

The Tornado Project

The Great Plains in the mid west of USA, known as Tornado Alley, is an extraordinary place during storm season. It truly is the eighth natural wonder of the western world.



Technical - A tornado is a violent rotating column of air that reaches to the ground from a storm cloud in the shape of a condensation funnel created and maintained by strong inflowing winds. The spinning winds can attain extremely high speeds which provide great risk to property and life at the ground and in the air. When the humidity is high enough, the tornado funnel is made visible by the circulation of condensed water vapour in its outer sheath, but although the flow of air is inward and upward, the cloud within the low-pressure funnel actually extends downward from the cloud base.

Tornado Alley is an area in which over 1000 tornadoes occur each year and geographically encompasses the central core of the United States (Great lowland areas of the Mississippi, the Ohio, and lower Missouri River Valleys). During the main storm months of April – July three main ingredients come together. Tropical moist air from the south via the Gulf of Mexico collides with hot dry air from the east via the Rockies and cool dry air aloft from the north. These air masses stack up over the centre of the nation, creating a unique combination of atmospheric ingredients and which provide a perfect breeding ground for severe storms. Such storms can flatten entire communities within minutes and cause utter devastation.



Camera Equipment - Olympus E3 (x 2) and lenses, 12-60mm SWD, 50-200mm SWD, 7-14mm, 8mm fisheye.

Unlike the Arctic Circle (first leg of the Elemental Project), Tornado Alley is not a new destination for me. It has almost become a cyclic feature. I love the country, the freedom, the space and of course the weather. There are no logistical problems, no language issues and everything you need is available with relative ease. One could almost call it a dream destination.

The agenda this year is slightly different. The Elemental Project puts a slightly different and pleasant slant on the objective - To capture a tornado and all that goes with this incredible and powerful feat of Mother Nature. Alister and I have one week to forecast, pursue and capture our goal. No mean task indeed.

On this trip I am armed with the latest Olympus Supersonic Wave Drive (SWD) lenses which boast the world's fastest auto focus speeds. A feature I was keen to test drive in such a hostile and hurried environment. I was driving these through 2 No Olympus E3's (simultaneously) and a plethora of accessories. One such accessory was a PCCLix time lapse controller. I was very keen to capture the motion of the wild and convective skies in the Plains and this very neat tool enabled me to do so. More on this later.

Conditions on this project were going to be a far cry from the freezing cold of the Arctic, in fact quite the opposite. Weather would be very warm with extreme humidity, I would be fighting

intense precipitation and every digital photographer's nightmare - immense quantities of ambient dust. The Magnesium Alloy body armed with a plethora of weatherproof seals were going to be pushed to the limit on this trip.

Along with Alister and myself on this trip was a representative from Sony, Rebecca Hastings and an old stormchasing colleague of mine Ian Brindley (well, not that old!).

Day 1 - Arrival. Denver, Colorado



After pouring over the long range forecasts Al and I had decided a good pattern was set up towards the end of the first week in June. It looked like offering us an entire week of storm opportunities. The first round of storms were looking central/northern Plains and Denver airport was chosen as a good base to get going. Upon arrival we were straight into the fire. It was late afternoon and storms were firing up in the neighbouring state of Kansas on a day deemed as moderate risk (of severe weather) by the Storm Prediction Center (SPC). The opportunity

was there for us to pursue these but more importantly the following day was our goal. This was already categorised as a Moderate risk day and likely to go high with a potential big day for storms and tornadoes. Positioning was our objective right now as we needed to reach Nebraska this evening. We reached McCook shortly after 11pm (local time) which meant our bodies were in CDT but minds still in GMT (5am equivalent). I should have been whacked with jet lag by now, and in the cheap seats there was certainly some window dribbling going on, but surprisingly I was fine. We found a motel and settled down for the evening. The usual 'end of day' internet trawl finalising the next day forecast was the first of many. Interestingly also there were 47 tornado reports today mainly in Nebraska....wow!

