

## 2009 CONVECTIVE FIELD STUDY B

June 1, 2009 – June 11, 2009

May 31, 2009 – Prep Day

3:00 PM: Met at Valpo to distribute syllabus for students taking course for credit as well as distribute “in case of injury” forms. There was some excitement today in terms of vehicles as vehicle 3 (Tim’s Car) had an emergency light that came on. From our analysis it went from a problem with the brakes, to low brake fluid, to low/high tire pressure to no problem at all. Also, another car, Car 5’s (Jeff’s Car) A/C did not work. This was to be taken care of the following morning when Enterprise opens at 7:30 AM. All vehicles were gassed up and prepped for the following days of chases. Also general area of Iowa/Nebraska is the location in which we will be headed the following day.

June 1, 2009 – Day 1

7:30 AM: Meet at Valparaiso University to load luggage into vehicles

8:07 AM: Depart Valparaiso University

8:10 AM: Left onto Sturdy Road

8:11 AM: Right onto LaPorte Ave.

8:12 AM: Pull into Family Express so Jeff’s new car can get gas

8:16 AM: Pull back onto LaPorte Ave and take a left onto 49 North

8:28 AM: We confirm our decision from the previous day and decided to head to a general region of Southern Iowa and Nebraska. Main risk is for large hail and damaging winds with isolated tornadoes.

8:30 AM: Take right hand exit onto I-94 West

8:55 AM: Enter State #2: Illinois; Leaving Indiana

9:03 AM: Pull into I-80 West Toll Booth on the way to the interstate

9:17 AM: Update on probable initial chasing locations. Decision needs to be made before we get to Des Moines, Iowa so we can easily take our next road. Possible options at this point are Southwest Iowa or Southeast Nebraska.

9:32 AM: Enter heavy traffic due to lane closure caused by construction

9:34 AM: Leave traffic zone. Construction crew was working on a bridge

10:02 AM: Decide on I-80 Truck Stop for high quality and nutritious food approximately at 12:30 PM

10:27 AM: The decision is made, as of now, to stay in Beatrice, Nebraska for the night.

10:43 AM: Reservations made at Holiday Inn Express in Beatrice

10:46 AM: Update on Clearing. Some clearing in Nebraska with mainly high clouds while Iowa is mainly cloudy with low clouds. Boundary stationary.

11:13 AM: “Dana has got to haul her ARSE” – Bart in reference to I-80 Bridge into Iowa

11:25 AM: Stay straight onto I-280

11:30 AM: Cross the Mississippi River

11:31 AM: Enter state #3 Iowa; leaving Illinois

11:38 AM: I-280 Ends. Re-enter I-80

11:43 AM: Take exit 284 (I-80 Truck Stop) to get food. This is also the "World's Largest Truck Stop"

12:24 PM: Return to I-80

12:59 PM: Take Exit 246 to get gas for all vehicles, check tread on the pilot along with relocate the Pilot's luggage to relieve stress off of the backend.

1:20 PM: "Don't tell us it looks OK if it really doesn't, you don't want to be a kiss ARSE" – Bart

1:20 PM: Back onto I-80

1:48 PM: After a midday Mesoscale Discussion we decided to continue west into western Iowa and Eastern Nebraska. There is good instability all along the I-80 Corridor to the south. With high CAPE values and the potential for good-sized hail to the west, we decided to continue west instead of traveling to the southwest.

2:35 PM: Update on possible chasing location. Looking like South central to Southeastern Nebraska is looking like the best possible areas. Considerable lull in Iowa for this evening with activity back at Valpo and this region in Nebraska. Iowa may still get heavy rains tonight but convection for this afternoon is not looking as good as Nebraska. Highest CAPE values around 3500. Also, upper level winds are fairly weak.

2:47 PM: Notice Mammatus clouds directly above us (about mile marker 141 on I-80)

2:51 PM: Stay straight onto I-35 South/I-80 West

3:05 PM: DOW closed at +223. Thanks to Adam for all of the updates.

3:09 PM: Spot more Mammatus clouds above us at mile marker 116 on I-80

3:10 PM: Severe Possibility update. Main threat for isolated large hail and damaging winds. Tornado chance was dropped to 2%.

3:12 PM: Spotty Convection in Eastern Nebraska

3:30 PM: Severe Thunderstorm Watch issued for areas we are planning on chasing. Issued for hail to 2 inches, wind gusts to 70 mph, and dangerous lightning. This box is in effect until 11:00 PM. This is what we have been expecting for most of the afternoon.

3:35 PM: Possible change in plans in where we are headed. Storms are rapidly developing in Northeast Kansas suggesting more instability in that area. Considering cutting south sooner to try and intercept some of these storms.

3:40 PM: Decide to take US 71 south once we get to it. All cars agree that a southern course would be the best option. We feel that there is not a significant enough forcing besides the boundary to continue westward.

3:41 PM: Two severe thunderstorm warnings were issued for the storms that were developing in Northeastern Kansas. These storms are currently moving northeast at 25 mph.

3:59 PM: Take Exit 60 towards Atlantic/Audobon

4:00 PM: Turn Left on 71/6 towards Clarinda

4:04 PM: Temp:68.8F Dewpoint: 65.2F (Taken from car 3 (Tim's Car))

4:06 PM: Took a right turn to continue on 71

4:08 PM: Took left onto 71 South

4:12 PM: We can now see the storms due south off in the distance

4:21 PM: We have two options from this point on. We can Core Punch convection to get to cells further south or we can go east and try to get ahead of the convection then head south. We will head to Clarinda to gas up and decide which path we want to take.

4:22 PM: Temp: 75F Dewpoint: 65F

4:23 PM: "Car 5 has blood on the windshield" – Jess

4:32 PM: "We have rubber duck on guard here on the dashboard. He will save us" –Bart

4:41 PM: Temp: 79F Dewpoint: 66F

4:50 PM: Reflectivity from the storms in the area is ranging from 55 Dbz to 70 Dbz

4:55 PM: Take right on 71 Business to head to a gas station

4:56 PM: Stopped at Kum & Go for some "Propellant"

5:25 PM: While at the gas station, a tornado warning was issued for the storms directly south of us. We left the gas station going back on the 71 Business. Took a right on 71 south.

5:27 PM: We took a left onto State Highway 2. Because of the warning, we are forced to head east to attempt to get around the storm so we can head south. Main goal at this point in time is to get around to the south side of the storm.

5:33 PM: Storm appears to be splitting with a portion moving NE into Iowa and the tornadic portion moving SE.

5:35 PM: Due to poor road networks we decide to turn around and head to Nebraska. We feel that these storms will start to lose structure and that they will not necessarily be worth chasing for both of these reasons. Heading West on Highway 2. Plans are to just head back towards hotel with hopes of a storm on the way to it.

6:33 PM: Entered State #4 Nebraska; Leaving Iowa

6:40 PM: Storms continue to develop in Nebraska and Iowa, but they are mainly associated with heavy rain. We saw some CG with the storm to our south as we drove on HWY 2

6:51 PM: Take a left on 50 south. Current plan is to head south until we hit 136. Once we get to Tecumseh we will decide if a storm that is forming in Kansas is worth chasing. If not, we will head to Beatrice for the night.

7:14 PM: Took a right onto 136. We decided to head to the hotel for the night, since the storm to the south was showing no potential.

7:31 PM: Mileage Game!

Car 1 (Pilot/Dana): 5750 Car 2 (Eric): 5700 Car 3 (Tim): 5902 Car 4 (Christine): 5952 Car 5 (Jeff): 5825

7:47 PM: Enter the city limits of Beatrice, NE

7:50 PM: Took a right onto 77 and continued it around a slight left turn followed by a right turn which put us on 77 N

7:56 PM: Turn into Holiday Inn Express. After we get our keys we will head out to get dinner and look forward to Christine's room leading the first weather discussion at 8 AM

Day 1 Mileage: 658.9

June 2, 2009 – Day 2

8:00 AM: Morning weather discussion led by Christine's room. The consensus was to head south to southern Oklahoma and north central Texas. Main region of focus could be southwest of Norman, Oklahoma or down near Wichita Falls, Texas. Main reasons for this decision is the abundant moisture with remnant boundaries along with the frontal influence. There is also a possibility that a dryline that could develop later in the afternoon. Overall, the chance for organized storms appears to be better than the chance that we encountered yesterday. Also, hotel reservations made for SE of Wichita Falls.

