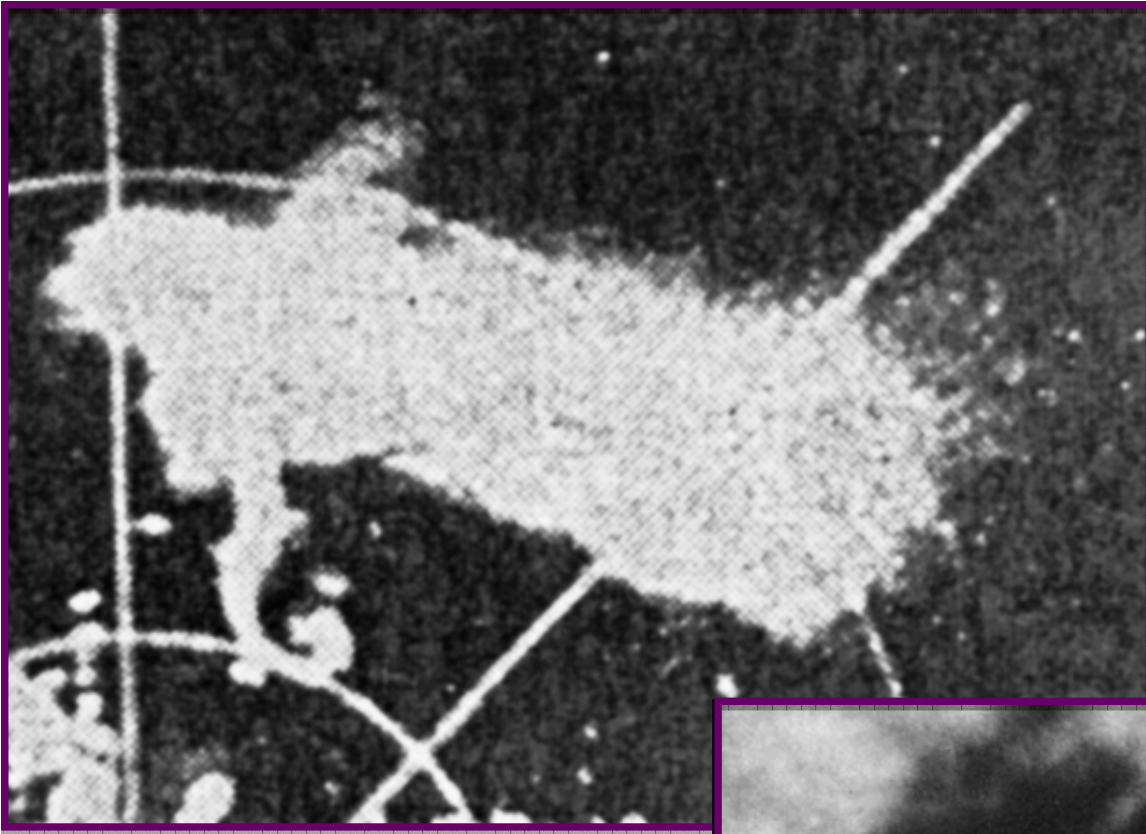


**Analysis of the LaGrange Tornado during VORTEX2:
Photogrammetric Analysis combined with Single-
Doppler Radar Data**

Roger M. Wakimoto, Nolan T. Atkins, and Joshua Wurman

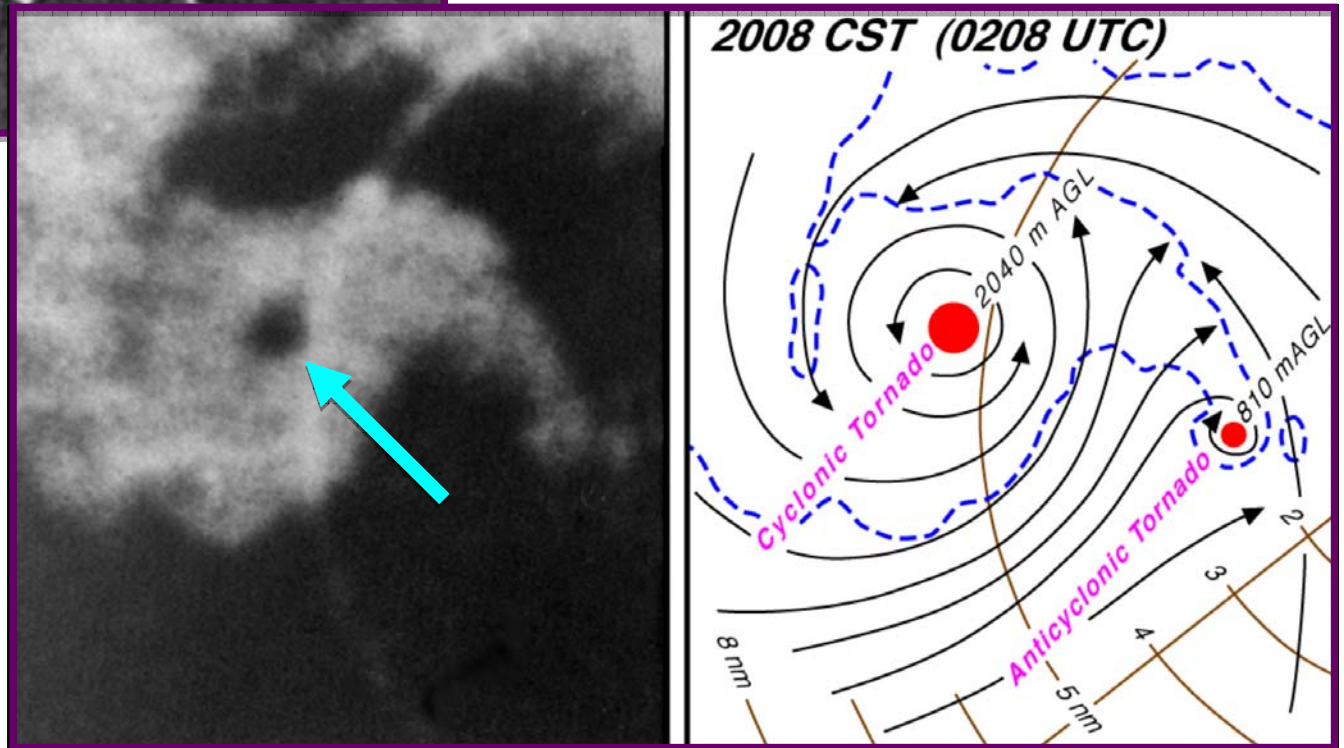
First report of the hook echo



Stout and Huff 1953 BAMS

Fundamental Question:
What is the relationship
between the hook echo, WEH,
and rotational couplet with the
visual features associated with
the tornado?

