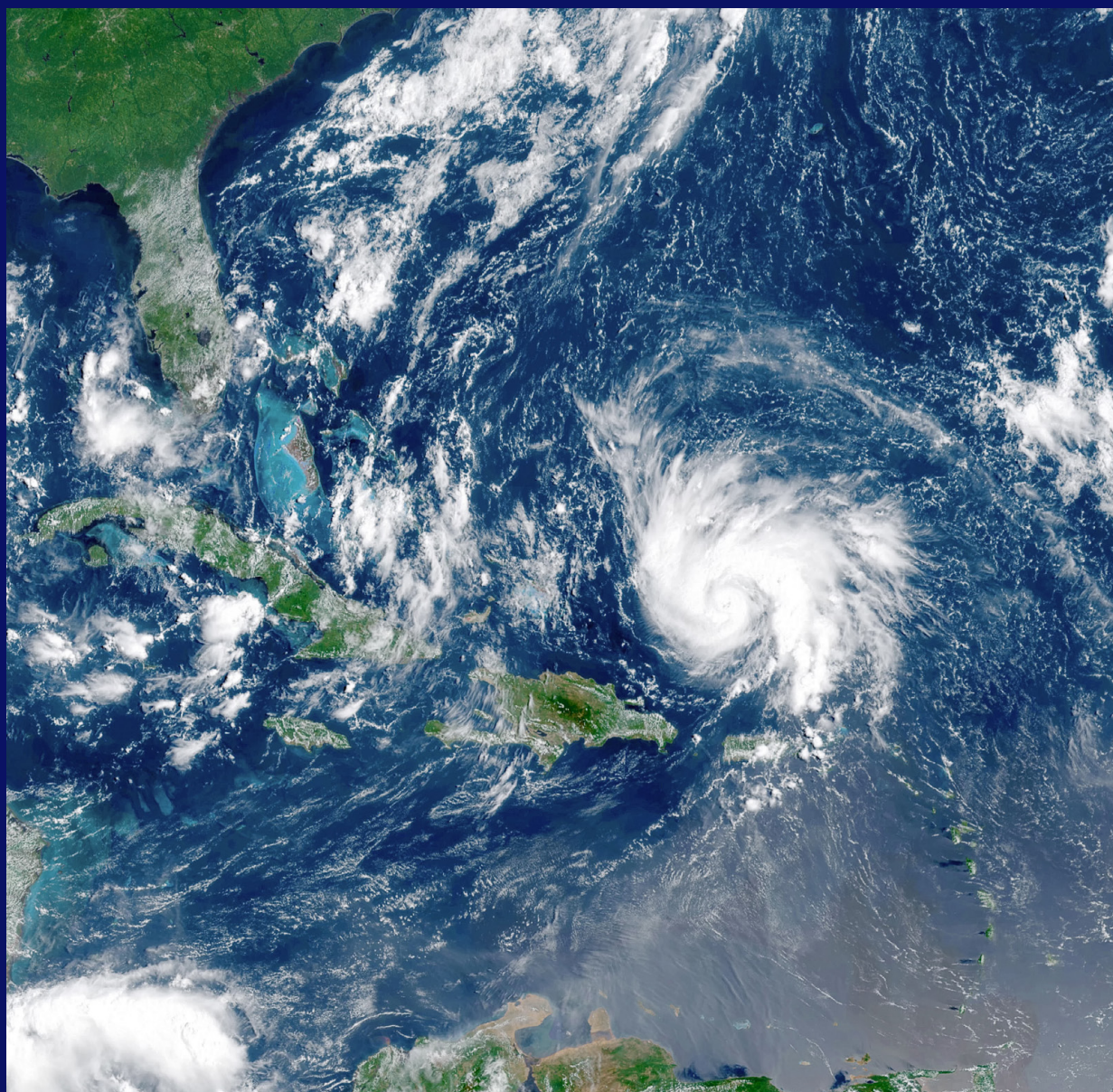
MOODY'S

EXECUTIVE SUMMARY

2026 Northern Hemisphere tropical cyclone outlook

NORTH ATLANTIC AND WESTERN NORTH PACIFIC
MOODY'S RMS™ EVENT RESPONSE REPORT



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Introduction

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Although the 2025 North Atlantic hurricane season produced its third consecutive above-normal season and the ninth above-normal season in the past 10 years, the US did not experience a landfalling hurricane for the first time since 2015. That was of great relief to the insurance industry following multiple years of multibillion-dollar losses.

