Investment Insights

Weather watch: Four sectors feeling the force of nature

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Marketing communication

Weather watch: Four sectors feeling the force of nature

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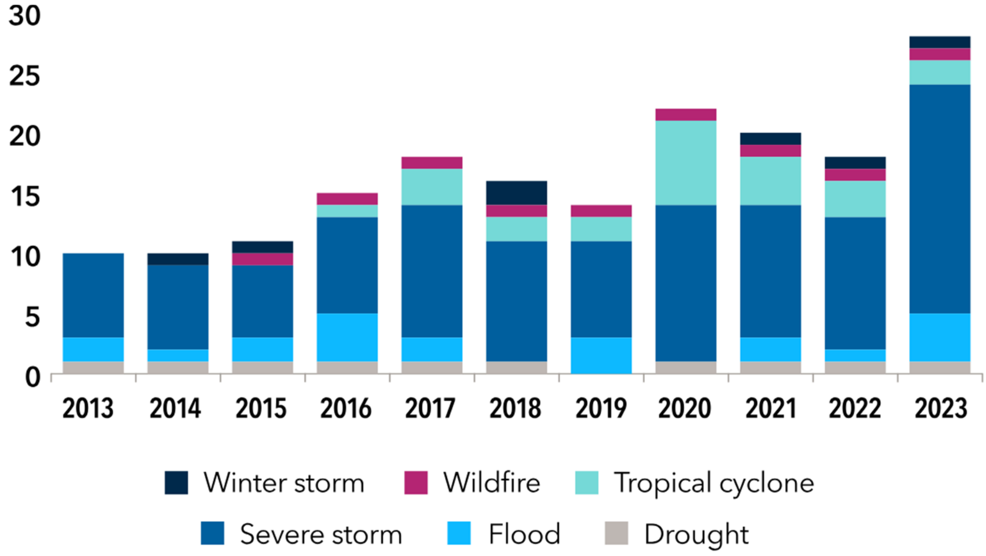
Key takeaways

- Extreme weather is already having meaningful effects on corporate operations, balance sheets and revenues.
- With flooding, storms and extreme heat becoming more frequent and severe, the weather looks poised to play an even more prominent role among investment considerations.
- Utilities, insurers, tourism and logistics are among the sectors where our investment professionals have recently considered the effects of extreme weather.
- Across sectors, the disruptive effect of droughts on supply chains is something investors should keep an eye on in 2024 and beyond.

Everyone likes to talk about the weather – including leadership at many of the world's larger companies. In recent times, mentions of weather-related events on US S&P 500-listed companies quarterly investor calls have hit a multiyear high. In late 2023, Barclays Research found that utterances of "extreme weather" were on track to rise about 40% compared to 2022, with a particular focus on wildfires. There were 28 extreme weather events in the US in 2023 – more than double the number seen a decade earlier.

From light drizzle to a downpour: US extreme weather has proliferated

Number of US$1B disasters in the past decade



Source: NOAA National Centres for Environmental Information (NCEI) U.S. Billion-Dollar Weather

From wildfires in North America and Europe to floods in Asia, extreme weather is having meaningful and varied effects on the financial results and prospects of many companies and industries. Here, our investment professionals share some of their latest thinking as we put the spotlight on utilities, insurance, hospitality and logistics, and consider the outlook for supply chains.

Utilities: Facing a tinderbox of heat-related risks

"For US utilities, the investment risk associated with severe weather-related events is much more prominent than it was a decade or two ago," says equity investment analyst Dominic Phillips. "Wildfire risk, in particular, is fundamentally changing the return profiles and credit spreads for certain firms."

In California and other wildfire-prone states, the sector has contended with billions of dollars in legal liabilities in recent years. Dominic expects that utilities with meaningful exposures to wildfire risk may see their cost of equity capital rise further. "All else being equal, current legal standards and state regulations suggest equity investors might reasonably expect wildfire-exposed utilities to compensate for that additional risk," he adds.

"Wildfire mitigation has become an important, positive differentiator for some of the US credits in my coverage," says fixed income investment analyst Julian James. "When I see a firm use safety technology and progress toward undergrounding a significant portion of the distribution lines in high wildfire risk areas, that gets my attention."

Wildfires are, of course, just one outcome of extreme heat. Soaring temperatures also contribute toward - and directly and indirectly exacerbate - other risks, often in complex ways. For example, at times of extreme heat, water supplies can be overtaxed, and electricity demand can skyrocket. Cognisant of how this kind of perfect storm can affect utilities, our environmental, social and governance (ESG) team recently investigated water stress exposure among a selection of European firms.

