New York State
Severe Weather Awareness Week
April 26th to May 2nd, 2015

Severe Thunderstorms

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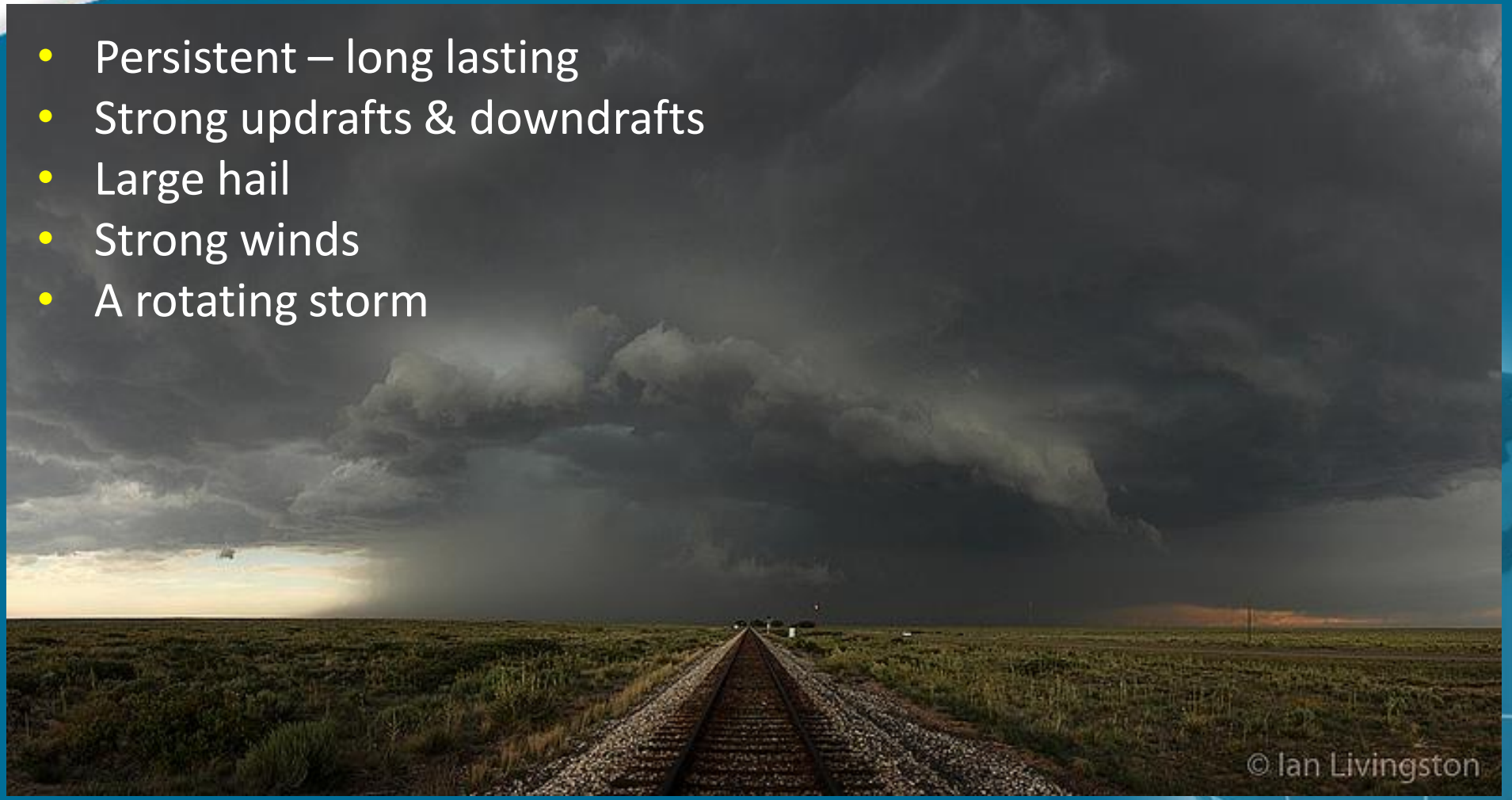
Binghamton NY

Severe Thunderstorms

A storm which produces hail 1 inch in diameter or larger and/or wind gusts 58 mph or stronger.

