

2006 CONVECTIVE FIELD STUDY B

6/5- 6/15, 2006 TEAM ONE Caitlin Ross driver *Andrew Rosenow navigator *Beth Stuckmeyer radar operator Bart Wolf field coordinator TEAM TWO: Dan Alrick driver Michelle Harrold team leader *Todd Kluber *Mandy Cencer TEAM THREE: Jason Baldwin driver Neil Schindler team leader *Steph Henry *Jo Marcus TEAM FOUR: *John Collins driver Ashley Mefferd team leader Michael Morales *Chris Hippler photo/videographer TEAM FIVE: Angie Fritz driver David Peterson team leader *Corey Senich trip logger *Matt Engelbrecht Day 1 Usually the first day of the chase is usually not used for chasing, but today the situation is different. There is a moderate risk in Nebraska and Kansas. If we can make it out there we should be able to chase on the first day. Departure time 7:07 from Valparaiso University. Day 1 SPC outlook- Moderate Risk located in Nebraska and Kansas. We are looking for a slight potential for supercells, but probably will encounter a squall line with strong winds. The UW supercell index is max out over northwest Nebraska at 80-90 on a scale of 80-90. 7:27- we stopped to fix the Post Tribune's radio antenna. 8:31- MCS issued over NW Nebraska reported over the CB. SPC outlook 9:16- the moderate risk in now west of Omaha and in Eastern Kansas. Supercells are expected to develop in Eastern Kansas in the late afternoon. So our first thought of chasing in Omaha, Neb might not be the best bet. We will have to move further south. 11:40- Stopped for fuel and food. 1210- The group agreed to follow through with the original plan of chasing in Nebraska and keeping an eye on how things develop as the afternoon progresses. 1245- looks as if the UW model might be correct. We are going to continue on 80 and will hopefully venture into the NE Nebraska area. DAY 2- looking at 'general' t'storms in the CO/ NM on the back side of the cold front. DAY 3 - 'see text' 2:47- stopping at rest station to look at some data using WI-FI. 3:25- New Day one update- T'storm watch in central Nebraska until 9pm tonight. Rapid super cell development within the next hour. It should become more linear as night progresses, expecting 80mph winds and 3" hail. Now we are heading due west instead of heading north due to the fact we are stretched for time and can make better time on the interstate. 3:40- fuel stop outside of Omaha. 4:55- 83/67 T'storm watch for Norfolk, NE south until 9pm for large hail and 60+ winds gusts Tornado warning in NW Colorado. 5:25- we stopped at Aurora Center of Commerce so that the team leaders could look at radar and discuss where we should head. We decided to head west on the interstate. 5:50- temp 85 degrees 6:15- wind reading on I-80: 8mph southeast wind 6:30- dinner and gas. 7:00 - the chase begins after a quick dinner. Severe thunderstorms developed off the the north/northwest. We turned off onto a gravel road to watch the storm. 7:30- after taking some pictures of the storm we decided to move south and west in order to stay ahead of the storm and hopefully be in a good position to chase although tornadoes at this point would be slight. 7:45- Shelf cloud developed in the storm we are chasing. 8:10- The cell we were under quickly died out probably due to weak surface inflow. Tomorrow looks like the group will head to Colorado. Day 1: 818 miles, a new record for a single day chase Day 2 9:08- departing from Hastings, NE exit and heading west toward Colorado. Today we are in search of upslope convection on the back side of a cold front that moved through last night. The storms may fire in northern or southern CO. We will wait until later in the afternoon to decide where to attempt to chase. 10:25- ran into a little road construction in the middle of Nebraska 10:47- the first broken windshield of the trip in Team Tango. Probably due to a rock from a passing truck. 10:50- pulled over so

