



Colorado Lightning Mapping Array depicts a Lightning Jump Prior to a Non-Supercell Tornado 5 to 10 miles northwest of Cheyenne

By Rob Cox (NWS Cheyenne)





July 29, 2013 @ ~6pm



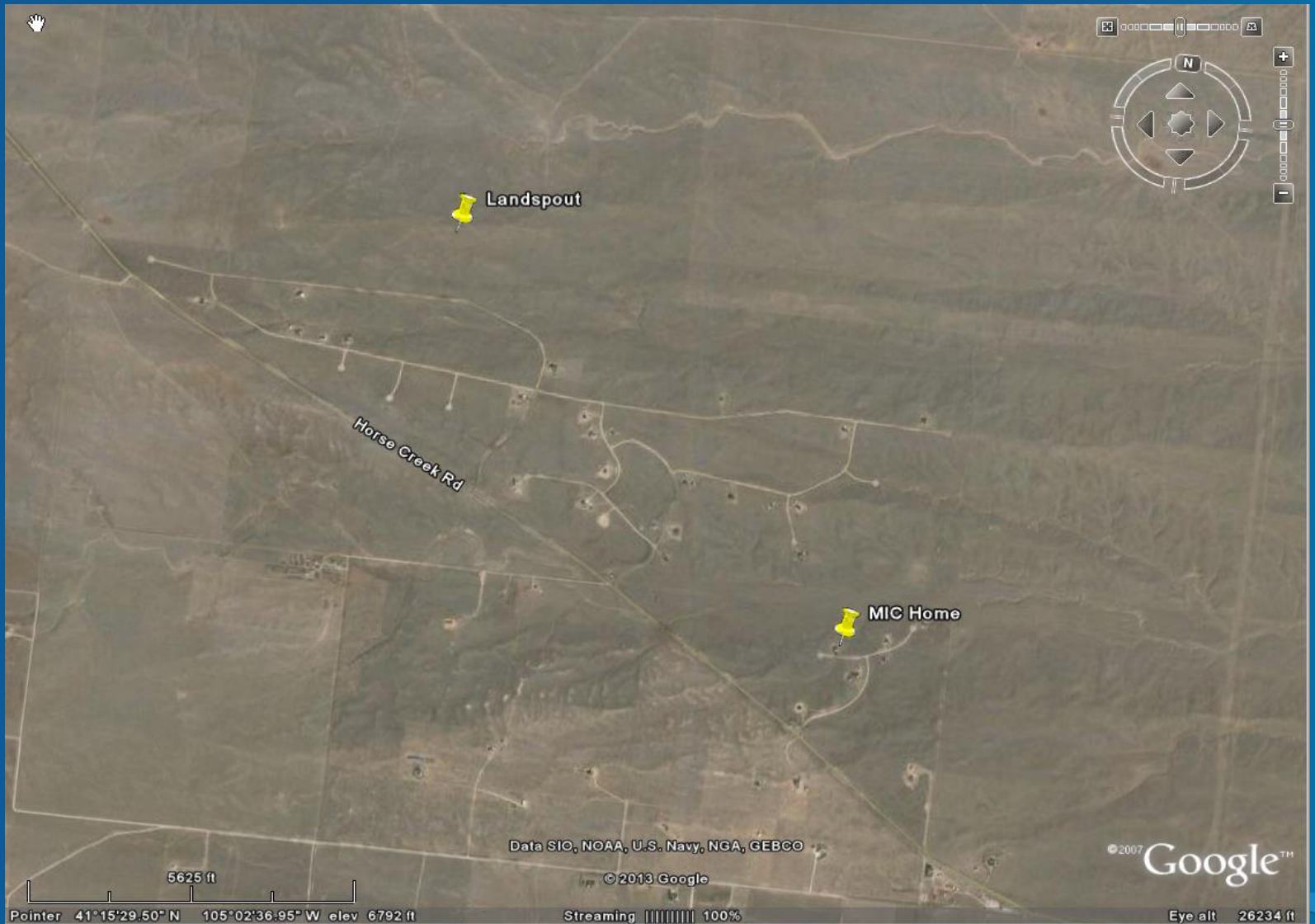
07/29/2013 18:04

