

2007 Spring Storm Chase Log

(Participants: Dylan Frey, Ryan Wunder, & Mike Daly)

Day 1 (5/17): Upon reaching the airport at 9:30am we proceeded to the US Airways check-in station. After several failed attempts by the computer to pull our itinerary it was evident that something had changed. Indeed, the flight coming into Rochester was late, and if we waited for that plane then we would miss our connecting flight in Philadelphia. So we were re-routed through Reagan International Airport in Washington DC on a flight that left about the same time and had a connecting flight to Chicago that arrived a few minutes earlier, but on a United Airways plane. Doing a quick calculation, we quickly realized that we would only have about a 30 minute lay-over in Reagan, so we would have to boogie to the next flight. After landing, we unloaded the plane onto a bus, took a short ride to the terminal, unloaded the bus, and then everyone was re-routed through the full security check! Needless to say, we were now running late. As we approached the terminal for our connecting flight, the attendant was shouting and asking if we were from Rochester, then said to hurry to the ramp door for they were holding the flight for us! Phew, just made it!!

Once in Chicago, we ran into the next speed bump: Ryan's bag didn't make it! So we filed a claim and were told it was coming in on the next flight at 4:30 and they would deliver it for us. We rendezvoused with Professor Karl Schulze and headed over to the COD campus to pick up the T-shirts. Since we didn't have time to eat anything all day we were starving, so we headed to a great Chicago pizza restaurant and ingested some tasty Chicago style deep dish pizza. Man was that good! After dinner we headed over to the COD lab so Karl could administer a final exam, while we caught up on email, web surfing, and a trial game of Risk. Around 10pm we finally crashed at Karl's place. Unfortunately, Ryan's bag had not shown up yet and we hadn't received a call from the airline either, so we hopped online to see what the deal was. That's when we read that his bag had gotten lost and was on 'high priority' for the airlines to find. We called it a night, got settled and it was 'lights out' sometime after midnight.

Day 2 (5/18): After getting up and around, our first task was to hit a Walmart so Ryan could get some 'essentials' and Mike could locate a wireless WiFi card for his laptop. On our way to Wally World we stopped for gas, where it was \$3.53/gallon. Other places we saw later were in the \$3.80's!! Ryan got his essentials, Mike picked up the wireless card, and I found the best tasting beef jerky ever! Jack Links Premium Cuts with A1 steak sauce flavor. It's like eating steak!! Anyway, after returning to Karl's, Mike quickly realized the card he had gotten didn't fit his laptop, so a return trip Wally World was needed. We returned the card and walked next door where there was a Circuit City. Mike got a USB wireless device and we were on our way back to Karl's.

After getting lunch at a local restaurant, we were off to downtown Chicago with Karl & his family. We took 2 cars, so I was lucky enough to experience driving within the craziness that is Chicago traffic. We walked around downtown Chicago for a couple hours taking in the scenery and snapping pictures. A little after 3pm we headed back to try to beat the rush hour traffic, however it was still stop-n-go for much of the way and,

although it only took about 30 minutes to get to the city, it took over an hour and a half to get back! That is one commute I would never want to have!! Luckily on the way back Ryan received a call from the airlines that they had recovered his back and were delivering it later in the evening. Ryan was very relieved!!

We then grabbed some McDonalds to go and headed over to the COD lab for our orientation class with the other participants on the trip. While Mike, Ryan, and Dylan were getting 'oriented', I was brought up to speed with the latest technologies and improvements in the vans, and refreshed on my responsibilities as the Assistant for the trip. Once the orientation class was over, we went back to Karl's to get some sleep before our first day on the road tomorrow.

Day 3 (5/19): The alarm went off at 5:15am and our day began. We took our showers and got everything packed up before heading up the road to Granny's Restaurant for breakfast. It was very good as usual and the fresh-squeezed orange juice topped it off nicely. When we returned to Karl's place we were greeted with the van ready to take us over to the college to meet everyone else. Once there, we packed the vans, had our morning weather briefing, hit the bathrooms, then we were off at 8:30am on the beginning of our adventure!

Today is just a driving day to get into position for tomorrow's chase, likely in western South Dakota. So we decided that it would be a nice time to get through the required videos (work for class) while we drive to help pass the time and get them behind us. After stopping at the largest truck stop in the world (as the sign proclaimed) in Walcott, Iowa and getting lunch, we continued on our trek towards South Dakota. During a masquerade of Indian Poker games (playing for Sprees and M&M's), we were on Rt. 35 northbound just before the border (west of Northwood) when we witnessed an impressive dust devil spin up just off the right hand side of the road right in front of the van!! Due to its close proximity to the van, no one had time to snap any pictures or video, but it sure sparked excitement amongst everyone!

