



# An Event Planner's Weather Maturity Journey

**Leveraging risk communication  
for overall operational  
improvements**

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## Introduction to event-related weather maturity

Events are big business, and millions of people participate in a variety of events every year with global event revenue reaching nearly [\\$890 billion](#). In the U.S. alone, more than [32 million people attend](#) one of the over 800 outdoor music festivals held each year, and, millions more visit the over 2,000 county and state fairs across the country. There are also sporting events, farmers' markets, community events, and many, many others attracting millions of attendees across the country. The global industry is expected to continue to grow by nearly [15%](#) in the next five years, providing a lot of opportunities for event planners around the world. This also means a significant increase in the number of people attending events and a critical need for weather response planning.

The formation of the [Event Safety Alliance](#) in the wake of the 2011 Indiana State Fair now set the standard for weather-related safety processes. Establishing a

weather-related safety protocol has become a foundational strategy for most event organizers thanks to the work of this organization. With such extensive weather data on hand now, event organizers also see the potential for those insights to influence other decisions outside of safety and disruption.

While public safety is the utmost reason for using weather insights, event organizers are realizing that there are operational benefits available through those same insights. How organizations react, what they do, and how they manage weather-related impacts says a lot about who they are as a business. As both the event industry and the extreme weather threats grow, event planners need to advance not only safety strategies but also operational strategies to continue to efficiently run profitable events. Reaching a high level of operational efficiency starts with a self-assessment to determine what stage you're at with weather-data adoption and how to appropriately move up the maturity curve for maximum operational benefits.

The 2022 National Hockey League's (NHL) Winter Classic was the [coldest in its history](#), with temperatures dipping down to 14 degrees Fahrenheit. The outdoor venue, Minneapolis' Target Field, dealt with the safety issues around the extreme cold with its existing protocols, but many unique operational decisions had to be made with the extreme-cold forecast.

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For example, concession offerings were modified for the event from traditional stadium hot dogs and beer to instead focus on warm, hearty foods like tater-tot hotdish, booyah, soups, and chili. Booze-infused hot cocoa and coffee also were on the menu.

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The ice managers had to plan for quality changes in the playing surface for the players. For outdoor events, the NHL has used a custom-made inline heater to keep the ice at the optimum temperature when the air temperature is cold. Because of the extreme cold forecasted for this event, the NHL had to double the number of inline heaters typically used for outdoor events and were constantly monitoring the weather so that ice temperature could be calibrated, if needed.

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**The event was sold-out, with more than 38,000 fans in attendance, and the Winter Classic event will continue as a key event for the league.**

Outdoor  
events in the  
extreme cold  
are more  
than frostbite  
potential



## Weather insights and operational efficiencies

An important part of moving up the weather maturity curve is understanding the broader implications of weather on an organization. It is no longer sufficient to only look at the weather forecast — the science has evolved to a point that when combined with subject matter expertise, weather insights can communicate potential risks and opportunities for a business on an operational level. Weather affects consumer behavior in terms of the events they choose to attend, what they'll buy there, how long they will stay, and other decisions.

Even if an event organizer knows how typical weather conditions may impact attendance, concessions, and other sales, unexpected extreme weather also presents business implications. To be efficiently managed, specific risks must first be identified. Public safety is the foundational risk when we talk about the weather, but what else is there? Other operations at risk from the weather may include ticket sales, parking costs, event staff size, concessions, energy costs, security, sports-field maintenance, stages, A/V equipment... and the list could go on and on.

Once these 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, wind speed, rain, snow, lightning, flash flooding, and others.

Having this information in place helps event planners leverage the insights to make more confident decisions across the scope of an entire event. It is the beginning step to self-assessment and understanding where the organization is on the weather maturity curve.

The DTN weather maturity curve helps organizations build awareness of their current weather-data usage level and provides insights on growth opportunities for improved future use.

## DTN° | Weather Maturity Curve™

### STAGE 1

#### Passive

Let the weather happen as it happens

### STAGE 2

#### Operative

Utilize basic weather forecasts and alerts to develop an understanding of potential disruptions or risks to an event

### STAGE 3

#### Cohesive

Understand specific impacts of weather to various parts of the event operation

Utilize forecasts and alerts with individual weather parameters geared toward decisions

Consult with a meteorologist in imminent weather danger situations

### STAGE 4

#### Predictive

Fully understand weather impacts to all operations:

- Trigger chart developed and integrated into forecast
- Understand all aspects of risks to event
- Proactively consult with meteorologist who understands intricate details of the weather plan in advance of event
- Weather software configured to trigger chart
- Weather isn't just a safety item, but is leveraged in multiple areas of event planning (parking lot condition, insurance coverage, and claims, concessions, etc.