8:24 AM: After a brief morning discussion we depart the hotel and will continue the discussion on the road. Initially take a right onto 77.

8:32 AM: Took a right onto 136 East

8:44 AM: Update from Christine: Low kicking out of Colorado into Texas/Oklahoma panhandles. There were also a couple of boundaries with one being in Texas panhandle and a stationary front to the north. There is definitely a better chance at getting to some discrete cells, if not supercells. Need some clearing in Texas for best opportunities. There is still some remnant precipitation from the previous days convection.

8:55 AM: 12Z RUC for 12 hours out shows high CAPE values upwards of 4500 J/Kg in North Central Texas. There is also a fairly tight CAPE gradient suggesting a dryline to the west of this max.

9:20 AM: Took a left onto HWY 81 South

9:30 AM: Entered State #5 Kansas; Leaving Nebraska

9:42 AM: All vehicles agree to stop in Salina, Kansas for gas.

10:33 AM: 81 combines with I-135 South

10:38 AM: Took Exit 92 Crawford St. for Gas at the 24/7 Travel Store. Saw all of the VORTEX2 vehicles parked at the hotel just off of the expressway. Appears that we may have a head start on them, as we believe they are heading to the same areas that we are unless their plans have changed.

10:55 AM: Back onto I-135.

11:00 AM: Bart informs us that the computer in the Pilot has encountered the "Blue Screen of Death" twice already this morning. That is never a good thing.

11:22 AM: Temp: 81F Dewpoint: 63F (Reported by Jess) at approximately mile marker 56. Finally pushed past the front and into some clearing. Sky is still mostly covered with clouds all around us. According to radar, there is still an area of rain pushing through western Oklahoma.

11:47 AM: Latest update from SPC includes a 30% hatched area of hail west southwest of Wichita Falls, Texas. The tornado risk has been upgraded to 5%. Main risk for this area is large hail with a possibility of brief tornadoes.

12:09 PM: Cross through the tollbooth onto I-35 South on our way to Oklahoma City, Oklahoma. From there we are going to take the I-44 turnpike heading southwest. We have to decide if we have the time to make it to Texas or if we want to try for southwest Oklahoma and play the outflow boundary. Decision should be coming shortly as we wait and see what is developing and see what kind of time issues there may be.

12:30 PM: Pay Tolls of \$1.60 per vehicle. Cars 2, 3, and 5 obviously took the wrong booth as we sat behind a car that took quite a long time. Looks like it is time for these cars to play some catch up.

12:44 PM: Entering state #6 Oklahoma; Leaving Kansas. Continuing our way to Oklahoma City on I-35.

1:34 PM: While driving along I-35, we are able to observe a storm starting to form. As of now the tower is still slowly growing. This is at mile marker 174 on I-35 and the storm is to the SSE of us.

1:38 PM: Plan is to make quick gas and food stops somewhere around Guthrie, Oklahoma so we can get back on the road as fast as possible.

1:43 PM: Low topped Supercell in southwest Kansas producing funnel clouds. The storms in this area will be very isolated and largely low topped in nature. We will continue on our current course heading south.

1:45 PM: Will head to exit 153 to get food and hopefully find a gas station there as well so we can cover both at the same stop

1:48 PM: Outflow boundaries from the "crap" in Oklahoma heading South toward our target area

1:50 PM: Take Exit 153: 77 North

1:53 PM: "Who are these people talking on the radio?" – trucker on radio

1:55 PM: Pull into Conoco for Gas

2:00 PM: "She Sounds Cute" –Trucker talking about Christine

2:20 PM: Leave McDonalds heading back on 77 towards the Expressway

2:25 PM: Return to I-35. Warnings have now been issued ESE of Lubbock, Texas. This warning was a severe thunderstorm warning. Main threat is nickel sized hail with winds 60+ mph. These storms were caused by the outflow boundary moving into the unstable airmass.

2:32 PM: MD for Texas S Plains, south of Amarillo. A weather watch is likely to be issued. Initial threat will be large hail with tornadoes possible. Instability could foster extreme deviant supercells.

2:46 PM: Tornado watch issued for the area that the previous MD was discussing. Valid until 10 PM. Threat is for tornadoes, hail to 3 inches in diameter, and wind gusts to 80 mph.

2:52 PM: Take Left exit to continue on 35 South

2:56 PM: Took exit 121B towards Lawton. On our way there we need to decide if busting south is still the best option even if the storms started forming more south

than we originally thought or if we want to head west and hit southwest Oklahoma in hopes that some of the storms start forming further north.

3:01 PM: Take Exit 1A: I-44 towards Lawton. Final decision is to bust south and hope we can make it to the storms before the line fills in. We felt that there was not enough instability and moisture in southwest Oklahoma to head that way after looking at all of the data.

3:18 PM: Pay \$1.25 per vehicle at tollbooth

3:35 PM: Pay \$1.50 per vehicle at tollbooth

3:45 PM: Temp: 82F Dewpoint: 67F (Taken from Car 2, Eric's Car)

3:52 PM: We are about 20 miles from Lawton, Oklahoma and still have the option to head west once we get to Lawton. As of right now, multiple storms are forming west of Lubbock down ESE of Lubbock. There is also one cell forming in NE portion of the Texas Panhandle. The Outflow Boundary is currently clearly visible from our location on the expressway.

4:03 PM: The decision is still to head south as the potential for the storms west is still not great enough, we feel, to change our course.

4:15 PM: Temp: 84oF Dewpoint: 62oF (Taken from Car 3, Tim's Car). Update on projected chase location. As of now we are continuing our SW course to Wichita Falls, Texas and then taking a Southern course towards Graham, Texas.

4:24 PM: Pay \$1.25 per vehicle at tollbooth

4:26 PM: "UHH...OHHH" – Adam in reference to the cell Northeast of Abilene, which is currently producing baseball sized hail

4:29 PM: According to Adam, Jacob is willing to donate his body to save the driver and front seat passenger of Car 4 (Christine's Car)

4:32 PM: "There are no dumb questions, just dumb people"

4:39 PM: Entering state #7 Texas; Leaving Oklahoma

4:53 PM: Took a Left Exit 281 towards Jacksboro. This is the road that we are taking to switch to a southern course

5:09 PM: As an update, there are two tornado warnings for the cells to our south. They are for the two easternmost storms. One, the storm north of Abilene, is set to expire for the county of Shackelford and Callahan at 5:15 PM.

5:10 PM: That tornado warning has just been extended to 5:45 PM based off of a Doppler indicated tornado.

5:19 PM: Take right hand exit onto Highway 16 towards Graham

5:25 PM: Still heading south, but also keeping an eye on the developing tower directly to our east. The top looks very crisp but the rest of it looks quite ragged. As of now we are not terribly concerned with it.

5:46 PM: Took a left to continue on Highway 16 South

5:47 PM: Took a right onto 67 South

6:01 PM: Possible Flanking Line visible from our current location. We are heading to Breckinridge to gas up and plan our next route. If we stayed on our current one, it would lead us directly under the storm, which we do not want to do.

6:08 PM: "They are going through a phase, like an angry undisciplined teenager" - Bart

6:14 PM: Left turn on Highway 180 East. Plan is to gas up near the interstate instead of heading into Breckinridge.

