

The Tale of Two Stones

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Which Stones?

- Aurora, NE on 22 Jun 2003 (7 PM)
- Wichita, KS on 15 Sep 2010 (6 PM)
- Both stones set records for circumference and diameter

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Hail Size Comparisons:



| | Aurora | Wichita |
|---------------|---------------|----------------|
| Diameter | 7" | 7.75" |
| Circumference | 18.75" | 15.5" |
| Weight | Unknown | 1.1 lbs |

Storm Environments:

| | Aurora | Wichita |
|-------------------------|---------------|----------------|
| MLCape(100mb - vt) | 3839 | 3214 |
| 0-6km Shear (kts) | 42 | 44 |
| 0-3km SRH | 284 | 337 |
| Freezing Level (ft agl) | 15,000 | 14,600 |
| Updraft Fz Lvl (ft) | 20,500 | 20,600 |
| Wet Bulb Zero (ft agl) | 10,370 | 12,530 |
| Surface T/Td (F) | 86/72 | 95/68 |

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Virtual temperature adjustment was used.

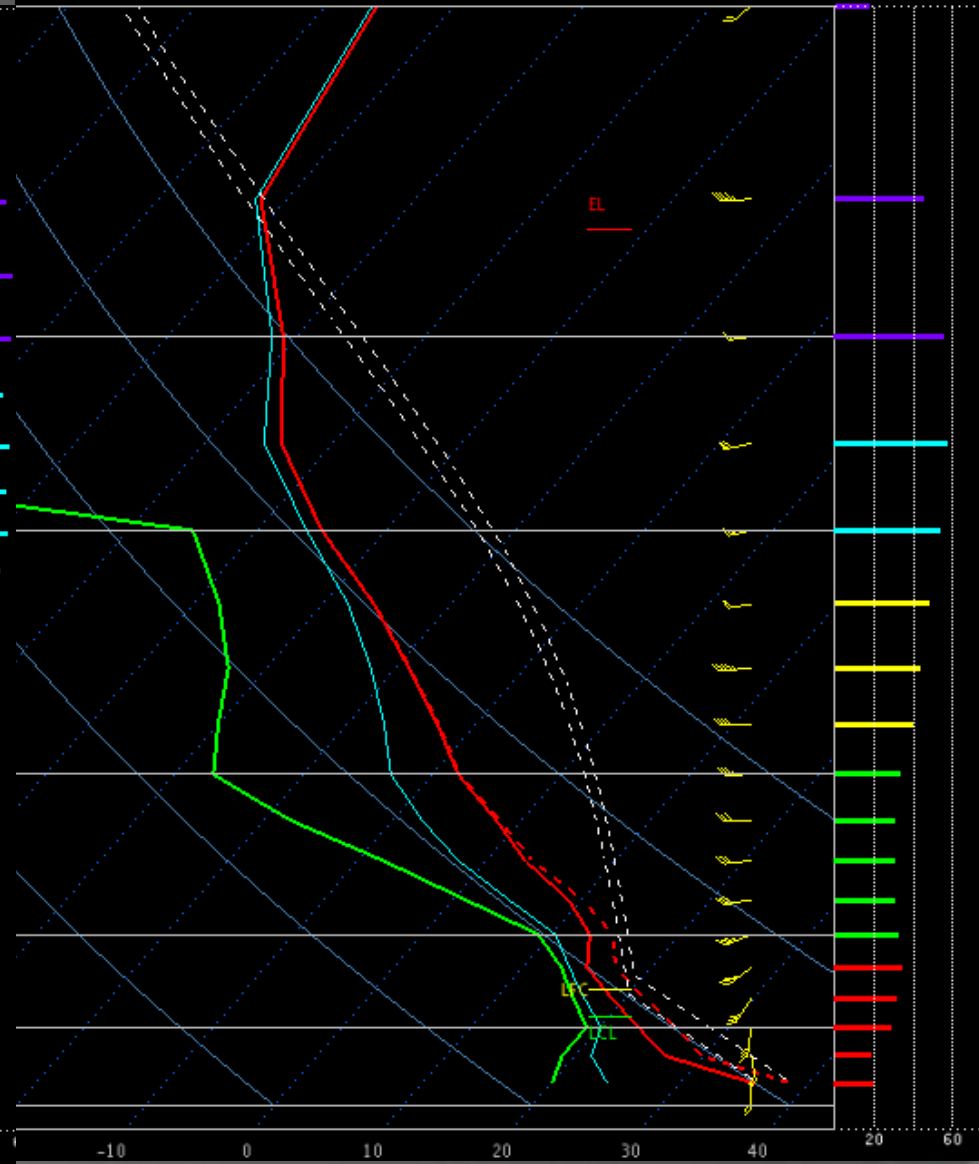
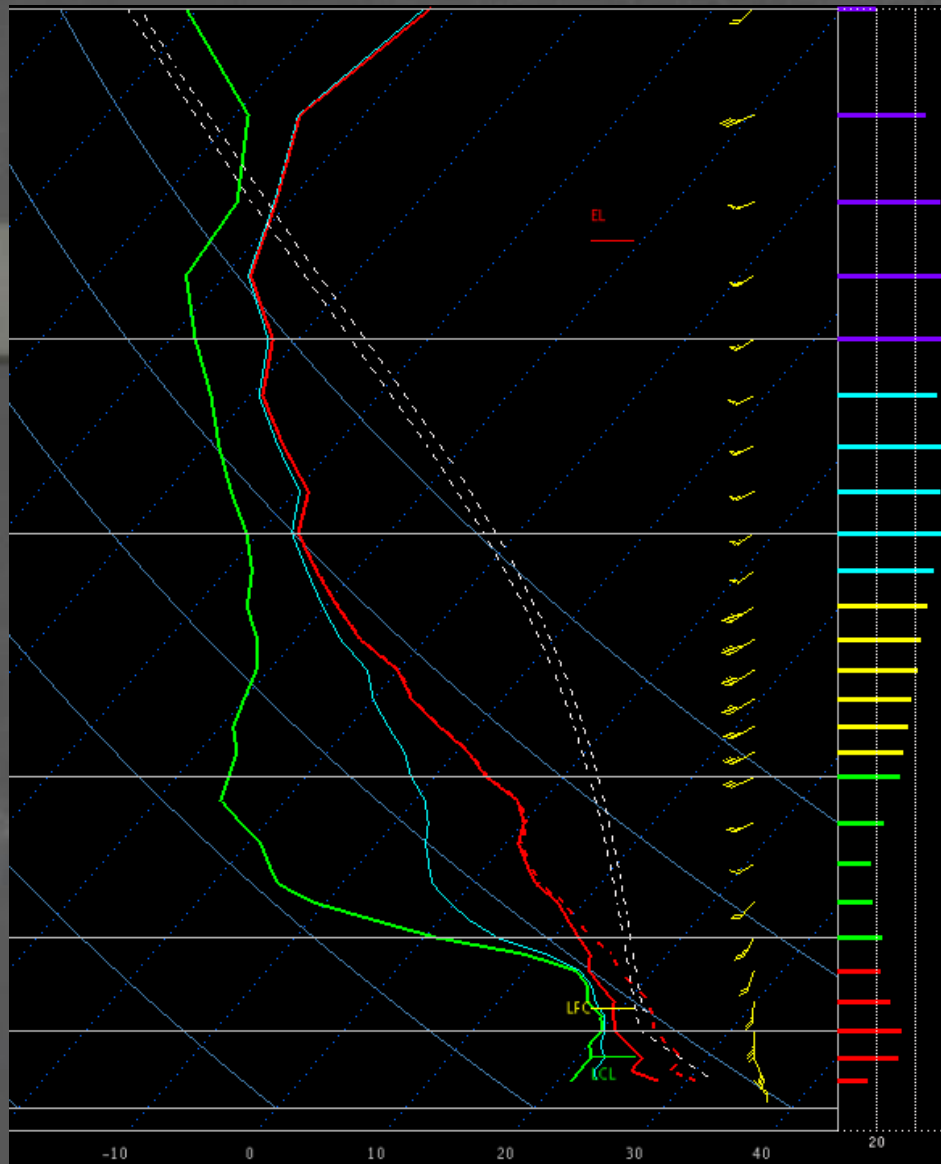
Storm Environments (cont):

| Wind | Aurora | Wichita |
|-------|--------|-----------|
| 500mb | 245/32 | 269/34 |
| 700mb | 209/23 | 249/33 |
| 850mb | 179/33 | 188/29 |
| SFC | 140/20 | 180/20g26 |

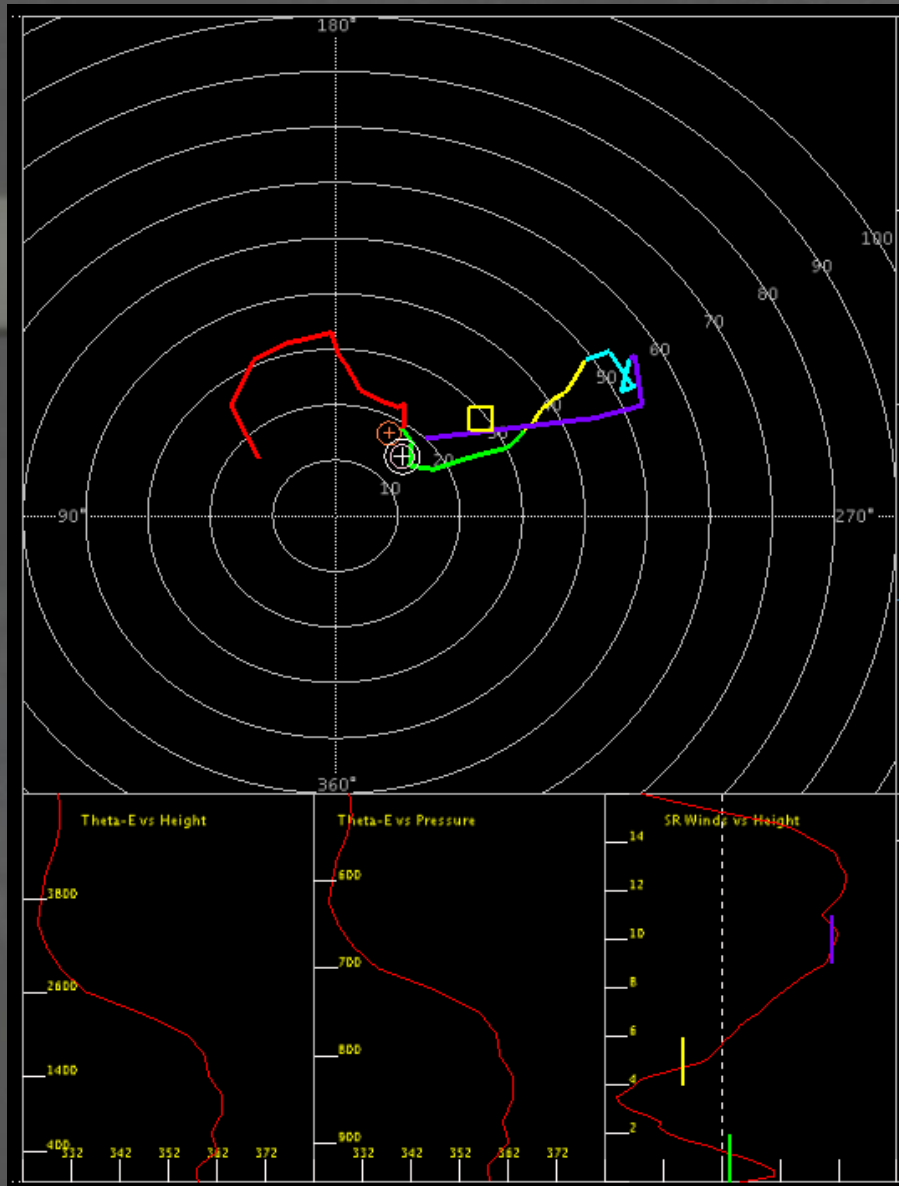
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Aurora