### STAGE 5 (Future)

#### Prescriptive

The use of AI machine learning to fully create automated risk indexing for various hazards in planning and deeply integrated into operational activities

Understanding the maturity curve's stages can help event planners formulate the right weather-data roadmap for their organization.



## Growth in extreme weather risks

It's important to recognize that the extreme weather landscape is changing, and event organizers need to be aware that operational considerations will grow with increasingly volatile weather. In 2021, there were [538 weather-related deaths](#) — the deadliest weather year in the past 10 years. Many of those fatalities were related to both extreme heat and cold temperatures seen across the country, which is a major consideration in event planning.

Rising global-average temperatures are contributing to widespread changes in weather patterns, leading to more frequent and extreme weather events, like heatwaves and large storms. For example, a recent [report](#) by the National Oceanic and Atmospheric Administration (NOAA) shows that summer 2021 was the hottest on record in the contiguous United States. Even more specifically, [64%](#) of people live in places that experienced a multiday heatwave — which can be considered the most dangerous form of extreme weather. The heat wasn't the only story during summer 2021, as nearly one-third of Americans were impacted by a weather disaster of some kind, making preparing and responding to weather events an even bigger priority.

While safety fundamentals have been formalized in the past 10 years by the Event Safety Alliance,

giving event organizers access to tools and processes to ensure a safe event, it's important to realize that just about any kind of extreme weather can create operational challenges for outdoor events.

## The weather maturity curve explained

The DTN weather maturity curve helps organizations build awareness of their current weather-data usage level and provides insights on growth opportunities for improved future use. The maturity curve rates an organization's weather-data understanding and usage by looking at the role it plays in decision-making, the types of weather tools and data used, and its appreciation for how weather influences event success and safety.

Understanding the maturity curve's stages can help event planners formulate the right weather-data roadmap for their organization. There is no right place to be on the curve but knowing where you sit and the risk levels your organization and event face may empower your maturity curve journey, depending on the experience of using weather information in decision-making and planning. Let's take a closer look at the five stages of weather maturity.



# Stage 1

## Letting the weather happen as it happens

Stage one organizations don't consider using weather data in their decision-making processes. They are typically unaware of the operational and safety impacts and don't use or subscribe to any weather forecasts or services. Particularly when it comes to weather impacts on safety, organizations in stage one are often caught off-guard by conditions and have no forward-planning process. Luckily, there are very few event organizations at this stage. Stage one is most indicative of pre-internet days — before modern weather technology became available to the mainstream.

# Stage 2

## Use of basic weather forecasts

At this stage, event planners use basic weather forecasts and alerts to understand the potential disruptions and risks. There is likely some awareness that weather data can impact event planning and safety protocols, which is likely rooted in a past weather-related incident. However, it is typically a superficial understanding without a structured plan or process to proactively manage potential impacts. At this stage, weather data is used reactively, as hazards develop, but event planners don't use it to quantify the weather's impact on their bottom line or operations. Event organizers at this stage haven't yet made the connection between weather data and financial performance, making them reliant on free or inexpensive weather apps.

# Stage 3

## Understands specific impacts of weather

In this stage, weather data is a regular part of event planning, and organizations likely use professional weather platforms, setting forecasts, alerts, and individual weather parameters to aid insightful decision-making. Often, teams at this stage consult with a meteorologist on imminent weather dangers because there's an understanding of the benefits offered by professional weather forecasts. While these event planners are investing in a front-end solution with real-time weather data and alerts, the weather tools they are using primarily inform short-term decisions related to safety and are not integrated into other business systems.





## Stage 4

### Fully understands weather impacts

Event organizers at this stage have moved beyond using weather data as a standalone, operational platform and have integrated it into an overall decision-making toolkit. They recognize that weather data is a crucial variable that affects business performance, and a deeper set of weather analytics can drive positive business outcomes. Event planners at this stage use customized weather data and machine learning to drive decisions. They have the people, knowledge, and technology to analyze historical and forecast weather data, and blend it with their information to understand how different weather impacts an event, from safety to operations to food service.

## Stage 5

### Use of AI and machine learning

Very few, if any, organizations are at stage five. Today, it resides in R&D labs, but in the future, organizations at stage five will appreciate the fundamental role weather plays and its impact on business performance — utilizing the weather to prescribe actions to take, either by decision-makers or autonomously. Predictive organizations will use weather insights to drive decision-making and innovation.