6:16 PM: Took a right onto Highway 207 South. This is a detour for Highway 717

6:31 PM: Road Update: Very Curvy

6:32 PM: Right onto Highway 717 towards the expressway

6:42 PM: Left on Highway 101

6:43 PM: Pull into a Conoco for "Propellant" in Ranger, Texas

7:04 PM: Leave the filling station heading down Highway 254

7:09 PM: Took right hand ramp onto I-20 East

7:14 PM: Took Exit 361 onto 16 South. Current plan is to get out ahead of the storm and potentially get south of it

7:29 PM: We can now see the base of the storm and clearly see the inflow. We have been able to see the Flanking Line for about 20 to 30 min. Currently heading south towards Comanche to get on the front side of the storm.

7:34 PM: Can clearly see the rain free base with some disorganized lowering

7:38 PM: Left turn to continue on 16 South and 6 East in an attempt to intercept storm in Comanche

7:40 PM: Took a right to continue on 16 South

7:46 PM: Large lowering due west of our current location on 16 south. "treeage" is blocking much of our view. Any acceleration southeast and we will be vacating this area.

7:52 PM: Temp: 73F Dewpoint: 62F (Taken from Car 3, Tim's Car)

7:56 PM: Pull off of road to get a better view as the storm passes by. Pulled into a building next to Comanche High School.

8:11 PM: Outflow wind speeds: 35.4 mph (Taken by Adam). Inflow Winds were not recorded.

8:20 PM: Update: Currently experiencing heavy rain, frequent lightning and moderate winds. Core of the storm should be passing over us or near us shortly.

8:42 PM: Leaving Comanche High School taking a left onto 16 South towards Comanche. Still experiencing moderate rain and occasional lightning. Currently heading back to the hotel for the night. Bart indicates that the storm was weakening as it started to pass over us, which is most likely why we received no hail. This was an excellent storm to view on day 2 of the trip, and we experienced some very heavy rainfall. We also experienced the inflow, outflow, and even possibly stood underneath the updraft.

8:46 PM: Took a left on 67/377 heading NE

8:51 PM: "Dana has a potentially explosive ARSE" – Bart

9:25 PM: Take a slight right on 67/377

9:28 PM: Left turn on Highway 281

9:57 PM: Right ramp to I-20 East

10:16 PM: Took Exit 408 towards 171 North

10:22 PM: Left on 180 West followed by an immediate right on 51 N

11:11 PM: Left to 380

11:13 PM: Stay straight onto 81/287

11:16 PM: Pull into Comfort Inn for the night. Tim B's room will lead weather discussion in the morning. Appears that we will be heading back north tomorrow to get in position for the following couple of days.

Total Mileage: 1498.5 Day 2 Mileage: 839.6 June 3, 2009 – Day 3 9:00 AM: Met for a morning weather discussion in room 110, led by Tim B. and Eric, to discuss what we were going to do today but also what we are doing the following days as it may become active in the high plains. We decided that there might be some upslope storms in the foothills of Colorado. Even though these would be a great sight, it would also be a hefty drive. With our hotel being in Kansas to set us up for the following days we decided that we would use today to view some sights and get in position for a hopefully busy weekend. Tomorrow through, possibly, this coming weekend is looking great for the central high plains. Upper level winds combined with the southerly jet bringing moisture and a wave coming through the area there is a potential for some good storms. Initial thoughts are that tomorrow will be a few storms but they will not go linear followed by Friday, which would be the larger outbreak day as the system moves into the area. Main decision that follows is the location in which we want to chase. We have the option to chase in NE Colorado and Eastern Wyoming regions or to head slightly south from our hotel location and chase in the panhandle of Oklahoma. There is good upper level shear in the north but we have to wait and see if the moisture will make it that far north. There is a definite possibility of discrete supercells that may not go linear.

9:49 AM: Depart from the Comfort Inn that had the sweet phones in the bathrooms by taking a right onto 287 NW

10:28 AM: Pass a "Hittman" truck that was carrying materials that warranted "Radioactive" warning signs

10:36 AM: Right side ramp to Henrietta onto 510 S for propellant

10:38 AM: Pull into Shell on right

10:59 AM: Leave Shell back onto 510 towards 287

11:01 AM: Right on 287 N

11:11 AM: "Did you all see the big field of cattle back there, it must be ran by the Jolly Rancher" – Bart outside of Jolly, Texas

11:21 AM: Stay left on 287 Exit 3A

11:52 AM: Tentative plan is to stop for lunch in Oklahoma. Wakita and the Twister Museum are 45 minutes out of the way, so we will make a game-time decision if we should go there or not. We are definitely going to Greensburg, Kansas to see how rebuilding is going and to stop for dinner.

11:54 AM: Right Side Ramp onto 183 N

12:02 AM: Enter Oklahoma; Leaving Texas

12:21 AM: "Hey Bart, do you or anyone else know what caused the Wichita Mountains?" –Tim B. "No I do not, I am not a Geologist and I did not stay in a Holiday Inn Express last night" –Bart

1:34 PM: Left on Gary BLVD. in search of food.

1:39 PM: All cars decide to split up for food. Will meet at Subway to get back on the road heading north

2:18 PM: Right turn on Gary BLVD. Out of Subway

2:22 PM: Left on 183 N

2:23 PM: Decision is made to not visit Wakita, Oklahoma today. We are just heading straight to Greensburg, Kansas so we can make it to our final destination of Garden City, Kansas within a reasonable amount of time.

2:49 PM: Temp: 72F Dewpoint: 58F (Car 3, Tim's Car) Temp: 72F Dewpoint: 59F (Car 2, Eric's Car)

3:04 PM: Right onto 60/51 E

3:07 PM: Left on 60/281/270/3

3:08 PM: Right on 281N/60E

3:13 PM: Road becomes solely 281N

3:40 PM: Right to continue on 281N, Left on 14N followed by another left to stay on 14N

3:41 PM: Right to continue on 14N

3:55 PM: Left on 64W

4:07 PM: Play "guess this sound" – Bart makes random noises and we guess! Anything to pass the time, right?

4:36 PM: Stop at Love's gas station in Buffalo, Oklahoma. Most of team was starting to worry about Pilot.

5:00 PM: Leave the gas station heading back east on 64

5:02 PM: Left on 183N. Next destination is Greensburg, Kansas in less than 2 hours.

5:11 PM: Entering Kansas and leaving Oklahoma

6:08 PM: Right turn on 54E leading into Greensburg, Kansas.

6:10 PM: Stop at a KwikShop gas station on the right to top off tanks.

6:26 PM: Depart gas station and head around the city. Will eat here tonight if we can find a restaurant.

6:55 PM: Leave Greensburg, Kansas with no luck in finding the restaurant, so we will be heading to our final destination of Garden City, Kansas on 54W

7:00 PM: Keep right onto 400

7:40 PM: Playing some trivia starting in Dodge City to make the last stretch to the hotel go faster.

8:30 PM: Exit off onto Kansas Ave. in route to Comfort Inn. Pull into Comfort Inn on the left.

8:54 PM: Decide to go out for a team meal that will be charged to the trip. Will have a morning weather briefing led by Bart's room. Will report back then! Hopefully the pattern holds up and we will have a good day tomorrow. Total Mileage: 2040.9 Day 3 Mileage: 542.4 June 4, 2009 – Day 4 8:00 AM: Morning weather discussion led by Tim H. and Andrew. For today, it appears the greatest risk will be in Northeast Colorado west of Fort Morgan. Main threat will be large hail, and tornadoes if the lower level winds increase. CAPE and LI are looking favorable this afternoon in that small pocket in Colorado with moist air. CT was only 68oF signifying a weak cap and the storms will be firing in the early afternoon hours. We also noticed a circulation showing up on 2m Theta e along with the morning 850 winds. With all of this in mind, our main focus will be north of the Palmer Divide where the greatest instability is. Next 3 days are also looking great for this area, so we have already obtained a hotel for the following two nights in Goodland, Kansas. For tomorrow, SPC put out a 30% hatched area for NE Colorado, NW Kansas, and the Nebraska panhandle. As of now we agree with that analysis and believe that it will be bumped up to a moderate area.

8:46 AM: Pull out of Comfort Inn and take 83 N towards I-70 on our start to NE Colorado for the day.