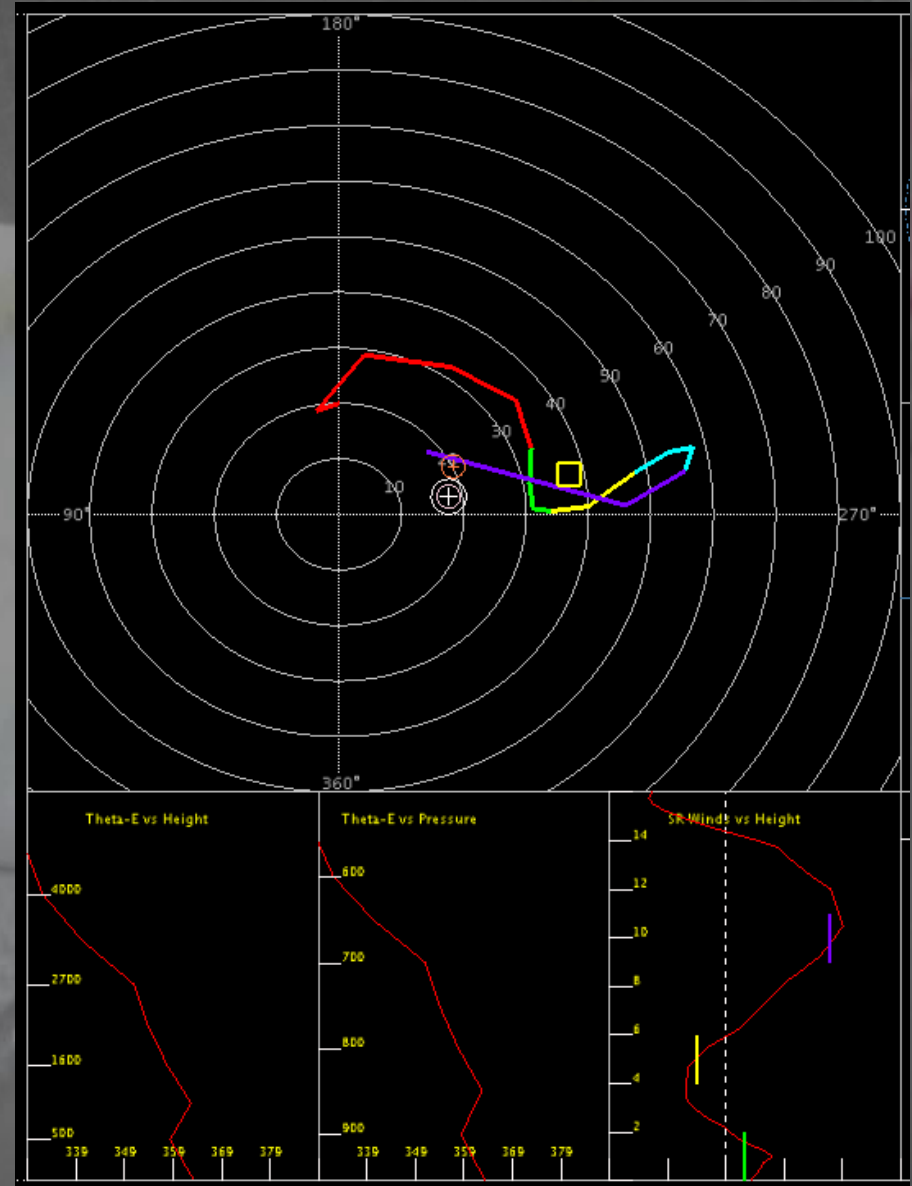
Wichita



Aurora



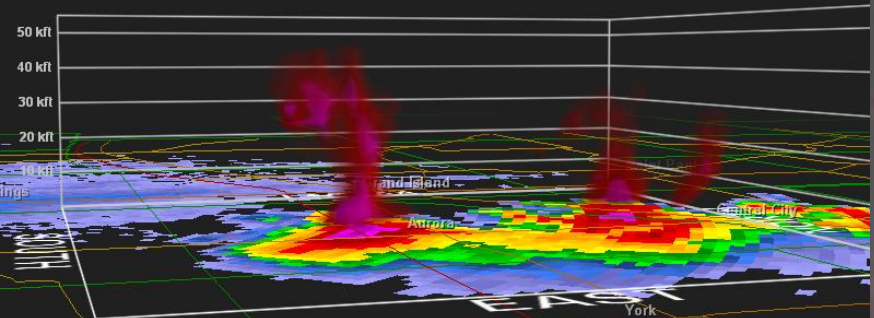
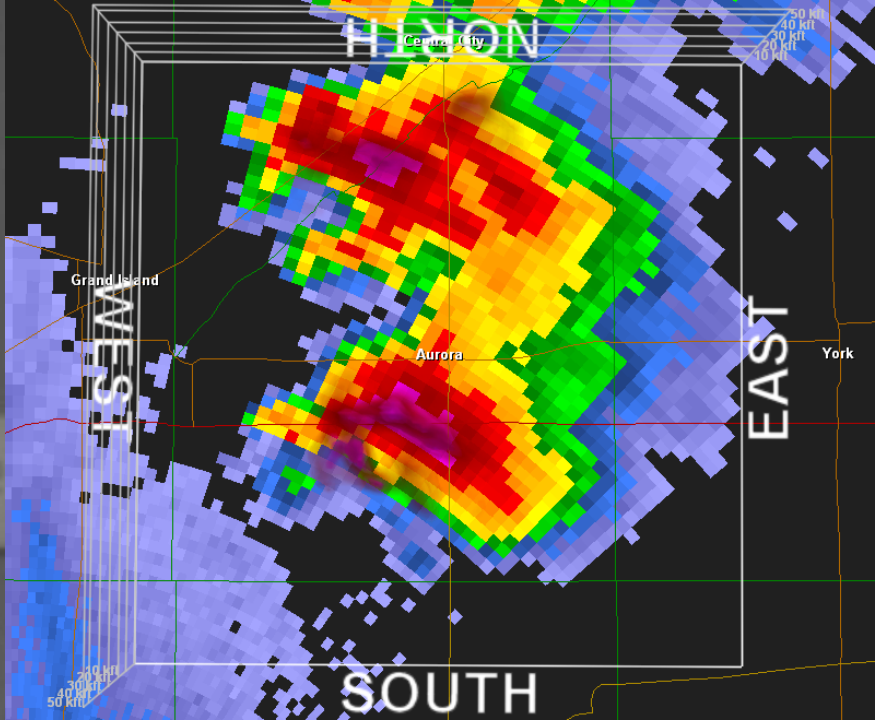
Wichita



