Severe Convective Storms: State of the Risk

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Severe Convective Storms Follow Rising Trends

Despite a relatively mild Atlantic hurricane season, the United States reported another costly year of natural catastrophe events in 2025, driven largely by the growing frequency and impact of severe convective storms. Encompassing tornados, hail, straight-line winds, and thunderstorms with lightning, these small to mid-size perils caused $51 billion in annual U.S. insured losses last year, marking the third consecutive year such losses exceeded $50 billion, according to a Gallagher Re report.

> **Trailing behind only 2023 and 2024 in losses, 2025 ranks as the third costliest year on record for the peril, producing more than $68 billion in total economic damages.**

"The complexity of these events is accelerating the need to better understand how both physical and non-physical risk profiles are evolving and becoming increasingly interconnected," said Gallagher Re chief science officer Steve Bowen in the report.

Demographic shifts, legal system abuse, and rising labor and construction costs play a leading role in these figures, accounting for up to 90 percent of loss growth since 2000, Gallagher Re estimated. Evolving weather patterns, including several record-setting storm events, contribute to the remaining percentage.

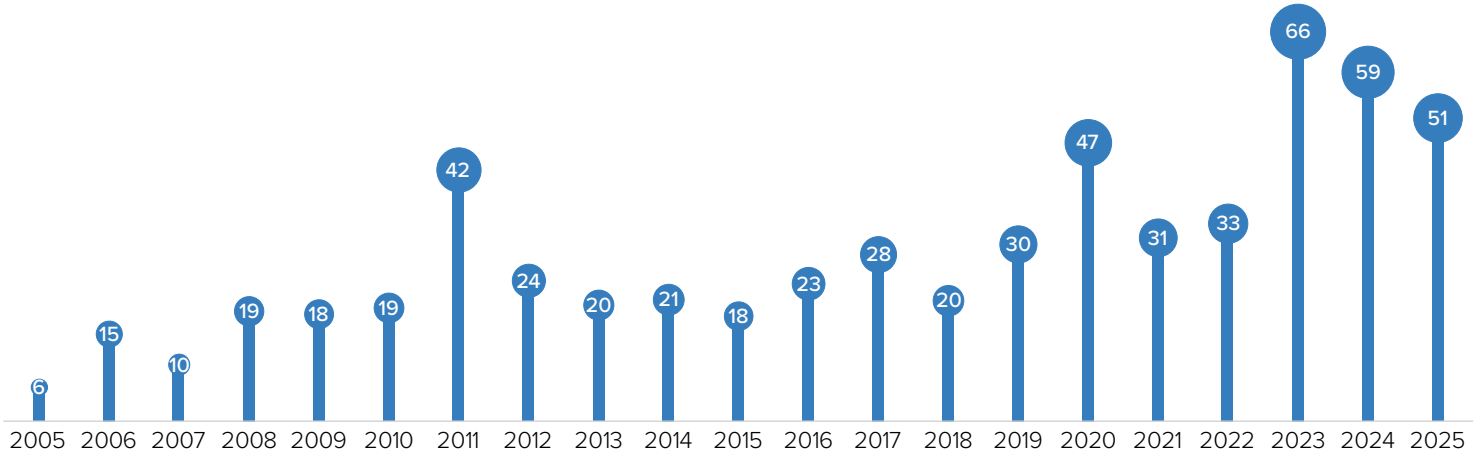
Tornadoes

Preliminary data from the National Oceanic and Atmospheric Administration (NOAA) indicated at least 1,559 tornadoes were reported in 2025, roughly 127 percent of the annual 1,225 historical average. Though advancements in doppler radar and other technologies have improved observations, some climate experts suggest activity has become increasingly concentrated in outbreaks of days with multiple tornadoes.

A record 300 twisters spawned in March alone, with more than 100 confirmed across 15 states during mid-month. Generating $8.4 billion in insured losses, the early season outbreak is the fourth costliest of its kind on record and led to two EF4 tornadoes in Arkansas, the first time in decades that such a convergence had been reported.

Another June outbreak struck North Dakota with a violent EF5 tornado, the strongest tornado classification. Killing three people, the EF5 twister ended a 12-year period of no such recorded tornados in the U.S., causing extensive damage to farmlands and rail cars throughout the state.

U.S. Insured Losses From Severe Convective Storms



*Losses adjusted to 2025 U.S. dollars.

