

OUTDOOR EVENTS: EXTREME WEATHER IMPACT GUIDE

INSIGHTS, INFORMATION AND ADVICE FOR
NAVIGATING THE EVENT INDUSTRY'S NEW
METEOROLOGICAL NORM

POWERED BY:



WEATHERING CHANGE

Extreme weather is pushing event ops teams to change how they plan, what they build, where they activate—and how they keep attendees safe

Extreme weather has evolved from occasional concern to persistent threat, marking a new era of event safety that demands a new playbook for executing outdoor events. According to the American Meteorological Society, in the U.S. alone severe storms cause injuries and claim lives at events every year—and when disaster strikes, lawsuits can skyrocket into the tens of millions.

"The active monitoring of weather has to be a fundamental tenant of any operations plan for any event—indoor or outdoor," says Bryan Frieders, former Pasadena fire chief and current Director of Health and Safety at Redrock Entertainment. "If you have 70,000 people in a festival footprint, and you have an inbound thunderstorm that's loaded with cloud-to-ground lightning, what's your plan? How do you message attendees? Where are they going to go? What's the shelter option? This is a multi-factorial topic that, from an emergency response standpoint, needs to be addressed."

With an ever-increasing number of outdoor events taking place, and many of them creeping into vulnerable landscapes, the stakes for event marketers have never been higher. It's time to lift the fog and address extreme weather with extreme planning and precision. The top five aspects of event planning that are impacted:

Structure. Adequate preparation is half the battle, and that makes it paramount that the structures anchoring

outdoor events are architecturally sound and sufficiently equipped to withstand the elements. When leading outdoor structure supplier Highmark TechSystems began designing its outdoor multi-level deck for events of all sizes and shapes throughout the country, it began by testing it outside at its Indiana headquarters, known as "tornado alley." The biggest challenge was ensuring that the structure could handle the uptick in extreme weather, particularly in relation to wind and rain. Highmark and third-party engineers ensured that it passed wide-ranging weather-intensive tests before officially introducing it to the marketplace in 2017.

"Since going live eight years ago, Highmark's outdoor structures have been used in hundreds of applications of widely varied weather conditions and settings across the U.S.. Proudly, all have performed successfully even in some incredibly sloppy weather conditions," says Highmark SVP Matt Andrews.

"Admittedly, the structure is "overbuilt," and while we could probably get away with less, we're in the business of creating and deploying temporary multi-level buildings and pavilions that need to not only provide a high-impact



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experience, they need to be functional, safe and secure. That is why we have structural engineers look at every single project that we execute before we execute it – not only zeroing in on the structure itself but also the grounds and weather conditions particular to the event location. Our engineering partner is literally looking at exactly where that structure is going to exist in space and time."

Schedule. The timing and location of events is a major consideration in this new era, and that requires accounting for hazardous weather and stormy *seasons* when you're scheduling an outdoor event (where the client permits, of course). Locking down a date during hurricane season in Miami or during drought season in Southern Texas, for instance, is essentially inviting catastrophe.

Safety. New weather safety protocols are emerging to keep attendees and internal teams safe, with organizers now implementing extensive engineering and review

processes, and strictly adhering to IBC (International Building Code) regulations. In some cases, crews are forging partnerships with professional meteorologists who serve as safety resources before and during an event.

Systems. A fresh crop of weather-related platforms, tools and applications is keeping event organizers on the pulse of every drop of rain and gust of wind, and providing critical intel that can mean the difference between a close call and a complete calamity. Among go-to systems and subscriptions: DTN, SailFlow, AccuWeather and Pivotal Weather.

Spend. In some cases, ensuring outdoor structures and setups are equipped to handle extreme weather conditions translates to additional costs. Think: Adding overhead shading to prevent attendees from experiencing heat exhaustion as they wait in line, or enhancing weather insurance coverage. The price tags may be higher in some instances, but there's no comparing the cost of a preventative insurance policy to a multimillion-dollar lawsuit.



