

Storm Interception and observation safety guidelines for storm chasers, spotters, EMS and law enforcement.

Revised May 5, 2014

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Luck is the residue of design.

Most of these safety tips are common sense. But if everyone used common sense while chasing or spotting, this list would not be necessary and avoidable accidents and close calls would never happen... but they do.

Even responsible and cautious chasers and spotters can suffer an unexpected or uncontrollable event resulting in serious trouble. In some situations, like during the tragic 2013 El Reno, OK tornado that killed three chasers, the shear physics and unpredictability of severe weather can overcome experience.

Please note the terms “chasing,” “chase” and “chaser” are generalizations and refer to anyone pursuing severe weather for any purpose.

Chase specific storms based on your experience. Most experienced chasers learned to chase over a very long period of time. It's a good idea to start out with smaller storms before moving up to the big ones.

Don't chase alone if possible. Sharing the driving can greatly reduce fatigue and a second set of eyes is always good.

Avoid texting while chasing. This includes using computers and hand held devices while driving.

Use a dedicated driver. The driver of a chase vehicle should only be watching one thing -- the road. Better yet, also have a dedicated navigator who is good with both GPS and paper maps. Another suggestion is ask the passenger seat occupant to help watch intersections when driving. In hectic chase situations, intersections can be obstructed by dust, rain or vegetation. In some situations distracted drivers (chasers and fleeing / chasing locals) may fail to yield.

Never rely on one form of radar data if possible. Wireless data and apps are wonderful, but such data can be severely limited – especially on big chase days when hundreds of chasers and local residents are overloading wireless systems. In some areas, phone service is non-existent. Therefore, a secondary, satellite data-derived radar source is suggested. If satellite-based radar is not available, try to have mobile devices with different wireless suppliers to increase your odds

of maintaining wireless data. Radar data can be delayed and interpretation as it applies to chasing requires some level of experience.

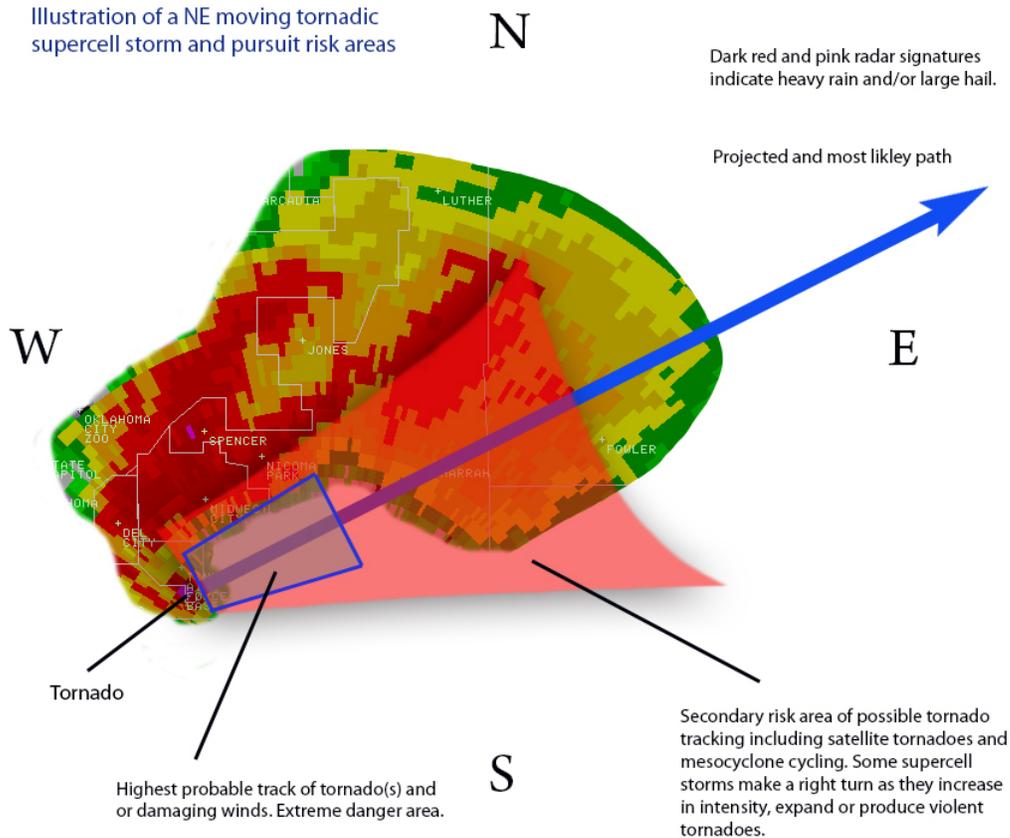
Storms are unpredictable! Beware of rapid expansion, movement (speed and direction) and sudden increases in severity with any storm. This is likely the most difficult thing to learn about storm chasing. The combined knowledge of storm development (through all cycles), storm type, movement and tracking is an art that can only be learned through years of chasing.

Drive responsibly. Don't become part of the growing problem by driving like an idiot or putting innocent people in danger. No storm is worth killing someone just to get a You Tube video.

