Tornado

General

Tornados may occur in Pennsylvania during the spring and summer months. In the past 125 years, records show that about 250 tornados have been reported in 58 of the 67 counties in Pennsylvania. The National Weather Service estimates the Commonwealth will experience 10 tornados annually. Tornados are measured by wind speeds on the Fujita Scale.

Fujita Scale
F0: 40-72 mph: Gale Tornado. Light Damage: Some damage to chimneys; breaks twigs and branches off tress; pushes over shallow-rooted trees; damages signboards; some windows broken; hurricane wind speed begins at 73 mph.
F1: 73-112 mph: Moderate Tornado. Moderate damage: Peels surfaces off roofs; mobile homes pushed off foundations or overturned; outbuildings demolished; moving autos pushed off the roads; trees snapped or broken.
F2: 113-157 mph: Significant Tornado. Considerable damage: Roofs torn off frame houses; mobile homes demolished; frame houses with weak foundations lifted and moved; boxcars pushed over; large trees snapped or uprooted; light-object missiles generated.
F3: 158-206 mph: Severe Tornado. Severe damage: Roofs and some walls torn off well-constructed houses; trains overturned; most trees in forests uprooted; heavy cars lifted off the ground and thrown; weak pavement blown off roads.
F4: 207-260 mph: Devastating Tornado. Devastating damage: Well constructed homes leveled; structures with weak foundations blown off some distance; cars thrown and disintegrated; large missiles generated; trees in forest uprooted and carried some distance away.
F5: 261-318 mph: Incredible Tornado. Incredible damage: Strong frame houses lifted off foundations and carried considerable distance to disintegrate; automobile-sized missiles fly through the air in excess of 300 ft (100 m); trees debarked; incredible phenomena will occur.
F6: 319+ mph: The maximum wind speeds of tornadoes are not expected to reach the F6 wind speeds.
Data Source: National Climatic Data Center

As stated by the National Climatic Data Center (NCDC), "wind speeds in tornados range from values below that of hurricane speeds to more than 300 miles per hour." The NCDC continues, "the maximum winds in tornados are often confined to extremely small areas, and vary tremendously over short distances." This is the reason one house will be completely demolished by a tornado, but the house next to it might be untouched. Additionally, the forward motion of tornados can range from speeds between 0 and 50 miles per hour.

History

Huntingdon County has witnessed six tornados since 1978. Of these, the most significant was in 1991. An F2 tornado hit Huntingdon County, injuring three and causing $250,000 in property damage.

Huntingdon County Tornado History

Date	Time	Mag.	Deaths	Injuries	Property Damage
6/27/1978	4:00 PM	F1	0	0	$0
6/16/1985	11:10 AM	F1	0	0	$25,000
6/30/1987	1:40 PM	F0	0	0	$25,000
6/24/1989	6:30 PM	F1	0	0	$250,000
11/20/1989	6:00 PM	F2	0	0	$25,000
9/18/1991	3:10 PM	F2	0	3	$250,000
TOTALS:			**0**	**3**	**$575,000**

Source: National Climatic Data Center

Vulnerability

Tornados are common in the southeastern and southwestern parts of the Commonwealth. Tornados can be expected June-July. Factors that impact the amount of damage caused by a tornado are its strength, the time of day, and the area of impact. Usually, these distinct funnel clouds are localized phenomena impacting a small area. However, the high winds of tornados make them one of the most destructive natural hazards.

F-3 Tornado, Campbelltown, PA, July 14, 2004 (Lebanon County)

Probability

The probability of a tornado striking Huntingdon County is relatively low. According to the National Climatic Data Center, six tornados hit the County since 1978. History illustrates that the frequency of occurrence in Huntingdon County is approximately one every 30 years or less.

Maximum Threat

While it is difficult to pinpoint the exact locations at the greatest of risk a tornado, the lower lying areas, as well as the flat fields in Huntingdon County, are at the greatest risk. Most damage will likely occur in densely populated areas.

Secondary Effect

Tornados can have varying secondary effects; the most common is power failure. The severe wind strength can dismantle power sources. Structural damage can also be significant. Hazardous material spills can occur if a tornado comes near a holding tank, or the spill stems from a traffic accident caused by high winds.