

World on Fire 2024

Wildfires in an Era of Weather Whiplash

JULY 2024



Key Insights

- 1 In March 2024, the Smokehouse Creek Fire became the largest ever fire recorded in Texas. Just two months later, parts of the state were inundated with record-setting rainfall and flooding.
- 2 This is an example of “weather whiplash,” which is the rapid and extreme oscillation between different types of weather conditions in relatively quick succession.
- 3 This is problematic for wildfires, as periods of heavy rainfall and vegetation growth followed by severe drought create ideal conditions for conflagrations.
- 4 The destructive combination of megadrought, heatwaves, and strong winds are fueling ever-more ferocious and deadly fires, as events in Chile and Hawaii have shown.
- 5 Industries operating in the urban-wildland interface, including agriculture, forestry, hospitality, and utilities, are particularly vulnerable.



World on Fire 2024: Wildfires in an Era of Weather Whiplash

Following the hottest year in 2023, this year’s wildfire season is off to another early start.

At the time of writing, fires were burning across parts of California, Oregon, Washington, and New Mexico, resulting in the evacuation of hundreds of homes. This followed the Smokehouse Creek Fire, which burned 1.06 million acres (430,000 hectares) of land in parts of Texas and Oklahoma in March and became the largest fire recorded in Texas since 1988.

Parts of southern Europe are warned to prepare for extreme weather conditions, including wildfires, following a June heatwave. Wildfires have threatened Athens in Greece, and in the Balkans, power outages were linked to the extreme heat.¹

Scientists say Arctic wildfires in Russia’s far north have released megatons of carbon dioxide from previously frozen tundra into the atmosphere.²

A hallmark of our changing climate is “weather whiplash.” Gallagher Re’s Chief Climate Officer, Steve Bowen, describes the rapid and extreme oscillation between various types of weather/ climate conditions in relatively quick succession, such as intense rainfall followed by drought.

For example, just two months after Texas experienced the Smokehouse Creek Fire in the panhandle, some parts of the state were affected by record-setting rainfall and flooding.

In Asia, sections of China’s Yangtze River dried up just a year after being hit with deadly flooding. Still, the arrival of a stronger-than-normal 2024 monsoon season reignited flooding by late June and July as another example of weather whiplash.

These extreme weather events highlight the urgent need for businesses to prepare for the growing threat of wildfires. This report explores the growing impact of weather whiplash and the importance of risk mitigation, contingency planning, and insurance.

“The implications of fires are not just localized; they are often globalized in the case of some of the bigger events.”

— Steve Bowen, Chief Climate Officer, Gallagher Re

Extreme wildfires in Chile

Natural climatic cycles such as El Niño-Southern Oscillation (ENSO) and anthropogenic warming are one factor behind the increasing ferocity of wildfires. In February 2024, during the height of the Southern Hemisphere summer, a series of deadly wildfires broke out across multiple regions in Chile following a prolonged heatwave.

The country, which is highly exposed to earthquakes and tsunamis, now counts wildfires among its highest-risk natural hazards. While fires have been common in Chile during previous El Niño cycles, the fires this year and in 2017 stand out for the speed at which they spread. At least 112 people died when fires spread through densely populated areas in the Valparaiso region of central Chile, northwest of the capital, Santiago.

“The Amazon Basin recorded its highest number of early-season fire ignitions on record,” says Steve Bowen. “While we’ve continued to see more and more fires in this region, which are due to a combination of human and natural ignition starts, the favorable ground conditions and anomalous heat in place only further enhance flammability and a quick spread of fires.”



