Managing Growing Weather Risks in Today's Outdoor Event Industry

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Introduction

After a few very challenging years around the pandemic, outdoor events are growing in both size and frequency. In the United States alone, more than **32 million people** attend one or more of the over 800 outdoor music festivals held each year, and millions more visit the 2,000-plus county and state fairs across the country. Outdoor sporting events, farmers' markets, community events, and many others attract millions of people. The global event industry is expected to grow by **nearly 15%** in the next five years, bringing many opportunities to event organizers worldwide.

Public safety is a top priority at outdoor events, and weather information is vital to planning them — especially as extreme weather continues to grow in frequency and intensity. Establishing a weather-related safety protocol has become a foundational strategy for most event organizers. With increased access to detailed weather insights, event organizers can also spot opportunities to influence decisions outside of safety and disruption, including those around construction, catering, merchandise, and insurance. Today's event planners must advance not only safety strategies but also operational strategies to continue to run profitable events.

The growth of extreme weather

It's important to recognize that the extreme weather landscape is changing, and operational considerations will grow, too. Despite 2022 being an average hurricane season, the year saw the **third-highest** number of billion-dollar U.S. disasters since 1980. There were **18 separate billion-dollar weather events**, including three hurricanes, two tornado outbreaks, a devastating fire season, numerous extreme storms, and a disruptive drought. Extreme heat and cold are also major considerations in event planning, and 2022 was the **sixth hottest year** on record. This is indicative of rising global-average temperatures contributing to widespread changes in weather patterns that lead to more frequent and extreme weather events like heat waves and large storms.

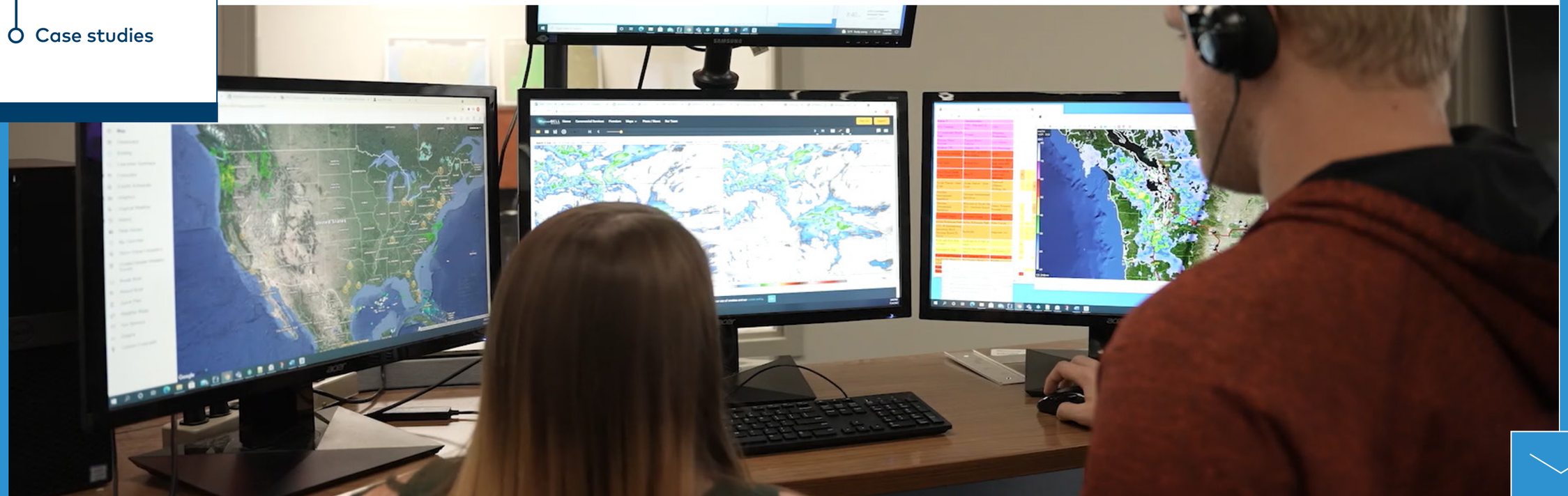
While safety fundamentals have become more formalized in recent years with many available tools and processes to help ensure safe events, it's important to realize that extreme weather can intensify operational challenges for outdoor events.