10:15 AM: Closing in on the expressway that we are to use to enter Colorado. There is still lingering fog over a good portion of our projected chase area. Hopefully this will begin to start dissipating. Current conditions in Limon, Colorado are Temp: 51F with a Dewpoint of 49F.

10:26 AM: Hop onto I-70 W towards Limon, Colorado

10:55 AM: Entered Mountain Time Zone around mile marker 30 on I-70

11:23 AM: Entered new state #8 Colorado; leaving Kansas. Stopping for lunch and gas shortly before we head to Limon to plan our next route.

11:33 AM: Take exit 438 for gas in Burlington, Colorado. Stop at the Conoco.

11:56 AM: Leave the Conoco heading back towards I-70

11:58 AM: Back onto I-70 W

1:01 PM: Exit 359 into Limon, Colorado to top of gas tanks as well as stop for lunch. We must continue evaluate the current situation as up north may not look as favorable anymore.

1:46 PM: Leave our respective food places and will head to the gas station. After we obtain gas, we still cannot make a definite decision on where we exactly we wish to continue. We are going to find a good place, sit it out, and watch to see what develops. We stopped at the Quest Fuel directly across from the places that we got food.

2:00 PM: Depart the Gas Station heading back East on I-70 E

2:05 PM: Exit 361 to Highway 71

2:10 PM: Right onto 71 N

2:12 PM: Left onto road 3H (Dirt Farm Road) – Heading to observe a developing tower

4:30 PM: While on the road viewing the initial storm, it split into two and the left branch headed towards us quickly fell apart as it moved into the stable air. We decided to stay here and see where and when the storms were going to develop.

We knew they were possibly going to be near us, we just needed the better conditions to move in for the storms to hold their intensity. We just viewed a tower going up to our west and it is looking quite impressive, so we are going to head about 10 to 20 miles south to try and go after it. Looking at the last observations, it looks like the proper conditions are finally moving into the area, so we feel that this storm may maintain intensity. Currently heading to gas station for quick break before we head out.

4:51 PM: Leave the Conoco gas station and head onto I-70 W towards the storm. Storm currently showing 64 Dbz.

4:54 PM: Exit 359 to highway 24 heading Southwest. Storm is developing very fast

4:57 PM: "If this storm gets any bigger it will look like Fat Albert" - Bart

4:58 PM: Severe Thunderstorm Warning on this storm for quarter sized hail.

5:03 PM: Temp: 69F Dewpoint: 53F (Taken from Car 3, Tim's Car)

5:11 PM: Wall feature is clearly developing on the storm to our right, which is west of us.

5:12 PM: Take a left onto RD 149 in attempt to obtain a good viewing location

5:18 PM: Stop on the road to observe storm

5:33 PM: Initial observations: Updraft split shortly after we stopped to view it. Initially it appeared that it was starting to die out but we stayed on it and then noticed that the left part of the storm was beginning to strengthen. Radar shows that the rotation in the storm is anticyclonic. We leave current location to find a new viewing location

5:38 PM: Head off of the dirt road back north towards the expressway.

5:40 PM: Severe Thunderstorm issued for the county that Limon is in. Storm heading East at 30 mph towards Limon.

5:52 PM: Informed by Adam that the storm is beginning to look slightly less impressive on radar. The couplet is just about gone on the radar, but we are going to stay on the storm as it follows the boundary around.

5:54 PM: Back onto I-70 E to get further ahead of the storm

6:04 PM: Exit 371 Co. HWY 109.

6:07 PM: Take RD 6G right off of Expressway to find a good viewing spot for previous storm. Shortly after switched to a road north of the expressway for better viewing.

7:08 PM: viewed the storm as it slowly dissipated. It appeared that we had sufficient moisture and instability but were lacking inflow. The storms were firing, but the lack of SE flow caused the storms to dissipate rather quickly. Heading back to the interstate to ultimately head back to our hotel in Goodland, Kansas.

7:12 PM: back onto I-70 E

8:15 PM: Entering back into Kansas for our final stretch back to the hotel

8:28 PM: Pull off on Exit 17 into Goodland and take right off the ramp, followed by an immediate left into Holiday Inn Express

9:00 PM: Break into groups to go and get food. Dana's room will lead weather discussion tomorrow morning.

Total Mileage: 2464.9 Day 4 Mileage: 424

June 5, 2009 – Day 5

8:00 AM: Morning weather discussion led by Katie and Dana. It looks like today could be a fairly explosive day or it could be a complete bust. There is currently a fairly strong cap over our target area, but if there is some clearing, the cap would be broken. If the cloud cover persists, then the cap will stick around and nothing will be able to form. Models are showing very good low-level shear due to the Low Pressure forming and strengthening in southeast Colorado. This is one of the main reasons that SPC has issued a 10% chance for tornadoes as well as a 30% hatched chance for hail in this region. Target location for this afternoon is left of Ogallala in the southwest part of the Nebraska Panhandle. After the initial visit to the hotel in Ogallala we are going to drift west and see how conditions develop. Brief day 2 outlook appears to be setting up for central Nebraska.

9:29 AM: Leave the very nice Holiday Inn Express heading north on Highway 27

9:58 AM: Right onto 36 E

10:07 AM: Turn onto 161 N

10:27 AM: Turn right onto W Railroad St. in the town of Benkelman to look for a gas station and to also look at the new models that just came in to evaluate the current projections.

10:31 AM: Stop at the Sinclair gas station.

10:57 AM: Leave the gas station where they had a nifty “pixie stick” making machine on AVE 338

11:24 AM: Left onto Highways 61/6 headed towards Imperial, Nebraska. New plan, as of now, is to bust west towards Sterling, Colorado. With this we can move in any direction, as initiation seems to be setting up for NE Colorado, SE Wyoming, or SW Nebraska. Latest Helicity values from the RUC are showing 400 m<sup>2</sup>s<sup>-2</sup> for 0Z in NE Colorado and 600+ m<sup>2</sup>s<sup>-2</sup> in the southern portions of the Nebraska Panhandle between 00Z and 03Z. We are currently in Nebraska.

11:31 AM: Clouds are thinning over target area, but appears that we may have to deal with high clouds the rest of the afternoon. New SPC outlook has not shown much change from this morning’s outlook. Main threat is possibility of very large hail, damaging winds, and tornadoes.

11:35 AM: Continue onto Highway 6 W through Imperial, NE

11:44 AM: Temp: 78F Dewpoint: 63F Taken from Car 3, Tim’s Car, just west of Imperial, NE

11:59 AM: Entering Colorado from Nebraska; Will continue to head west towards Sterling, Colorado. There is a possibility that we may launch a balloon today if we feel that we have time.

12:32 PM: SPC Day 2 updated with a 30% risk area for East Nebraska into Iowa. Also, MD issued for Nevada, Utah, and Idaho for risk of Supercells.

12:56 PM: Enter city limits of Sterling, Colorado.

1:02 PM: Stop for lunch at a Pizza Hut buffet in Sterling, Colorado.

1:44 PM: Leaving the Pizza Hut and heading to the gas station to top off the gas tanks before we head further west.

1:46 PM: Stop at Cenex for gas.

1:56 PM: Depart the Cenex and most likely heading northwest to get in better position for later this afternoon as well as possibly launching a balloon in the Pawnee National Grassland. We are heading west on Highway 14 towards Stoneham.

2:05 PM: Temp: 78F Dewpoint: 61F taken from Car 3 just on the west side of Sterling, Colorado

2:21 PM: Right on 71 N towards Kimball, Nebraska

2:23 PM: Left onto a dirt road to see the possibilities of attempting a launch

2:26 PM: pull over to the side of the road to prepare for and execute a launch.

4:46 PM: Complete a successful launch. After an initial look at the data it appears that there is a good cap above us. We were initially going to let the sonde fall and collect more data as it fell but we began to see some storms starting to form off in the distance. We packed up all of the sonde equipment and are currently heading back down the road towards the highway.