Severe Thunderstorm Characteristics

- Persistent – long lasting
- Strong updrafts & downdrafts
- Large hail
- Strong winds
- A rotating storm



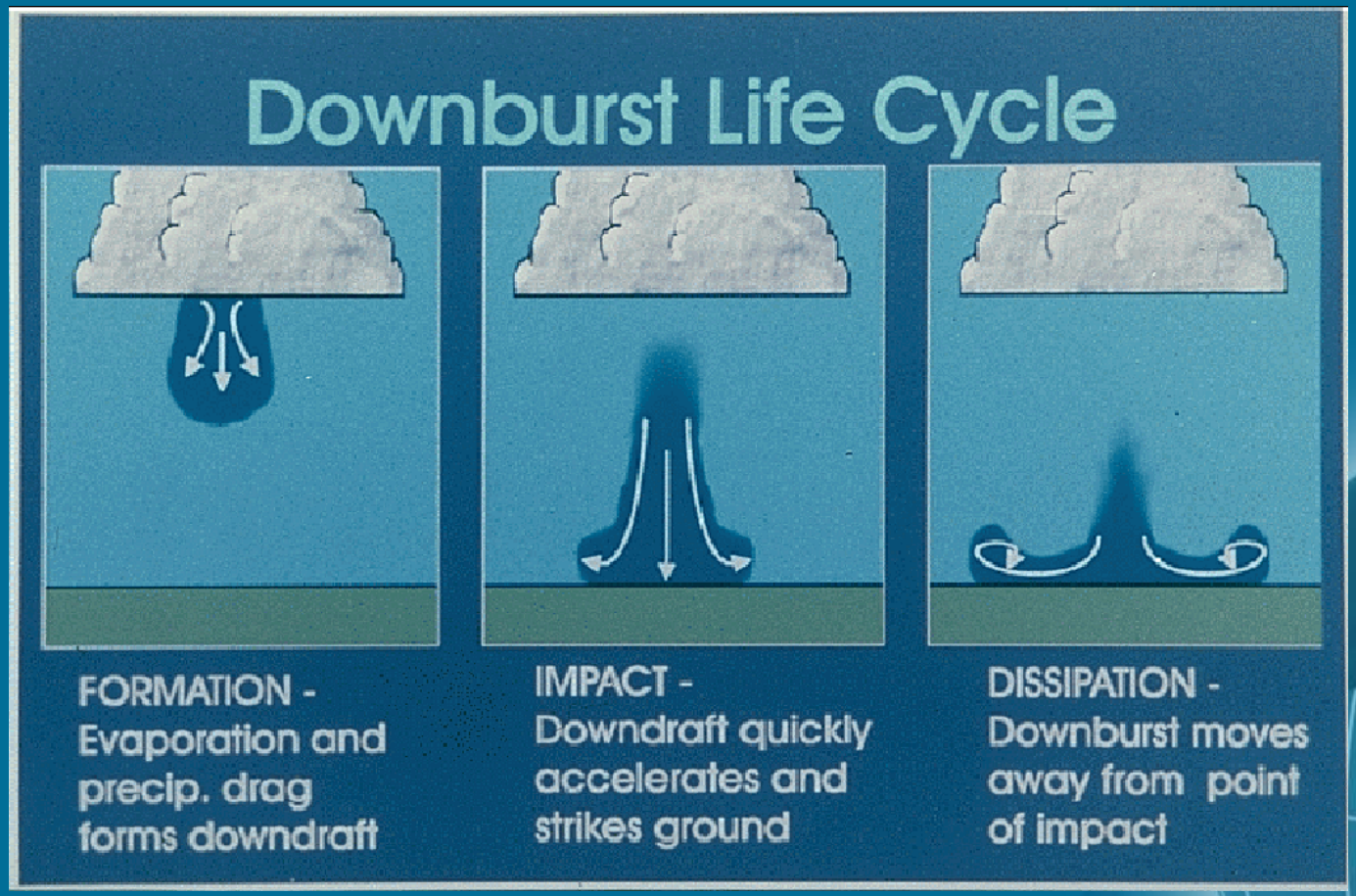
Severe Thunderstorms Produce Damaging Winds

- Thunderstorm winds greater than 57 mph may cause structural damage to buildings. Stronger winds can cause trees to uproot.

- Severe thunderstorms create life threatening conditions for recreational boaters.

Severe Thunderstorms Can Produce Downbursts

A powerful downward movement of air (a downdraft) in a severe thunderstorm. Winds can be as strong as 80 to 100 mph.