Last season's standout event was Hurricane Melissa, which made landfall in southwestern Jamaica in late October as a Category 5 major hurricane. It broke numerous records, including becoming the strongest and most intense hurricane to make landfall in Jamaica since recordkeeping began in 1851 as well as the joint second-strongest and third-most-intense hurricane anywhere in the North Atlantic Basin on record. Melissa left Jamaica devastated, particularly in western areas such as Westmoreland, St. Elizabeth, and Manchester Parishes.

Moody's RMS Event Response estimated insured losses from Hurricane Melissa could range between US$3 billion and US$5 billion, with economic losses in Jamaica from the event potentially exceeding the island's GDP, which was approximately US$20 billion in 2024.

Our focus now turns to what might lie ahead in 2026.

"According to the latest seasonal tropical cyclone forecasts issued by numerous meteorological agencies and groups, there is a strong consensus that tropical cyclone activity in 2026 is likely to be below normal."

BELOW-NORMAL 2026 SEASON EXPECTED

According to the latest seasonal tropical cyclone forecasts issued by numerous meteorological agencies and groups, there is a strong consensus that tropical cyclone activity in 2026 is likely to be below normal. These forecasts reflect the combined influence of several key seasonal oceanic and atmospheric factors that typically influence intraseasonal hurricane activity in the North Atlantic, primarily the El Niño-Southern Oscillation (ENSO) and North Atlantic sea surface temperatures.

ENSO is currently in a warm-neutral state and is likely to transition to a moderate or potentially very strong El Niño during the Northern Hemisphere summer. There is an 82% chance that El Niño conditions emerge between May and July, and a 98% chance that El Niño conditions are present through the peak months of the hurricane season in August, September, and October.

El Niño conditions in the equatorial Pacific often result in increased vertical wind shear and decreased atmospheric instability in the North Atlantic Basin, especially across the Main Development Region and Caribbean Sea, which generally hinders hurricane formation, development, and intensification.

The timing and intensity of the expected shift to El Niño will both be key determining factors in shaping hurricane activity in 2026. The earlier that warmer-than-average sea surface temperatures develop in the equatorial Pacific, the sooner broader atmospheric circulation patterns across the Pacific and North Atlantic are likely to adjust, making conditions across the North Atlantic less favorable for cyclone development earlier in the season. Likewise, the stronger the El Niño phase, the more hostile the atmospheric conditions will become across the North Atlantic. The uncertainty around the exact timing and intensity of the shift to El Niño is reflected in the preseason forecast ranges (well below normal to near average).

The recent hurricane seasons that experienced moderate or strong El Niño phases include 2006, 2009, 2015, and 2023 — three of these years (2006, 2009, and 2015) produced a below-average hurricane season with few impacts in the US. However, 2023 was notable for above-average activity and the impact of Major Hurricane Idalia in the Florida Panhandle, where locally favorable conditions in the North Atlantic drove above-average storm activity. So although a moderate or strong El Niño generally leads to a quiet and less destructive season, landfalling hurricanes are still possible.

In the North Atlantic, sea surface temperatures are expected to be slightly warmer than normal, and trade winds are likely to be weaker than average this season. On average, temperature anomalies across the basin are currently +0.2°C, slightly cooler than at the same time in 2025 and much lower than in 2024. Many areas are forecast to experience anomalies of +0.23°C to +0.59°C for the period covering the peak months of the hurricane season between August and October 2026.