First report of the weak echo hole - WEH



Fujita 1981 JAS

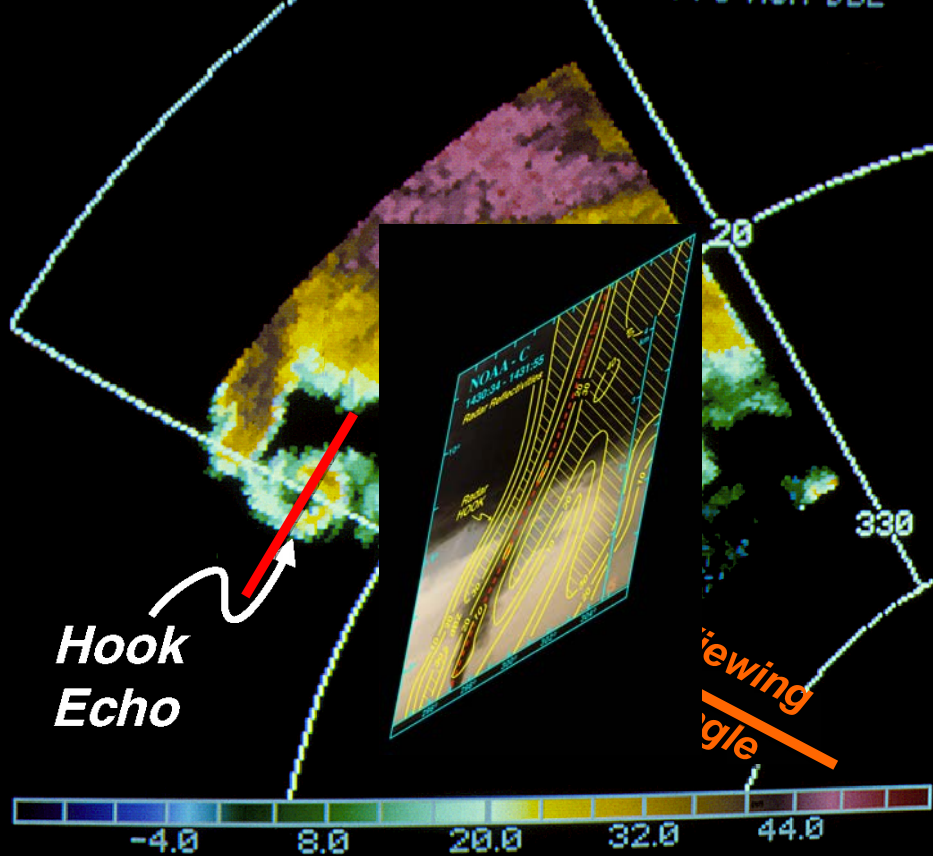
Non-Supercell Tornado



15 31 57

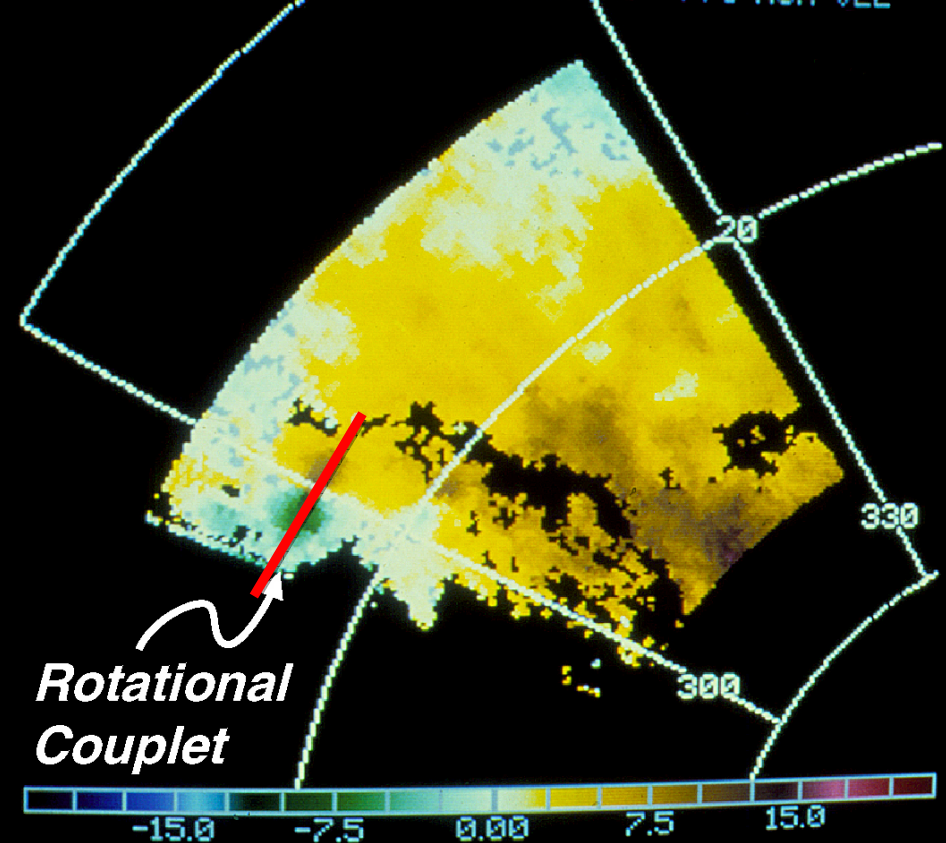
July 2, 1987 Tornado

1) 397 02-JUL-87 15:24:22 5.0° PPI NOA DBZ



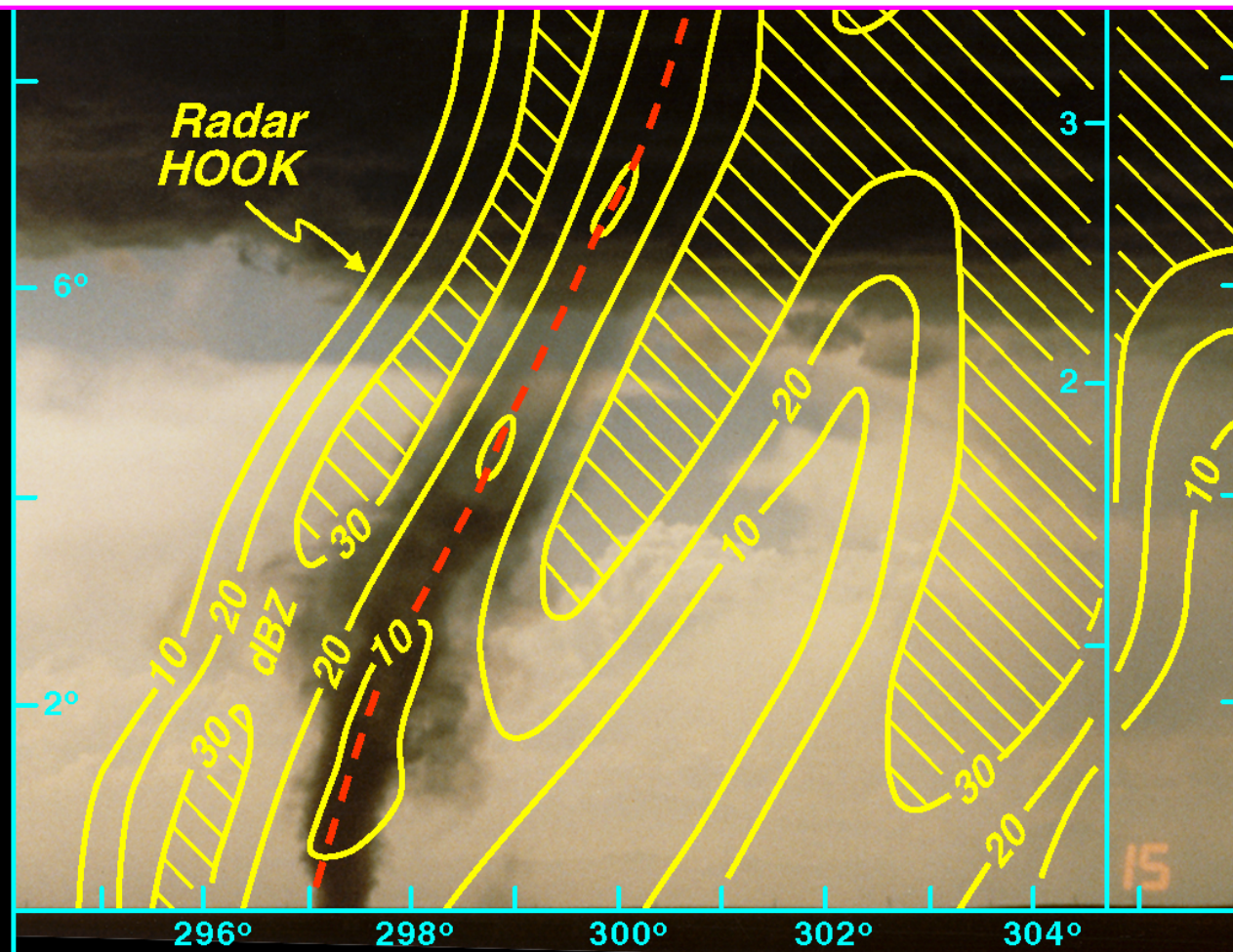
1524:22 MDT

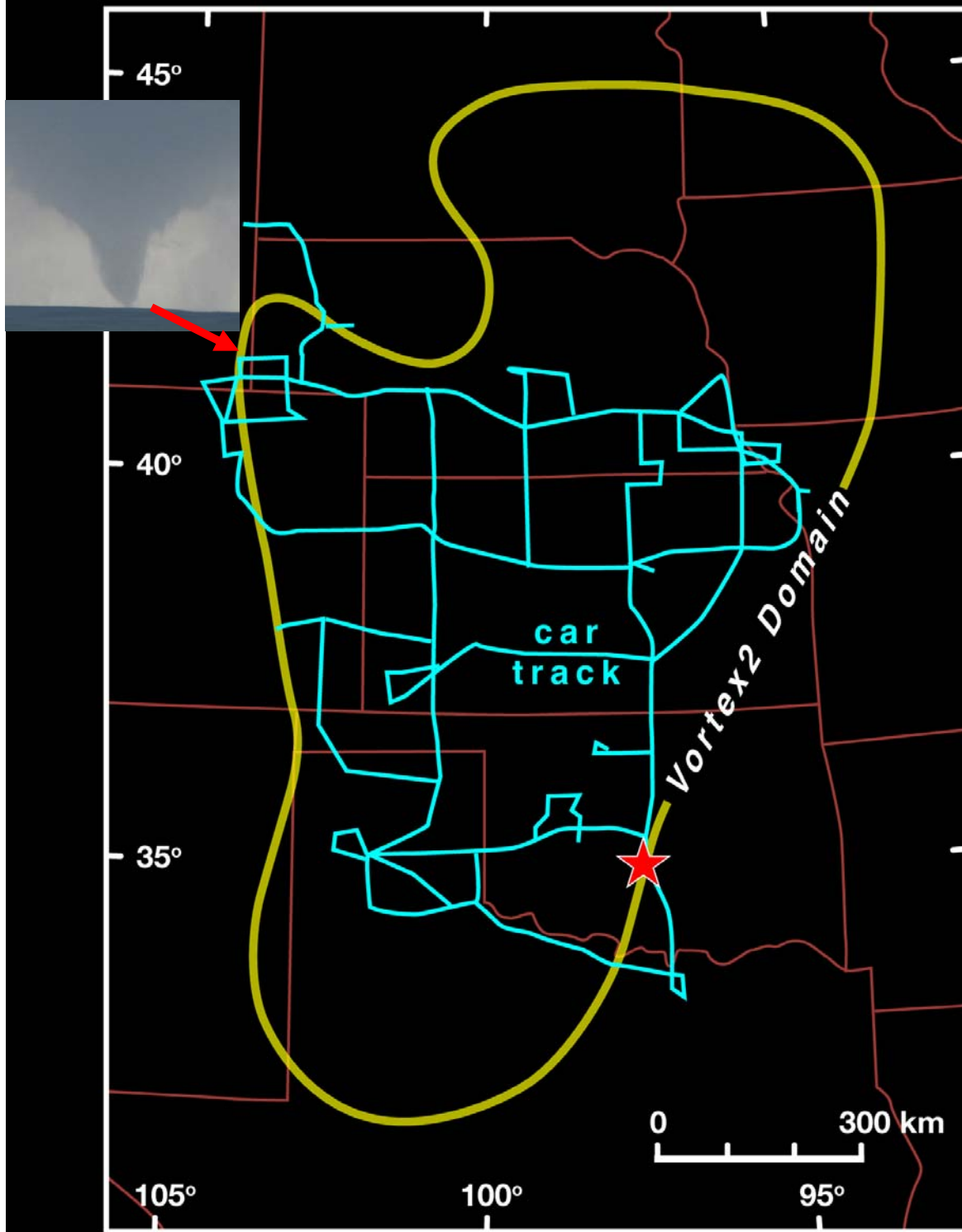
2) 397 02-JUL-87 15:24:22 5.0° PPI NOA VEL





What would the analysis look like for a supercell tornado?





VORTEX2

10,101 miles = 16, 256 kilometers!



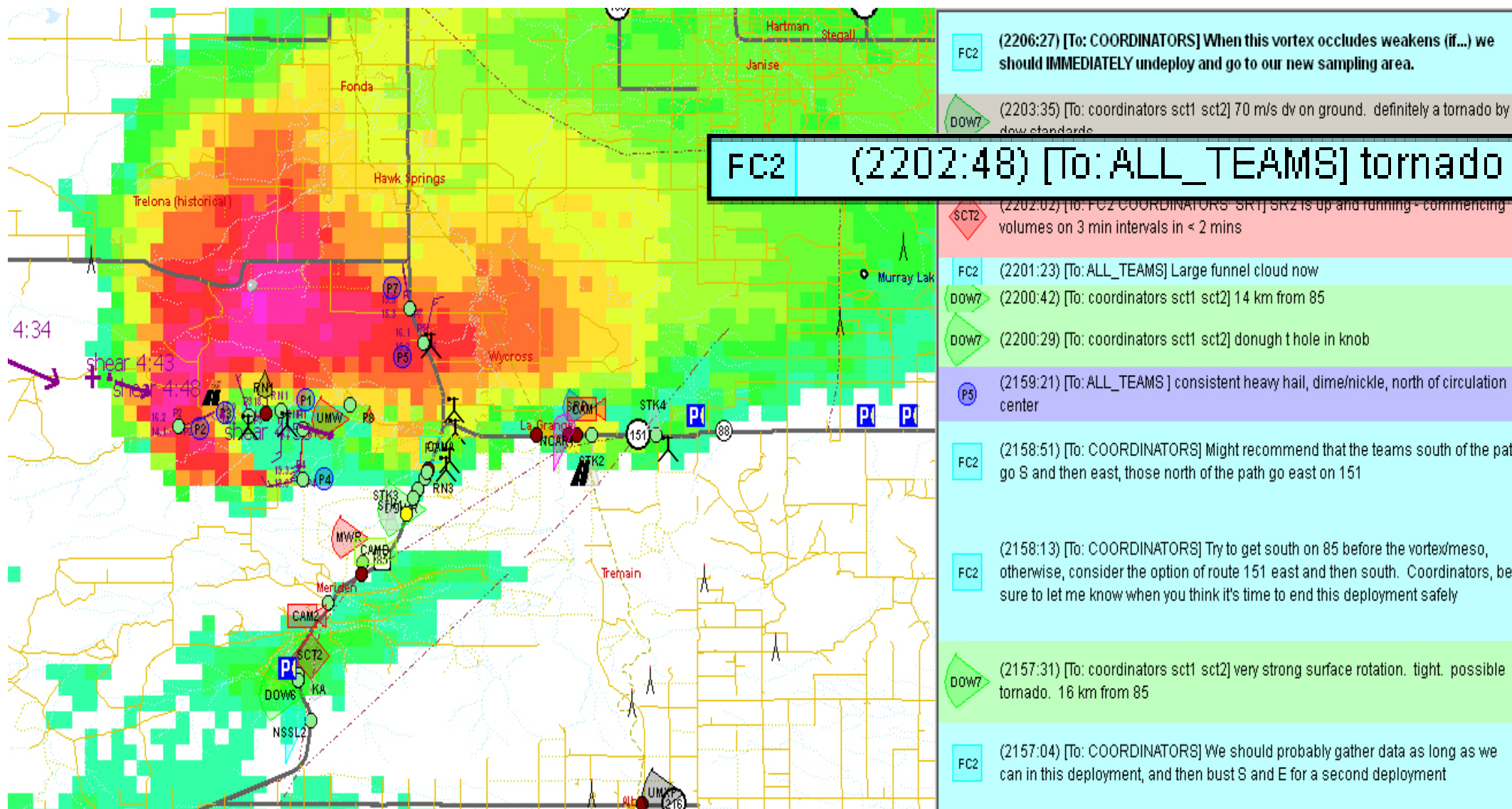
VORTEX2



**Over 100 Scientists
and 40 instrumented
vehicles**



Superb coordination of vehicles around the tornadic storm.