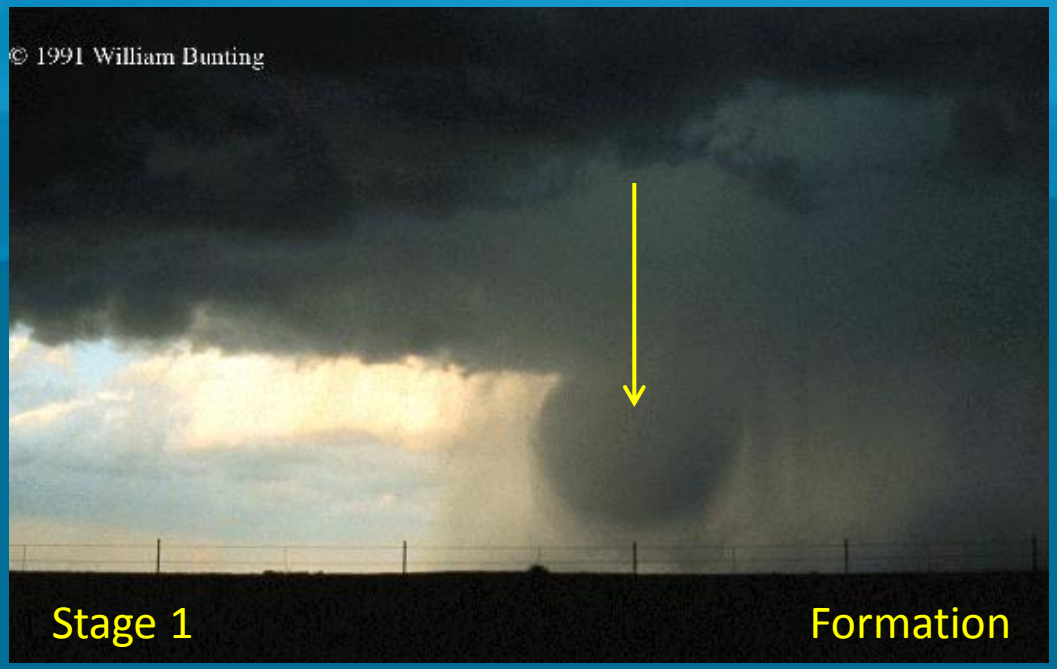
Stage 1 Stage 2 Stage 3

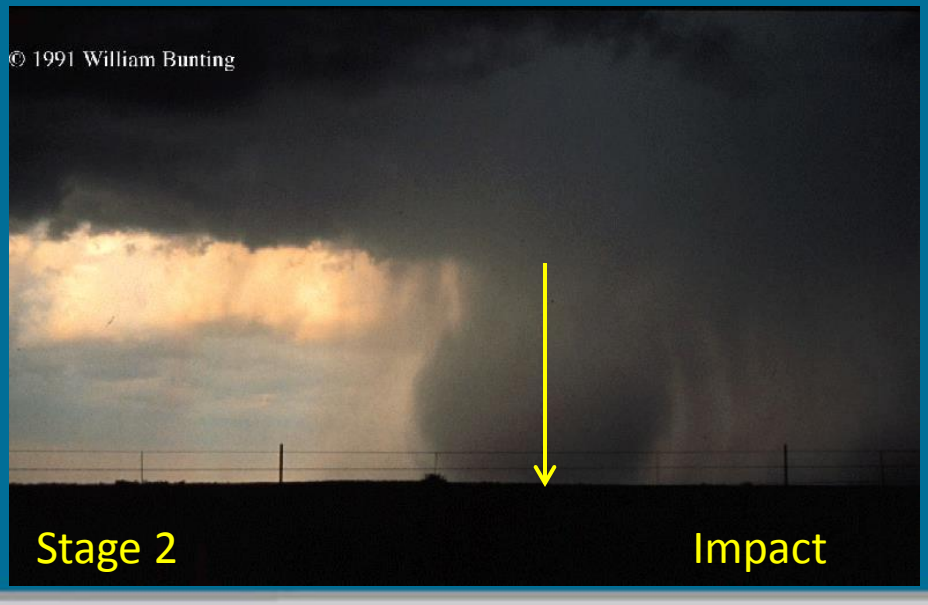
There Are Two Different Kinds Of Downbursts