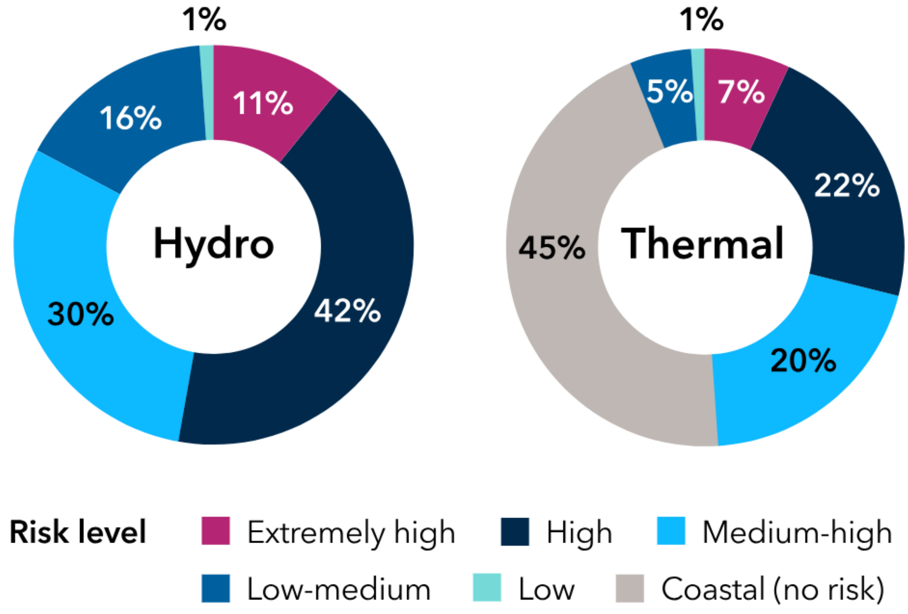
Electric utilities are among the largest corporate users of water. Historically, hydroelectric power - which is largely reliant on an adequate and free-flowing freshwater supply - accounts for more than 10% of the European sector's overall earnings. Recent droughts had left hydroelectric power plants running below optimal capacity, with reservoirs well below historical levels for an extended period.

Reduced operating capacity, temporary shutdowns and workarounds to maintain supply have taken a toll on earnings. In the first six months of 2022, for example, Portugal-based electric utilities company EDP reported a halving of its hydropower generation amid severe drought conditions, resulting in a €184M decline in earnings. Fast-forward to mid-2023, and the firm reported reservoir levels had recovered to 80% (above the historical average) alongside a strong rebound in generation.

"We found significant exposure to water-stress risk across a selection of the larger European utilities," says energy ESG analyst Tom Crocker. "It represents a vulnerability for future operations and earnings that it's crucial to consider alongside other more traditional financial analysis."

Treacherous waters: European utilities face significant water stress

Percentage of hydro and thermal assets exposed to different levels of water risk



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As at September 2023.

Sources: Capital Group, World Resources Institute Aqueduct Tools.

Left circle represents hydro assets (hydropowered assets use water to produce electricity or power machines), right circle represents thermal assets (thermal-powered assets use heat energy to create electrical energy). Analysis is based on a sample of six utilities. Current and future water stress exposure is measured against several localised water stress physical quantity indicators with defined parameters for the power industry. We use asset level coordinates to plot the level of water stress risk exposure at each site before aggregating into an overall risk indicator. Each asset is weighted based on capacity relative to a company's total capacity, giving a greater precedence to sites with higher capacities. Physical risk is quantified based on exposure to baseline water stress and depletion, interannual and seasonal variability, groundwater table decline, drought risk, and coastal- and riverine-flooding risks. Power plants on the coast use seawater and therefore are not exposed to water stress. Future risk is calculated using baseline water stress only and does not show an overall weighted score.

Reinsurers and insurers: Storm clouds cast a long shadow

Have your property insurance premiums jumped, or are you finding it more difficult to get the breadth of coverage you want? If so, it might be partly due to extreme weather. Because hurricanes, floods and wildfires can trigger massive payouts to their customers, insurance companies typically seek to insure themselves against natural catastrophes with reinsurers. Unfortunately, the proliferation of extreme weather events has prompted reinsurers to raise prices, or even exit certain areas of coverage. Some insurers have, therefore, followed suit.

Increases in reinsurance costs have been steep. For instance, reinsurance broker Gallagher Re noted that during the 2023 mid-year renewal cycle, the typical US reinsurance rate (ratio of premium paid to the potential loss recoverable) climbed by up to 50% for policies that had previously faced claims for natural catastrophes.