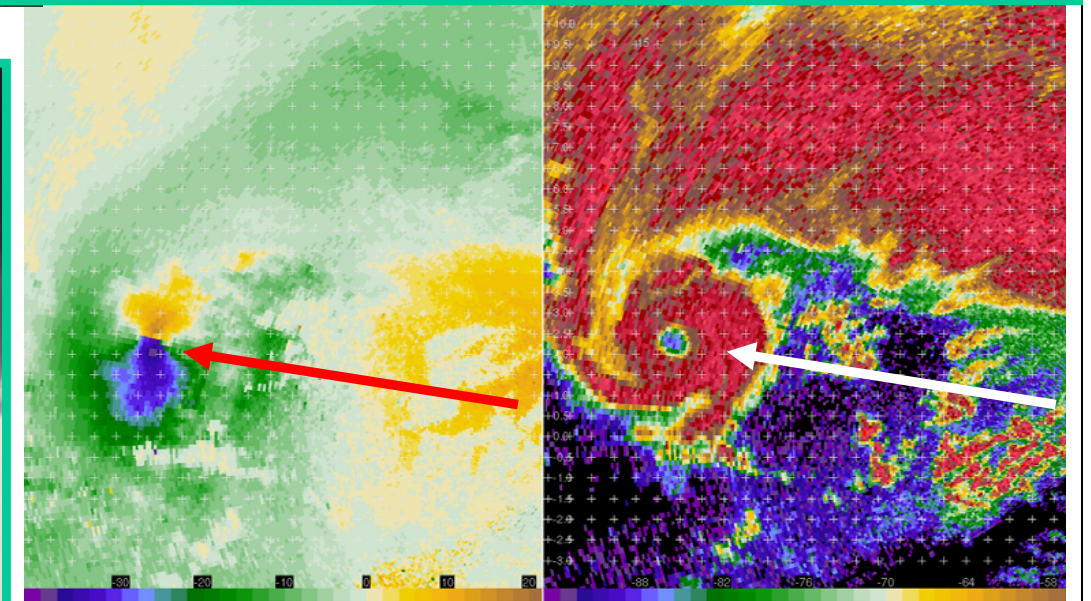
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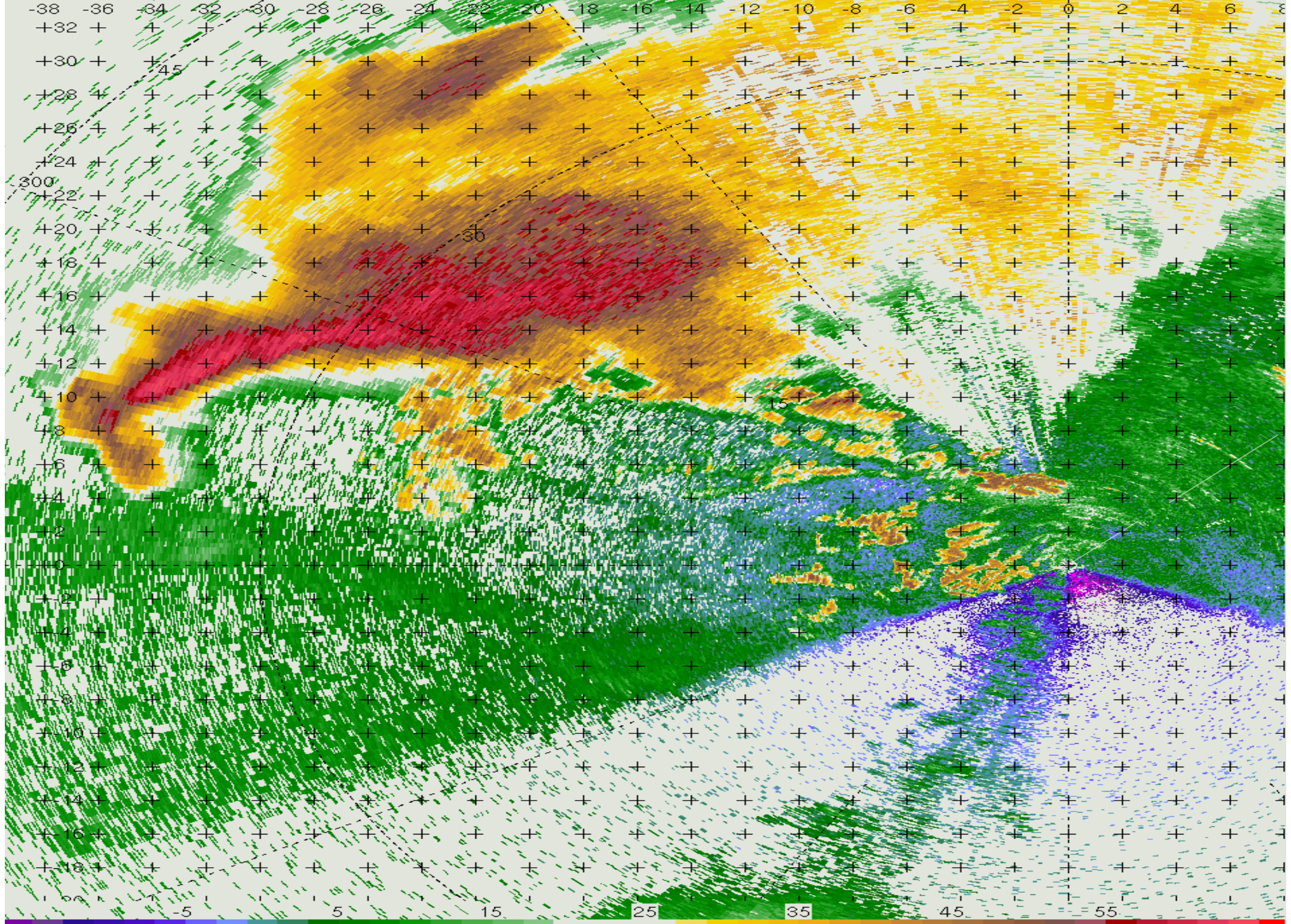
2205:46

