**2004 Chase Summaries**

Tour 5, Day 1 (June 6th).

Starting in Denver, CO we drove hard all day and went 932 miles to see 2 very nice storms but missed a tornado by about 10 minutes! Initially we were along a trio of high-based supercells that had great structure. We chose to go after the southern one but had problems with Lake Sakakawea and were forced to drive 84 miles east to get across! That may have cost us the tube...

The southern storm was the first we intercepted, near Velva, ND and had fantastic structure but appeared to be way too high based to produce a tornado. As it got into the better moisture the base got lower and produced before we got there, only giving us a brief glimpse of the rope out. The storm had at least 3 well defined beaver tails and a great rotating mesocyclone and generated several large gustnadoes as it became outflow dominant. We stuck with it for quite a while because it was such a picturesque storm.

The second storm was near Benedict, ND and rode right up the outflow boundary left from our first storm. It was an easy intercept but the storm was ingesting the cold outflow from the previous storm and ended up being a very high-based LP supercell that was spinning like crazy. The storm was in a very high shear environment and was bent over so far that it literally looked horizontal, almost like a Slinky, yet it continued to rotate and produced a nice striated stack of plates before it finally died. We eventually spent the night in Bismarck, ND with the anticipated target area being Southeast, SD to Western MN the following day.

Day 2 (June 7th).

There was nothing worth chasing this day. We headed to Fargo, ND and were split on whether to head into the forests of Northern Minnesota (which turned out to be a total bust) or Southeast South Dakota in order to set up for some good chase potential the next 3 days in Nebraska and the upslope regime. Eventually we blew off Minnesota as we'd have been hopelessly out of position for the next 2 days and when the South Dakota setup produced no significant storms we ended up in Sioux City, SD expecting to head into Nebraska the following day. The only thing "exciting" we did was get the left front tire of my van fixed (hit a nail somewhere over the 932 miles the previous day) and then get hit by a rock on the highway that took a nice chunk out of my windshield. Oh well, a nice simulated golfball+ hail hit for the crew.

 Day 3 (June 8th).

We headed for North Platte early in the day and eventually stopped in Maxwell, Nebraska as the cold front that was approaching the area from the north-northwest had progressed farther east than we had initially expected. On the warm side of the front it was downright sticky with dew points in the 70’s. We followed developing storms northeast about half way to Arnold but the storms never got significantly organized and eventually severely undercut by the oncoming cold air. We eventually gave up on those storms and charged south towards an anchored supercell near Imperial. After driving hard all the way to McCook the storm appeared to be dying so we stopped to eat there. The storm slowly swelled out to a long linear system that was moving very slowly. On the way back to our destination for the night, North Platte, it provided such terrific lightning that we stopped and filmed it for nearly an hour, fantastic.

Day 4 (June 9th):

Starting in North Platte, we targeted Fort Morgan, Colorado, and upon arriving there drove south towards Bennett as we were north of an outflow boundary left over from yesterday and were in stable air, while to the south of the boundary towering cumulus were forming.

Upon arriving East of Denver we decided to go after a cell moving off to the northeast of the city. It had a great 2 level liberty bell updraft, but as we started to get close it quickly fizzled out and we dropped off the highway and targeted a cell moving up from the south near Denver International Airport. After we tried to get into the hail and only got plinked we moved to the rear flank of the storm and caught a few big gustnadoes then a brief landspout right near the DIA Doppler radar (both appear in my still of the landspout) before moving north. The storm developed into an enormous HP supercell hailer.

After sampling the hail core which, while it consisted of probably not bigger than quarter sized hail did fall so quickly that it covered the ground in only a minute or so, we moved to the northeast side of a MONSTER core. As we were getting ready to run from the rapidly approaching precipitation, a strong RFD blast around the meso surprised us and produced a nice white truncated cone tornado with a red debris plume near Woodrow, CO. The meso was really impressive with violent rotation. As the tornado was moving straight at us at about 40 MPH and we were on dirt roads we only had a minute or two at most to film before we had to take off. After that it was a mad dash to get out of the way of the core. We zig-zagged in front of the storm for about an hour after that then headed back out to North Platte, Nebraska to set up for the next day’s chase. As we headed northeast we saw the Sterling storm that produced the brief tornado that appeared on The Weather Channel just to our north. It sure didn’t look like it had tornadic potential!