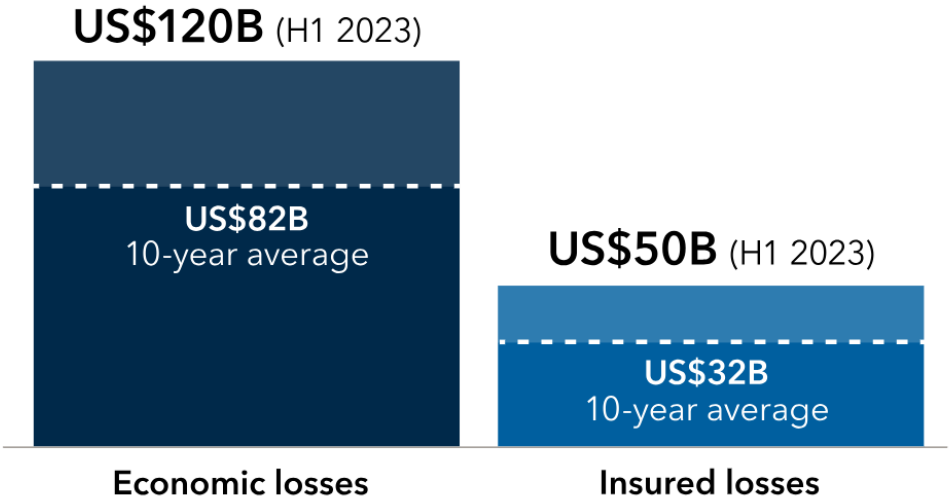
In Europe, rate increases have so far been comparatively modest: 10% or so. Given the heatwaves, storms, wildfires and flooding witnessed in recent years, some insurance industry executives have indicated substantial increases are likely.

"Increased natural catastrophe-related losses have precipitated a sea change in global reinsurance markets," says equity investment analyst Rob Grube. Consequently, the industry's rolling ten-year inflation-adjusted average insured loss has doubled in the last five years. Hailstorms, wildfires and other secondary perils have accounted for over half of the increase. "The affordability and availability of property insurance may remain challenged for the foreseeable future."

Fixed income investment analyst Mandeep Saini agrees: "Some personal lines insurers will, in my view, have a tough time navigating through extreme weather," he says. "Recent losses from wind and hailstorms have hurt capital ratios with less elasticity to raise prices, contributing to rating pressure and underscoring the need for firms to better adapt their businesses to this new reality. Some are just choosing to exit certain regions or markets as a result."

A loss and a half: Record-breaking losses have been about 50% above average

Weather-related and other natural catastrophes



Record-breaking insured losses in H1 2023 included:

- **US** | US$34B from thunderstorms (highest six-month total)
- **New Zealand** | US$2.3B (two costliest weather-related loss events since 1970)
- **Italy** | US$0.6B from flooding (costliest weather-related loss event since 1970)

Source: Swiss Re Institute. H1 refers to first half of the year, January through the end of June

Tourism & travel: From Europe's shifting sands to US turbulence

In the US, airlines have been among the most visibly weather-affected companies after a series of large storms from late 2022 through to mid-2023. Alaska Airlines, for example, said that bad weather in the fourth quarter of 2022 alone "cost" it nearly US$45 million in lost revenue.

"I'm struck by the magnitude of volatility that is created by factors outside of airline management's control – including extreme weather, irrational competitor activity, labour market tightness, oil prices, war and terrorist events," says Cheryl Frank, an equity portfolio manager for Capital Group. "It really underscores the importance of strong balance sheets."

Around the time that period of storms in North America was winding down, the European Commission noted[1] that "mounting climate risks, illustrated by the extreme weather events and unprecedented wildfires and floods in the summer [2023] … weigh on the outlook" for European tourism and the broader economy. Greece was among the hardest hit countries. For example, the July 2023 wildfires that ravaged the island of Rhodes drove nearly 8,000 tourists from accommodations operated by TUI Group; the Germany-based travel operator said it expected to take a €25 million hit to its full-year results. In response to increased disruption, some travel operators are considering introducing insurance for tourists travelling to locations at risk of climate- and weather-related disruption.

1. European Commission's European Economic Forecast, Summer 2023 Institutional Paper. Published September 2023

Warm welcome/unwelcome: Shifting tourism demand in a hotter Europe

Potential winners and losers in two warming scenarios
Compared to the 2019, in percentage terms

	Potential change in tourist demand	
	+1.5C scenario	+4C scenario
Cyprus	-2%	-8%
Greece	-1%	-7%
Spain	0%	-3%
Italy	0%	-2%
Portugal	-1%	-3%
Germany	+1%	+4%
U.K.	+1%	+8%

For illustrative purposes only.

The values shown refer to Representative Concentration Pathway (RCP8.5) emissions scenario, which is generally understood to be the worst-case climate-change scenario under current and stated policies. Projected evolution of the tourism demand at country level compared to the 2019, in percentage terms, for the different global warming scenarios. The projected period is to 2100, compared to 2019 base year. Source: European Union, JRC analysis

Logistics: Tackling workforce well-being and productivity as temperatures soar

Analysis of worker injury data by the United States Occupational Safety & Health Administration (OSHA) has pinpointed delivery and warehouse employees as among those most affected by extreme heat.