the windshield can be fix with some nail polish. 11:45- right now conditions seem to be favoring development for the Denver cyclone in NW Colorado, which is where we are headed right now. If the cyclone kicks up we can expect large hail, strong winds, and a possibility of land spouts. Dew points are starting to mix out in the mid morning hours but they are still in the mid 50's. 1:05- Day 2 outlook from SPC looks like strong storms could develop in Western Nebraska and south eastern Wyoming, we will have to wait and see how this pans out. 1:10- Cumulus spotted on the horizon, looks like the storms are starting to build. 1:20- temp and dew point update 84/46-Denver 88/48 82/55 81/43 at other locations around Colorado. 1:25- restroom stop. 1:43- stop so we can have a place to stay tonight, but no luck because the rooms we wanted are all full. 2:00- stopped to fuel and eat in Akron, CO. There is a good sandwich shop there; everyone is happy and full. 2:51- T/Td reading from car 3, about 20 miles south of Akron, CO. 89/49. 3:12- A stop at Last Chance, CO so we can decide which way we want to head and so we can look a super cell in Iowa on radar. We decided to head west just in case the Denver Cyclone starts to spin up. 3:40- T/Td reading 91/37. Wind reading 10 mph out of the west. 3:47- We pulled off on a side road to look at some cumulus building to our south and west and so we can wait to see where storms will develop later in the afternoon. Right now it is really dry where we are located. 4:26- After taking some pictures and meeting a nice lady who gives animals a second chance, we head out toward the west in order to catch up to a boundary that is to the south of us.. New T/Td 91/31. We are heading toward the mountains because nothing is moving out from there much. There is also a Mesoscale discussion area from East Central Colorado down to New Mexico, which is where we are heading. 4:37- Wind reading NW 5mph; another crack has appeared in car 5's windshield. 4:39- Td- 38 (gravel road) 4:49- 5918 miles above sea level at the Palmer Divide and new Td 42. 4:52- Td- 46 4:56- Td- 47.2 5:04- Td- 43 5:18- 6711 ft above sea level while traveling through Colorado. 5:25- We are stopping to take pictures of the Rocky Mountains 6:40- After taking pictures of a dog that resembled a small polar bear, we head south to chase a thunderstorm of 55Dbz. Later- the thunderstorm held steady with a 55Dbz for 20-25mins, but eventually it died out. 7:28- we are headed to fill up and than off to the hotel for the night. 8:05- Stopping in Limon for gas. 8:35- Left the proud city of Limon and are now looking forward to some shut-eye in our hotel in Sterling (Best Western). 10:25- we pulled into Sterling, CO were we will stay the night. Day 2: 639.9 miles traveled today. Day 3 Today's outlook: There is a slight risk throughout most of the upper Rockies and into the upper western plains. Though the only tornado probability is in Idaho we have decided to chase in the Nebraska panhandle and maybe southwestern South Dakota. 8:40- We left the Best Western Hotel with an extra body. Welcome Mandy to team Tango 9:29- We stopped to fill up the tanks at BP and also see the world headquarters of Cabela's. 10:34- We arrive at Chimney Rock in Nebraska. 11:33- Wx center update- the SPC outlook looks identical to the early morning, so we will go visit Carhenge than go get some lunch and decide where to head from there. 11:40- We arrive at Carhenge. 12:20- Eat the Pizza Hut lunch buffet special 12:52- The group song happy birthday to some locals only to be hushed during the "insert name here" portion of the jingle. 1:55- leaving Pizza Hut to pursue storm. The buffet was fantastic and with the delivery of cheese pizza Dave became friends with the local waitress. Mandy has left team Tango. We hope her stay in the middle seat was enjoyable. The biggest hindrance to any storms forming will be a very large temp/dew point spread. A positive is found in the Westerly winds aloft, a