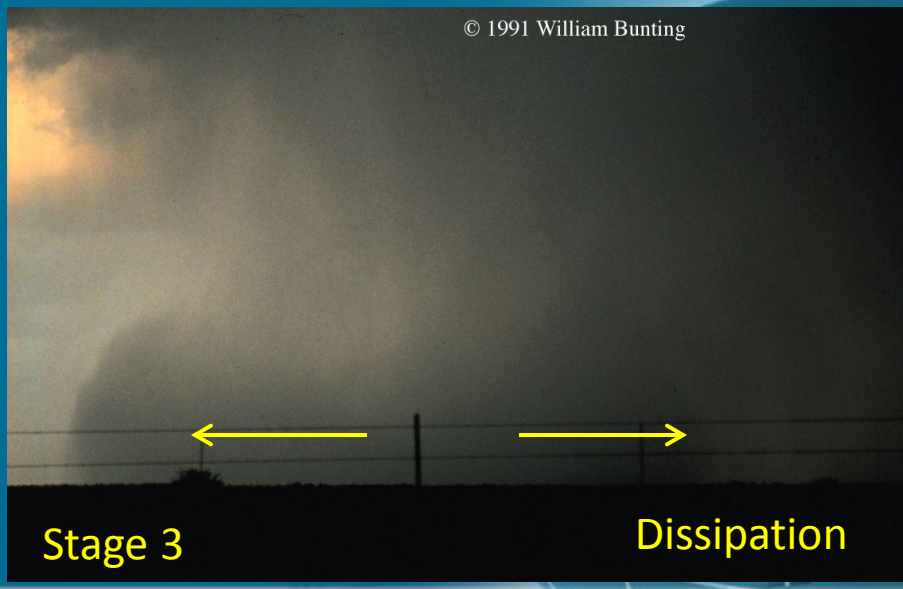
Microburst: A small, concentrated downburst affecting an area *less than 2.5 miles* across.

Macroburst: A large downburst with its outburst winds extending in *excess of 2.5 miles* across.