These oceanic conditions in the North Atlantic would typically support a more active year; however, the consensus is that the emergence of a moderate or strong El Niño (and its associated atmospheric impacts in the North Atlantic) will likely overwhelm the locally favorable North Atlantic oceanic conditions and produce a below-average season.

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SUBSEASONAL FACTORS

As always, there is great interest in the West African monsoon season and the location and strength of the African Easterly Jet. The question is whether the monsoon season will be favorable for tropical cyclone development given nearly 85% of major hurricanes have their origins as disturbances from West Africa.

The latest precipitation forecasts for sub-Saharan West Africa indicate that monsoon precipitation is likely to shift northward and inland, with potentially above-average amounts for the whole season. This configuration would not be optimal for tropical cyclone development since waves moving off West Africa in the far eastern tropical North Atlantic could entrain more dry air and emerge over cooler waters, both of which make development and intensification less likely.

Although oceanic and atmospheric conditions are leaning toward a below-average year, we cannot be as certain of the influence of several other

subseasonal factors. These factors can modulate tropical cyclone activity on a weekly or monthly basis and are difficult to forecast at seasonal timescales; they include the North Atlantic Oscillation (NAO), the Saharan Air Layer (SAL), and the Madden-Julian Oscillation (MJO). More details on these factors along with further information on ENSO, North Atlantic sea surface temperatures, and the West African monsoon season can be found in this report.

Although the North Atlantic has primarily been the focus of tropical cyclones in the past several years, Moody's RMS Event Response stands ready to react in the Western North Pacific Basin if the focus switches. In 2021, we expanded this outlook report to cover seasonal forecasts in the Asia-Pacific region, and this year's report once again includes Western North Pacific typhoon activity forecasts for 2026.

EVENT RESPONSE: READY TO RESPOND

Although long-term statistics indicate that the probability of a hurricane making landfall in the US decreases during quieter seasons, there are notable exceptions. During the relatively quiet 1992 season that was influenced by a moderate albeit weakening El Nino, Hurricane Andrew, among the costliest hurricanes in US history, was one of only seven named storms to develop, whereas 1965 was a below-average season but saw Hurricane Betsy cause major destruction across the Bahamas, Florida, and Louisiana. This serves as a good reminder that it only takes one landfalling event to make a season costly or memorable, regardless of the overall seasonal activity numbers.

Landfalls are ultimately decided by the trajectory and path of an individual tropical cyclone, which are dependent on both the broadscale and local synoptic factors at the time of formation, which are not possible to skillfully forecast at seasonal timelines.

Whatever the final storm count in 2026, Moody's RMS Event Response remains committed to supporting our customers during the hurricane season. We continue to work diligently to build on our recent advancements and provide our customers with faster and more comprehensive analytics. For instance, the Moody's ExposureIQ™ and Risk Modeler™ applications on the Moody's Intelligent Risk Platform™ continue to put Moody's RMS Event Response and Moody's HWind insights into our customers' hands like never before, with automated updates every few hours.

Moody's RMS Event Response is once again ready to inform your critical business processes with deep insights during the year's most impactful events.

Mohsen Rahnama, Ph.D.
Managing Director and Head of Moody's RMS Modeling and Data Insurance Solutions, Moody's

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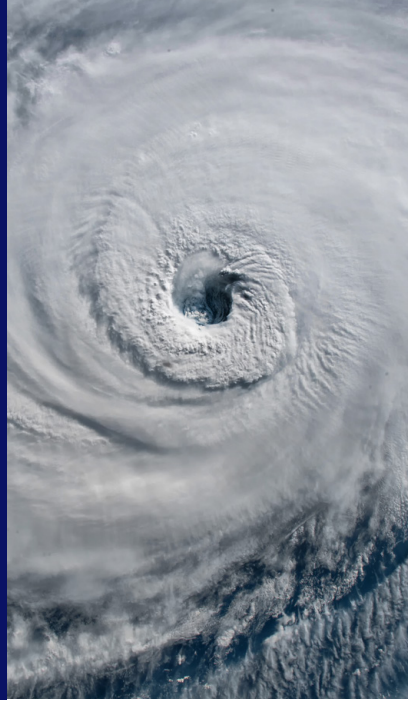
2026 North Atlantic seasonal forecasts



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The North Atlantic hurricane season officially runs from June 1 to November 30. Several forecasting agencies and groups issue preseason forecasts to provide an indication of potential storm activity for the upcoming season. This report presents and evaluates the latest available forecasts at the time of publication.