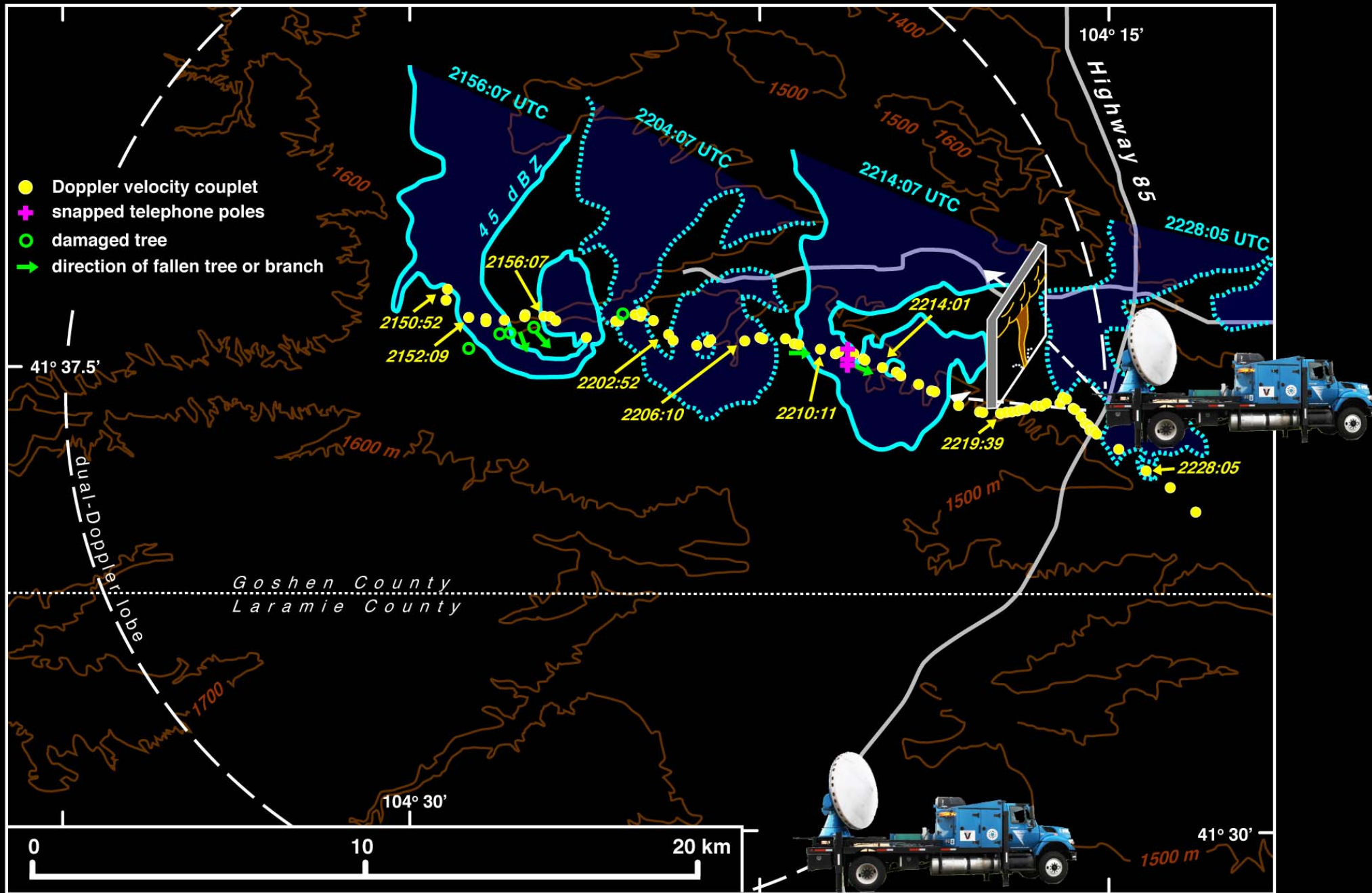


2209:06



**The birth, mature stage and dissipation of a
tornado
June 5, 2009
LaGrange, Wyoming**







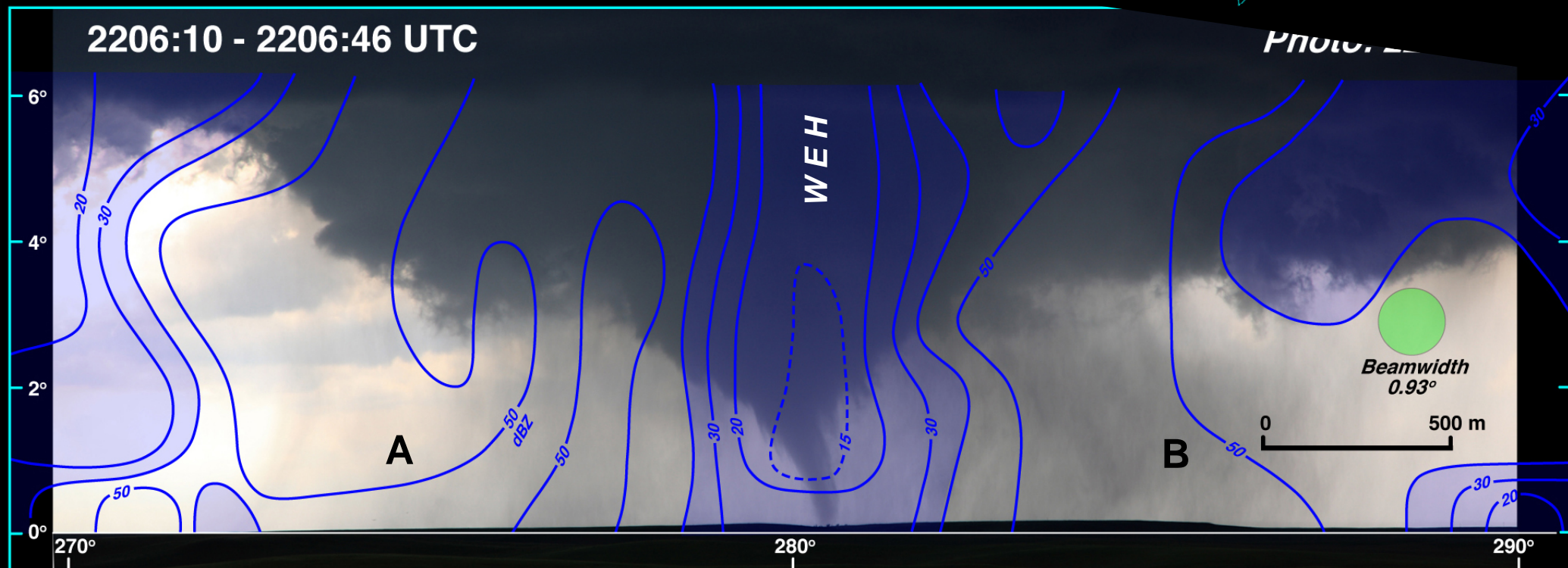
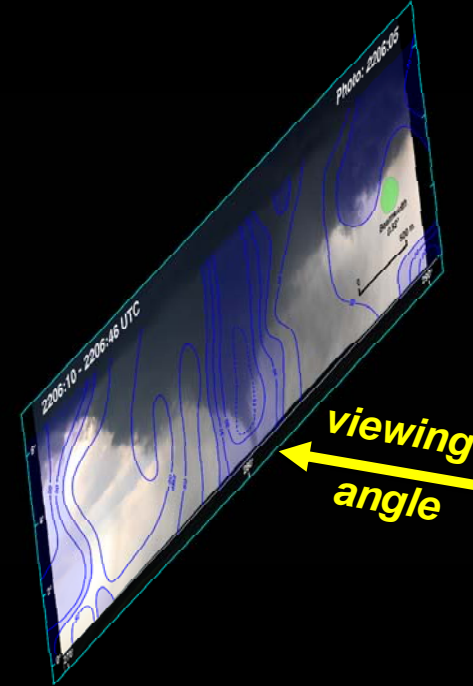
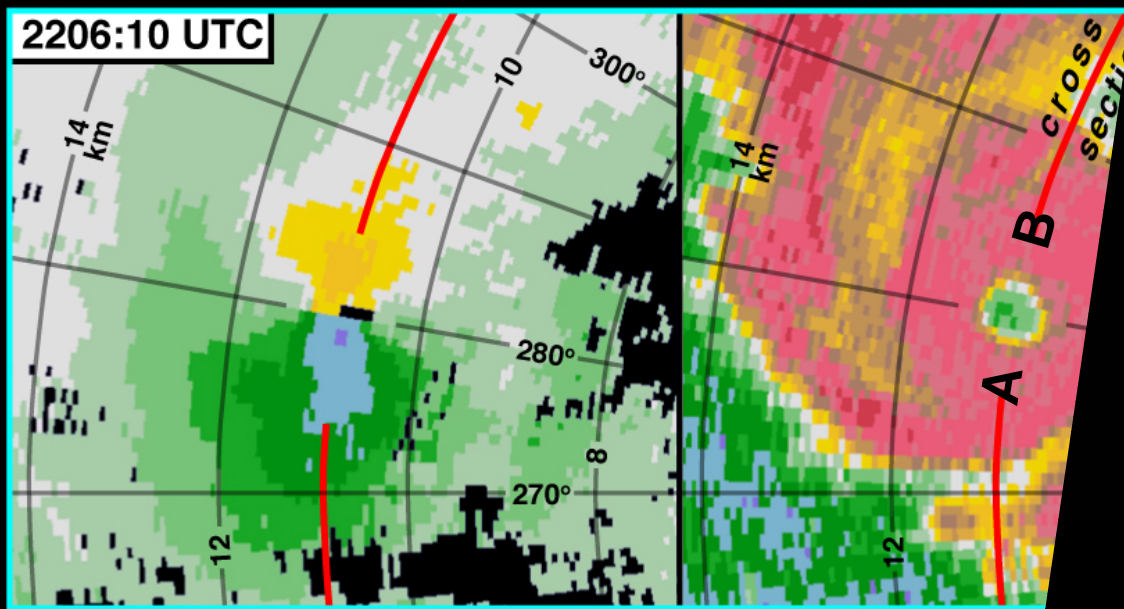
2206:10 - 2206:46 UTC

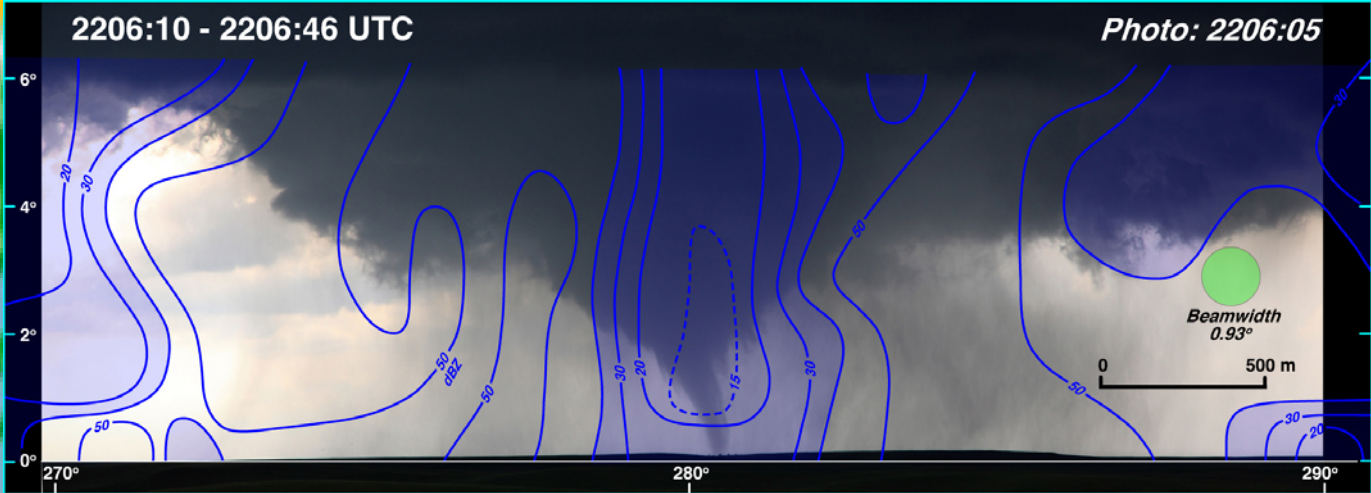
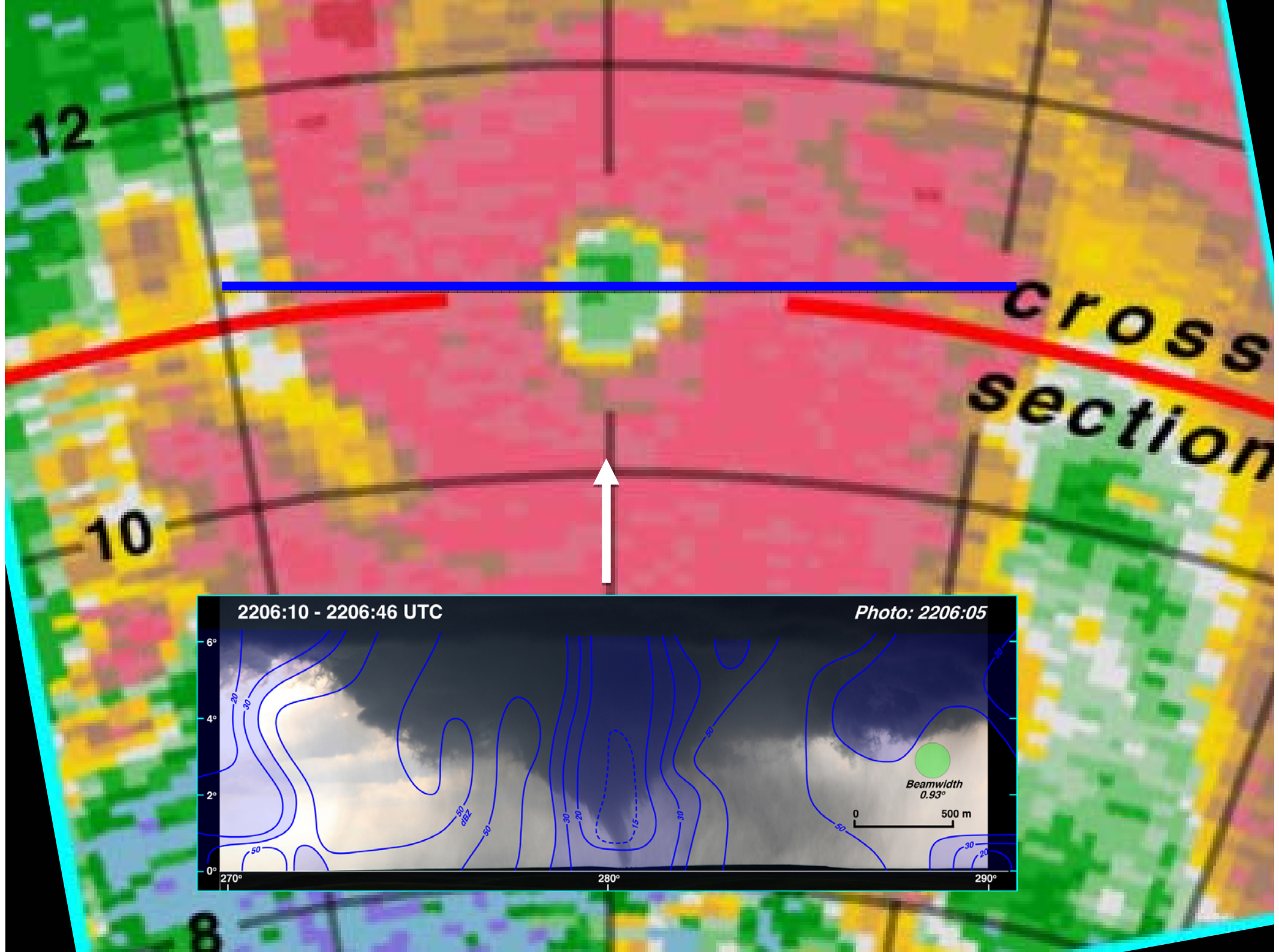
Photo: 2206:05

