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# Severe Convective Storms

## The Oft-Overlooked Threat to Business Growth

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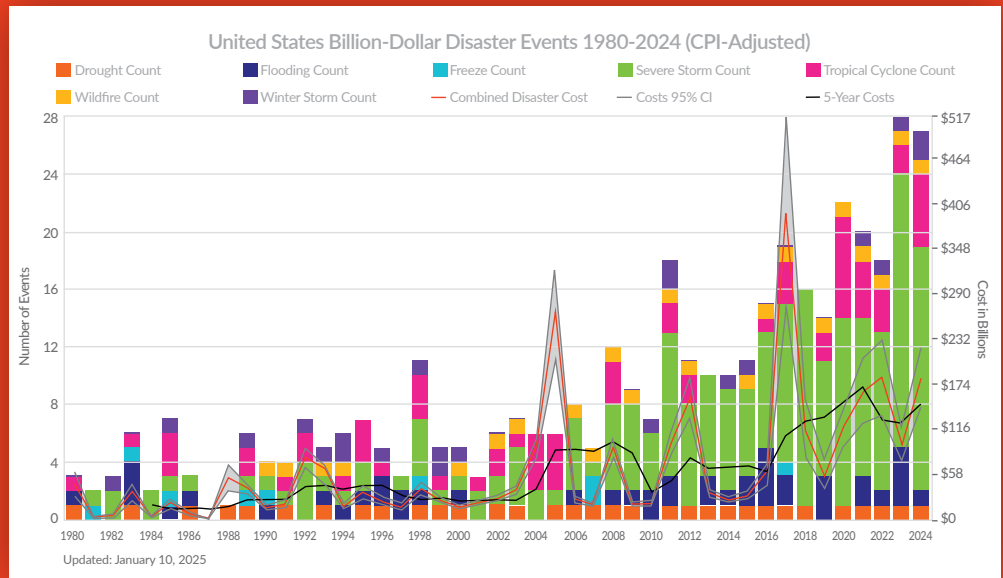
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The costs associated with climate change are staggering – and rising. According to the [World Economic Forum](#), the various natural disasters linked to the warming of our planet cost us an estimated \$143 billion per year. That translates to more than \$16 million every hour. What's more, this cost is estimated to soar to anywhere between \$1.7 trillion and \$3.1 trillion per year by 2050, should we fail to significantly reduce the greenhouse gas emissions that scientists tell us are behind such warming.

# United States Billion-Dollar Disaster Events 1980 - 2024 (CPI-Adjusted)

Source: NOAA National Centers for Environmental Information (NCEI)



Hurricanes, heatwaves, storm surge, wildfires: These are the extreme weather events that tend to make headlines, which in turn makes them the aspects of climate change that we're most likely to summon when envisioning the destruction wrought by it. But ask an executive which extreme weather event worries them the most from a business perspective – and which one ends up costing them the most money, year after year – and they're likely to name a far more common one: severe thunderstorms.

Although they may not get as much media attention as other catastrophes, the natural phenomena known as [severe convective storms](#) – the official meteorological name for severe thunderstorms – actually pose the biggest weather-related threat to business growth, according to [Risk Decisions 360°](#), a recent report published by Chubb that gauges the top growth-related concerns of business leaders. On a list of disasters that also included hurricanes, wildfires and deep freezes, convective storms took the topmost slot, with 24 percent of top executives surveyed saying that these storms have led to the greatest “unexpected and disruptive financial burdens” for their businesses in recent years.



Though scientists have yet to fully understand the direct link between climate change and the roughly 16 million convective storms that occur globally each year, a basic fact of thermodynamics suggests an obvious connection: A warming planet means warmer air, and warmer air is capable of carrying more moisture than air that is cooler. That extra moisture in rising air means extra condensation, which means larger cumulonimbus clouds and stronger storms – and more rain, lightning, wind, hail, flash flooding and resultant property damage. Climate change is making such storms more frequent: According to the [National Centers for Environmental Information](#), more than a third of severe storms recorded in the U.S. since 1980 have occurred in the past six years.

Most Chubb clients who have sustained losses from severe convective storms point to one aspect, in particular, as a driver of claims: hail. Many older roofs and cladding systems were installed before the advent of the impact-resistant shingles that are more commonly found in roof construction today. Hail can also severely damage skylights, roof-mounted HVAC systems and other rooftop components. And as rooftop solar energy production has become more popular among homeowners and business owners, the larger and heavier hail stones associated with our intensifying convective storms also pose a greater threat to these assets than they have previously. Today's [bigger, more damaging hailstones](#)<sup>1</sup> make the case for installing shingles, rooftop systems and solar panels with higher impact ratings – an option that Chubb's risk engineers are happy to explore with our clients. Once a rooftop has been optimized in these ways, biannual roof inspections in the spring and fall months are the best way to ensure that these special systems (along with more standard drainage systems) are operating at peak effectiveness.

<sup>1</sup> <https://www.nbcnews.com/science/environment/hail-bigger-climate-change-higher-insurance-costs-rcna168526>

Less common but typically more damaging than falling hailstones are the lightning and tornadoes that can accompany severe convective storms. Buildings outfitted with lightning suppression and surge suppression systems – installed according to the latest codes and standards, and reviewed regularly – are far better equipped to [withstand a lightning strike](#) and the damage it can cause in the form of excessive voltage spikes to electrical systems, computers and appliances. Similarly, businesses that incorporate interior tornado shelters into their buildings as a component of their tornado response strategies have a much better chance of making it through an actual event without any employees facing injury or worse.

The insurance data network [Archipelago](#) calculates that severe convective storms in 2022 and 2023 led to global insurance losses of nearly \$250 billion. (In the U.S., which is especially vulnerable to these storms because of its particular geography and topography, insured losses grew at an annual rate of nearly 10 percent between 1990 and 2022.) But many executives, unfortunately, don't have all of the information they need to protect their businesses. While most of them believe, correctly, that commercial property insurance typically covers the hail and heavy wind damage frequently associated with severe convective storms, fully 85 percent of them believe – mistakenly – that this same insurance covers all, most, or at least some types of flood damage, according to [Rising Waters](#), a 2023 Chubb

report on flood risk. In fact, commercial flood insurance is in most cases a special category unto itself and must be purchased separately from standard property insurance.

Knowing this fact – and acting upon it – is just one step that businesses can take to protect themselves from one of the most common characteristics of severe convective storms, which are predicted to [keep growing in number and intensity](#)<sup>2</sup> if global warming continues at its current pace. Climate change has definitely made catastrophic events like hurricanes, heat waves and wildfires more frequent. But it has also made everyday events, such as heavy thunderstorms, much more likely to be catastrophic. Businesses should take heed.



## Severe convective storms led to global insurance losses of nearly \$250 billion.

Source: Archipelago



<sup>2</sup> <https://www.cisa.gov/topics/critical-infrastructure-security-and-resilience/extreme-weather/severe-storms>

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