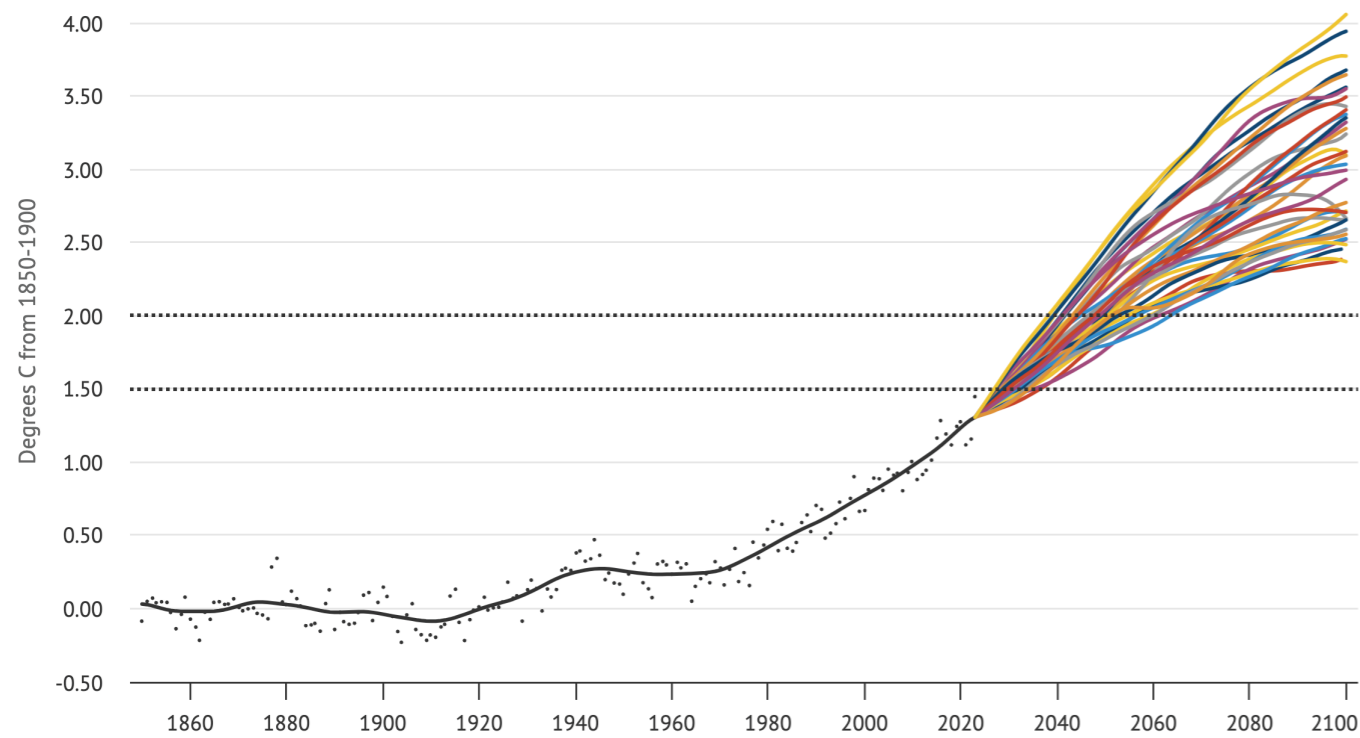
“This is a concern not just in South America but in many other places around the globe, too. Larger global weather/climate patterns influenced by phenomena such as ENSO are being supercharged by the continued warming of the atmosphere and oceans. We should no longer be shocked by the growing extremes.”

“We also must address the human component,” he adds.

“The number of people moving into the wildland-urban interface (WUI) or intermix continues to grow. These are previously identified areas that are known to have fire risk. Putting more “stuff” in harm’s way and then acknowledging the changing behavior of wildfires is an increasingly expensive and damaging combination.”

Combining observations and models to assess when the world will pass 1.5 °C and 2 °C

Observations from 1850–2023 and all CMIP6 SSP2-4.5 models after 2023



Source: CarbonBrief⁸

Growing threat of weather whiplash

Weather whiplash is becoming more frequent, with jumps between extreme droughts and rainfall increasing “sharply” over the past 20 years. This is problematic for wildfires, as periods of heavy rainfall and vegetation growth are followed by severe droughts, creating ideal conditions for wildfires.