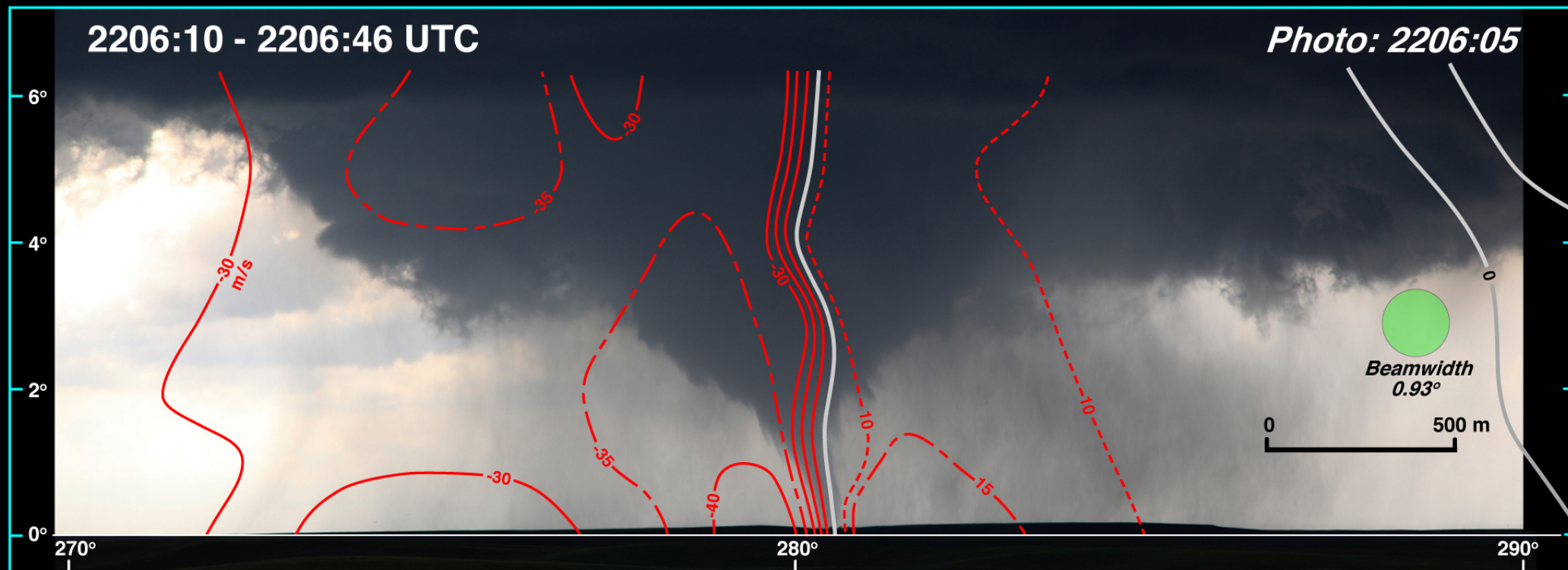
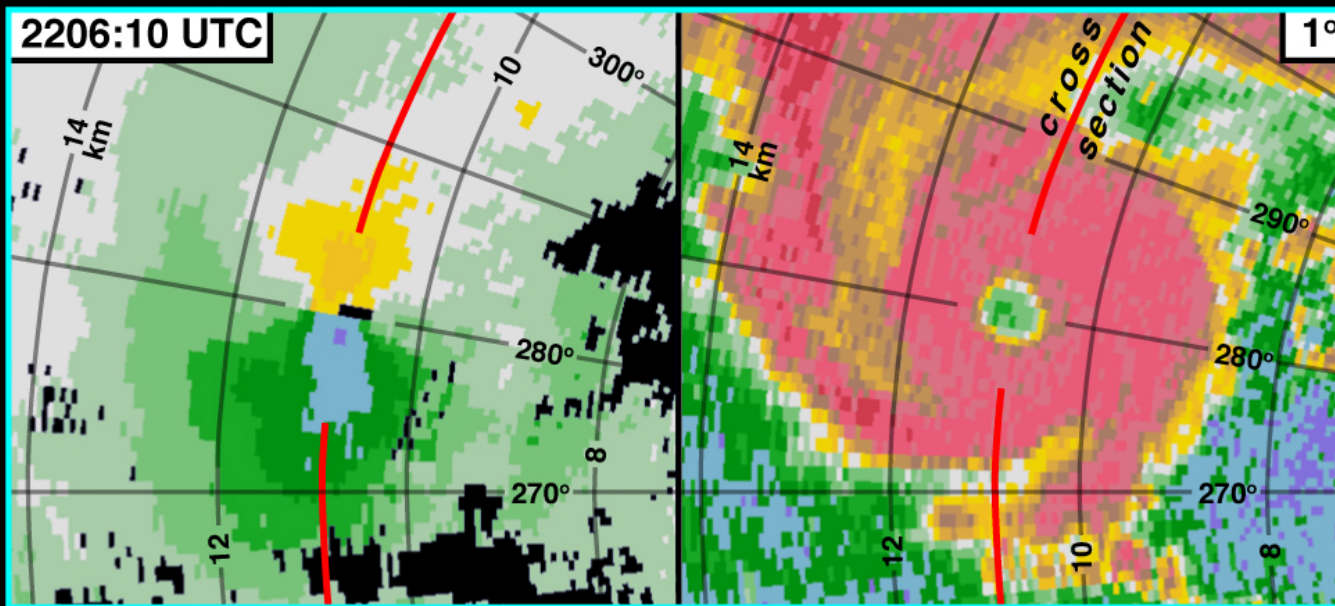


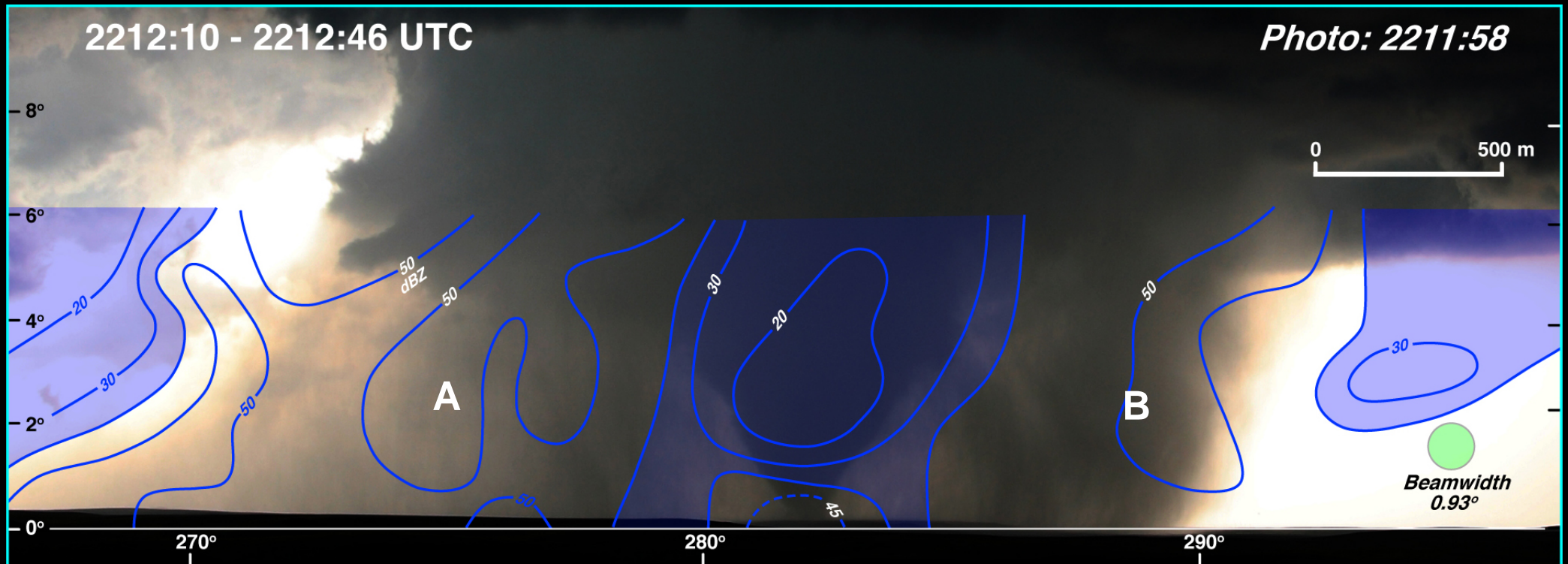
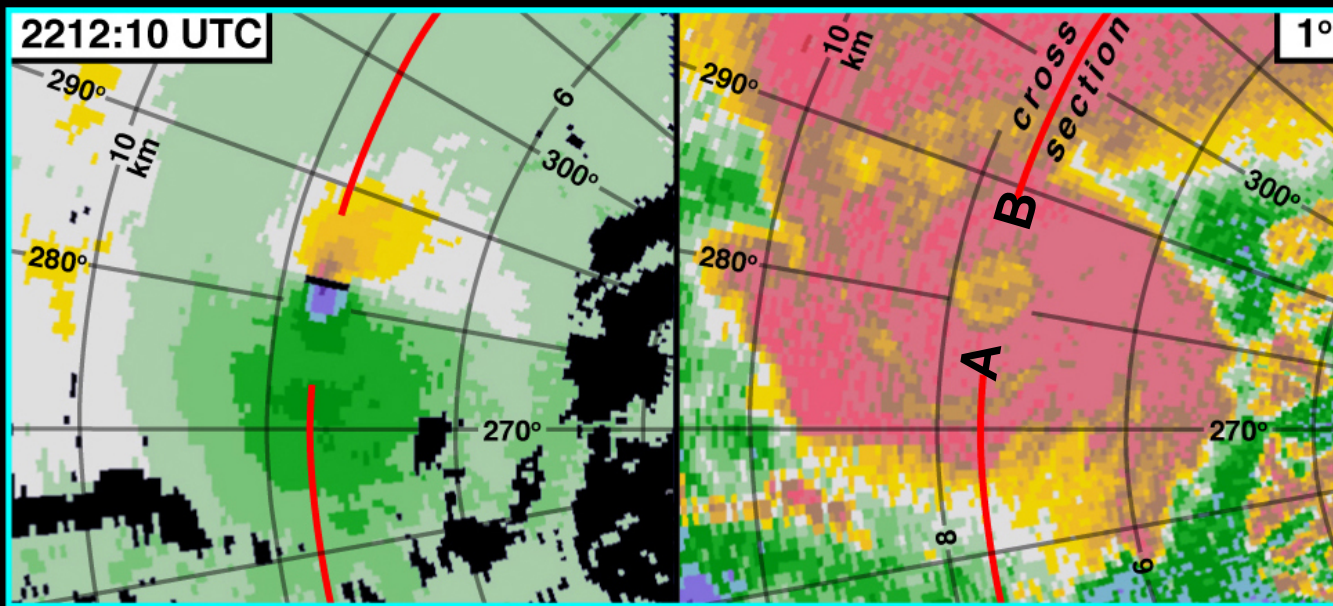
Beamwidth
0.93°

