J.P.Morgan

Insurance: Weathering the storm of inflation, climate change and market-distorting state regulation

Executive Summary

In the field of risk management, insurance policies are crucial for smoothing otherwise volatile liabilities and preventing unexpected financial shocks for both policyholders and financial institutions. By doing so, they effectively manage the cost of underlying risks. Insurance channels capital into areas with known risks, enabling these risks to be pooled and redistributed. Historically, new insurance policies and practices have emerged in response to significant loss events, such as the advent of fire insurance in 17th century Europe following the Great Fire of London (13,000 homes destroyed), earthquake insurance with mandatory retrofitting measures after the 1994 Northridge earthquake in Los Angeles ($35 billion in losses[1]) and hurricane insurance and catastrophe modeling post-1992 Hurricane Andrew ($26 billion in losses in Florida[2]).

Insurance is now a crucial component of various financial transactions, often required for securing financing such as mortgages or auto loans and serving as an optional safeguard for purchases like travel, pets and appliances. Although insurance is often considered a long-term fixed cost in financial discussions, recent increases in property and casualty (P&C) premiums may affect consumer behavior. However, there can be a timing mismatch between insurance coverage and the long-term financing it protects, revealing a hidden future variable cost.

In this dynamic environment, homeowners insurance, a subset of P&C insurance, demands attention. With comprehensive coverage across the U.S., insurance data offers invaluable insights into the evolving landscape of physical risk in a major market. The total value of mortgage debt outstanding in the U.S. is a staggering US$20.7 trillion in 2024.[3] Unlike federally regulated mortgages, insurance is governed at the state level, leading to diverse market behaviors across state lines. Homeowners insurance is a vital risk management tool enabling credit—until policies are not renewed.

Currently, a confluence of inflation, climate change and disparate state regulations is both driving up insurance premiums and prompting private insurers to exit certain markets to maintain profitability. Private sector exits are not inevitable in the face of climate change. These challenges can be countered by a subset of resilience investment to reduce risks at a building and community level, financial investment and regulatory action.

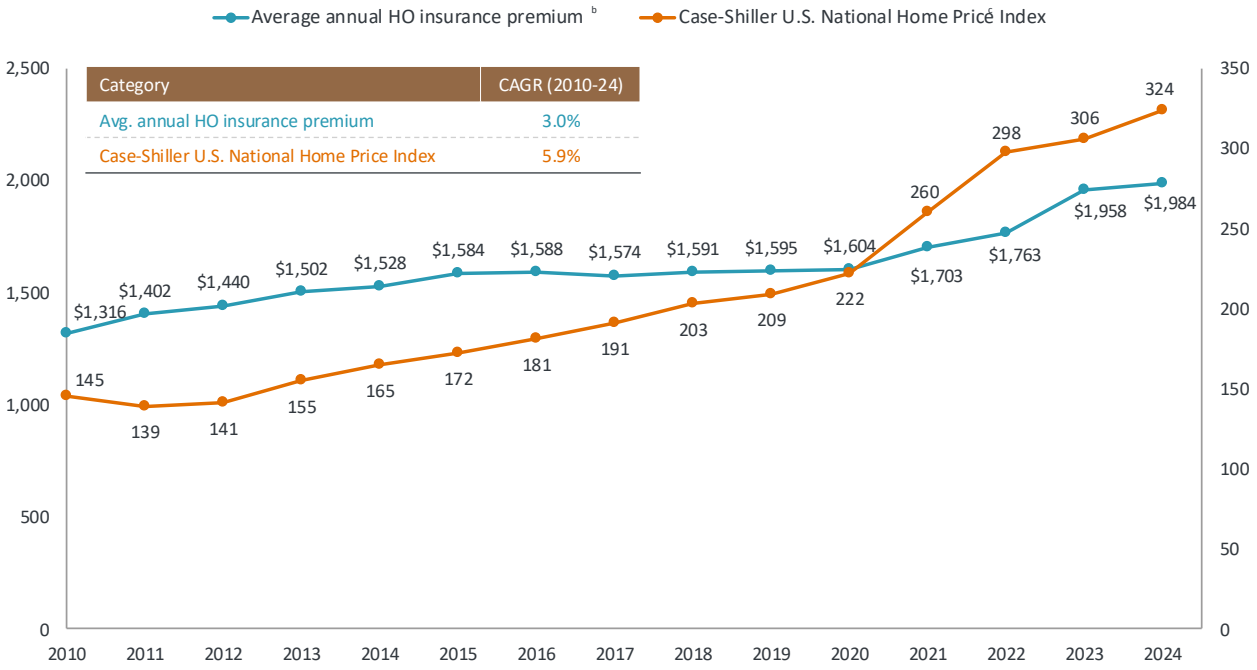
Acknowledgements: Ligia Deschamps, Kaylie Frank, Anita Ding and Andrew Tan for supporting the development of data and graphics. Jimmy McMillian for help with NFIP data. And Cathy Ansell, Ashley Bacon, Gissell Lopez Egusquiza, Daniel Serrao, Rama Variankaval and Andrea Vittorelli for helpful comments.

State of the U.S. homeowners insurance market

Homeowners insurance exists in every U.S. state, with coverage for a wide array of natural hazards (e.g., fire, lightning, hail, wind, winter storms), theft and vandalism, and infrastructure failure (e.g., overflow of water/steam, pipe burst, electrical, explosion). It is a ubiquitous product required by lending organizations to sustain a mortgage within federal regulatory constraints. As a result, it covers 95% of homeowners with a mortgage and 85% of homeowners overall.[4]

Unlike the underlying asset that may only change ownership every few years or decades, insurance contracts are priced annually with a typical duration of one year. This allows for regular repricing reflecting evolving risk conditions within state regulatory constraints. Since the last sustained recession ended in 2010, both homeowners premiums and home prices have increased across the U.S.

Figure: 1 Homeowners insurance premium and home prices[a]

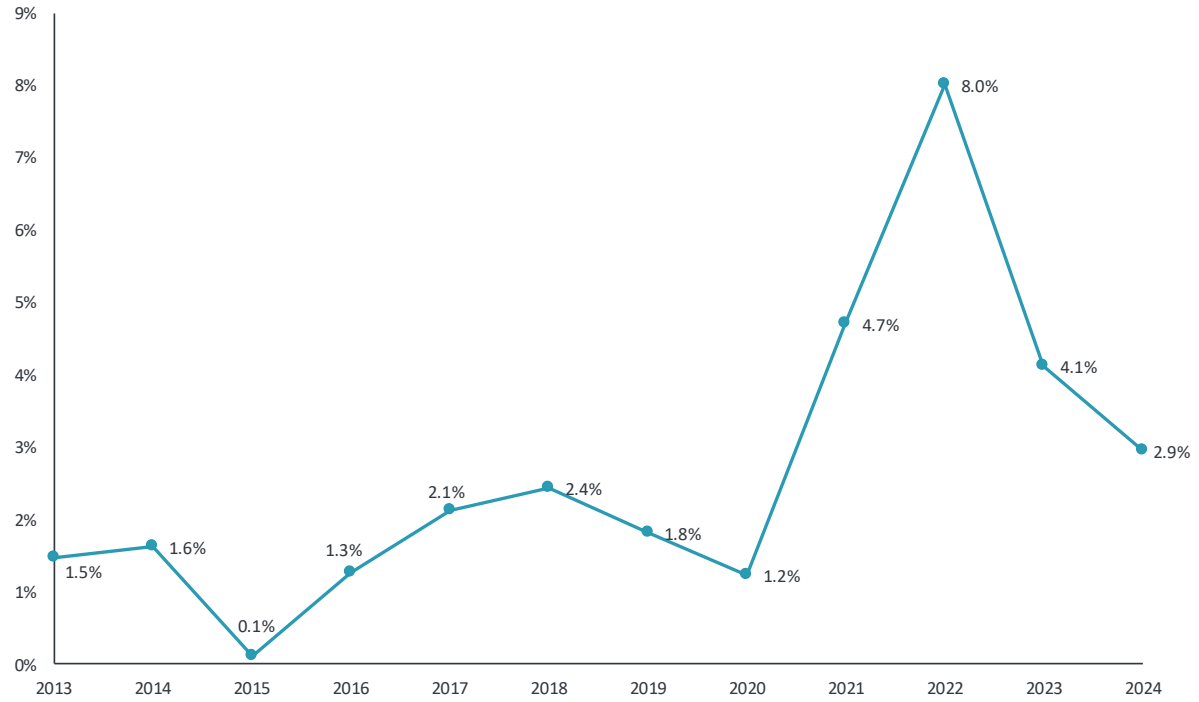


Sources: Joint Center for Housing Studies of Harvard University, December 2024, "The Insurance Crises Continues to Weigh On Homeowners"; Insurance Information Institute; S&P Global; FRED. Modified from analysis provided by: https://www.jchs.harvard.edu/blog/insurance-crisis-continues-weigh-homeowners.

Notes: [a] Pertains to HO-3 homeowner package policy of owner-occupied dwellings in one to four family units (most common package written). [b] Average homeowners insurance premiums for 2022-24 are calculated by multiplying Insurance Information Institute estimates of average homeowners premium in 2021 by estimated annual effective homeowners insurance rate changes nationwide according to S&P Global. Premiums are calculated in 2024 USD using US Bureau of Labor Statistics Consumer Price Index Inflation Calculator c Case-Shiller index measures the change in prices of U.S. single family homes. Does not account for inflation. Data as of October 2024. Indexed to 2000.

