TDCJ Risk Management's

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Dealing With The Elements of Nature

Texas is a great place to live, but sometimes the elements of nature can be as **big** and **bold** as the great Lone Star State. Severe weather affects everything and everyone in the Lone Star State from adults, children, homes, pets, livestock, places of business, and personal property. Two of the best precautions for severe weather are always be **prepared** and being **knowledgeable** of what to do in cause of severe weather. Both of these precautions can save lives and property damage. Would you know how to prepare for disastrous weather that is coming your way?

Let's get ready!

Flooding

A flood is an overflow or accumulation of an expanse of water that submerges land. In the sense of **"flowing water",** the word may also be applied to the inflow of the tide. Flooding may result from the volume of water within a body of water, such as a river or lake, which overflows or breaks levees, with the result that some of the water escapes its normal boundaries. We have all seen people stranded in high water standing on top of their vehicles, animals having to be rescued by emergency personnel. The lifting power of a flash flood is hard for most of us to understand, but the facts are:

- Water displaces 1,500 pounds of weight for every foot it rises.
- If a car weighs 3,000 pounds, it takes only **two feet** of water to send it downstream.
- It only takes **6 inches** of water to sweep a person off their feet.
- **One foot** of water can cause a compact vehicle to lose control and float away.

Nearly half of all flood related deaths occur in vehicles. Most of these deaths take place when people drive into flooded areas. Once a car is swept away the vehicle becomes a death trap because of the electric windows and door locks, trapping the occupants inside.

DO NOT DRIVE INTO HIGH WATER.

Lightning

It has been noted in many scholarly documents that the shear number of lightning strikes that occur in Texas is not exceeded anywhere else in the world. Lightning is definitely a phenomenon that everyone has observed and probably has stopped and wondered why exactly it occurs. As we enter the spring/summer thunderstorm season, it is important to make sure to check your local weather reports before spending any length of time outside. Don't be caught off guard. Did you know your chances today of being struck by lightning is apprx. 1 in 600,000 (better odds than winning the lottery). If you are caught outside during a thunderstorm, you should:

- Get inside a building **<u>immediately.</u>**
- Keep away from metal objects.
- Stay below ground level if possible and away from hilltops, open beaches, field, open water and tall trees.
- Seek shelter inside your vehicle.

- If you feel your hair stand on end, squat with your head between your knees. ***<u>DO NOT LIE FLAT !!</u>***
- If you are inside avoid using the telephone, or other electrical appliances.

- ***<u>DO NOT</u>*** take a bath, shower or stand near plumbing piping.

- Lightning often strikes outside of heavy rain and many occur as far as 10 miles away from any rainfall.

- **"Heat Lightning"** is actually from a thunderstorm too far away from thunder to be heard.
- Lightning strike victims carry ***<u>NO</u>*** electrical charge and should be attended to ***<u>immediately.</u>***

Straight Line Winds

Straight line winds are especially dangerous to property damage and TDCJ is not exception to this. The agency incurs substantial damage annually to facilities due to straight line winds. These winds are often confused with tornadoes because of the damage and wind speeds. Strong winds associated with straight line winds blow roughly in a straight line unlike the rotating winds of a tornado.

Tornadoes

Tornadoes are nature's most violent storms. Spawned from powerful thunderstorms, tornadoes can cause fatalities and devastate a neighborhood in seconds. A tornado appears as a rotating, funnel-shaped cloud that extends from a thunderstorm to the ground with whirling winds that can reach 300 miles per hour. Damage paths can be in excess of one mile wide and 50 miles long. Every state is at some risk

from this hazard. Some tornadoes are clearly visible, while rain or nearby low-hanging clouds obscure others. Occasionally, tornadoes develop so rapidly that little, if any, advance warning is possible. Before a tornado hits, the wind may die down and the air may become very still. A cloud of debris can mark the location of a tornado even if a funnel is not visible. Tornadoes generally occur near the trailing edge of a thunderstorm. It is not uncommon to see clear, sunlit skies behind a tornado.

