# 2003 Chase Summaries

Day 1: (Sunday May 11th) Down day, left OKC and went to Moore, OK to see tornado damage from previous Thursday, then drove to Elk City, OK to position for next day.

Day 2: Down day, drove from Elk City, OK to Amarillo, TX (lunch at The Big Texan) then went to sight-see at the Palo Duro Canyon.

Day 3: Cap Bust. Went to the area near Enid, OK where there were CAPE values around 4000 but the atmosphere was extremely capped and did not break until well after dark. Unfortunately the cap broke after dark and triggered an MCS that wrecked our setup for the following day.

Day 4: With thunderstorms persisting in Northern Oklahoma, we were forced to play father South, where conditions again were good but the atmosphere was strongly capped. We proceeded down to Altus, OK and waited for the situation to develop, then continued south all the way to Mabelle, TX before deciding that the cap was not going to break. We then drove northwest to Amarillo again and prepared for the next day.

Day 5: This day the SPC had a high risk of severe weather on the Texas Panhandle just north of Amarillo. We headed north just west of Amarillo after noon with high expectations. After passing through Dalhart, TX on route 385 we reached the Rita Blanca national grasslands and storms began to fire. The first storm we got on was a nice barberpole LP supercell that was tracking almost due north. As we got under the updraft we were received by small hail. We then stopped to observe the storm and decided to head back south as a more classic type supercell was forming in that direction. The LP storms updraft was shredded by the classic to the south and a clear slot appeared in the storm well up into the mid level area of the storm. We got on the next storm and followed along to the north until we were just south of Boise City, OK and observed a tight lowering develop to the right of the road. We stopped as a funnel began to drop and soon there was a beautifully contrasted white elephant trunk tornado on the ground about 400-500 yards away. We stopped and watched as it tracked NNE and then jumped into the vans to follow. We were able to observe the tornado all the way through its cycle. As we neared the outskirts of Boise City, the tornado exhibited clear downward motion and began to rope out. The ropeout was absolutely spectacular as the funnel zig-zagged back and forth and the debris cloud was still visibly doing damage. Finally the RFD of the storm blasted the funnel apart from the cloud base, but the funnel remained on the ground and “exited stage left” to the northwest at about 50 MPH, doing damage for about another minute after it detached before it finally fizzled out just to the west of town. Though we did observe a couple of power flashes, the storm luckily did not get into any significantly built up areas. After the tornado ended the updraft died a rapid death.

Receiving nowcast information from Dave Gold we head east and south for the next monster in line, a big tank of a supercell near Griggs, OK. The storm had a tornado warning on it and after sprinting east out of Boise City we cut south on a farm road attempting to beat the core. We could see a well-defined wall cloud to the southwest but could not confirm the presence of a tornado. We then ran into quarter to golf ball sized hail and shortly could see a line of very big hail approaching and we were forced to turn around.

 We then blasted east and back south into Texas to get after the next storm down the line. We were forced to make an emergency gas stop at this point in Texhoma, TX. With more nowcast information we heard of a tornado on the ground near Stratford, TX so we blasted southeast. Unfortunately we got to the show a little late but from a distance of about 3-4 miles we could see a large barrel/wedge tornado on the ground with an additional needle tornado to it’s west. The mesocyclone was fantastic but from our position on the storm the tornadoes were fairly low contrast. The inflow on this storm was incredible!! At one point I was driving my van about 75 MPH directly towards the meso and we were being passed on both sides by tumbleweeds flying into the storm! We continued to follow the storm back the way we came but the mesocyclone became disorganized and weakened so we dropped off the storm and head southeast yet again.

 We soon ran into yet another tank of a supercell near dark between Sunray and Gruver Texas. This storm had a very well defined wall cloud and tail cloud and was very low based. It was also highly electrified and had a brownish look to it in the waning sunset. As we followed the storm towards Gruver it produced two more short duration tornadoes, one a ropey-elephant trunk and the other a needle with a clear debris cloud on the ground. Neither lasted more than a minute or so. Finally darkness was falling so we parked near Gruver, TX and took some lightning photography until the precip from the storm caught up with us.