Homeowners insurance premiums have not grown at the same rate as home prices,[5] however, especially during sharp increases in home prices since 2021 (7.6% increase in home prices versus 4.8% in premiums). In the past five years, U.S. general inflation also rose above the sub-2.5% levels of the previous decade.

Figure 2: U.S. inflation rate since 2013

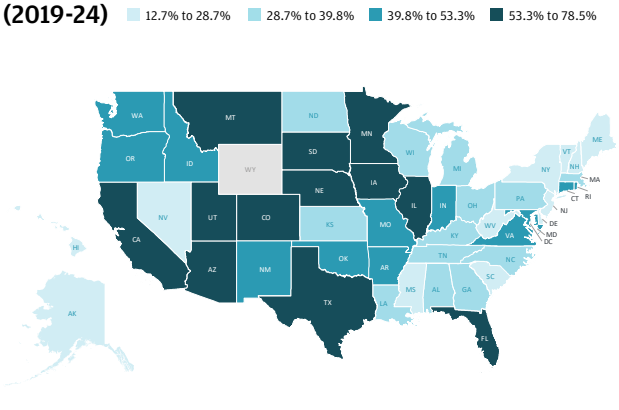


Source: U.S. Bureau of Labor Statistics as of Feb. 3, 2025 (link)

Note: Based on YoY % change in U.S. city average all urban consumers Consumer Price Index

On a state level, insurance premiums have grown across the board over the past five years, with the top 10 largest cumulative increases in Colorado (78.5%), Nebraska (73.2%), Iowa (65.9%), Minnesota (67%), Illinois (59.7%), Montana (57.7%), South Dakota (56.8%), Texas (55.4%), California (55.3%), and Florida (54%). While a few states have been in the news for exposure to wildfires (California) and hurricanes (Texas, Florida, Louisiana), they do not break the top five.

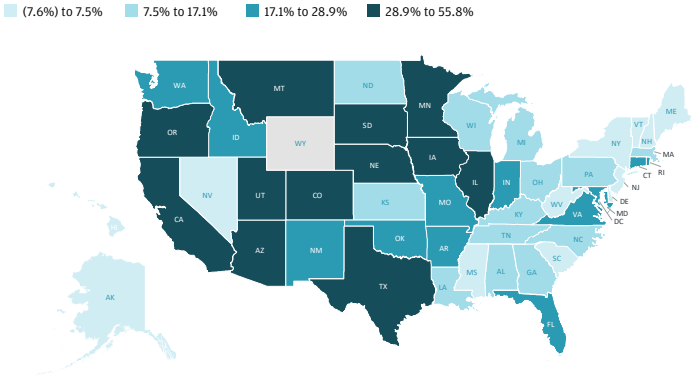
Figure 3: 5-year homeowners effective rate change (2019-24)



Source: S&P Global, January 2025 (link)

Notes: 2024 as of Dec. 27, 2024; Wyoming excluded as data is not reported; Covers homeowners policies

Figure 3: 5-year HO rate increase minus inflation over the same period (2019-24, Cumulative)



Source: U.S. Bureau of Labor Statistics; S&P Global, January 2025 (link)

Notes: HO premiums are 2024 YTD as of 12/27/2024; Wyoming excluded as premium data is not reported; Covers homeowners policies; Inflation for KS, KY, OR, OH, VA, WV and WI assume the U.S. CPI YoY percentage increase for a given year where data is unavailable

The increases in homeowners insurance premiums have outpaced the rate of inflation in the majority of states since 2019. Something(s) other than inflation is therefore putting pressure on premium increases in this highly regulated market.

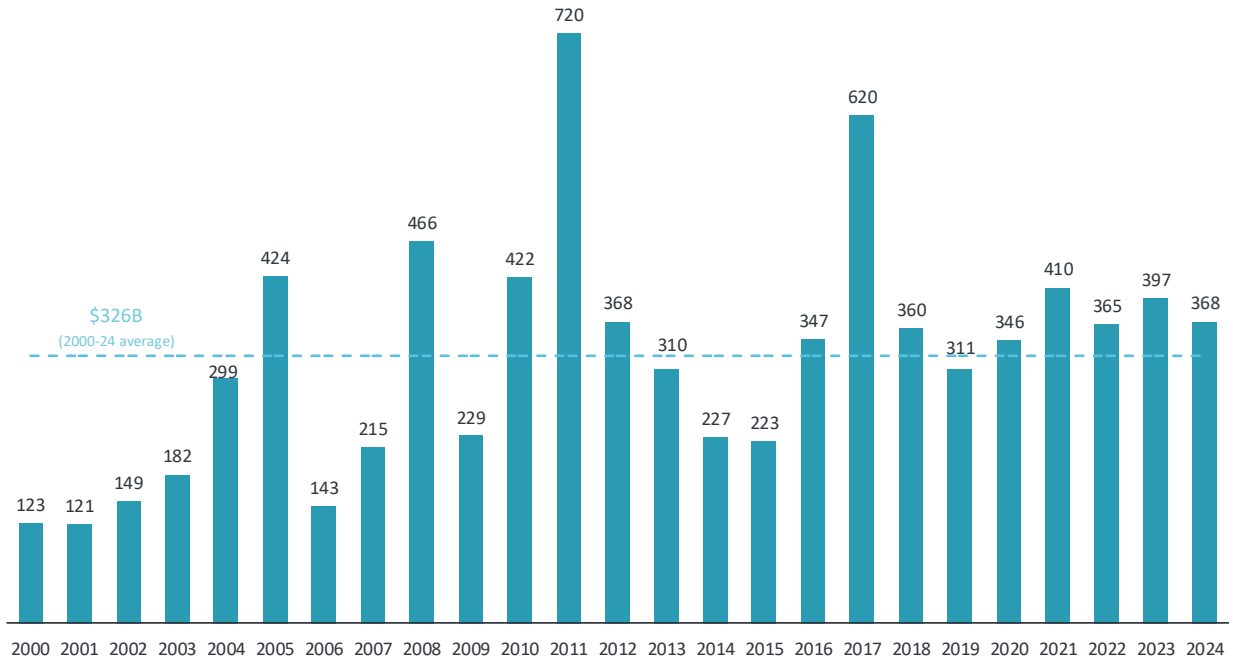
Takeaway: Both the U.S. inflation rates and housing costs have reached record levels in the past 10 years. Homeowners insurance premiums have followed, but at a higher rate (compared with broad inflation measures, but not home price inflation), suggesting premium increases to offset growing risks.

Rising losses: attempting to price extreme weather and climate events as they influence the property and casualty market

Insurance premiums are calculated with a forward-looking approach, reflecting probabilities of future losses derived from historic loss data[6] and market pricing dynamics. However, the actual losses incurred provide a tangible observed measure of physical damage, tying individual events to financial impacts.

Reinsurers and brokers annually report on the rising global losses due to natural disasters, connecting growth in losses to climate change, the vulnerability of assets and more assets being built in the path of extreme events.[7] Put another way, if you don't build to withstand natural disasters, you'll see financial losses. Globally, eight of the past 10 years have experienced economic losses exceeding the 21st century average.[8]

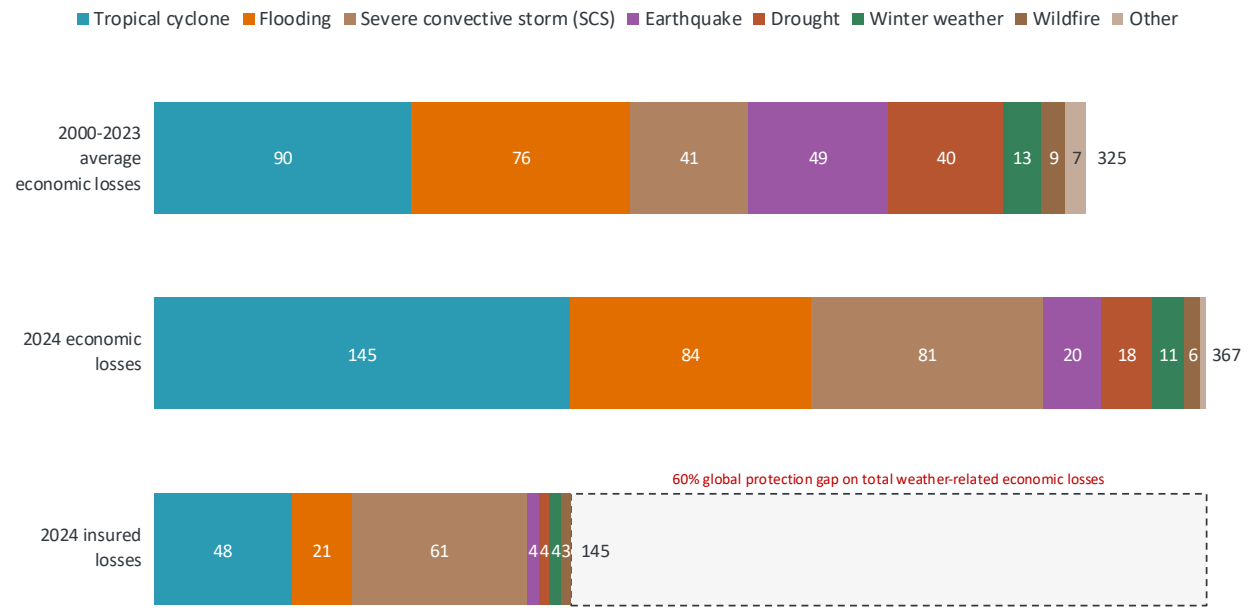
Figure 4: Global economic losses from natural disasters (2024 $B)



Source: AON 2024 Climate Catastrophe Insight (link)

While global total losses are mainly due to tropical cyclones and flooding, global insured losses have more recently been concentrated in severe convective storms and tropical cyclones. Note: Not all losses are insured; this "protection gap" is 60% globally. Some perils have higher insurance rates (e.g., severe convective storms have a 25% protection gap). In the U.S. and other developed economies, more losses are insured (protection gap below 50%).[9] The remaining uninsured losses are absorbed at all levels: consumers, private sector, state/local governments and federal government.