WEATHER-PROOFING OUTDOOR EVENT STRUCTURES

Any and every aspect of an outdoor event structure needs to be considered from a weather safety perspective before it's engineered. From roofing to interior walls to drainage systems to flooring to the exact types of materials and-, every last steel beam used in today's builds needs to be developed and installed with safety and security front of mind. Any outdoor event strategy should employ this five-point checklist:

1. Counterweights.

Modern outdoor event structures are often built with lightweight materials like steel and aluminum to cut down on transportation fees. But once installed, they should be secured with ballasts or other counterweights that stabilize the structure and provide protection against the elements, particularly high wind speeds, which experts agree is one of the biggest culprits when it comes to destructive weather events.

2. Roofing.

The key to a watertight outdoor structure lies in the way the roof is engineered. If the roofing isn't built to withstand severe rain and a major storm arrives, there's a good chance your attendees are going to get wet.

"We use rubber roofing bladders and drip edges with our flat roof system which work really well," says Matt Andrews, SVP at Highmark TechSystems. "The thing that that keeps our roofed structures extreme-weather-proof is the fact that they are overbuilt—they can take a sustained wind rating of about 100 miles per hour. Further, if the structure is going to be up for an extended period of time in varied extreme -weather conditions, incorporating a routine check of the structure is just plain smart management."

3. Drainage.

Keeping structures watertight is just one aspect of ensuring an outdoor event is properly weather-proofed. If precipitation starts piling up and has nowhere to flow, flooding is a distinct possibility. The pros recommend implementing a robust drainage system that drives runoff away from the event structure and footprint and into a dedicated location that can handle the volume.

When Paramount+ and AGENC activated a Las Vegas Strip takeover during Super Bowl LVIII, which included a 45,000-pound "mountain" installed on top of The Mirage, decking was built over the venue's preexisting lagoon, ensuring that storm runoff spilled back into the body of water.

"You have to think about how things are built, which way structures are sloping, to try to account for rain, account for runoff, account for pooling of water," says Graham Fugazzi, Director of Production at AGENC. "And then you have to be prepared on-site to make some adjustments, and be able to be proactive, but also be *reactive* as things are coming up."

4. HVAC.

Extreme weather, especially heat, has made it critical for event organizers to utilize HVAC systems that can keep up with severe temperatures to protect structures inside and out.

"With our inflatable tour, we had to make sure we had an HVAC system running through it, because it just traps heat in, but also, things melt," says Janna Ferner Bell, VP-Production, Brand Experience at Allied Global Marketing. "We've actually had props that had been sitting out in the sun that melted. So it's making sure you're prepared. Knowing that the whole structure is not going to be covered, will the powder

coating withstand most types of weather? Or is the structure's material just laminate, not sealed, water can get in and the whole thing starts falling apart?"

5. External Debris.

For most event marketers, a top fear is that their outdoor structure will topple over. But the fact is, it's just as important to consider how ground debris could be a threat in the event of extreme weather. Take into account props and smaller installations that are part of the footprint, as well as the natural surroundings, and if they have the potential to cause harm.

"With higher wind speeds, there's also ground-born debris that has a higher probability of injuring people than an actual structure tipping over," says Tom Nielsen, President of Exhibit Structural Services and a key partner of Highmark's external engineering team. "We tend to write a high-wind action plan, and based on that plan, we require that an anemometer be set up close to the structure, at the same height of the structure, to determine the wind speeds, so that when we hit that high wind speed, there are certain steps that we are taking to keep the structure and the occupants safe."



STAKING CLAIMS

Three weather-related insurance policies and tactics to consider

Between an increase in extreme weather events and the seismic shifts brought on by COVID, event insurance policies don't look like they did a decade ago. There are stricter underwriting standards for what constitutes extreme weather, and new nuances to liability.

Cancellation Coverage Can't Wait. We have the pandemic to thank for the much narrower window in which event organizers are able to buy cancellation insurance. Coverage must be purchased before organizers have any inkling of an extreme weather event that could impact their event.

"If two weeks ahead of time [organizers] see a hurricane coming in and they go to buy a policy that day, that claim is likely denied because they knew that hurricane was coming," says Myles Anderson, Partner Relationship Manager at insurance agency EventHelper.com. "So, the farther in advance you can purchase that policy, the less likely you are to have the knowledge of the reason for cancellation when the time comes."