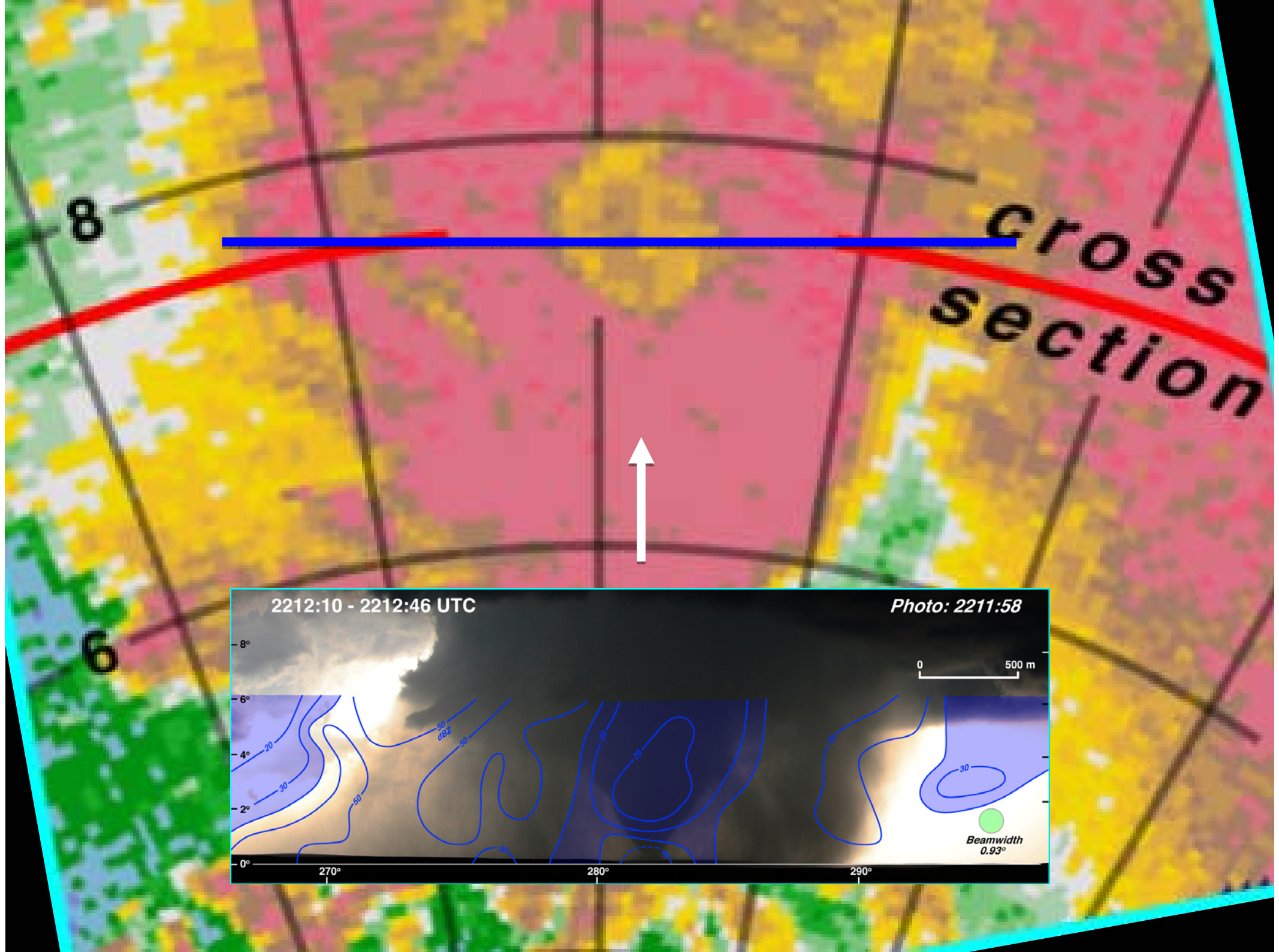
0 500 m

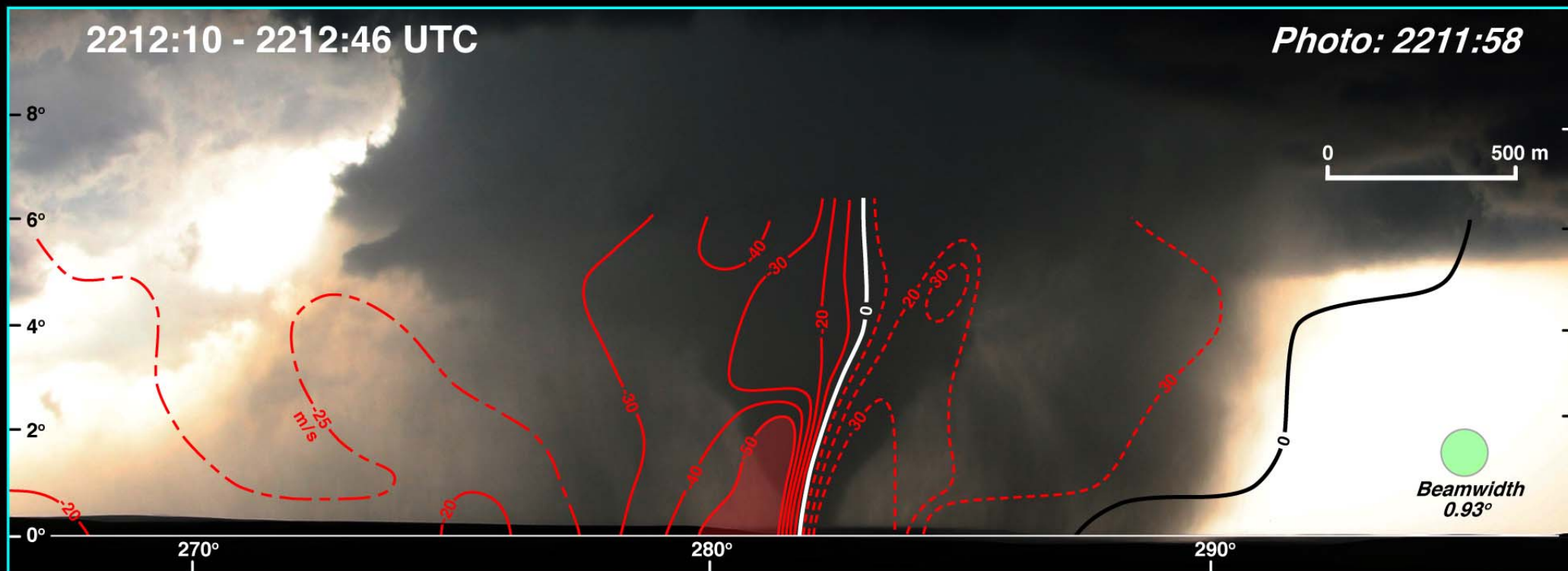
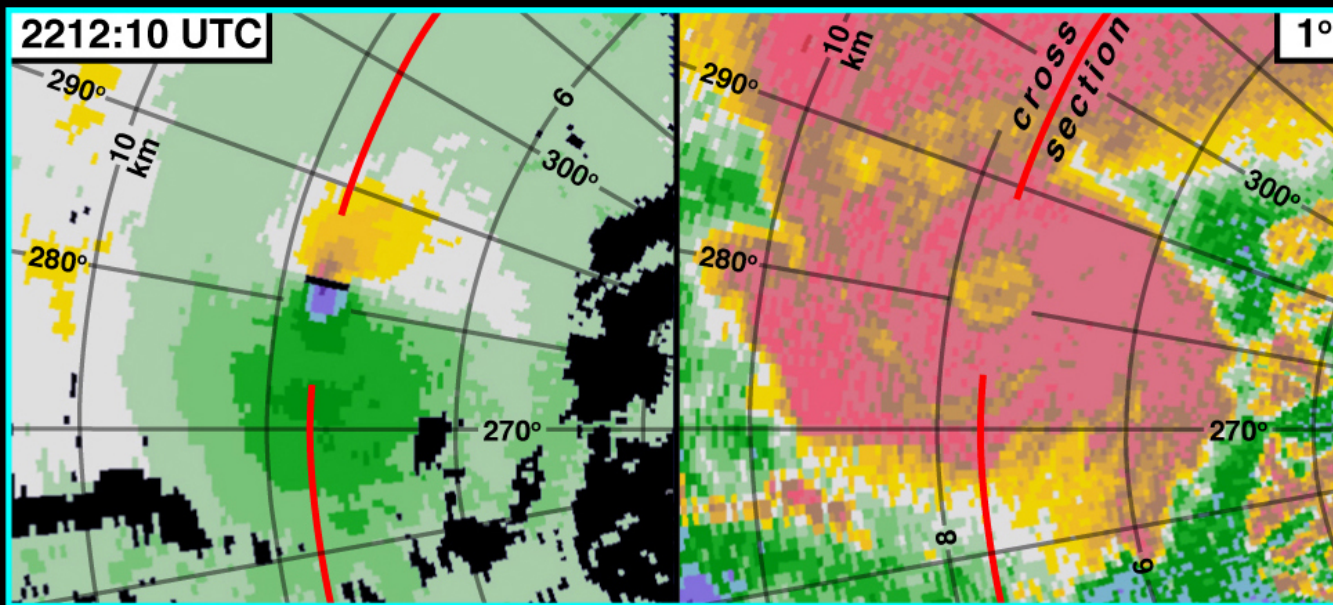