Figure 5: Global losses by peril



Source: AON Catastrophe Insight

Note: Other includes European Windstorms and Other

In the United States, total losses due to extreme weather and climate events have also grown since 1980. According to the U.S. Department of Commerce's National Oceanic and Atmospheric Administration, major U.S. loss events now happen every 2.7 weeks versus every 2.7 months a few decades ago.[10]

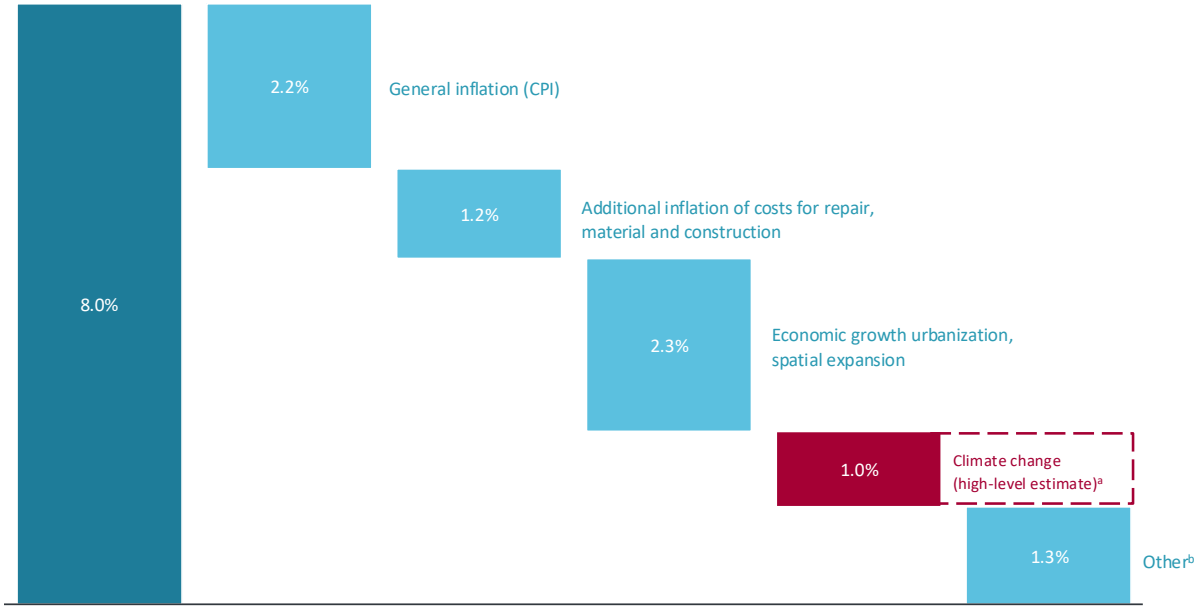
In any industry, growing losses are a concern leading to:

- Adaptive measures to minimize losses and build resilience to future loss events
- If such measures are too costly or fail, businesses exit the market—by choice or bankruptcy

Adaptive measures can take the form of premium increases to price the risk of increased losses—and we are seeing that in the data in Figures 1 and 3 exceeding the rate of inflation in most states.

Identifying the sources of risk is crucial for determining whether these risks will continue to escalate over time, which in turn informs effective risk management strategies. Swiss Re has done this analysis for severe convective storms, disclosing the sources of insured losses for all personal and commercial property insurance[11] 2008-23 in the U.S. Once thought of as "secondary perils" that created lower losses than "primary perils" like hurricanes, in recent years severe convective storms have been a significant source of insured loss worldwide. (Figure 5 shows they were the largest source of global insured losses in 2024.)

Figure 6: Annual increase of insured losses from Severe Convective Storms (SCS) in the U.S. (2008-23)



Source: Swiss Re Institute, No 1/2024 (March 2024, link)

Notes: a Hailstorms are increasing at a pace of 1% per year, which is used as a proxy for climate change impact on the 8% growth of SCS insured losses in the U.S. b "Other" includes societal and behavior trends, changes in vulnerability, other "hidden" loss drivers, and sampling uncertainty/natural variability.

This highlights the main sources of loss increases arising from inflation (3.4% from CPI and home-specific price increases) and changing human activity and natural variability (3.6% urbanization, changing consumer behavior and vulnerability). Climate change is also factored in at 1% over this 15-year period. This is the only direct model from historic data we have been able to find breaking down losses into these buckets.

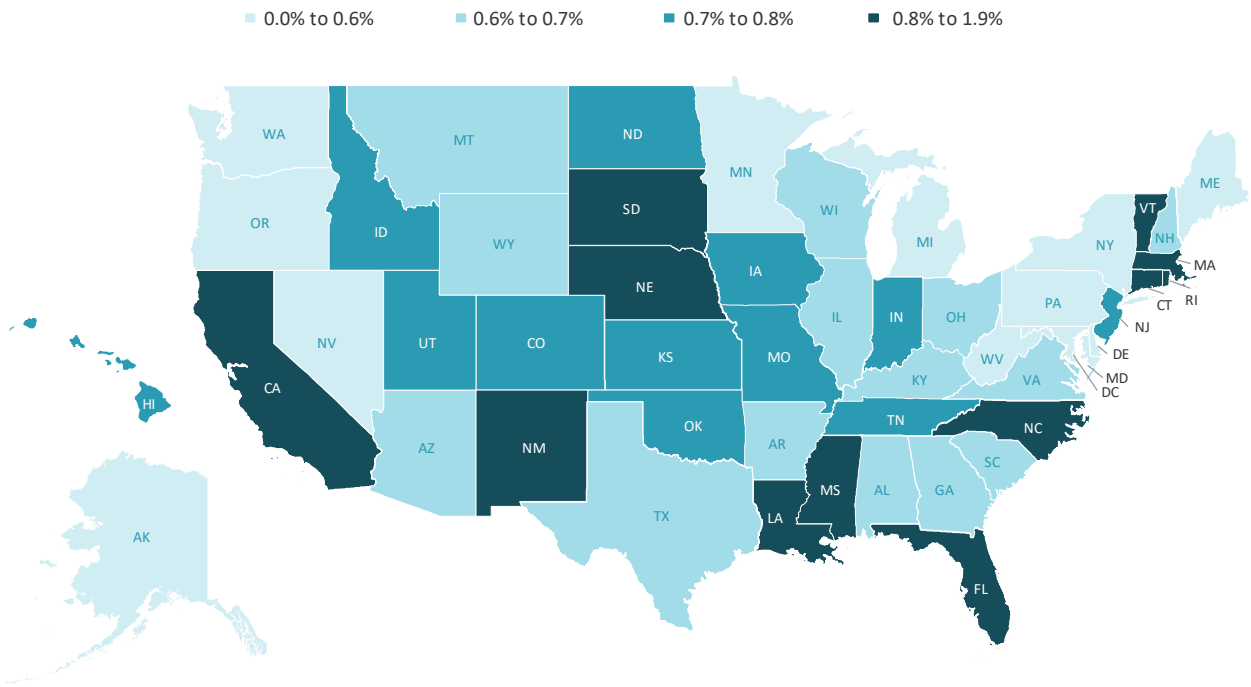
On a critical scientific note: Changes in the probability of individual perils due to climate change are not necessarily the same (i.e., hail events have not changed at the same rate as heat waves). Moreover, estimates of climate change influences on the frequency and severity of severe convective storms has greater uncertainty than for other perils, such as extreme rainfall-induced flooding due to the difficulty in modeling hailstorms in physics-based global climate models due to their small size.[12] However, emerging research rooted in physics modeling of storms suggests this value should grow: hailstone size is projected to increase in the most extreme storms in the coming decades.[13] Changes in other perils like coastal storm surge flooding, extreme rainfall induced flooding, and drought have more certainty in historic and future increases in magnitude and probability.[14]

Takeaway: Economic losses from natural hazards have been growing in the U.S. and around the world. Tropical cyclones, flooding and severe convective storms have had the greatest financial loss impact. Climate change is an attributable cause of increasing losses.

Moving with their insurance feet: market exits and the rise of state FAIR plans

While premiums have increased countrywide, so have non-renewal rates as insurers cease to provide coverage to pre-existing policies.