Day 2 - Decisions. Kansas/Oklahoma

I awoke at 6am, through excitement and anticipation of the day ahead. With the brown water bubbling away, an excuse for caffeine, I flicked open the laptop and delved into the web forecasts. Yuk, they were as welcome as the brown water. Weather models were now indicating a huge target area, one north and the other south Plains. The storms would be moving very quickly and evolve into a linear system. In short, a mess. The SPC risk area was still moderate (shortly to go high) but encompassed a huge area both north and south of us. Our plan was to favour the southern option and play storms along the dryline (boundary between dry and moist air). Al and I imparted the good news on the rest of the team as we entertained breakfast. This consisted a tasty bowl of polystyrene washed down with an even tastier cup of polystyrene. These motels sure are Al Gore friendly. Oh for a decent coffee!



We set off at 9am with a plan and after fuelling we headed south. The price of gas this year is incredible, although should I be surprised or relieved at paying only \$4 per gallon? As we drove south across the border into central Kansas the storm risk potential had now been updated to high by SPC. There were sure going to be lots of storms today but could we keep up with them and would they be photogenic? At this point I turned thought to the camera and how I was going to achieve good shots today. Most camera action would probably be mobile (from the vehicle) or limited to a few minutes at the side of the road. As we continued south and reached the heart of Kansas, the radar show began. Storms had already started near to Dodge City (SW Kansas) and quickly go increase into a linear format. It was insanely early,

just after 10am, as we directed our attention to these storms. A typical chase day would involve positioning until late afternoon before chase and intercept! This was going to be a long day.

Once we caught up with the line of storms it was a case of keeping up with them and picking off the better looking ones and those which were assigned a severe thunderstorm or tornado warning via the National Weather Service (NWS). Aah, the unmistakable alarm on the NWS radio! Whoever came up with that tone I'd like to shake their hand. Unforgettable! A long drawn out deafening tone that repeats in dreams for many weeks after. We occasionally pulled over and captured as many shots as feasible. It was not very photogenic I must admit and lighting levels were very low. No time for a tripod either. I switched on the Image stabilisation (IS), a great feature in hurried shoots like this and fired away. It was the first time I had also used the Supersonic Wave Drive (SWD) breed of lenses too. This offers lightning quick fast focus capabilities via the compatibility with the E3. I must say I was mightily impressed with the focus lock-on speed, especially in such a low light environment as I shot with the 12-60mm SWD lens.

This was to be the story for the day, unfortunately. The storms did evolve into one massive line which produced lots of hail, lightning and intense rain with flash flooding. All day we snaked our way north eastwards ensuring that we stayed on the east side of the moving line. There came a point in time when days end was nearing and we concluded a poor chase day. We planned a grand finale and locate a building which would offer us shelter so we could sit, watch and wait for the squall line to pass over us. We pulled off the Kansas Turnpike at Emporia and low and behold we found a car wash. A line of solid car ports allowing us shelter and protection whilst we set up the cameras and video, and waited. This was actually good fun. The approaching squall line took on many phases. First came the wind, as trees started stretching



and bending with the howl. Then came the rain, and boy did it rain. It was intense. I was attempting to capture all of this via a time lapse sequence which actually came out pretty good and showed the ensuing panic all around. Also not wanting to waste an opportunity I threw Alister out in the tropical storm like precipitation with the new Olympus 1030sw pocket camera. Marketed as bombproof (almost) and totally waterproof I ushered him to take a few pictures whilst I captured it on the E3. He got drenched, as did the 1030sw, but the exercise was productive. I then threw the camera under a drainpipe which was spewing torrents of water down the car wash exterior. This made for some great footage too. Yes, indeed the 1030sw was waterproof.

Once the excitement passed we got back on the road and headed towards Kansas City, near the Missouri border. This was to be our stopover for the night.

Day 3 - Kansas anti-climax

Once again we woke to a potentially busy and active storm day. The storms we were chasing yesterday had moved to our north and east and would continue to offer high risk scenarios for today in the Illinois area. Another target area was also in play, SE Kansas which we favoured albeit at a lower risk and better photogenic potential. We breakfasted, fuelled and set off. The high fuel prices were very noticeable this year. They must be, as I keep mentioning it! We are also covering lots of distance and filling more which I suppose gets felt on a frequent basis.