The interplay of these swings, exacerbated by the ENSO cycle, intensifies wildfire risks. Climate change also leads to longer, hotter, and drier seasons while changing land use patterns increase wildfire exposure.

“We are seeing these massive pendulum swings in weather occurring more and more frequently,” says Steve Bowen. “We can expect some cooling in the second half of 2024 due to a shift to La Niña, but NOAA has already declared a 100% chance of this being one of the top five warmest years on record and a 95% confidence interval likelihood of it ending in the top two. Our world continues to warm.”

A rising economic impact

The United States has recorded over USD111 billion in direct economic damage and loss costs since 2015 alone. Of the 19 individual billion-dollar insured wildfire events in the US on record, 15 have occurred in the last decade. The devastating 2019–2020 Black Summer bushfires cost Australian agriculture between AUD4 billion and AUD5 billion in Australia.⁴

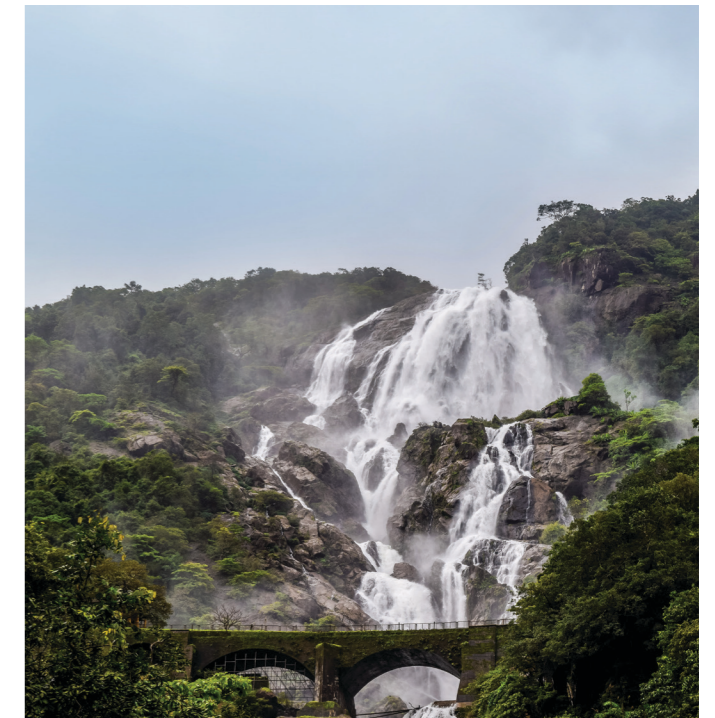
Wildfires pose both direct and indirect threats to businesses. Directly, fires can destroy property, equipment, and infrastructure, leading to significant financial losses and operational disruptions.

The immediate damage from flames can impede a business’s ability to function, causing production halts, inventory loss, and expensive repair or replacement costs. Buildings, machinery, and vehicles are all vulnerable, and recovery can be a lengthy and costly process.

Mike Keenan, risk control manager, National Risk Control at Gallagher, based in Nebraska, says fire exposure has become a significant issue for the agricultural sector over the past decade, with growing scrutiny from insurance carriers.

“As clients’ facilities continue to grow in size, they are often located in sparsely populated areas without access to urban fire departments. Instead, they rely on small volunteer fire departments that may lack the necessary resources and water supply to effectively manage fires.”

“Consequently, underwriters are increasingly asking about the availability of fire protection, resources such as water supply, and the response time of nearby fire departments.”



Air pollution and business interruption

Indirectly, the effects of wildfires can be just as disruptive. Contingent business interruption arising from supply chain disruption or loss of attraction, in the case of tourism, can have secondary economic impacts.

Smoke and smog generated by distant wildfires can travel vast distances, impacting air quality far from the original blaze. This deterioration in air quality can pose serious health risks to employees, particularly those working outdoors, such as construction workers, landscapers, and agricultural laborers.

Poor air quality can lead to respiratory issues, decreased worker productivity, and increased absenteeism due to health concerns. Consequently, projects can be delayed or halted, further affecting a business's operations and bottom line.

