**Floods and Flash Floods**

**Flood Basics**

A Flood is an overflowing of water onto land that is normally dry. Floods can happen during heavy rains, when ocean waves come on shore, when snow melts too fast, or when dams or levees break. Flooding may happen with only a few inches of water, or it may cover a house to the rooftop. They can occur quickly or over a long period and may last days, weeks, or longer. Floods are the most common and widespread of all weather-related natural disasters. Flooding causes more damage in the United States than any other severe weather related event, an average of $5 billion a year. Flooding can occur in any of the 50 states or U.S. territories at any time of the year. In the U.S., floods kill more people each year than tornadoes, hurricanes and lightning combined.

**Hurricane Related Flooding**

Hurricanes bring two types of flood danger, Storm Surge flooding and Inland flooding.

Storm surges are often the greatest threat to life and property from a hurricane. As a hurricane’s winds spiral around and around the storm, they push water into a mound at the storm’s center. This mound of water becomes dangerous when the storm reaches land because it causes flooding along the coast. The water piles up, unable to escape anywhere but on land as the storm carries it landward. A hurricane will cause more storm surge in areas where the ocean floor slopes gradually. This causes major flooding. The intensity of a hurricane, the terrain of an area and if a storm surge occurs during a high tide or not all effect the size of the storm surge. Storm surges over 20 feet are possible with major hurricanes. In the past, large death tolls have resulted from the rise of the ocean associated with many of the major hurricanes that have made landfall.

Inland flooding is flooding that occurs when the hurricane brings so much precipitation that the water has nowhere to go and rises on land. Often, residences think that the hurricane danger (the wind) has passed them, only to be stranded by rising flood waters. Hurricane Harvey’s (2017) record breaking 51.88 inches of rain caused extensive widespread flooding across Houston resulting in loss of life and massive property damage and destruction.

**Flash Floods**

Flash floods are the most dangerous kind of floods, because they combine the destructive power of a flood with incredible speed and unpredictability. A flash flood is caused by heavy or excessive rainfall in a short period of time, generally less than six hours. Flash floods are usually characterized by raging torrents after heavy rains that rip through river beds, urban streets, or mountain canyons sweeping everything before them. They can occur within minutes or a few hours of excessive rainfall. They can also occur even if no rain has fallen, for instance after a levee or dam has failed and released a large amount of water all at once.

What areas are at risk from flash floods?

Densely populated areas are at a higher risk for flash floods. The construction of buildings, highways, driveways, and parking lots increases runoff by reducing the amount of rain absorbed by the ground. This runoff increases the flash flood potential.

Sometimes, streams through cities and towns are routed underground into storm drains. During heavy rain, the storm drains can become overwhelmed and flood roads and buildings. Low spots, such as underpasses, underground parking garages, and basements can become death traps.

Areas near rivers are at risk from flash floods. Embankments, known as levees, are often built along rivers and are used to prevent high water from flooding bordering land. Dam failures can send a sudden destructive wall of water downstream.

Mountains and steep hills produce rapid runoff, which causes streams to rise quickly. Rocks and clay soils do not allow much water to infiltrate the ground. Saturated soil also can lead rapidly to flash flooding. Vacationing or recreating along streams or rivers can be a risk if there are thunderstorms in the area. A creek only 6 inches deep in mountainous areas can swell to a 10-foot deep raging river in less than an hour if a thunderstorm lingers over an area for an extended period of time.

**Flood Watch and Warning**

 A Flood Watch/Flash Flood Watch means that Flash flooding or flooding is possible within the designated watch area - be alert and stay tuned to local media for updates.

A Flood Warning/Flash Flood Warning means that Flash flooding or flooding has been reported or is imminent (going to occur) - take necessary steps to ensure your safety immediately. Get to higher ground!

**Flood Safety**

Flash floods can come quickly and unexpectedly, but most floods are predicted. It is important to always heed warnings and get to a safe location. Many people feel that they must stay home to “protect their property”. Remember that lives are irreplaceable, but property can be repaired. Always evacuate when instructed to do so. One of the most tragic type of flooding deaths are those that could have been prevented by remembering the simple rule: TURN AROUND, DON’T DROWN! As little as 6 inches of fast moving water can sweep most any vehicle off a roadway (this includes trucks and SUVs). When a road is covered in water, it is not possible to determine how deep the water actually is over the road. In addition, when you can’t see the road, you can't determine the condition of it. Flood waters frequently wash away roads or open up huge sinkholes. Our area does see Flash Floods caused by heavy thunderstorm rain. Flash floods can occur in a matter of minutes, so when warnings are issued, it is extremely important to act immediately! Plan ahead if you live in a low-lying area. Know ahead of time where you can go quickly if you need to get to higher ground.