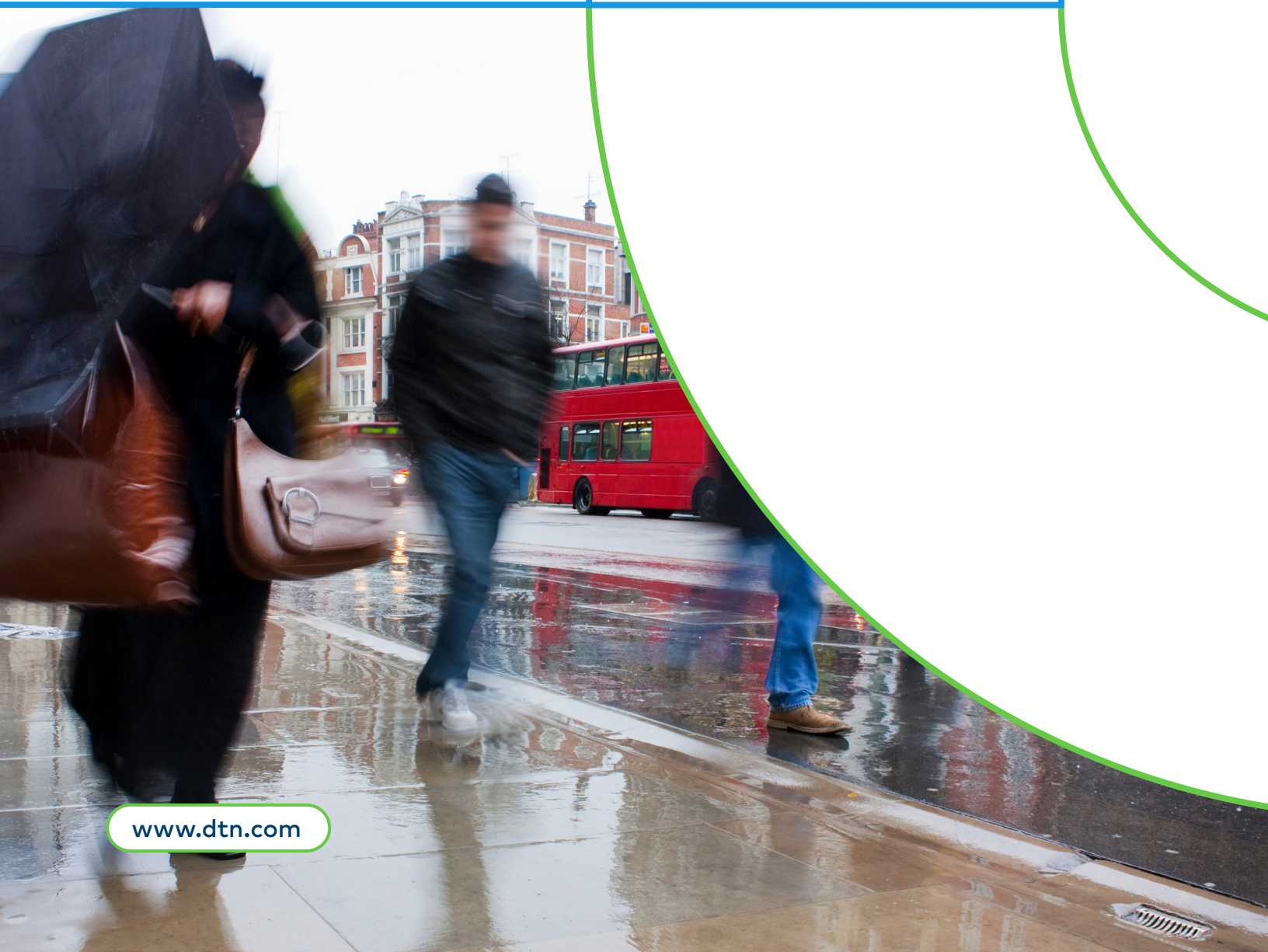




How U.K. Businesses Can Prepare for Increasingly Extreme Weather

WHITE PAPER | MARCH 2024



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The insight you'll gain from this white paper

Who is this white paper for?

- Business leaders with risk mitigation responsibilities
- Business leaders with supply chain management responsibilities
- Supply chain decision makers

Which sectors is it relevant for?