"To put into perspective how impactful these large fires can be, there were reports of soot in Europe that traveled across the Atlantic Ocean via the jet stream that originated from the Canadian fires in 2023. The implications of fires are not just localized; they are often globalized in the case of some of the bigger events," says Steve Bowen.

Wildfires can uniquely pose reputational risks for businesses, as inadequate preparedness and response can lead to public scrutiny and a loss of trust. Companies that fail to protect their employees, assets, and the surrounding community during wildfires may face negative media coverage and a diminished brand reputation.

The rapidly swinging pendulum of weather whiplash exacerbates and complicates such issues due to the lack of predictability.

Businesses must navigate the challenges of alternating extreme conditions, such as heavy rainfall that promotes vegetation growth followed by severe drought that transforms this vegetation into highly flammable material. Traditional planning may not suffice to address the rapid shifts in risk levels.

Additionally, weather whiplash can strain resources, disrupt supply chains, and complicate coordination efforts, heightening the threat to business operations and community safety.

Utilities must navigate the dual threats of physical infrastructure damage and liability for fires started by their equipment.

Vulnerable industry sectors

Industries in the WUI face heightened wildfire risks that can be affected by the implications of weather whiplash. Agriculture, food production, forestry, hospitality, and utilities are particularly vulnerable.

Urban expansion into previously safe areas further exposes towns and cities to wildfire risks. Agriculture and food sectors are at risk of crop and livestock loss, while forestry operations face challenges in managing combustible materials. As last year's fires in Hawaii demonstrate, the hospitality industry can suffer from property damage and reduced tourism due to wildfire impacts.

Communities on the periphery of areas prone to wildfire also include towns supporting rural industries. In May 2016, the Fort McMurray wildfire swept through the industrial town of Alberta, Canada. It consumed forested areas, impacted the Athabasca oil sands operations, and destroyed around 2,400 homes. The fire continued to smolder for over two months, becoming Canada's most costly natural disaster, at nearly CAD9 billion.

Utilities, particularly those providing power and water, must navigate the dual threats of physical infrastructure damage and liability for fires started by their equipment.

Michael Barkhausen, director and head of Analytics for Australia and New Zealand at Gallagher Re, says rural communities are inevitably the most exposed to an increasing frequency and severity of wildfire. "Fires tend to impact rural and urban/rural fringes, so it's often residential properties in these areas, but in the 2019-2020 fires, there would have been a significant impact on rural businesses."



Counting the Cost of Hawaii's Lahaina Wildfire

Prior to 2023, the top five costliest (economic) US wildfires of the last 40 years had all occurred in the state of California. This changed in August 2023 following the deadly and destructive Lahaina Fire, which decimated parts of Hawaii's Maui Island. More than 100 people were killed, and economic losses were estimated at upwards of USD6.5 billion, [according to Gallagher Re](#).

The portion of the loss covered by insurance exceeded USD4 billion. The losses included those incurred from property damage and business interruption across residential and commercial assets. It does not consider macroeconomic factors, such as the expected reduction in the island's GDP due to the wildfires or the impact on supply chains.

The loss of tourism and businesses in Lahaina and the surrounding area has caused substantial contingent business interruptions and impacted the wider economy.⁵

Most of the event losses are expected from Lahaina, where a massive inferno burned out of control for 12 hours, destroying almost 2,200 structures.

A combination of ongoing drought conditions, low humidity levels, and localized strong wind gusts (which were indirectly enhanced by the distant passing of Hurricane Dora) produced conditions that led to the ignition and spread of multiple fires across the Hawaiian Islands between August 8 and August 11.

Conclusion: The Three Prongs of Preparedness

Developing resilient risk mitigation strategies is crucial for businesses navigating heightened wildfire risks influenced by the unpredictable dynamics that come with interannual climate cycles and broader impacts enhanced by a warming world.