Photo Courtesy Steve Apfel



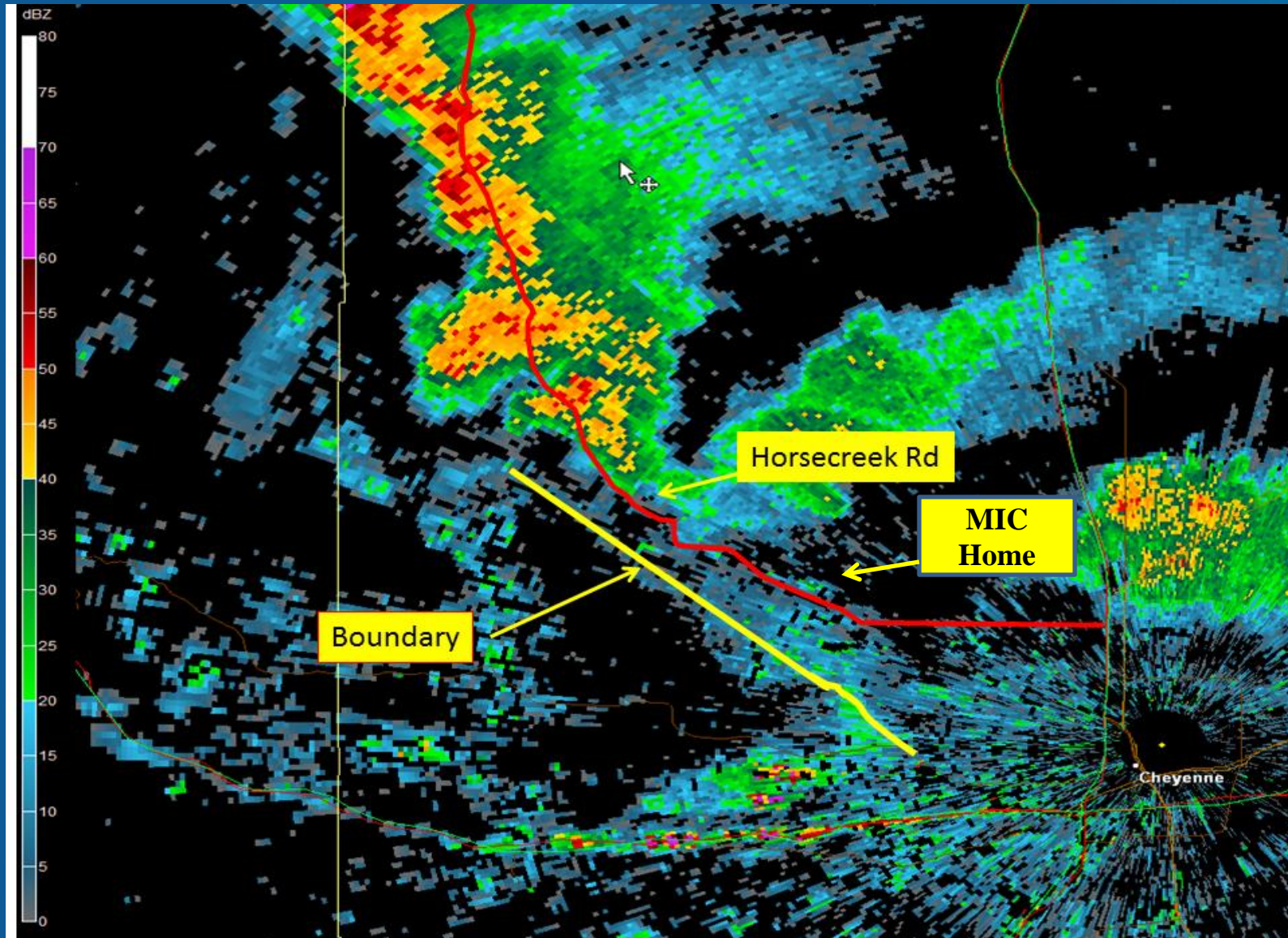


Tornado ~5 to 10 miles Northwest of Cheyenne