Figure 7: 5-year average homeowners non-renewal rate by state (2019-23)



Source: Senate Budget Committee Staff Report, December 2004, "Next to Fail: The Climate-Driven Insurance Crisis Is Here—And Getting Worse" (link)

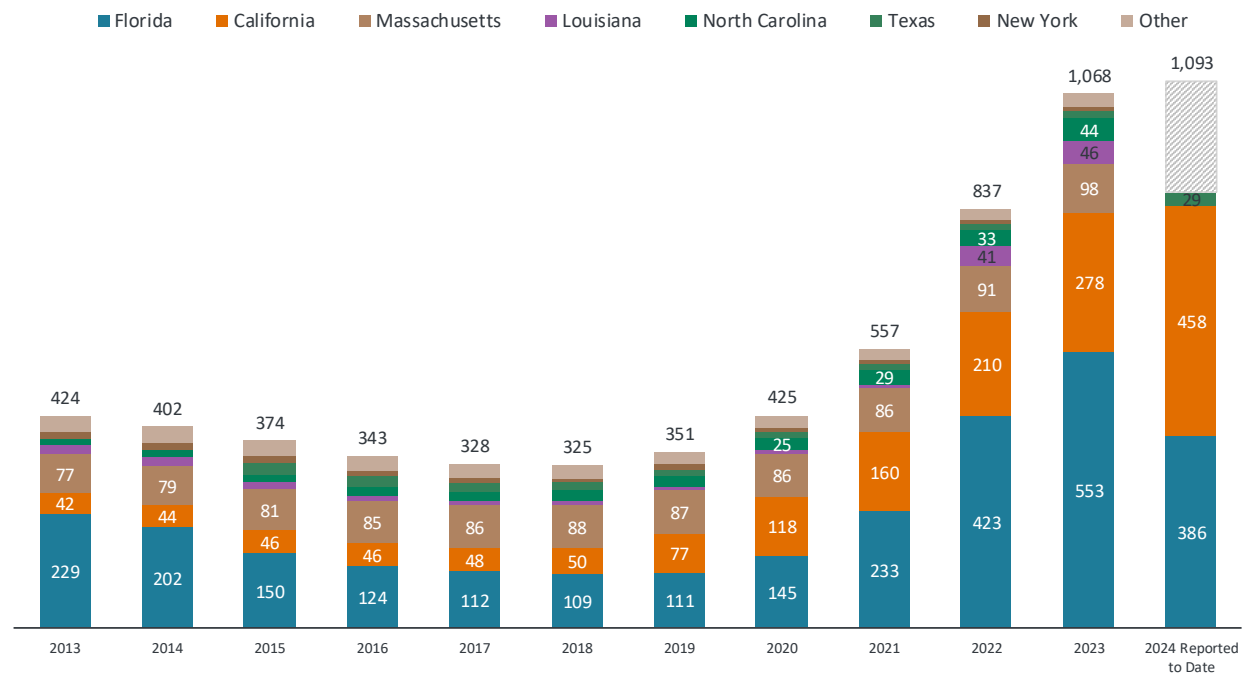
Notes: Covers homeowners policies. Based on data obtained by the committee from 23 insurance companies that collectively account for ~65% of the homeowners insurance market nationwide. "Non-renewable" applies when an insurance company chooses not to renew a policy at the end of its term. Non-renewable rate calculated as the number of non-renewals in a given year, divided by calculated policies in force at year-end.

Reviewing non-renewal data at a county level, they are concentrated in wildfire prone regions and coastal regions exposed to hurricanes and sea level rise. The top 100 counties in these risk zones are in California, Massachusetts (especially Cape Cod), Mississippi, Florida, North Carolina, New York, South Carolina, Utah, Oregon, Virginia, Rhode Island and Hawaii. Analysis from the Senate Budget Committee found greater non-renewal rates in the highest risk regions for wildfire and hurricanes.[15]

Since non-renewal may lead to policyholders receiving insurance from a different provider, we also pulled state-level Fair Access to Insurance Requirement (FAIR) plan data. These are state-mandated property insurance programs, often developed by state laws, that provide coverage to individuals and businesses after they have been denied coverage by traditional homeowners private insurers. Put another way, these are concentrated pools of high-risk state-influenced homeowners insurance policies, necessary for a mortgage. We need to mention that FAIR plan coverage is often more expensive—and coverage is more limited—than traditional private insurance, reflecting the nature of risks needing to be covered in a FAIR plan. Either a single provider writes the plans or a pool of all private insurers operating in the states supports coverage at a different rate than traditional plans. [16]

The two largest FAIR plans are well known and oft cited in the media: California and Florida. However, state plans have also been growing over the past decade, operating in 33 U.S. states in 2023.[17]

Figure 8: Annual exposure in FAIR plans ($B)

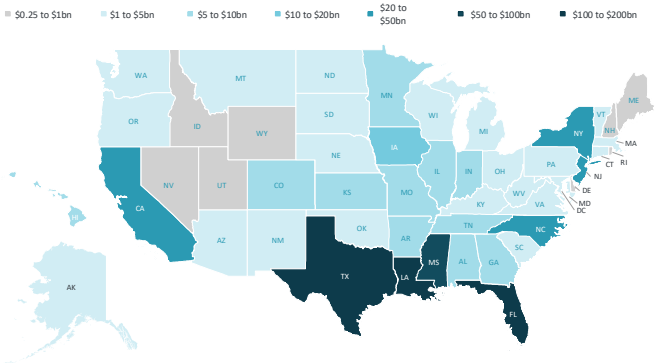


Source: Insurance Information Institute (link)

Notes: Exposure is the estimate of the aggregate value of all insurance in force in all FAIR Plans in all lines (except liability, where applicable, and crime) for 12 months ending September through December; Other includes CT, DE, DC, GA, HI, IL, IN, IA, KS, KY, MD, MI, MN, MS, MO, NJ, OH, OR, PA, RI, VA, WA, WV, and WI; 2024 YTD reflects CA as of 09/2024, FL as of 12/2024 and TX as of 06/2024. It assumes 2023 figures where states did not report, noting that Florida reported reduced exposure compared to 2023 following Hurricane Milton and Hurricane Helene

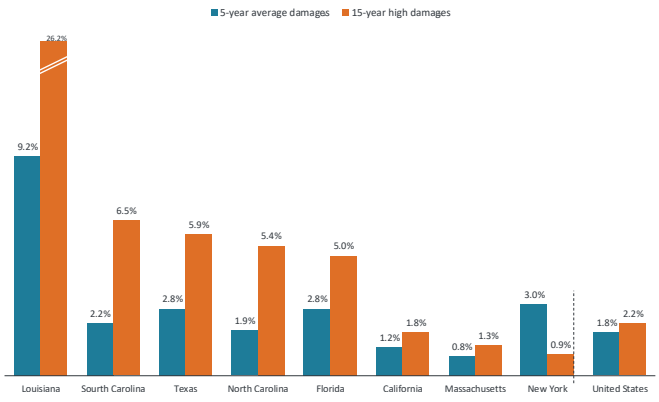
This plan growth is concerning if losses continue to grow and states are forced to subsidize them. Since not all damage is insured, local and state governments have had to pay for cleanup along with available federal disaster support. Historically, coastal states prone to hurricanes have seen the largest losses by size. Several states with large FAIR plans are historically the most vulnerable to disasters, having experienced significant damage from extreme weather and climate events, exceeding the national average when measured by damage to GDP.

Figure 9: Largest annual extreme weather and climate disaster cost over last 20 years, by state (2005-24)



Source: NOAA Billion-Dollar Weather and Climate Disasters as of Feb. 25, 2024 (link)

Figure 9: Extreme weather and climate event damage as a % of 2024 GDP



Source: Bloomberg, Bureau of Economic Analysis, Census Bureau

Notes: a Considers five-year average damage from 2020 to Dec. 24, 2024, excluding net premiums. b Consider 15-year high of damage from 2009 to 3Q 2024, GDP adjusted at annual rates

The map represents the largest single-year extreme weather and climate disaster cost over the past 20 years by state. The graph charts annual extreme weather and climate event damage as a percentage of 2024 GDP for the states with the largest FAIR plans (above $6 billion in 2023) plus the state of South Carolina. Shown for both recent five-year averaged damage as well as the 15-year damage high watermark.

This analysis quantifies the potential for significant statewide damage relative to state economies at a time when the riskiest properties are increasingly being moved into FAIR plans.

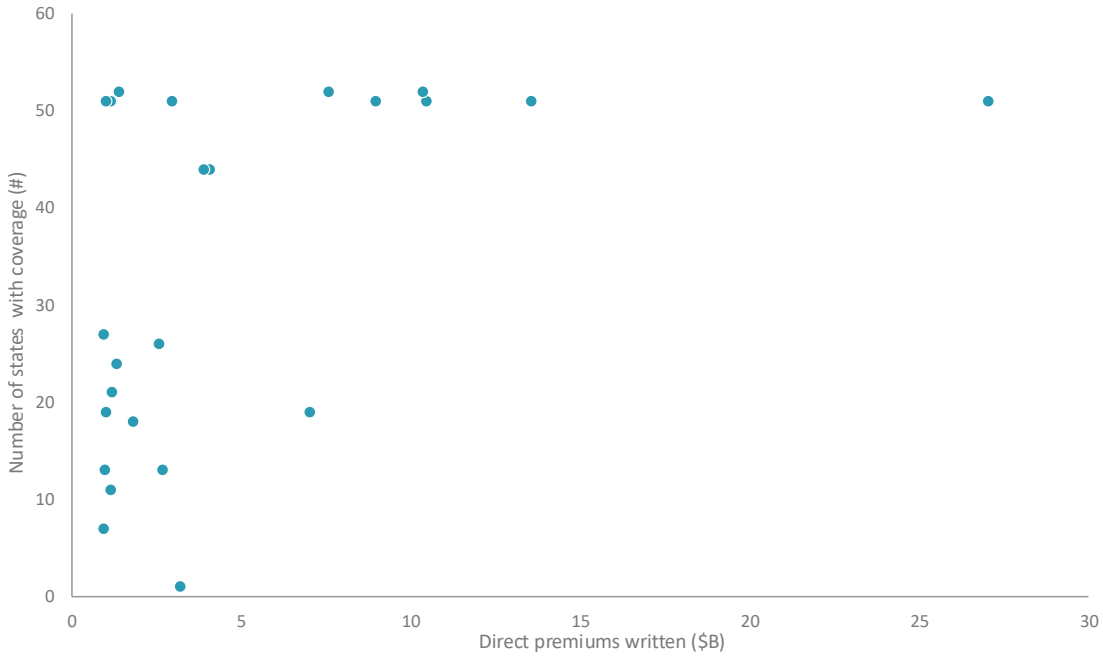
Takeaway: As private insurers pull back from high-risk areas like wildfire zones and coastal regions, state-managed FAIR plans are stepping up to fill the gap, especially in Florida, California, Massachusetts, Louisiana, North Carolina, Texas and New York. These state-managed plans act as a backstop when traditional private coverage becomes unwritable due to underlying risks and market-distorting state regulation. After historic one-off events like the Northridge earthquake and Hurricane Andrew, FAIR plans expanded, but then lower loss years and resilience measures helped them decline as private insurers reentered the market. The expansion of FAIR plans is a red flag for state private market insurance health but can be reversed.

