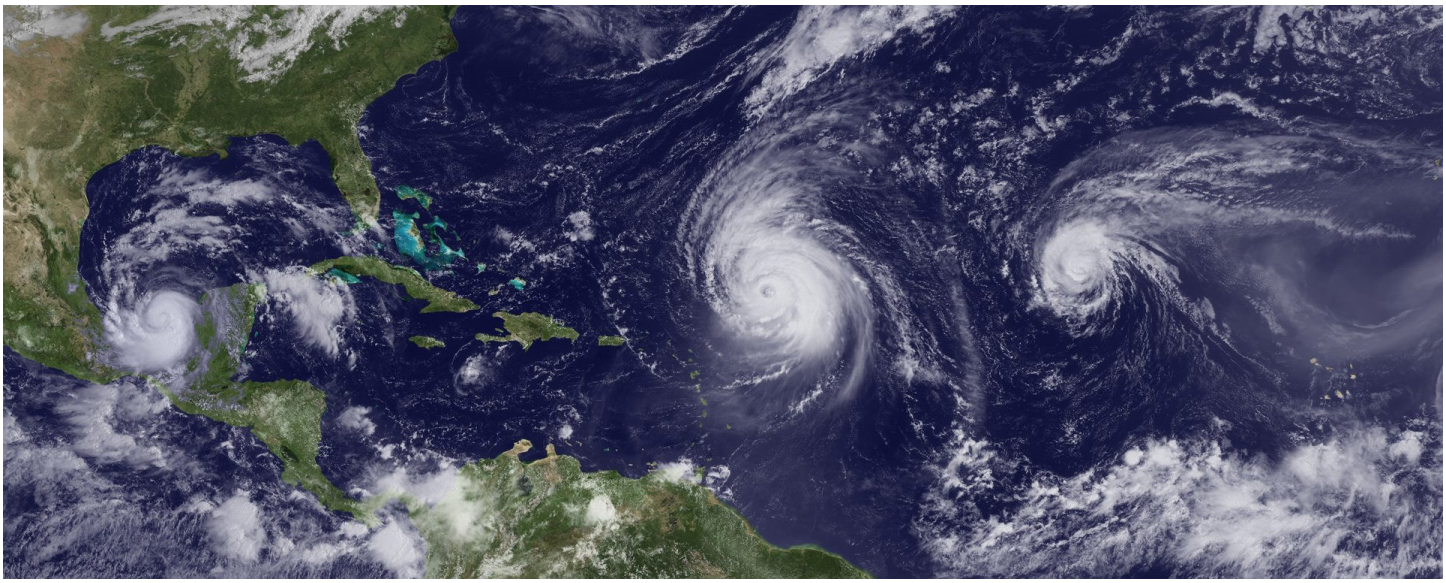
Hurricane and Tropical Cyclone Science

An American Meteorological Society Media Resource



Credit: NOAA NESDIS Environmental Visualization Laboratory

The Rundown

Hurricanes are extremely dangerous storms that damage communities every year, and climate change has the potential to amplify hurricane hazards. Scientists have made great progress in understanding and forecasting both hurricanes and their effects. These and future advances in hurricane science will improve response efforts, helping save lives, livelihoods, and resources.

AMS Hurricane Experts

Below are some members of the AMS community who are experts on hurricanes. To reach these and other experts, please contact **press@ametsoc.org.**



Kerry Emanuel
Emeritus Professor
MIT
Hurricanes and Climate Change



Sharan Majumdar
Professor, Department of Atmospheric Sciences
University of Miami
Hurricane Predictability



Suzana Camargo
Marie Tharp Lamont Research Professor
Columbia University
Tropical Cyclones and Climate

AMS Glossary: What Is a Hurricane?

A **tropical cyclone** is a large, rotating storm system that forms over the tropical or subtropical ocean. **In the Western Hemisphere, the most intense form of tropical cyclone (with winds of 74+ miles per hour) is called a hurricane**.

View the technical definition of a "hurricane" and hundreds of other weather terms in the **AMS Glossary of Meteorology**.

Forecasting and Response

Hurricane forecasting improvements are saving lives, livelihoods, and property. They make it possible for planners to focus their risk-reduction efforts and respond efficiently. Investments in hurricane science and observations, along with cross-sector partnerships for improved emergency management, will provide dramatic benefits to humanity as we prepare for future tropical cyclones.

For information on hurricanes, their hazards, and the role of the Weather Enterprise in preventing tropical cyclone deaths and damage, read the ***AMS Statement on Tropical Cyclone Forecasting in the United States.***

Hurricanes and Climate Change

Climate change makes hurricanes more dangerous. It could increase cyclones' destructive power (e.g., wind intensity, storm surge, rainfall), change where and when they hit, weaken natural and human-made protective systems (from mangroves and coral reefs to seawalls), and increase stress on societally crucial systems like agriculture and health care, so that extreme storms tip the scales toward major disruption.

For more, read the IPCC's 6th Assessment Report, **Chapter 11 on Weather and Climate Extreme Events**.

AMS and Hurricanes

AMS is the professional society for weather, water, and climate science and services. AMS members include (among others) researchers studying all aspects of hurricanes and other extreme weather; broadcast meteorologists; weather forecasters; local and regional emergency managers; climate scientists; and professionals working within relevant federal agencies including the National Weather Service, the National Hurricane Center, and the Federal Emergency Management Agency. The **AMS Committee on Tropical Meteorology and Tropical Cyclones** periodically hosts the international **Conference on Hurricanes and Tropical Meteorology**.

View more about the conference and committee.