

Chasing Your Dreams

By Casey Davenport



Speeding down a rural highway on a hot stormy summer day, with a tornadic thunderstorm nipping at the heels of my specially-equipped pick-up truck, and my heart pumping, I smiled and thought to myself, “I love this.” Storm chasing. The hunt for one of nature’s most destructive and most terrifying phenomena—a tornado.

For me, tornadoes have always inspired awe rather than terror. I was the kid who loved to watch the Weather Channel, and could spend hours watching clouds pass by. Every time a thunderstorm rolled through the Midwest town I grew up in, my eyes were glued to the windows to watch the show. I watched the movie *Twister* on repeat.

So naturally, when given the chance during my sophomore year of college to storm chase in a summer field course, I jumped on it. Ten days of driving all over the Central Plains, home to Tornado Alley, with no itinerary and all the time in the world to watch the clouds go by and the storms to roll through. In my mind, a perfect road trip. I quickly grew to love the adrenaline rush of watching storm clouds explode upward, and racing to see if they would form a tornado. I cherished the easy camaraderie of being among other storm chasers who felt the same way I did.

I only saw one tornado that summer, but I was hooked. Storm chasing quickly became a favorite pastime. Spring became my favorite time of year, as the welcomed warmth after a long winter always promised stormy days. Fellow weather nerds in the Meteorology Department and I eagerly kept an eye out on the latest forecast for any hint of upcoming thunderstorm activity.

Thirsty to better understand the science behind severe thunderstorms and tornadoes, I decided to pursue a graduate degree in Meteorology, with a focus the complex processes that drive the destructive potential of storms. Unfortunately, due to the significant distance of my school from the Midwest and my pauper status, for the first two years of graduate school my storm chasing itch was only satisfied by what I could simulate on my computer screen. Then one day my advisor came to me with a fantastic new opportunity: participate in a field experiment collecting data on tornadic thunderstorms, spread out over 12 weeks and 2 summers. In other words, a chance to revive my passion: storm chasing! The fact that the data collected would then become the basis of my dissertation research was just icing on the cake.

As I think back on my time in graduate school and how I was able to successfully intertwine my passion with my academics, I consider two central lessons I learned from storm chasing: be prepared and take risks. While seemingly contradictory, these complementary lessons were essential to achieving my goals.

Being prepared, for me, meant learning as much as possible. The more I learned, the more success I had. The more data I looked at, the more weather model solutions I analyzed, the more forecast opinions I considered, and the more aware I was of all possible outcomes, the more often I was rewarded with a spectacular show of nature’s raw power. Knowing ahead of time the many different ways the weather could turn allowed me to plan for all kinds of possibilities. Then, once I saw the observations converge

towards one of the predicted scenarios, I was already prepared with a game plan. I knew where to go, how to get there, and what to expect along the way.

Sometimes, though, even the best preparation won't lead you to the right spot. Weather can still be surprising in many ways and challenge your expectations. Some of the most rewarding chases I've ever been on—where I've been at the right place at the right time to witness spectacular storm structure or a tornado—have been when I decided to take a risk. There are some days when storms are guaranteed in lots of different locations, but the most dramatic displays are usually more elusive. On those kinds of days, it'd be easy to pick an obvious target location that will certainly see some action. Sometimes, though, I wanted more than what was easy or obvious. I wanted a challenge. I wanted to cut my own trail and see something truly spectacular. So, I'd take a risk. I'd go somewhere no one else thought to go. I'd take a different route or I'd stick around when everyone else had left for somewhere else. And the result? Some of the most breathtaking displays of storm structure I've ever seen. Striking tornadoes, rolling thunder, and pelting hail. When the risk paid off, it was always a wonderful, stunning, and dazzling spectacle of Mother Nature showing off the best of what she had to offer.

The unfortunate truth about taking such risks, though, is that mistakes and missteps are inevitable. One wrong turn, a poorly-timed bathroom break, or a misreading of the skies can spoil even the best-laid plans. Sometimes these blunders can even be dangerous. Once, after stopping to admire tornado formation, I realized that core of large hail and frequent lightning was quickly descending upon me. Failing to adequately prepare an escape route, I raced eastward, straight into another storm producing a tornado that was obscured by rain. I was lucky to stumble upon another road that traveled southward, away from the mess I got myself into. I've also had my fair share of close encounters with flooded roads, flying debris, and lightning. Those incidents were not my proudest moments, but they've served as powerful experiences that I've learned from. By no means did I become an expert in chasing storms overnight; it has taken years of countless trips to develop a keen sense of the approach that will help me reach my goals.

Unmistakably, missteps can lead to failure. While some of my wrong turns have been dangerous, others have meant missing out on my desired goals. I've missed seeing tornadoes, and I've been "rewarded" with clear skies. Failure is inevitable at times, but no less disappointing--especially when I hear of the success and spectacular stories of my colleagues. But failure has never kept me from continuing to pursue my passion. I choose to not be defined by my failures; instead, I choose to be defined by my pursuit of knowledge found in the skies above me.

If there's one truth about graduate school that I learned from chasing, it's that it will be more challenging than anything else you've ever done. You will make mistakes. You will fail. Be confident in the fact that failure is a necessary aspect of creating new knowledge. Learn from it, grow from it, and never stop pursuing your dreams. Who knows? You might even get to see a tornado or two along the way.

Casey Davenport earned her Ph.D. in atmospheric science at North Carolina State University. She is an assistant professor of meteorology at the University of North Carolina at Charlotte, where she researches the complex physics of thunderstorms. Spring is her favorite time of the year, when she can engage in her favorite activity of watching storms roll through.

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