component missed in yesterday's chase. There is a convergence boundary near the NE/SD border. 2:15- Current temperature is 93 with an expected high of close to 100. 97/48 was recorded in the city of "Carhenge" 2:24- An apple core ejection was awarded a 10 (scale of 1-10). Well done car 2. 2:28- Temp recorded at 97 2:36- Stopped on the side of the road to acquire wind direction (Southwest) 2:55- We stopped at a Best Western so we can call base support and get some data on this boundary that is near by. We'll probably sit here for a while and bake in the sun. 3:44- after visiting with some town folk at the local eatery, who by the way all had nice classic cars from the 20's and 30's, we depart to fill up the tank and head east in search of moisture to sustain convection. 3:50- a thunderstorm watch was issued for SW SD down through NW NE in the panhandle. So we are sitting in a storage place waiting for an update from base support. EHI 6 in central cherry county with moisture convergence of 20: T/Td 94/57. 4:24- T/Td 86/56. Cherry county has t'storms which have become super cellular. 4:35- stop in Rushville, NE to fill up on gas; then we head east to look for a spot to perch and watch for development. 4:55- Stopped on a road to watch for development. 5:13- T/Td 73/59 with wind gust of 37 mph. 5:39- new MD from the SD/NE border down to route 2. Look for rotating thunderstorms, large hail and strong wind. Tornado risk is low due to the T/Td difference. Thunderstorms should fire due to good shear and strong outflow on a boundary sitting right over northern NE. 5:48- severe t'storm warning for Cherry Co, which is the county to the East of us. (76/56 F) 5:58- 78 F 6:07- 81 F traveling south. 6:14- Td (52) 6:19- we pulled off onto a gravel road; here we will sit and wait a little bit. 6:32- T 87 F winds south at 12mph, boundary is a few miles north of route 2. Td-46 6:39- 92 F 6:43- 94 F 7:40- a stop for gas at a BP. Shortly after leaving the gas station there was a apple toss warning. Neal was only rated a 6 on the toss. 8:04- pulled over to check out the data. 8:16- in pursuit of a cell just E/NE of Hyannis, NE. It is reaching 58 Dbz on the radar. 8:25- 59 Dbz with 1.5' hail aloft. Core and structure continue to improve. 8:29- car 3 first bird hit of the trip. 8:35- the cell dropped to 53 Dbz 8:44- the storm continues to weaken. 9:09 the first cell we started chasing weakened. We stopped to take some pictures and then headed north 83. There are some cells off to the north. We shall see if they do anything. 9:25- we pulled off to in order to take some pictures of lightning. 10:30 after a few stops, we arrive at the Holiday Inn in Valentine, NE. Day 3 total mileage: 470.8 miles Day 4 Today's SPC outlook showed a slight risk through the upper western plains: eastern Idaho, through southern Montana, western ND & SD, and the panhandle of Nebraska. Early indications show only a slight risk of tornadoes because of low dew points, which will cause high cloud base levels. Also there is a boundary sitting through northern NE, which we are going to sit on today and watch for development. Early indication along the boundary are a potential for super cellular thunderstorms to occur, with large hail and strong winds expected. 11:40- we depart from the nice Holiday Inn Express after a long night of hospital runs and being disoriented by the lightning show which lit up the sky over the metropolis of Valentine, NE. 12:10-T/Td reading just to the west of Valentine, NE 78/61 12:30- apple core ejection from car 3, Angie gave it a rating of 9.5, which is better than yesterday's throw by Neal. 12:50- New Day 2 SPC: they moved the slight risk to the east into eastern NE and W Iowa with chance of super cell development and a slight chance of tornadic development. 1:00- T/Td 85/54. 1:45- We stopped at Subway and we filled up on gas at Highway Express where you get a free bag of popcorn with every \$10 worth of gas. Angie climbed a six foot tall tractor tire. 2:47- T/Td 98/55 92 in the shade. 4:56- 92/ 54 T/Td we have been

playing Frisbee, tossing the baseball for a couple hours, and relaxing all until the storms develop. Some storms developed in CO but shortly fizzled out. 5:20- we go back into Gordon, NE to fill our stomachs and empty our bladders before we go chase some developing storms to the south. We hit a little snag when the universe kind of collapsed on itself, so we had to take a longer break than expected. 6:37- we are back on the road with storms strengthening to the south of us, and they are moving N/NE. So we are heading south out of Gordon to pursue. 6:54- T/Td- 93/45.

