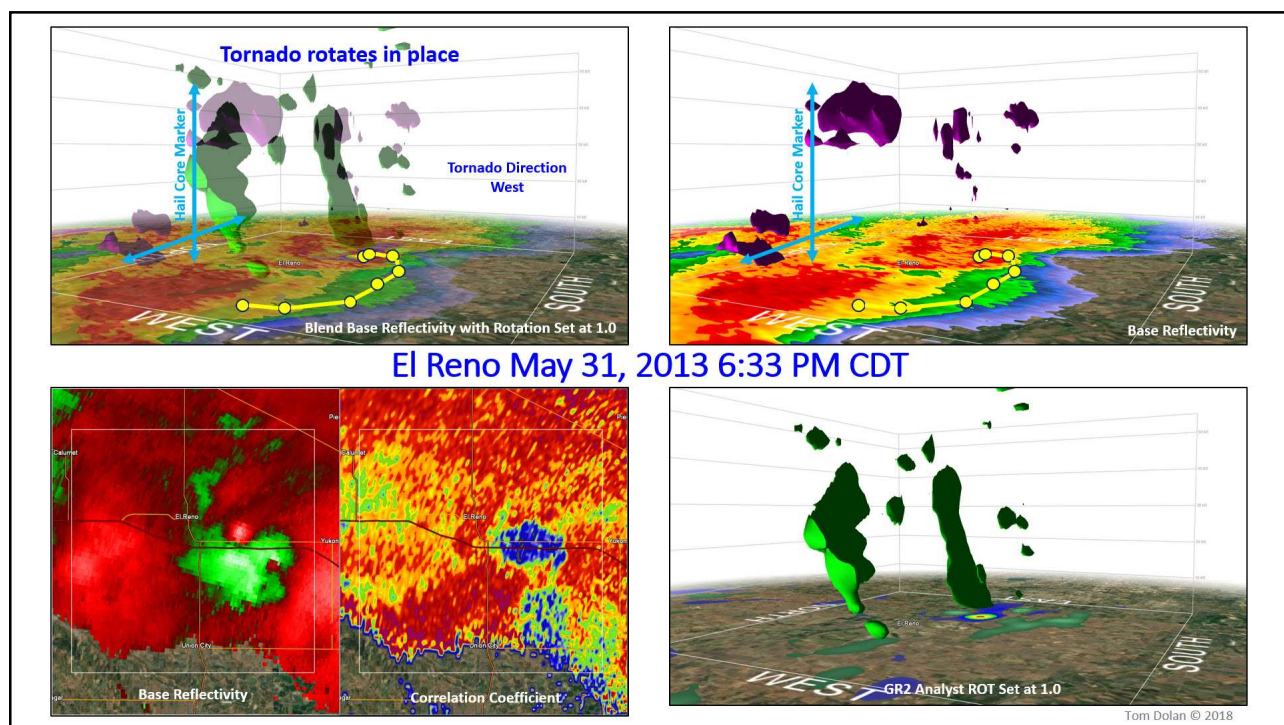
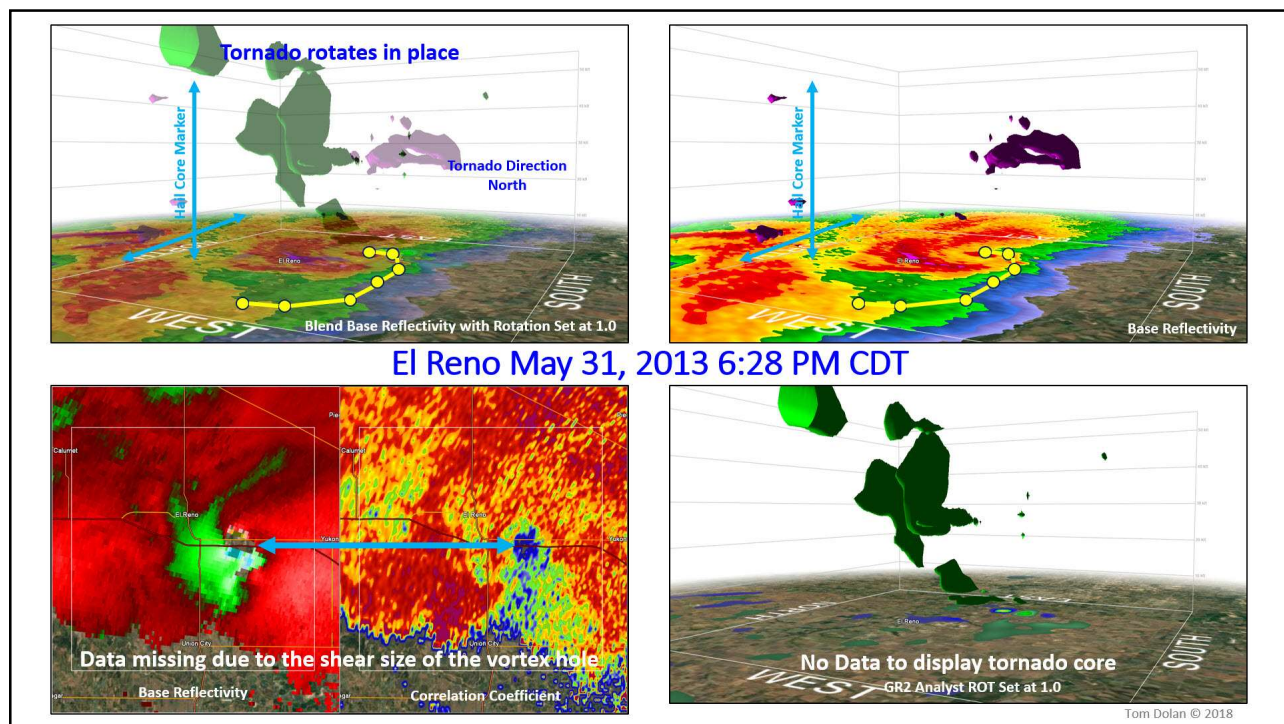