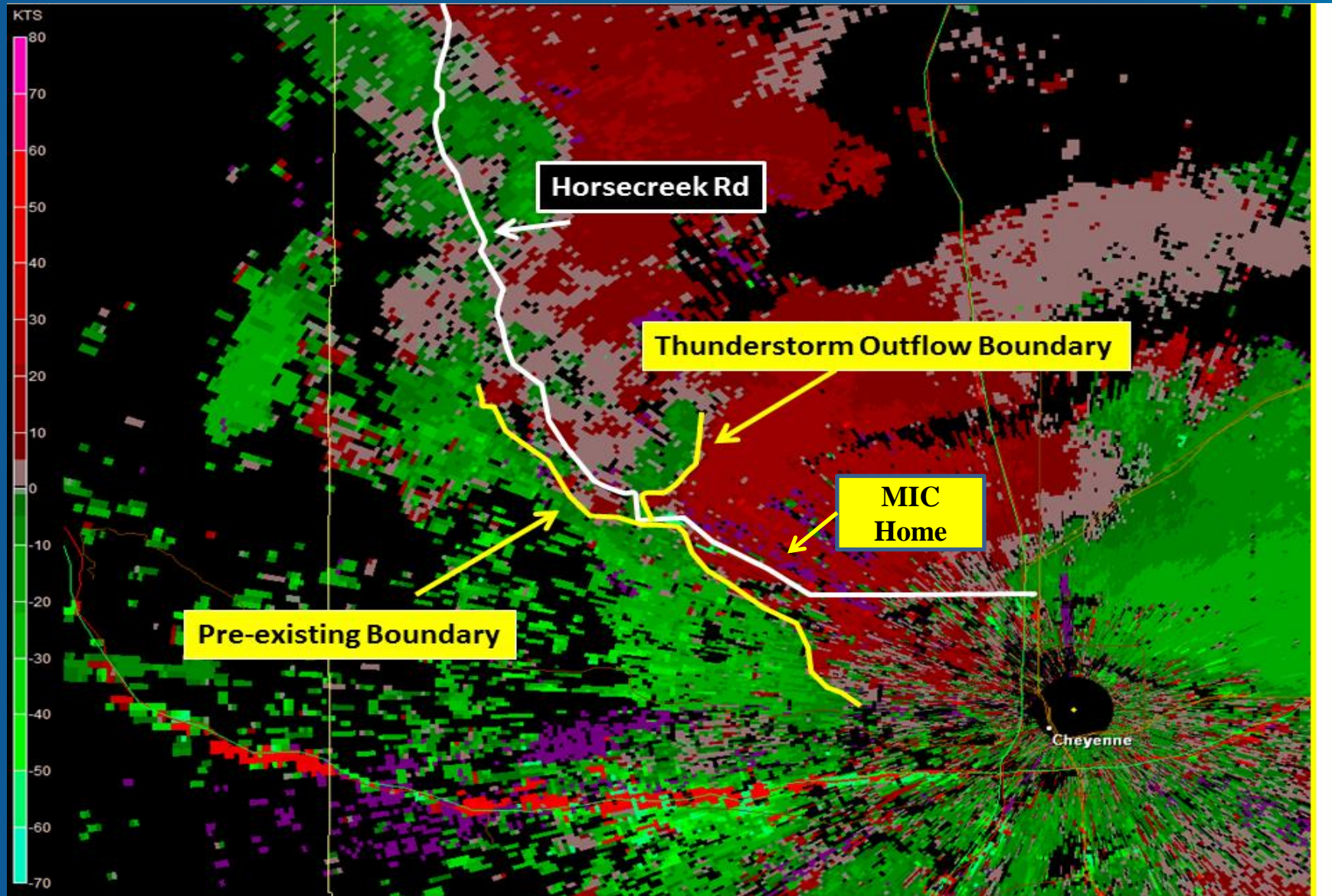


0.5 deg. Z ~15 min prior to Tornado



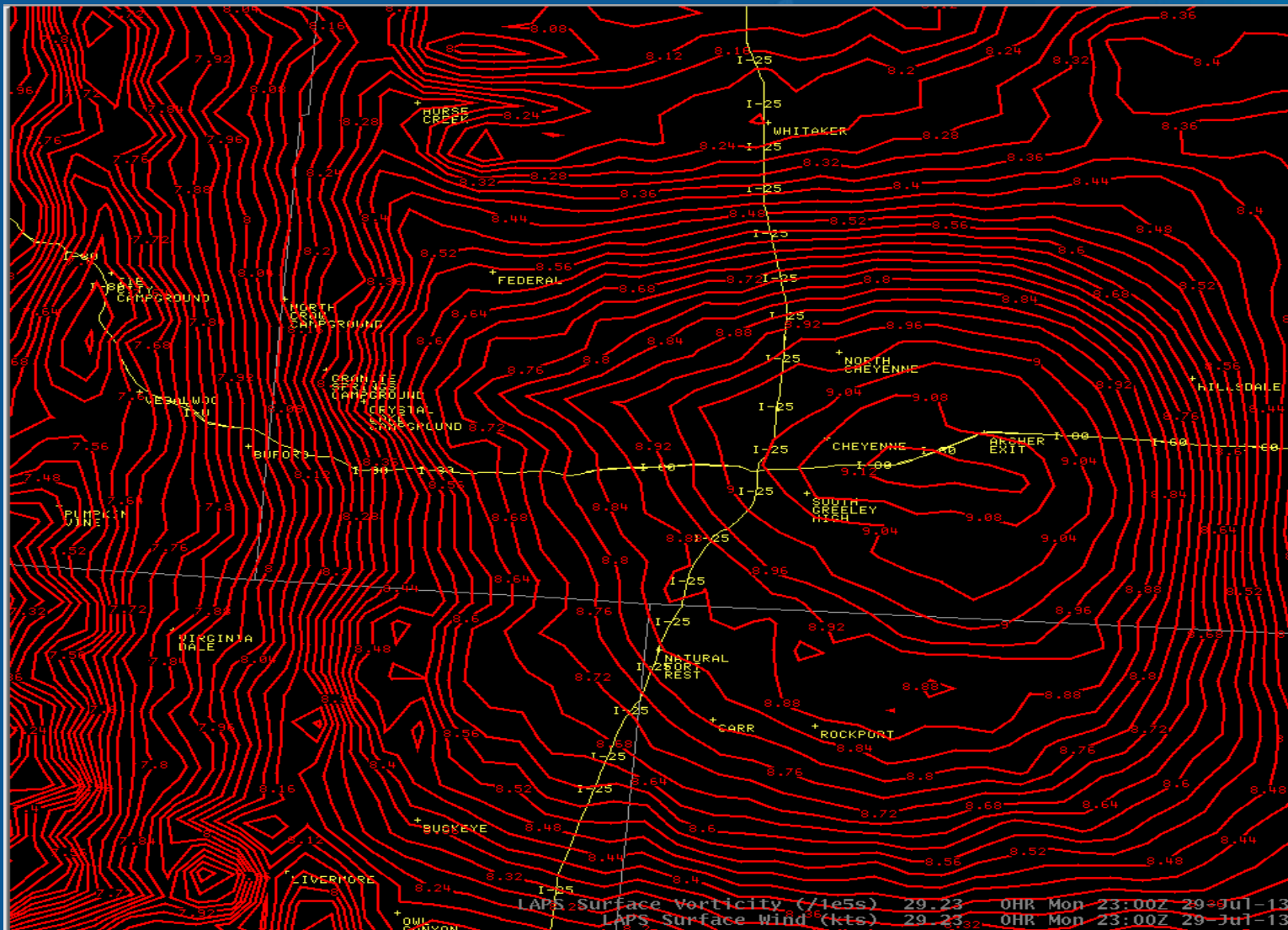