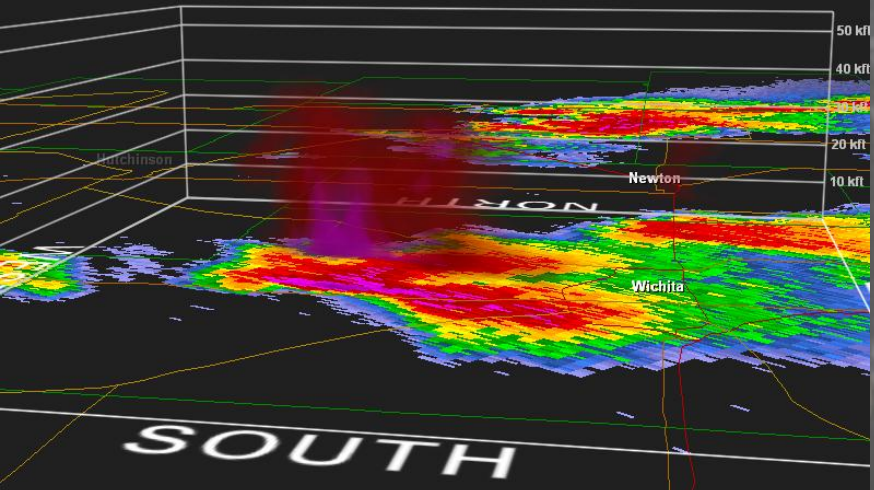
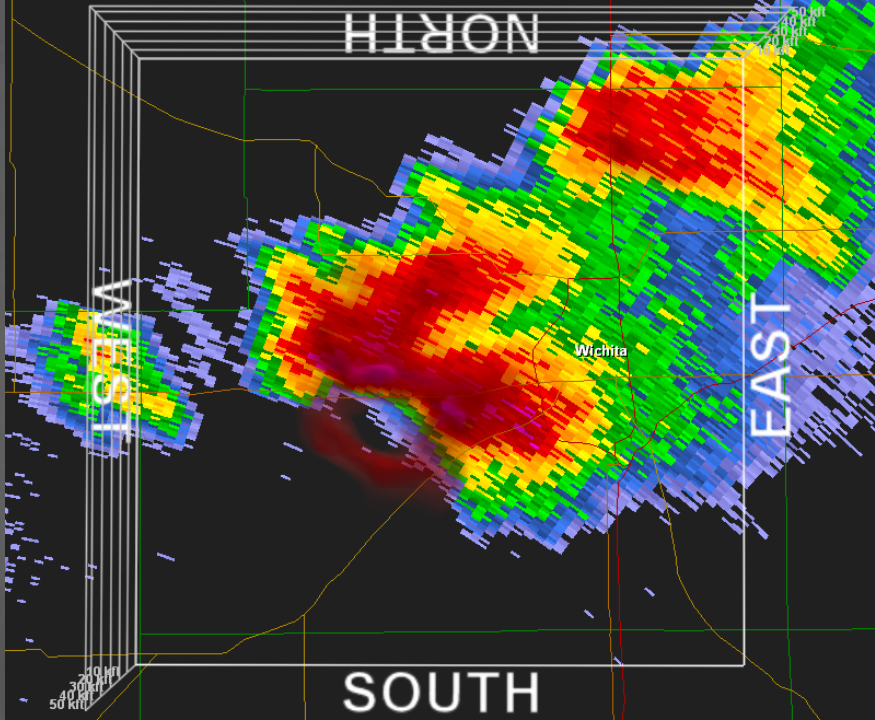
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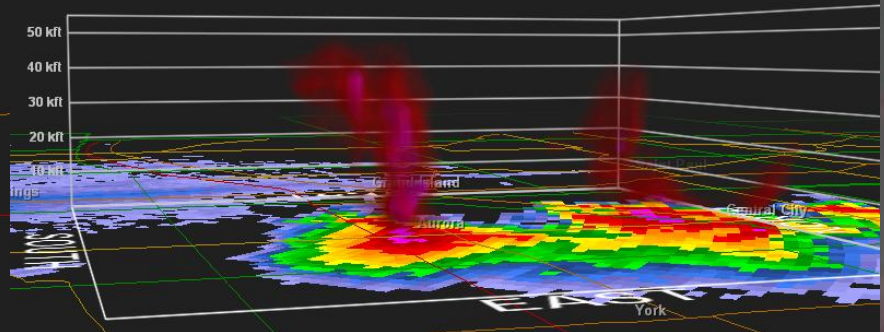
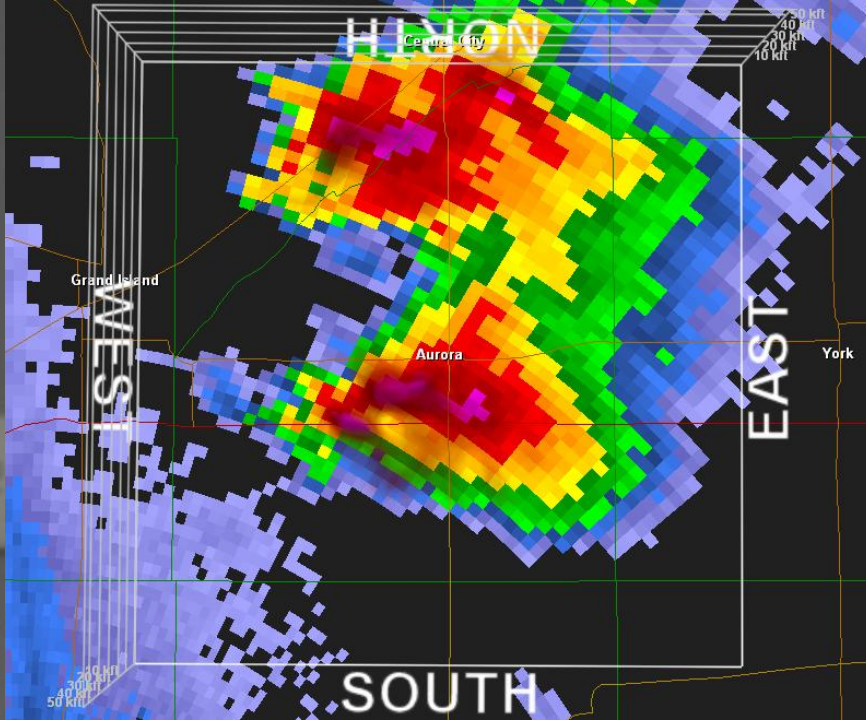
| | Aurora | Wichita |
|--------------------------|---------------|----------------|
| Range to Hail (nm) | 63 | 64 |
| Storm Top Div (kts) | 110 | 105 |
| VIL (kg/m ²) | 120+ | 120+ |
| Max Echo Top (kFt) | 56+ | 58+ |
| Height 50 dbz (kFt) | 52+ | 47-53 |
| Height 60 dbz | 38+ | 45-53 |

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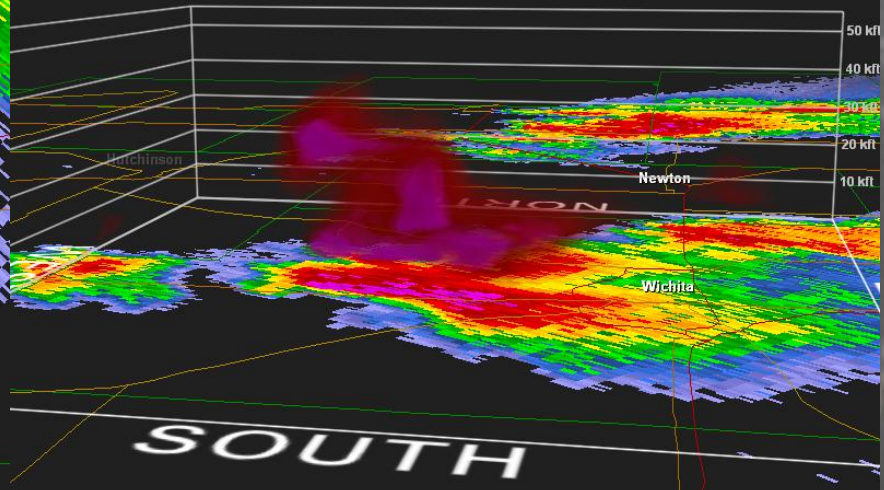
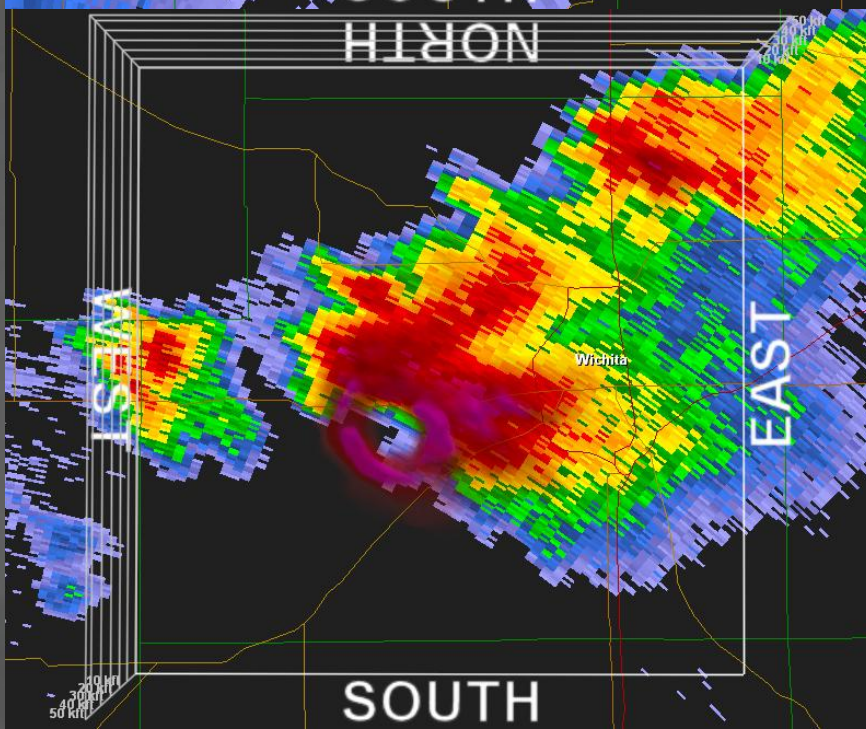


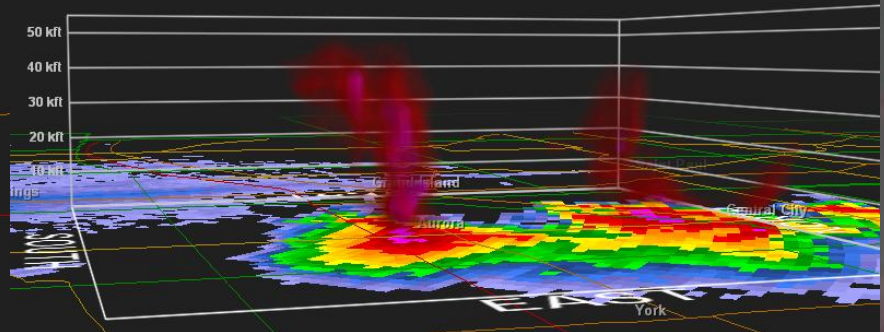
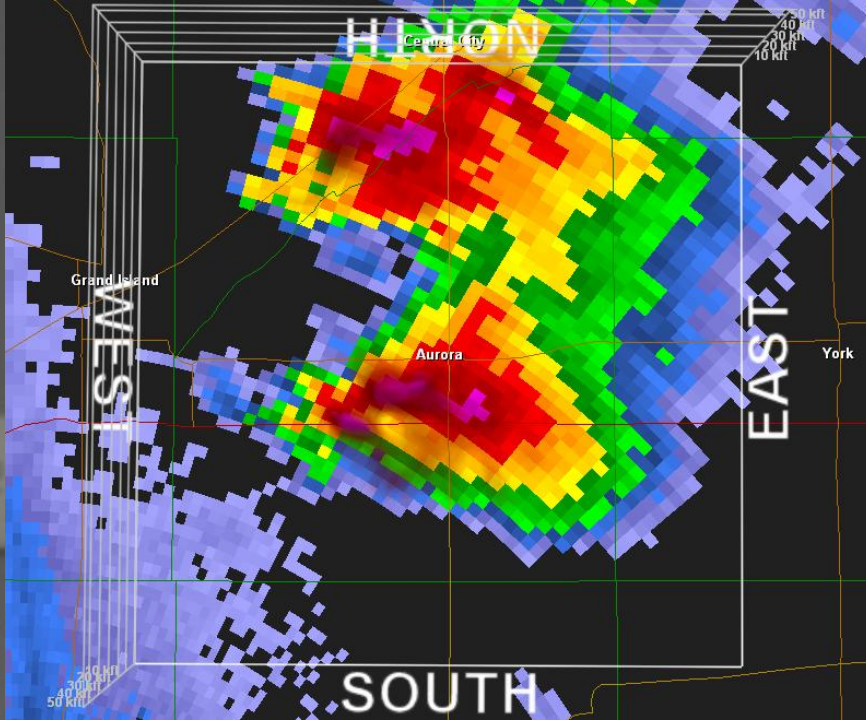
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2231z KVNx



