DTN

2023 U.S. Summer and Tropical Weather Outlook

June-August

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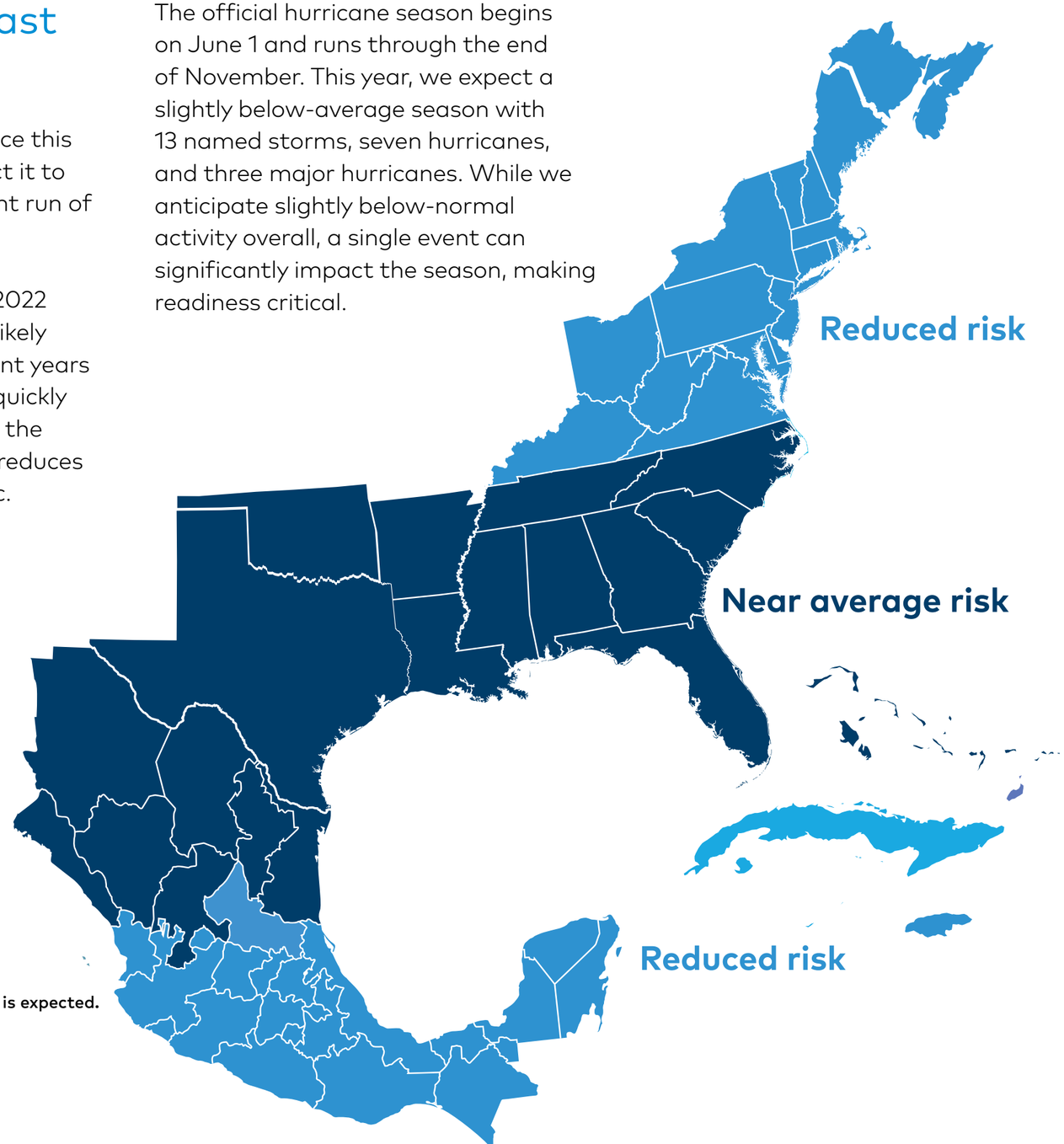
The tropical forecast summary

The tropical forecast summary

A developing El Niño will influence this hurricane season, and we expect it to evolve differently than the recent run of La Niña years.

Compared to the high-impact 2022 hurricane season, this year will likely bring fewer storms than in recent years — although it depends on how quickly the El Niño unfolds. Historically, the presence of an El Niño pattern reduces hurricane activity in the Atlantic.

