

**HAZARDOUS WEATHER AWARENESS WEEK  
CONTINUES THROUGH FRIDAY  
TODAY'S TOPIC IS TORNADO AND SEVERE  
THUNDERSTORM AWARENESS**

**STATEWIDE TORNADO DRILL AT APPROXIMATELY 10:10 AM EST**

THE FOLLOWING HAZARDOUS WEATHER TOPICS REMAIN TO BE DISCUSSED:

- TODAY TORNADOES AND SEVERE THUNDERSTORMS
- THURSDAY HURRICANES AND FLOODING
- FRIDAY TEMPERATURE EXTREMES AND WILDFIRES

...TORNADOES...

TORNADOES ARE THE MOST POWERFUL SMALL SCALE PHENOMENA IN NATURE. VIOLENT TORNADOES CAN LEVEL A CITY BLOCK IN A MATTER OF SECONDS. WHEN MOST PEOPLE THINK OF FLORIDA WEATHER HAZARDS, TORNADOES DO NOT NORMALLY COME TO MIND. HOWEVER, SINCE 1970 MORE THAN 2,400 TORNADOES HAVE BEEN REPORTED ACROSS THE STATE!

THE 15 COUNTIES THAT COMPRISE WEST CENTRAL AND SOUTHWEST FLORIDA ACCOUNTED EXPERIENCED 7 TORNADOES IN 2008, ALTHOUGH 90 TORNADOES WERE REPORTED STATE WIDE. OF THE TORNADOES REPORTED IN WEST CENTRAL AND SOUTHWEST FLORIDA ALL WERE EITHER EF-0 INTENSITY (65 TO 85 MPH WIND) OR EF-1 INTENSITY (86 TO 110 MPH WIND).

IN GENERAL, TORNADOES FORM WHEN RAPIDLY RISING AIR IN A THUNDERSTORM UPDRAFT COMBINES WITH EITHER AN INCREASE IN WIND SPEED OR CHANGE IN WIND DIRECTION, KNOWN AS SHEAR. THE LARGER THE SHEAR, THE GREATER THE ROTATION AND THUS THE BETTER CHANCE A TORNADO WILL FORM.

IN WEST CENTRAL FLORIDA FRONTAL SYSTEMS, SEA BREEZE OR BOUNDARY COLLISIONS, AND TROPICAL CYCLONE BANDS ARE THE PRIMARY WEATHER THREATS THAT LEAD TO TORNADO FORMATION.

FRONTAL SYSTEM TORNADOES OCCUR MOSTLY IN THE LATE WINTER AND SPRING, DEVELOPING ALONG SQUALL LINES PRECEDING MODERATE TO STRONG COLD FRONTS. THESE STORMS OFTEN ENTRAIN HIGH SHEAR, AND THUS TEND TO BE MOST DAMAGING.

SEA BREEZE OR BOUNDARY COLLISION TORNADOES ARE THE MOST COMMON, OCCURRING MOSTLY DURING LATE SPRING AND SUMMER. THESE TWISTERS,

FORMING ALONG COLLIDING SEA BREEZES OR THUNDERSTORM OUTFLOW BOUNDARIES, ARE NORMALLY SMALL AND BRIEF, PRODUCING MINOR DAMAGE.

TROPICAL CYCLONE BAND TORNADOES FORM ALONG THE OUTER BANDS AHEAD OF LAND FALLING TROPICAL CYCLONES. DAMAGE IS GENERALLY PROPORTIONAL TO THE STRENGTH OF THE APPROACHING CYCLONE. IN OTHER WORDS, THE STRONGER THE CYCLONE, THE STRONGER THE TORNADO.

...TORNADO WARNINGS...

REMEMBER, TAKE IMMEDIATE ACTION IF A TORNADO WARNING HAS BEEN ISSUED FOR YOUR AREA! A TORNADO WARNING MEANS THE TWISTER HAS EITHER BEEN SPOTTED, OR THERE ARE VERY STRONG INDICATIONS IN RADAR DATA THAT ONE EXISTS.

THE FOLLOWING ARE SOME TORNADO SAFETY RULES:

- ABANDON MOBILE HOMES FOR A PRE-IDENTIFIED STURDY BUILDING NEARBY.
- IN BUILDINGS, MOVE TO AN INTERIOR ROOM ON THE LOWEST FLOOR, AWAY FROM WINDOWS. GET UNDER A PIECE OF HEAVY FURNITURE, AND COVER YOUR HEAD WITH PILLOWS OR CUSHIONS.
- ABANDON VEHICLES AND SEEK REFUGE IN A STURDY BUILDING. DO NOT TRY AND OUTFRAN A TORNADO!
- IN OPEN COUNTRY, SEEK SAFETY IN A STURDY BUILDING, IF TIME PERMITS. IF NOT, LIE FLAT IN THE NEAREST DITCH AND COVER YOUR HEAD WITH YOUR ARMS.

...SEVERE THUNDERSTORMS...