As we got on the road and headed south down the 59/159, our target Coffeyville, I reflected on the first few days. Very few photos. Very few photo opportunities. This frustrated me. The

severe weather at the moment was exactly that but moving so quickly and offering very few stopping opportunities. Things had to improve.



As we got closer to the Oklahoma border a number of weak thunderstorms were initiating in the North East so we headed off in this general direction. We spent a frustrating amount of time waiting and watching to see if any one storm would really kick off. Once again we snaked in a general NE direction through Oklahoma, back into Kansas and then into SW Missouri. Once again hours passed pretty uneventful until light started to fade. The frustration was now starting to set in and I was feeling pretty dejected, as were the rest of the team, signified by an unusual

silence within the vehicle. Three days into the trip and not a decent photo to shout about. We needed something, anything to pick us up and restore some confidence within the team. It did not take long. As we turned around and headed back into Kansas, resigned to another down day, and thinking about accommodation for the evening, an isolated storm popped up on the radar and soon went tornado warned. It was now dark and the tornado was spotted on the ground in SE Kansas heading towards a town called Pittsburg. Al, who was driving, soon shouted out "Shall we go for it?" Slouched bodies sat upright. There was his answer. The weather radio kept us up to date of tornado and funnel cloud sightings. We wondered how they could confirm this in the dark but still we were now excited as we approached Pittsburg. As we neared, the sound of tornado sirens ringing out in the town stirred emotions. Rachel, our Sony rep, had never heard such a sound before, and for those of us who have, it still remains a scary experience. This however was quite an eerie and weird sensation. As we pulled over and located in a safe position to watch it pass through Pittsburg we noticed something odd. There was no lightning, no hail, in fact no visible precipitation at all, yet the sirens were loud and clear. I looked hard into the darkness and for a split second against the lit backdrop of the town I could see a wall cloud. I then shouted out "What is that lowering" with Al replying "Yes I see something too". Ian and Rebecca noticed nothing but for a split second could that have been the funnel cloud or even tornado? We never found out, but it was exciting. Unfortunately I could take no pictures as it was dark so it remained a memory moment. We pursued for a short while grabbing the odd glimpse of a wall cloud and structure before it all fizzled away. Excited and with renewed confidence we got back on the road and headed north towards Kansas City. There was now a buzz in the air as we felt a sense of achievement and confident this was to be the turning point on our trip. We arrived just south of Kansas City around Midnight, once again drained and shattered. The driving, the emotional roller coaster was taking its toll.

Day 4 - Iowa tornado

Although we got in at midnight last night I never slept until 1am. Time was spent updating forecasts for today, keeping the blog up to date and downloading the few photos I had taken. Personally, I was seriously starting to panic on this side of things. I had hopes of a suitcase load of photos upon arrival a few days ago. I had no more than half a dozen, and these were mostly logistical type shots. I was so desperate for some good photogenic storms and of course that elusive tornado. Good things come to those who wait I kept telling myself. Boy how I hate that cliché, especially when it doesn't.

After an early breakfast (again) and with renewed confidence amongst the team we set off at 0830hrs north towards our target area of De Moines in Iowa. Another long drive and day ahead. Up through Missouri and into Iowa as the miles clocked up. Boy we were sure going to send this vehicle back with some mileage on the clock. An initial slight risk had by now been upgraded to moderate by the SPC.

AS we reached Des Moines locality we noted how warm and moist the air felt. We stopped just north and west of the city for a quick lunch break and waited. Temps were 85F with dew points of 74F and you could feel the moist air. A rare opportunity, to stop and capture some images.



Building cumulus signifying a boundary as convection initiated. These always make nice pre-storm shots. I proceeded to frame some panorama compositions and also stock up with wide angle views using the 7-14mm and the wonderful 8mm fisheye lens. It was now 3pm and convective cells were now building and maturing nicely. This was more like a typical chase day. An exploding storm to our north showed up on radar and we could make out the frontal anvil cloud feature ahead of us. This was our target.