0.5 deg V. ~15 min Prior to Tornado



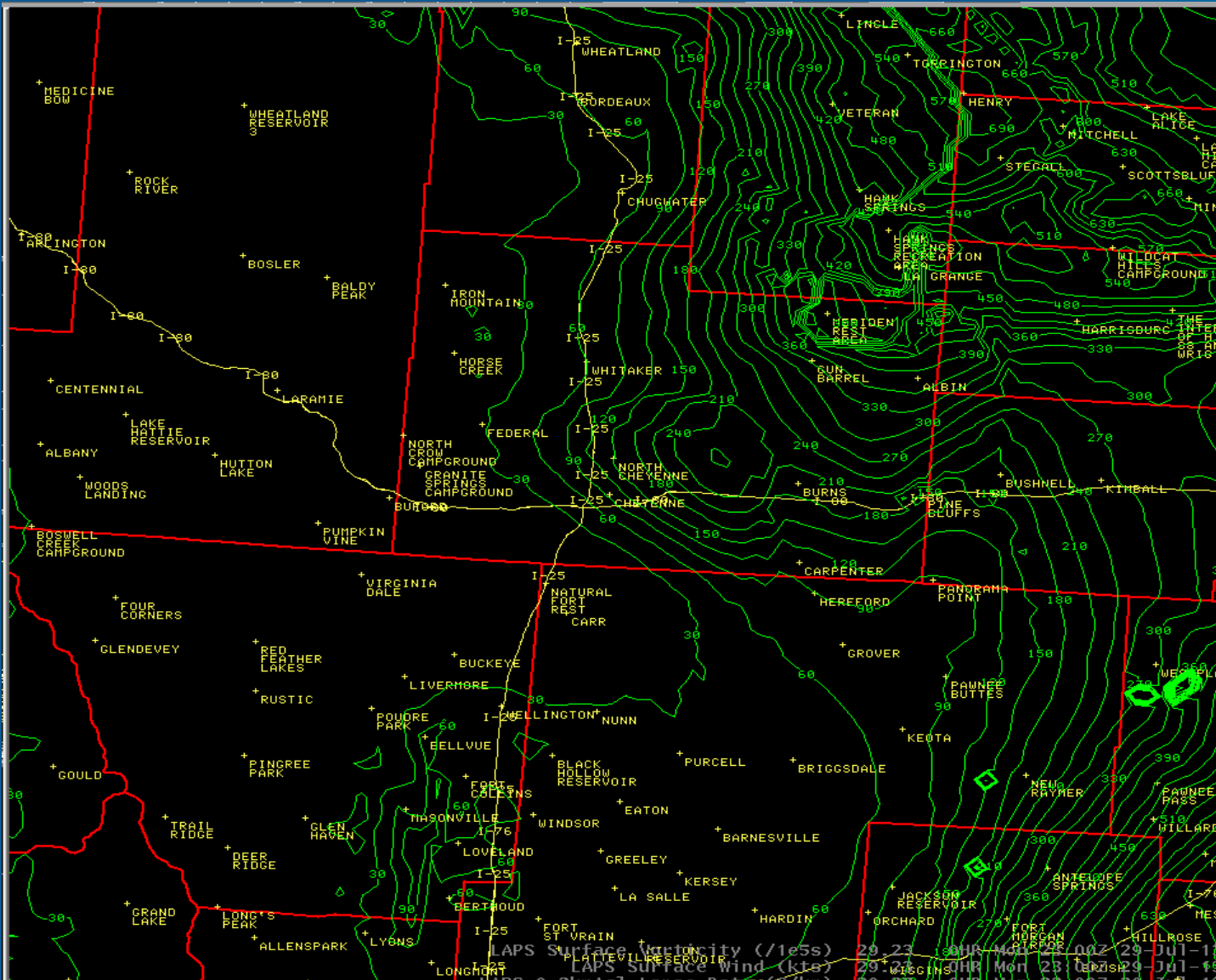


0 to 3km LAPS Sfc. Based Lapse Rates (23Z)