7:12- T/Td- 90/47 7:24- Pulled off on a gravel road to check out the radar images. There are storms off to the SW moving N/NE. We decided to head south to kind of meet up with the storms coming our way. 7:34- Pulled off into a play ground and a one room school house. We played on the swing set and monkey bars and watched the radar. 8:38- we left the playground to chase a storm which is off to the west moving north. 9:14- we are pulling over to let a storm roll over us. 10:19- Just took a measurement prior to inflow band 76/54. We headed north to Gordon where we picked up route 86. We got some rain on the way back to Valentine, but nothing too intense. There was a lot of CG and CC when we were in Cherry Co, NE but as we headed east the lighting let up as the MCS moved toward the north and east. 11:40- we arrived back at the Holiday Inn, now its bed time with hope of a lot more severe activity tomorrow. Day four trip total: 315.3 Day 5 SPC outlook for today had a slight risk for much to NE and W IA, with another slight risk in the upper central Rockies. We debated whether to head east or west at this point in the morning. The ETA model had a better potential for storms over E NE which would than move into W IA. The RUC had a better chance of storms in W NE/ E CO, so we waited until more information to come in until making a decision. At the 10:30 meeting we looked at the updated models and decided in the best interest of tomorrow that we should head west today. Even though there is an improving chance that super cells could develop in W IA today, we chose to go west in order to set up for an even better chance to chase tomorrow in the CO/NE region of the nation. 11:50- we packed up the cars and left the great town of Valentine. We decided to head back west to chase today instead of E NE and W IA. 12:03 T/Td 87/62. 12:16 Bart attempted his first apple core ejection and was pretty successful and almost hit a sign. 12:43- T/Td 84/59. 12:58- T/Td 82/62 1:11- T/Td- 81/63 1:25- fill up for gas in our favorite N Nebraska town of Gordon. 1:51- MD issued for SE WY, SW SD, and NW NE. Looking for severe thunderstorms, large hail, and strong winds, with possible super cell development. Td- 57 2:14- We pulled in to a gas station for some lunch in Rushville 2:36- We left the gas station and headed for a lookout point just east of the city of Rushville. 2:39- T/Td 95/57. 2:55- we start to head north to chase a storm that has been developing all day and also has with it a severe t'storm warning. 3:25- after heading north for a couple miles we decided to turn back around due to trees obstructing our vision. We ended up at our old perching post just south of Rushville. 4:24- We head west to track a cell moving east in E NE. 4:38- The cell we are tracking may have a lowering associated with it. 4:45- Wall cloud confirmed by the chase group. (visually) 4:54- 83/57 For the next hour we watched a storm with a nice wall cloud move right toward us. There was some upper level shear but we did not experience any hail, high winds or tornadoes. 6:18- a new MD was issued for just south of where we are, so we are heading that way. 6:31- after the storm we were watching dissipated we figured we would chase double rainbows down a muddy road. We made it down the road all right but on the way back cars were slipping and spinning out. Luckily no one got stuck in the mud. 6:44- we decide to chase a storm to the south of us,

so we are back on the road. 6:47- Team Tango had a road kill. 6:57- 67/61 there are towers going up on the southern horizon, and a rain free base off to our east. But we continue south after the towers. (later on that rain free base produced a tornado in Cherry Co, NE. Cherry Co is almost impossible to chase in.) 7:55- we pulled into Alliance, NE where we are lodging tonight, to check in to our rooms and grab a bite to eat at the local establishments. 