



# news

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*TxDOT's five goals: reduce congestion, enhance safety, expand economic opportunity, improve air quality and increase the value of transportation assets.*

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Preparation begins early before season arrives

AUSTIN—Hurricane season has arrived along with a flurry of activity around the state—government agencies, volunteer groups and private sector partners, all getting ready for the next big storm.

The Texas Department of Transportation (TxDOT) plays a critical role in storm education, evacuation and recovery. So each year, along with its hundreds of partners around the state, the department begins, months ahead of time, preparing for the possibility of seasonal storms.

“Preparations for the hurricane season begin at the end of the previous year while experiences and lessons learned are still fresh on the mind,” explained Amadeo Saenz, TxDOT executive director.

“TxDOT divisions and districts meet early to talk about what worked and what didn’t,” Saenz noted. “With each event, we learn more about the procedures we can put in place to bring the citizens of Texas to safety.”

As the hurricane season draws near, TxDOT starts an intensive review and training preparedness program to make sure emergency personnel and systems are in place to handle potential situations.

An important part of the preparedness program is reviewing TxDOT’s multiple Emergency Management Plans as early as possible. Video teleconferences with division and district emergency personnel across the state begin early in the year with an extensive review of the components of each plan before a hurricane hits the Texas coast. Responders are prepped on logistical support teams, evacuation, reentry plans and other emergency policies and procedures including reviewing and updating phone lists and websites.

Seasonal training begins early to prepare personnel on emergency traffic control measures, debris removal and other recovery procedures that are put in place immediately following the storm. Employees are also trained to serve on Courtesy Patrols during evacuations. After each storm or event, employees share experiences including situations with wildlife (snakes, alligators and wild hogs), downed electrical wires, and living and working for several weeks in a primitive and sometimes dangerous environment. All this shared information is rolled into a number of fairly intensive and well-structured training programs throughout the year.

TxDOT also participates in regional and statewide emergency drills involving other agencies and local jurisdictions throughout the year.

Equally important on the preparedness list are actions to identify and prepare facilities and equipment for quick mobilization and making sure contraflow routes are open and available (no lane closures). TxDOT personnel also identify—well in advance of a storm—locations of comfort stations along designated evacuation routes.

Division traffic operations personnel review evacuation plans to be prepared to open—if necessary—evacuees or to implement contraflow measures. Dynamic Message Signs (DMS) are tested and made ready to communicate emergency messages to travelers across the state, including frequent warnings to citizens in other parts of the state to not travel to the affected areas.

Each year, personnel evaluate the agency’s external and internal communications efforts designed to keep employees and the public informed. A comprehensive hurricane preparedness section on the agency’s website includes information on road conditions and evacuation procedures, in addition to links to other agencies with information on local conditions including the [www.texasonline.com](http://www.texasonline.com), a state website. Regional maps online show evacuation routes, all accessible on the Web at TxDOT’s site, [www.txdot.gov](http://www.txdot.gov).

For more information contact Government & Public Affairs media relations at 512 463-8588.

The Texas Department of Transportation

The Texas Department of Transportation is responsible for maintaining nearly 80,000 miles of road and for supporting aviation, rail and public transportation across the state. TxDOT and its 14,000 employees strive to empower local leaders to solve local transportation problems, and to use new financial tools, including tolling and public-private partnerships, to reduce congestion and pave the way for future economic growth while enhancing safety, improving air quality and preserving the value of the state’s transportation assets. Find out more at [www.txdot.gov](http://www.txdot.gov). Also, follow us on Twitter at [www.twitter.com/txdot](http://www.twitter.com/txdot), fan us on Facebook ([www.txdot.gov/facebook](http://www.txdot.gov/facebook)) and check out YouTube ([www.youtube.com/txdotpio](http://www.youtube.com/txdotpio))

(see our hurricane tracking chart on page 22)

measured on the Saffir-Simpson scale from a weak category 1 storm to a catastrophic category 5 storm. There were only two category 5 hurricanes with winds over 156 mph and a pressure of less than 920 mb (the world’s lowest pressures ever recorded were caused by hurricanes) that struck the United States in the 20th century. The two were a 1935 hurricane that struck the Florida Keys and Hurricane Camille in 1969. Only 14 category 4 storms hit the U.S. and these included the nation’s deadliest hurricane - the 1900 Galveston, Texas hurricane and Hurricane Andrew which hit Florida and Louisiana in 1992.

### HURRICANE DAMAGE RESULTS FROM THREE PRIMARY CAUSES:

1) Storm Surge. Approximately 90% of all hurricane deaths can be attributed to the storm surge, the dome of water created by the low pressure center of a hurricane. This storm surge quickly floods low-lying coastal

## HURRICANES

Named for Huracan, the Carib god of evil, the hurricane is an amazing yet destructive natural phenomenon that occurs about 40 to 50 times worldwide each year. Hurricane season takes place in the Atlantic, Caribbean, Gulf of Mexico, and Central Pacific from June 1 to November 30 while in the Eastern Pacific the season is from May 15 to November 30.

### HURRICANE FORMATION

Due to the Coriolis effect, the regions between 5° and 20° north and south of the equator are the belts where hurricanes can form (there is not enough rotary motion between 5° north and south. The term cyclone is used in the Bay of Bengal and Arabian Sea and the term typhoon is used in the Pacific Ocean north of the equator and west of the International Dateline.

The birth of a hurricane starts as a low pressure zone and builds into a tropical wave of low pressure. In addition to a disturbance in the tropical ocean water, the storms that become hurricanes also require warm ocean waters (above 80°F or 27°C down to 150 feet or 50 meters below sea level) and light upper level winds.

### GROWTH AND DEVELOPMENT OF TROPICAL STORMS AND HURRICANES

A tropical wave grows in intensity and then may grow to become an organized area of showers and thunderstorms known as a tropical disturbance. This disturbance becomes an organized area of tropical low pressure that is called a tropical depression based on cyclonic winds (counterclockwise in the Northern Hemisphere and clockwise in the Southern Hemisphere). A tropical depression’s wind speed must be at or below 38 miles per hour (mph) or 62 km/hr when averaged out over one minute. These winds are measured at 33 feet (10 meters) above the surface.

Once average winds reach 39 mph or 63 km/hr then the cyclonic system becomes a tropical storm and receives a name while tropical depressions are numbered (i.e. Tropical Depression 4 became Tropical Storm Chantal in the 2001 season.) Tropical storm names are preselected and issued alphabetically for each storm.

There are approximately 80-100 tropical storms annually and about half of these storms become full-fledged hurricanes. It is at 74 mph or 119 km/hr that a tropical storm becomes a hurricane. Hurricanes can be from 60 to almost 1000 miles wide. They vary widely in intensity; their strength is

measured on the Saffir-Simpson scale from a weak category 1 storm to a catastrophic category 5 storm. There were only two category 5 hurricanes with winds over 156 mph and a pressure of less than 920 mb (the world’s lowest pressures ever recorded were caused by hurricanes) that struck the United States in the 20th century. The two were a 1935 hurricane that struck the Florida Keys and Hurricane Camille in 1969. Only 14 category 4 storms hit the U.S. and these included the nation’s deadliest hurricane - the 1900 Galveston, Texas hurricane and Hurricane Andrew which hit Florida and Louisiana in 1992.

Email your participation to: [etexads@yahoo.com](mailto:etexads@yahoo.com)

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