Avoid getting too close. The recent trend to get dangerously close to tornadoes was created by television chasers and news stations for one thing, and one thing only – drama. And of course drama = money and ratings. Tornadoes can be observed or studied from safe distances. In most instances this distance (from destructive circulation) is at least 1-2 miles away if the tornado is moving away from you. In fact, observing from a safe distance allows the chaser more maneuvering opportunities for both safety and observational purposes. (See inset map of supercell movement). Spotting from a safe distance also affords the observer a better overall perspective of tornado movement and intensity. Some supercell storms may produce satellite tornados near the main tornado or anywhere near the updraft base(s) or edges. HP supercells may produce rain-wrapped tornadoes that are impossible to see. Once more, critical decisions relating to tornado safety distances should be based on your experience level.

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Illustration of a NE moving tornadic supercell storm and pursuit risk areas



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Do not become mesmerized and lose track of time and storm movement.

There is not a single experienced chaser or spotter who can say this “never happened to them!” Be aware of your position in relation to storm movement. Don’t become so distracted that you suddenly have to make an unplanned or panicked exit.

Yield to emergency vehicles.

Check your chase vehicle’s critical parts and fluid levels before setting out.

This includes any parts that could potentially leave you stranded: Tires, belts, radiator, alternator, hoses, headlamps, oil, spare tire, wipers, etc.

Keep your gas tank filled. Most experienced chasers will keep fuel tanks topped off right up to engagement time.

Do not cut in front of dangerous storms. If you do, make sure you are familiar with storm movement and allow plenty of extra time for unexpected events like blocked highways and other storms in the vicinity. Always have emergency routes available that lead away from the storm in the event it overcomes you.

Arrive in your target area as soon as possible. This will allow you ample time to relax, fuel up, double check critical equipment, look over road options and watch storms as they form to make better intercept decisions.

Avoid unimproved dirt roads or mapped roads with questionable surfaces or routings if possible. It's also a good idea to avoid dirt roads where heavy rain has recently occurred.

Keep a safe distance between vehicles. You never know when someone is going to slam on the brakes in chase zones.

Avoiding hard breaking at or near rural highway intersections. Highway intersections are often coated with oil, farming chemicals, animal waste and mud from stopping and turning trucks.

Drive with headlamps on. Or install driving lamps.

Do not park on roadways. Pull off the road as much as possible if you stop. Better yet, find a safe pull off or side road.

Plan on escape routes. ALWAYS have multiple "good" escapes routes that lead away from a storm. Account for muddy or closed roads and the possibility of clogged roadways due to chaser congestion and local traffic.

Check state road conditions before setting out. Most states have websites listing road closures and delays.

Plan for lightning, hail, wind gusts and flash flood dangers.

Know what to do if caught in a dust storm.

Use caution when standing or working near roadways. Speeding vehicles and inattentive drivers are a constant danger. Be aware of moving vehicles at all times. Inform inexperienced individuals to stay away from the road. Never stand between two parked vehicles to avoid being crushed if vehicles collide.

Never abruptly swerve to miss animals or road hazards. In most cases, you are better off hitting an animal straight on rather than swerving at high speed and rolling your vehicle.

Avoid roadways in highly populated areas. Because of the growing number of chasers and local onlookers during severe weather events, local streets and highways are often crowded, bottlenecked or impassable. Allow extra travel time when chasing in congested areas.



Massive traffic jam on highway 81 near El Reno, OK following the killer tornado in May of 2013

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Avoid driving through nighttime storms. Critical storm features such as wall clouds, tornadoes or road hazards may be hidden by darkness and precipitation.

Keep your engine running while engaged in critical situations. At the same time, avoid engine overheating.

Use caution when chasing in regions where visibility is limited by vegetation and terrain. This is a good example of when local spotters are more useful since they know the terrain.

Retreat from active storm areas when the day is over. Unless you are spotting or required to work night operations, moving away from active storm areas (e.g., moving west of the dryline) is suggested. It's no fun to be trapped in a cheap motel when a tornado is threatening at 1:00 AM!

Use emergency blinkers or other rear mounted warning lights when stopped near roadways.

Avoid hail shafts. Severe hail damage can disable a vehicle.

Learn basic first aid. A basic knowledge of life saving care can save a life. Know how to stop bleeding, including the use of tourniquets, know how to move and secure injured patients. If you plan to render aid at disaster or accident scenes, learn about site hazards.

Essential Safety Equipment:

A small air tank to inflate tires or self-inflating sealer. (Some new self-sealing products claim to be tire sensor safe).

A spare ignition / door key hidden in a secure, but quickly accessible area.

Extra vehicle remote batteries

Mechanic's gloves

Safety helmet

Cell Phone

Extra cash (ATM's may be down if power is lost)

Road flares or reflective triangles

A good flashlight and extra batteries

Reflective vests

Goggles (in the event your windshield is broken by hail)

Clear and strong packing tape (good to secure shattered windows)

Spare parts: Hoses, fluids, belts, etc. especially for older vehicles.

Tow strap with hooks

Basic first aid kit (Consider tourniquets and large pressure bandages if you are willing and have the training to assist at accident and disaster sites).

Weather radio

Sunscreen

Extra water

Fire extinguisher

Paper road maps (GPS can fail)

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