 After deciding to call it a night we stopped in Spearman for bathroom breaks and food and to top off the tanks. Little did we know that we would not be left off the hood so easily!! It started nicely enough with a very nice CG show as we approached Spearman from the west, but soon we were in heavy rain as we headed towards Elk City, OK to set up for Eastern, OK chasing the next day. As we proceeded through Canadian, TX the rain got much heavier and the wind picked up and soon we were hearing tornado warnings in Beckham and Roger Mills county in Oklahoma and Wheeler county in Texas. As we headed southeast we had supercells to the east generating tornado warnings near Cheyenne, OK and a series of warnings to our west from McLean to Mobeetie from the strong squall line approaching from the southwest. Around Wheeler we were absolutely blasted by outflow from the squall line with winds of at least 60-70 MPH and extremely heavy horizontal rain. We saw a number of tree limbs down in the road and leaves were everywhere. Finally near Shamrock we got clear of the line and hit I-40 and proceeded east to Elk City.

 There was one last surprise for us on the night though: Minutes after we had arrived in Elk City at the Super-8, (I had just enough time to park the van under the canopy and unload our guests’ luggage) the city’s tornado sirens went off and in seconds we were back in the down pouring rain and heavy outflow winds. Concluding that it was in fact outflow (it was freezing cold), we checked in and went to bed. The sirens only lasted a minute or two and then were off for the rest of the night.

 Wow, what a long day/night! 10 hours of chasing and 5 tornadoes (though I only saw 4, I missed the last elephant trunk helping a guest get something out of the back of my van). This was probably the most fun chase day I’ve ever had. Too bad we got cut off by that hail core or we might have gotten another tornado or two!

Day 6: May 16th. Started the day in Elk City, OK with the plan being to follow the dry line intersection Southeast with an initial target of Paris, TX though we expected to be targeting storms before we got there. We proceeded to Oklahoma City then turned southeast along route 3. The dry line was clearly defined in front of us as we proceeded through Ada, with very high-based convection directly over the dry line and lower based convection out ahead of the intersection. Near Stonewall we intercepted our first storm, a raggedy classic supercell. Though it had formed in less than ideal conditions, it soon had a well defined, though somewhat disorganized lowering. Assuming the better storms would form to the southeast in the better conditions we let the storm go after keeping an eye on it for a few minutes and headed down the road. This was an error as this storm produced 2 tornadoes that damaged in the Henryetta, OK area about 30 minutes later.

We continued southeast and were continuously slowed by the road network in southeast OK. Finally we got on an impressive looking supercell near Antlers, with a wide precip core and a nicely rotating wall cloud. Unfortunately we couldn’t get a northeast option and got stuck in the woods as the storm sailed away to the northeast. This scenario played out again near Hugo, OK as the Red River cut off our road options.

This more or less ended our chase day as the better the conditions for rotating storm seemed, the lower the quality of the storms that formed there! We went as far southeast as Clarksville, TX before giving up.

Though the day was mostly unsuccessful we did get an interesting view of the extremely tight low over OKC on the road back. The closed low clearly appeared on both the 850 and 500 mb maps and as we drove in the clear the convection line followed the outside of the low all the way through a complete circle. Additionally, the high level jet could be seen clearly as there was a baroclinic leaf over the top of the low. Once we got back to I-40 we saw some damage the tornadoes earlier in the day had done. Getting ready for a long drive to Nebraska the next day we stopped at a hotel to the north of OKC.

Day 7: Down day. We drove from OKC to North Platte, Nebraska to set up to chase in Western Nebraska / Southwest Kansas / Northeast Colorado the next day.