The official hurricane season begins on June 1 and runs through the end of November. This year, we expect a slightly below-average season with 13 named storms, seven hurricanes, and three major hurricanes. While we anticipate slightly below-normal activity overall, a single event can significantly impact the season, making readiness critical.



This season, close-in tropical development is expected.

The DTN tropical storm outlook

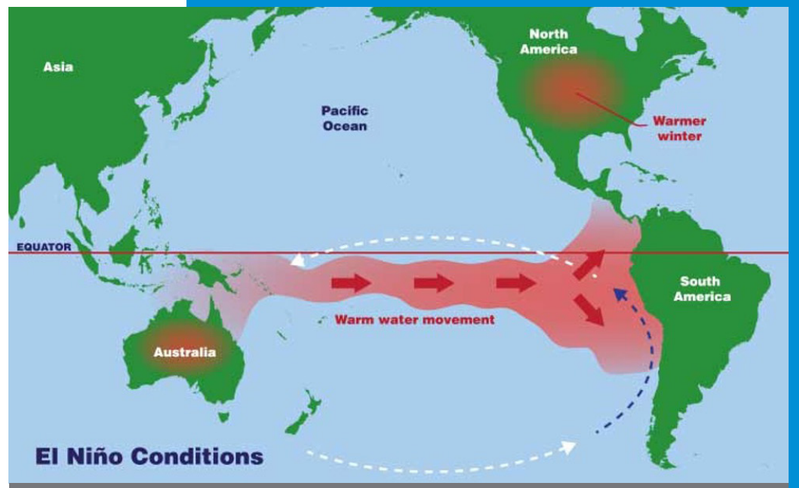
The DTN tropical storm outlook

Looking back at 2022 provides a good foundation as we prepare for this year's tropical storm season. Last year's storm activity was close to average, with 14 named storms and eight hurricanes. While those numbers pale in comparison to 2021, when the entire hurricane name list was used, it only took one storm to make a costly and deadly impact.

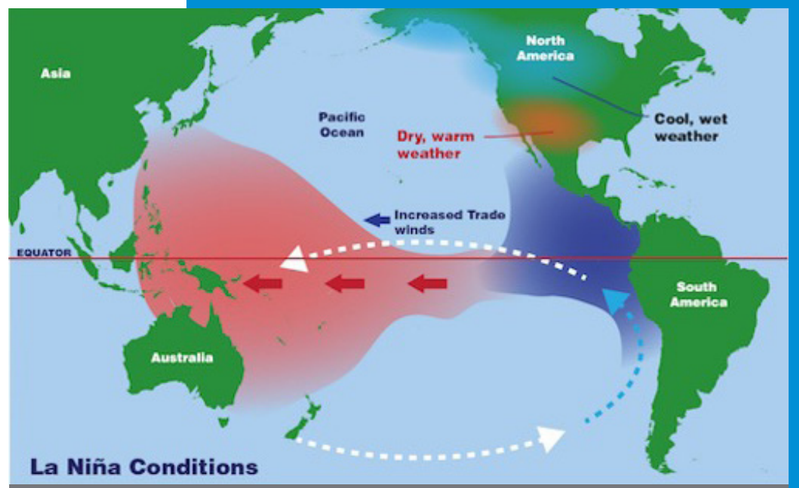
Hurricane Ian caused $112.9 billion in damage, making it the third-costliest storm behind Hurricanes Katrina and Harvey — and the deadliest hurricane to strike Florida in over 90 years. Hurricane Ian made landfall near Cape Coral as a Category 4 storm on September 28, impacting much of southwest Florida, including Fort Myers, where a storm surge of at least 7 feet doubled the city's previous record.

As previously mentioned, the expected El Niño pattern will create a different hurricane season than a La Niña year. El Niño and La Niña are two opposing climate patterns created by the El Niño-Southern Oscillation (ENSO) cycle.

This area of the equatorial Pacific Ocean shifts between warm, normal, and cold phases, driven by the complex relationship between atmospheric pressure, winds, and ocean currents. Typically, there is a phase change every one to three years, but last year was the third consecutive La Niña year, which is highly unusual; it has only occurred three times. During most El Niño years, the warmest water will end up in the Pacific, with relatively cool water in the equatorial Atlantic due to an increase in easterly trade winds, and right now, there is still warm enough water forecast to support tropical development, but this may reduce long-lived storms in the Atlantic this year.



