



Hurricanes



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Glossary

air pressure: the weight of the atmosphere at a particular point

atmosphere: the gaseous or air portion of the physical environment that encircles a planet. In the case of the earth, it is held more or less near the surface by the earth's gravitational attraction. The divisions of the atmosphere include the troposphere, the stratosphere, the mesosphere, the ionosphere and the exosphere.

atmospheric pressure: the pressure exerted by the atmosphere at a given point. Its measurement is commonly expressed in millibars, or in inches or millimeters of mercury (Hg).

Coriolis effect: the effect of the earth's rotation on the movement of air masses. In 1835, Gustave-Gaspard Coriolis, a French scientist, first described this physical phenomenon. As air begins flowing from high to low pressure, the change in pressure differences tends to push winds in straight paths. However, the earth's rotation forces the wind to follow a curved path. In the Northern Hemisphere, the wind turns to the right of its direction of motion. In the Southern Hemisphere, it turns to the left. The Coriolis force is zero at the equator.

density: the quantity of a substance per unit measure

direction: a line leading to a place or point; a position to which motion or another position is referred

emergency management: a profession responsible for community disaster planning, preparedness, recovery and mitigation

evacuation: the withdrawal from a place in an organized way for protection from unsafe conditions, such as fire, the release of hazardous materials or approaching hurricane. Evacuation may refer to leaving individual buildings, neighborhoods, communities or even cities.

eye of a hurricane: the center of a hurricane, characterized by a roughly circular area of light winds and rain-free skies. An eye usually develops when maximum sustained winds exceed 78 miles (126 kilometers) per hour. The size of an eye can range from 5 to 60 miles (8 to 97 kilometers) in diameter; the average diameter is 20 miles (32 kilometers). In general, when the eye increases in size, the storm is intensifying.



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eye wall: an organized band of strong winds and updrafts surrounding the eye, or center, of a hurricane. It contains cumulonimbus clouds, intense rainfall and very strong winds.

floodwater: an overflow of water onto land that is normally dry

high pressure: an air mass of higher than normal pressure

hurricane: the name for a tropical cyclone with sustained winds of 74 miles (119 kilometers) per hour, or 65 knots, or greater in the North Atlantic Ocean, Caribbean Sea, Gulf of Mexico and the eastern North Pacific Ocean. This same tropical cyclone is known as a typhoon in the western Pacific and a cyclone in the Indian Ocean.

hurricane hazards: hazards associated with a hurricane, such as storm surges, high winds, floods, torrential rainfall, power outages and fires

hurricane WARNING: a formal advisory issued by forecasters at the National Hurricane Center when they have determined that hurricane conditions are expected in a coastal area or a group of islands within a 24-hour period. A WARNING is used to inform the public and marine interests of the storm's location, intensity and movement.

hurricane WATCH: a formal advisory issued by forecasters at the National Hurricane Center when they have determined that hurricane conditions are a potential threat to a coastal area or a group of islands within 24 to 36 hours. A WATCH is used to inform the public and marine interests of a storm's location, intensity and movement.

intensity: a measure of the strength of a cyclone or hurricane

latitude: the location of a point north or south of the equator. Latitude is shown on a map or globe as lines parallel to the equator.

location: a position on the earth's surface or in geographic space definable by coordinates or some other referencing system

longitude: the location of a point east or west of the prime meridian. Longitude is shown on a map or globe as lines parallel to the prime meridian, which passes through Greenwich, England. The lines of longitude run from pole to pole.

low pressure: a system in which air pressure decreases toward the center. Weather commonly associated with a low pressure center is cloudy and often accompanied by precipitation.

mass: the amount of matter in an object

mitigation: sustained actions and measures that prevent the occurrence of a disaster or reduce the severity of its effects



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molecule: the smallest part of any substance that still retains all the properties of that substance

Northern Hemisphere: the area of the earth above the equator

properties: the intrinsic and extrinsic qualities of objects; characteristic traits

recovery: regaining something lost or taken away; restoring health or usefulness; getting back to normal

response: provision of emergency assistance and relief

Southern Hemisphere: the area of the earth below the equator

structural engineering: the branch of engineering that deals with the mechanics, design and construction of structures, such as buildings and bridges

tropical depression: a tropical cyclone in which the maximum sustained surface winds move at a rate of 38 miles (61 kilometers) per hour, or 33 knots, or less

tropical storm: a tropical cyclone in which the maximum sustained surface winds are 39 to 73 miles (63 to 117 kilometers) per hour or 34 to 63 knots. At this point, the system is given a name to identify and track it.

true compass bearing: a bearing taken in reference to true, not magnetic, north

24-hour distance: the distance a storm travels in 24 hours

24-hour velocity: the average speed of a storm's movement in 24 hours. For example, if a storm moved 100 miles (161 kilometers) in 24 hours, then its 24-hour velocity would be 4.2 miles (6.8 kilometers) per hour.

weight: the measure of the gravitational attraction between objects

wind-resistant: designed to withstand strong winds and resist damage caused by strong winds

wind speed: the rate of the motion of air. This rate can be expressed in a number of ways. At sea, it is measured in knots, or nautical miles per hour. The unit most often used in the United States is miles per hour.



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