8:30- we pulled off a gravel road to the south of Alliance, NE so a 50+ Dbz storm can roll over us and hopefully wash our cars off. 8:43- the storm seems to be moving to the north of town so we are going to reposition north of town. 9:10. We find a road north of town to pull off to take pictures of the approaching MCS with a good lightning show and an impressive shelf cloud. The storm moved through, the lightning did not disappoint, but the highest wind recording from our anemometer was only 16 mph. 10:05- we (Angie) get scared off our road outside of town by a truck who comes from behind us, so we head back to town as the storm is passing by us. 10:25- back at the hotel for the night. Today was a success because instead of taking the SPC bait (risk) over IA we decided to move west and roam the NE panhandle. We ended up seeing a lowering in one of our storms and a strong MCS with a good structure and lightning. So tomorrow we will have to see if we will be in good position to chase a potential severe day. Total Mileage: 287 miles Day 6 9:00- The first of two discussions took place in room 127. Things are looking promising as SPC has issued a 5% chance of tornado activity in our area. Once again moisture is keeping expectations low as the temp/dew point spread is still very high. A weak cap in the area is also attributing to a possible absence of tornadoes. We agreed to meet back a second time at 11:15. 11:15- The second discussion has yielded a more southerly chase rout. First indication set up a chase area right around Alliance. New developments in the models and observations has led to a stronger cap south. 12:35- Decided on a southerly route and had some lunch. Most people opted for the Arby's right across from the hotel. 12:50- An MD has just been put out for a large portion of the panhandle region and into northern Colorado. 1:05- Stopped for gas and added a couple quarts of oil to the Pilot. 1:16- A server thunderstorm warning has just been put out till 2Z from Ogallala to the northeast corner of Colorado. Wind and hail is associated with it. Cheyenne radar is down till further notice. "We are going to have to do this old school gang". 2:02- Found a place just southeast of Scottsbluff to watch a developing storm. 2:31- TORNADO WARNING...wait...base just cancelled it. We are now leaving the lead storm to head east. We have chosen to stay ahead of this one and should it die off we will pick up chase on the cells following it's path. 3:00- Stopped off at a gas station for oil. While waiting COD passed us. 3:15- Left the gas station in pursuit of a storm currently forming in WY. We are looking to head it off in Kimball. SPC dropped the 5% tornado watch over the area and moved it into the southern most county of Kimble. 3:38- Just passed through the bluffs...now busting tail west. Average speed of 80 mph. 4:30- Stopped for gas 5:15- While traveling on I-80 east an empty cattle truck was blow over the median. We reported to the weather office in North Platte and immediately heard the report over the weather radio. While sitting word came across the CB that a cell is forming to the Southwest and has the most shear of any storm today. 5:21- We are going to try and pass the blown over truck by passing in the grassy median...this is going to be interesting. 5:24- Just passed by the truck. Apparently the driver was driving west, was struck by a large gust and was blow across the Eastbound highway. Registered a 45 MPH gust. 5:34- Bart had a brief conversation with local. He warned the driver of the

possible strong winds. 5:37- Punching northerly part of cell core. 6:06- Received notice that this core has registered 80 mph straight line winds. 6:16- Decision was just made to bust through and get ahead of the current 6:19- Tornado indicated and spotted (report made by the weather radio) 6:24- After turning south we are calling of the chase due to the increasing speeds of the cell. Total mileage for day the day 243.6 Day 7 Today's outlook is showing some promise for us. In NE CO there is a 5% chance of tornadoes. The upper air winds have calmed down but there is still favorable conditions for supercells to develop. Today is probably the best chance to see a tornado on the entire trip. Today on the trip we are honored to be joined by VU alum Jared Guyer, who is now working for SPC in Norman, OK. 10:40- We pulled out of the hotel and headed west from NE into Colorado. 12:35- We stopped at Sonic in Sterling, CO to eat an early lunch 1:30- We leave Sonic and head to the gas station so we can be prepared to chase. 1:45- We head south and west to get into position for today. 2:25- we pull into an abandoned gas station to wait for data updates. 5:37- Pulling out of the station to chase a cell located south west of our location. 5:39- Apple core ejection from car one 10/10. Well done car 1! 5:41- Severe Thunderstorm Warnings have been announced in the counties to the south (Northwest Adams, Northeast Jefferson). 5:43- 68DBZ 5:55- Shear indicator placed just over Denver 6:05- Stopped to watch the approaching storm 7:39- left to chase down a possible developing MCS 7:41- A car swerved into Team Tango and took out a mirror. 