A visual comparison of the El Niño pattern



A visual comparison of the La Niña ENSO pattern

The forecast also calls for reduced wind shear across the Gulf of Mexico and off the Southeast coastal areas, increasing the risk of close-in storm development. There's also an increased risk of storms being drawn northward from the Caribbean and the Gulf of Mexico, and storms that struggle across the high-shear areas to the south could exhibit last-minute development before landfall.

Warm water is already building in the Gulf of Mexico and off the Southeast coast, so early-season development is a risk this year, as it has been in several recent hurricane seasons. The key to the forecast will be the timing of the El Niño development. If it is delayed into later summer, the number of storms forecast could increase as the cooler water and shear would not be as high across the main development region — though we may see fewer storms if El Niño comes in faster than expected.

Once again, this season we anticipate most storm activity will likely occur in the eastern Gulf of Mexico and along the southeast U.S. coastline. Those storms could also move up the coast and impact New England and southeastern Canada's coastal areas. As these storms move north along the Northeast U.S. coast, they can create wind damage risks and coastal flooding concerns as these tropical systems generally move quickly.

And while the global weather pattern suggests a lessened risk, as we saw last year with Hurricane Ian — and in previous years with Hurricanes Ida and Katrina — it just takes one storm to create a significant threat. Therefore, it's essential to be prepared for potential risks, as it is difficult to pinpoint the precise locations of a hurricane's landfall due to multiple factors, such as interaction with land, upper-level wind shear and steering patterns, and sea surface temperatures that affect the path and strength of hurricanes.

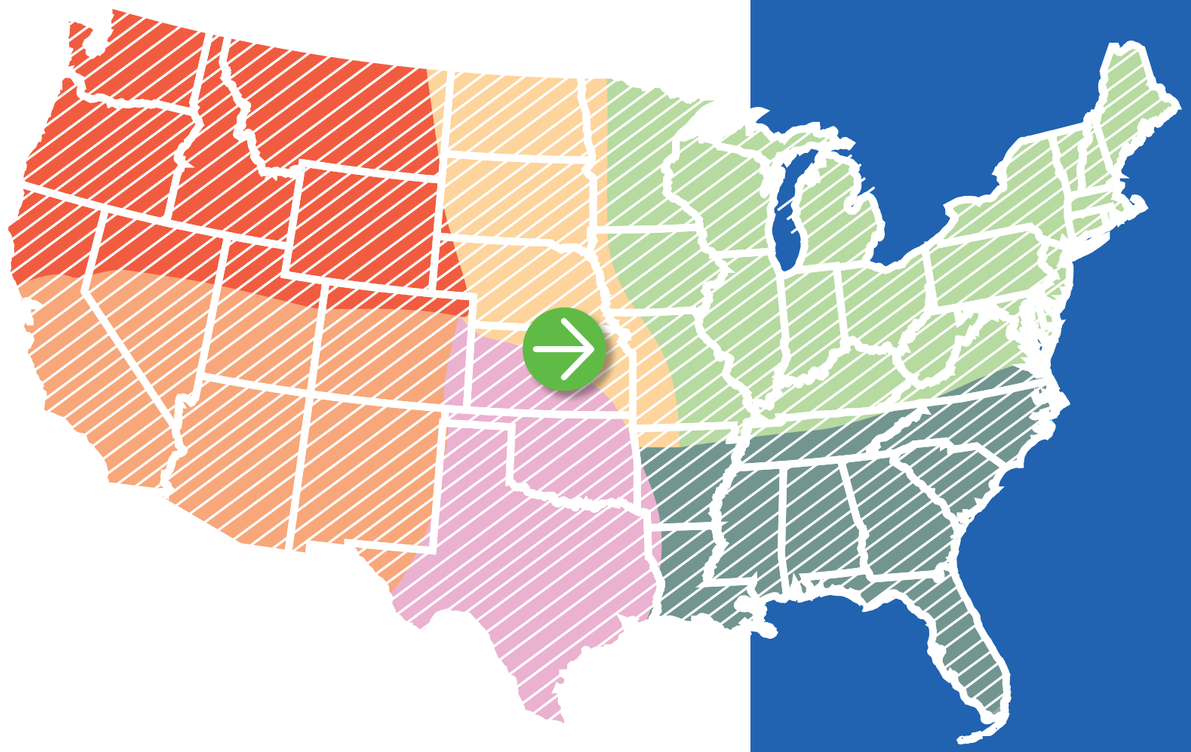
The DTN summer outlook

This summer, the overriding theme is above normal, with portions of the country experiencing greater heat and more rainfall than others. Areas west of the Rockies will see a hot summer with above-normal temperatures and below-normal precipitation. This will contribute to drought conditions in the Northwest and Southwest, as well as the south-central region.