Twickenham Stadium, home of the Rugby Football Union (RFU), is a hybrid indoor-outdoor venue. This multi-function, multi-event space operates 365 days a year, hosting exhibitions, business meetings, tours, concerts, and rugby games. Here are five ways the RFU uses weather insights to optimize stadium and team operations.

- 1. Efficient communication.** The RFU uses a single weather platform that allows 22 different stakeholders personalized access to the weather information and automatic notifications they need to perform specific operational functions quickly and accurately.
- 2. Managing energy costs.** The team efficiently manages energy consumption to optimize attendee and participant comfort while effectively managing the HVAC budget.
- 3. Coaching for the conditions.** Having access to accurate wind speed and direction information allows athletes to counter the conditions, adapting their direction and strength when kicking the ball.
- 4. Grounds crew decision-making.** Efficient management of the pitch grounds allows for optimized maintenance activities, like fertilizer, applications, by using accurate weather insights to inform decisions.
- 5. Catering modifications.** The weather insights give the catering team direct access to information that allows them to make timely, proactive decisions, like ordering more bottled water for expected hot weather and changing the menu to reflect how conditions may impact appetites.

## Five ways the Rugby Football Union uses weather insights at its home stadium



## How using risk communication improves business performance

Risk communication is a tool that links weather forecasts and alerts with the operational planning done for events. Due to their outdoor nature, there is already a healthy respect for the weather. However, many organizations have increased access to information and tools to help them make improvements. Today, event professionals can find resources to help them plan and advance their level of weather maturity. Risk communicators serve as weather experts and partners, helping event organizers proactively plan and prepare to deliver the best possible results.

A risk communicator is a skilled meteorologist who works with you side-by-side to assess and advise on potential weather threats. This individual also possesses good communication skills and an understanding of event pain points. While the organization may already receive standard forms, templates, forecasts, and other information, the risk communicator goes a step further, offering highly specialized briefings, videos, and personalized communications. Many organizations realize the gravity of their potential risks and that weather risk management must be a top priority.

A risk communicator follows three key steps that work in a continuum: prepare, activate, and evaluate.

## Prepare

For risk communicators, preparation is much more than just checking the forecast. A risk communicator will hold a site assessment and workshop, and a big part of that discussion is understanding the event's operational concerns. This includes preparing and reviewing an enhanced weather risk summary and then conducting action planning and establishing a trigger chart of the thresholds that put any necessary action into motion. Lastly, they help establish a communications structure and plan so that everyone involved knows their role and responsibilities in the event of a weather threat.

## Activate

During this stage, the risk communicator works with the event team before and during a weather event. They actively monitor and brief the event team and others in the organization, using a variety of communication formats, including:

- Daily briefings, which can be live or pre-recorded
- Active monitoring and updates, either on-site or remotely
- Weather/impact guidance, as needed
- Briefings are available for event stakeholders, which can include emergency management personnel, executive leadership teams, event participants and attendees, and others

It's important to not only have great data and forecasts, but when there's the opportunity for multiple scenarios to play out during an outdoor event, it can

greatly impact operations and safety. The communication of data is vital to ensuring event organizers can quickly and confidently make critical decisions.

## Evaluate

A post-storm analysis can also be invaluable to learning and preparing for the next weather event. The risk communicator will create a post-event report that addresses questions like:

- Was the risk assessment accurate?
- Did it help prepare for the weather event?
- Were there any unexpected risks?
- Was the preparedness plan executed well or were there any gaps?
- Was the risk communicated in a way that triggered the appropriate actions?

The knowledge gleaned from these evaluations helps improve future preparedness and also enhances industry and public understanding of risk communication and weather action plans.





## Next steps for moving along the weather maturity curve

How an event organizer reacts to and manages an extreme weather event says a lot about their business. Understanding your ability to leverage weather data in a meaningful way and having reliable resources in place ensures a safe, successful event for all involved. Using the curve as a guide helps develop a weather roadmap tailored to your organization's needs and priorities and encourages progression, contributing to future success.

As the propensity for more frequent and extreme weather continues, every event organizer across the country must establish a plan for managing related risks. Find out how you can work with a risk communicator, and consider doing a self-assessment to discover your stage of weather-data adoption and how to move up the maturity curve.

[dtn.com/risk-communicator](https://dtn.com/risk-communicator)

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