4:51 PM: Heading back south on 71

4:52 PM: Right turn onto 14 W towards New Raymer

5:02 PM: Right onto dirt road to discuss what we want to do next. It seems like we have two options at this point. We can head north and play the boundary where some storms seem to already be firing. Our other option is to stay south where we are and wait for the dryline to move into the area to add some forcing.

5:11 PM: After a brief discussion we have made the decision to go up 71 N and head to Kimball, Nebraska. This way we can keep our options open and head back south if we need to do so. Heading back east to head North on 71

5:22 PM: Left onto Highway 71 N towards Kimball. Storm near Kimball reportedly has a tornado on the ground at this point in time, but the storm does appear to be weakening on the radar.

5:35 PM: Dryline is starting to show very distinctly to our south, south of Denver. It is rapidly moving northward. This was not shown in any of the models, so we are going to keep a close eye on it in case we do decide to head back south.

5:39 PM: Looking to our east we see a storm going up very quickly. After watching it for a few minutes, we feel that the cap has now been broken and are busting east to try this storm.

5:57 PM: Left on 14 E

6:10 PM: New tornado watch box issued just east of the current one that we are in that is in Nebraska

6:20 PM: Very quick stop in Sterling, Colorado at Sinclair to top off the gas tanks

6:33 PM: Leave gas station heading east towards the expressway

6:51 PM: Storms just initiated along the dryline so we have decided to head south to Akron to get ahead of these storms. Turned left onto 76 W. Also, storm to the northwest appears to have dissipated before it developed fully.

6:59 PM: Exit 115 towards Akron, Colorado. Immediate left on 63 S

7:12 PM: Turn left on a county road north of Akron to wait for the storms to approach us from the southwest.

7:19 PM: Leaving the county road and getting back onto 63 S. Plan is to get east of Akron and see if this storm will be available to develop. The storms just to the west of this one have died out due to the dryline passing through them.

7:25 PM: Wall Cloud currently visible on the storm to our southwest.

7:29 PM: Left on 34 E. We are heading about a mile outside of town so we can better view this storm.

7:42 PM: Leaving current location to head 4 to 5 miles further east on 34. Storm is producing very nice CG and is slightly turning to the east.

7:56 PM: We stopped on a side road about 3 miles outside of Otis, Colorado. Storm is currently increasing slightly in size and strength and is still not into the best air yet.

8:08 PM: Heading 5-10 miles further east to reassess the storm. Currently, it is maintaining.

8:15 PM: Stopped short of the town of Yuma. Storm appears to be strengthening with increasing Dbz and VIL. Storm is also showing signs of a possible split.

8:29 PM: With visual and radar support the storm slowly died. A complete lack of an inflow killed this storm just like the one yesterday afternoon. We are going to head north, from Yuma on 59 N, to the northeast portion of Colorado en route to our hotel. Some cells are currently forming in that area, which is the area with the highest instability. Possibly looking for a good lightning show tonight and with the possibility of getting rolled by one of them.

9:34 PM: Right ramp onto 76 E towards Ogallala, Nebraska.

9:47 PM: Tornado warning issued for the cell to the north of us on the Expressway. There are currently two cells west of our hotel and both cells are rather intense.

9:51 PM: Stay straight onto I-80 E.

10:04 PM: Pull off onto exit 117 to watch the possibly tornadic cell as it passes by. Cell is currently showing Hook echo on Radar.

10:41 PM: Just pulled off of the side road and heading back onto I-80 E. Saw both storms and looked impressive even in the dark. The frequent lightning gave nice back lighting for both of the storms. Both storms are starting to weaken with each radar scan. Currently heading back to the hotel for the night.

10:55 PM: Exit 126 to Comfort Inn in Ogallala Total Mileage: 2953 Day 5 Mileage: 488 June 6, 2009 – Day 6 8:00 AM: Morning weather discussion led by Jeff, Chris, Jason, and Jacob. It appears that we have three possible locations for this afternoon. We can play the triple point where the front and dryline meet, try the dryline further south in Kansas, or we can head north into Cherry County and see if upslope will come into play. SPC has slight risk area with 5% chance for tornadoes as well as 30% chance of hail to the east on the southeast Nebraska and northeast Kansas border. This is where we think that the triple point would come into effect. The interesting thing is that SPC has no thunderstorm outlook for the upslope region. There is a large cap in Kansas as of now so we dismissed south into Kansas. Our final decision is to head east since we feel that is the area most likely for supercell development. The upslope region has good dynamics but could

possibly be lacking the instability. The east may be lacking some instability as well, but we feel that it may build due to the cap and the clearing currently taking place.

Plan is to head east and wait to see how conditions develop. Hotel reservations, for tonight, made for Beatrice, Nebraska.

9:45 AM: Head East on I-80 towards Grand Island, Nebraska

10:29 AM: Update: CAPE values increasing where clearing is taking place in southeast Nebraska. Possible sonde launch later this afternoon.

11:36 AM: "That's just crackerjack right there" – Bart in reference to RUC forecasting large CAPE in northwest Nebraska

11:39 AM: "If you are going to rise up you have to overcome your 'CIN'" – Bart

11:41 AM: "If it doesn't spin, don't turn it in" – Bart

11:43 AM: Exit 272 into Kearney for gas at Cenex and lunch. Cars break up for lunch.

12:56 PM: Finish with the food and gas stop and heading back East on I-80. Possible new plan is to head straight east into western Iowa instead of heading for the southern border.

1:18 PM: Plan is to get as far east as Lincoln, Nebraska and re-evaluate the situation. Two main focus areas are western Iowa and the border between southeast Nebraska and northeast Kansas. Models are still showing a cap over Kansas for later this afternoon even though most conditions are favorable.

2:09 PM: Clearing in southeast Nebraska along with some clearing on the north side of the boundary/front. Dryline beginning to form in western Kansas

2:24 PM: Stop at the Rest Area to re-evaluate current conditions. We noticed that we drove through a tight temperature gradient down I-80 as we were heading towards the front. Temps warmed about 15 to 20 degrees in about a distance of 20 to 30 miles.

2:35 PM: After looking over data and satellite imagery we have decided to head east towards Nebraska City, Nebraska and possibly head east from there. Appears that cumulus clouds are starting to form in western Iowa.

2:50 PM: Exit 397 towards Beatrice on 77 S

2:55 PM: Follow detour towards 2 E

3:00 PM: Three cars took wrong turn on detour route. All of these must restart the series of turns.

3:14 PM: MD issued for eastern counties of Iowa and southern half of Iowa

3:20 PM: Heading east on 2 E (Nebraska HWY) towards Nebraska City

3:45 PM: Temp: 87F Dewpoint: 68F (Taken by Car 3 west of Nebraska City on 2)

3:56 PM: Left onto 75 Business into Nebraska City to top off tanks and to evaluate current conditions at a Phillips 66.

4:30 PM: Left the gas station looking for a road to sit on to continue to monitor conditions.

5:51 PM: Update: Cells formed in southern Cherry County with one currently having a tornado warning on it. Some convection is currently forming along the front to our immediate south. The front was right over top of us so we are currently heading

south. The key location is still where this front meets the surging dryline. Currently heading south on 75.

6:22 PM: Right onto a dirt road to reassess the current conditions.

7:11 PM: Left the dirt road to head to the hotel as the cap was not broken and showed no indication of being broken. The instability was there, but the forcing was not strong enough for convection to maintain.

7:22 PM: Left onto 136 W towards Beatrice, Nebraska

8:26 PM: Arrive at the Holiday Inn Express in Beatrice, Nebraska with teams breaking up for dinner tonight. Christine's room will lead the morning discussion. Total Mileage: 3391 Day 6 Mileage: 438 June 7, 2009 – Day 7 8:00 AM: Morning weather discussion led by Jacki, Christine, Liz, and Jess. We have very good instability again today, just as we did yesterday, but once again, we could possibly have issues with the cap. The outflow boundary from the overnight MCS, the front moving south from the north, or the low-level jet could provide a source the source of lift. We feel that the low-level jet will most likely be the source so that leans towards a later initiation. An interesting thing put out by the models were the extremely high CAPE values. I believe it was the RUC that had values upwards of 7000 J/Kg. Even cut in half, this is a large CAPE, which leads to large hail. We also feel that storms in this area of east Kansas into northeast Kansas will quickly become linear. We decide to meet again at 9:30 to reassess conditions.