On the East Coast, a wetter pattern will prevail with above-normal rainfall. The Northern Plains and Mississippi Valley will also see above-normal precipitation later in the summer. While temperatures will be closer to normal in the East, the humidity will be higher, contributing to uncomfortable air temperatures at times.

Potential El Niño development will also play a pivotal role in summer weather across the United States. While it could take some time for this change to be reflected in the circulation, model guidance currently suggests the Midwest could see cooler temperatures later in the season.

The Southern Plains will start the season with drought, increasing the risk of above-normal temperatures. There's good news for Texas; it will likely not be quite as hot as last year, with somewhat better chances for rain across the state. In terms of severe weather, there have already been 261 tornadoes so far this year, and more average severe weather conditions should continue into early June.



Forecast summary

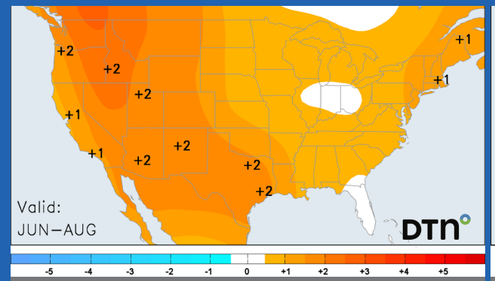
Temperatures

The western part of the country and Texas will likely see extreme heat risks, while the Southwest may not be as hot. California's coastal cities will struggle to warm up with colder water temperatures in the Pacific in the early part of the season; however, above-normal temperatures will likely occur later in the season. The eastern part of the country will see more moderate temperatures, and the Midwest may trend a bit cooler than average.

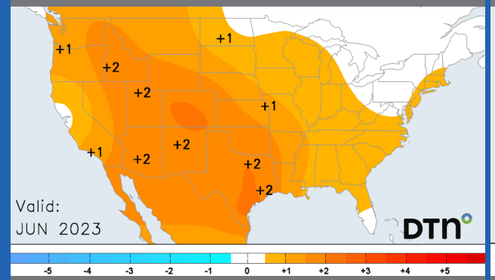
Precipitation

The western parts of the country can expect to trend drier this year with below-normal precipitation. The south-central region will also be dry, with drought conditions continuing. Conversely, above-normal rainfall is expected across the East, close to the Mid-Atlantic and Northeast. This will also limit higher temperatures in these areas. Severe weather risks will be monitored with the increased moisture around the region. While the Northern Plains and other growing areas may start the season drier, adequate rains will develop later in the summer for much more favorable crop conditions this year than in 2022.

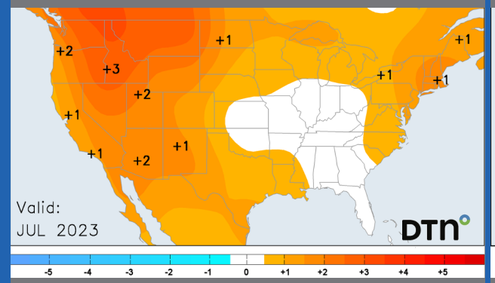
U.S. summer temperature outlook



Overall, June-August 2023



June 2023



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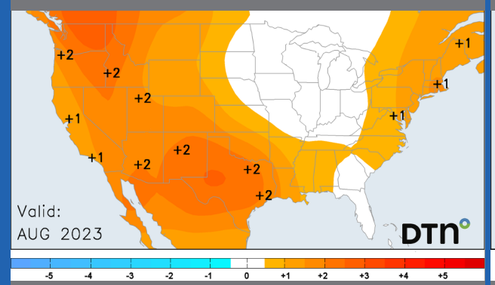
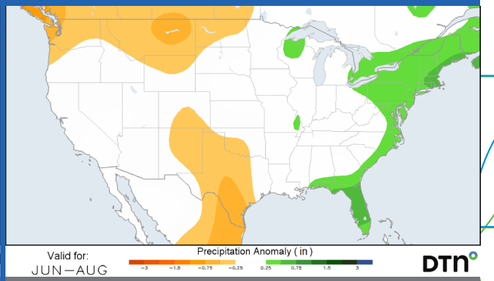