Using a Risk Communicator

Due to the weather, many events are delayed, disrupted, or canceled each year. Not only do its impacts create serious safety issues for everyone involved, but the weather can also impact production schedules and general operations, resulting in significant financial losses, whether lost investment, increased expenses, or decreased revenue. With proper planning, communications, and expert weather guidance, events can better mitigate these challenges and hold successful, safe, and profitable events. This is where the Risk Communicator service from DTN can help.

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.

There are three key phases to managing event weather threats, and DTN offers services that alleviate challenges throughout each, including pre-planning, planning, decision-making, and post-event evaluation support.



Phase 1: Prepare

Pre-planning

Even if an event organizer knows how typical weather conditions may impact attendance, concessions, and other sales, unexpected extreme weather can still have several business implications. To efficiently manage risks resulting from unexpected weather, those specific risks must first be identified. Public safety is the obvious risk, but what else is there? There are potential risks to ticket sales, parking costs, event staff size, concessions, energy costs, security, sports-field maintenance, stages, A/V equipment, and the list could go on.

Once the specific operational risks are identified, the related weather conditions and thresholds must also be considered. That might include any or all the following weather events: extreme temperatures, high winds, rain, snow, lightning, flash flooding, and more. When planning an event, the first step is to understand the types of weather impacts that can be expected for an event's location and time of year. It is also good to review any requirements or expectations related to the approval of permits and financial risk products that must be addressed. Having this information in place helps to leverage weather insights in making more decisions across the scope of an entire event.

The DTN solution

A Risk Communicator can summarize the typical weather conditions that can be expected and help determine which threats should be included in an event plan. This is determined using our team's combined expertise and industry-leading historical weather data catalog, which results in insightful reports that include risk assessments and financial risk weather coverage support recommendations.

Risk mitigation support

Phase 1: Prepare

Planning

In the planning phase, a risk communicator will take the pre-planning assessment and other weather-management requirements and create a weather plan while working closely with event organizers. The plan considers known weather threats and related safety concerns for people in various roles, such as crews, artists, athletes, vendors, and guests. In addition, the plans consider tolerances, lead times, and communication processes to maximize efficiency while promoting a safe atmosphere for all involved.

The Risk Communicator will also conduct a site assessment and related workshop. This promotes a better understanding of the specific operational concerns related to the event and its location. Once complete, the Risk Communicator will prepare an enhanced weather-risk summary and any necessary action plans, including establishing a trigger chart of thresholds that launch actions into motion. Lastly, they create a communications structure and plan to ensure that everyone involved knows their roles and related actions if a weather situation arises.

Because of the nature of outdoor events, there is already a healthy respect and understanding of the weather. Still, this planning process gives event organizers access to additional insights that can help improve safety and operational efficiencies. Simply put, a Risk Communicator is a partner who serves as the weather expert, helping event organizers prepare to deliver the best possible results.

The DTN solution

Risk Communicator workshop – event organizers can schedule workshops to create or review weather plans and trigger charts to support the overall event plan. The plan should define weather threats, triggers, and actions for each phase and aspect of any potential weather threat for the event. A workshop can also outline the preferred communications structure and cadence to ensure critical weather information is shared quickly with the right personnel through the appropriate channels.

Risk mitigation support

Phase 2: Activate

During this phase, the plan is put into action, and the Risk Communicator serves as decision support, working hand-in-hand with the event team before, during, and after the event. They actively monitor weather events and brief the team through a variety of formats, which can differ based on roles and responsibilities.