9:30 AM: After reviewing forecasts and models we have decided to head slightly more west than originally planned. Current planned destination is Concordia, Kansas. It appears that there is a circulation setting up over western Kansas with secondary max parameters of instability were starting to form. We feel that more discreet storms will form out to the west, and this region is also more chaseable than that of eastern Kansas and into Missouri.

10:19 AM: Depart Holiday Inn Express heading south on 77

10:50 AM: Enter into Kansas; Leaving Nebraska

11:09 AM: Right onto a dirt road to evaluate conditions and plan our next move.

12:15 PM: Pull off of dirt road to head into Marysville for lunch at Sonic. We feel that we have time to spare as we are in the correct location for possible initiation.

1:39 PM: Leaving Sonic to top off tanks at the BP.

1:59 PM: Leave BP. We currently have two different options that we can try and take. There are two waves that will be passing through this area that will provide the lift for storms. The first wave is passing over very soon while the second wave will be later this evening. We are fairly certain that this first wave will produce storms but we don't know if that will form in unfavorable areas or if they will go linear too quickly. The second option is to wait for the second wave to enter the area, but the problem with this wave is that we don't know how late it will arrive or if it will produce any storms at all. The second wave, should it produce storms, would produce discrete cells for a longer period of time.

2:17 PM: Initial plan is to head east about 50 miles to Fairview, Kansas. This will leave our options open for where we want to go, but the tendency for initial destabilization is to our east. Currently heading east on 36.

2:55 PM: Turn onto very poor road where a rock slashes Christine's tire. Immediately drive to road (L Road) across street to assess the situation. Currently in the town of Seneca, Kansas.

3:10 PM: Pilot has gone to town to see if any stores are open where the tire can either be fixed or replaced. Local man from a house up the road has come down to help us. Sight of the Day: Jacob Cobb sprawled across the back of the man's 4-Wheeler riding up to his house to patch the tire.

3:24 PM: Options right now depend on the severity of damage on the tire and if it can be patched. If it cannot be patched then we will most likely have to head back to the hotel and call off the chase early. If we feel the patch will hold then we will continue NE.

3:47 PM: Appears that the cap has been broken as thunder can be heard in the distance.

3:54 PM: Storms are beginning to pop to just to the north of us. We will head further west then north into Nebraska to intercept the storm. Initial scans appear to hint towards it going linear but it is currently still supercellular in nature. We believe that the tire was popped just so we could test to see if we could change a tire before storms broke out.

3:57 PM: Heading north to the border on 63

4:06 PM: Entering Nebraska; Leaving Kansas

4:20 PM: Currently heading down 8 W

4:23 PM: Stopped to view storm, may have to move shortly since the storm is headed in our general direction.

4:54 PM: Tornado Warning issued for this county for the storm that we are on. Clearly defined hook echo on radar for this storm "That is a sexy couplet" – Adam

4:56 PM: Heading back south to find a new viewing point

5:05 PM: Pull off to view the storm on a side road

5:26 PM: Pulled off back onto the highway to try and find another view of the storm

5:40 PM: Found a side road to view storm

5:55 PM: Heading east to get ahead of the storm. Viewed a beautiful meso from fairly close from this past location.

6:01 PM: "Storm Team Assemble!" "That guy is a certifiable moron"

6:02 PM: Heading back west as these storms are moving into unfavorable conditions and chase locations. There were also hundreds of chasers on this storm, it seemed like, on these two cells. We are currently on 8 W heading to the area where wave two may begin to fire up storms.

6:16 PM: Left on 50 S towards Kansas. Road turns into 63 S when we enter Kansas

6:19 PM: Entering Kansas; Leaving Nebraska

6:40 PM: Stop at gas station to top off tanks

6:59 PM: Leave gas station heading west on 36 W where new storms are beginning to form as the second wave moves through the area.

7:29 PM: “By the way, serving size is only a suggestion right?” – Bart “I hope so after what I just did to those honey roasted peanuts” – Adam

7:50 PM: Quick stop at gas station before we continue to head west. Storms currently do not look terribly impressive, but we will still head towards them to view structure.

7:58 PM: Continue on 36 W

8:04 PM: Pull off onto side road to view a storm at sunset.

8:34 PM: After watching a scenic sunset behind some clouds in association with a storm, we have decided to head back towards the hotel in Topeka. With the number of storms starting to form, there is a possibility of getting rolled on the way back. Heading East on 36 E

9:17 PM: Right on 87 S towards Topeka, Kansas

9:25 PM: Left on 9 E

9:40 PM: Right on 63 S

10:07 PM: Decide to pull off onto side road to view lightning show lighting up a storm with a well defined updraft in the distance

10:32 PM: Leave road heading back south after an amazing show.

10:44 PM: Left on 24 E

10:57 PM: Stop to view a small storm that was showing a Dbz of 67 and a VILD of 6.96

11:27 PM: Heading back to hotel as it is now getting fairly late. Storm was slowly dissipating as we were viewing it.

11:43 PM: Take exit into Topeka

11:59 PM: Pull into Holiday Inn Express for the night. Weather discussion will be held on the road tomorrow as we have a fairly good distance to travel. Total Mileage: 3777.5 Day 7 Mileage: 387 June 8, 2009 – Day 8 8:45 PM: Depart Holiday Inn Express, where the beds were amazing, heading west on I-70.

Weather discussion will be held on the road. Hotel for tonight is already made for the ever so awesome Holiday Inn Express in Goodland, Kansas. 9:09 PM: Morning Weather discussion on the road: Target location is NE Colorado. There is a possibility of Low-Topped Supercells. Cold front has passed through helping winds shift to easterly, which will enhance upslope. CAPE and Helicity max in this region near Sterling. The cap is present but it is not terribly strong. Another option is to head southwest and hit the triple point in southwest Oklahoma. Consensus still seems to be to try upslope once more.

9:52 AM: Take exit to get gas at 24/7 Travel Store

10:08 AM: Depart gas station heading back to I-70 W

10:30 AM: Stock update from Bart!

10:33 AM: Update: Cap over southwest Oklahoma into northern Texas through OZ. Models showing heaviest precipitation in Nebraska. Helicity much higher in Colorado with decent moisture. Forecast hodographs look very good for NE Colorado. With no major changes, this region will still be our target area for this afternoon.

11:21 AM: Stop at Rest Area for quick stop

11:27 AM: On the road again

11:47 AM: Update: SPC updated outlook with 30% hatched hail in Texas. The problem with heading south would still be the concern with the cap and will it break. RUC shows precip forming along Front Range of Colorado. Temperatures are beginning to warm from the chilly starts this morning of the low to mid 40's. Many locations are reporting south to southeast winds from 5 to 10 knots. Skies should be clear by the time we get out to Colorado.

12:54 PM: Current SPC outlook has a 30% hatched region over a large portion of Kansas. The region stretches from about Dodge City to far eastern Kansas. Lunch for today is planned to be in Goodland, Kansas about an hour from now.

1:45 PM: Exit 17 into Goodland, Kansas for Lunch and gas. Will meet at Conoco after cars split up for food at 2:15

2:34 PM: Leave the Conoco heading west on I-70 towards Colorado. Target location for now is Limon.

2:49 PM: Entering Colorado; Leaving Kansas

3:10 PM: MD issued for southeast Wyoming and northeast Colorado. Main threat is large hail, damaging winds, and an isolated tornado associated with a Denver Cyclone. A watch is possible. Right now we can see convection to our northwest starting to fire in the foothills.