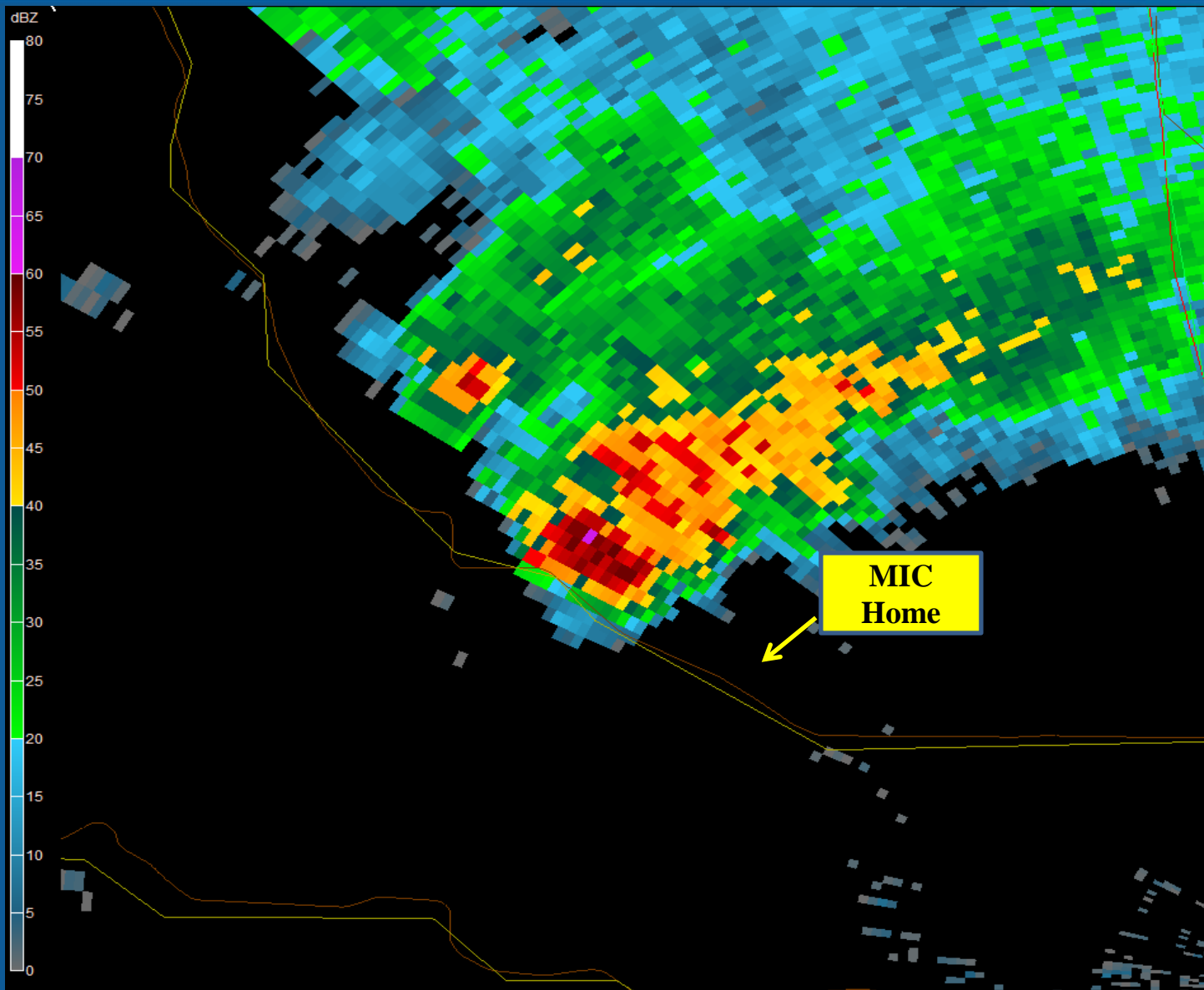


0 to 3 km LAPS Surface Based Capes (23Z)