August 2023

U.S. summer precipitation outlook



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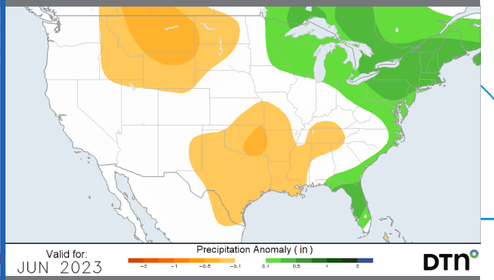

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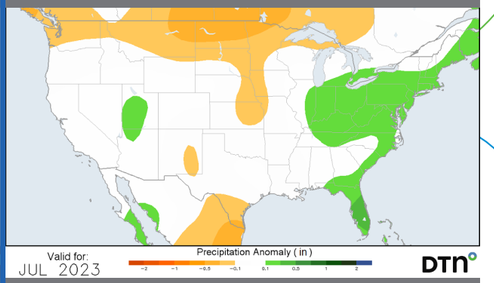

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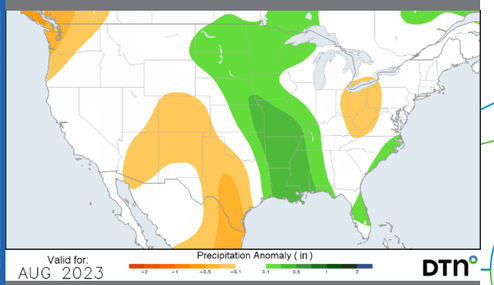

August 2023

The benefits of using a Risk Communicator

There are many weather risks to consider during the summer and tropical seasons, including hurricanes, thunderstorms, lightning, excessive rain, high winds, and extreme heat.

Organizations in any industry can better navigate these threats and their likely operational and business impacts through professional weather support. The Risk Communicator service from DTN provides access to highly-skilled meteorologists who understand industry-specific challenges and processes. They also possess strong communication skills. By leveraging our leading meteorological solutions, precision forecast capabilities, and patented alerts, Risk Communicators help their clients actively monitor and manage risks — before, during, and after a weather event. Here are just two industries that can benefit from the service.

Airport operations

To get ahead of an impending weather event, airport operators must take an all-hands-on-deck approach. No two airports are exactly alike, and a Risk Communicator can create a unique emergency response plan that incorporates real-time, location-specific weather insights that inform numerous critical decisions.

By having a single source of truth for weather intelligence, stakeholders can better coordinate their efforts to proactively minimize impacts like safety risks, staffing issues, delays and cancellations, added costs, and more. In addition to helping craft effective, proactive plans, Risk Communicators actively monitor conditions and provide expert guidance, including forecast confidence levels, as weather conditions evolve. Regular updates on relevant metrics are provided, such as forecast tracks, storm surge, tornado potential, rainfall, and more. Simply put, Risk Communicators are an essential part of the communication process and are critical to conveying weather risks and operational implications.

Live events

The live event industry also needs to be prepared this season. Every year, the weather is behind countless delays, disruptions, and cancellations. Not only can it create serious safety issues for all involved, but the weather can also impact production schedules and operations, resulting in significant financial losses from lost investments, increased expenses, or decreased revenue. With proper planning, communications, and expert weather guidance, events can mitigate these challenges and ensure their events are safe and profitable.

A Risk Communicator works with event organizers, side by side, to assess risks. This person is not only a skilled meteorologist but also possesses expert communication skills and a thorough understanding of common outdoor event challenges. While an organization may already receive standard forms, templates, forecasts, and other information, Risk Communicators take things further with highly-specialized briefings, videos, and personalized communication. An increasing number of organizations are realizing their potential weather risks and are prioritizing weather risk management.

No matter the industry, a Risk Communicator delivers expert insights you can trust, backed by years of hands-on forecast expertise and insights into supply chain challenges. Throughout any weather event, a Risk Communicator can help assess and monitor threats, provide alerts and advice leading up to and during an event, and supply insightful post-storm analysis.

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