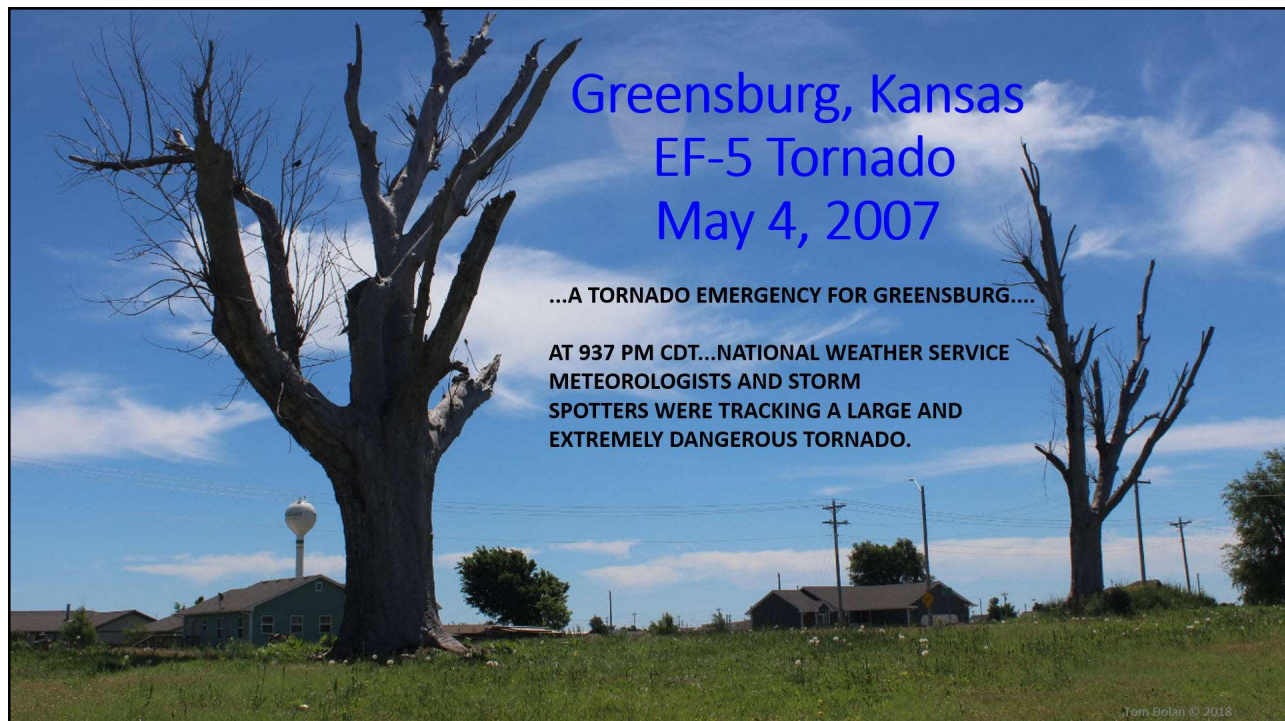
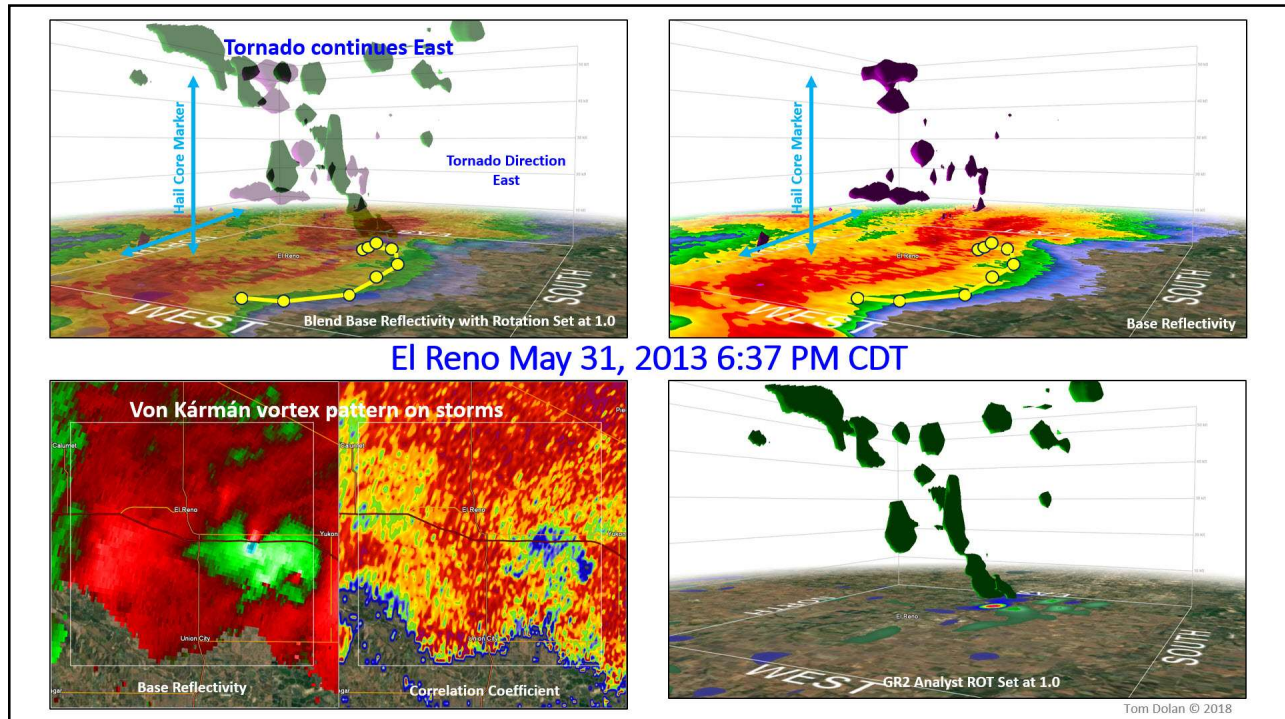