A caveat on rising premiums: an incomplete measure of physical risk price

Many states regulate rate increases, requiring insurers to file proposed changes and state approval from the Department of Insurance after either multiple revisions or public hearings. This leads to a premium priced by negotiation with elected regulators and/or the public, versus a pure formula. For example, Proposition 103 in California requires a hearing above a 7% increase, New York requires insurers to provide detailed information when proposing increases above 10%, and Oklahoma requires state board approval. Proposed premium increases are not guaranteed. For example, the insurance commissioner for California rejected the first request by State Farm for a premium increase after the 2025 Los Angeles wildfires, but recently provided preliminary approval for an average 22% premium increase for homeowners on the condition that policy cancellations are paused and the insurer will explain the increases at a public hearing in April. [18]

If an insurer is multistate, it can pool risk across all states to reflect total risk and adjust premiums across a broader set of states. The largest insurers also happen to be the only nationwide homeowner policy providers providing insurance in all 50 states plus Washington D.C. and Puerto Rico.

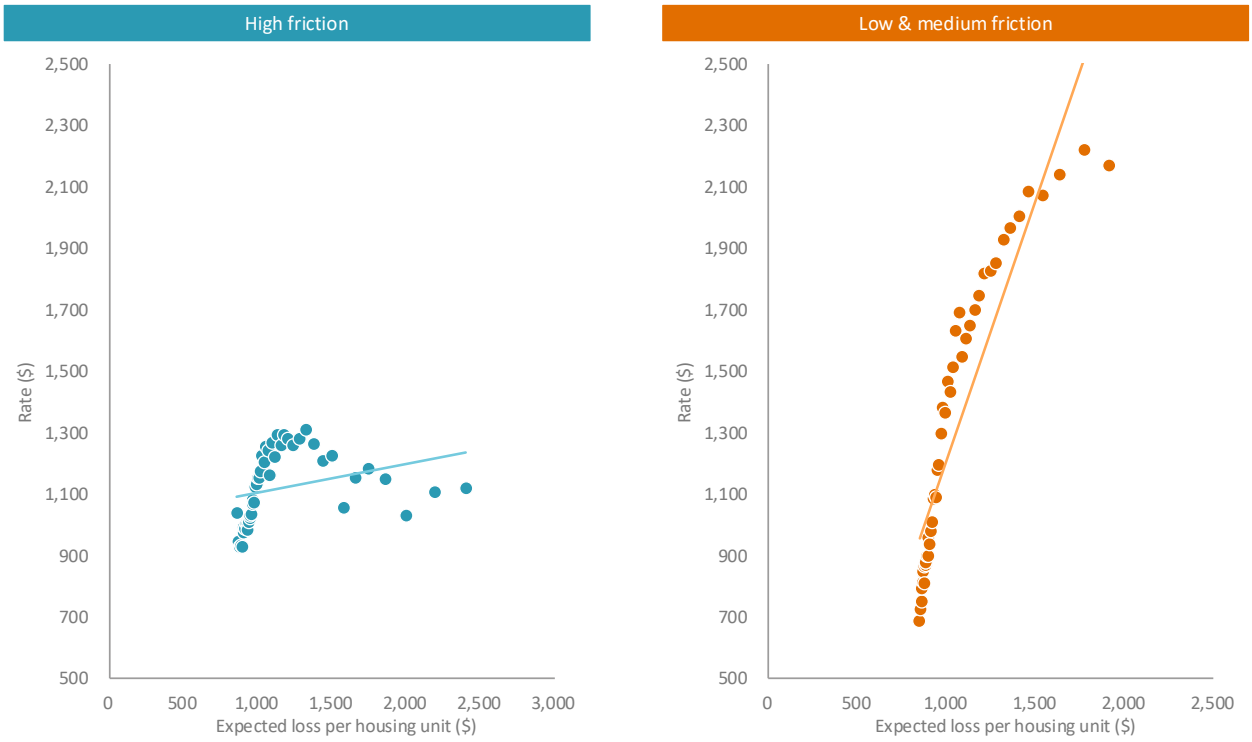
Figure 10: Number of U.S. states covered by top 25 insurers, ranked by 2023 direct premiums written



Source: National Association of Insurance Commissioners, August 2024, "2023 Market Share Reports for Property/Casualty Groups and Companies by State and Countrywide" (link); Company websites

Notes: Select insurers cover up to the 50 states, Washington, D.C., and Puerto Rico; $153 billion is equal to 78% of total U.S. homeowners insurance market share based on direct premiums written. There are 125 homeowners insurers operating in the United States reporting to the NAIC.

Figure 11: Expected loss per housing unit versus homeowners rates



Source: Federal Reserve, "Pricing of Climate Risk Insurance: Regulation and Cross-Subsidies," 2022 (link)

Note: Friction is based on the level of restriction of insurance premium regulations and can be interpreted as the fraction of the target rate change that insurers do not receive in a state on average.

The graphics indicate annual insurance rates and annual expected losses per housing unit at the ZIP code level across states that experience high friction and low to medium friction for premium increases. Friction is based on the level of restriction of insurance premium regulations and can be interpreted as the fraction of the target rate change that insurers do not receive in a state on average. High friction signals a highly regulated (and therefore suppressed) premium market. Rates for 2019 policies with $300,000 dwelling coverage. Regulation level calculated from policy changes in 2009-19. Adapted from Oh et al. 2002. https://doi.org/10.17016/FEDS.2022.064

Uneven state regulation leads to systematic greater increases on policy rates in less restrictive states.[19] Put another way, insurers cross-subsidize across states, driven by uneven state regulatory behavior, not pure risk. This can distort the connection between physical risk and premiums at individual locations relative to other similar locations across state lines. Additionally, insurers may also subsidize across products as well, further complicating the ability to quantify local risk from homeowners premiums alone.

As the understanding of physical risk grows, either through extreme events occurring or an adjustment in the cost or availability of risk-influenced financial products like insurance premiums or mortgages, property values are likely to reprice. Homeowners insurance premiums have a historic inverse relationship to property values. Research in Florida has shown that a 10% increase in insurance premiums leads to at least a 1.4% decrease in property values, with the effect more pronounced for mortgage-financed buyers.[20] If premiums adjust to reflect local risks, property values may follow. This repricing will rebalance property values in low- versus high-risk locations, amending available budgets for municipalities reliant on property taxes. To size this adjustment, for flood risk alone, analysis suggests residential properties in the U.S., heavily concentrated in coastal counties, are overvalued today by $121 billion to $237 billion. [21] Climate risk firm FirstStreet recently published a macroeconomic projection of what this could look like over the next 30 years, finding a $1.47 trillion reduction in unadjusted real estate value across multiple perils due to climate risk. [22]

Takeaway: Larger insurers can pool risk across states, leading to cross-subsidization. However, this distorts the link between local physical risk and premiums. In highly regulated states, prices are low compared with the risks, while in lower regulated states, prices are high compared with the risks. Due to the inverse relationship between insurance premiums and property values, recalibrating premiums to local risk in highly regulated states could affect both property taxes and local municipal government budgets.

Escaping the doom loop of rising costs and private sector exits

Without effective premium management, entire regions are in danger of becoming private-market uninsurable if risks continue to grow. There are a few ways to reduce the rate of rising premiums and ever concentrating risks.

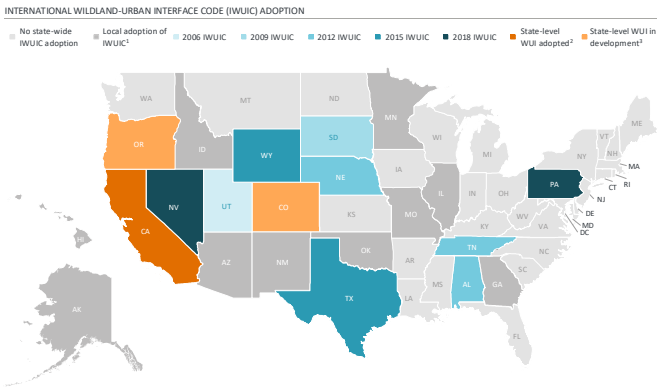
Federal and state levers: Inflation is managed at the federal level via monetary policy and trade policy for building materials. Some states have managed construction cost inflation by also reforming state insurance policies to reduce post-disaster construction fraud.[23] Elected state regulators only have a financial incentive to change restrictive pricing policies that maintain lower premiums for their residents when private insurers exit the market. Those with expanding FAIR plans face deciding how growing risks will be managed. They will have to decide if they want to bring back private insurers by lowering restrictions (deregulation) and therefore raising private market premiums for their constituents or continue to support a growing pool of the riskiest properties. Or drop FAIR plans without state deregulation, which due to mortgage requirements, will lead to default and loss of mortgage access for new properties. This will likely also result in property devaluation. Another pathway is for states to help subsidize the risks, by putting equity in the FAIR plans or paying for a percentage of reinsurance costs. However, this results in states taking on financial exposure to FAIR plans that they currently manage, but do not fund.