From a risk mitigation perspective, proactive strategies include fuel management (such as clearing vegetation and thinning trees), maintaining roads and other access routes, and regularly communicating education and awareness programs on fire safety. Emergency plans should include details on evacuation routes, assembly points, and communication channels.

In 2020, the Glass Fire in California caused extensive damage to properties, including areas in the state's northern wine country (such as Sterling Vineyards). This encouraged the business to adopt extensive vegetation management practices to mitigate fire risks. These include regular clearing of brush and vegetation to create defensible spaces around their properties, which is crucial in regions experiencing rapid shifts from wet winters to dry summers.

Integrating fire-resistant building materials, such as using clay tile roofs and stucco siding, as demonstrated in Mediterranean-style homes in wildfire-prone regions of Southern California, can also help prevent fire spread and reduce property vulnerability.

Businesses should test their continuity plans ahead of wildfire seasons. Proactive participation in community emergency drills and close coordination with local fire departments can enhance the ability to respond swiftly and effectively to evolving wildfire threats.

Businesses must recognize the risks and proactively protect their assets and employees. By taking steps to build resilience and improve loss control, businesses can begin to navigate some of the challenges posed by wildfires.

According to Gallagher Re's Steve Bowen, we must continue to address the root causes of climate change and adapt to the continually evolving definition of normal.

"The hallmarks of climate change are becoming more evident by the day. While not every event has a natural attribution to climate change, the reality is that a higher portion of events are, in fact, exhibiting more extreme or unusual behavior that is consistent with peer-reviewed scientific research. The question now is whether we have the appetite to make meaningful change and investment in the way we live and prepare to be ready for the risks of tomorrow."

"We are seeing these massive pendulum swings in weather occurring more and more frequently."

— Steve Bowen, Chief Climate Officer, Gallagher Re



Citations

- 1 "Major power outage hits Balkan countries as region swelters in heatwave," *Euro News*, 21 Jun. 2024.
- 2 Frost, Rosie. "Arctic wildfires tear through Russia's Far North releasing megatonnes of carbon," *Euro News*, 28 Jun. 2024.
- 3 Hausefather, Zeke. "Analysis: What record global heat means for breaching the 1.5C warming limit," *CarbonBrief*, 13 Jun. 2024.
- 4 "Black Summer bushfire season cost farmers up to \$5 billion," *The University of Sydney*, 13 Dec. 2021.
- 5 "The Lahaina fire worsened Maui's housing shortage. Now officials eye limiting tourist Airbnb rentals," *The Maui News*, 26 Jun. 2024.

Welcome to Spotlight—presenting insights, shifting perspectives, and reframing evolving global trends.

Presenting the issues, opportunities, and risks that are transforming the way we do business, from industry hot topics and emerging growth markets through to perspectives on the big questions shaping our world today, this article provides actionable insights and analysis to inform strategic decision-making and power onward growth plans.

The Spotlight content series is designed for company executives, risk managers, industry operators, and business owners looking to reframe pressing issues, shape strategy, and pursue their future ambitions with confidence.

[AJG.com/insights](https://www.ajg.com/insights)

AJG.com **The Gallagher Way.** Since 1927.

The global news agenda and industry reporting is rapidly evolving at this time. Insights, concepts and perspectives presented in this report are relevant at time of publishing and may be subject to ongoing change as events and prevailing risks continue to evolve.

CONDITIONS AND LIMITATIONS

This information is not intended to constitute any form of opinion nor specific guidance nor legal or financial advice, and recipients should not infer such from it or its content. Recipients should not rely exclusively on the information contained in the bulletin and should make decisions based on a full consideration of all available information. We make no warranties, express or implied, as to the accuracy, reliability or correctness of the information provided. Our advice to our clients is provided subject to specific terms and conditions, the terms of which take precedence over any representations in this document. We and our officers, employees or agents shall not be responsible for any loss whatsoever arising from the recipient's reliance upon any information we provide and exclude liability for the statistical content to fullest extent permitted by law.

© 2024 Arthur J. Gallagher & Co. | CRPGLOB46146