- Utilities
- Transport
- Aviation
- Shipping
- Energy

What will you learn?

- The current weather impacts on U.K. businesses
- The state of weather resiliency of U.K. business now and in the future
- How to plan for business resilience in the face of more extreme weather as a result of climate change

The research results illuminate a diverse landscape of preparedness among U.K. as well as gaps and opportunities for weather resilience.

Renny Vandewege
DTN GM, Weather and Climate

Over the past five years alone, the U.K. has experienced unprecedented heat waves, floods, and storms. And as the world faces a trajectory towards a temperature increase of 2.4°C to 2.7°C by 2100, such incidents are likely to increase. On a global scale, government leaders, policy makers and organisations are collaborating to reduce climate change and its impacts. But how weather resilient are U.K. businesses today and in preparing for future events?

To assess the current state of extreme weather preparedness for business in the U.K. and identify opportunities for increased climate resiliency in the future, DTN conducted a survey of 500 U.K. organisations across industries.

The results highlighted in this paper illuminate a diverse landscape of preparedness among U.K. businesses grappling with the increasing frequency and severity of climate-related challenges. It also points to a gap between understanding of the issue and practical steps to protect operations. Finally, the report illuminates critical steps that businesses can take now to better plan, prepare, and mitigate increasing weather impacts.

– Renny Vandewege
DTN GM, Weather and Climate

The current and future extreme weather risk

From heat waves to damaging storms and floods, extreme weather in the U.K. is no longer a future concern. It's impacting businesses, operations and employees right now.



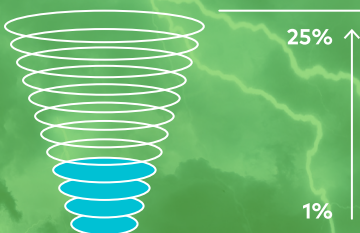
'Dangerously unprepared' - Oxford University's take on the U.K.'s readiness for extreme weather caused by climate change ([Oxford University](#))

30% more days will require cooling in the U.K. if global temperatures increase by 1.5°C ([Oxford University](#))



The U.K. is currently unprepared for such demand on its cooling capabilities. And what does exist largely uses unsustainable energy sources that will only serve to further increase carbon emissions. ([Oxford University](#))

Extreme weather is a top risk facing the U.K., and the impact of events like heat waves and storms range from 'significant' to 'moderate' with likelihoods of between 1% and 25% ([National Risk Register](#))



Billions of pounds and thousands of lives could be at stake due to the impact of extreme weather events ([National Risk Register](#))

But what will the impact on the U.K.'s businesses be? And how prepared are they to manage extreme weather?



The business impact of extreme weather

To benchmark how extreme weather affects U.K. businesses, DTN first asked respondents to rate weather impacts on their organisation today with more than half indicating that extreme weather is having an impact on their organisation. The majority reported real impacts on operations and sales, with mid-size organisations (10 -500 employees) reporting the greatest moderate to significant impact on their businesses (70%).

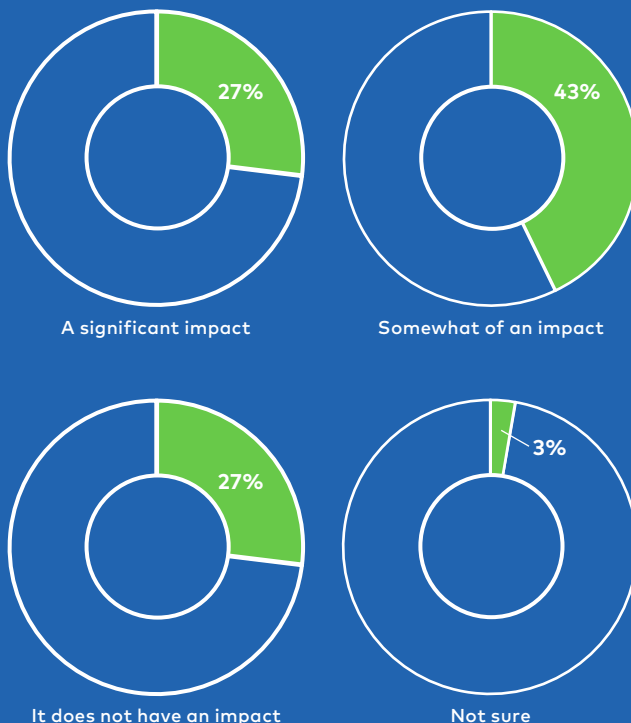
The type of weather events that pose the biggest risks to a company's day-to-day operations were equally distributed (39%) among snow/ice storms, flooding, and extreme temperatures. This aligns with the most common weather events occurring in the U.K. The challenge of planning for extreme or unprecedented weather events may hinder organisations from evaluating risks beyond the present-day threats as well as over rely on historical events.