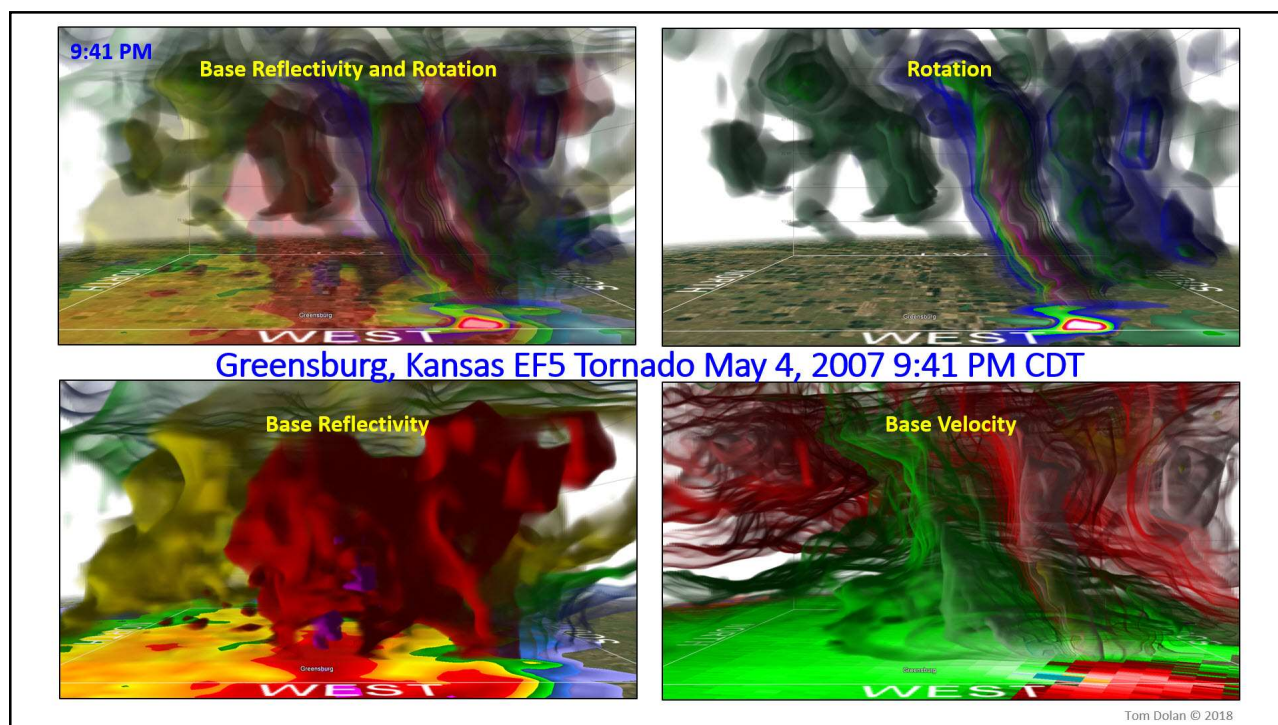
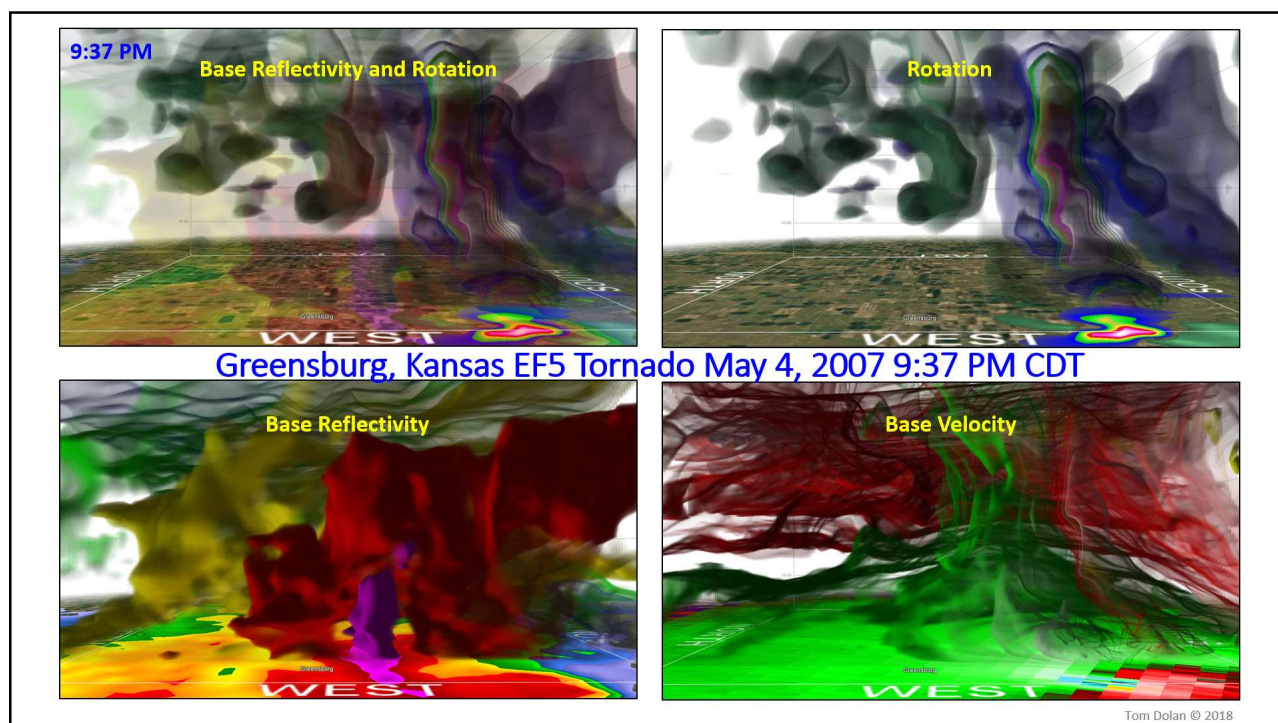