Reduce vulnerability: The built environment can become more resilient to extreme weather and climate events. This can be achieved through measures such as implementing building codes for new construction, retrofitting existing homes to new standards and improving community-scale disaster management to lower the risk of loss to everyone (e.g., flood waters and fire). While 75% of people surveyed assume their greatest risk to their homes is related to extreme weather, only 50% have taken any action to reduce their risk.[24]

Major non-climate events have previously led to both national and state-level vulnerability reductions. For example, after major earthquakes in California in 1989 and 1994, building codes were updated,[25] regions at risk were mapped based on damage and new technologies,[26] and the state made funding available to retrofit buildings if individuals were unable to pay.[27] Private insurers still provide insurance in California after these changes.

Reducing vulnerability will take time; new codes are implemented either for new construction or additionally through retrofitting existing structures. And code updates have to be adopted either locally or at the state level. Typically, codes are adopted after major events despite known underlying risks a priori. In the U.S., there is a discrepancy between known wildfire risk and wildfire code adoption.

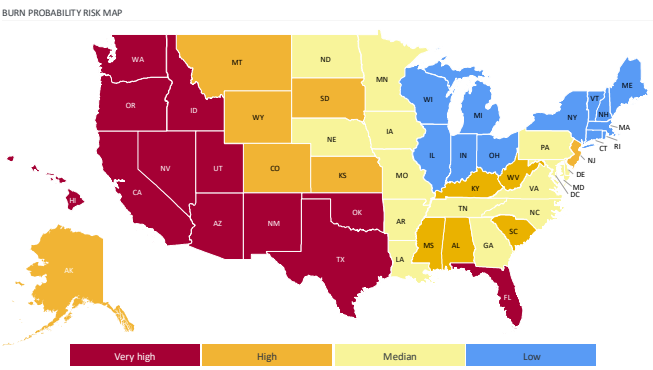
Figure 12: International wildland-urban interface code (IWUIC) adoption



Source: International Code Council as of 2/11/2025 (link)

Notes: Local adoption is defined as state bodies adopting the IWUIC codes. California has its own set of WUI under California Building Code Chapter 7A, in effect as of 2008. Oregon (Senate Bill 80) and Colorado (Senate Bill 23-166) have passed bills to develop WUIs but have yet to implement them.

Figure 12: Burn probability risk map



Each risk category corresponds to roughly quartiles of burn probability risk (wildfire likelihood). For example, low risk states include states with probability risk percentiles from 0-25%, ranked against the other states. The burn probability percentiles were pulled from https://wildfirerisk.org/. Information on their methods on calculating risk can be found at https://wildfirerisk.org/about/methods/.

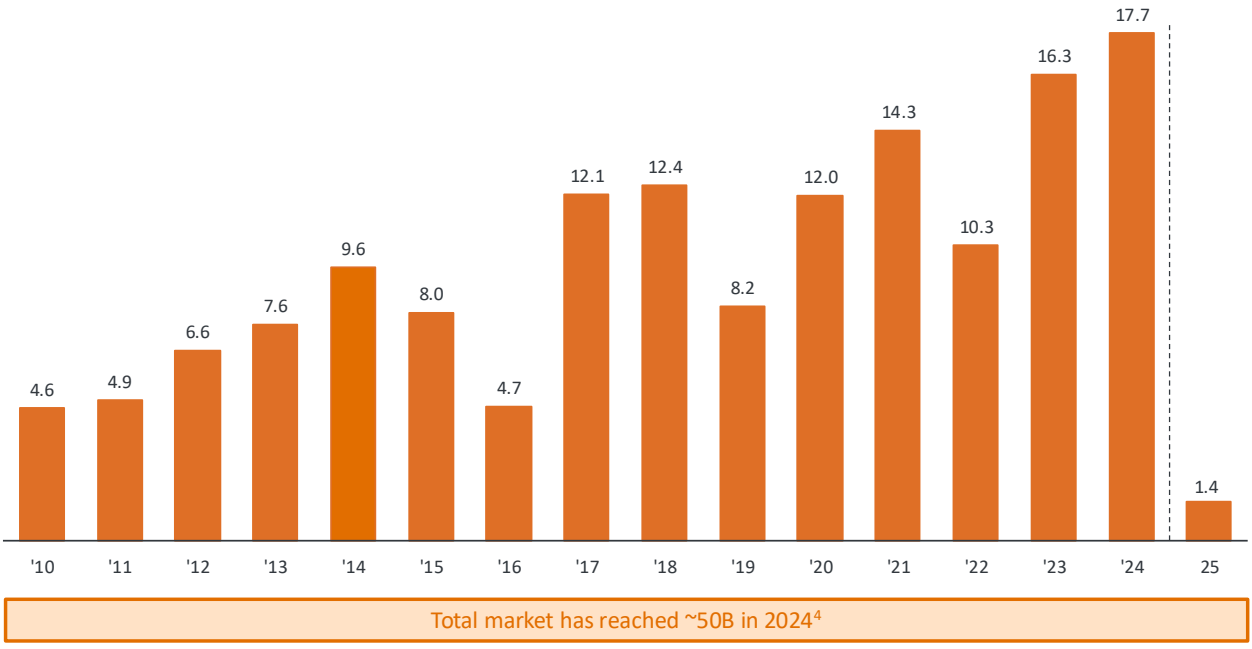
Building code adoption to prevent wildfire spread versus relative wildfire risk to existing and potential structures in each state are based on national percentile rankings. Note: Low risk does not mean no wildfire. Combine drought and high dry winds, and wildfire can develop nearly anywhere.

The International Code Council updates building codes to reduce the spread of wildfire. In the U.S., those codes are adopted by states on their own timelines, and often after major events. As of writing, states with recent major wildfires (California, Oregon and Colorado) have written their own local codes for risk, whereas a select group of other states has adopted the international codes. Adoption doesn't necessarily mean that all buildings are to code (i.e., old buildings are retrofitted), just that new buildings have to meet the new code levels. The age of the built environment matters; at present, ~60% of U.S. commercial buildings are over 35 years old.[28]

Insurance innovation and risk pooling: In the past, insurance innovation has resulted from new or growing risks. They take two forms—bringing together larger pools of differentiated risks and financial innovation.

Further consolidation may occur between single or sub-national insurers (Figure 10) to diversify geographic exposure and reduce the risk of a single event affecting the majority of policies. Traditional reinsurance can also do the same, bringing together sub-national risks. Access to reinsurance can affect the private insurance market, as the risk transfer from insurers allows them to write additional policies.

Figure 13: Catastrophe (CAT) bond issuance over time ($B)

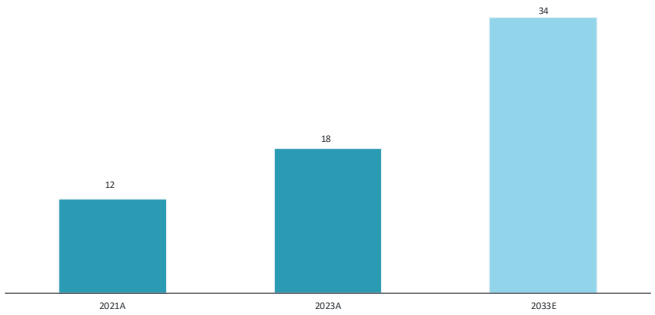


Source: Artemis as of Feb. 3, 2025

Catastrophe bond issuances have been growing in recent decades. These bonds can consolidate differentiated property and casualty risk exposure across multiple states and perils, transferring risk from insurers to investors for non-economic, cycle-correlated returns. If damage occurs during their ~three-year lifetime, the principal and interest may be reduced.

Following major events, reinsurance sidecars also emerge when insurers need both capital and to restructure existing risk pools. They are a financial entity of specific underwritten policies, moving exposure to the premiums and losses from insurers to investors.

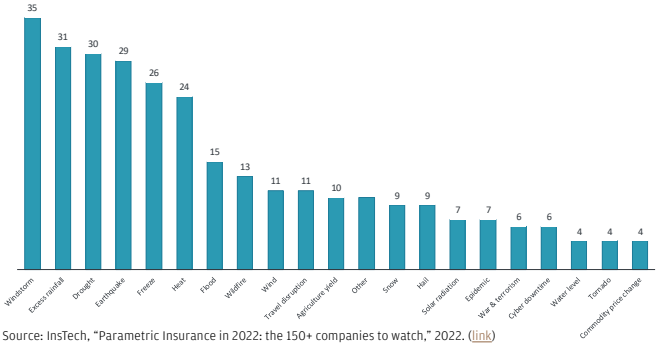
Figure 14: Parametric insurance market size (GWP, $b)



Source: Allied Market Research, August 2024

Note: Parametric insurance uses predetermined, objective markers to determine payouts in the event of a specific triggering event. Parametric insurance is often used to bridge the gap for difficult-to-cover risks such as natural catastrophes. The product has evolved to cover a variety of risks such as agricultural yield, travel delays and business disruptions.