Communication formats may include:

- Live or pre-recorded daily briefings
- Active monitoring updates, whether the Risk Communicator works on-site or remotely
- Weather-impact guidance, as needed
- Stakeholder briefings, which could include emergency management, executive leadership teams, event participants and attendees, and others

High-quality data and forecasts are essential, but when there is the opportunity for multiple response scenarios, it is vital to communicate actionable insights quickly so organizers can make the best-informed decisions possible.

The DTN solution

Decision support — Risk Communicators provide the expert guidance necessary to ensure safe and efficient operations during the event.

Weather risk dashboard — provides customized forecasts and alerts that match the weather plan; the portal function can also disseminate key information to appropriate personnel.

In addition, a Risk Communicator is available to monitor weather conditions and proactively advise organizers on likely impacts on the schedule and operations based on the established weather plans, threats, and tolerances.

Risk mitigation support

Phase 3: Evaluate

A post-storm analysis is invaluable for learning and preparing for the next event. The Risk Communicator will create a post-event report that addresses many important questions. Was the risk assessment accurate? Did it help prepare for the weather event and prevent significant impacts? Was there an unexpected risk? Was the preparedness plan executed as agreed upon, or were there gaps? The knowledge gleaned from these post-storm evaluations helps event organizers better prepare for future weather threats. It adds to the risk communication body of knowledge that supports other industries and the public. The post-storm analysis may also be helpful if forensic weather information is needed for incident management reporting or insurance claims.

The DTN solution

The Risk Communicator can complete a post-event summary and analysis report for planning exercises to help mitigate future risks. Archived forecasts and alerts generated during service will be accessible in the Storm Risk dashboard for future review and pre-planning phase improvements.

Risk mitigation support

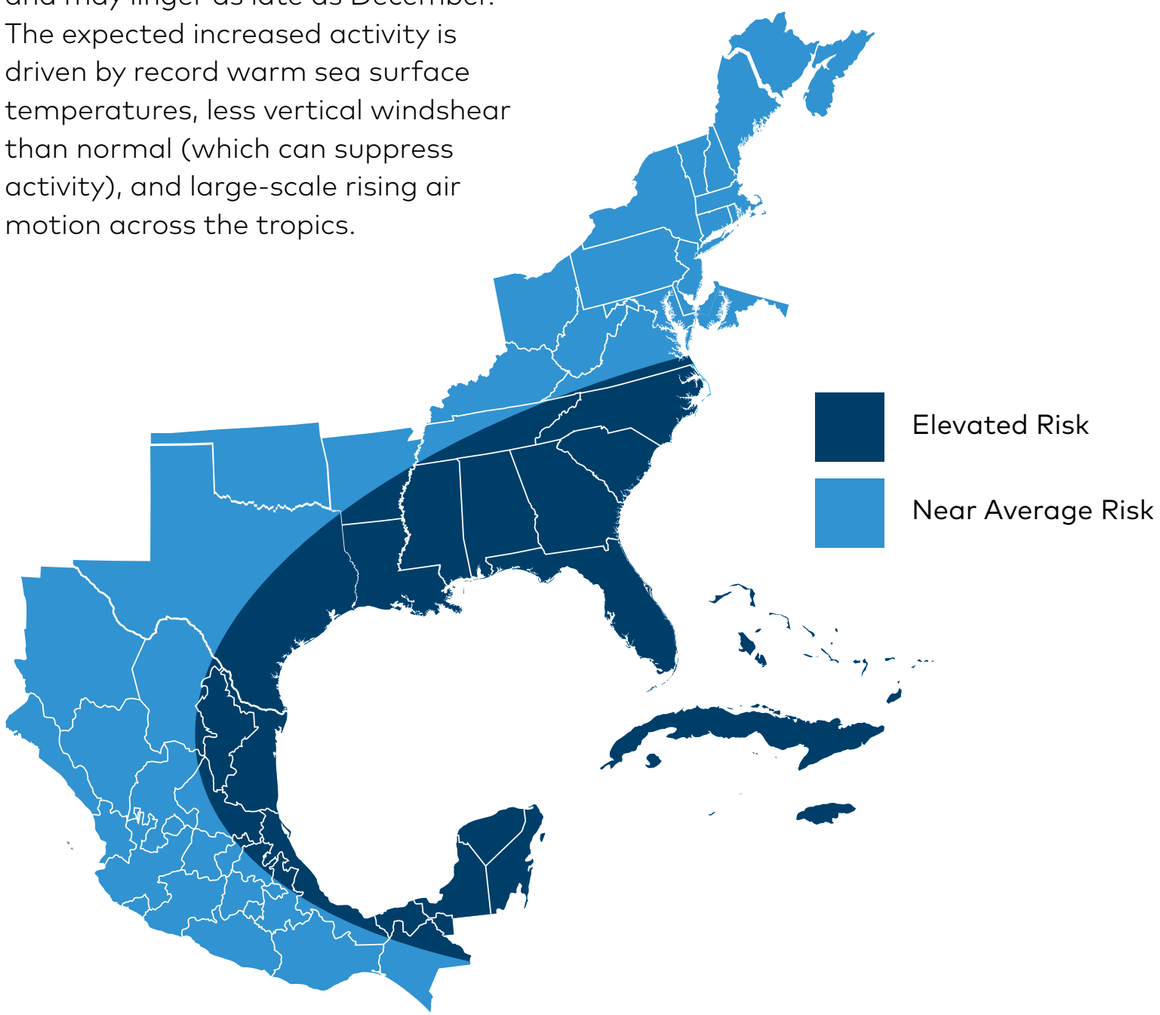
2024 U.S. Tropical Storm and Summer Outlooks