THUNDERSTORMS ARE ALMOST A DAILY OCCURRENCE IN THE FLORIDA BETWEEN JUNE AND SEPTEMBER. BY DEFINITION, THUNDERSTORMS ARE HAZARDOUS DUE TO THE THREAT FROM LIGHTNING STRIKES. HOWEVER, SEVERE THUNDERSTORMS PRODUCE THE ADDED HAZARDS OF DAMAGING DOWNBURST WINDS AND LARGE HAIL.

SEVERE THUNDERSTORMS ARE DEFINED BY ONE OR MORE OF THE FOLLOWING:

- WIND GUSTS OF 58 MPH OR GREATER, SUFFICIENT TO PRODUCE DAMAGE TO WELL BUILT STRUCTURES OR STURDY FOLIAGE.
- HAIL 3/4 INCH IN DIAMETER OR LARGER.

HUNDREDS OF SEVERE THUNDERSTORMS OCCUR IN FLORIDA EACH YEAR. THESE STORMS OCCUR MOST FREQUENTLY BETWEEN MID MAY AND EARLY AUGUST, WHEN THE ATMOSPHERE ACROSS THE STATE IS MOST UNSTABLE. IN 2008, WEST CENTRAL AND SOUTHWEST FLORIDA HAD 117 SEVERE THUNDERSTORMS.

...DOWNBURST WINDS...

A DOWNBURST IS A PRONOUNCED GUST OF "STRAIGHT-LINE" WIND WHICH DESCENDS RAPIDLY FROM A THUNDERSTORM, HITS THE GROUND, AND SPREADS OUT HORIZONTALLY. THE DOWNBURST IS INITIATED BY EVAPORATION OF WATER AND ICE PARTICLES FALLING TOWARD EARTH. DRIER AIR ENTRAINED INTO A THUNDERSTORM INCREASES THE RATE OF EVAPORATION, AND HENCE ACCELERATES THE DOWNBURST. DOWNBURSTS IN SEVERE THUNDERSTORMS OFTEN BEGIN WELL ABOVE THE EARTH'S SURFACE AND ENCOUNTER SEVERAL DRY LAYERS ON THE WAY DOWN.

IN 2008, DOWNBURST WINDS ACCOUNTED FOR 38 PERCENT (45 EVENTS) OF THE 117 SEVERE THUNDERSTORM EVENTS RECORDED.

...HAIL...

HAIL FORMS WHEN WATER DROPLETS FREEZE IN THE UPPER REACHES OF THUNDERSTORMS. GRAVITY AND/OR DOWNDRAFTS BRING THE PARTICLES TOWARD EARTH. ON THE WAY, THEY MELT A BIT AND COMBINE WITH OTHER WATER AND ICE PARTICLES. SOMETIMES THESE LARGER PARTICLES MOVE INTO ADJACENT UPDRAFT REGIONS, RISING BACK ABOVE THE FREEZING LEVEL AND GROWING LARGER. EVENTUALLY, THE PARTICLES BECOME TOO HEAVY FOR ANY UPDRAFT TO SUPPORT THEM, AND THEY REACH EARTH AS HAIL.

HAIL IS ALSO A COMMON OCCURRENCE IN FLORIDA THUNDERSTORMS. THOUGH MOST HAIL IS SMALL, ABOUT THE SIZE OF A PEA, SOME REACHES 3/4 INCH IN DIAMETER OR LARGER. THE RELATIVE WARM AND HUMID FLORIDA ATMOSPHERE TENDS TO REDUCE THE NUMBER OF VERY LARGE HAILSTONES SIMILAR TO THOSE SEEN IN THE MIDWEST. HOWEVER, THEY DO OCCUR. IN 2008, HAIL OCCURRED IN 63 PERCENT (72 EVENTS) OF THE SEVERE THUNDERSTORMS.

THE FOLLOWING ARE SOME SEVERE THUNDERSTORM SAFETY RULES:

- PUT AS MANY WALLS BETWEEN YOU AND THE OUTSIDE WIND.
- IN VEHICLES, AVOID DRIVING INTO SEVERE THUNDERSTORMS. PULL OFF THE ROAD AND WAIT UNTIL THE STORM PASSES.
- PRIOR TO A SEVERE THUNDERSTORM AS TIME PERMITS, MOVE VEHICLES INTO GARAGES OR CARPORTS TO PREVENT HAIL AND DEBRIS DAMAGE.

FOR ADDITIONAL INFORMATION ABOUT TORNADOES AND SEVERE THUNDERSTORMS, PLEASE VISIT THE FOLLOWING WEBSITES:

[HTTP://WWW.NSSL.NOAA.GOV/EDU/SAFETY/TORNADOGUIDE.HTML](http://www.nssl.noaa.gov/edu/safety/tornadoguide.html)

[HTTP://WWW.FLORIDADISASTER.ORG/KIDS/INDEX2.HTM](http://www.floridadisaster.org/kids/index2.htm)