Day 8: May 18th. We started the day in North Platte, Nebraska with the intention of playing the upslope regime in Western Nebraska or Northeast Colorado since there wasn’t a great deal of moisture available to feed storm development. The day was mostly frustrating as we waited in Big Springs then Sidney, Nebraska for storms to initiate. The only storms we could see where a mess of convection firing over Cheyenne, Wyoming but they were ridiculously high based due to dew points in the 30’s there. We could clearly see the bases from where we were 150 miles away.

After waiting for storms to fire in Colorado and being taunted by the high based blobs in Wyoming, we were just about ready to give up for the day when we spotted 2 LP supercells and a big multi-cellular mess west of us. As we proceeded towards the LP's, they died a quick death so we set up to watch the lightning in the multi-cell storm. One of the updrafts then took over the show and the blob became an HP supercell and turned to the right directly at us!

The storm had classic HP structure with an awesome shark tooth shelf cloud, great lightning, and the classic nose-down looking wall cloud / lowering. There were many other interesting features including a few horizontal vortices and an interesting mini-updraft under the anvil of the main storm complete with it’s own little anvil. The HP reportedly had baseball sized hail and after we finished our 3rd stop to film it we went back to try and find some but were unable to locate any.

We were treated to a great lightning show on the way to Burlington. We were lucky in that we were able to stay out of the precipitation for all of our photo stops so we were able to get as much film as we wanted. Brrrr!! When the shelf cloud flew by at about 60 MPH that outflow was cold!! All in all a great storm, one of the best looking HP's I've ever seen.

Day 9: May 19th,

A marathon chase day. We drove over 800 miles over 14 hours including 2-3 hours of chasing. Starting in Burlington, CO, we drove all the way through Kansas and into Wichita before even stopping, then stopped at Perry, OK for a data check. A satellite image we downloaded showed a clear ribbon cloud extending from Northeast Kansas all the way into the Abilene, TX area through OKC, with mature storms (leftovers from the previous night) occurring up in Kansas and storms starting to fire along the line down in Texas. Though the conditions and SPC data indicated the area where we were to be the best for supercell formation, nothing seemed to be breaking and it looked like it wouldn’t happen until after dark, so we booked our hotel and proceeded towards Oklahoma City, but then a series of storms started to fire near Lawton, OK. We blasted south and southwest and eventually intercepted a classic supercell with terrific structure near Healdton, OK, not far from the Texas border, that had a tornado warning on it. The storm had all of the classic storm features: well defined inflow bands from 3 directions, a wall cloud with large skud attaching to it, and 4 beautifully striated stacked plates on top. Though the mid-level rotation was obviously strong, it was missing the level of rotation it needed at low levels to produce a tornado. I’m not sure what instigated the tornado warning but I would guess it was Doppler indicated for the mid-level rotation. Interestingly right around the time the wall cloud seemed to be getting well organized, POOF!! The updraft died.

We then decided to use my van (since it didn’t have the satellite gear on it) as a "hail probe" and I drove into the precip core looking for at least golfballs, but aside from almost running over an armadillo that was running across the road it was not very exciting as the core had only a little hail remaining in it. Nonetheless we went hail hunting after the storm had passed and found numerous stones of a little better than golfball size even an hour after the storm had ended. During the storm, “hail roar” was audible most of the time from where we were.

On the way back to OK City we had to drive through a storm with a severe warning on it and saw an unbelievable series of CG strikes that caused the low stratus deck to glow blue and green above the repeating strikes. It was an awesome display. The severe warnings continued through the night but none ever got tornado warnings to my knowledge.

Day 10: A down day as the cold front had swept through and removed the moisture from the area. We went to NSSL but due to post-9/11 security upgrades we were not allowed to have a tour. We were allowed to buy shirts and other gifts. We then returned to the hotel and checked in, then I took some of the tourists over to the Oklahoma City Bombing Memorial. After returning to the hotel we went out for our tour end group dinner, then hung out in the bar at the hotel for the rest of the night. Total tour mileage: 4380 miles.