Exhibit 1 shows the most recent forecasts, including those from the National Oceanic and Atmospheric Administration, two widely known forecast groups, Colorado State University and Tropical Storm Risk, and several other agencies. The exhibit also displays a few climatological averages and 2026's activity count.

EXHIBIT 1: Summary of the most recent 2026 North Atlantic seasonal tropical cyclone forecasts, average activity for specific periods, and seasonal activity for 2025.

Forecast agency	Forecast issue date	Tropical storms	Hurricanes	Major hurricanes	ACE index
National Oceanic and Atmospheric Administration	May 21	8–14	3–6	1–3	44–111
Colorado State University	June 10	8–14	3–7	1–3	37–114
Tropical Storm Risk	May 28	11	4	1	55
UK Met Office	May 28	6–12	3–7	1–3	34–110
European Centre for Medium-Range Weather Forecasts	May 5	9–17	3–9	n/a	61–134
Servicio Meteorológico Nacional	April 22	11–15	4–7	1–2	n/a
North Carolina State University	April 22	12–15	6–9	2–3	n/a
University of Pennsylvania	April 21	7–13	n/a	n/a	n/a
University of Arizona	April 3	17–23	7–11	3–5	114–196
AccuWeather	May 5	11–16	4–7	2–4	n/a
The Weather Company	April 16	12	6	2	n/a
1950-2025 average*		12.4	6.5	2.7	106.8
1991-2020 average†		14.4	7.2	3.2	122.3
1995-2025 average‡		15.7	7.7	3.5	134.5
2016-2025 average§		18.1	8.3	3.9	148.5
2025 North Atlantic hurricane season		13	5	4	132.6

* Storms only given official names since 1950.

† The 1991-2020 average represents the latest National Oceanic and Atmospheric Administration three-decade US Climate Normals.

‡ The 1995-2025 average represents the recent high-activity era of the Atlantic Basin since 1995.

§ The 2016-2025 average represents the most recent decade.

Forecasts

The seasonal activity forecasts presented in Exhibit 1 are made using dynamical weather models, statistical models, or a combination of the two.

Dynamical weather models, such as those partly used by the National Oceanic and Atmospheric Administration, the UK Met Office, and the European Centre for Medium-Range Weather Forecasts, calculate the real-life physical atmospheric and oceanic processes from a perturbed set of initial environmental conditions. An ensemble of forecasts is produced to provide an indication of the range and probability of possible outcomes that may occur.

Statistical models, such as those used by Tropical Storm Risk, University of Pennsylvania, and University of Arizona, derive statistical relationships between environmental factors and historical activity. These relationships are then applied to current environmental conditions to forecast activity for the upcoming season. The forecast ranges are typically based on the historical accuracy of the prediction scheme.

Some seasonal activity forecasts, such as those issued by Colorado State University, use a combination of statistical and statistical/dynamical hybrid models.

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION FORECAST

The National Oceanic and Atmospheric Administration (NOAA) outlook for the 2026 North Atlantic hurricane season suggests that a below-normal season is most likely. The outlook indicates a 55% probability that the season will be below normal, 35% probability that the season will be near normal, and just a 10% probability that the season will be below normal.[1]

NOAA's forecast calls for a 70% probability that the 2026 season will produce:

→ 8-14 named storms

→ 3-6 hurricanes

→ 1-3 major hurricanes[2]

→ 44-111 Accumulated Cyclone Energy (ACE)[3]

The predicted ranges for activity in 2026 are centered near to slightly below NOAA's 1991-2020 US Climate Normals seasonal average of 14 named storms,

"The National Oceanic and Atmospheric Administration (NOAA) outlook for the 2026 North Atlantic hurricane season suggests that a below-normal season is most likely."