Day 5 (June 10th):

A LONG, wild chasing day for tours 4 and 5. We spent a lot of the early part of the day at the truck stop in North Platte amongst a bunch of other chasers including the Tempest guys and quickly were joined by tour 4. Eventually we decided to go after a cell south of Chappell, Nebraska. We saw a big, long lived stovepipe tornado (30+ minutes on my tape) that was luckily just north of the town. Tour 4 got a close up of the tornado but we had foundered the van in the mud and had to get pulled out!! Luckily Gene Moore was nearby and towed us out. Thanks a million to Gene! The tornado was fantastic: It initially formed on the outer edge of the mesocyclone just south of Chappell as a needle funnel with a persistent debris cloud and started rotating counterclockwise along the outside edge. After about 5 minutes the debris cloud disappeared but the funnel persisted and as it rotated to the northeast section of the mesocyclone it touched down again. As the tornado rotated around the back side of the meso (relative to our position east of Chappell) it appeared to move right to left in the opposite direction of the storm motion, and then disappeared behind the wall cloud. The wall cloud then became caught up in the tornadic rotation and produced a very large stovepipe tornado at its base. The video is awesome with the whole storm base rotating violently and a large tail cloud being pulled in and wrapped into the wall cloud. It was on the ground in this form for another 10 minutes before becoming a stout cone tornado and then entered the rope-out phase. We lost about 10 minutes of time while Gene helped us get the van out of the mud, then we proceeded after the still large, rotating block shaped wall cloud.

After that the chase day got wilder and wilder. We followed the storm, which became an HP beast, northeast only to find that our escape route from the rapidly advancing monster hail core turned into the worst of dirt roads! It was a crazy drive through mud, puddles and off road at times (literally) as we got nailed by 50-60 mph winds, golf ball hail, and torrential rain. Bad enough that we had to do it for a few minutes, but how about for 17 miles!!?  Delorme gets a nasty-gram for marking that road paved!

Once we finally got clear we saw a monster supercell to the Southeast with a persistent overshooting top. We drove back to North Platte and then on to Gothenburg where the storm generated a large block wall cloud with some amazing rotation and differential motion but did not produce a tornado. Considering the amount of rotation I was really surprised but the RFD never wrapped up.

We then proceeded to a nice LP storm South of Cozad which had excellent structure and great lightning, and as we were getting ready to leave tour 4 reconnected with us.

We ultimately spent the night in Lexington, Nebraska. Even at the hotel it didn't end as there were at least two downpours of pea sized hail and there terrific lightning to the north and to the west as it got to midnight.

What a chase day! This might have been my favorite chase day of all time. Intense!

Day 6 (June 11): This was a down day for us as we had no way of chasing in Iowa and them making it back to Denver in time for the guests to fly out, but tour 4 went on to see 6 tornadoes in Iowa. On our way back to Denver we went through Chappell to see if we could find the damage path but had no luck. We did see an irrigation system flipped, but that was most likely caused by RFD as opposed to the tornado. Upon reviewing my video, it is clear that the tornado was farther away (and therefore much bigger) from us than we thought. As a result we were looking too far east of the actual damage path.

Final stats for Tour 5: 3 tornadoes and 3340 miles in 6 days.

Tour 6 Day 1 (June 13th):

What originally was a moderate threat from the SPC in Eastern Kansas quickly became a complete bustola as a lingering MCS in Northeastern OK absorbed the moisture flow. We baked under the sun in Hays, KS and then set up in Salina, KS for tomorrow.

Day 2 (June 14th):

We hung around Salina for the morning waiting for storms to break along a surface front running from Northern Missouri all the way to Southwestern Kansas. The conditions were downright soupy in terms of moisture, but the 850 MB and surface winds were horrible.