3:30 PM: Temp: 72F Dewpoint: 49F Taken from Car 2 40 miles east of Limon, Colorado

3:39 PM: Cells to northwest are dissipating as they move further east. Current plan: Head to Limon and top off gas tanks then head north to Last Chance, Colorado.

3:58 PM: Stopping in Limon, Colorado at Conoco for gas before we head north

4:12 PM: Head north on 71 towards Last Chance. Denver Cyclone clearly visible on surface obs

4:50 PM: Turn on to a side road to sit and wait while going over data

6:21 PM: Leaving current location to go further west about 20 miles to see how a storm works that is to the southwest

6:28 PM: Right on 36 W

6:55 PM: Left on S Main St. There is not enough moisture off the mountains to sustain the storms as they come off. Storms are quickly dissipating as they make their way to the plains. A few storms are showing some signs of slightly maintaining their intensity north of here towards Fort Collins, but they still do not look terribly impressive. Temp: 72oF Dewpoint: 43oF Taken from Car 3 west of Last Chance, Colorado

7:13 PM: Storm has developed north of us. We can see it from our current location and it looks fairly good as of now. We have decided to head back east towards Last Chance to assess the storm. If we fell it is maintaining or strengthening we will head north toward Fort Morgan. If not, we will head back to the hotel for the night.

7:15 PM: "This is our 'Last Chance', but this could be a 'Sterling' opportunity" – Bart

7:33 PM: Bart asked a question about a classic rock song. Not only did Ian answer the question in less than 5 seconds, but also he went above and beyond.

7:37 PM: Storm looks decent from a distance. If we go after this storm it could present a "rollage" opportunity

7:44 PM: Left on 71 N toward Fort Morgan

8:10 PM: Tornado warning issued for the storm we are currently following. Still a fairly good distance ahead of us, but we should catch up with it near Sterling, Colorado. We have decided to follow this storm NE.

8:15 PM: Right on 34

8:16 PM: Left on HWY 6

8:17 PM: Right on I-76 E towards Sterling, Colorado. Cell is currently to the west of us. Storm moving east with a small northeasterly component.

8:25 PM: Very nice lowering clearly visible from our vantage point.

8:33 PM: Cell is reforming hook echo and it also appears that it will merge with a strengthening storm to the north of it within the next 45 minutes.

8:35 PM: Maximum Dbz of 70. Wall Cloud is still very well defined from our vantage point.

8:36 PM: Tornado warning extended for west central portion of Logan County. This is an extension of the previous warning. Funnel Clouds reported by the public.

8:46 PM: "It is getting Sweeeeeeeeeeter" - Bart

8:49 PM: Exit 134 to find new vantage point other than driving on Expressway. Immediate left off of expressway.

9:00 PM: Stop to view storm. Beautiful Meso on it.

9:16 PM: Severe Thunderstorm Warning issued for Logan County for the storm that we are currently following. Storm is beginning to Bow Echo (according to radar), so we are going to drive to get ahead of it; since the tornado threat is now gone as the supercell is losing shape. We noticed this with the indication of rain falling from the rain free base, which was confirmed by checking the radar. Currently heading back to the expressway to get ahead of the storm.

9:20 PM: Latest scan is possibly showing intensification and we see a lowering that is possibly a newly forming Meso. Interesting fact is that CAPE is only 750 J/Kg in our area. Currently heading NE on 138

9:30 PM: We are giving this storm two more scans. If the storm continues to weaken then we will head back to the hotel.

9:31 PM: "The beauty of making a decision at Crook, is if it doesn't develop a hook, we will be going home by hook or by crook" - Bart

9:41 PM: 81 N to get ahead of storm to possibly get rolled.

9:46 PM: Decision has been made to head back to the hotel since the storm is rapidly weakening. Currently heading on 55 S

10:04 PM: Left on CR 79. Plan to stop in Holyoke

10:06 PM: Left onto 6 E

10:33 PM: Pull into Sinclair for gas

10:53 PM: Leave the Sinclair heading towards the hotel. Close scare with Police as an officer flashed his lights at Eric. Turns out he was just asking us about the storm. 12:04 AM: Pilot makes contact with a deer. No major damage done to Pilot. Great job by Dana and other drivers to avoid anything worse

12:25 AM: I-70 E towards Holiday Inn Express in Goodland, Kansas

12:35 AM: Entering Kansas; Leaving Colorado

12:48 AM: Exit 17 into Goodland and arrive at Holiday Inn Express for the second time this trip. Morning weather discussion will be held on the road at 9 AM. Total Mileage: 4627 Day 8 Mileage: 849 June 9, 2009 – Day 9 9:40 AM: Depart Hotel heading East on I-70

10:20 AM: Morning discussion led by Tim H. and Andrew. Dryline is clearly starting to form in the panhandle of Texas. A sharp gradient is already starting to form in that area. The dryline should begin to push NE as the day progresses. Appears that there are two possible areas of focus that we will have to keep an eye on as we head east. The first is west of Wichita towards Greensburg where initiation may possibly take place. The second area is from Wichita moving ESE. Models are basically placing this area as the area. SPC has placed a moderate in this area. There is currently a large area of 15% hatched tornadoes, 45% hatched hail, and 30% winds in this portion of Kansas. It is larger as the point of initiation is still uncertain. Potential area to look for would be the triple point where the most lift would be provided along with an area of great instability. Main concern at this point is a large area of convection in NNE Kansas that is starting to back build into central and southern Kansas. We will have to monitor this as the day goes along as well. Currently, hotel outlook appears to be in the Emporia, Kansas's area.

11:10 AM: Stop at Conoco on exit 127 to get gas and Rainx vehicles

11:32 AM: Depart gas station heading south on 283

11:39 AM: Reservations made in Winfield, Kansas at the Comfort Inn

11:57 AM: Update: Dryline and Boundary from MCS are clearly visible on satellite. These two are rapidly approaching southern Kansas. Heading south to Dodge City, Kansas then making the decision whether to head east or further south.

12:46 PM: Update: Continuing possibility for very large hail, strong long-lived tornadoes, and damaging winds. Storms could be moving 30 to 50 knots later this afternoon. Will head SE when we make it to Dodge City, Kansas.

12:49 PM: Temp: 78oF Dewpoint: 63oF Taken from Car 3 north of Dodge City. Our current location should be very near to the front/boundary.

1:05 PM: Gas at Presto to top off tanks as well as grab lunch in Dodge City, Kansas

1:33 PM: Leaving Dodge City heading SE on 400 towards Greensburg

1:38 PM: MD issued for southern Kansas (NW of Greensburg eastward); tornado watch likely. Plan is to head to Mullinville, Kansas for now.

2:00 PM: Storms breaking out over SE Kansas near the Missouri border. Multiple tornado warnings have already been issued for the cells. There has been no initiation for west of Wichita yet. We will continue to head east towards Pratt, Kansas.

2:34 PM: Tornado Watch issued for our area for tornadoes, damaging winds, and hail up to 3 inches in diameter. This watch box covers a good portion of southern Kansas.

2:50 PM: Right on 281 S to find a road outside of town to assess conditions.

2:55 PM: Right onto dirt road

3:30 PM: Right on 281 S. We are currently heading south since the winds in our location shifted to a north wind. We have noticed that the cumulus clouds above us are starting to develop more vertically. Current destination is Medicine Lodge or a town near there.

3:58 PM: Pull into Phillips 66 to top off tanks.

4:11 PM: Depart gas station heading east on 160. We have decided to move at least a county east for now. Plan is to head to Harper, Kansas, which is just WSW of Wichita.

4:38 PM: It appears that the cap has been broken as convection is starting ahead of the dryline as it bulges northeastward

4:42 PM: Pull onto dirt road just SW of Harper to see how the initial convection plays out. One cell is currently SW of Dodge City, Kansas moving north

5:24 PM: Decision has been made to head east and south as storms are continuing to form along the dryline as moisture pools in front of it. Storms will move fairly quickly as they develop. Heading south on 2 into northern Oklahoma.