We pursued the storm for the next few hours as it developed, grew and tracked north east. The terrain in Iowa was great for chasing. Flat, open and lots of good road options. This allowed us to make good time against the storms and position well for photo shoots. Thankfully we were getting more of these in today. It became routine as we pursued, positioned and ran outside for a few minutes shoot. At last the photos started to come in. I was much relieved. The storms were also moving slower and more photogenic which was a huge relief too. We kept stair stepping up through the grid road network as we hugged the moving storm, which by now was a supercell and concentrating its energy into producing a continuous rotating wall cloud. This cloud lowering is an area where tornadoes can form at the base of the supercell. As time progressed storms became less isolated and once again began to take on a more linear form. Never good news as the merging storms dilutes each others ability to sustain. Still we hung in there and kept close to the SE area of the storm. Keeping in the dry slot and looking down the notch, or opening in the SE side of the storm where tornadoes can form (and be seen).

We kept progressing north and east as the storm system, now tornado warned, flirted with the Minnesota state border. I had lost track of how many States we had been through already, but it was a fair few and I was heading for a personal record. As the storm crossed over I35 and near Northwood there were reports of tornado sightings, via the weather radio, coming through. We were now on minor roads and dirt tracks as we headed almost due east and located just to the south of Carpenter. All of a sudden Ian screams out "That looks like a horizontal funnel". We drove right underneath it and yes he was right. A highly sheared environment was doing its stuff right above us. We were potentially dangerously close, if the funnel was to become vertical and lower towards the ground. As we were thinking out aloud this very scenario began to happen. The funnel got drawn towards the ground and was solid looking tube. As we sped away and quickly turned north onto road S68, a needle grew from the main tube and hit the ground. We immediately pulled over and lost a few valuable seconds of footage time. We were on the corner of S68 and 430th St and looking North West towards Carpenter. Doors flew open and we all scrambled outside. I was ready for it. My camera (E3) was already hanging around my neck. I started shooting immediately, knowing the tornado could be gone within seconds. It was a nice chunky tube, with a need needle tube in contact



with the ground. The composition could not have been more perfect. There was a farm and buildings in the foreground, painted with beautiful reds and whites. It was also close. What a great view we had. The tornado looked like it was about to wipe out the farm, but in fact (and



thankfully) it was further away and behind the farm, probably just south and west of Carpenter. The farm, we later learned, belonged to a John and Marilyn Schotanus, a retired elderly couple.

I was shooting with the Olympus E3 and new 12-60mm SWD lens. The lightning fast focus-lock lens became an important feature to me as this tornado was not to be on the ground too long. In fact it lasted barely longer than a minute. I was grateful to the equipment allowing me to maximise on the opportunity. Al managed to get some footage in too, although he was cursing the fact he wanted more. Ian unfortunately had a techno moment and whilst he thought his video was filming, actually it wasn't. Nightmare scenario. Mr Techno Notice was gutted. I felt for him. Still we had enough to share. More importantly we had caught our tornado. A result.

We continued to track the storm for a short while constantly watching the supercell line in the hope of another tornado. It did not come but we still got some great storm structure. We had now retreated back down the line of storms, further south west, always staying on the dry (east) side. We picked off the best looking storms on the radar and pulled over frequently for photo shoots. On one such stop we were entertained with a spectacular session. We were riding the very edge of the storm line and had dark intense and volatile storms to our north and clear skies to our south. The cold outflow and downdraft air ejecting from the line of storms was surging ahead and lifting the warmer air. It creates a very turbulent and volatile sky with many mammatus like formations. The sky looks alive and is constantly moving, almost like a flowing river. It is known as a Whales Mouth effect and makes great photographic material. We stopped here for a good half hour. I used the opportunity to carry out some time lapse photography on the crazy skies. I had with me 2 cameras (both E3) this year, for this very reason. It allowed me to use one for specific stuff like time lapse or lightning. I was using a PCClix time lapse controller connected via a special remote cable to the E3. The time lapse gadget is something I acquired via PCClix specifically for the project. It was very easy to use. Once connected to the E3 I just turned the dial setting the repeat exposure frequency (5s was good enough), switched to manual focus and off it went. I could then walk away and continue shooting the wild looking skies with the other camera. I had seen Whales Mouth before but never anything as intense as this. It was really mesmerising. Rebecca was fascinated having never seen anything like it before. It was actually quite a difficult subject because of the harsh extremes in exposure (combined bright and very dark skies). I was constantly metering through the camera for both to ensure a good range of exposed images.



