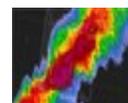


Reflections: Harper, KS Tornado, May 19, 2012

TORNADO | AUGUST 31, 2012 | BY: CHRIS HILL |

3 photos

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On May 19, 2012, the Center for Severe Weather Research (CSWR) ROTATE team targeted tornadic cells likely to form in mid-to-southeastern Kansas. I was in Probe M1 with Jon Merae, Merae Foundation. We were taking a similar track as ROTATE, but chose to target a different cell in the same line of high dew point and shear,

but nearer to interstate I-70. As we approached our [tornado \(http://www.examiner.com/topic/tornado\)](http://www.examiner.com/topic/tornado) warned cell near I-70, and while listening to ROTATE radio traffic, we were hearing of reports from Lauren Hill and Colt Forney in their probe vehicle that they were in view of a strong rope tornado near Rago, Kansas, and that a tornado was about to cross the road in front of their vehicle. I found this interesting, as the cells we were on looked reasonably strong on radar, but were fairly high based, and seemed a bit stretched in a northeastern track.

Here was out thinking, we were approaching clearly tornado warned cells, but ones that with the present available surface data and Doppler tracks, were cells we thought might be likely to produce only land spout tornadoes, at best, ..or so we thought. Based on this assumption, we let down our guard just a bit, and got much closer to our cell's rotation than we might have likely done, if there were a signature and indication of a powerful mesocyclone tornadic velocity.

View slideshow: Rago and Harper Tornadoes, May 19, 2012 (<http://www.examiner.com/slideshow/rago-and-harper-tornadoes-may-19-2012>)



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Powerful rope tornado near Rago, Kansas on May 19, 2012
Photo credit: Colt Forney, Lauren Hill, and The Base Hunters



Location: rago, kansas

Nature always seems to get the last word, and in 'hind sight,' I think one of my last thoughts was a foreshadow of things to come. I had told my chase partner Jonathan, that the southern cell may have a tail end Charlie, and was wondering if we wanted to drop south? Had we done this we may have caught a strong EF3 tornado; however, we both decided, based on the time of day, that to drop that far south to catch a last cell in the newer updraft region of convection would probably not be worth the mileage, so we enjoyed the cell we were on, and decided to get great storm and sunset shots.

We then heard that one of the tornadoes that team ROTATE had encountered had destroyed a wind tower and a portion of the blade had been sheared off by a powerful land spout tornado, and had hit the ground next to a ROTATE probe truck.

This communication got me to look back at the GR Level 2 screen, and change a view from base reflectivity to velocity scans. At that time I noticed on base velocity the Rago cell had a diminishing couplet, but to the southwest a much stronger couplet was building, a new tornado was forming!

I looked at this couplet at a number of scan levels and saw rotation not only was present at the lowest scan level, but upwards through increasing tilts indicating fairly strong rotation upwards exceeding 28,000ft. At this point I realized I had misjudged conditions that day, assuming that only non-mesocyclone conditions would form tornadoes. I then heard reports of a powerful and destructive tornado had hit homes, done considerable damage including debarking trees and destroying a small farm house near Harper, Kansas. Harper is not far from where our team members had encountered a strong rope tornado a bit north near Rago. The Harper, Kansas tornado was later determined to be EF3.

From our experience this day we got the message to keep an eye on changing conditions, and not to assume that if a certain region presents only the opportunity to view a land spout tornado, that changing conditions, or conditions that could take a weaker severe storm convection into stronger supercell development, should be analyzed for possibility, before getting into a hook echo region, and while assuming only land spout tornadoes can form. A number of severe weather scientists and some noted meteorologists were caught a bit of guard with assumptions made about high-based severe weather potential on May 19th. The recommendation to pay attention to changing atmosphere and back building conditions, by taking a bit of time to look around, was again impressed in our minds this day.

Fortunately on May 19, 2012, no lives were lost.





Chris Hill, Denver Extreme Weather Examiner

Chris has written a number of medical manuals, including a highly regarded "Beryllium Health Surveillance" Medical Management Manual, while working in an occupational medicine office. Before that, he was on the Alpine Rescue team for half a decade, and has written a number of procedures and...