Interrupted daily operations were the biggest current concern with disruption to power, employees, customers, and the delivery of goods topping the list. Interestingly, both now and in the future, U.K. organisations don't report concerns related to structural damage to their business or operations.

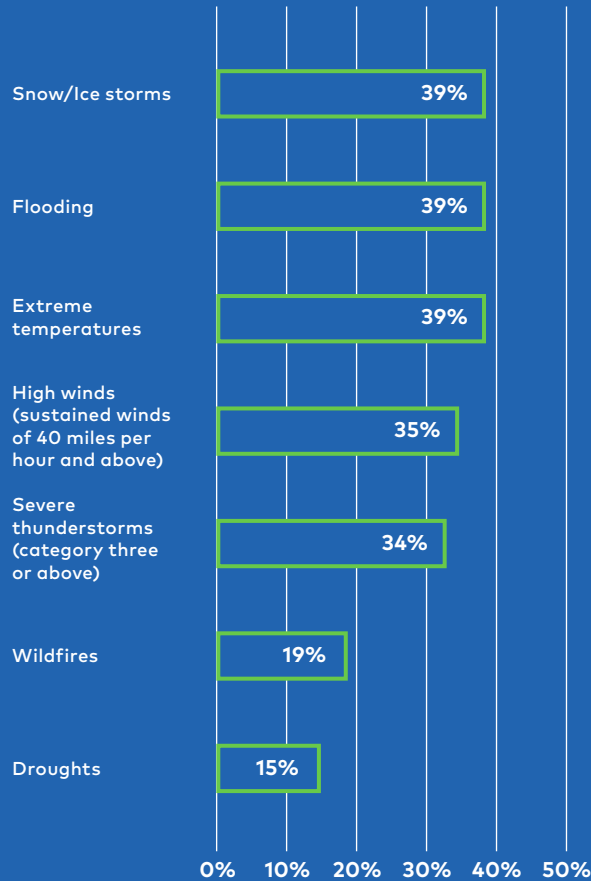
While interruptions to supply chain were reported to have a low impact today, a third of the respondents who have or are making weather risk plans for their organisation said they are planning to build more resiliency into their supply chains.



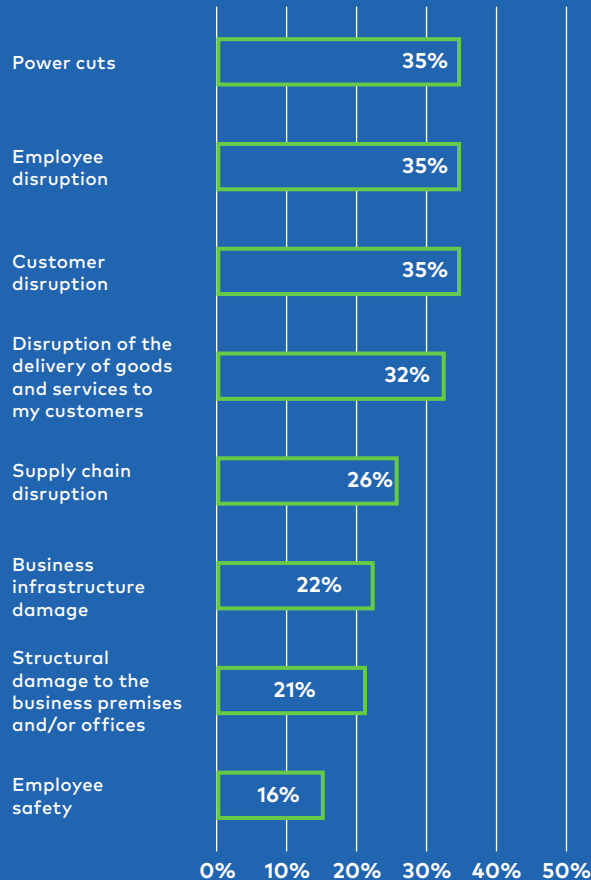
To what extent does extreme weather impact your business and sales today?