Figure 14: Top triggers, ranked by number of parametric underwriters



Source: InsTech, "Parametric Insurance in 2022: the 150+ companies to watch," 2022. (link)

Note: Sample set includes 84 parametric underwriters that disclose triggers covered. "Other" includes volcano, tsunami, soil moisture, flood extent, footfall, transactions, guest and passenger volumes, and reputation. Nineteen underwriters noted they cover "other" triggers, but did not provide detail on what this category includes.

New forms of products are also emerging to address growing extreme weather and climate damage. Parametric, otherwise known as index-based, insurance is one such product that is triggered by a specific event to pay out, versus traditional insurance that reimburses losses. While it does not manage homeowners insurance premiums, it provides targeted peril coverage with a formula ("index-based"). And it has recently been used by Fremont, California to provide capital post flooding disaster.[29] Similarly, new community insurance and blended finance insurance structures are also being developed by non-profits.[30] Excess and surplus insurance, a type of insurance, has also grown in recent years for specific perils, especially in Florida, California and Louisiana for fire, earthquake, flood and ocean marine insurance. Future total premiums in the U.S. are estimated to be $126 billion by 2027.[31]

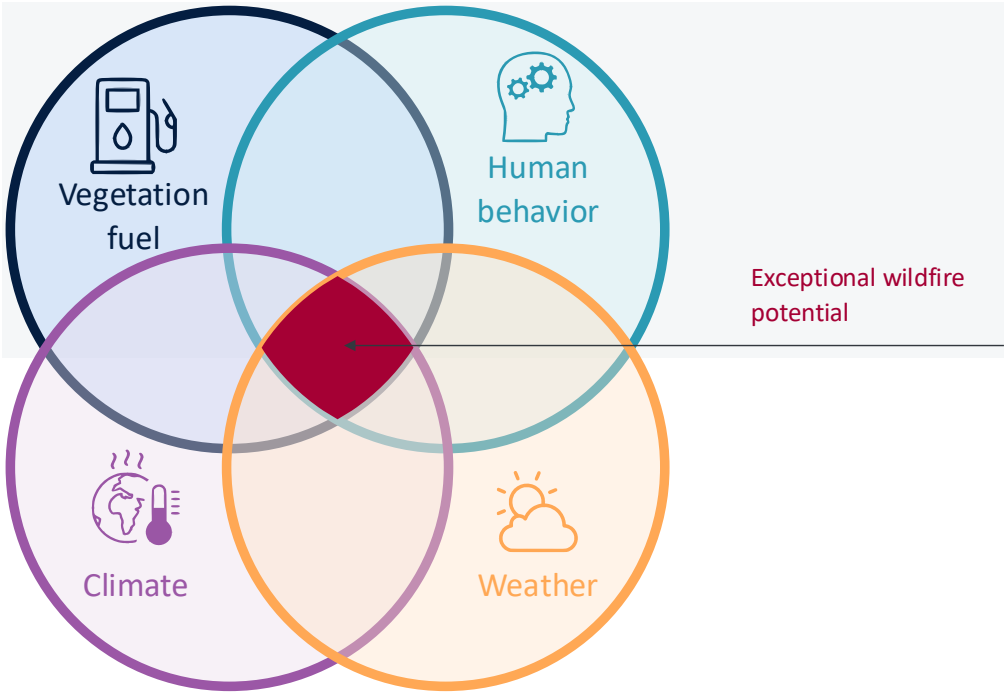
Takeaway: Regulatory decisions at the state and federal levels can help or hinder this market. Reducing vulnerability through updated building codes, retrofitting and improved disaster management is crucial to reducing the probability of loss. However, these measures take time and capital to implement and require adoption at local or state level, often in response to major events. New insurance products will likely develop to either pool multistate risks or provide new coverage for quantifiable risk.

Case Study
The January 2025 Los Angeles Wildfires: Known vulnerability confronted with exceptional extreme fire conditions

Wildfires broke out in Los Angeles starting on Jan. 7, 2025. While wildfires are not rare in Southern California, the scale and timing of these fires were unusual. The Eaton and Palisades fire burned over 14,000 and 23,000 acres, respectively, and are ranked as the second and third most destructive wildfires in California history, destroying over 16,000 structures.[32] Property losses from these two fires alone are estimated to be up to $45 billion.[33] It raises the questions: How should we think about present and future risk? How will this affect insurability?

Wildfires break out due to a confluence of factors.

Intersecting conditions for extreme wildfire

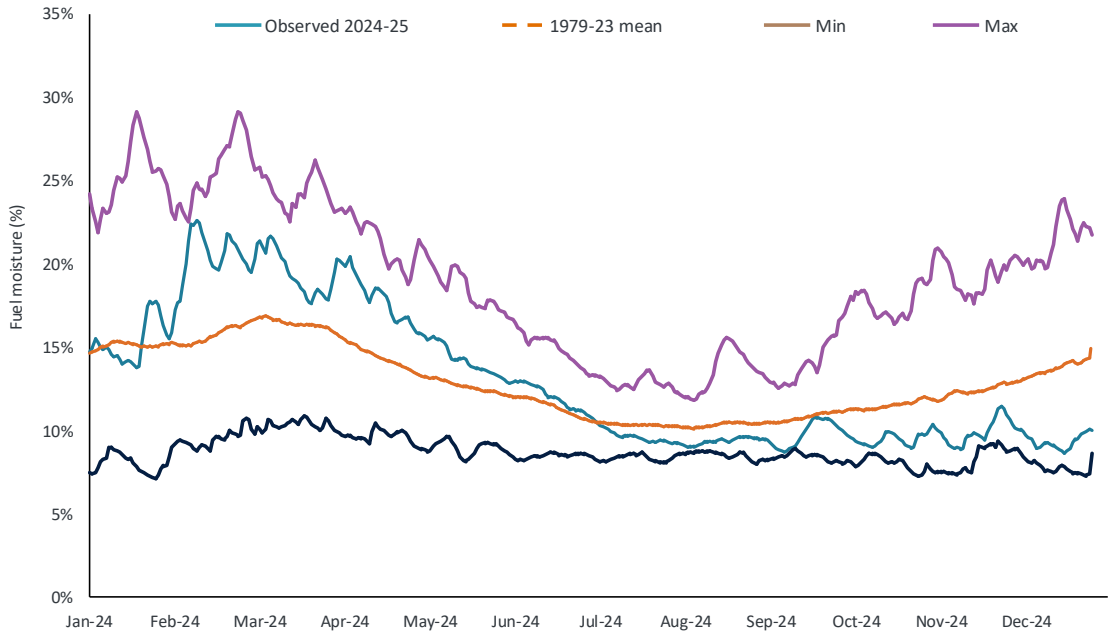


Human behavior: These communities were in known high-risk wildfire areas due to their position along the wildlife-urban interface (where buildings meet wilderness areas) and old building age (they were built to previous codes without modern wildfire protection practices). Suspected human activities also led to fire ignition.

Vegetation fuel: The 2022-23 wet season was among the top 10 wettest on record and 2023-24 was wetter than average. In Mediterranean climates like Los Angeles, vegetation grows rapidly under these conditions.[34] There was ample shrubbery available for ignition in the wilderness.

Climate: Summer 2024 was hot (third warmest on record), drying out vegetation. The wet season typically starts around October, but much of the region had no measurable precipitation.[35] This led to exceptionally dry vegetation before the fire.

Figure 15: Dryness of vegetation relative to average and wettest/driest previous measurement



Source: Adapted from Madakumbura G, et al., "Climate Change a Factor in Unprecedented LA Fires," January 13, 2025. https://sustainablela.ucla.edu/2025lawildfires

Weather: In Los Angeles, exceptional wind speeds (even hurricane strength over 74 mph) can occur between October through March, bringing dry hot air from the mountain deserts toward the coast. These events allow wildfires to spread rapidly if dry fuel is available and ignition occurs. When the fires broke out, they were in the 87th to 98.9th percentile for these desert wind events.[36]

Early research by academics has looked at the non-human factors of wildfire risk to quantify if they had been made worse due to climate change, finding:

- Climate change increased the measured dryness of vegetation by roughly a quarter over a world without climate change[37]
- The likelihood of the extreme fire weather conditions (i.e., the meteorological conditions conducive to fire comprised temperature, humidity, wind speed and precipitation over the preceding weeks and days) was 35% more likely than in a 1.3 degree Celsius cooler world[38]

There are real decisions to be made now about how to rebuild the region to be resilient to present and future wildfire risk. Given expected continued future climate change until emissions go to zero, only fuels and human activities can be managed in the near term.

- **Vegetation fuel:** In Los Angeles, the wildlands adjacent to homes are shrublands. These are not forests; their management or prescribed burns do not stop wildfires in this region. Shrublands naturally experience periodic wildfire.[39]
- **Human behavior:** New construction for wildfire suppression, retrofits for older buildings (that escaped the fire) and general urban planning can assist in avoiding future wildfire spread across buildings. Planned activities to suppress human ignitions on extreme fire weather days is also needed to assist in avoiding future wildfires from even starting. These resilience measures can lower the risk of future fires.