Without mitigation, extreme heat takes a major toll on productivity. One academic study[2], for example, suggested heat exposure prompted annual global productivity losses of about US$300 billion. Heat stress also exposes employers to legal risk - especially in light of new rules and guidelines proposed at the state and federal level by OSHA. In particular, OSHA's ability to enforce heat safety has been strengthened with the new federal standards outlined in "Working in Outdoor and Indoor Heat Environments" - and emboldened the agency to increase its enforcement.

As such, health and safety concerns around heat-related illness are emerging as key concerns for e-commerce and logistics companies in particular. For example, starting in 2024, a US logistics company will ensure all delivery vans that the firm purchases for its delivery fleet will have air conditioners to address heat-related concerns raised by the workforce. Employers will increasingly need to consider the impacts of higher cooling and fuel costs, legal liabilities, and potential for loss of productivity in high-risk environments.

"Management of heat stress will, I suspect, start to have a more meaningful effect on bottom lines at delivery and warehousing companies," says Capital Group

2. DARA and the Climate Vulnerable Forum, 2022. Matthew A. Borg, Jianjun Xiang, Olga Anikeeva, Dino Pisaniello, Alana Hansen, Kerstin Zander, Keith Dear, Malcolm R. Sim, Peng Bi, Occupational heat stress and economic burden: A review of global evidence, Environmental Research, Volume 195, 2021, 110781, ISSN 0013-9351, https://doi.org/10.1016/j.envres.2021.110781

solutions portfolio manager Wesley Phoa. "Clearly, there's a tradeoff with higher energy costs for cooling, but it will be interesting to see which firms decide to make the major investments needed to maintain productivity, minimise regulatory risk and improve labour force relations."

Triple threat: Key findings from our heat stress analysis of US delivery firms

High turnover rates create workforce mix, including more inexperienced staff, who can be at greater risk of heat-related injury	**Corporate culture** where non-full-time employees are unlikely to voice concerns regarding heat safety	**20%** of delivery hubs located in U.S. counties with high heat risk

For illustrative purposes only.

Analysis based on heat preparedness scorecard and risk exposure assessment of three of the larger delivery firms. Heat stress exposure measured by labour productivity, labour composition and salary and safety conditions at the company. Data as of June 2023. Source: Capital Group

Final thoughts: A weather warning for supply chains?

In addition to the kinds of sector-specific effects already discussed, extreme weather's impact on supply chains is something that I think investors should keep a close eye on in 2024 and beyond.

Droughts, for example, can be highly disruptive to a wide range of industries that rely on maritime shipping to help source raw materials or transport products. Droughts have increased by a third over the last two decades and are projected to occur more frequently and last longer, according to the United Nations.[3] Recent history offers numerous examples of the kinds of repercussions that are possible.

In 2022, for instance, the average water level in some parts of China's Yangtze River was down by about half[4] creating major shipping delays on a stretch of water along which three billion metric tons of cargo are transported each year. Furthermore, reduced hydropower capacity limited energy supplies to auto parts and chip manufacturers, causing even more disruption to supply chains. More recently, the Panama Canal Authority characterised the drought of late 2023 and early 2024 as the region's worst in more than 70 years. Drought conditions have led to "traffic jams" of huge container vessels transporting fuel, fruit, iPhones and wine, to name just a few of the affected goods. Weather-related disruption of the Panama Canal, which links the Atlantic and Pacific oceans, has been especially impactful for global trade at a time of heightened security risks along the Suez Canal – another key passage in maritime global trade routes.

3. United Nations Convention to Combat Desertification, "Drought in Numbers 2022."
4. 21 August 2022. Bloomberg News. "Power Crunch in Sichuan Adds to Manufacturers' Woes in China.

More broadly, consensus that extreme weather is becoming more of a problem appears to be growing among investors, regulators and governments. Drawing on the views of nearly 1,500 academics, business executives and government officials, in 2024, the World Economic Forum cited extreme weather as the number one concern for the next decade and warned that future extreme weather events are expected to become even more severe over the next 10 years.

As long-term investors, we also see that extreme weather events – often caused or exacerbated by climate change – are creating meaningful, varied and new financial and regulatory risks.

Some companies are yet to acknowledge the coming storm. Others are already "grabbing their umbrellas." Discerning which of these firms are more likely to navigate through extreme weather in coming years and decades is far from straightforward. The need for deep fundamental research in this regard is, however, plain to see - like the sun in a clear blue sky.

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