Here is a few interesting facts about tornadoes:

- They may strike quickly, with little or no warning.
- They may appear nearly transparent until dust and debris are picked up or a cloud forms in the funnel.
- The average tornado moves Southwest to Northeast, but tornadoes have been known to move in any direction.
- The average forward speed of a tornado is *30 MPH,* but may vary from stationary to *70 MPH*.
- Tornadoes can accompany tropical storms and hurricanes as they move onto land.

- Waterspouts are tornadoes that form over water.
- Tornadoes are most frequently reported east of the Rocky Mountains during spring and summer months.
- Peak tornado season in the southern states is March through May; in the northern states, it is late spring through early summer.
- Tornadoes are most likely to occur between 3 p.m. and 9 p.m., but can occur at any time.

Do you know the difference between a tornado watch and tornado warning? Here is the difference:

Tornado Watch

Tornadoes are possible. Remain alert for approaching storms. Watch the sky and stay tuned to ***NOAA Weather Radio,*** commercial radio, or television for information.

Tornado Warning

A tornado has been sighted or indicated by weather radar. **Take shelter immediately.**

Would you know what to do if a tornado has been spotted in your area?

If you are in a structure (e.g. residence, small building, school, nursing home, hospital, factory, shopping center, high-rise building):

- Go to a pre-designated shelter area such as a safe room, basement, storm cellar, or the lowest building level.
- If there is no basement, go to the center of an interior room on the lowest level (closet, interior hallway) away from corners, windows, doors, and outside walls.
- Put as many walls as possible between you and the outside.
- Get under a sturdy table and use your arms to protect your head and neck.
- **Do not** open windows.

If you are in a vehicle, trailer, or mobile home:

- Get out immediately and go to the lowest floor of a sturdy, nearby building or a storm shelter.
- Mobile homes, even if tied down, offer little protection from tornadoes.

If you are caught outside with no shelter:

- Lie flat in a nearby ditch or depression and cover your head with your hands.
- Be aware of the potential for flooding.
- **Do not** get under an overpass or bridge. You are safer in a low, flat location.
- Never try to outrun a tornado in urban or congested areas in a car or truck, leave the vehicle immediately for safe shelter.

- Watch out for flying debris. Flying debris from tornadoes causes most fatalities and injuries

Thunderstorms

All thunderstorms are very dangerous. There are several associated dangers of thunderstorms including tornadoes, strong winds, hail, lightning and flash flooding.
Here are some facts about thunderstorms.

- Thunderstorms may occur singly, in clusters, or in lines.
- Some of the most severe occur when a single thunderstorm affects one location for an extended time.
- Thunderstorms typically produce rain for a brief period, anywhere from 30 minutes to an hour.
- Warm, humid conditions are highly favorable for thunderstorm development.
- About 10 percent of thunderstorms are classified as severe. These could produces hail at least three-quarters of an inch in diameter, has winds of 58 miles per hour or higher, or and could produce a tornado.

Do you know the difference between a thunderstorm watch and thunderstorm warning? Here is the difference:

Severe Thunderstorm Watch
Tells you when and where severe thunderstorms are likely to occur. Watch the sky and stay tuned to ***NOAA Weather Radio***, commercial radio, or television for information.

Severe Thunderstorm Warning
Issued when severe weather has been reported by spotters or indicated by radar. Warnings indicate imminent danger to life and property to those in the path of the storm.

Guidelines for what you should do if a thunderstorm is likely in your area:

- Postpone outdoor activities.
- Get inside a home, building, or hard top automobile (not a convertible). Although you may be injured if lightning strikes your car, you are much safer inside a vehicle than outside.
- Remember, rubber-soled shoes and rubber tires provide **NO** protection from lightning. However, the steel frame of a hard-topped vehicle provides increased protection if you are not touching metal.
- Shutter windows and secure outside doors. If shutters are not available, close window blinds, shades, or curtains.
- Use a corded telephone only for emergencies. Cordless and cellular telephones are safe to use.
- Use your battery-operated ***NOAA Weather Radio*** for updates from local officials.

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