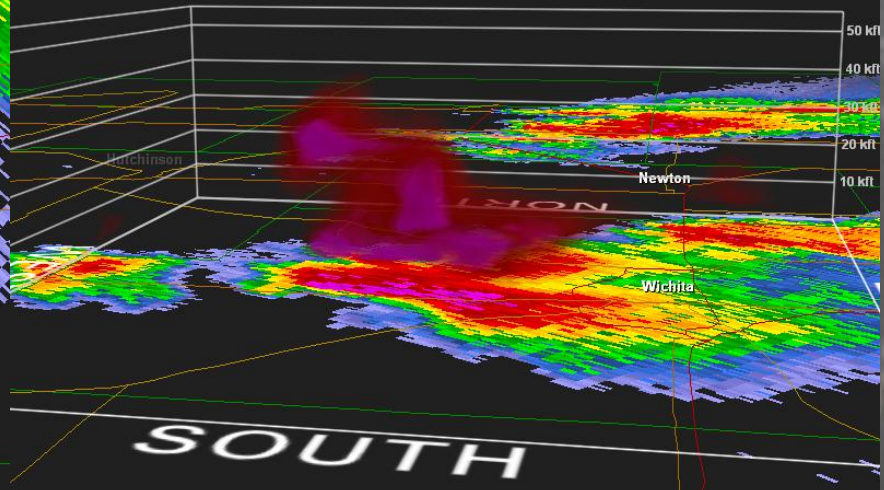
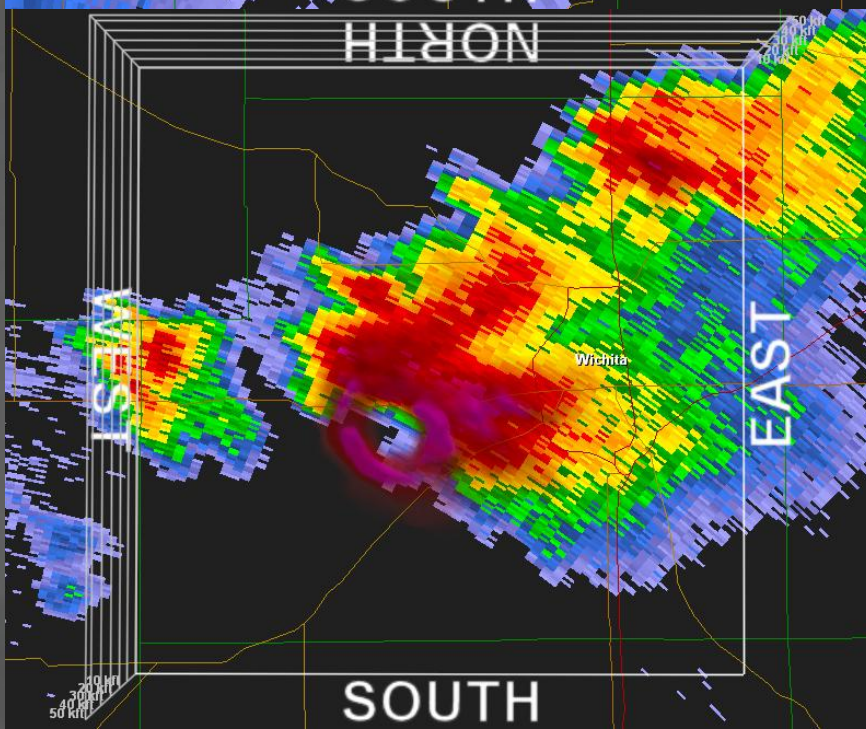


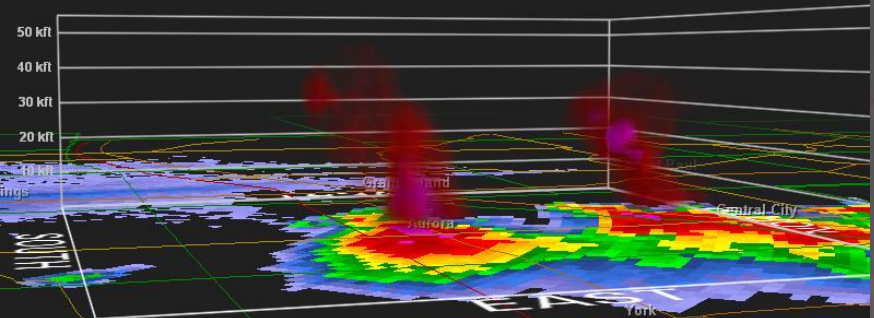
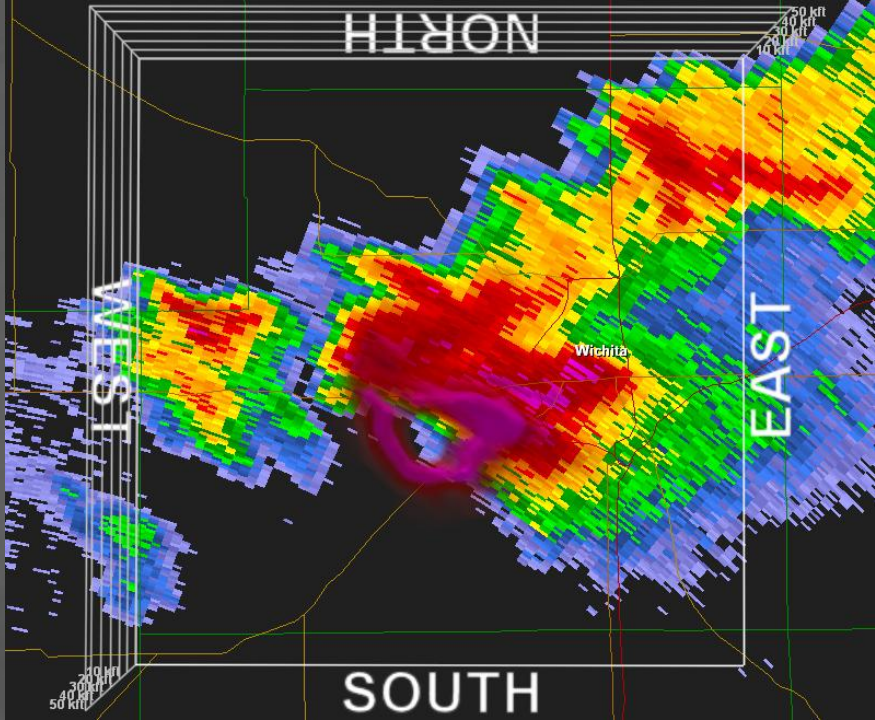
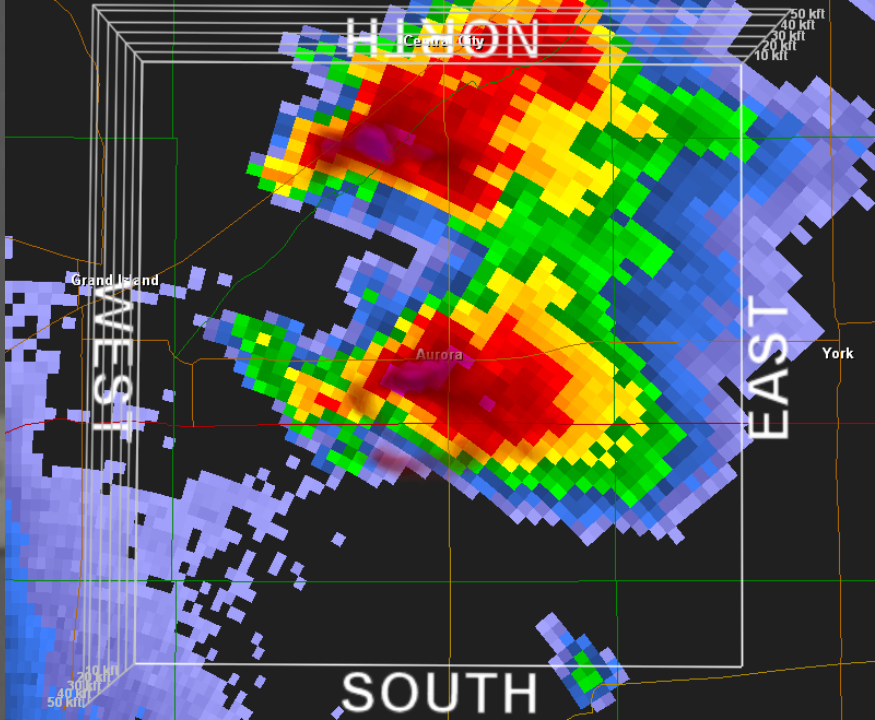
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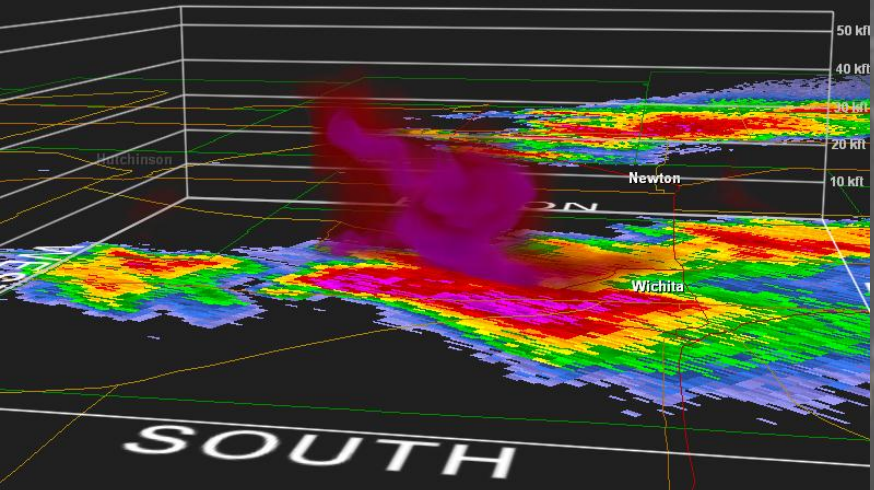