We chased a junky storm near Manhattan, Kansas early in the day that produced a decent lowering but never took on supercellular characteristics. We were then faced with a choice between several storms developing along I-70 all the way from Hays to Topeka. Eventually we chose a storm developing near Abilene.

We proceeded back West and intercepted a very nice structured LP supercell with strong mid-level rotation and a knife edged anvil. The storm was throwing out a lot of CG strikes and we had to move several times to reduce the lightning threat. We also experienced quarter-sized hail. We followed the storm as far south as Enterprise, KS but it eventually got overrun by the anvil of a much larger HP storm approaching from the southwest. There was also an enormous multi-cellular storm barely moving over Salina, KS that dumped a ton of rain and we considered trying to maneuver to the rear of the storm to see the lightning show, but as the setup was looking excellent for the next day in Nebraska we decided we needed to get north. We ended up spending the night in York, Nebraska.

Day 3 (June 15th):

We started the day expecting to chase in Nebraska but were awoken to late night thunderstorms that scrambled the atmosphere and drastically reduced the tornado potential. We were left with the option of playing the psuedo-stationary front along the Eastern SD/NE border where the winds were best for rotating storms but where CAPE was low and moisture return was delayed or in Southeast Colorado where the CAPE was very high and the moisture was good, but the shear profile was weak. We chose the Colorado option and hiked all the way from York to south of Limon, CO where we intercepted a large tornado-warned HP supercell and followed it Southeast through Hugo, Boyero, and Kit Carson. Though the storm was tornado warned twice by radar, we were under the base both times it happened and the storm was not tornadic. The storm did produce a number of big gustnadoes and an incredible haboob, which we let run over us twice. The second time we recorded outflow winds in excess of 50 MPH according to my Kestrel, probably more like 60 MPH since we were just sticking it out the van door.

We then returned to our base hotel near Denver airport and with the expectation of chasing in Southwest Kansas or Southeast Colorado the next day.

Day 4 (June 16th):

We intercepted an extremely powerful supercell the west of Lamar, Colorado near Toonerville and saw 5 tornadoes along with the complete cycle from development through classic and HP phase, onto a vicious bow echo linear system with bookend vortices and then into a squall line. The road network was absolutely killer and it hampered us all day and made for an extremely chaotic chase. This was probably the most violent storm I've ever chased. It was one of those days where you spend more of your time trying to get away from the storm than you do chasing it.

As storms began to fire we moved west of the Lamar on dirt roads. Initially he had a little trouble identifying the updraft of our target storm since it looked great on the Baron system but not visually. It turned out our view of the updraft was blocked by the left split of a left split off the main storm and when the updraft finally became visible both Roger and I said “Whoa!!” It was rock hard and perfectly vertical. At this point we were just east of the John Martin Reservoir. The storm was anchored near Toonerville and just sat there and grinded away for about two hours. We maneuvered to the south of the lake and stopped to observe an absolutely huge butt-dragging wall cloud off in the distance. The inflow rushing into the storm was upwards of 50 MPH by this time.

The first tornado was an elephant trunk that appeared briefly and then became rain wrapped. Unfortunately I didn’t see it so I can’t count it in my tally as I was too busy driving. The storm then developed an enormous mesocyclone with giant tail cloud, nearly all the way to the ground. I really thought it was going to develop a big wedge but if it did, it was in the rain.

We then moved south and had a dirty truncated stovepipe drop right in front of the lead van about a mile up the road. Then, as we pulled away to the east a large landspout developed to the south of the vans, and while we stopped to look at it another dusty stovepipe developed to the north! Finally, we saw one last tornado to the south that had a well developed circulation on the ground and a solid nub funnel about a 3rd of the way to the ground.

The rest of the chase was a case of the chaser becoming the chased as the storm, which suddenly broke away from its anchored position and began to expand rapidly in our direction. We saw most of our tornadoes as we were trying to escape to the east over partially muddy roads. The shear line of the storm was very active with endless rotation and funnels all along the line.