Force Majeure is Evolving. Force majeure, the clause that nearly every event marketer got up close and personal with during the pandemic, continues to evolve. Insurance companies have gotten more rigorous about which circumstances are considered out of one's control ("acts of god"), meaning organizers have to be savvier about negotiating the terms of their contracts.

"Most of the of the contracts that I have seen already have some form of force majeure included which addresses situations like when an event needs to be canceled due to no party's fault, who then bears the burden of that cost," according to Megan Doherty, Administrative and Marketing Manager at Eventsured. "Is it going to be the event organizer, or is it going to be the vendor? Will you have to pay out the vendor even if the event doesn't



happen? Or do they just keep their deposit? So, it is good to have a clause like that written included. It's also an opportunity to think about if there is a way to postpone or reschedule the event and have that worked into the contract for a secondary date."

It's a sentiment shared by CNC Agency, which works with its event partners to incorporate flexibility around event dates. "With a lot of our activations, if we need to cancel due to weather, we have to pay all of our vendors because they were planning on showing up," says Jason Witkes, VP-Production at CNC Agency. "But we've had to adjust some events by a day due to potential weather. So, in those instances, it's just being overly communicative with our vendors and making sure that we can cut a deal on needing to push things by a day or two."



Consider State-by-State Regulations. Regulatory nuances are another component of event insurance to think about, and they vary depending on the location of the experience. Consider California, where wildfires have grown significantly more severe over the last five years.

"If you're doing anything in the western U.S., I would check to see if smoke and wildfires are excluded. It might be in the fine print, and maybe not something that they thought to bring up when you were given that policy," Anderson says.

WEATHER CHANNEL

Five weather tools for every ops teams' radar screen

A quick glance at Weather.com's five-day forecast won't cut it in this new age of extreme-weather preparedness. Proactive ops teams are tuning into a host of hyper-detailed platforms and applications both before and during their events to maintain an accurate understanding of what's happening in the area, and what may be coming down the pike. Their top recommendations include:

DTN. Formerly known as WeatherOps, DTN offers a paid subscription to its weather monitoring services, from apps to meteorologist access, which are powered by a cloud-native, global weather data platform that consistently receives new points of meteorological information. More than 180 weather experts and teams of data scientists and engineers help inform DTN's solutions, while its three "weather rooms" that operate 24/7 are designed to consistently monitor, model and interpret weather data and events around the globe.

"DTN is an annual service that we subscribe to that gives us access to a meteorologist," says Bryan Frieders, former Pasadena fire chief and current Director of Health and Safety at Redrock Entertainment. "We plug in our data for our events and watch what's going on, and they do the same thing in their weather center. So, if there is something that's threatening, if there is a National Weather Service alert that comes across our geographic region, they'll actually call us and say, 'Hey, here's what's coming, here's the percentage chances of this,' kind of like a spot forecast for your specific event."

SailFlow. With both free and paid subscription versions available, SailFlow is an app originally built for sailors that provides real-time updates on wind speeds, and includes

features like nautical charts and sea surface temperatures. Thanks to a comprehensive network of more than 100,000 weather stations worldwide, SailFlow has the ability to deliver weather insights like real-time data and forecasts of wind speed and direction.



AccuWeather. An oldie but still a goodie, event teams across the board pointed to the AccuWeather app as a reliable and, you guessed it, *accurate* weather source. The platform is free to use, has been recognized by the World Meteorological Organization and has more than 100 meteorologists on staff.

Pivotal Weather. Pivotal Weather is a platform with free and paid versions that provides weather statistics, focusing on presenting numerical data in a modern, user-friendly way. The site gathers intel from various sources, including numerical weather models and satellite data.

Portable Weather Stations. Event teams are also tapping into preexisting and proprietary portable weather stations that can be easily transported and set up once on-site at an outdoor event. These tools are particularly helpful in remote locations, where the nearest National Weather Service center could be many miles away, and therefore may have less accurate data than a weather station installed right on-site.



WEATHER PRIMER

The 10 types of weather events that your events need to be prepared for

Experts say wind is typically the biggest offender when it comes to conditions that inflict the most damage on outdoor events, and it's an element that factors into several extreme weather categories. But severe weather comes in all shapes in sizes, and in order to be adequately prepared for each type, it's essential that event marketers recognize their nuances, and prepare accordingly.

