

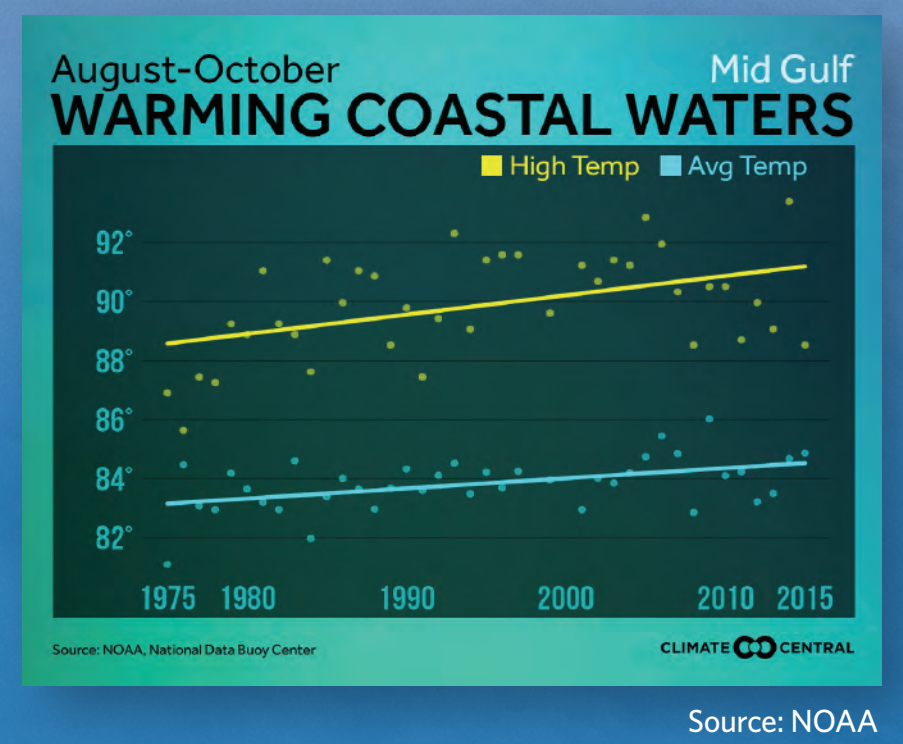
Hurricanes and Their Impact

What are hurricanes?

Hurricanes are powerful tropical cyclones that form over warm ocean waters under specific conditions. These massive, rotating storm systems require a sea surface temperature of at least 80°F (27°C) to gain energy. Moist air above the ocean allows clouds to form and grow as warm water evaporates, while consistent wind patterns at all levels of the atmosphere help organize the storm.

Why are hurricanes intensifying?

Climate change is intensifying hurricanes as warmer oceans fuel storm growth, and a more moisture-rich atmosphere leads to heavier rainfall and increased flooding risks. Rising sea levels contribute to devastating storm surges, while shifts in wind patterns, like changes in the jet stream, can slow hurricanes down, prolonging their impact and causing greater damage.



What are hurricane categories?

Hurricanes are rated using the Saffir-Simpson Hurricane Wind Scale, which categorizes them based on their sustained wind speeds and potential for damage. The scale has five categories:

Category 1

74-95 mph

Minimal damage, with some power outages.

Category 2

96-110 mph

Moderate damage, with structural damage and widespread outages.

Category 3

111-129 mph

Major damage, with some destruction and severe flooding.

Category 4

130-156 mph

Catastrophic damage, leaving areas uninhabitable for weeks.

Category 5

157+ mph

Total destruction, leaving areas uninhabitable for months.

Why do tornadoes form on the edges of hurricanes?

Tornadoes often form on the outer edges of hurricanes due to wind shear, where winds at different altitudes and speeds create instability. This can lead to rotating air, spawning tornadoes, most likely in the hurricane's front-right quadrant. Hurricane-spawned tornadoes are especially dangerous because they occur with little warning, adding to the already hazardous conditions of the storm.



What is FEMA?

FEMA (Federal Emergency Management Agency) coordinates the federal government's response to disasters when they overwhelm state and local capacities. FEMA is critical in disaster recovery by providing emergency relief and financial assistance. It helps rebuild infrastructure, supports individuals with housing and other essentials, and coordinates disaster preparedness and mitigation.

How do we respond?

In response to hurricanes, communities, and governments work together to prepare, recover, and rebuild. To reduce hurricane damage, communities strengthen building codes, upgrade infrastructure, and restore natural barriers like wetlands to absorb stormwater and mitigate storm surges. Early warning systems, such as hurricane tracking and evacuation planning, give residents more time to prepare.

