

So you've got damage!
Was it due to straight line winds or a tornado?

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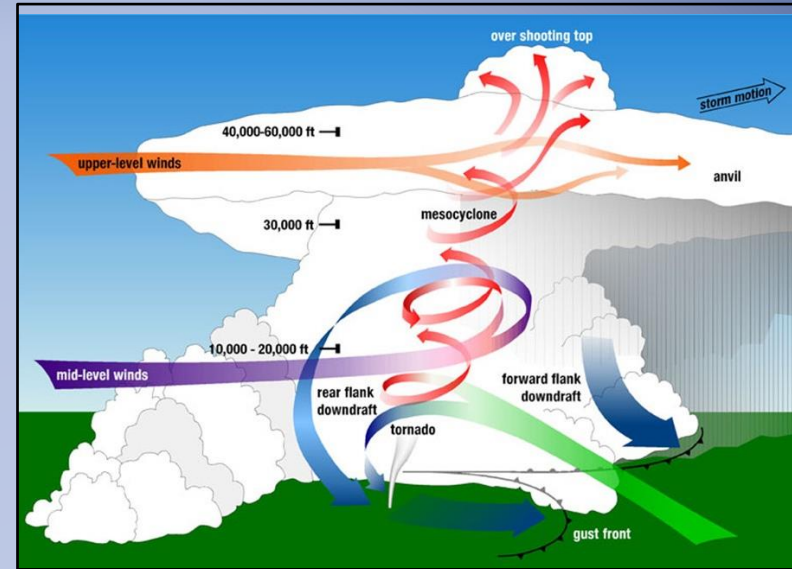
Tornado

A tornado is a narrow, violently rotating column of air that extends from the base of a thunderstorm to the ground.

Rotation shapes the debris pattern.

Debris lies in multiple directions.

Damage impacts a localized area.



https://www.weather.gov/iwx/2013_straight-line_winds_vs_tornado



Credit: Kevin Smith

IN - all wind flows INTO a tornado. Debris is often laying at angles due to the curving of the inflow winds



Photo Courtesy NWS Huntsville

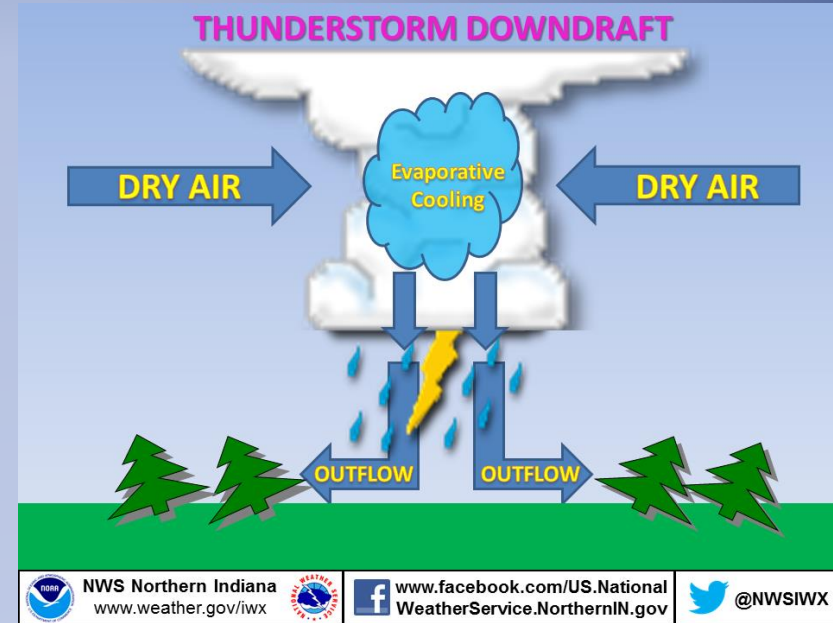
https://www.weather.gov/iwx/2013_straight-line_winds_vs_tornado

Downbursts (Straight Line Winds)

Debris fall in one clear
direction

Can impact bigger area

Can cause significant
damage



Credit: Dr. Bill Hooke, NOAA

OUT - all wind flows OUT from a downburst. Debris is often laying in straight lines (hence the term "straight line winds") parallel to the outward wind flow



https://www.weather.gov/iwx/2013_straight-line_winds_vs_tornado

Why are downbursts often mistaken for tornadoes?

Both can have very damaging winds causing significant or extensive damage in some cases.

A loud "roaring" sound

‘Trees were "twisted" off; so it must have been a tornado.’
This is one of the most common mistakes

Downburst Wind Event Leggett, NC – July 21, 2005



https://projects.ncsu.edu/atmos_collaboration/nwsfo/storage/cases/20050721/



Notice the Difference?

...but it was JUST a Severe Thunderstorm!



Tornado



Damaging Winds

The results can be the same. Seek shelter!

weather.gov/safety



Questions?

Sources:

NWS Northern Indiana

https://www.weather.gov/iwx/2013_straight-line_winds_vs_tornado

NWS Raleigh

https://projects.ncsu.edu/atmos_collaboration/nwsfo/storage/cases/20050721/

NWS JetStream – Online School for Weather

https://www.weather.gov/jetstream/wind_damage

NOAA Photo Library

<https://photolib.noaa.gov/Collections/National-WeatherService/Other/emodule/627/eitem/19462>

FOX 21 News

<https://www.fox21news.com/news/local/weather-whys-how-are-straight-line-winds-different-from-tornadoes/>

<https://publicdomainvectors.org/download.php?file=1295057149.svg>