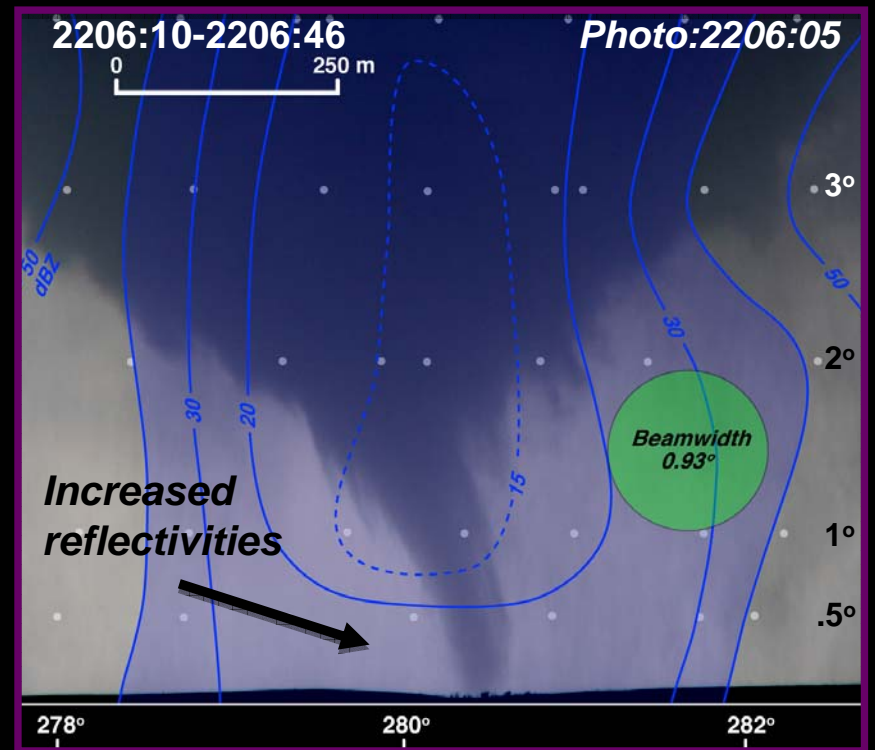
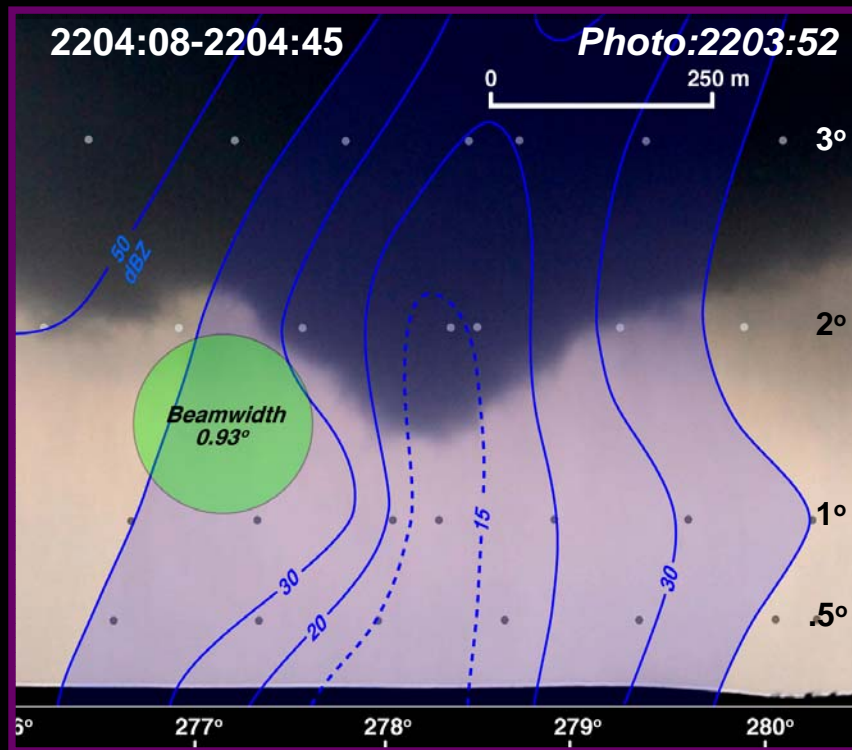
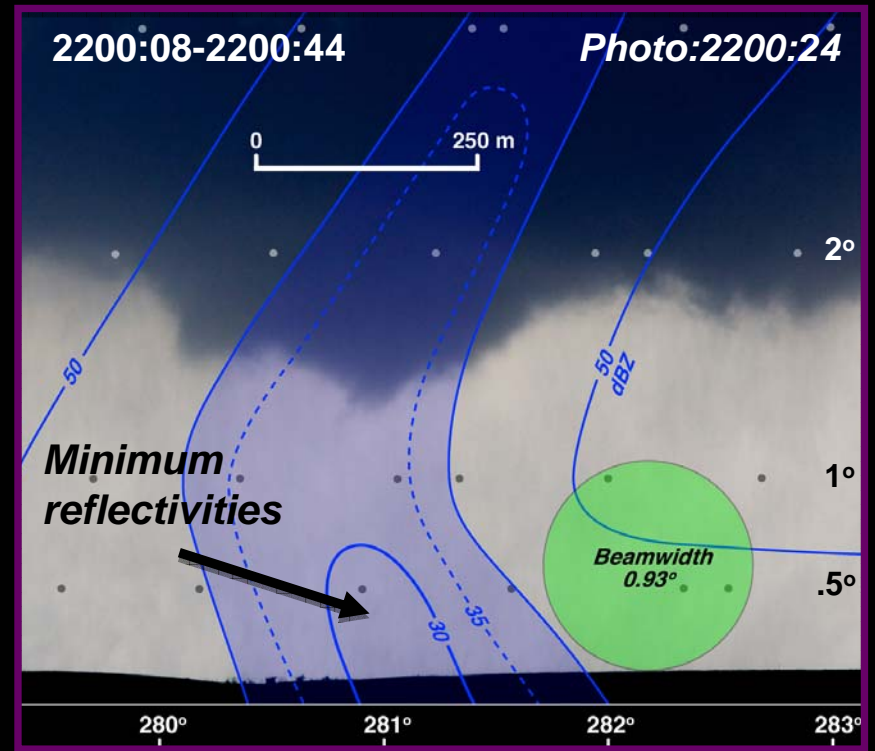
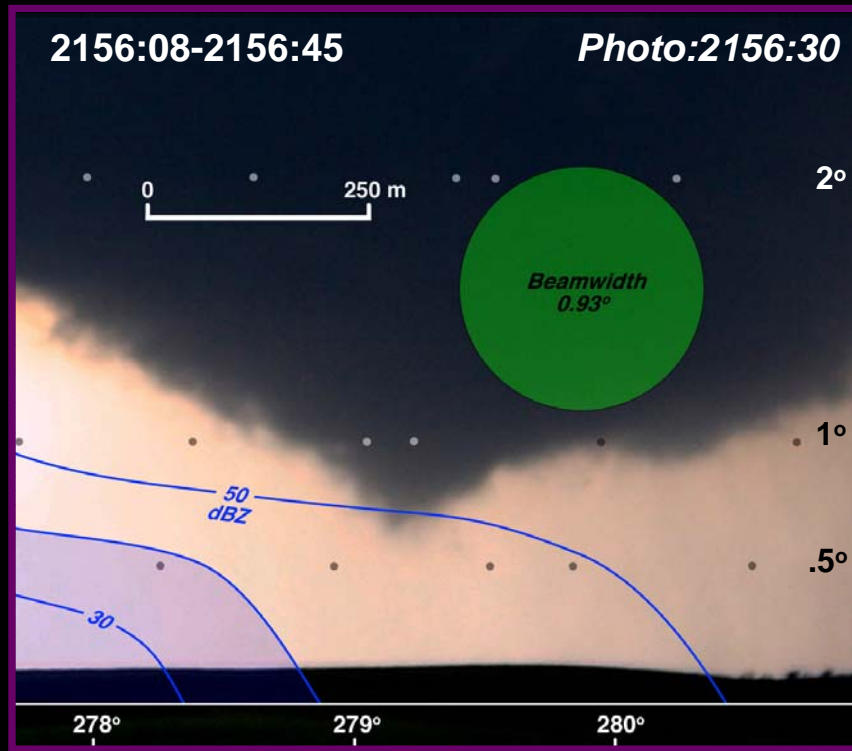