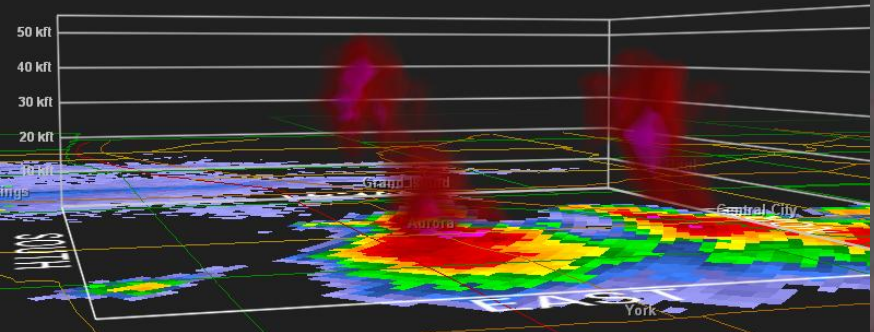
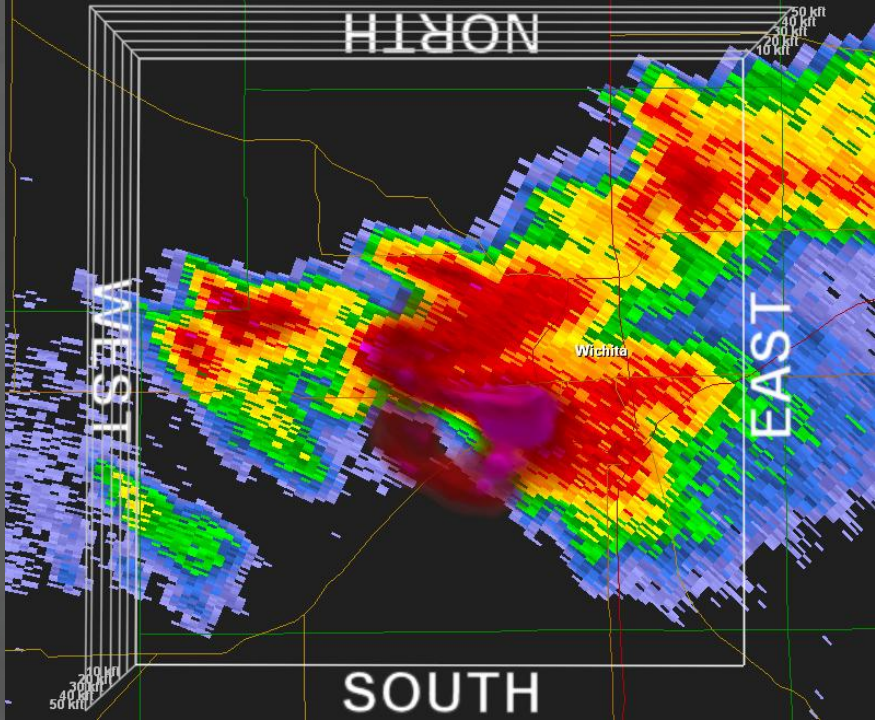
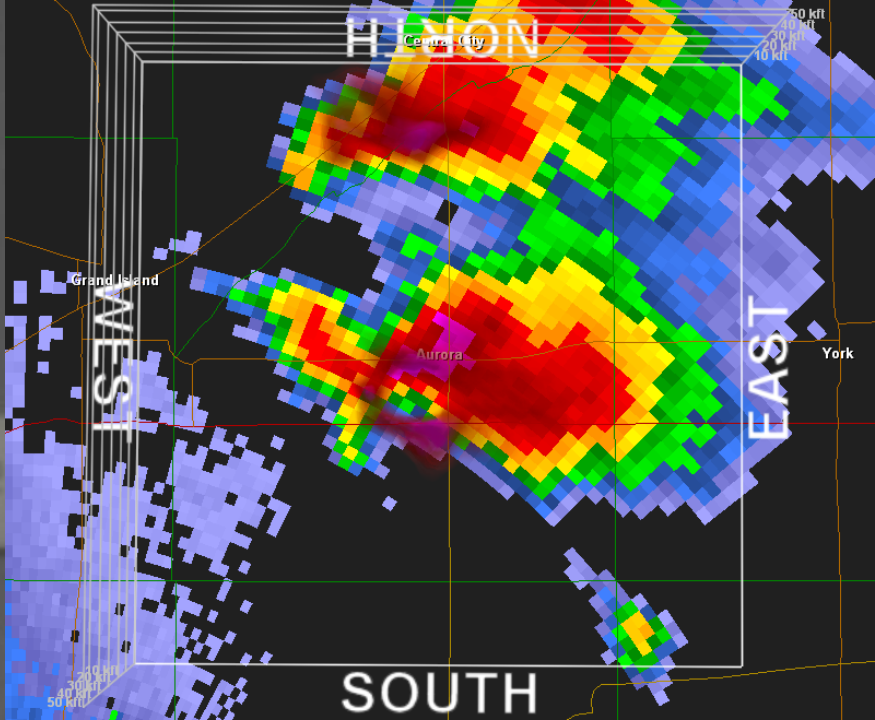
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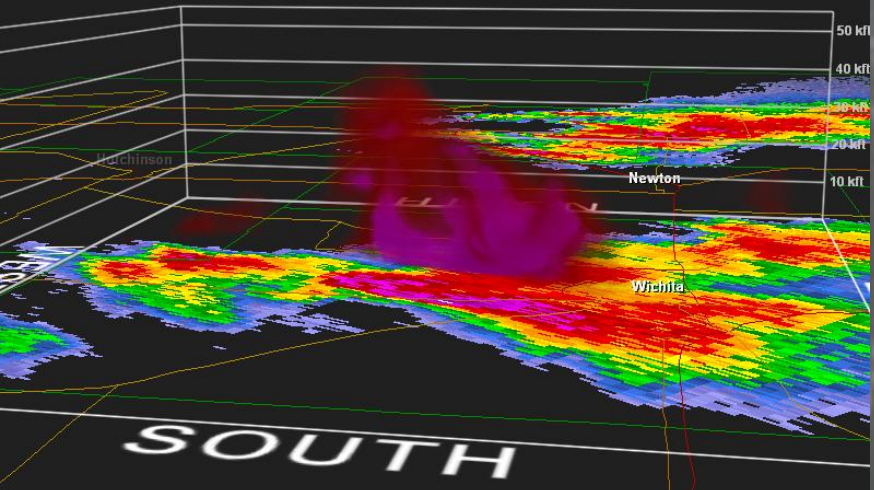


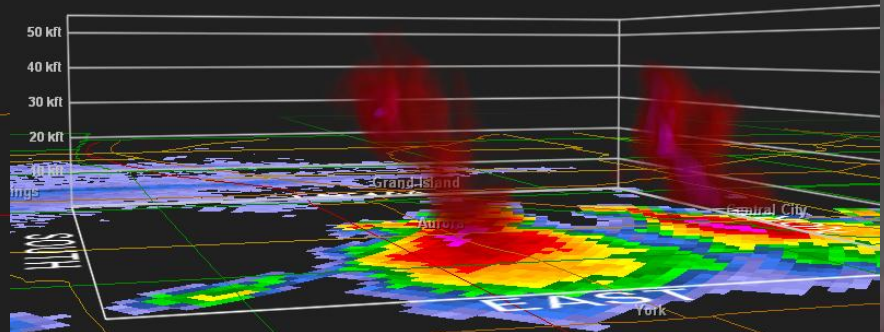
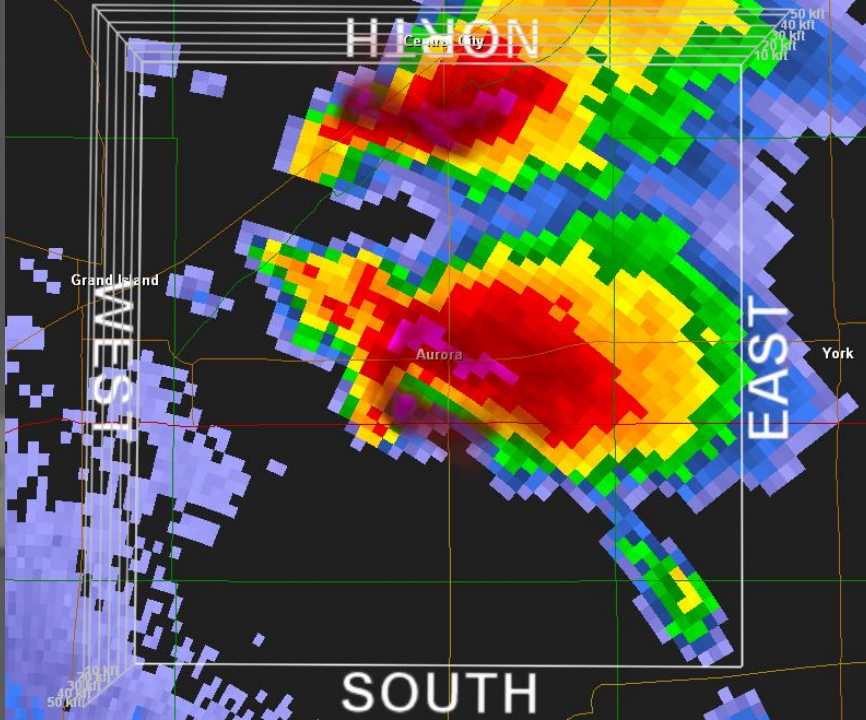
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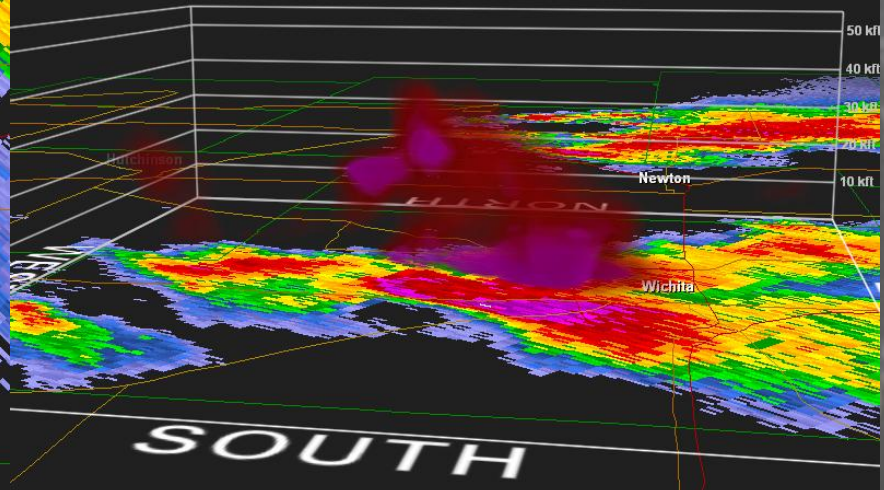
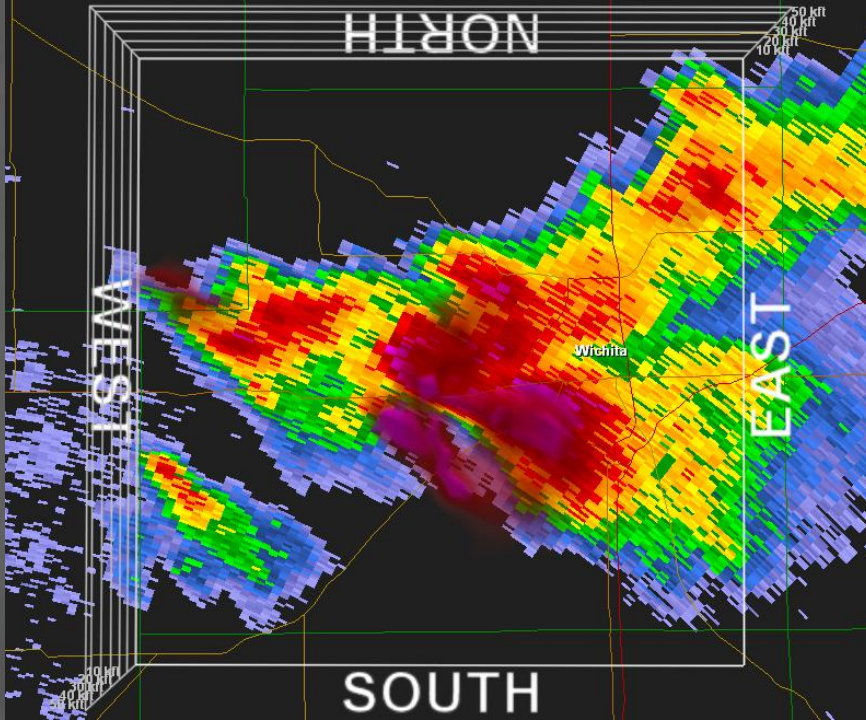