After grabbing dinner in Blue Earth, storms began to fire along an east-west boundary just to our north. However, since the flow was very weak in our vicinity the storms were likely to remain "mooshballs", or ordinary, non-severe t-storms. So we continued heading west on I-90 and grazed several of the cores. We saw some good lightning bolts, along with some storm structure, rain curtains/shafts, and a double rainbow. While the storms were not severe by any means, it was good to see them on the first day!

We arrived at the Days Inn in Murdo, SD to stay the night at 10pm. We will be getting up around 8am, with a morning weather briefing and map analysis party at 10am.

Day 4 (5/20): After a couple hours of analyzing the current weather model runs, we had to make a decision: Chase in Montana today and travel south tomorrow without the possibility to chase, or head south today (blow off Montana) and chase the southern plains tomorrow. Since Montana was a marginal day and the panhandles of Texas and Oklahoma looked more promising for tomorrow, we packed up and began our trek southward. We finally landed in Liberal, Kansas where we enjoyed the pool and Jacuzzi before calling it a night. Things look good for tomorrow's chase, but even better for Tuesday with the preliminary outlook of a possible tornadic outbreak.

Day 5 (5/21): To start the day we all met in one of the hotel rooms where the morning weather briefing commenced. The previous day's outlook was still holding, so we packed up and headed towards Amarillo, TX at 9:30am. We reached Amarillo a little after noon and got lunch. However, van #2 had sprung a diesel leak earlier in the trip and had been progressively getting worse with time, and now it was leaking enough to cover the bottom of the van. So while most of the group sat and watched the skies, Karl and Ryan (driver for van 2) took the van to the nearest Dodge dealership to get it looked at and hopefully fixed. After lunch we came out to van 1 to see what was happening and we could see towering cumulus clouds off to our NW. By the time we got the radar up a storm had fired where the cumulus towers were pulsing. Radar confirmed the storm and it was located in NE New Mexico, about 80 miles away. But we had to wait for the status of Karl and van 1 before we could move. So we sat and watched as storms began to fire to our west and NW, but luckily they were not very organized.

We finally got word from Karl that the dealership would not have the part until tomorrow for the van, and that he would be bringing back a rental. At 3pm we headed east out of Amarillo to get closer to the dry-line, which had moved eastward while we were waiting. Then it was a waiting game, watching small storms try to fire and then slowly die off. By 5pm it appeared as though the storms south of the main convection to our north had little chance of becoming anything, so we headed NE to intercept the large convective squalline that had developed. **The cell we intercepted had 1" hail reported and 65 mph winds and was located just north of Pampa, TX.** The lightning show that followed was amazing and was backlit by the gorgeous sunset. We stopped for dinner at the Big Texas Steak Ranch, where they host a contest to see who can eat a 72oz steak, shrimp cocktail, baked potato, salad, and an jalapeño pepper all in under an hour. If that is accomplished, the meal is free. Needless to say, none of us tried it...this time. However, we did want to try the rattlesnake, but they were all sold out. Bummer!! We got back to the hotel in Amarillo, TX around 11:30PM and it was lights out at 12:30.

Tomorrow looks to be a banner day up in Kansas, so we have our fingers crossed that we'll encounter the tornado we're after!

Day 6 (5/22): Wow, what a day!! At 9am, van #2 wasn't ready yet from being fixed, so we left at 10am with the rental and with an initial target north of Dodge City, Kansas. Heading back up the same way we had traveled to Amarillo, we ended up back in Liberal, Kansas where we grabbed lunch at Pizza Hut. At that time baby cumulus clouds were beginning to form across the once clear sky. After lunch, we headed NNE out of Liberal to our initial target town of Garden City, KS. However, once in Garden City, we continued on north to Dighton, KS where towering cumulus clouds were beginning to pulse. At 3pm the Storm Prediction Center issued a Tornado Watch for our area and points north/east. We stopped at the only gas station in the town to load up on chasing snacks and take our last bathroom break before "Chase Mode" commenced.

Several other chasers were already there when we arrived, and soon thereafter we got a real treat! One of the Doppler On Wheels (D.O.W.) mobile radar trucks pulled up along with several chase vehicles from Boulder, CO, Oklahoma University, and a Discovery Channel Camera Crew following the latest research vehicle: the "TIV" (Tornado Intercept Vehicle) used to penetrate into tornadoes!!! This thing was wild!