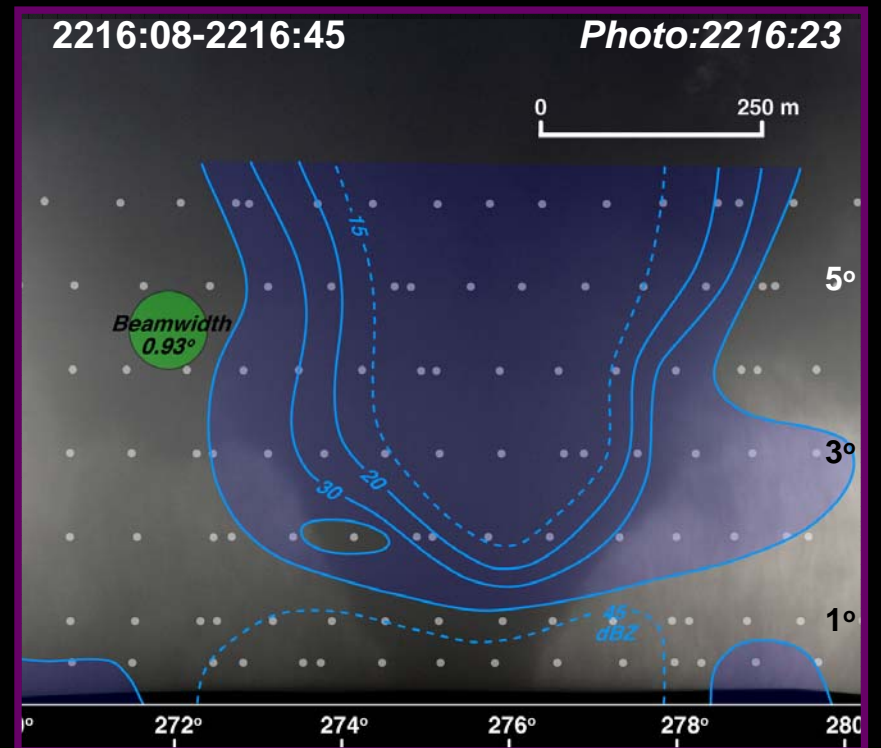
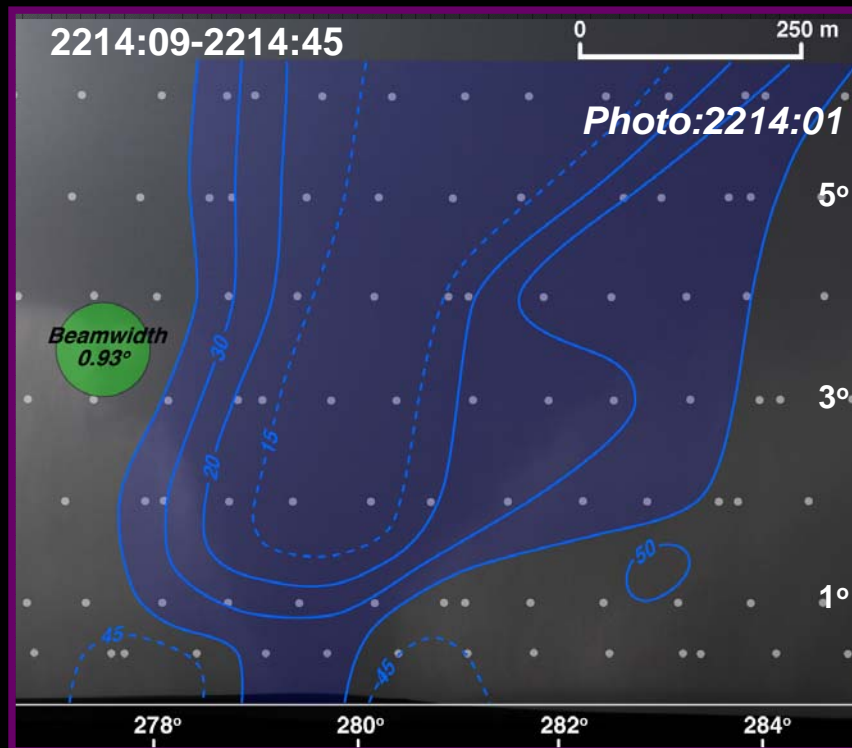
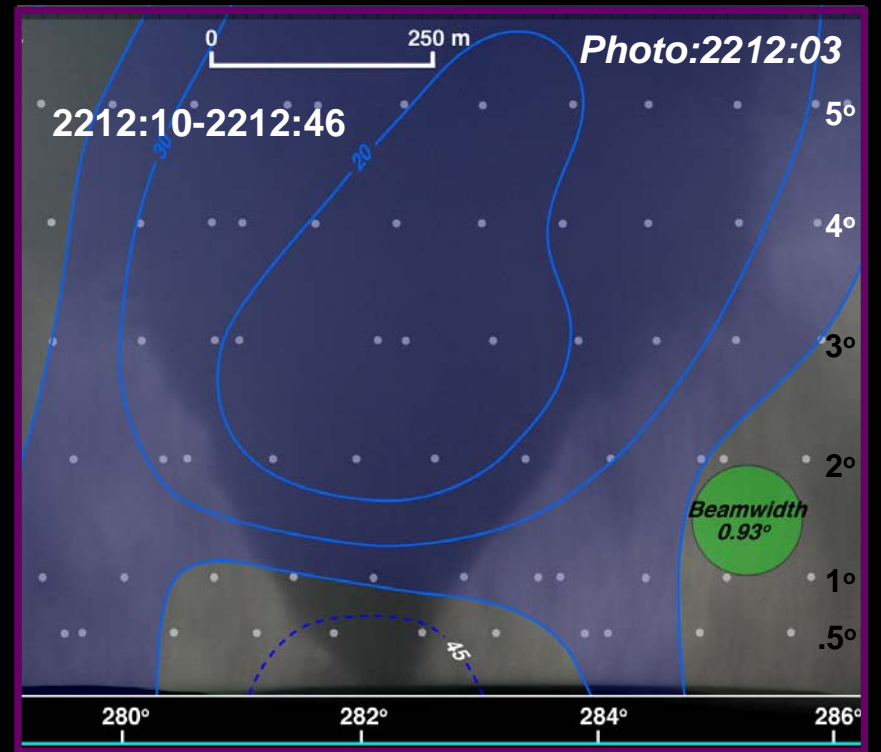
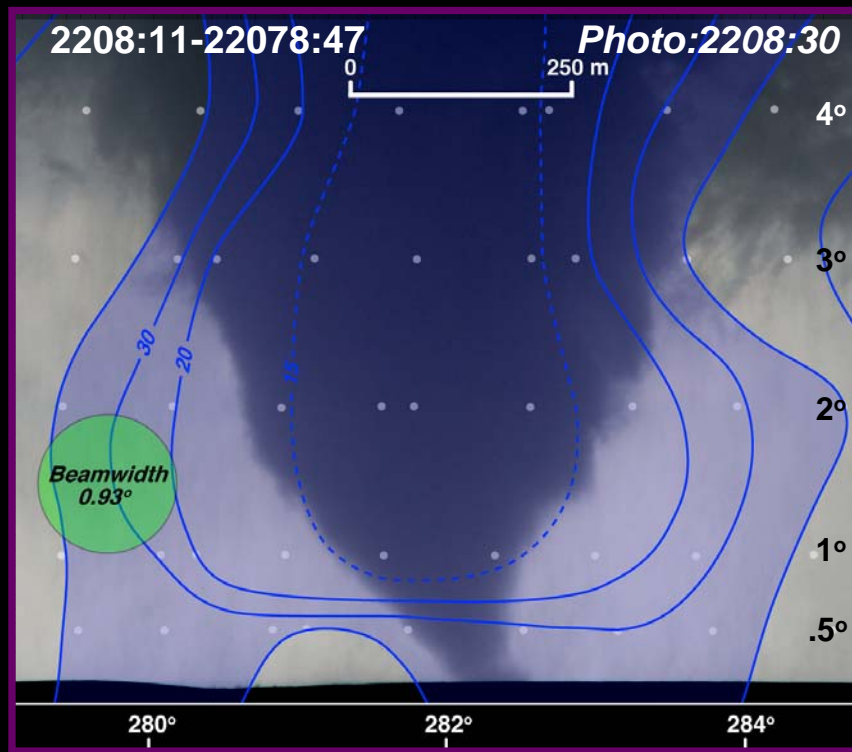








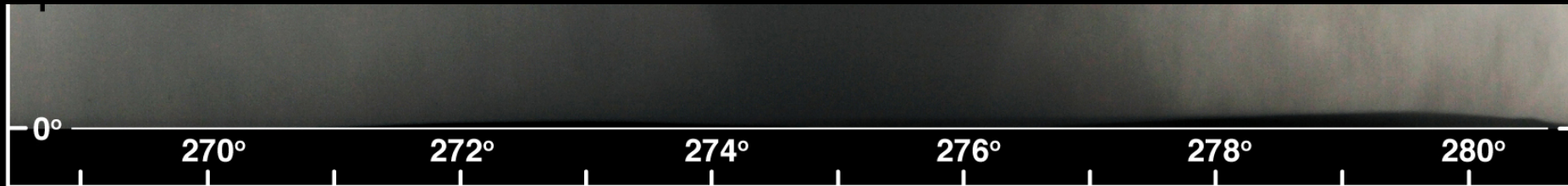
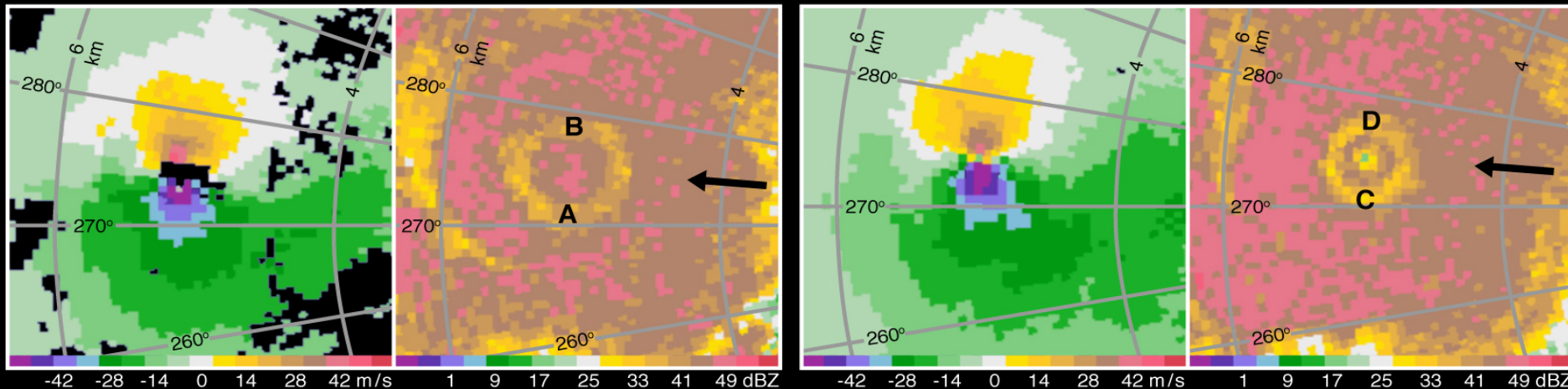




2216:51

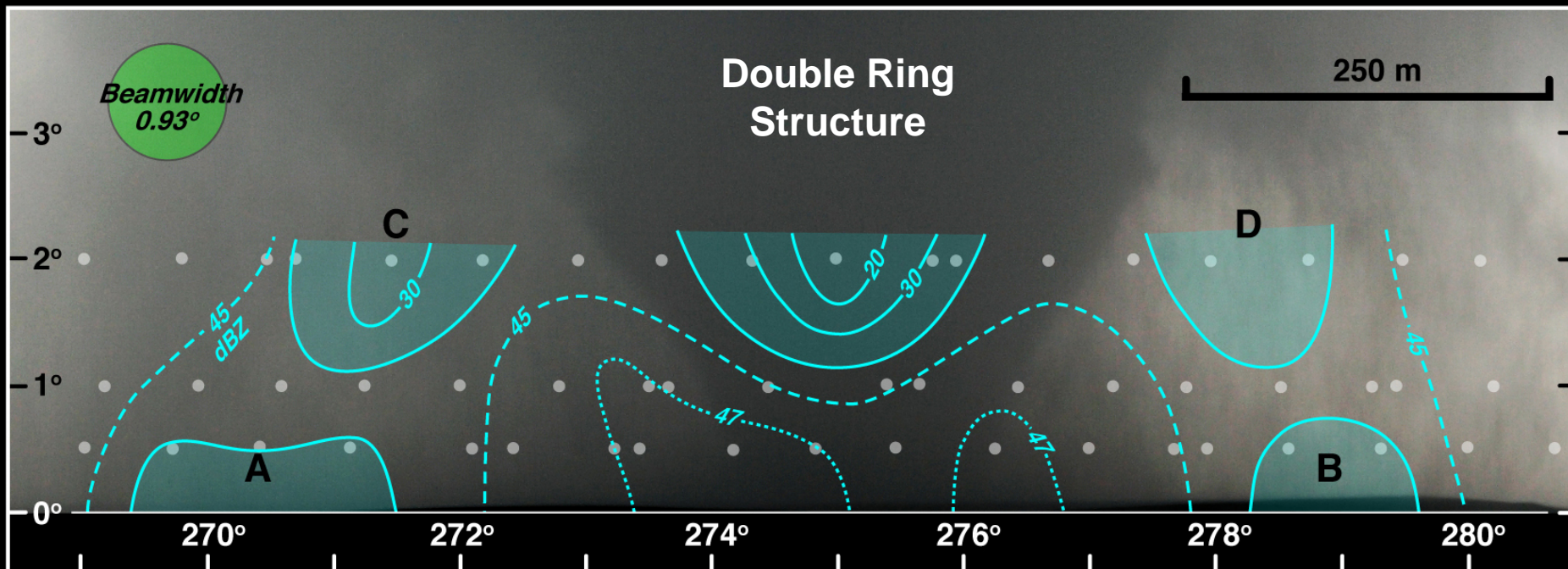
0.5° 2217:06

2.0°



2216:51 - 2217:06

Photo: 2216:41



Double Ring Structure