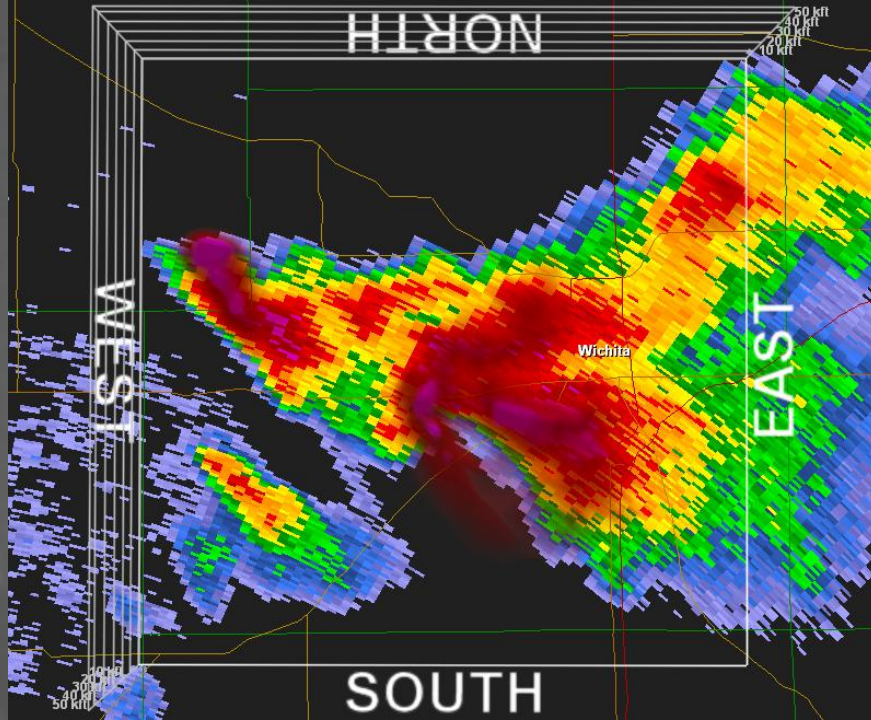
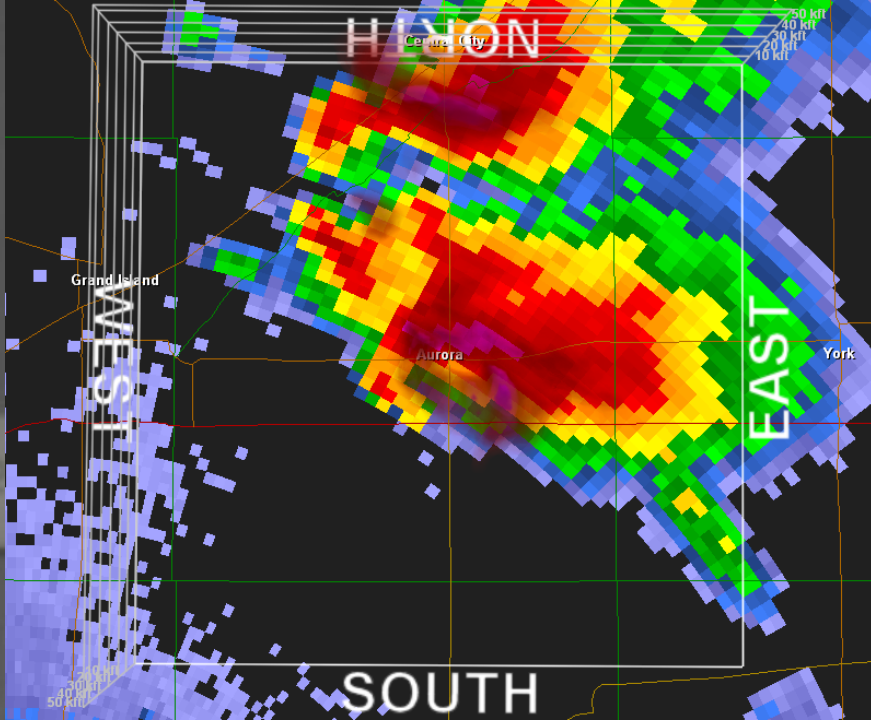
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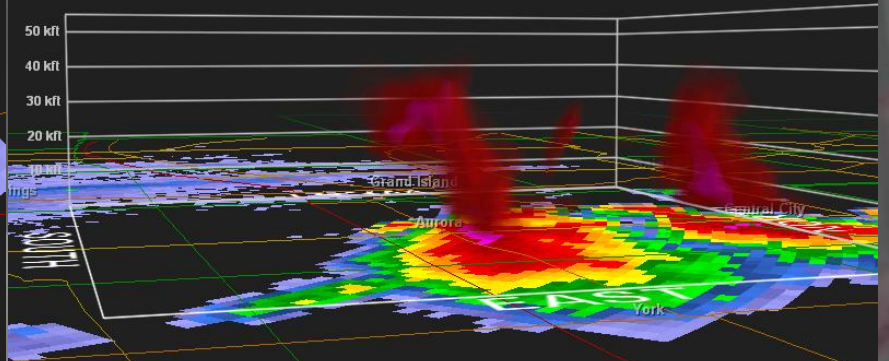


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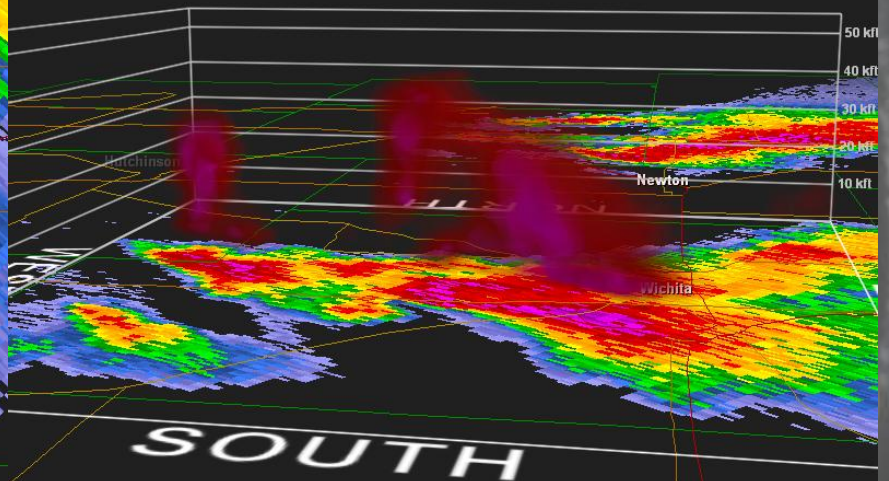


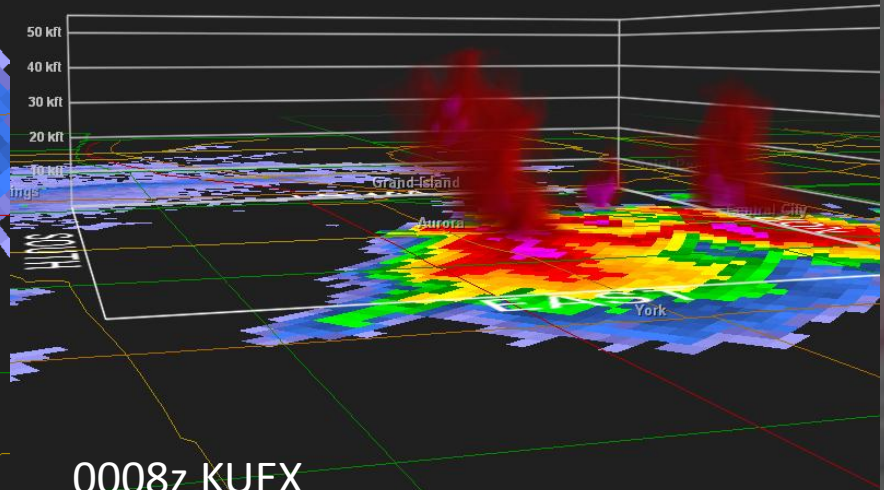
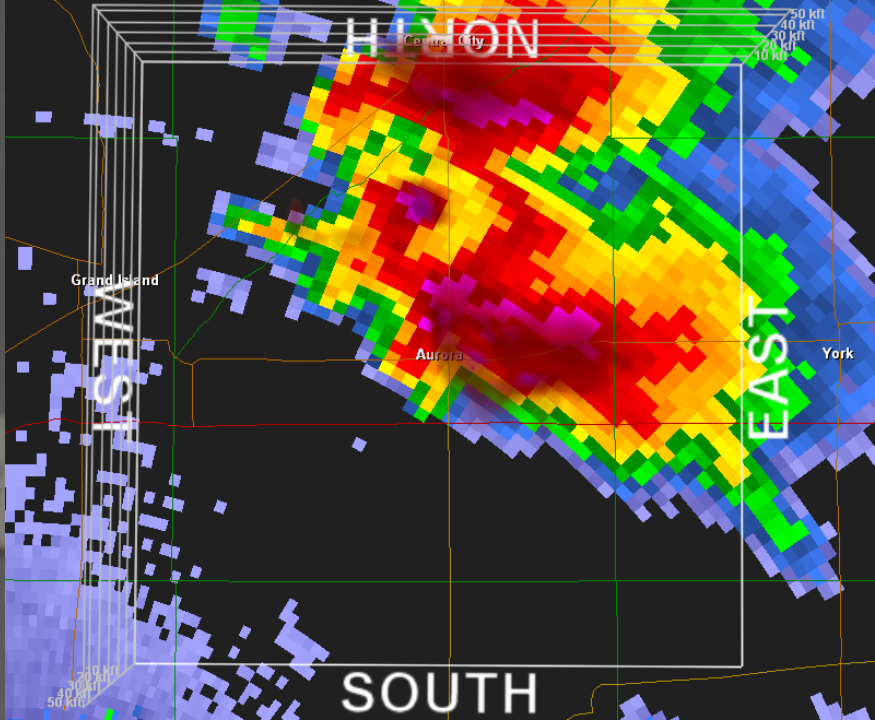