Check out the pictures! We were able to interact with all of the scientists and journalists alike, got interviewed by the Discovery Channel, and were able to take a first-hand look inside the T.I.F.!! By this time, the first storm of the day had begun to develop just to our north and it was time to into “chase mode” intercept it.

We headed north out of Dighton and were soon under the base of the storm. We watched as the young thunderstorm developed, becoming stronger with each updraft generated. The base of the storm was still fairly high, but it wouldn't be long before that would change! We continued to follow the storm towards WaKeeney, KS where the storm split. Following the southern cell, we encountered our **first round of hail (1/2”-1” in diameter) just north of WaKeeney**, and continued watching as the base lowered and we began seeing wall clouds and mesocyclones (the precursors to tornadoes).

We then witnessed several funnel clouds near WaKeeney, but no touch downs yet. The storm then cranked up and took on a supercellular form that words cannot describe! It was the most majestic, beautiful, and picturesque storm that I have ever seen – one that you would expect to see in a Nova or Discovery Channel special! We had a perfect view of the “Vault” or main updraft that was sparkling with anvil zits and sparks! Simply breathtaking!! It continued to create mesocyclones with small funnel clouds, but no touch-downs yet. It wasn't until after another round of **hail between WaKeeney and Hill City, KS** that we observed an intense mesocyclone with several funnel clouds, and then at 7pm **our first tornado!! It touched down just east of Palco, KS** and was visible for over 6 minutes! A beautiful funnel that eventually roped-out and dissipated. Everyone was super-pumped!!

New cells continued to fire to the southwest and we continued to intercept each one, looking for the mesocyclones. At one point, we had front row seats to a mesocyclone that was spinning right in front of us!! You could see the clouds spinning and being drawn up into it – if a tornado dropped we would have been less than a half-mile away from it!

We encountered another round of **hail just south of Palco, KS** and once through the hail, we could see that the storm were losing their structure a bit. A call from the weather lab at COD confirmed that the storms were solidifying instead of staying individual cells, but there was a discrete cell behind these on the cold front that looked even better on radar than the first tornadic storm we saw. So we headed westward to intercept this other storm, and to do so we had to punch the core of the current storm, so we encountered some **more hail, but only pea-sized in Ogallah, KS**. As we approached the storm on the cold front north of Quinter, KS, we could see that it also had lost its structure and was not worth chasing. So we made the decision to head back to the southern cell(s).

However, we quickly realized that the roads we were on (all dirt) had been saturated from the previous storms and the van began fish-tailing and then got stuck in the mud! So everyone hopped out of both vans and we had to push the van for a good mile and a half to 2 miles before the roads became hard enough for the van to drive again on its own. What an ordeal!! However, as we were pushing the van, everyone was enjoying the stellar lightning show that was going on. The entire horizon was sparkling and flashing non-stop! It took us almost 2 hours to get back to the town of Quinter, KS. At this point it was approaching 10pm and we had a 4-5 hour drive ahead of us to get back to Amarillo, TX! Mike gave us a little scare, for during the bog-n-groggin' with the

van he appeared to have lost his wallet! Well, there was no going back to the mud, so it looked like he would have to make do without it. Luckily, one of the other students on the trip checked the bags of garbage that had been thrown out, and somehow it had gotten into one of those!

After trying to shake off as much of the mud as possible from our shoes/sandals/feet, it was back on the road for our late, long trek back to Amarillo, TX to our hotel. We made it back to the hotel at 3:45am. However, tomorrow's chase looks to be in the panhandles of Texas and Oklahoma, so we'll be able to sleep in since the hotel is relatively close to our target for tomorrow. Speaking of tomorrow, it looks to be even better than today for tornadic storms!!! Stay tuned....

Day 7 (5/23): After a much needed sleep-in and analyzing the weather data, we felt pretty comfortable staying in Amarillo, so we headed out at noon to get some lunch. We then continued to monitor the skies via satellite and decided to head out a little east at 3pm as the cumulus field began to pulse (like yesterday). At 3:30pm the SPC issued a PDS Tornado Watch (Particularly Dangerous Situation), where a 90% of 2 or more tornadoes is likely and 70% chance of Strong (F2-F5) tornadoes is possible. Definitely some words of encouragement!

No Sooner had we read the details of the watch, the first storm of the day popped just NNE of Amarillo – the chase was on! We then went directly into chase intercept mode. Storms fired rapidly and it appeared we were slightly late on getting to our initial target of Pampa, TX. At 4:35pm the first tornado warning was issued for the cell to our NE, which was displaying a hook echo on radar. Now it was a matter of timing – could we get there before it went tornadic?

