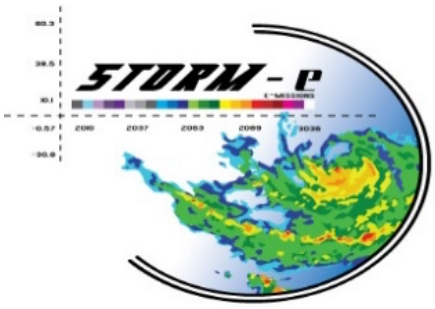

Glossary

air boss: The official who has the final word on whether to hold an air show or not. This decision is based on analysis of all-weather factors.

air mass: A large body of air having similar temperature and moisture characteristics.

Air Pressure: The force caused by the weight of air.

anemometer: An instrument that measures wind speed.

barometer: An instrument that measures air pressure.

Beaufort Scale: A scale used to describe wind strength and its effects on both land and sea.

Celsius: Temperature scale at which water boils at 100 degrees and freezes at zero degrees.

Cold Front: A boundary that forms when a cooler air mass replaces a warmer air mass.

Condensation: The process of gas changing to liquid.

Convection: Vertical air circulation where warm air rises and cool air sinks.

Dew Point: The temperature to which air must be cooled for water vapor to condense (change to liquid).

Doppler Radar: A type of radar that "sees" rain and snow and measures wind speed and direction. It is most useful for short-range forecasts on the day of the weather event.

Fahrenheit: Temperature scale at which water boils at 212 degrees and freezes at 32 degrees.

Front: The boundary between two distinct air masses. The basic types are cold, warm, stationary, and occluded fronts.

Hemisphere: Either the northern or southern half of the Earth as divided by the equator, or either the eastern or western half of the Earth as divided by the prime meridian.

High: Areas of atmosphere that have higher air pressure than the surrounding areas.

Humidity: The amount of water vapor in the atmosphere (see relative humidity).

Infrared Radiation:: An invisible form of radiation given off by all objects both day and night. Satellites equipped with infrared sensors take images of clouds and of the Earth's surface.

Isobar: A line on a weather map connecting points of equal air pressure.

isotherm: A line on a map joining areas of equal temperature.

Jet Stream: High-speed bands of wind in the atmosphere. The jet stream often "steers" surface features such as fronts and low-pressure systems.

Knots: One knot = 1.15 miles per hour. Meteorologists use knots to describe wind speed. Knots are also used to state the speed of ships, boats, and aircraft.

Lift: Cold fronts, warm fronts, sea breezes, mountains, or the sun's heat are capable of lifting air to help form storms.

Low: Areas of atmosphere that have lower air pressure than the surrounding areas.

Meteorologist: Person who studies the atmosphere and the processes that cause weather.

Millibar: A unit of air pressure. Average sea level pressure is approximately 1013 millibars.

Nor'easters: Storms that move north up the East Coast of the United States. Severe nor'easters can bring high winds, heavy precipitation, and low temperatures.

Occluded front: A front that forms when a cold front catches up to a warm front.

Precipitation: Liquid or solid water molecules that fall from the atmosphere and reach the ground.

Relative Humidity: A percentage that compares the amount of moisture in the air to the amount of moisture the air can hold at that temperature.

Ridge: A surface high steered by the jet stream. Ridges bring generally warm, clear weather. When looking at a weather map, you can recognize a ridge by its shape ().

Saturation: The condition of air when it contains all the water it can hold at a certain temperature. When air is saturated, the relative humidity is 100 percent.

Stationary Front: A front that is not moving.

Surface Winds: Surface winds can be located from ground level to approximately 3,000 feet.

Thermometer: An instrument for measuring temperature. Thermometers use either the Fahrenheit or Celsius scale.

Thunderstorm: A violent weather system that produces gusty winds, lightning, and heavy rain. Thunderstorms occur along fronts where air is rapidly rising.

Troposphere: The lowest level of the Earth's atmosphere. Almost all weather occurs in the troposphere.

Trough: A surface low steered by the jet stream. Troughs bring generally cool, cloudy weather. When looking at a weather map, you can recognize a trough by its shape (U).

Unstable Air: Warm air near the ground and cold air above. Unstable air can lead to billowing clouds and storms.

Upper Air Temperatures: Most precipitation forms approximately 5,000 feet above sea level, where the air pressure is 850mb. Temperatures at this level affect the type of precipitation that forms.

Warm Front: The boundary between a warm air mass that is moving toward a relatively colder air mass.

Wind Chill: A measure of the rate of heat loss from exposed skin caused by the combined effects of high winds and low temperatures.

Wind Vane: An instrument that shows the direction from which a wind is blowing.