Largest Hail Reported

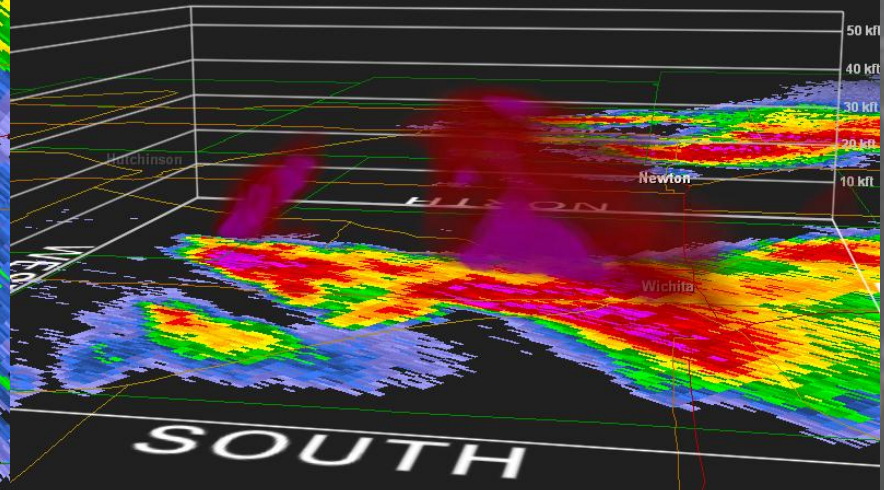
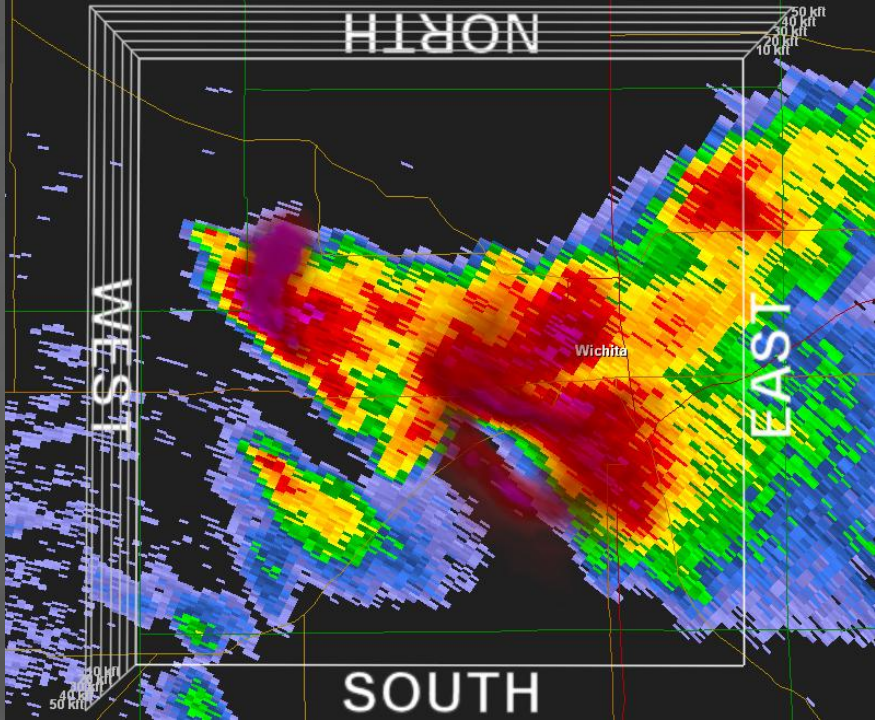


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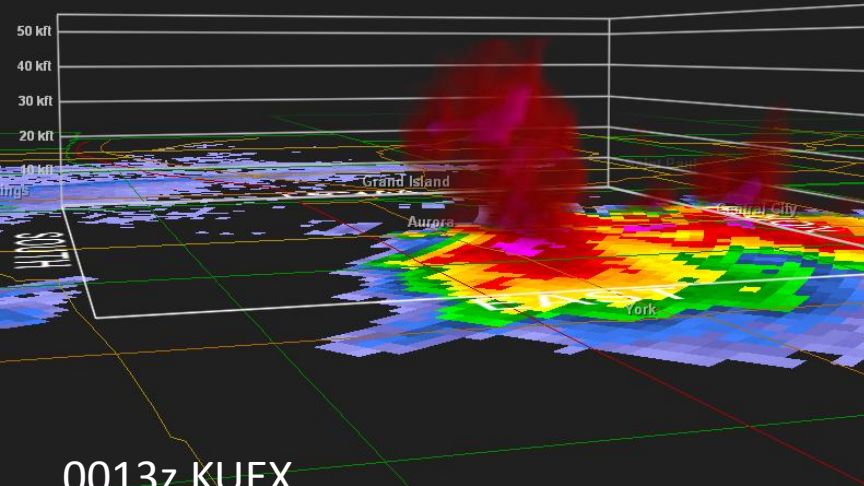
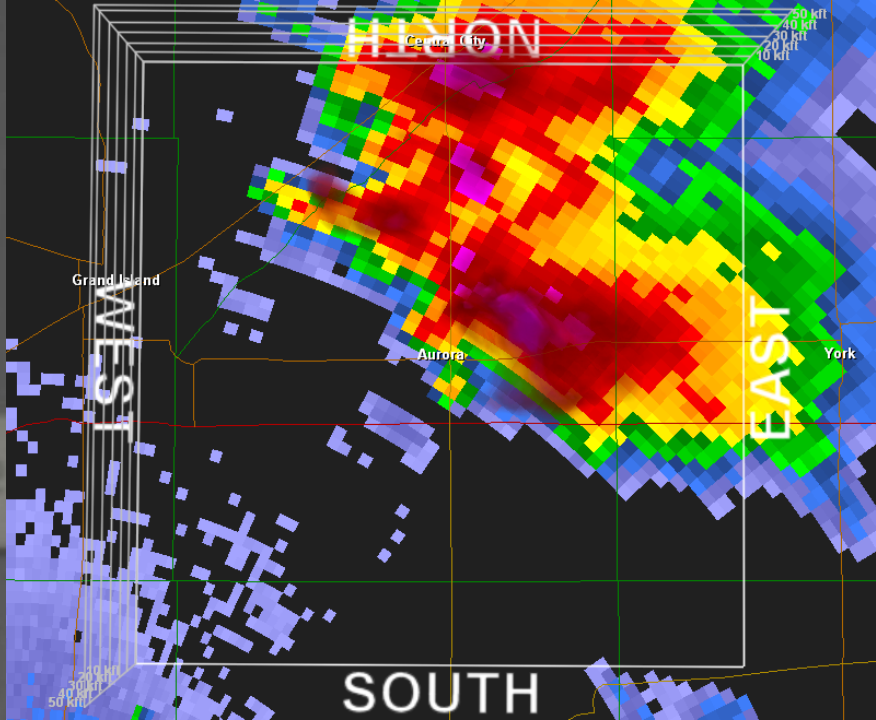