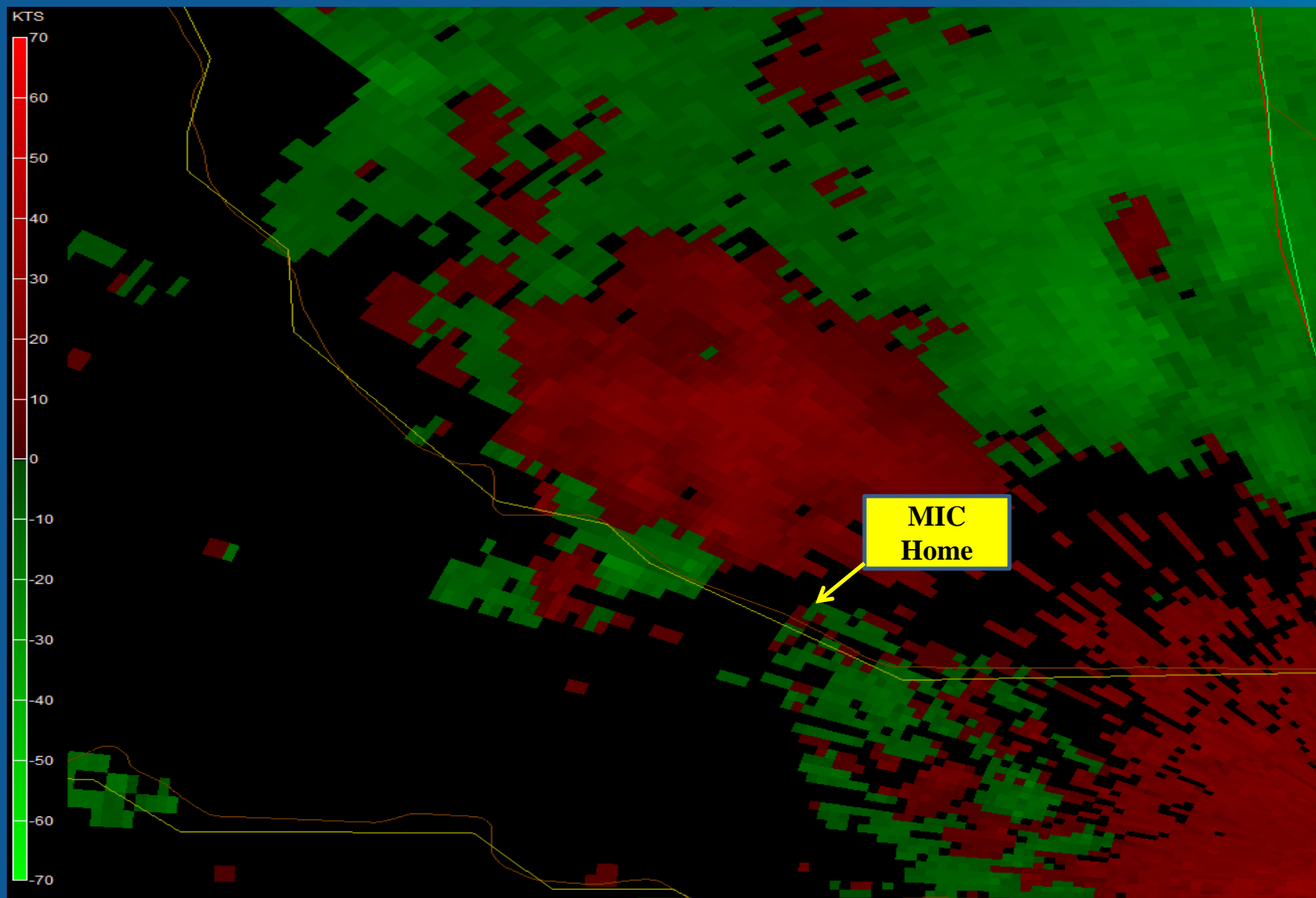


6.4 deg Z. at ~ Time of Tornado (00:05Z)