Well, we got there and intercepted the storm a little west of Canadian and followed the storm until it became a hail bomb dropping 3.5+” hail. Then a new cell formed about 30 miles to the SW and had very good rotation with it, so we headed SW to intercept. The road network was very poor, so we had to get into position in front of the storm and let it come to us. While we experienced heavy rain, we watched the radar screen as the mesocyclone signature came closer and closer. It seemed to be making a B-line right for us!! As it approached, we could not see anything due to the heavy rain, but on radar we noticed that the cell split into two and if we stayed in our current position, we would get nailed with the large hail from the right-moving storm. So we retraced our path back east so we could get a south option and be on the south side of the storm where any tornado would be visible.

The storm split several times and seemed to redevelop over the same road hole, so it was difficult to be in any position to see a tornado if it were to form. At one point **west of Canadian, TX we grazed the hail core and experienced 1.5” hail** and a bit later, **70mph winds** and heavy rain near the same location. Several times during the chase we passed the D.O.W. and T.I.V. crews as they scanned the storm and sent the TIV into the “bear’s cage”. It was cool to see them in action! As it began to get dark, the storm really cranked up taking on structure like yesterday’s storms, but again, the terrain made it difficult to see under the storm. Not to mention with it being dark, we had to rely on lightning flashes to see any lowerings beneath the mesocyclone. At that time the inflow to the storm was raging at least 40mph making hard to stand and we had to hold the camcorder/tripods down to keep from blowing over!

At 9:45 we were low on gas and decided to call it a night. Storms like that not only can be very dangerous (4+” hail, tornadoes, etc), but there were a slew of chasers out and with limited roadways, ‘chaser convergence’ was becoming a problem. We continued to watch the storm on radar as we left and saw it split again and each cell had tornado vortex signatures (TVS’s) indicated by hook like features at the tail end of the cells. Too bad they didn’t look this good earlier! We later saw on the SPC severe weather reports page that the D.O.W. crew caught a brief tornado, seeing it lit-up by lightning and measuring it with their radar. I don’t think it was on the ground long enough for the T.I.V. to intercept it. Bummer we missed it, but with the poor road network, our chances of seeing it would have been slim to none; especially since there were no other reported sightings by the other 100+ chasers in the area.

So now we had a 2 hour jaunt back to Amarillo, where we would be spending the third night at the same hotel. That night, the cold front came rolling through Amarillo about 12:45am with a decent lightning show, heavy rain, small hail (pea-sized), and gusty winds, but nothing severe.

Day 8 (5/24): We met at 10:30am for the morning weather briefing. Our thinking when we turned in the previous night was that this day would be a down day and we could go to Lubbock, TX to visit Texas Tech University and hit the world famous Cagles Steak House. However, after looking at the morning weather models, things were looking better for SW Texas, so it turned into another chase. This is typical during storm chasing: one day the forecast looks unfavorable for severe weather and the next day it looks good.

So we headed south out of Amarillo at 11am, initially headed for Midland, TX. We made our way south and ended up at Rankin, TX, where we found a small park and played softball and Aerobie waiting for storms to pop. We also got to see cactuses up close and the desert terrain. Time passed and around 5pm we could feel the cool breeze behind the cold front as it passed to the south. We waited another hour with the only storms firing way down off the Mexican Mountains in Mexico. So we packed up and headed back north to Odessa, TX, where we got dinner at a great steak restaurant and where our hotel for night was located. We enjoyed the pool and Jacuzzi for the remainder of the evening and called it a night around 10pm.

Day 9 (5/25): Today we had our weather briefing at 10am, which was presented by two of the advanced students who have chased with the group before. While severe weather was possible up in Nebraska, it was too far of a drive and too marginal for us to pursue it. There was only one report of a tornado, so we didn’t miss much. Therefore, instead of chasing we drove north into Lubbock where we stopped into the local Tinseltown and saw Pirates of the Caribbean 3.

Following the movie, we made a b-line for Cagles, the famous steakhouse. The steaks were as awesome as always and everyone had their fill! We then posed for a group shot, then headed off to our hotel. The pool was open for another two hours, which provided us more than enough time to play Monkey In The Middle with two pool Frisbees – for the entire two hours! We were all pretty tired after that and headed off to bed. Tomorrow tentatively looks like we could be chasing in Colorado.

Day 10 (5/26): We left the hotel at 9am with a target area of east-central Colorado. We didn't have a weather briefing this morning since we needed to get on the road early and there really isn't much to the forecast today: upslope winds will create lift over eastern Colorado, but the upper level winds are forecast to be light, so while there will be storms, they are likely not to produce tornadoes. But we'll see...