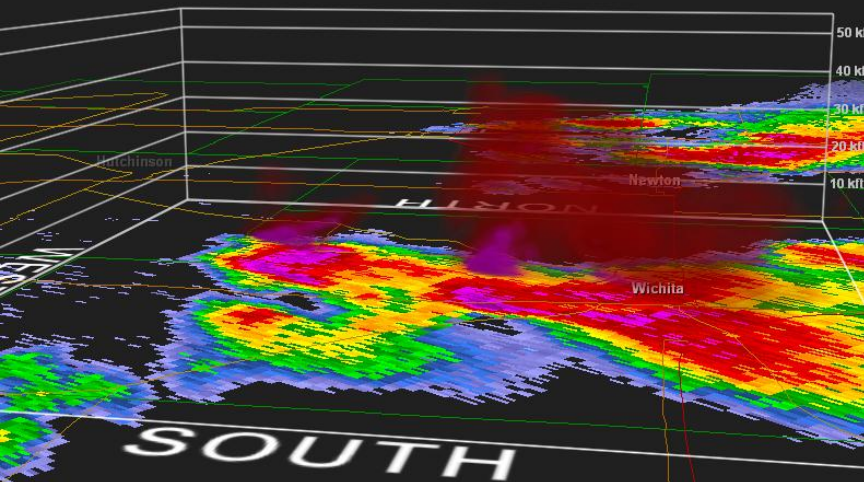
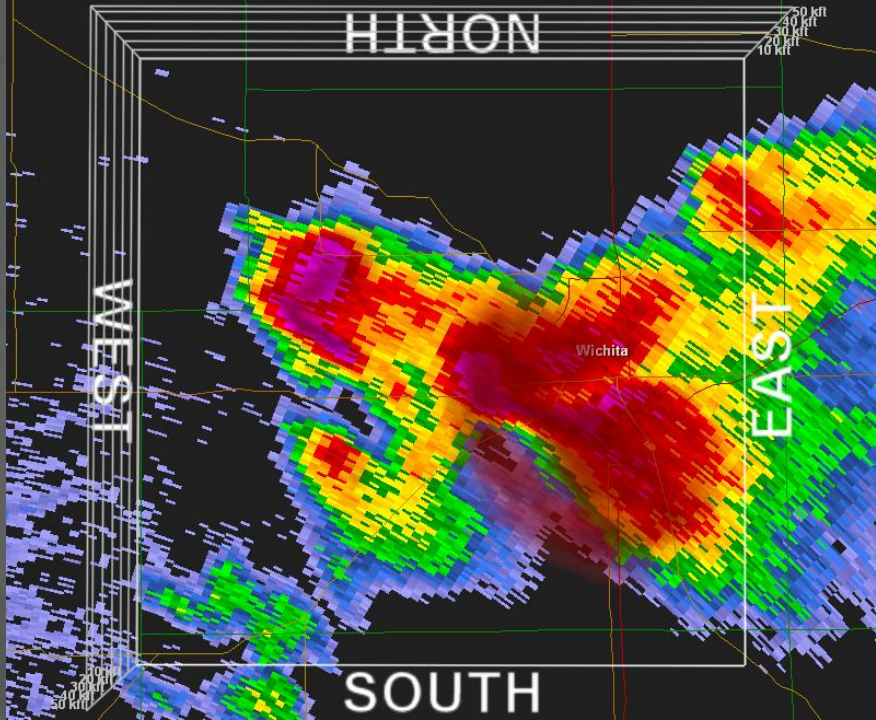
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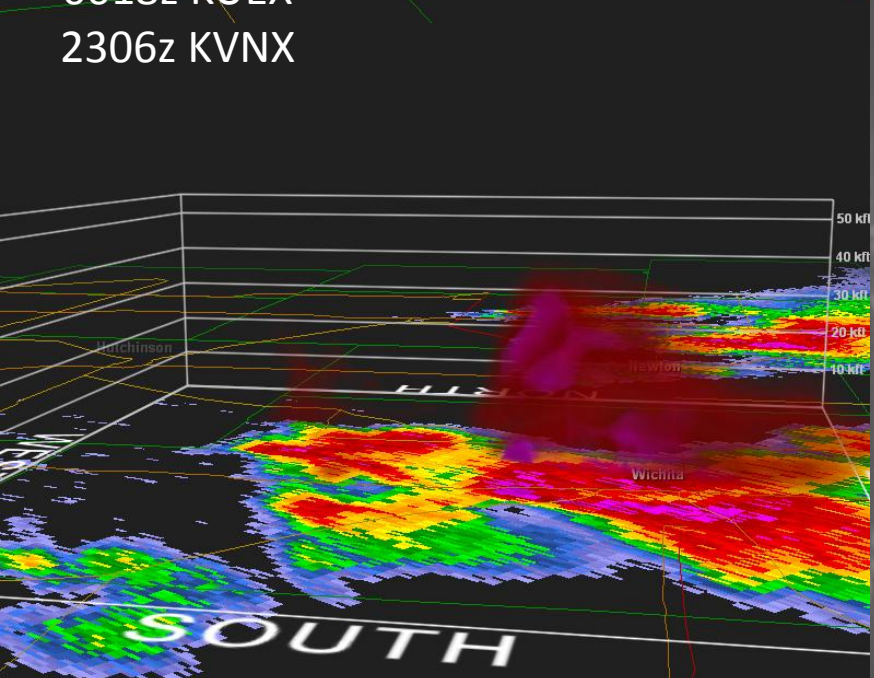
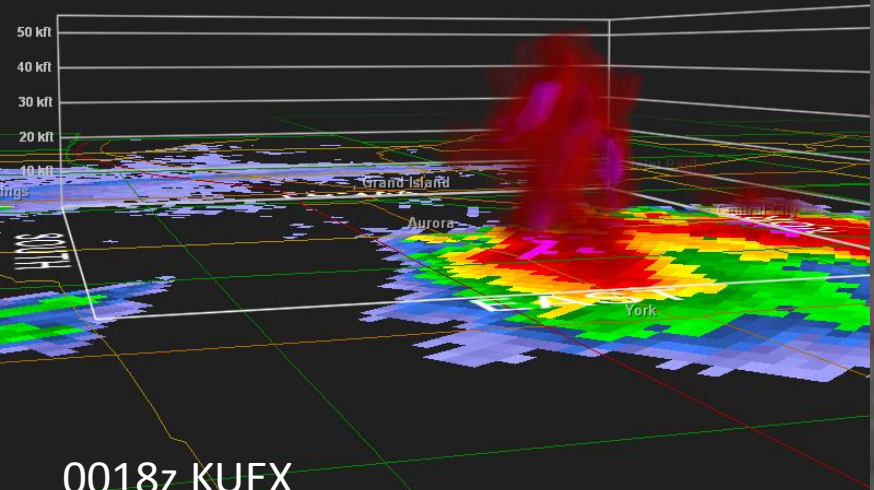
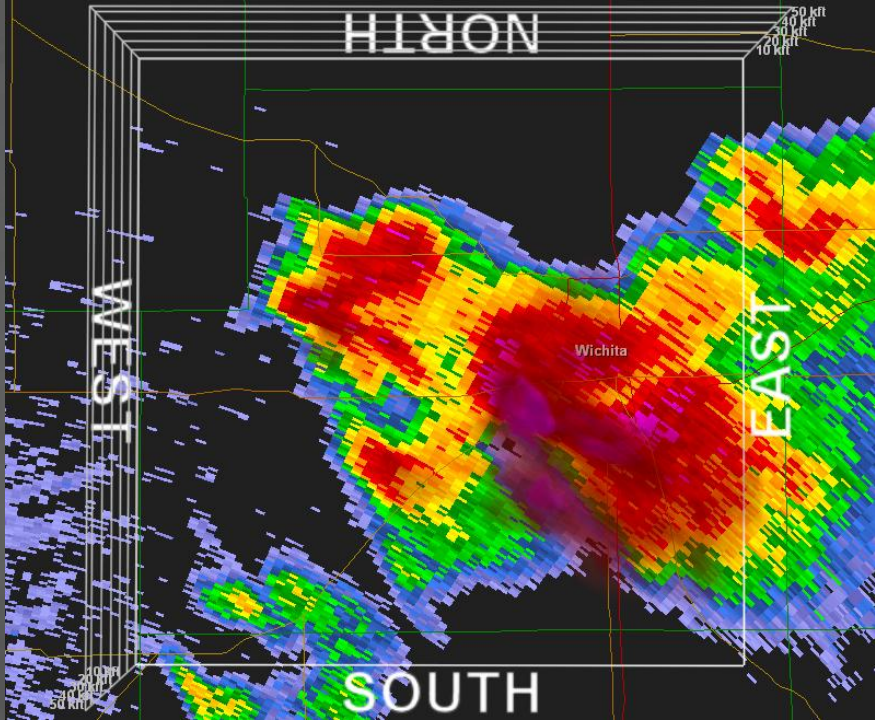
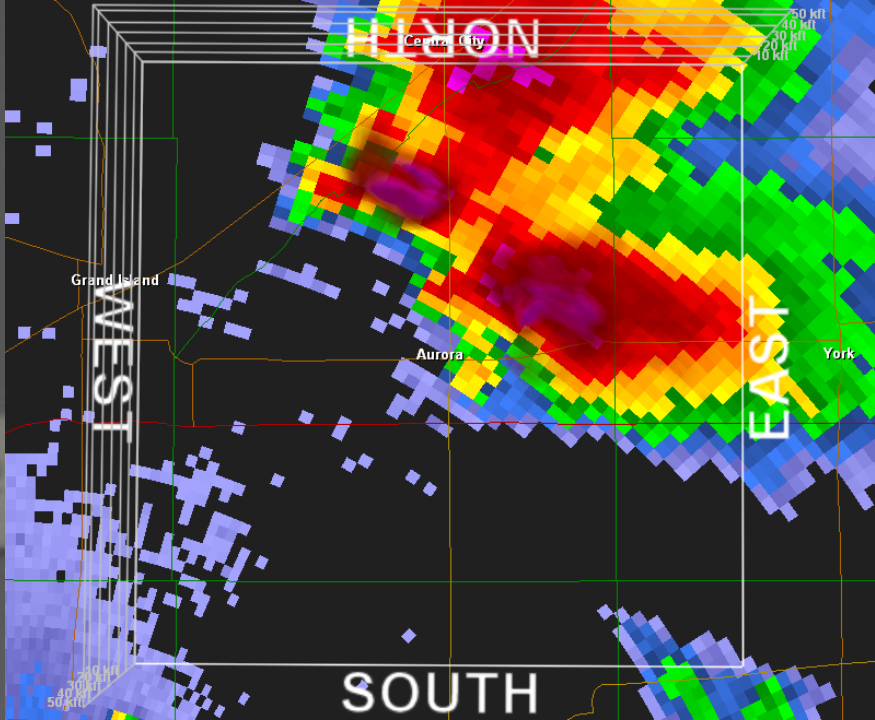


SOUTH



0013z KUEX
2302z KVNK



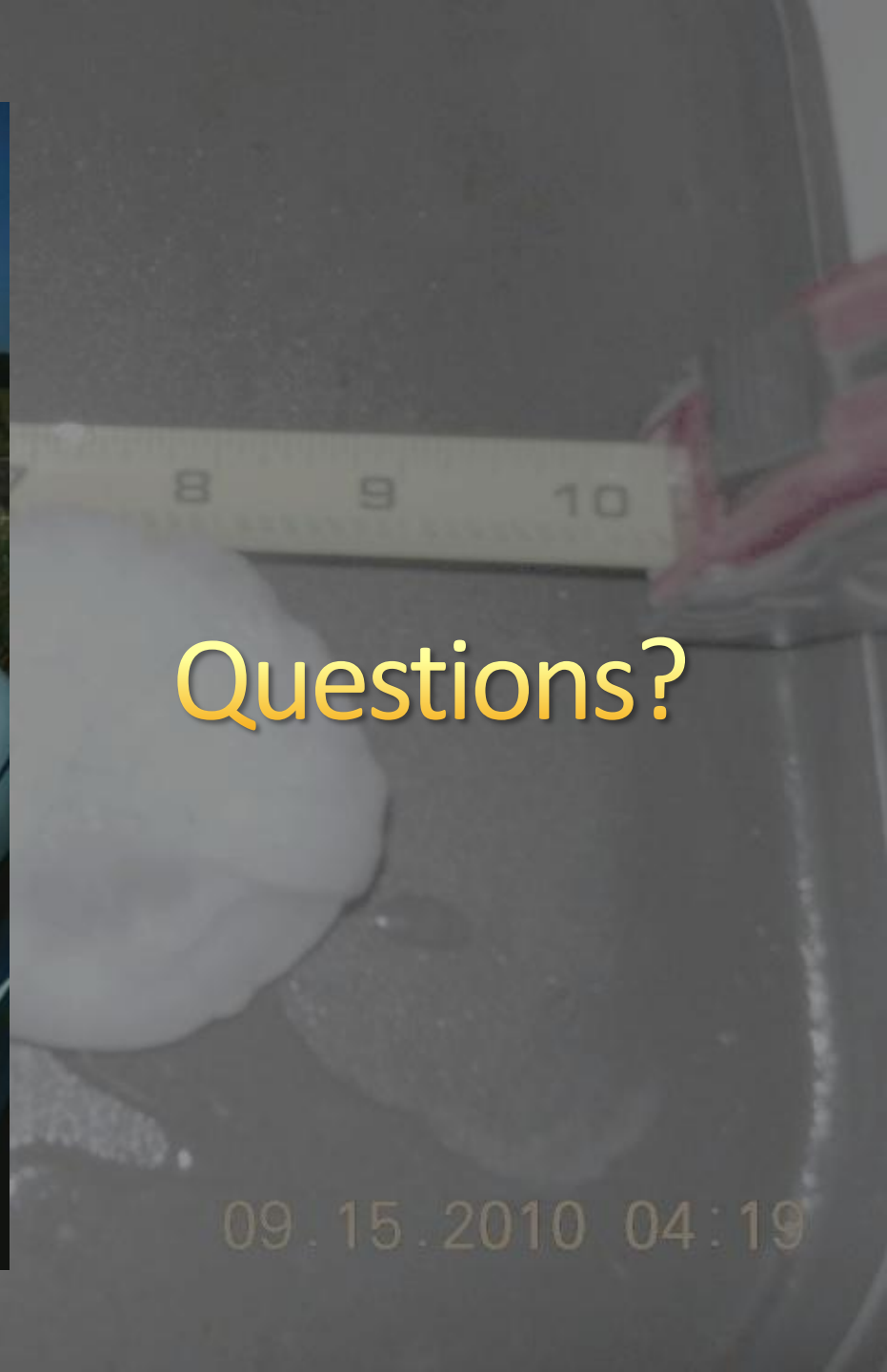


0018z KUEX
2306z KVNK

References/Credits

- Guyer, Jared and Ewald, Rick, 2004: Record Hail Event - Examination of the Aurora, Nebraska Supercell of 22 June 2003. 11th Conference on Aviation, Range, and Aerospace and the 22nd Conference on Severe Local Storms (Hyannis, MA)
- Knight, C. A., and Knight, N. C., 2005: Very Large Hailstones from Aurora, Nebraska. BAMS Dec 2005
- Jon Davies for additional upper air data on Aurora storm.
- Rick Ewald (SOO Hastings NE)

NWS Wichita van
hail damage



Questions?

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