Source: Gallagher Re

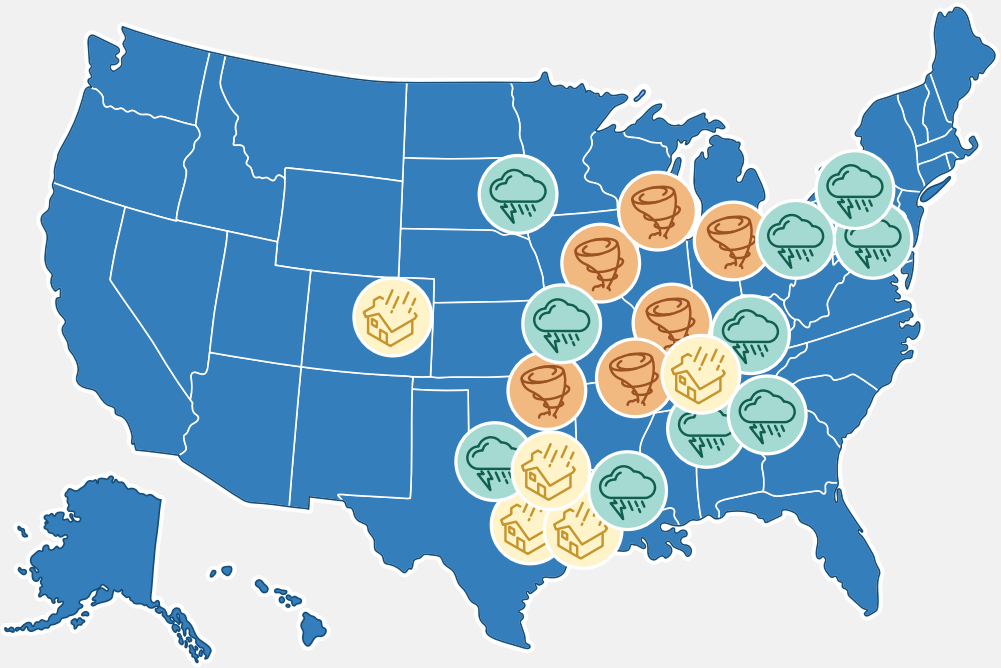
2025 U.S. Billion-Dollar Severe Convective Storms

Approximate location for each of the 21 severe convective storms that caused $1 billion or more in economic losses through October 2025.

Severe Weather

Hail

Tornado Outbreak



Source: Climate Central, U.S. Bureau of Labor Statistics

Thousands of homes were devastated by a billion-dollar outbreak in May, which triggered more than 600,000 power outages and claimed at least 29 lives in the Midwest and Southeast. Much of the damage occurred in urban areas, reflecting a trend of mounting losses as tornadic activity shifts farther east, according to a study from National Severe Storms Laboratory meteorologist Harold Brooks and Northern Illinois University meteorology professor Victor Gensini.

"The same tornado event that happens in Kansas that may have occurred in a wheat field is now happening in southern Cook County (Chicago area), and the entire track of that tornado is impacting people," said Gensini, who is also a Triple-I non-resident scholar.

Hail

Hail accounts for as much as 80 percent of severe convective storm claims in any given year, causing an estimated $10 billion in annual U.S. property damage for more than a decade. Roofs bear the brunt of this damage, facilitating an estimated 70 to 90 percent of total insured residential catastrophic losses.

As of March 2026, NOAA has reported 5,430 hail events in 2025, with Texas leading the highest number of hailstorms in the country. At least 808 of these events involved large hail of two or more inches, the fourth-most on record for a single year.

To better understand hail formation and impact, Gensini recently co-led the largest hail study ever conducted, known as ICECHIP. Funded with an $11 million grant from the U.S. National Science Foundation, the study sent more than 100 scientists across the Great Plains to analyze hailstorms during summer 2025, including Bryan Wood, meteorologist and catastrophe analyst at Munich Re Specialty.

Beyond collecting over 10,000 hailstones for study, researchers also tested roofs of "different types of material" to measure "how the different types of roof materials responded to the hail," with some being "more hail resistant," Wood explained.

The Insurance Institute for Business and Home Safety (IBHS) also participated, as part of its ongoing efforts to improve hail detection and forecasting and to develop construction standards more resilient against hail and wind damage. Roofs built to the IBHS FORTIFIED™ standard, for example, have demonstrated success in reducing severe weather damage, prompting several states to launch grant programs incentivizing their construction, as well as premium discounts on home insurance policies.

Evolving risk approaches

Every $1 spent on hazard mitigation can save up to $33 in future disaster costs, according to a report from the U.S. Chamber of Commerce and Allstate. Modern building codes are essential to achieving these outcomes, as is leveraging tools like aerial imagery and artificial intelligence to help predict and prevent losses before they occur.

Numerous private sector nonprofits have also stepped up to fill in research and mitigation gaps left by various federal funding and staffing cuts last year. Climate Central, for instance, recently released its first billion-dollar weather and climate disaster report since assuming responsibility for that dataset last year from NOAA, reporting 21 such events from severe convective storms alone in 2025, more than any prior year on record.

Climate Central's report highlighted how such disasters are increasingly impacting more populated areas, driven by shifting climate and weather trends as well as migration into high-risk regions. Florida and Texas, for instance – among the most populous and fastest-growing states in the nation – also rank among the top five states in total costs from billion-dollar disasters since this data has been recorded. By this metric, both states have accumulated more than $400 billion in losses each as of 2024 yet continue to see hundreds of thousands of new residents every year.

Parametric insurance has also gained traction, offering a new approach to climate and weather coverage that can help ease the burden on insurers while expediting recovery for policyholders. Parametric policies pay a fixed amount if certain pre-agreed conditions are met, regardless of specific damages incurred. One such policy issued by Swiss Re triggered payment within days for a Texas university struck by hail in 2023. Another policy structured by Swiss Re and Aon Securities delivered a $150 million payout in Jamaica after last year's devastating Hurricane Melissa, tied with Hurricane Allen for the strongest Atlantic basin landfall on record.

Taken together, these efforts can help insurers accurately reflect rising risks in insurance pricing while engaging with communities and businesses in solutions to keep coverage affordable and available. Sustaining this balance involves continuous collaboration between public and private sectors.

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