

FLOODING: OUR NATION'S MOST FREQUENT AND COSTLY NATURAL DISASTER

CAUSES OF FLOODING

SPRING THAW

During the spring, frozen land prevents melting snow or rainfall from seeping into the ground. When the snow does melt, it can overflow streams, rivers and lakes. Add spring storms, and the result is often severe spring flooding. Just last spring, Alaska experienced record-breaking flooding after warmer-than-normal temperatures caused snowmelt and ice jams along Alaskan rivers. The resulting damage to homes, roads and airports was estimated at more than \$7.2 million.

HURRICANES

Hurricanes can bring strong winds, heavy rains and storm surge in coastal areas. As hurricanes and tropical storms move inland, torrential rains and high winds can cause damage hundreds of miles from the coast. Hurricane Ike in 2008 was the third most destructive hurricane ever to hit the United States. In Texas, Ike's 100 mph winds, 13-foot high storm surge and 16 inches of rain destroyed thousands of homes and properties. Figures from NOAA's National Climatic Data Center reports puts losses from the storm at \$27 billion.

TROPICAL STORMS

Wind speeds don't tell the entire story when it comes to tropical storms. Intense rainfall, not directly related to the wind speed of a tropical storm, often causes the

FLOODING is the most frequent severe weather threat and the costliest natural disaster facing the nation. Ninety percent of all natural disasters in the U.S. involve flooding. And high-risk flood areas are not the only ones at risk: about 25% of flood insurance claims come from moderate-to low-risk areas.

most damage. In November 2009, remnants of Tropical Storm Ida redeveloped into a strong coastal storm (nor'easter) that generated up to 18 inches of rain in many areas and caused major flooding along the Atlantic Coast. The storm caused an estimated \$70 million in damage in Virginia alone.

HEAVY RAINS

All areas of the country are at heightened risk for flooding due to heavy rains. This excessive rainfall can happen during any season, putting property at risk year round. In September 2009, heavy rains caused severe flooding in Atlanta, Georgia and surrounding areas, with northern parts of the state receiving as much as 15 inches of rain over three days. Approximately 1,000 homes were flooded and around 30,000 people suffered from power outages. Damages from these torrential rains were estimated at \$250 million.

WEST COAST THREATS

The West Coast rainy season usually lasts from November to April, bringing the majority of yearly precipitation to states in the Pacific Northwest. In January 2009, Washington experienced some of the worst flooding on record. A combination of heavy rains and snowmelt caused extensive flooding and mudslides, with an estimated \$125 million in flood damage to roads, buildings and other government structures.

LEVEES & DAMS

The U.S. has thousands of miles of levees and dams that are designed to protect against a certain level of flooding. These structures can erode and weaken over time, and they can also be overtopped—or even fail—during large flood events. In 2008, heavy rains and rapid snowmelt in the Midwest caused dam and levee breaches across the region, with some river crests exceeding 500-year levels. The resulting floods caused devastating damage to homes and businesses.

FLASH FLOODS

Flash flooding is the #1 weather-related killer in the U.S. A flash flood is a phenomenon that occurs within 6 hours of an event that generates significant flood waters, such as a thunderstorm, the collapse of a man made structure or an ice break. In August 2009, flash floods occurred in the Louisville, Kentucky area after the region experienced record-breaking rainfall rates, with one location reporting an astounding 8.8 inches per hour. Damages from the flash flooding in Louisville are estimated at \$8.5 million.

Visit www.floodsmart.gov/noaa to learn more about flood history and causes, safety precautions, flood risks, and flood insurance policy options.

FLOOD SAFETY AWARENESS WEEK FEMA and the National Flood Insurance Program (NFIP) are proud to partner with the National Oceanic and Atmospheric Administration (NOAA) and National Weather Service (NWS) to demonstrate flood risks across the country and provide important information about steps you can take to protect yourself and your family.



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