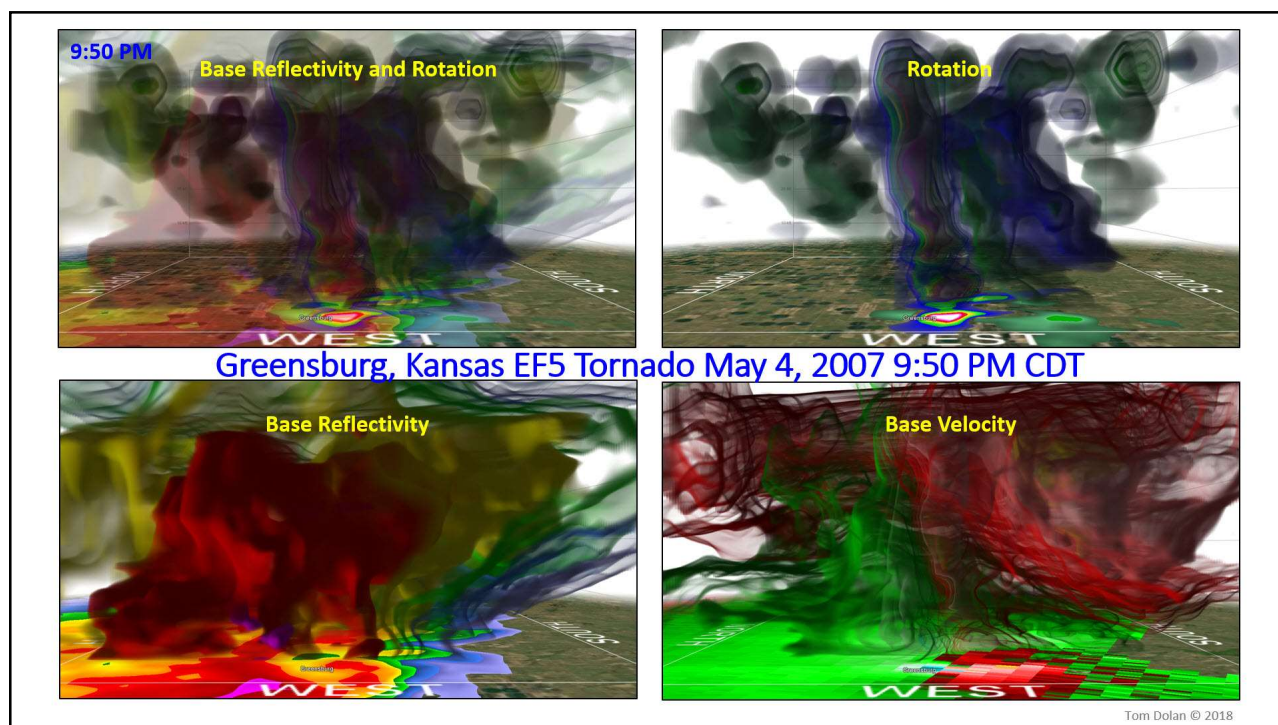
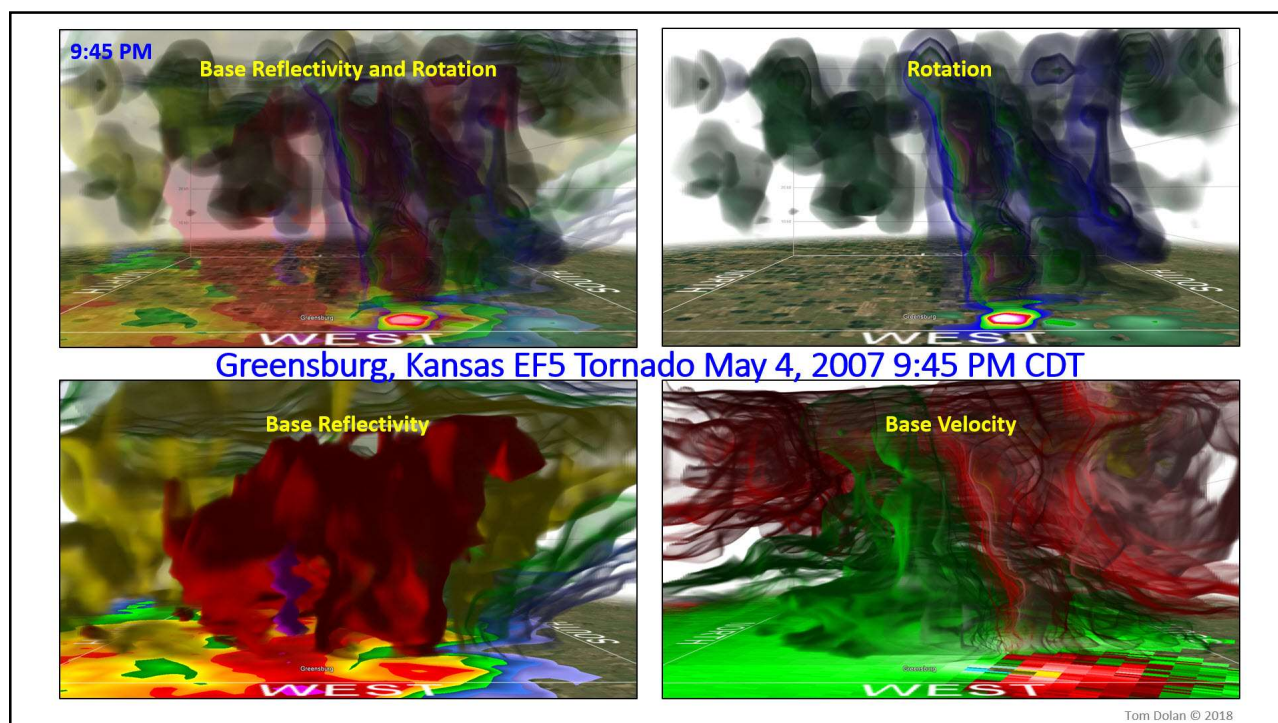