2024 Atlantic Hurricane Season Forecast

A developing La Niña, along with warmer than average ocean temperatures, strongly signals a very active season this year. Storms are expected to start earlier than June 1 and may linger as late as December. The expected increased activity is driven by record warm sea surface temperatures, less vertical windshear than normal (which can suppress activity), and large-scale rising air motion across the tropics.

Areas of impact

Most storm activity will likely occur in the Gulf of Mexico and along the Southeast U.S. coastline. While the global weather pattern suggests enhanced risks in these areas, it's essential to be prepared for potential risks in reduced or near-average risk areas too. Since an unusually high number of storms will likely occur, any temporary shift in the pattern could allow one or more storms to track toward lower-risk areas.



Additionally, any storms making landfall across the Eastern Gulf or along the Southeast could still move up the coast and impact New England and Southeastern Canada's coastal areas, even if the initial landfall occurs across the Southeast. Such a track can still produce flooding rainfall, damaging winds, and coastal flooding up along the coast of the Northeast U.S. and Southeast Canada.

2024 tropical storm highlights

- One of the most active seasons forecast with 25 named storms, 12 hurricanes, and 5 major hurricanes.
- A higher risk of landfalling storms, especially across the Gulf of Mexico and the Southeast U.S.
- An increased risk of rapid intensification of storm development
- Average risk areas should remain alert due to the high number of storms forecast.

DTN 2024 Summer Outlook

An unusually hot summer is forecast across the country—potentially one of the hottest on record. While all areas of the country are forecast to average warmer than normal, the Rockies and Plains regions face the most anomalous heat. The East and West Coasts may average closer to normal in early summer, but are also forecast to trend hotter for the second half of the summer season.

High temperatures

The hot pattern this summer season is driven in part by an expected development of La Niña along with record warm water temperatures in the Atlantic basin. As the ongoing El Niño dissipates and transitions to La Niña during the summer season, hot weather will become increasingly likely. The record warm water temperatures across the Atlantic basin will add more warmth and humidity to air masses moving into the U.S. from the Gulf of Mexico or the Western Atlantic. The initial warmer and more humid starting point of the air masses, combined with an upper-level pattern that will further enhance the heat, implies frequent bouts of hot and humid weather for the central and Eastern U.S.