I could have stayed there for hours but we had to move and think about getting to a motel in readiness for tomorrow, which was already looking like a long drive (again) back south. We continued heading south and dropped onto the I35 allowing us to make up a bit of time. We eventually pulled into a motel just north of Ames and had the luxury of eating out when we arrived, or was that the plan? There was many a smug face on that journey and the reason why? The reward of a steak dinner, a signature of a successful day, or more importantly a tornado capture. I never shut eyelids till gone 2am. For once it was a pleasure spending much time downloading images from camera to laptop. There were plenty and quality was good. I was a happy man, at last. I knew that tornado siren event in Kansas would be the turning point!

Day 5 - Glorious Oklahoma Panhandle

That was a short sleep. We had to leave Iowa at 8am for a mammoth 8 hour drive to our next target, Oklahoma. This was some 500+ miles away. I was still glowing from the previous day's

activity and this filled the excited conversation over breakfast and our long trek southwards. Whilst overjoyed at catching the tornado we all expressed a desire to have had more footage. Still you have to take what you can from these opportunities. From looking at the reports across the internet forums it looks like we were the only chasers to have caught the Carpenter tornado. Most gratifying.

Today's play was less severe but offered more photogenic opportunity, so it seemed. Although this was a long way off with the long journey ahead. The vehicle had become our mobile home. We were spending more hours in the Chevy than out of it. This in itself is quite a challenge physically and mentally. Stormchasing is not for everybody. If the frightening scale and intensity of the storms does not quake you then the torture of being caged in a vehicle for 15+ hours every day will. I have become pretty hardy to the travelling over the years and I amuse or engage myself in different ways during the many 'dead' hours. This is normally through driving, navigating or stuck into my laptop. It's interesting to watch different people, especially those on their first trip, react to the driving. After the initial day or two, interest generally wanes and most spend the many hours dribbling down the window. Some lose themselves in an ipod type device and/or take in the scenery. I suppose there is only so much rolling flat Plains terrain one can take but, to me, is the *real* America and I just love it.

By the time we reached south Kansas, storms had already initiated in Oklahoma near the Texas panhandle border. We continued south into Oklahoma and picked off the best looking cell on the south edge of a building line. I just love the terrain of the panhandles. Flat, endless visibility, straw fields everywhere (great for photo composition and exposure) and excellent road network. Once again we had plenty of stopping time for photo shoots. The first storm we pursued evolved into a magnificent and photogenic supercell. We watched a lovely wall cloud form, saw plenty of rotation and many funnel type formations. At one point we were convinced a tornado had made contact with ground. A bright red combine harvester in the foreground reaping the harvest with a supercell and possible tornado in the background. Wonderful. The camera was busy.



Once again, we snaked around the Oklahoma road network and picked off our shoot locations. The supercell had great structure. Lots of rotation, striated structure and looked great. In order to capture the full effect of such grand designs I constantly shot panorama. What I mean by this is using the E3 and 12-60mm SWD lens and taking consecutive shots (3 or 4 bursts) on the same parallel plane and holding the AEL. This would ensure a consistent exposure across the frames which I could then revisit and stitch post shoot. I would also use the 7-14mm and 8mm fisheye on the same composition to diversify the same subject. I can never recall skies looking so green and menacing. The baseball size hail (reports) were the cause of this but really made the skies appear camera pretty. Ironic I suppose because where the hail was falling it was most likely destroying everything in its path.

We enjoyed much of the same all afternoon and early evening until darkness descended and once again the storms formed into one huge squall line. It was a very good day and my camera storage cards were full to the brim. I could hardly wait till the motel to download. We did not run far as we stayed in Guthrie overnight and got there reasonably early. A chance for a rare sit down meal. As we retired to the rooms



for the evening and as I sat down to commence the nightly task of next day forecasting, photo downloading and blog writing, the squall line had caught up with us and was nearby. Lightning was evident on the horizon. Not wanting to miss a lightning show I grabbed my camera bag and headed for the door. It was now midnight. Upon opening the door Al, was leaving his room too, video in hand. Great minds think alike. We setup outside the side and front of the motel, waited watched and caught a very poor lightning show, it had to be said. Still it was the first opportunity of the trip to do some lightning photography. In the past few years I had caught very little decent lightning and something I was hoping to address if not on this trip then most certainly the monsoon trip in July.