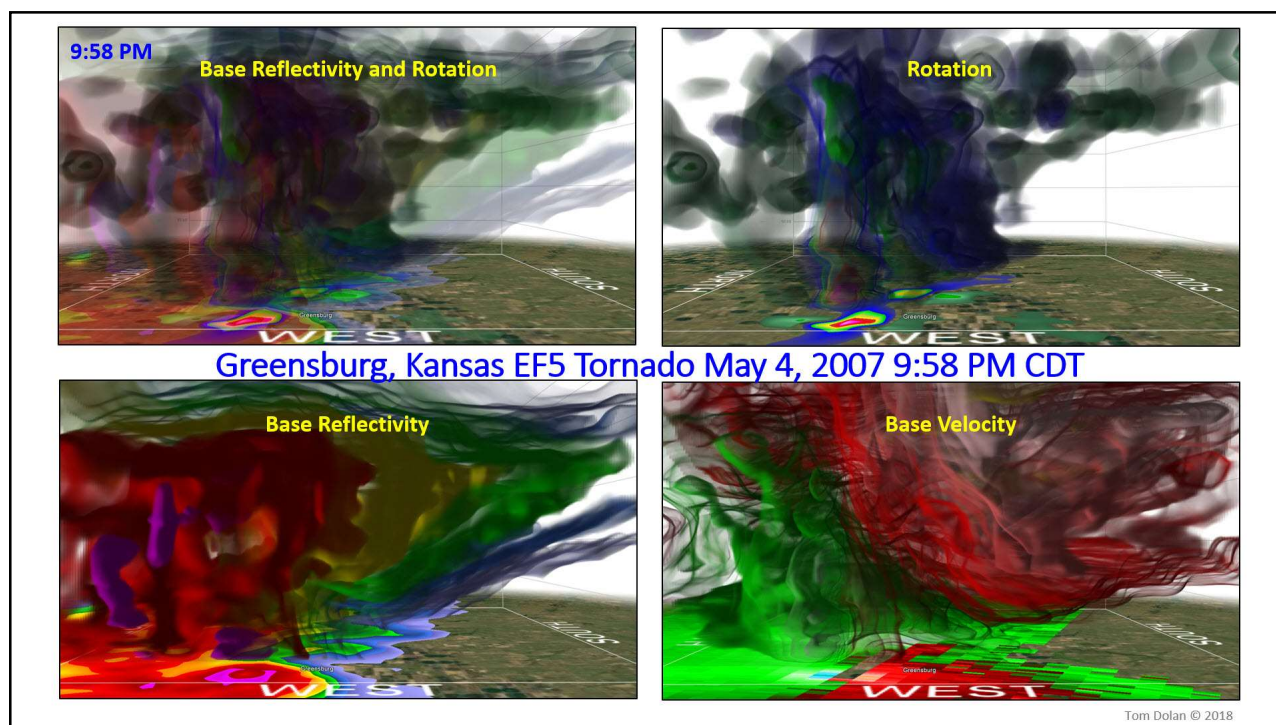
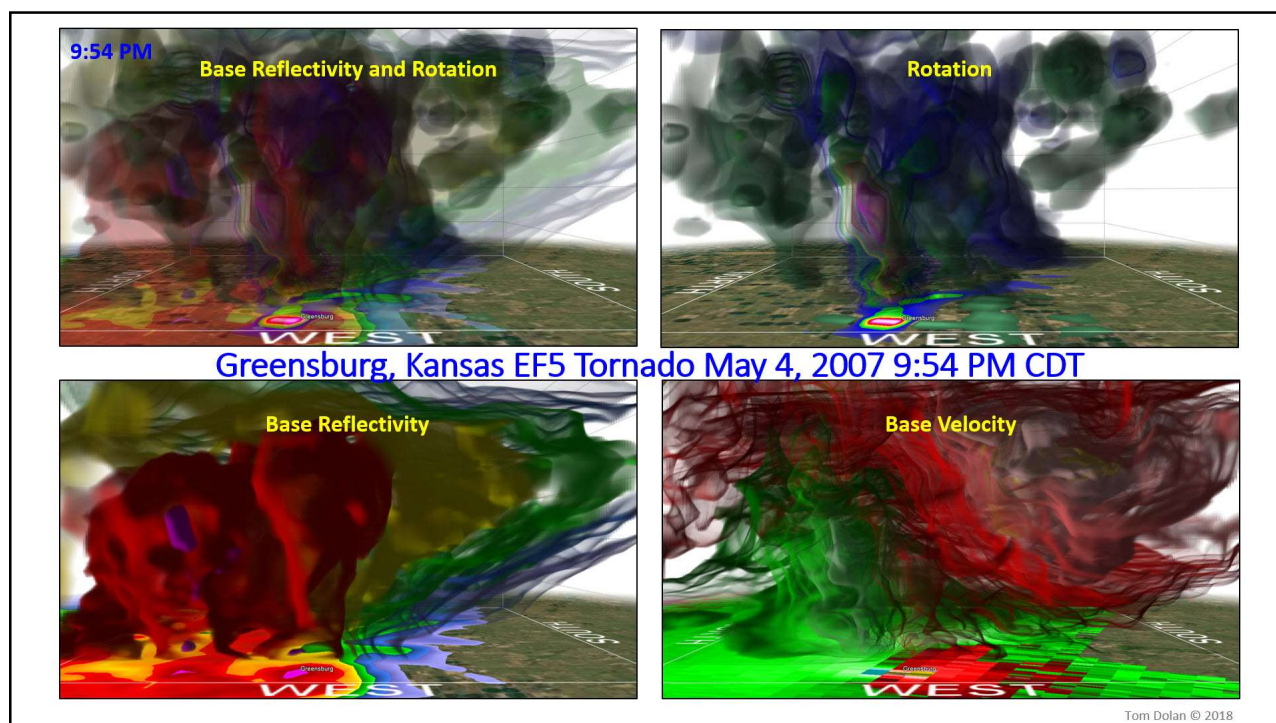


