

tornado

"TORNADO - (tôr-nā'dô) - a whirling wind accompanied by a funnel shaped cloud, very violent and destructive in a narrow path often for many miles over the land."

About 10 times a year, winds meeting this dictionary definition sweep through North Dakota. The exact number is difficult to estimate. They seem to be increasing, but this may be due to a greater awareness of tornado activity on the part of North Dakotans and more complete reporting.

North Dakota is on the northern edge of the world's greatest tornado area---the central and southern Great Plains and the lower Mississippi Valley. More tornadoes occur here than anyplace else on earth.

Generally speaking, the tornado zone moves north from the Gulf states in March to the central states in April and May and reaches North Dakota in June and July.

Fortunately, every sighted tornado does not cause major damage. Life and property is threatened only when the tornado touches the ground. But then, destruction may be complete.

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About 30 minutes before the funnel formed. The cloud approaches Fargo, trailing its long tail.



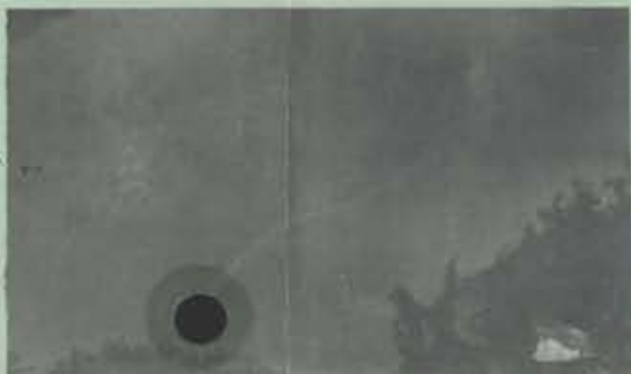
The cloud begins a peculiar mushroom effect. Circular motion is emphasized by now visible striations.

North Dakota's most spectacular tornado in recent years struck Fargo at 7:40 p.m., June 20, 1957. It swirled across the northern blocks of the city at 15 to 18 miles per hour. In its wake it left 11 dead, more than 100 injured and over \$10,000,000 in property damage. Advance warnings by radio and television, plus slow movement of the storm center and good visibility, kept the casualty list low.

TORNADO PHOTOGRAPHS BY
DEWEY BERGQUIST
FARGO, NORTH DAKOTA



Funnel leaves Fargo—a long thin rope in north-western sky. This was the first thing many Fargosans saw as they left their basements.



KNOW HOW TO RECOGNIZE A TORNADO, and know what to do. You won't have much time after you spot a funnel ■



About 2 or 3 minutes before funnel formed, just to left of silo in lower left. Long tail had disappeared.



A tornado funnel, 10 seconds old. Now about 1-1/2 miles west of Fargo.



Funnel hits Golden Ridge community on west edge of Fargo with erupting volcano-like effect.

Tornadoes usually occur between 3:00 and 7:00 p.m. They seldom strike after midnight or before noon. They usually travel from southwest to northeast, because the parent mass of warm, moist air in which they have their origin blows in that direction. The path of destruction averages less than 1/4 mile wide and a little over 10 miles long, although the length may be from 100 feet to 300 miles! The storm itself averages 40 miles per hour as it moves across the country. These characteristics are typical, but paths and speeds may vary considerably with individual twisters.

Sticky, sultry and oppressive weather, generally with southerly winds, is typical tornado weather. Towering thunderclouds build up in the sky. Sometimes, a violent thunderstorm in the northeast may be a forerunner of a tornado. An hour or two before the tornado, thick, topsy-turvy clouds appear to be approaching. They have a sinister appearance. Their color is often a sickly, greenish-black—a reflection from the ground and vegetation. Lower clouds generally are in rapid, confused motion and are shot with unusual, lace-like lightning. From the base of this thundercloud, the tornado funnel spins counter-clockwise toward the earth.

A funnel varies in appearance. It may resemble a thin, dangling rope, or a huge elephant's trunk. Other times it's a fairly wide, solid-looking funnel. It always has its characteristic spinning motion. The funnel blackens as it picks up dirt and debris.

Air sucked into the partial vacuum in the funnel's center moves at speeds estimated up to 500 miles per hour. This produces the sound often described as a freight train going through a tunnel, or the roar of many jet planes.

A severe thunderstorm out of the southwest often follows the tornado. Heavy rain and hail add to damage done by the tornado itself. Some hail stones have been known to weigh 3 pounds. After a tornado passes, the air changes from warm and humid to cool and dry.

The U.S. Weather Bureau issues forecasts of possible tornado activity at times when conditions are likely to produce them. Listen for these on radio or television. If you see a funnel, keep calm and carry out your pre-arranged plans.

When tornadoes are forecast-

Be calm and alert. Keep tuned to your local radio or television station. Decide on action to take if a tornado is sighted or reported moving in your direction.

Before the storm strikes, turn off gas and electricity.

When a tornado is sighted-

Go to a storm cellar, an underground excavation, the southwest corner of the basement of a frame house, or the lower floor of a reinforced building. Brick or stone buildings without steel reinforcement may collapse. Stay away from auditoriums and gymnasiums.

Protect yourself from flying and falling debris. Keep away from windows. Stay under archways, tables or similar shelters. Avoid large rooms.

In open country, move at right angles (to the left or right) to the approaching tornado's path. If there is no time to escape, lie flat in the nearest ditch or culvert.

You can easily outrun a tornado in an automobile by driving at right angles to its path. Don't race wildly. Normal speed will take you to safety, but speeding may lead to an accident. Remember, cars kill more people than do tornadoes.

Keep your curiosity in check. Do not make phone calls or visit the damaged area. If you want to help, volunteer your services through organized channels. Otherwise, stay at home. Unauthorized persons and vehicles in the disaster delay rescue and cleanup work.

Schools, factories, cities and other organization should work out a plan of action in case of tornado warnings or sightings, as well as for other emergencies. Do this in cooperation with the proper authorities.

TORNADO ADVICE:

1. Be alert when tornadoes are likely.
2. Seek shelter in an underground excavation, ditch, basement of a frame house or reinforced building.
3. Escape by moving at right angles (to left or right) to the storm's path.

This circular was prepared from information assembled by David Gosslee, formerly a staff member of the North Dakota Agricultural Experiment Station.