Which extreme weather events, if any, pose the biggest risk to your company's day-to-day operations?



How are extreme weather events currently impacting your company's day-to-day operations?



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Are U.K. businesses prepared for extreme weather events?

Despite a clear understanding of the threat climate change poses to operations, the U.K. landscape is varied when it comes to contingency planning. Less than a third of respondents have an updated plan in place, while another third doesn't have a plan or will consider it in the next five years.

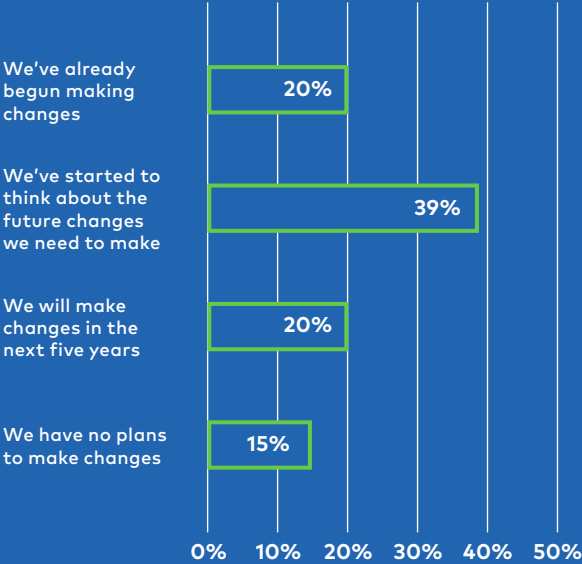
If the assumption is that weather impacts will remain the same as they are today, U.K. businesses could take a slow approach to building a weather resiliency plan. But studies and current events indicate that organisations don't have that luxury.

Strong storms like Storm Ciarrán are predicted to occur more frequently and more damaging with intensified storm-related rainfall. And even though wildfires were at the bottom of weather concerns today, they are becoming more common. In 2022, the U.K. saw a record wildfire season and the U.K. Met Office warns of an increasing risk of wildfires due to climate change. The five-year plan that many of the respondents are planning on may be too little too late for today's climate.

Two-thirds of respondents recognise extreme weather as a current threat and slightly more anticipate an increased threat from weather in the next five years – highlighting a pressing need to act now.



Have you started making changes to account for the impact of climate change disruption on your business?



Across sectors U.K. businesses anticipate a growing threat to their organisations. Education and healthcare anticipate little to no change in the impact of weather events in the future.

In terms of the impact of extreme weather on your business, how would you rate the threat, both today, and in the next five years?

	Today	Future	
Architecture, Engineering and Building	9%	17%	Significant Threat
	65%	65%	Slight Threat
	26%	13%	No Threat
Education	4%	20%	Significant Threat
	68%	48%	Slight Threat
	20%	28%	No Threat
Healthcare	3%	14%	Significant Threat
	63%	51%	Slight Threat
	31%	31%	No Threat
Human Resources	39%	39%	Significant Threat
	50%	61%	Slight Threat
	6%	0%	No Threat
IT & Telecoms	13%	31%	Significant Threat
	56%	40%	Slight Threat
	29%	18%	No Threat
Manufacturing	7%	30%	Significant Threat
	56%	48%	Slight Threat
	37%	15%	No Threat
Retail, Catering and Leisure	7%	26%	Significant Threat
	60%	62%	Slight Threat
	31%	10%	No Threat
Utilities	20%	42%	Significant Threat
	45%	37%	Slight Threat
	32%	12%	No Threat

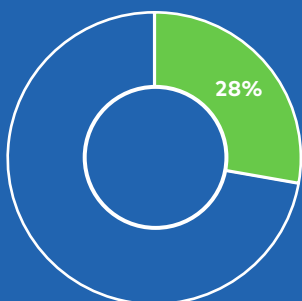
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Addressing climate risk today