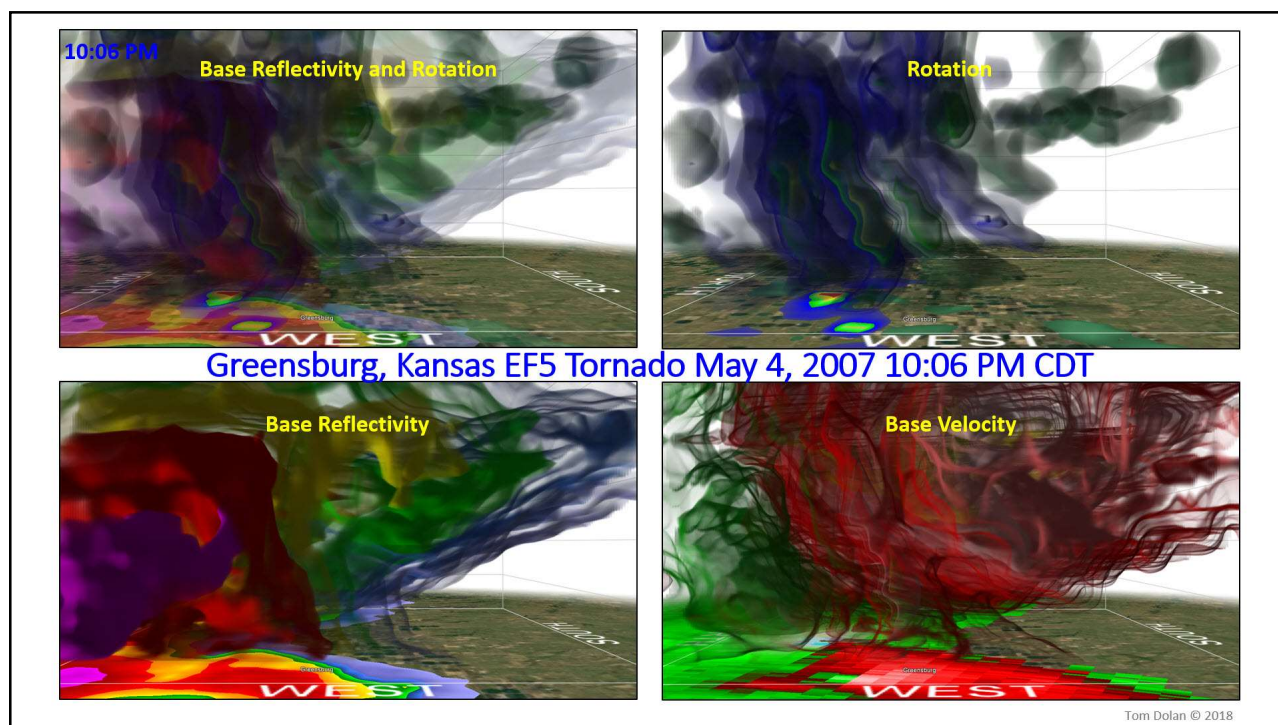
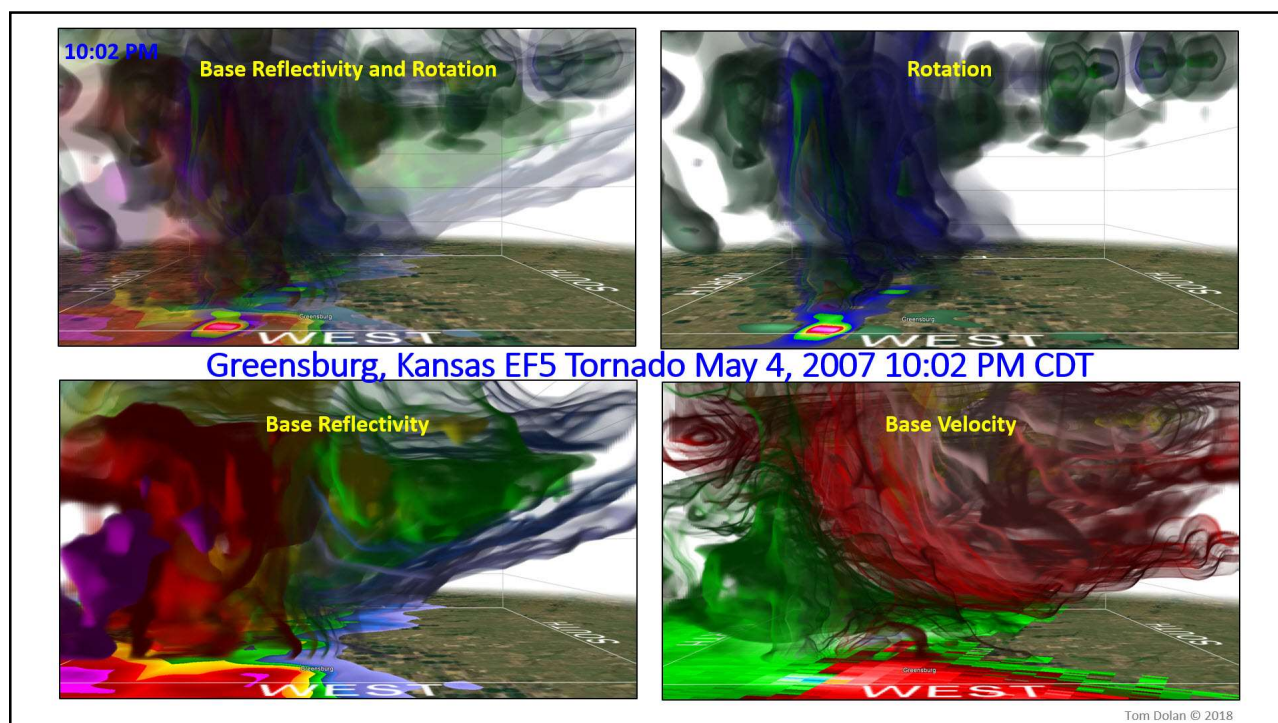