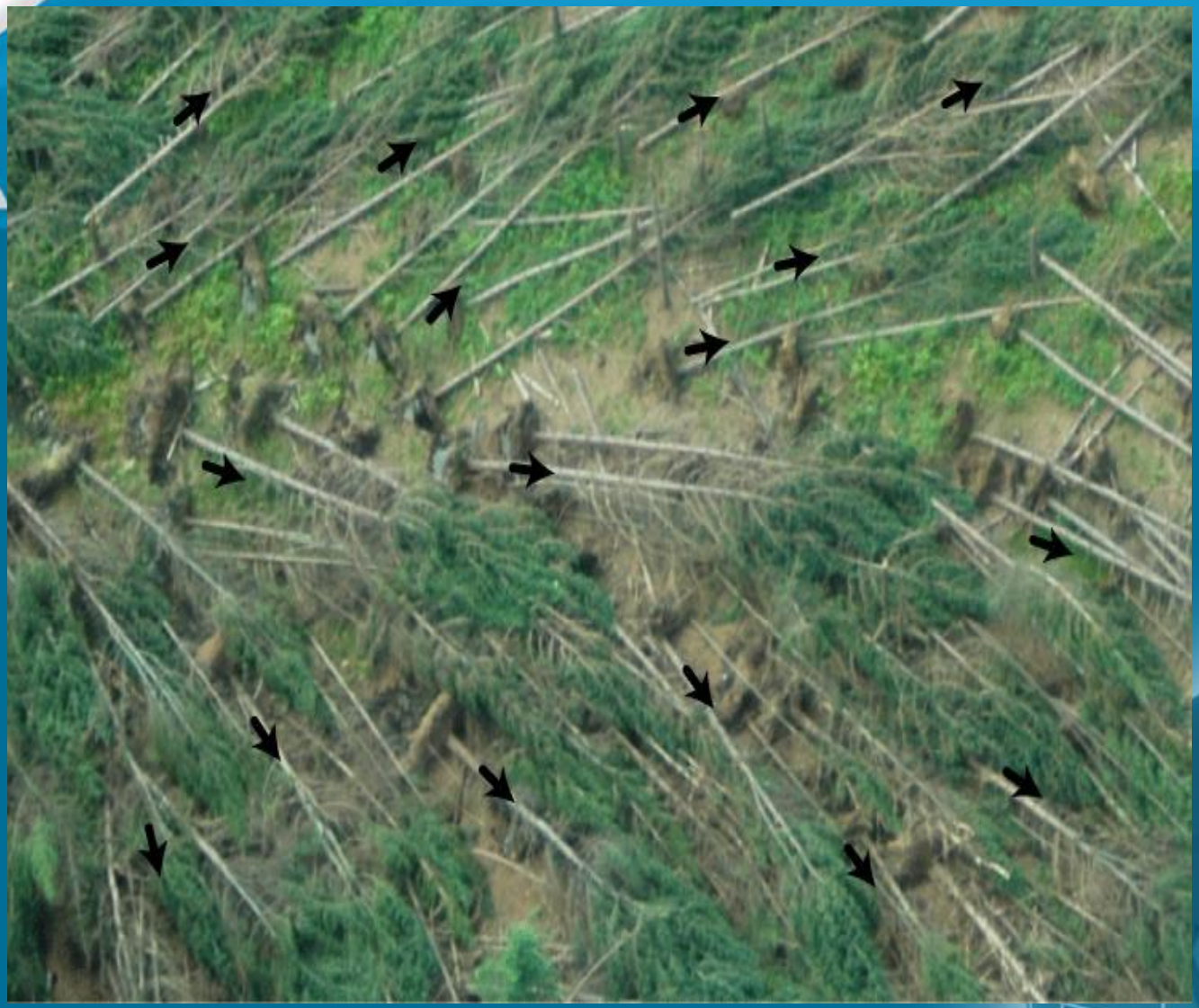
The Life Cycle Of a Microburst







Pictures taken in central Oklahoma 10-24-91 by Bill Bunting

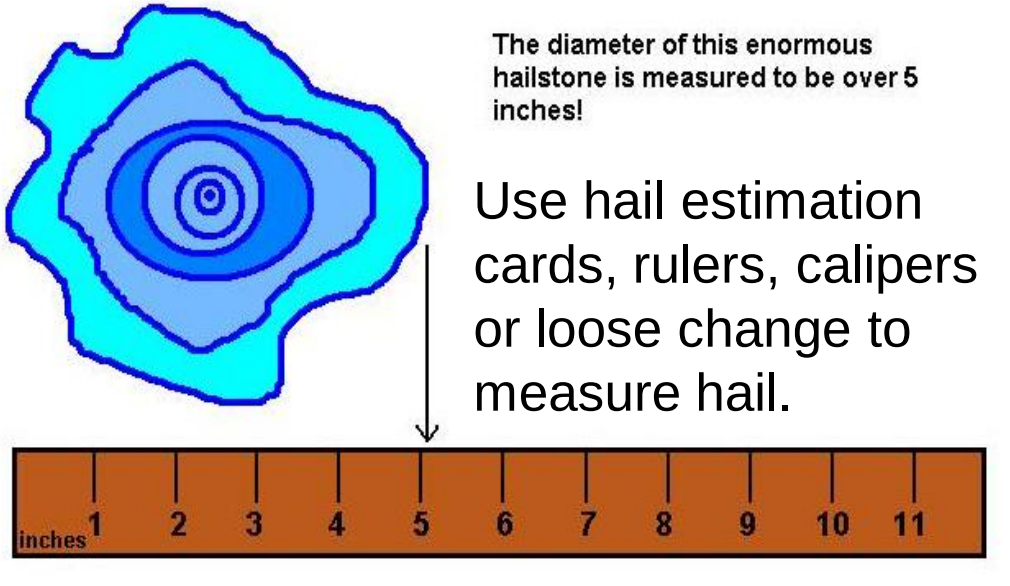


Downburst damage spreads outwards.
Opposite of a tornado.

Severe Thunderstorms Can Produce Large Hail

Hail causes billions of dollars in damages to crops and properties each year.

Hail Size



Hail comes in many shapes and sizes. Hail can be as small as peas and can be as large as a computer CD-DVD. Hail the size of a CD-DVD are extremely rare and usually fall over the great plains.

Hail Diameter Size	Description
1/4"	Pea
1/2"	Plain M&M
3/4"	Penny
7/8"	Nickel
1" (severe)	Quarter
1 1/4"	Half Dollar
1 1/2"	Walnut/Ping Pong Ball
1 3/4"	Golf Ball
2"	Hen Egg/Lime
2 1/2"	Tennis Ball
2 3/4"	Baseball
3"	Teacup/Large Apple
4"	Grapefruit
4 1/2"	Softball
4 3/4"- 5"	Computer CD-DVD

WATCH vs. WARNING

Watch - "Stand-by"

Conditions are favorable for severe weather in or near the watch area. Watches are issued for tornadoes, severe thunderstorms and flash floods. Issued by the Storm Prediction Center

Warning- "Activated"

The severe weather event is imminent or occurring in the warned area. Warnings are issued for tornadoes, severe thunderstorms, flash floods and river flooding. Issued by NWS Binghamton for central New York and northeast Pennsylvania.