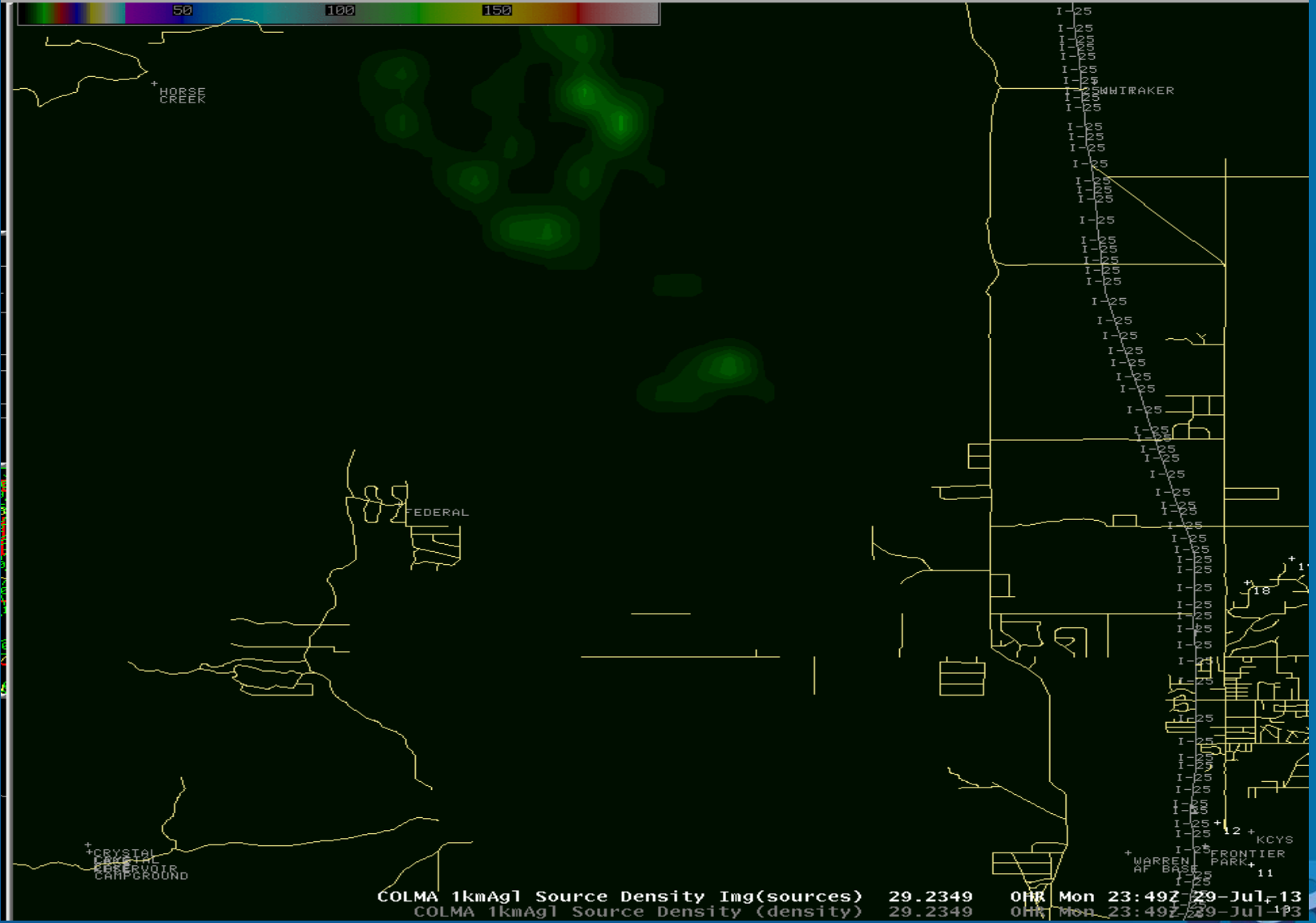


6.4 SRM Slice at ~ time of Tornado (00:05Z)





COLMA 2349Z-00:05Z





Summary

- Look for Pre-Existing Convergent Surface Boundaries
- 0-3km Capes Greater than 40 j/kg
- Steep Low level Lapse Rates
- High Reflectivity's Aloft
- Mid level Rotation
- Lightning Jump ~10 to 15 min prior to Tornado Development