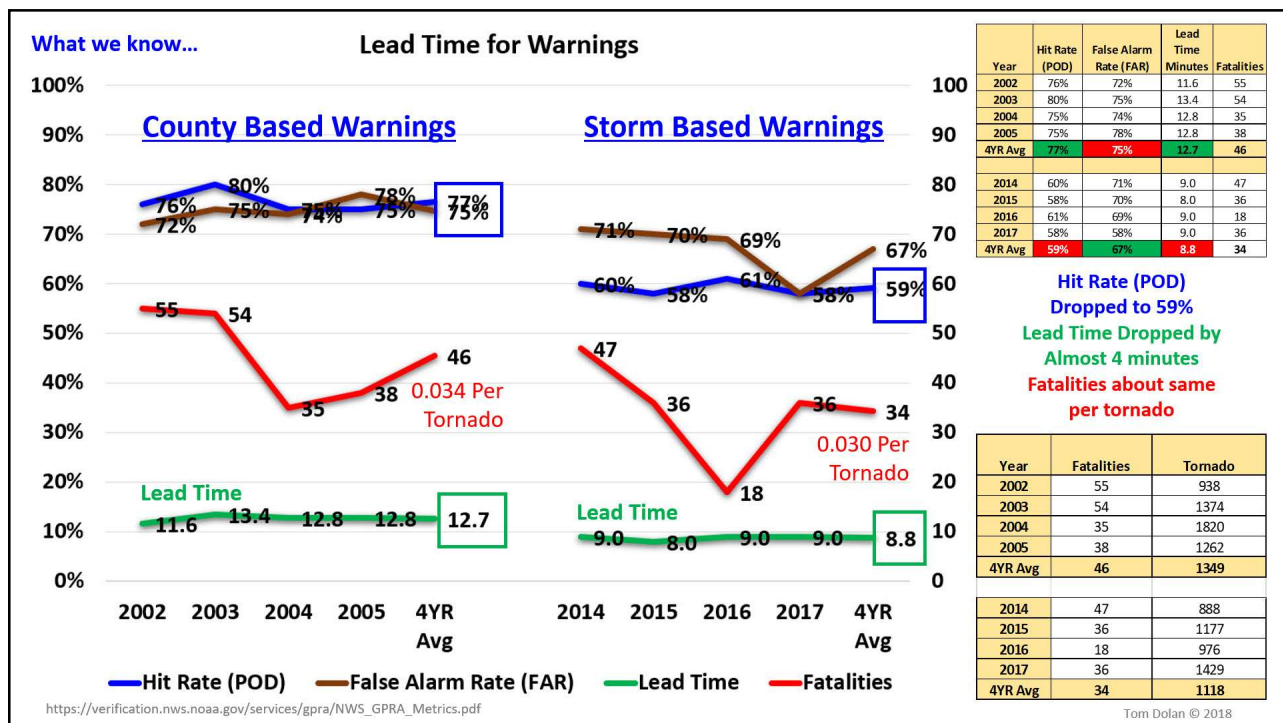
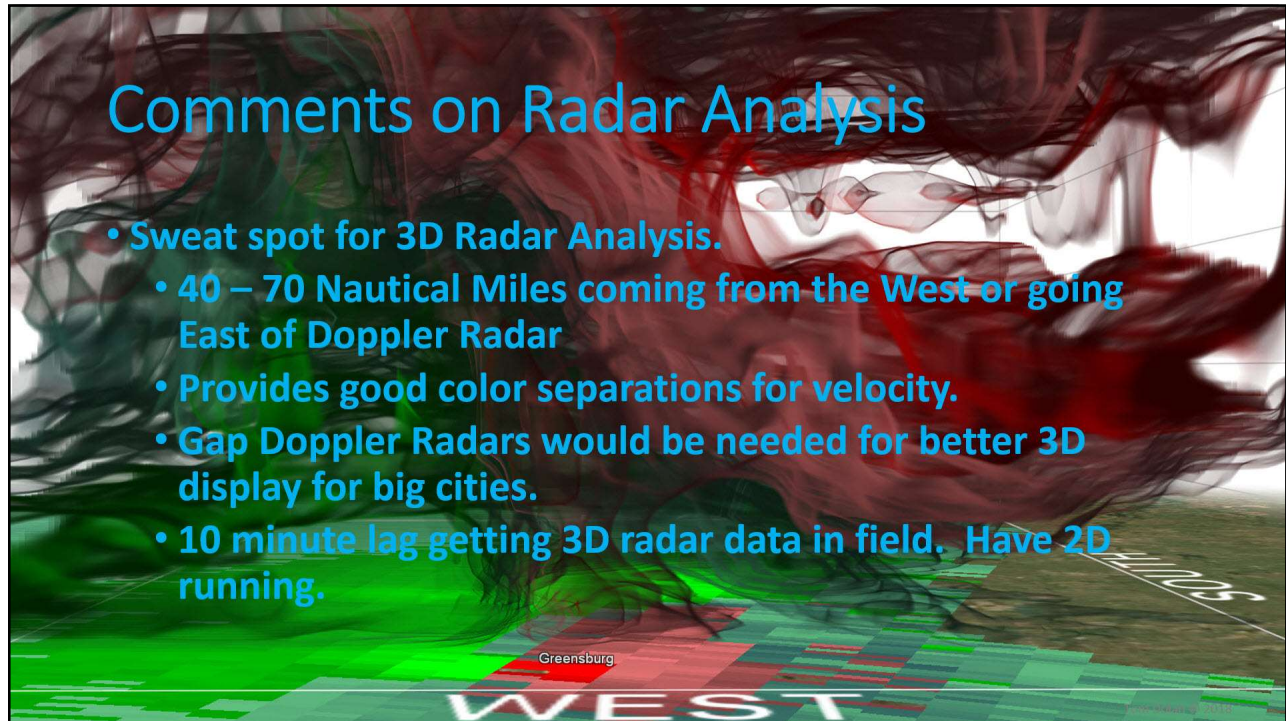