Lightning. A little thunder is one thing, but it's partner in crime is another story. Typically, when lightning is detected within about five miles, an event will be required to be shut down. That's where hyper-local weather apps and platforms come in particularly handy.

Wildfires. As wildfires become more common, an increasing number of event organizers are scrutinizing where and when they're hosting outdoor experiences, particularly in the wake of the devastating L.A. blazes that earlier this year forced a myriad of event cancellations, postponements and relocations.

Shifting winds can cause the path of a wildfire to turn on a dime, and that makes tracking them imperative, whether that be through a meteorologist partner, hyper-local wind app or community experts. Plus, for every major wildfire taking place around the U.S., there are town meetings that address the threat at the community level.

"I went to a town meeting in New Mexico about a wildfire and it was actually more like an open house where the water department had their area, the wind department had their area, the firefighters themselves had an area. There was a meteorologist on site as well," says Brad Fogle, Executive Producer at event agency Produce. "You just go around like a potluck and you get to have conversations with each person. They

give you maps and they take down your number... They had the answers, they just wanted to talk to anybody who wanted to talk to them, so it was very community-focused."

Tornados. Not only destructive, but they appear suddenly. In every case, it's critical to pre-determine a destination where attendees can shelter in place if a tornado strikes. Organizers should also be prepared to protect their event structures and other branding elements. Think: Fastening down items that could blow away and storing breakable objects, if time permits.

Extreme Wind. The direction of wind can change in an instant, and so can its level of intensity. You don't have to be in the middle of an open field to be vulnerable to its impacts, either. Consider a brand that shall go unnamed that earlier this year installed an inflatable on the top of a Manhattan building only to have the structure fly right off.

"Getting wind ratings is so much different if you're on the west side of Manhattan or if you're on the Santa Monica Pier; it's knowing your location," says Janna Ferner Bell, VP-Production at Allied Global Marketing. "I could do an inflatable in the middle of Manhattan on top of building and be fine. But if you're on the west side or the east side, your wind ratings are totally different. It's just looking at your location, looking at the time of year, looking at all the different things that are surrounding it. Is it a historical building? There are so many different things you have to take into account."

Hail. Often a byproduct of severe thunderstorms, hail can cause significant damage in a short period of time. According to the National Severe Storms Laboratory, while Florida has the most thunderstorms, Nebraska, Colorado and Wyoming typically have the most hailstorms.

Mudslides. Mudslides have the potential to be extremely deadly, can occur in all 50 states and can take place at any time of year. And like other forms of extreme weather, they can strike without warning. Important

to note: Wildfires can significantly increase the risk of mudslides because when vegetation that usually holds soil in place is burned down, the area becomes vulnerable to erosion when it rains.

Extreme Temperatures. Whether hot or cold, extreme temperatures can impact the health of attendees and staff and the integrity of outdoor structures. And that's why implementing a high-quality HVAC system is non-negotiable.

Earthquakes. Scientists are still unable to predict exactly when an earthquake will occur, and even earthquake apps can only provide a few seconds of warning for a specific area. Worth considering: The U.S. Geological Survey reports that earthquakes have dramatically increased in the Central and Eastern U.S. in the last few years.

Hurricanes and Tropical Storms. The odds of legally being permitted to host an outdoor experience during a hurricane are low, but you never know when a seemingly manageable storm will be upgraded to a greater threat. And the severe wind and rain that are characteristic of tropical storms is nothing to take lightly.

"I've seen a lot of structures, especially tents, really fail in heavy rain and flooding because there's no flooring," says Highmark's Andrews. "One of the big differences with our systems-based structures versus some I've seen in the field is that they are a collection of beams, columns, deck panels and leveling feet. This results in a subfloor, that is elevated off the ground. So, if you have super inclement rain, the deluge actually travels underneath the core structure."

Snow. Clearly, no one is attending an outdoor event in a blizzard. But moderate snow may or may not require cancelling or adjusting an event. If the snow hasn't deterred people from lining up for the experience and doesn't show signs of becoming more severe, for instance, it's unlikely the affair will need to be shut down. At the same time, it could necessitate recalibrating the event load-in and load-out schedule. ■