Storm risk

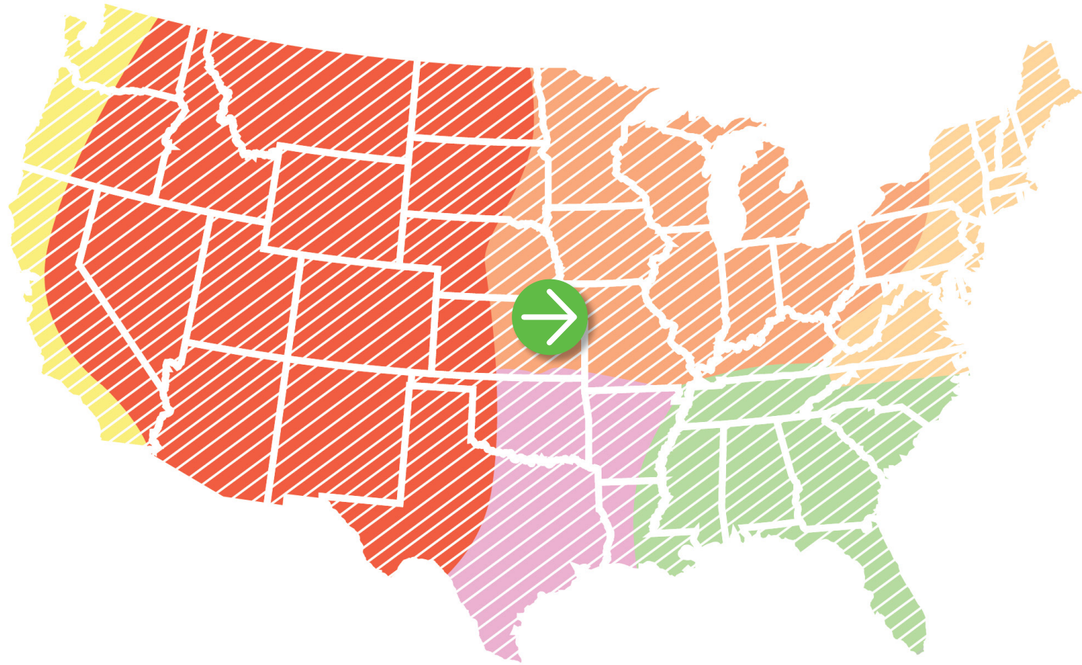
While the Rockies and Southwest will be drier than usual this summer, the Gulf Coast, Southeast, and Midwest may see more rainfall than usual, but for different reasons. The pattern this year will favor more thunderstorms than usual across the northern half of the central and Eastern U.S., thanks to a northward shift in the jet stream.

Above-average amounts of severe weather, ranging from high winds to hail and tornadoes, is expected across the northern half of the Eastern U.S. this summer, particularly across the Upper Midwest. Landfalling tropical systems often bring numerous tornadoes as well, so severe weather totals could be enhanced across the Southeast from those same tropical systems.

Wildfire risk

With areas of drought already in place across the Southwest, the drier pattern this summer should allow drought to expand across the Southwest, Great Basin, and portions of the Rockies, leading to increased fire risks as the summer season progresses there.

Two consecutive winters with abundant rain and snowfall across California will help keep wildfire risk lower than usual.



Case studies

Events large and small can benefit from Risk Communicator

Florida beachside fashion event

A Risk Communicator is a valuable investment, whether for a two-hour event hosting 50 people or a three-day festival with 100,000 attendees. New York-based creative agency, Prodject, was hosting an outdoor fashion event in Miami. There was zero room for weather impacts, so the group hired a DTN Risk Communicator. In particular, the potential for rain was a major concern as it would negatively impact the high-profile client's event.

Working remotely, the Risk Communicator could see some showers moving through Miami around the time of Prodject's scheduled event. The forecasted showers were very isolated, but because Prodject couldn't hold the show with any amount of rain, it was important to provide the most accurate forecast possible. The Risk Communicator stayed in constant contact with the event organizer through text messages, starting first thing in the morning and until the end of the event, close to midnight.