We snagged lunch in Dumas, TX (a place we have been several times already). We then continued north across the Oklahoma panhandle and on into Colorado. We stopped at Kit Carson, Colorado to monitor the weather situation in hopes storms fire before dark. Dylan's brother Shane was also there waiting to rendezvous with the group and hopefully experience a chase with us. At 4:30 mountain time, storms began to fire off the front range of the Rockies, but were ingesting dry air and therefore, were not sustaining their strength. However, deeper moisture was being advected northeastward towards the storms, so if they continued to fire or could last long enough to tap into the juicier air, they could build to severe limits (main threat large hail). So we drove further NW to stay on the leading edge of the moisture.

We set-up 40 miles SE of Denver, CO and watched the storms pulse in front of us. The bases of the storms were relatively high and we could easily see the base and storm structure, even though they were over 40 miles away. We could see the generation of rain/hail shafts, CG (cloud-to-ground) lightning, and updraft scud clouds lifting into the base of the storms. Since we were in mountain time, it seemed like we had an extra hour of daylight, however we had to keep in mind that we would be returning to Kansas to the hotel and we would lose that hour again.

We saw the storms' demise close to sunset around 8:30pm mountain time, and we headed east to our hotel in Colby, KS. Once at the hotel, we enjoyed a relaxing couple hours alternating between the pool and the Jacuzzi. The staff at the hotel were cool and, although the pool was supposed to close at 10pm, they allowed us to swim as late as we wanted. It was so nice, some of us stayed in until 2am!

Day 11 (5/27): Our morning weather briefing was at 10am, followed by a surface weather map analysis plot for all of the students. With another marginal day for severe weather, we headed out of the hotel at 11am with an initial target in SW Nebraska. Following the moisture axis (dryline/warm front), we drove further WNW, and as we headed into Holyoke, CO the first storms began to fire to our SW. Unfortunately, we were low on gas and Holyoke didn't have the brands we could use, so we had to push on to Julesberg, CO. Working in our favor, the latest surface observations showed higher dew points (more moisture) and better winds towards Julesberg.

At 2:30 the SPC issued a Mesoscale Convective Discussion (MCD) mentioning the possibility for landspout tornadoes. So after gassing up in Julesberg, we were off. Heading a little east to the warm front location, we watched the storms to our south pulsate, sending massive towers high in the sky, growing more and more intense as they ingested air with more moisture. At this point it was time for the "Nader" cd to go into the cd deck, summoning the tornado gods to drop some fingers of fury!

At 3:30pm, a little north of Imperial, NB we saw our first landspout tornado! It was on the ground for less than a minute and we were about 5 miles away from it, but we could still see a nub of a funnel at the cloud-base and a substantial debris cloud on the ground. It all happened so quick, no one was able to get a good picture of it, although Mr.

Thomas was able to snap one picture where it is visible, but a little blurry. This funnel occurred on the northern edge of the storm. We then dropped south to get to southern edge of the storm where the updraft would be located. This storm eventually began to die off, so we headed south again to encounter the next storm that was taking over. As we left the previous storm the rain core from the southern storm began to move in between us and the previous storm, and it appeared as though another landspout tornado had dropped from the previous storm, but it was too obscured to say for sure.

We stopped just west of Wauneta, NB, where the terrain was not the best for observing the storms (hills, creeks, bad road network) but we also didn't want to get too far away from the storms either. So we stayed there for an hour or so and called it quits at 5pm – picked up and headed for dinner at a really nice BBQ place last year's Canadian chase group ate at. On the way there, Karl received word that there was a nice rope tornado observed further north where the storm were apparently crossing the warm front. As is the case with storm chasing: you get some and you miss some.

We reached the Whiskey Creek restaurant at 7:30 and had dinner. It was one of those places where you can throw peanut shells on the floor...or at each other! It was a lot of fun and really good food too! After dinner we were treated to an awesome display of mammatus clouds and a vivid rainbow at sunset. We then headed to our hotel in Lincoln Nebraska, arriving at 12:30am. Tomorrow we will drive back to Chicago to end this awesome chase and say goodbye to everyone.

Day 12 (5/28): Today we were up at 8am and on the road by 9am. We had lunch at the Iowa Machine Shed, a very good restaurant with a farm theme and free tractor rides! From there it was a 5 hour drive back to Chicago. We all said our goodbyes and exchanged contact information to stay in touch and plan future chases. It was unanimous that this was everyone's overall best chase to date!

Day 13 (5/29): Up at 7am and on the road to the airport at 8:30. Our flight takes off at 11:30 and we should land in Rochester at 4:40pm. Let's hope no one's luggage goes missing...