Though it was great to see 5 tubes (I only saw 4 actually, the price of being a driver) it was sort of quantity over quality except for the dirty stovepipes. The structure and activity of the storm were every bit as exciting as the tornadoes. The guests were both excited and exhausted by the time it was all over! I'm sure this storm generated several rain wrapped tornadoes over its life cycle that we simply could not see. The road network would just not let us get north far enough to see down the inflow notch well. Eventually the storm chased us all the way to Ulysses, Kansas where we finally stopped and let the storm, which by now was losing its bow characteristics but was still a nasty squall line, run over us. By that time the storm had pretty much hailed itself out and we just got 50+ MPH outflow win and extremely heavy rain as we cut back through about 15 miles south of what was left of the comma head back towards Lamar. We stopped there for the night since the setup was for storms in the same area the next day. Lamar continues to earn my label as the smelliest town in the USA. Disgusting!!

Day 5 (June 17):

More chasing around Lamar. We chased 2 or 3 storms and got back to the hotel in less than 200 miles of driving!

After chasing a junky storm west of La Junta, we got on a trio of supercells east of Pueblo. The farthest storm from us had a very nice liberty bell updraft but was being cut off by the other two so we chose the southeastern most storm to chase. The one we chose to target eventually became a nice barberpole with lots of cascading motion at the base, but it could never focus it's rotation to create a tornado. This was most likely because it was ingesting cold inflow air rather than warm moist air. The inflow was absolutely flying into this storm! Once the inflow stopped, the very high shear quickly blasted the updraft over and left it flattened out. We then tried to get back towards Lamar to chase another bow echo (the junky storm we let go re-intensified well east of La Junta and eventually lined out) that was nearly identical to yesterday except much weaker. We got back too late to chase the storm before it turned into a typical squall line, but the mammatus left behind were the best I’ve ever seen. We then settled in for our second straight night in Lamar. Blecch!!

Day 6 (June 18):

The last day of the tour went from one of those days where every storm you target dies just as you get close to a very interesting last experience on the way back to Denver.

We started the day in Lamar and headed down through Boise City, OK to Dalhart, TX (reliving in reverse the path of Tour 2's big day on May 15th last year) and waited for storms to start. Eventually, we were torn between a new storm forming near Amarillo and a formerly mountain but now beefy looking on radar storm near Springer, NM. We elected to go after the Amarillo storm but it died by the time we were 20 miles out of Dalhart. We reversed direction and headed for the Springer storm.

By the time we got there the storm looked like a typical mountain storm that was dying an awful death trying to get down onto the plains. Since we needed to be in Denver by the end of the night, we decided to let it go and drive north through the winding Raton Mesa area to play around with several interesting updrafts still occurring near Trinidad. (That storm later reintensified nicely to our south and ended up being what the SLT Master Class tour chased) During that part of the trip we were literally out where the "deer and antelope play" and we saw several of both.

As we cleared the mesa and got down into the flatter terrain just east of Trinidad, we noticed two updrafts in line within 10 miles of each other that looked really beefy, so we decided to go after them. As we got within 20 miles or so of the lead storm, it tripped a shear marker on the Baron's system of over 120 kts and as we got within 10 miles they issued a tornado warning! With absolutely no road options, we punched the south side of the storm's well defined hook and emerged in wrapping rain curtains with violently rotating clouds and a big funnel just off to the east of the van! There was some debate as to whether or not it was a big rain-wrapped tornado but since we can't be sure we can't count it. I for one couldn't even see it from my driving position and after a brief instant it was shrouded in rain as it bolted off to the east. We had zero road options so we were forced to let it go, but since the next storm was literally right behind it and had just tripped its own shear marker we just reversed down the same road and waited for it to arrive. The base of this storm was incredibly low, to the point where due to the topography it looked like it was on the ground in several places. We waited but didn't see any well defined rotation and as it was getting dark we gave up the chase. We arrived in Denver at about 1:30 AM.

Nice way to end up the tour on a day that seemed to be a bust!

Final stats for Tour 6: 5 tornadoes and 2952 miles in 6 days.