8:15- Corey and I begin to tighten up in the neck region. 8:45- Retrieved insurance information from local #1 8:52- Back on the road 11:45- stopped for gas and received a free bag of popcorn 12:30- arrived at the hotel. Mileage: 385.0 Day 8 Today's outlook is looking slim. There is finally some moisture in the air but now there is a strong cap. We are going to head back west into Colorado and see if anything develops. 11:45- we left the hotel in Colby, KS to head west to Limon, CO for lunch. 1:21- MD for E CO south into N NM. 2:23- stop in Limon, CO to get gas and lunch. 3:40- Jared rejoins the group to chase another day with V.U.S.I.T 3:52- we leave after eating lunch and head south out of Limon. 4:08- we chill on a county road south of Limon, and play catch and wait for stuff to develop. 4:58 - a cell develops out of Denver, which we are going to chase. It has a severe t'storm warning on it. 5:30- T/Td- 85/57 5:50- we pulled off onto a road to watch the storm which did produce a some microbursts on the horizon. Later on, the storm dried up and didn't produce much. 7:08- We got into the middle of a nice brown colored microburst which enveloped our cars there was also two amazing rainbows in the clouds. 8:15- we stopped to get a little gas and a snack. 9:07- after going after a storm to our north, we decided it would not strengthen and to just start the journey back to the hotel. 10:00- we stop off at our favorite sub shop in NE CO, KT's, and eat dinner. 1:25- we get back to the hotel and pass out. Mileage: 535 miles Day 9 Going North! 9:45 We left the hotel to fill up on gas and started our trip north 12:15 Stopped at gas station in Ogalalla, NE 12:28 Stopped at the Lake McConaughy, which is just north of Ogalalla. Took a couple minutes to take in the scenery and the dam (lake level still low) 90/64 2:26 Stopped for lunch. Arby's count # 5 2:53 Back on the road 3:10 Twister is now playing in Team Tango 3:16 MD has just been issued 6:15 Pulled off the road to watch structure. Two cells going up (North and South). 6:50 Heading to hotel for early check-in 7:37- we checked into the hotel just so we would have our keys in case of a late night. 7:58- we pulled off a road to watch a nice CU go up but it did not end up doing anything. 8:12- A storm off to our south was reaching 69 Dbz, so we decided to catch up to it. 8:39- The nice people of the National Parks of the

U.S.A. let us drive through the Badlands National Park for free, or maybe it was because of Bart's charm. The following couple hours we chase a storm that by the time we got to it was already weakening. A storm off to the southeast developed, so we gave chase but nothing ever came of it 11:40- we get back to the hotel and go to bed, without any dinner. Mileage: 707 miles Day 10 Today's outlook from weather discussion gave us two options. The first being we could head west for a bit, wait for storms to pop, and have a certain cut off time where we must leave and head east. The other was just to head east and with the slight risk something pops to out east, we could chase it. If nothing pops than we would just take it easy and stop at a couple tourist places along the way. 10:10- we left the hotel and head to BP to get gas. 11:36- 87/64 1:50- stopped in Mitchell, SD for lunch. This is also where the Corn Palace is but some storms developed at lunch so we did not get to go to the Palace. 2:25- after lunch we met at a gas station to discuss the plan to chase the storm. 4:35- we stopped at a BP in western Minnesota. There was also a Dairy Queen at that gas station and most of us enjoyed some ice cream. 5:17- We stopped in Blue Earth, MN home of the Jolly Green Giant and the trip was now complete. 6:20- we pulled into the hotel in Albert Lea, MN. 7:10- we had one last group meal at an Applebee's, which was right down the road. Mileage: 465.1 miles Day 11 (The drive home) 8:06- we got all our stuff packed and loaded up the cars for the last time. We head south to Valparaiso, IN. 12:41- We stopped just after entering the Illinois to eat lunch. 5:12- We safely arrived back at the beautiful campus of Valparaiso University. Total mileage for day 11: 482 miles Total Mileage for the entire 11 days - 5348.7 miles Car5 – 6050 These are the guesses for total miles travel on the first day of the trip. Car4 - 6142 It looks like everyone went over. Car3- 5900 Car2- 6100 Car1- 5555 This trip log is brought to you by Corey Senich with a little help from Matt Engelbrecht.

The PDF Footer