[1] NOAA defines an **above-normal season** as one with an ACE index above 126.1 (corresponding to more than the 67th percentile of the 1951-2020 median), with a range of 11 to 30 named storms, six to 15 hurricanes, and two to seven major hurricanes; a **near-normal season** as one with an ACE index between 73.0 and 126.1 (corresponding to between the 33rd and 67th percentiles of the 1951-2020 median), with a range of six to 18 named storms, three to nine hurricanes, and one to four major hurricanes; and a **below-normal season** as one with an ACE index below 73.0 (corresponding to less than the 33rd percentile of the 1951-2020 median), with a range of four to 14 named storms, two to six hurricanes, and zero to two major hurricanes.

[2] A major hurricane is classified as Category 3 or higher.

[3] Accumulated Cyclone Energy (ACE) is calculated as the square of the sum of the maximum sustained wind speed (in knots) at six-hour intervals for the duration of the storm at tropical storm strength (35 knots) or greater.

seven hurricanes, and three major hurricanes.[4] The 1951–2020 median ACE index value is 96.7.

NOAA will update its forecast at the beginning of August, just before the historical peak of North Atlantic hurricane activity between August and October.

LANDFALL FORECASTS

Long-term statistics indicate that the probability of a hurricane making landfall in the United States increases during more active seasons. When issuing landfall probability forecasts, some agencies use statistical models to examine the relationship between the number and intensity of historical landfalls and the observed and forecast climatological conditions.

The forecasts that follow are the most recent as of June 10 — not including NOAA, which does not make seasonal hurricane landfall predictions.

Colorado State University (CSU) estimates the probability of at least one named storm, hurricane, and major hurricane tracking within 50 miles (80 kilometers) of each US coastal state. According to CSU, during 2026:

- → **Hurricane:** States with the highest probability of a hurricane within 50 miles (80 kilometers) of the coast are Florida at 61%, North Carolina at 42%, Louisiana at 40%, and Georgia at 38%
- → **Major hurricane in the United States:** 24% probability of at least one major hurricane making landfall in the United States this season (the 1880-2020 average is 43%)
- → **Major hurricane in the Caribbean:** 26% probability of at least one major hurricane tracking through the Caribbean (the 1880–2020 average is 47%).

Tropical Storm Risk (TSR) forecasts the number of storms likely to impact the United States and the likely landfalling ACE index. During 2026, TSR forecasts:

- → Three tropical storms and one hurricane to make landfall over the contiguous US in 2026
- → US landfalling ACE index to be 1.2, which is below both the 1991–2020 (2.7) and 2016–2025 (3.9) average[5]
- → 48% chance that the US landfalling ACE index will be below average, 34% chance that it will be near average, and only a 18% chance that it will be above average[6]

"The predicted ranges for activity in 2026 are centered near to below NOAA's 1991-2020 US Climate Normals seasonal average ."

[4] NOAA's US Climate Normals are three-decade averages of climatological variables, including temperature and precipitation, updated every 10 years. The 1991-2020 US Climate Normals represent the most recent suite of data products.

[5] Tropical Storm Risk considers the US landfalling ACE index to be the sum of ACE of all systems of at least tropical storm strength over the mainland United States.

[6] For the US landfalling ACE index: **above average** corresponds to a value historically in the upper tercile (>3.19); **near average** corresponds to a value historically in the middle tercile (1.18 to 3.19); and **below average** corresponds to a value historically in the lower tercile (<1.18).

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AccuWeather forecasts three to five named storms (of any intensity) to directly impact the mainland US, Puerto Rico, or the US Virgin Islands during the 2026 season. This number can include systems with tropical storm-force winds reaching land, flooding rain, or a storm offshore that generates a surge of at least 2 feet (0.6 meters) along the coast. Uncertainty in seasonal forecasts of landfalling storms is far greater than the uncertainty in seasonal forecasts of overall hurricane activity. Individual storm tracks are highly sensitive to the location of cyclogenesis as well as the local atmospheric and oceanic conditions and weather patterns during the season.

