



SKYWARN Spotter Reference

Provided by: National Weather Service, Bismarck
2301 University Drive, Building 27
Bismarck, ND 58504
www.weather.gov/bis



To Report Severe Weather:

1. If you are part of your local county's spotter network, follow the established reporting procedures. Contact your local County Emergency Manager for more information.
2. If you are in western or central North Dakota and are not part of a local spotter network, call the Bismarck NWS Office at **(800) 247-0212**. Limit use to these reports:
 - a. Tornadoes, Funnel clouds, or Wall Clouds (watch for rotation and persistence)
 - b. Hail (be specific with size; reference coins or balls; DO NOT report marble size)
 - c. Thunderstorm winds or thunderstorm wind damage
 - d. Flooding and/or 1 inch or more of rain within 1 hour
3. What to report:
 - a. Who you are
 - b. Where is the event
 - c. What you saw
 - d. When you saw it (beginning and end time)
 - e. Was there damage
 - f. Late reports are better than no reports!!!

How to Estimate Wind Speed:

| <u>Speed</u> | <u>Effect</u> |
|--------------|--|
| 30 – 40 mph | Large trees in motion, whistling in overhead utility lines |
| 40 – 50 mph | Whole trees in motion; Garbage cans/similar items blown over |
| 50 – 65 mph | Twigs/Small branches break off trees; Damage to fences/shingles |
| 65 – 80 mph | Large branches break off of trees; Shallow rooted trees uprooted |
| 80 – 100 mph | Extensive tree/roof damage; Trailer homes overturned |

How to Estimate Hail Size:

| | | |
|---------------------|----------------------------|-------------------------|
| 0.25 inch = Pea | 1.25 inch = Half-dollar | 2.50 inch = Tennis Ball |
| 0.75 inch = Dime | 1.50 inch = Ping Pong Ball | 2.75 inch = Baseball |
| 0.88 inch = Nickel | 1.75 inch = Golf Ball | 4.00 inch = Grape Fruit |
| 1.00 inch = Quarter | 2.00 inch = Hen Egg | 4.25 inch = Softball |

When Looking for Severe Weather, ALWAYS Think **Safety First**:

1. If you can hear thunder, then you are close enough to the storm to be struck by lightning. Stay in your vehicle. Do not stand next to trees or other tall/isolated objects.
2. The proper viewing angle for a northeast (southeast) moving storm is to position yourself to the southeast (south) of the storm. Remain at a safe distance (2 – 4 miles).
3. Position your vehicle at intersections, allowing for multiple escape routes to account for irregular storm motion.
4. Never cross flooded roads.

Useful SKYWARN Spotting Tips

Tornado Reporting:

1. Report what you see. DO NOT report what you think you see, what you want to see, or what you think you will see.
2. Report YOUR location, the location of the tornado, and the time.
3. If possible, report other details such as Damage, Debris, Size, and Shape.
4. Be careful when you choose words to describe what you are seeing, especially related to damage. There is a big difference between a house that is destroyed and a house that just has part of its roof torn off! Don't overstate the significance of what you are observing.
5. Remember, a tornado is defined as a violently rotating column of air extending from a thunderstorm and TOUCHING the ground (a visible funnel is NOT needed -- look for dust - debris swirling on the ground underneath a defined funnel or strong rotation).

Supercells and Squall Lines:

Find the Action Area

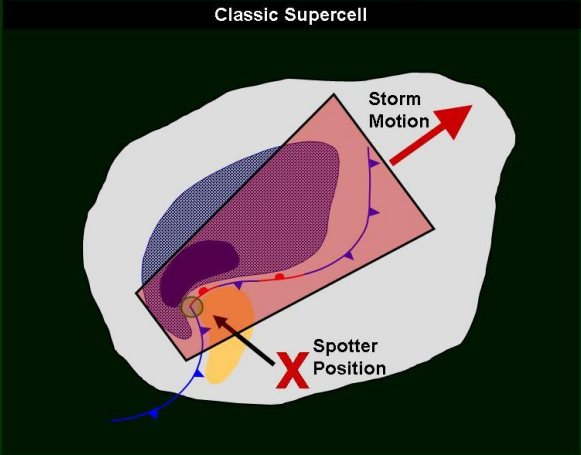
CLASSIC SUPERCELL



Rear of the storm

Positioning

Classic Supercell



Storm Motion

Spotter Position


Find the Action Area

SQUALL LINE



Leading edge of the line (WORST FIRST)

What will a spotter see with a squall line?



- Low turbulent looking clouds, sometimes with lots of motion
- Very heavy rain
- Strong gusty winds
- Maybe some hail
- Tornadoes usually short lived and difficult to see.
 - Most likely along the leading edge