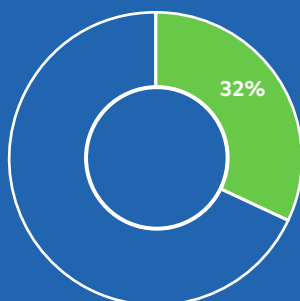
The paradox between recognizing weather threats and delaying resiliency plans is not new to U.K. businesses. In previous studies, like this [utility report](#), DTN has uncovered this phenomenon across industries and countries. Often, respondents report the gap between concern and little to no action is created by no clear leadership assigned to extreme weather risk management not knowing how to assess or [measure](#) risk, or make a weather resiliency plan built on future threats. As seen in the responses, many organisations believe that time will reveal risks. This gap can quickly become a threat when organisations delay planning for hopes of clarity in the future.

One way to begin building a weather resiliency plan now is to work with a risk communicator. A [DTN risk communicator](#) is an experienced meteorologist who integrates years of hands-on weather expertise with deep industry knowledge to assess current and future weather risks as they pertain to industry, operations, and business continuity. They can continue to consult with the business as weather conditions evolve and alert decision makers based on customized weather risk thresholds.

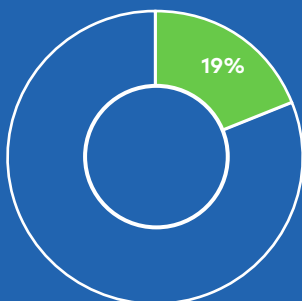
How current is your extreme weather business contingency plan?



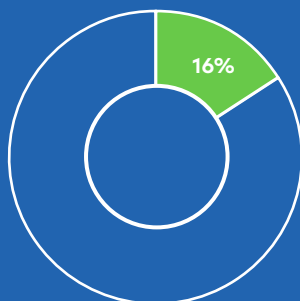
We have a plan in place that is updated annually



We have a plan in place but it hasn't been updated in over a year



We do not have a plan in place, but are planning on drafting one in the next five years



We do not have a plan and do not plan on drafting one



The fact is temperatures are increasing – and more extreme weather events are inevitable even in the short term. It's much easier and cost effective to take steps before an issue occurs than waiting for something to happen.

Renny Vandewege
DTN GM, Weather and Climate

Internal risks for weather resiliency

Weather resiliency has real economic impacts that extend beyond the infrastructure or assets of organisation. Addressing these risks as a strategy starts at the leadership level.

Consider that the past two summers the U.K. has experienced registered soaring temperatures with parts of the county seeing the hottest temperatures ever recorded. There is strong [evidence](#) that heat episodes are becoming more intense, longer and more frequent, with an associated impact on the estimated heat mortality. The U.K. government recommends that organisations ensure they have heat response plans in place, as well as longer-term adaptation strategies to mitigate the impacts across all sectors.

The evident lack of focus on the issue is reflected in the boardroom, with nearly 75% of businesses surveyed not employing a 'Chief Heat Officer' or having any C-Suite level executive responsible for forward planning related to extreme weather.

And while public safety is a significant concern, extreme weather also has an impact on financial decisions, supply chain disruption and distribution, capital allocation and potentially future regulations. According to [S&P Global](#) data extreme weather events linked to increasing average global temperatures represent the biggest physical risks for S&P 500 companies. These risks are increasingly being required to be communicated to stakeholders and investors. Today, slightly over half of the survey respondents currently report on weather risks to investors, with 25% stating they had no intention of reporting weather risks.

What is a Chief Heat Officer?

When asked how predicted heatwaves could impact their business, respondents stated this would disrupt their day-to-day operations (29%), risk employee safety (28%) and negatively impact sales because customers' shopping habits would change (25%).

And with [2023 being the hottest year on record](#), These unprecedented weather risks may require a new role of Chief Heat Officer within the business, the likelihood of these concerns becoming reality will only increase.

Designated '[Chief Heat Officers](#)' first emerged as a public sector position responsible for combating the dangers of extreme heat in local governments. This role is now slowly being adopted in U.K. organisations. Nearly a quarter (21%) of respondents said they have an internal leader responsible for combatting the dangers of extreme heat in the work environment, including supply chain disruption, outages, impact on workforce and forward planning relating to extreme weather.

Chief Heat Officers require access to weather-specific tools and intelligence to give them the insight to adapt standards and make serious operational decisions protecting the business from extreme heat.