It was not long before we gave up and finally retired to the rooms. A cup of muddy water later with images downloaded and all blogged out I gave in. It was well past 2am. Plans for tomorrow? It could well be a down, or travel day.

Day 6 - Travel day, Kansas/Nebraska



Today was a down day, and one we used for positioning/travelling for the following day. The model forecasts are currently showing two plays. One in South Kansas and the other, which couldn't be much farther away, in South Dakota. The plan was to head north aiming for a Nebraska target which would allow us to take stock and still play either. As a result we were allowed the luxury of a late start, the first one of the trip. After a lazy breakfast we hit the road at 10am. After a short visit to the local Walmart, to stock up on presents, we zipped across the border into Kansas and north on 183. We also attempted to locate a gas station sign that Ian had spotted last night, erupting with laughter. The sign read 'Arm, Diesel, Leg' (below the gas prices), an amusing attempt to dig back at escalating prices. We ought to adopt the same dry sense of humour back home, it would work well. We never found the sign so continued to the 183. This would take us through Greensburg, which was a deliberate plan. I had travelled through Greensburg last year shortly after the devastating EF5 tornado had reduced the town to a pile of rubble. It moved me so much, I returned there again a few weeks after to survey the entire site and interview the local residents. That was some humbling experience. Here we are now, a year on and I find myself once again driving through the same town. The first thing that struck me was how much greener the town was. Trees (stumps the last time I saw them) had much foliage. Lots of rebuilding had taken place and yet there was still so much emptiness all around. It would be a hard long road to recovery. However, there was much national effort (financial) to assist in rebuilding Greensburg, including the creation of an eco-town, together with the dogged enthusiasm of the Greensburg community. It must have been so easy, yet so difficult to walk away. I know this through my work with local residents Eric and Fern Unruh who authored the excellent 'Tornado up from the debris' book based upon the tornado event. As we left Greensburg a banner was impaled to a building which read 'Greensburg thanks the world'. Very fitting as I sighed.

We continued north through the wonderful terrain of Kansas. Everywhere you looked was field after field of wheat, ahead, behind and alongside. Mile after mile until we reached a town and then more of the same between each town. This was the true mid-west, the Great Plains of good old USA. If you really want to experience America this is *the* place to visit. The skies were a deep rich blue and a deck of sparse cumulus dotted the sky. A good opportunity to pull over and a photo shoot. We found an old looking railroad (near Wakeeney) and spent a good half hour or so grabbing some mid-west stock footage. I also put the 8mm fisheye to good use grabbing some nice ground-up shots with trucks passing through the frame. A good exercise for the Live View facility on the E3.

It was late afternoon by now and we decided to take an early dinner stop in Wakeeney at the famous 'Twisters' bar. What an amazing place. Full of tornado and storm memorabilia, a typical mid-west bar and diner with great food and some very welcome beer. It was a great place to reflect on the trip to date, on how well it was going, and how everyone was happy. That's the important thing. As long as each person bags their own agenda then it bodes for a happy camp, and it was for sure. Upon leaving, Silver Lining Tours (Tour 6) pulled up in the car park. After the formal introductions, via Al (who works with them each year), we accompanied them back to the bar for another beer and good old chaser chinwag.



We were now all heading in the same direction, targeting North Platte in Nebraska. We set off northwards ahead of SLT in order to overcome the motel check-in deluge!

Day 7 - South Dakota frustration

Currently in Nebraska and it looks like the South Dakota play is the best one to target for storms. High hopes of nice photogenic and slow moving storms. There is still a fair journey ahead mind and with this in mind we set off at 0830hrs. We rigged up the radio, tuned into the SLT frequency and now the chase group was threefold. Boy those SLT vans do not hang around. Warp speed 2 had us lurching in Wall, South Dakota in no time at all. I got a feeling that Al was used to this. Now Wall, where do I start? I talked earlier about the values of visiting the 'real' part of the mid-west. Whilst geographically, Wall may meet the criteria, alas physically it does not. The best way to describe Wall is a cross between Blackpool and Vegas. There was more tacky here than a Chav's house at Christmas. We dodged the tourists, avoided the \$2 T's and rapidly found a bar/diner for lunch. I walked off the food snapping a few shiny Harley's parked in the main street and we made a sharp exit. I recall seeing a sign on the way in, 'Wall - Too good to miss' and was so tempted to paint over the 'Too' on the way out.