Although the probability of a hurricane making landfall in the United States increases during more active seasons, there are notable exceptions to this tendency. In 2010, 19 named storms and 12 hurricanes developed in the North Atlantic Basin, but only one tropical storm made landfall in the United States. Conversely, during the relatively quiet 1992 season, Hurricane Andrew, among the costliest hurricanes in US history, was one of only seven named storms to develop. It only takes one event to make a season costly or memorable.

“It only takes one event to make a season costly or memorable.”

Key drivers of the 2026 North Atlantic hurricane seasonal activity forecasts

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The forecasts of a below-average season reflect the influence of several key seasonal oceanic and meteorological factors, including El Niño-Southern Oscillation (ENSO), sea surface temperatures in the tropical Atlantic, and the Atlantic Multidecadal Oscillation/Variability (AMO/AMV).

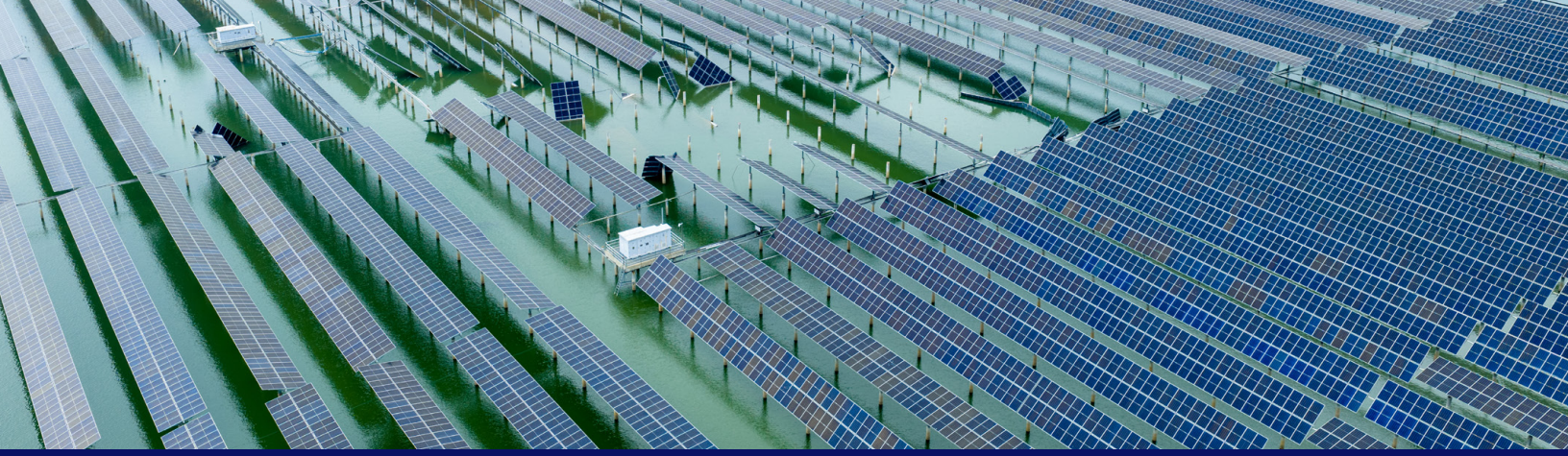
The forecast state of these variables for the upcoming hurricane season, the possible impact on North Atlantic hurricane activity, and the overall confidence at this lead time are outlined in Exhibit 2.

Other factors, such as the North Atlantic Oscillation, the Madden-Julian Oscillation, and the Saharan Air Layer, can influence tropical cyclone activity on a weekly or monthly basis but are difficult to forecast at seasonal timescales.