Supply chains and weather disruption

Power cuts (35%) and daily workflow disruptions (35%) were reported as the top ways extreme weather impacts U.K. businesses today. In the near future, the impact of extreme weather on the efficiency of the supply chain may push this concern to the top of the list.

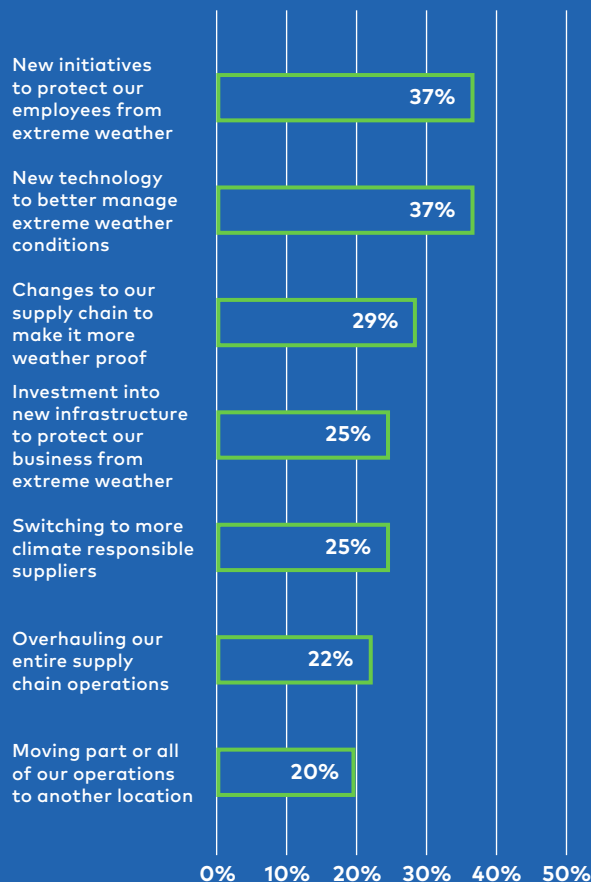
Businesses in the U.K. have already seen this happening. In the past two years important shipping routes affected by extreme flooding followed by droughts that delayed or rerouted shipments. Extreme heat in the U.K. has heavily impacted infrastructure and buckled transportation, including the 2022 July heatwave, where temperatures reaching 40°C caused railway lineside fires, power cuts, buckled roads and a damaged airport runway.

The [2022 U.K. Climate Change Risk Assessment Report](#) emphasises that supply chain resilience should be a priority and a factor in developing trade agreements. Encouragingly nearly 62% of the survey respondent said they have incorporated weather analytics into their supply chain planning, and 29% plan to make changes to their supply chain weather resiliency plans in the next few years.

The need to be vigilant remains clear. The Climate Change Risk Assessment report warns that actions taken now may not keep pace with increasing risk and “how effective it will be specifically in managing climate or weather-related disruption.



What changes have you made, or will be making to plan for climate change disruption?



Weather resiliency in the utility sector

The utility industry is especially vulnerable to extreme weather as evidenced in survey responses. Power cuts due to weather were the top cited impact across all industries and a serious concern for the utility industry respondents (69%). What is more foreshadowing is that 79% of utility respondents anticipate significant impacts in the next five years. This echoes The Department for Business, Energy and Industrial Strategy warning in their [U.K. Climate Change Risk Assessment 2022](#) that listed climate-related failure of the power system is a priority risk area and considered an urgent issue.

Surprisingly, given the urgency of being more weather resilient, nearly half report of the utility survey respondents said their extreme weather contingency plans hadn't been updated in a year or more.

One way that utilities can be better prepared, and potentially mitigate, power outages due to weather impact is by accessing and optimising more data into their decision making. [Operational intelligence](#), the integration of real-time analytics with diverse and relevant data sets, can help utilities make faster decisions, improve reputation management and better resource efficiency and safety.

A further benefit would be to use sophisticated technology that collects, processes and delivers insights to a specific utility's service areas or assets, such as the [Storm Risk suite of solutions from DTN](#).

Power companies that use hyperlocal data that meaningful to their response and recovery decisions are likely to better anticipate potential weather-related disruptions, load spikes, and maintain reliable service. Forearmed with information also helps a utility proactively and confidently communicate with customers, which may support reputational efforts.