Back on the road we headed west and targeted the Black hills and Sturgis. It really was a beautiful part of the world here. Pretty rolling hills amidst undulating green pastures. Naturally popular as a getaway destination. Unfortunately, from a chase perspective I did not like it. We had lost the flatlands and entered into the hills with little in the way of road options. Not good for seeing storms. However, if we were to get one good storm then I'd settle with the scenery providing a great backdrop. There was no sign of any convective initiation as of yet. Dew points seemed to be struggling which really set the scene for the day. We pulled into Sturgis, outside the Harley Davidson shop. What a place. I have never seen so much dedicated memorabilia. Great if you are into bikes (which I am not) but even so there is something so sexy about the whole Harley brand that you have to admire. The place was buzzing with bikers although nothing compared to the main festival week when apparently you can't move through bikers. As I wandered around the t-shirt stand I was intrigued by the size labels. I delved into a rack which said '6XL'. A tent came out. I'll say no more.

We waited around, frustrated at nothing happening before deciding to drop back south and east a tad towards Rapid City area. We parked up in Rapid City and waited, and waited in the hope of a storm running loose from the Black Hills and landing on us. It was a struggle as we sat under cloud cover. A lack of moisture, surface heating and a capped atmosphere really killed the day. We had almost given up the day and ready to cut loose when a single storm popped up on the radar and which was currently over the Black Hills and making its way to us. It soon became tornado warned and was the only tornado warned cell in the country! That's the best we got mind because as



the storm dropped back down from elevation it could not sustain and lost much structure. Still we made the most of the opportunity, found the only road to intercept and decided to drive into the hail core and see what was coming out from it. This was good fun although offered no opportunity for photos (frustratingly) except grabbing a quick snap of a hand full of golf ball size hail. We got a few dents on the vehicle and a deafening experience. That was it. The storm then died and darkness beckoned. With a long journey ahead in order to get back towards Colorado tomorrow we said our goodbyes to SLT and departed. A very frustrating end to a few days, with much travelling. But hey that's chasing.

We got as far south as Hot Springs, which is where we stayed overnight. After downloading the last of the photos it was a time to reflect on the trip. It had started frustrating yet active, got much better and finished again in a frustrating manner. After flicking through a weeks worth of images I was very pleased. There were some great shots in there and I knew it would take a good few weeks working through them once back in the UK. Alister too had some great video footage and our tornado project was deemed a success.



The next day saw us return to Denver in Colorado as we dropped back the rental vehicle with an amazing 4500 miles clocked up. Funny, the Chevy was unrecognisable through mud, the odd hail dent and the interior mess that was our mobile home for a week, and yet the check-in assistant barely raised an eyebrow!. We flew out from a

stormy Colorado that evening as the wild skies below us had the last word, violently vibrating the aircraft through many passenger gasps and yelps. Boy, how I love Mother Nature.



A far cry from the freezing temperatures and extremes of the Arctic Circle, the Plains offers a very different kind of extreme environment for the camera system. High temperatures (90's F), high amounts of moisture (dew points and precipitation) and the dusty plains would normally be an equipment nightmare scenario. Once again the Olympus E system has not let me down. The weatherproof system, dust reduction and many other qualities have ensured I achieve my photographic objective in, once again, an extreme environment.

Want to get the best from your camera in Tornado Alley? Check out my downloadable handout called '*Shooting then Alley*' available soon on www.elementalproject.com

Next stop, the blistering heat of Death Valley/Grand Canyon and monsoons of Arizona. Coming in July. Keep checking www.elementalproject.com for updates.

Mark Humpage
June 2008



Supercell in Iowa



Tornado near Carpenter, Iowa



Team watching supercell and wall cloud, Oklahoma



Fisheye view of supercell, Oklahoma