EXHIBIT 2: Overview of key seasonal oceanic and meteorological factors anticipated to influence activity in 2026, expected impact on activity, and level of confidence in the forecast

Seasonal factor	Forecast state during August–October 2026	Possible impact on North Atlantic hurricane activity	Confidence in the forecast at this lead time
El Niño-Southern Oscillation (ENSO)	Moderate-to-strong El Niño conditions expected to emerge by the summer	Below-average tropical cyclone activity in the Caribbean and tropical North Atlantic due to more hostile atmospheric conditions	High confidence that El Niño conditions will emerge through the summer and fall
Atlantic sea surface temperatures	Slightly warmer than average	Enhanced activity, especially in the Main Development Region	Moderate
Atlantic Multidecadal Oscillation/Variability (AMO/AMV)	Positive AMO/ AMV phase	Enhanced activity	Moderate to high

"The forecasts of a below-average season reflect the influence of several key seasonal oceanic and meteorological factors."



2026 Western North Pacific seasonal forecasts

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The Western North Pacific typhoon season runs throughout the calendar year with no seasonal boundaries, although most of the activity typically occurs between May and November. Unlike in the North Atlantic Basin, the number of seasonal forecasts for the Western North Pacific Basin is not exhaustive. Several agencies issue forecasts to provide an indication of potential storm activity for the peak months of the year.

Exhibit 3 shows the latest available forecasts at the time of publication. Also displayed are several climatological averages and 2026's activity count.

EXHIBIT 3: Summary of the most recent 2026 Western North Pacific typhoon forecasts, average activity for specific periods, and seasonal activity for 2025

Forecast agency	Forecast date	Tropical storms	Typhoons
Tropical Storm Risk	May 11	27	18
European Centre for Medium-Range Weather Forecasts	May 5	19–27	11–17
1991–2020 average*		**25.1**	**13.3**
2025 Western North Pacific typhoon season		**27**	**13**

* The years 1991-2020 are the most recent Japan Meteorological Agency (JMA) climate period.

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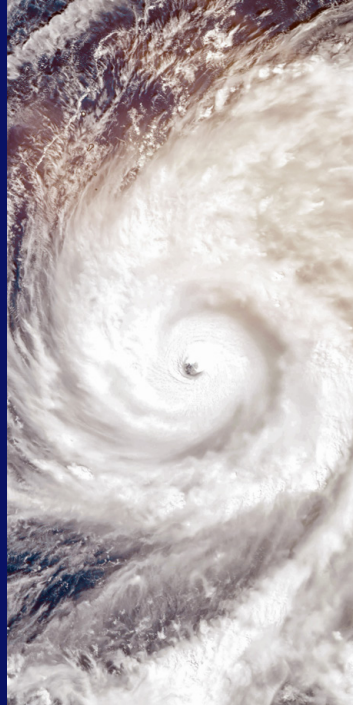
Key drivers of the 2026 Western North Pacific seasonal activity forecasts



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The forecasts of an above-average year in the Western North Pacific Basin reflect the influence of key seasonal oceanic and meteorological factors, including El Niño-Southern Oscillation (ENSO) and sea surface temperatures in the Western North Pacific.

The forecast state of these variables for the period from August to October, the possible impact on Western North Pacific tropical cyclone activity, and the overall confidence at this lead time are outlined in Exhibit 4.

EXHIBIT 4: An overview of key seasonal oceanic and meteorological factors that are anticipated to influence activity in 2026, the expected impact on activity, and the level of confidence in the forecast

Seasonal factor	Forecast state during August–October 2026	Possible impact on Western North Pacific typhoon activity	Confidence in the forecast at this lead time
El Niño-Southern Oscillation (ENSO)	Strong El Niño conditions likely to develop and persist through the summer	Increased activity overall; eastward shift of the cyclogenesis region	High confidence that El Niño conditions will persist through the summer and fall
Western North Pacific sea surface temperatures	Warmer than average	Enhanced activity	Medium

"The forecasts of an above-average year in the Western North Pacific Basin reflect the influence of key seasonal oceanic and meteorological factors."

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