With weather insights from the Risk Communicator, event organizers made an informed decision to start the show's evening portion five minutes ahead of schedule, as rain showers were imminent. Just as the show ended, the rain started right as forecasted, but the event went off without a hitch. The Risk Communicator offered additional support after the show, specific to Tropical Storm Nicole, which allowed the event organizers to tear down ahead of the storm's heavier rains and rising tides. This allowed the team to run the event as planned and get equipment off the beach, minimizing potential revenue losses related to event cancellations or equipment damage. Needless to say, the Prodject team found value in their one-day engagement with a DTN Risk Communicator.

New York City three-day music festival

Electric Zoo is New York City's longest-running and most-notable annual electronic music festival, held over Labor Day Weekend. In 2022, the two-day event featured over 100 artists and attracted more than 100,000 attendees to Randall's Island Park from around the world.

DTN Risk Communicators worked with event organizers to plan for inclement weather, establishing thresholds and consulting on evacuation and shutdown plans. Communication was initiated before the event's final day as there was the risk of pop-up showers and isolated thunderstorms in the area. The event plans called for a complete shutdown if a weather-related evacuation of the festival grounds was necessary, without resuming activities. While public safety is always the most critical factor in decision-making, informing that decision with the most accurate, real-time weather available was essential. Given the location and event size, a shutdown would involve a complicated evacuation taking over two hours to complete. In addition, the monetary loss could be significant.

On the festival's final day, with more than 8,000 attendees on the grounds and over 20,000 additional people expected, DTN Risk Communicators observed a fast-developing pop-up storm cell five miles southwest of the festival, heading toward it. They also noted conditions were favorable for lightning if the storm continued to develop. All decision-makers were quickly briefed and armed with real-time weather information. They decided to wait and see if the cell grew in height, which would increase the lightning threat.

The DTN team continued to monitor the cell, and it weakened as it moved toward the event. While a brief shower occurred over the festivals, no lightning developed, and no evacuations were needed. The festival continued, and no other weather threats occurred, saving revenue, frustration, and potential negative public opinion.

