



PERSPECTIVES

2024 Hurricane Season Predictions and Considerations

Our perspectives feature the viewpoints of our subject matter experts on current topics and emerging trends.

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INTRODUCTION: UNDERSTANDING THE 2024 HURRICANE SEASON FORECAST

A much-anticipated time of year across the Atlantic coastline of North America and the Caribbean is hurricane season, which officially begins on June 1st and ends November 30th. Similarly, the east Pacific hurricane season begins on May 15th and ends November 30th. During this time, tropical cyclones are most prone for development in low-latitude waters where sea-surface temperatures are warm and overall wind shear is low.

Atlantic tropical cyclones are generally guided by light easterly winds common to the area, which often flow with respect to a high pressure over or near Bermuda during the summertime. This "Bermuda High" often dictates whether, and when, east-to-west-moving hurricanes will begin a northward turn and stay over the open ocean, or, instead, impact the Atlantic coastline, enter the Gulf of Mexico, or push into Central America. In this article, we discuss details of Colorado State University's 2024 Atlantic hurricane season forecasts, as well as considerations to bear in mind when preparing for tropical cyclones, regardless of category.

2024 HURRICANE SEASON OUTLOOK

Colorado State University (CSU) is one of the most respected institutions for researching and predicting hurricanes. On April 4, 2024, CSU issued the first of several forecasts for the 2024 Atlantic hurricane season,¹ which indicated an active year for tropical cyclones. CSU noted some similarities in weather patterns to the 2020 season, which was also an active tropical cyclone year.

CSU predicts (based on their April 2024 outlook) that there will be 23 named storms in the Atlantic this season, about half of which (11) are expected to become hurricanes. Of those expected to become hurricanes, half (5) are expected to become major hurricanes (at least Category 3). CSU researchers indicated there is a 62% chance of a major hurricane making landfall somewhere along the U.S. coastline, and a 66% chance of a major hurricane landfalling in the Caribbean. The top 10 most likely landfall locations for a major hurricane (Category 3 or larger) this year, according to the CSU April 2024 outlook, are:

- 1. The Bahamas 46%
- 2. Florida 44%
 - a. Monroe County 27%
 - b. Miami-Dade County 23%
 - c. Collier County 21%
 - d. Lee County 19%
 - e. Broward County 18%
- 3. Cuba 39%
- 4. Mexico 30%
- a. Quintana Roo 24% b. Yucatan – 20%
- 5. Dominican Republic 27%
- 6. Texas 25%
- a. Matagorda County 13%
- 7. Louisiana 23% a. St. Bernard Parish – 13%
- 8. Bermuda 19%
- 9. Honduras 18%
- 10. Turks and Caicos 18%

HURRICANE DYNAMICS AND INFLUENCING FACTORS

It is important to remember that many tropical cyclones including major hurricanes—remain at sea, or impact coastal areas that are minimally inhabited and developed. Therefore, highly active hurricane seasons do not always correlate to highly active hurricane-related catastrophe seasons in terms of the property insurance industry, or even within the National Oceanic and Atmospheric Administration (NOAA) Billion Dollar Disasters catalogue.

Regardless, it only takes a single tropical cyclone, no matter its category, to inflict devastation. For example, in 2008, Hurricane Ike was a Category 2 hurricane when it made landfall near Galveston, Texas, but registers as the 9th most costly tropical cyclone in the U.S. to date. Hurricane



¹ <u>https://tropical.colostate.edu/forecasting.html</u>

Sandy, which was technically not a hurricane when it made landfall in the Northeastern U.S. in 2012 (but rather an extratropical cyclone), contained winds equivalent to a Category 1 hurricane at the time of landfall, but stands as the 5th most costly tropical cyclone event in the U.S.

There are many more factors involved in hurricane disasters other than the storm itself. For example, urban development along hurricane-prone coastlines will inevitably result in costlier events. Building codes, zoning laws, flood and surge mitigation measures, evacuation protocols, and community preparedness all contribute to the magnitude of a tropical cyclone disaster. In fact, because there are so many issues regarding hurricane preparedness, it is critical to review and understand <u>what not to do ahead of tropical cyclones</u>.

CONCLUSION: PREPARING FOR THE 2024 HURRICANE SEASON

Ultimately, it is advisable that organizations monitor both their local National Weather Service (NWS) office² and the National Hurricane Center (NHC)³ routinely during hurricane season. Additionally, municipalities, medical centers, attractions, venues, and other organizations that cater to large groups of people should contact their local NWS office and become *StormReady*⁴, a designation granted by the NWS for organizations that have demonstrated their preparedness for severe weather, including hurricanes.

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Daniel Schreiber is a Vice President in J.S. Held's Forensic Meteorology service line. He is a Certified Consulting Meteorologist with over 10 years of experience in military, aviation, and severe weather operations. Mr. Schreiber has provided consulting and expert services for both plaintiff and defense law firms, as well as insurance adjusters, appraisers, umpires, and policyholders throughout North America. He has been consulted and/or retained as an expert in over 700 matters and has testified in both depositions and during trials in state and federal courts. He regularly plays an integral role in multi-milliondollar insurance disputes and injury/wrongful death lawsuits from coast to coast. Before joining J.S. Held, Dan was a highly successful meteorology business owner.

Dan can be reached at <u>daniel.schreiber@jsheld.com</u> or +1 830 453-0255.

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² <u>https://www.weather.gov/</u>

⁴ <u>https://www.weather.gov/stormready/</u>

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³ https://www.nhc.noaa.gov/