5:34 PM: Left onto 176 S towards a storm that just went severe to our southwest in Oklahoma.

5:41 PM: Three discrete cells have formed in northern Oklahoma and all three of them have severe thunderstorm warnings on them. Still heading south into Oklahoma.

5:47 PM: Entering Oklahoma; Leaving Kansas

5:58 PM: Heading East on Highway 11 as the storm appears to be drying up visually.

6:13 PM: Severe Thunderstorm Warning issued for the storm that is currently above us. Heading back north towards the storm that is currently in Dodge City.

6:16 PM: Left on 81 heading NE

6:26 PM: New MD issued for Southern Kansas. Main point made in this discussion was main threat for tornadoes is along the boundary in southern Kansas while the storms in northern Oklahoma are outflow dominant.

6:33 PM: Continue north on 49 N

6:40 PM: Left onto 44 W. Storm leaving Dodge City into Kiowa currently is tornado warned. City of note is Greensburg, Kansas. Storm appears to be heading just N of Greensburg.

7:05 PM: Right on 2 North. Storm near Greensburg seems to be rapidly weakening.

7:16 PM: After a short break to take photos of an updraft heading back west towards the storm east of Dodge City.

7:28 PM: Storm in Kiowa County is still in an area with unfavorable parameters but should be moving into better conditions shortly if it can hold together. Looking out into the distance we can see an updraft that is possibly forming to the south of the cell in Kiowa County.

7:44 PM: The storm looks still weakening to a fairly sad state currently. We are still heading north toward the storm. It is currently heading for Pratt, Kansas.

7:47 PM: Right on Isabel Rd. towards Isabel

7:52 PM: It appears that the outflow boundary from the MCS changed the low level flow from SE to SW completely changing what the models were showing. Most of the storms that did form today went linear with the exception of the storm through Dodge City that quickly ran out of moisture. Currently continuing to head north.

8:00 PM: Right on 42 E heading back towards the hotel. The only thing left of the storm in Pratt was an orphan anvil.

8:48 PM: Right on 49 S

9:03 PM: Left on 160 E

9:41 PM: Right on 77 S

9:50 PM: Turn left into Comfort Inn for the night. Morning discussion will be at 8:30 AM Total Mileage: 5233 Day 9 Mileage: 607 June 10, 2009 – Day 10 8:30 AM: Morning weather discussion led by Erin and Katia. Target area tonight is going to be SE Kansas into NE Oklahoma. The most unstable airmass will be in central to western Oklahoma but with time constraints and where we have to be by tomorrow then we have decided to head to this area. A major source of lift within this area of moderate instability will be a short wave moving through from the southwest late this afternoon. Initially, we are headed to Wakita to visit the Twister Museum and will head east to our target area from there.

9:18 AM: Leave Comfort Inn headed for Wakita, Oklahoma to visit the Twister Museum. Currently heading north on 77

9:23 AM: Left on 160 W

9:48 AM: Stop at Phillips 66 for gas in Wellington

10:08 AM: Leave gas station heading west on 160 W

10:10 AM: Left on 81 S

10:41 AM: Entering Oklahoma; Leaving Kansas

10:54 AM: Right on 11 W

11:04 AM: Right on 11A N towards Wakita, Oklahoma

11:08 AM: Entering city limits of Wakita. We are also under a Severe Thunderstorm Watch until 6 PM

12:28 PM: Leave the Twister Museum heading east to grab some quick lunch. After we eat we will head south to be rolled by an MCS to the southwest of our current location. Currently heading south on 11A

12:36 PM: Heading back east on 11. Also, MD issued for SE Kansas into Missouri for possible supercells that will produce large hail

12:52 PM: New plan is to head east and north after we get lunch to try SE Kansas as many of the parameters are looking favorable for supercell development.

1:56 PM: Left on 60 E

2:30 PM: Update: Heading to Bartlesville for lunch and then continuing NE into Kansas. Some cumulus starting to form in SE Kansas. The large MCS could affect things and some of the parameters are showing it by pushing activity into Missouri.

2:50 PM: Entering the city limits of Bartlesville, Oklahoma; Stopped for food just outside of the small downtown area.

3:32 PM: Left on HWY 75 N towards the Kansas border

3:50 PM: Severe Thunderstorm Watch issued for our area of NE Oklahoma. Severe Thunderstorm Warnings issued to our SW for a cell within the complex.

4:20 PM: East from Coffeyville, Kansas on HWY 166 E towards the far southeast portions of Kansas as the storm continues to build northeastward. As the storm is not tornadic and shows no signs currently of becoming tornadic, the current plan is to get ahead of it and possibly get rolled.

4:39 PM: Stopped on side road as the line is beginning to back build

4:43 PM: Heading back west as we think we may have gone too far east out of the path of the core

4:48 PM: Heading back east to our original spot and pull off on a side road to enjoy the storm

5:09 PM: Moving east to possibly get back ahead of the line. With this storm we experienced CG, fairly strong winds, heavy rain, and small hail

5:20 PM: Tornado Watch issued for southern Missouri for large hail, damaging winds and damaging winds with an isolated tornado

5:38 PM: Stop in Baxter Springs to top off gas tanks

5:54 PM: Leave gas station heading east on 166 towards Missouri

6:02 PM: Stay straight onto I-44 E entrance ramp

6:08 PM: Enter state #9 Missouri; Leaving Kansas

7:00 PM: Multiple counties in central and southern Missouri are currently under a Tornado Warning or a Severe Thunderstorm warning due to this cluster of storms

7:10 PM: Storms appear to be back building towards I-44 and quickly accelerating. Estimated speed is 40 to 50 knots.

7:25 PM: Storms are still moving very quickly and have actually passed to the NE of us. We are going to continue NE on I-44 to our hotel in Cuba, MO

7:33 PM: Currently in heavy rain as we catch a portion of the cluster on I-44

9:13 PM: Exit 208 into Cuba, MO. Holiday Inn Express straight ahead off exit. No weather discussion will be held tomorrow and we will leave the hotel at 8 AM to start on our way back to Valpo. Total Mileage: 5770 Day 10 Mileage: 537 June 11, 2009 – Day 11 – Return to Valpo 8:10 AM: Depart Holiday Inn Express in Cuba, Missouri heading east on I-44. Valpo is currently under a Flash Flood Warning due to 4 to 6 inches of rain overnight with rain continuing through the mid-morning

9:04 AM: Stop at exit 274A for gas at the QuikTrip

9:23 AM: Depart gas station continuing on I-44 E. This gas station was the nicest one by far the whole trip.

9:39 AM: Right ramp to 55N/70E/64E  
9:43 AM: Stay straight onto 55N/70E  
9:58 AM: Right ramp onto I-70 E towards Indianapolis  
11:05 AM: Right ramp onto 57 N towards Chicago  
11:15 AM: Start talking/voting on t-shirt designs  
11:52 AM: Stop at exit 212 for a Pizza Hut Buffet for lunch in Tuscola, Illinois  
12:41 PM: Depart from our last team meal and head to the fuel mart down the road for gas  
12:52 PM: Heading back North on 57 after the short gas break. MD issued for southern Illinois for the possibility of a tornado this afternoon.  
1:54 PM: The shirt design is now complete with Hornswoggle making an appearance  
2:19 PM: Right on Illinois 17 E  
2:32 PM: Right on 114 heading east  
2:41 PM: Entering back into Indiana; Leaving Illinois. 114 E becomes 10 E  
2:46 PM: Left on 41 N  
2:55 PM: Right on Indiana 2 E  
3:15 PM: Stay straight onto 1000 S  
3:19 PM: Left onto 500 W  
3:21 PM: Right on S. R. 8  
3:28 PM: Left on HWY 49 N  
3:38 PM: Right Exit ramp to US 30 E  
3:42 PM: Right on Sturdy Road and arrive at Valparaiso University and begin to unpack vehicles and the chase has come to a close. Total Mileage: 6180.2 through 9 states Day 11 Mileage: 409.9

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