How can U.K. businesses become more weather resilient?

Beyond contingency plans, nearly 60% of leaders surveyed stated they had either started making changes in relation to climate-related disruption or were planning to. Intriguingly, a third of respondents who haven't started planning stated that they did not believe climate change would pose a threat to their business.

For those who were planning to make changes to their plans, new initiatives to protect employees topped the list, as well adapting new technologies to better plan and prepare for extreme weather events. These are steps in the right direction when it comes to becoming more weather resilient. The more "weather mature" an organisation is for adopting and integrating weather data into their business operations, the more likely the business is to plan, prepare and mitigate extreme impacts.

Other ways that U.K. businesses can become weather resilient is by working with stakeholders, internally and externally, to identify and assess current and future risks. For a broad view, the [U.K. Climate Risk](#) offers research and reports on the risks and opportunities facing the U.K. from climate change. The [Met Office](#) also produces an updated analysis of changes to the U.K. climate and weather events.

For a more tailored analysis, Industry-specific reports and discussions about weather impacts and business continuity are increasing and are typically accessible. A [DTN Risk Communicator](#) would add an elevated level of analysis as the weather risk assessment would be tailored to the business, its operations and business continuity.

What is a Risk Communicator?

[DTN Risk Communicators](#) are skilled meteorologists with strong communication skills and a deep understanding of industry operational processes and challenges. They support businesses across the risk preparedness cycle from preparation to activation to evaluation. Risk Communicators can be added to most DTN weather risk intelligence solutions and support a holistic response to the extreme weather threat.

Organisations can make better informed decisions and operate more proactively with an extreme weather preparedness plan powered by real-time weather data.

Renny Vandewege
DTN GM, Weather and Climate

The benefits of an extreme weather preparedness plan



Support **timely evacuations** with insight and data to improve decision making when balancing safety with continued operations. Using organisational thresholds and best-available weather forecasts support timely implementation of safety decisions like pausing work and moving individuals to safety, whether they're oil rig employees, wind farm technicians or athletes and spectators.



Reputation management using data and expertise to proactively avoid and demonstrably minimise weather-related impacts to your employees, your customers and your community.



Improve **business continuity** through proactive planning that can minimise unexpected costs, unnecessary expenses and lost production. This gives you a better understanding of when to adapt operations, how much preparation investment may be needed and the ability to plan farther in advance to protect employees and assets.



Safely mobilise crews and equipment by understanding and evaluating appropriate times and locations to place and transport emergency operations, recovery and restoration assets.

Prepare for tomorrow's climate by creating a weather preparedness plan today

With 70% of U.K. businesses saying that extreme weather is already impacting their business and sales in some way, preparedness is no longer tomorrow's priority.

Having informed, reliable information today about the risks for your business helps support the confident decisions you must make for the climate risks in the future.

Want to find out more about how your business can prepare for weather and climate impacts? Contact us [here](#).

Survey Methodology

The research referenced in this white paper was conducted by Censuswide, using a sample of 501 U.K. business leaders. The data was collected between 04.07.23 - 07.07.23. Censuswide abides by and employs members of the Market Research Society and follows the MRS code of conduct which is based on the ESOMAR principles.

About DTN

DTN is a global data, analytics, and technology company. Its proprietary solutions and expertise deliver trusted operational intelligence for organisations with complex supply chains worldwide. Access to the unparalleled, cloud-based data, applications, and insights that DTN offers help businesses prosper, improving service delivery and the movement of goods for many critical sectors of the global economy. DTN is headquartered in Minneapolis, MN, and Utrecht, Netherlands, and operates or has investments in the Americas, Europe, and the Asia Pacific region with support from more than 1,200 employees worldwide.

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The DTN logo is displayed in a bold, black, sans-serif font. To the upper right of the 'n' is a degree symbol (°). The degree symbol is composed of a small blue circle with a green dot in the center. The logo is positioned on the right side of the page, partially enclosed by a large, thin blue arc that sweeps from the top right towards the bottom left. A horizontal blue line extends from the left edge of the page to the start of the arc, passing behind the logo. A green arc is also visible at the bottom right, partially enclosing the logo.

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