Comments on Radar Analysis

- **Sweet spot for 3D Radar Analysis.**
 - 40 – 70 Nautical Miles coming from the West or going East of Doppler Radar
 - Provides good color separations for velocity.
 - Gap Doppler Radars would be needed for better 3D display for big cities.
 - 10 minute lag getting 3D radar data in field. Have 2D running.



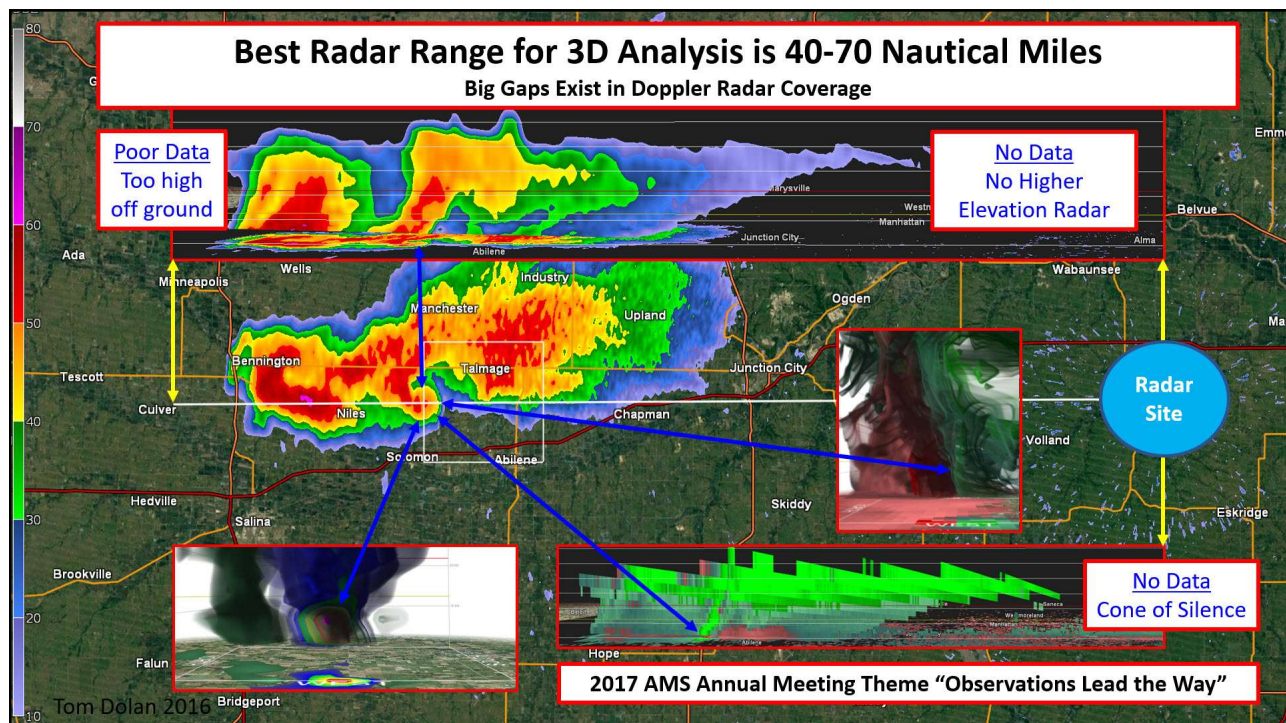
What if ...

Big Win!

“Near Miss” Tornado Warnings 75% with “Hits” at 25%

“Near Miss” = Radar Indicated Rotation that did not make ground contact!

- **Consider Enhanced wording and/or discussion with Emergency Managers**
 - “There is a 25 percent chance a Tornado Warned storm will produce a tornado”
 - “There is a 100 percent chance with an observed Tornado in the Tornado Warned storm”
 - **Severe Thunderstorm Warning** Add that it may include a possible EF-0 Tornado
- Added Reporting Metrics**
- **Separate out “EF-0” from “EF-1 to EF-5”** in scoring results plus the combined scores
 - **EF-1 to EF-5 New Target Goal: 15 Minute Average with 75% with more than a 10 Minutes Lead Time.** Measure Bell Curve Average and Target Goal Overall
 - **Important – The Joplin study confirms that it takes more than one warning source before action is taken.** Early warning with good lead time can save lives.



Tornado Visualization and Doppler Radar Analysis Project 2009 – 2018 - Project Support Team

Don Dolan - 6 Seasons, Kathy Dolan – 2 Seasons,
Randy Ryan – 2 Seasons, Matt Dolan – 1 Season
Bill Kirkpatrick and Jamie Allen – Storm Each