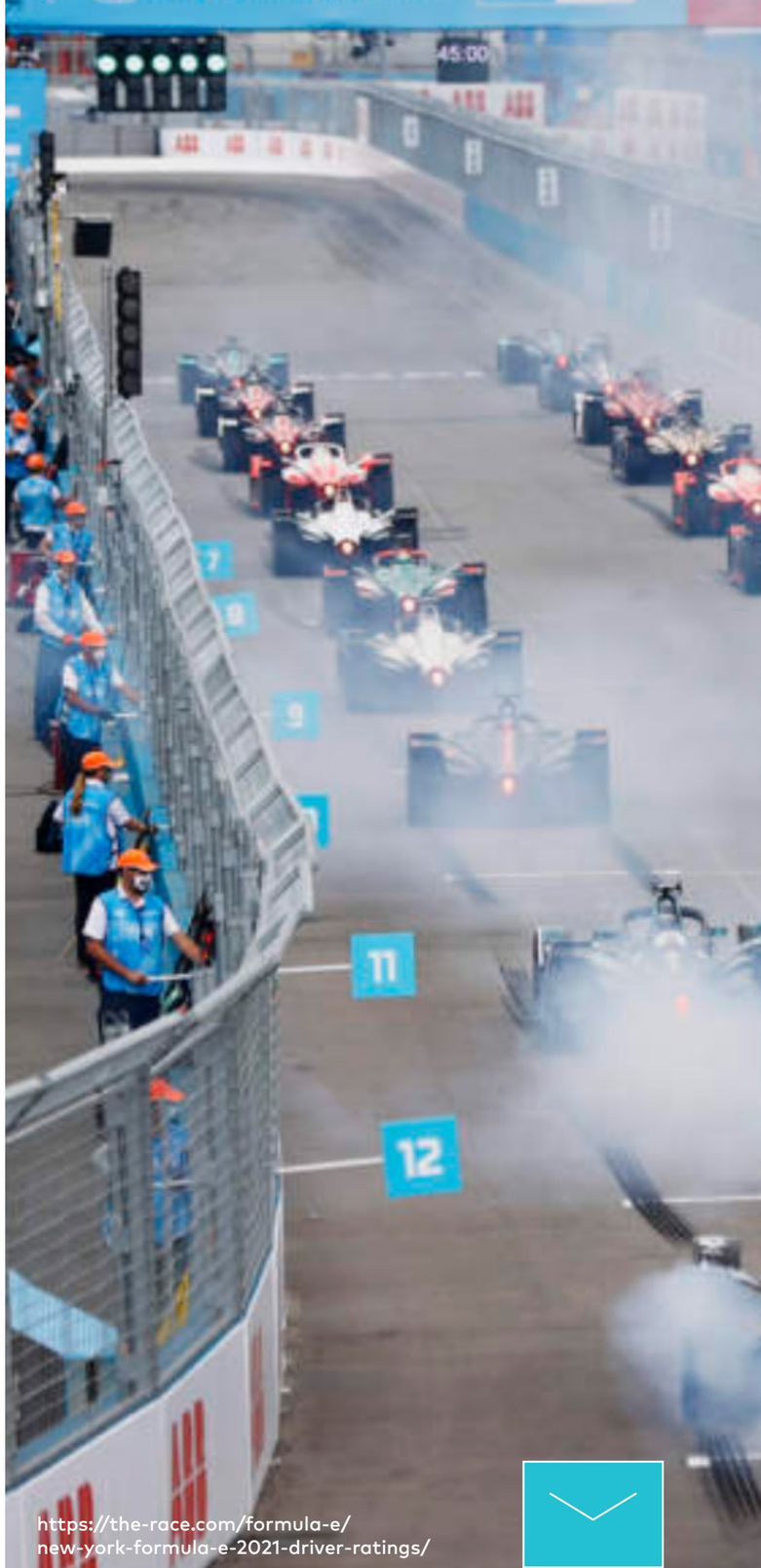
An all-electric car racing series

In 2022, for the fifth consecutive year, the Brooklyn Street Circuit hosted the New York ePrix, featuring 24 drivers from around the world and attracting more than 12,000 spectators over the two-day event. The race was held on a 1.3-mile street circuit in Brooklyn's Red Hook neighborhood, next to the Brooklyn Cruise Terminal. The circuit was created explicitly for the event.

July is typically the city's hottest month, and last summer was no exception, coming in as the 10th hottest on record. Both heat and thunderstorms were concerns for event organizers, as the steamy heat also could fuel thunderstorms and produce rain bursts and downpours. While the races will continue in the rain, a threshold set for lightning within eight miles of the track would halt all event activity.

Risk Communicators worked with event organizers before and during the two-day event. They knew the estimated evacuation time for the grounds was 15 to 20 minutes, so they kept that in mind when providing forecast insights to event organizers.

On the first day of the event, heavy rain moved over the track with just seven minutes left in the first race, and while the heavy rain made the race more challenging, there was no lightning, so the event continued. The Risk Communicators also monitored a more considerable thunderstorm developing to the north, which threatened post-race activities, including the trophy presentation hosted by New York City's mayor. The on-site Risk Communicator determined that the thunderstorm and lightning threat would remain to the north, beyond the eight-mile threshold, and event organizers decided to continue with the festivities as planned. Updates were shared every five minutes while the storm remained in the area, and lightning strikes were observed 8.8 miles away — still outside of the evacuation threshold. Because of the real-time storm monitoring, the trophy presentation went on as planned, and fans could participate in the track's post-race tours.



https://the-race.com/formula-e/new-york-formula-e-2021-driver-ratings/

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