After years of review, in January 2025, state regulators in California also updated allowable pricing methodologies for insurance to include catastrophe models[40] to price wildfire exposure. The state was moving toward relaxing state market regulation to keep private insurers in California. Actions after the wildfire by Los Angeles and the state will be watched closely to determine if risks can be lowered and future premiums priced to reflect local risk.

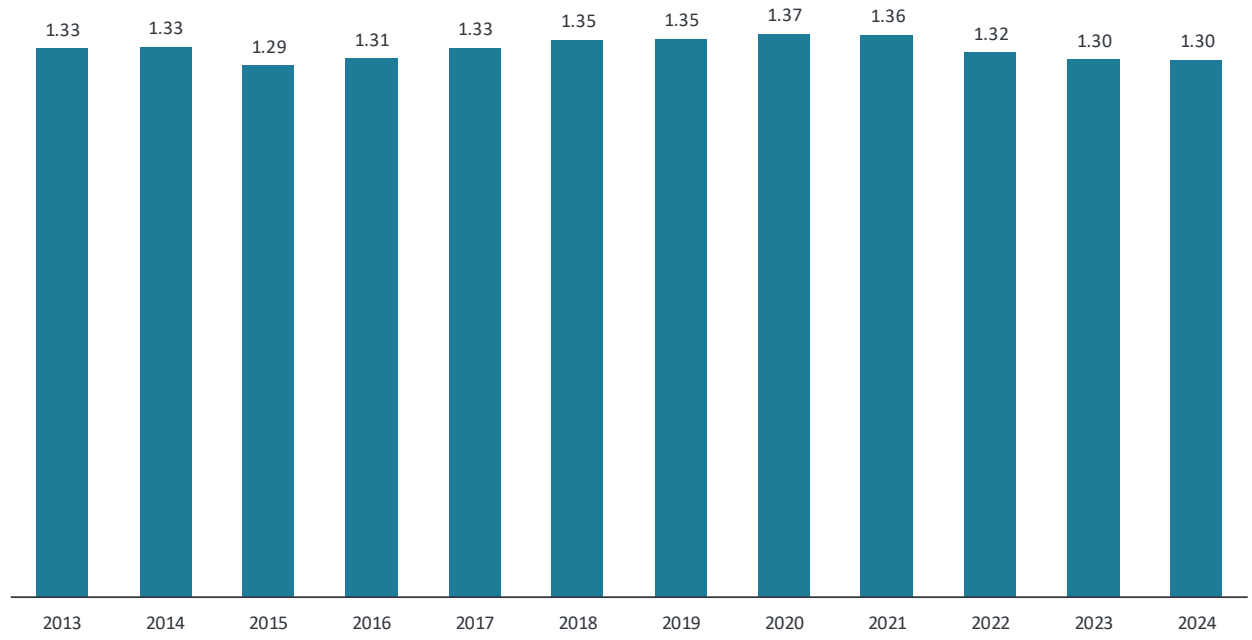
At writing, State Farm is still seeking a premium increase to reflect the risk of continuing to operate in California and has received preliminary approval to do so.[41] The state faces a tough choice: accept the increase, which may affect property values, or reject the increase and have another private insurer exit the market, leading to more property owners seeking insurance in the FAIR plan.

Takeaway: While climate change may have exacerbated the risks of an extreme Los Angeles wildfire, the built environment was not designed to stop it. There is now a choice to reduce the risk of future wildfire spread through investing in resilience: rebuilding and in retrofitting existing buildings to be hardened against fire. And creating plans to suppress ignition sources on future extreme wildfire-conductive weather days. State insurance regulatory decisions over premiums and resilience can either hasten the exit of private market participants or enable their return, as regulatory reforms did after the 1994 Northridge earthquake in Los Angeles.

The curve balls to look out for

Federal Emergency Management Agency (FEMA): The Trump administration has established a 20-member council to provide a "a full-scale review [of FEMA], by individuals highly experienced at effective disaster response and recovery, who shall recommend to the President improvements or structural changes to promote the national interest and enable national resilience."[42] The agency handles both emergency response after a disaster and emergency preparedness and resilience measures before disasters take place. It also manages the National Flood Insurance Program (NFIP), established after insurers went bankrupt and stopped providing private market insurance after a series of major floods in the 1960s. The current coverage of NFIP is $1.3 trillion, but it is also chronically underfunded and in debt. Changes to FEMA could affect federal disaster relief and emergency assistance, pre-disaster planning and preparedness, private market insurance, and mortgages. States and local governments could have to take on more risk and recovery costs than previously. The review council is due to hold its first meeting within 90 days from his order and to submit a report to the president by Oct. 21, 2025.[43] Additional policy guidance has also been released, directing "State and local governments and individuals [to] play a more active and significant role in national resilience and preparedness."[44] At this time it is unclear what the outcome will be on insurance, but efficient resilience planning is clearly an objective.

Figure 16: Total NFIP coverage over time ($Tn)



Source: FEMA as of Feb. 3, 2025, Considers total coverage of valid policies as on Dec. 31, 2024

Uninsurable geographies: As long as climate change occurs, extreme events are projected to amplify, and other changes (e.g., sea level rise) will continue to increase. Some regions may become uninsurable in their current forms no matter the efforts to lower risk. For example, some coastal regions will become uninsurable due to rising seas and coastal erosion swallowing dry land. This isn't theoretical; the expected near-term risk of loss from extreme coastal flooding events (i.e., dropping policies in high hurricane risk regions such as Cape Cod) appears to already be leading to loss of one-year insurance policies.

Final word

In conclusion, the insurance market is navigating a complex landscape shaped by inflation, climate change and state regulations. While climate change is not the only factor affecting the insurance market, it is a notable and growing reason why insurance costs are going up. The interplay between state regulations and climate change risk is distorting market dynamics, prompting private insurers to reconsider their market presence. This has led to increased reliance on state-run FAIR plans as private insurers exit, particularly in high-risk areas being made worse by climate change.

These plans, while providing necessary coverage, also concentrate exposure to a presently growing set of high-risk properties. Consumers implicitly bear both the cost of climate change and higher risk properties through state-wide assessments on all homeowners insurance premiums to maintain FAIR plans. Consumers may also have less coverage in a FAIR plan than in a competitive private market homeowners insurance contract. Investment in resilience could lower risk exposure, manage premium increases, and maintain a private market. But only when paired with appropriate state regulation to avoid a fragile distorted market. Policymakers can't fight inevitable future insurance losses through FAIR plans alone.

To address homeowners market challenges, a multifaceted approach is required. This includes federal action to manage inflation, state regulatory reforms to balance premium pricing with risk, investments in resilience to reduce future losses, and innovative insurance products to better pool and manage risks. Implemented together, the market can weather these storms and emerge stronger, more resilient and better prepared for the future.

FOOTNOTE

[1] https://emergency.lacity.gov/blog/30-years-northridge-quake#:~:text=Northridge%20was%2C%20as%20of%20 1994,estimated%20%2435%20billion%20in%20damage.

[2] https://www.iii.org/article/hurricane-andrew-fact-sheet

[3] As of 3Q 2024, Federal Reserve.

[4] Trulia report from Oct. 10, 2016.

[5] Measured by the Case-Shiller U.S. National Home Price Index. Tracks the purchase price of existing homes.

[6] Loss analysis does not explicitly incorporate climate change, although many insurance companies are working to incorporate more climate information. Historically, these models have used historic loss information to quantify the risk of future loss, which can be limiting as climate change alters the magnitude and probability of extreme events.

[7] For example: https://www.ajg.com/gallagherre/-/media/files/gallagher/gallagherre/news-and-insights/2025/natural-catastrophe-and-climate-report-2025.pdf

[8] AON Climate and Catastrophe Insight Report, 2024. https://www.aon.com/en/insights/reports/climate-and-catastrophe-report

[9] Ibid.

[10] Measured by a change in the number of billion-dollar disasters happening annually. In the past 10 years, there were 19 billion-dollar disasters annually. From 1980-99, there was an average of 4.5 per year. NOAA National Centers for Environmental Information (NCEI) U.S. Billion-Dollar Weather and Climate Disasters (2025). https://www.ncei.noaa.gov/access/billions/, DOI: 10.25921/stkw-7w73

[11] Severe convective storms (SCS) include tornadoes, large hail events, extreme winds, lightning and excessive rainfall associated with types of thunderstorms. SCS develop when warm, humid air rises rapidly from the ground (or any part of the earth's surface, including lakes or ocean) into cooler upper air in the troposphere (lower part of the atmosphere up to ~12km). This causes water vapor to condense into towering clouds, forming thunderstorms, lightning, and tornadoes.

[12] National Academies of Sciences, Engineering, and Medicine. 2016. Attribution of Extreme Weather Events in the Context of Climate Change. Washington, DC: The National Academies Press. https://doi.org/10.17226/21852

[13] Gensini, V.A., Ashley, W.S., Michaelis, A.C. et al. Hailstone size dichotomy in a warming climate. npj Clim Atmos Sci 7, 185 (2024). https://doi.org/10.1038/s41612-024-00728-9

[14] National Academies of Sciences, Engineering, and Medicine. 2016. Attribution of Extreme Weather Events in the Context of Climate Change. Washington, DC: The National Academies Press. https://doi.org/10.17226/21852

[15] https://www.budget.senate.gov/imo/media/doc/next_to_fall_the_climate-driven_insurance_crisis_is_here__and_getting_worse.pdf

[16] https://content.naic.org/insurance-topics/fair-access-to-insurance-requirements-plans

[17] https://www.iii.org/table-archive/20793

[18] https://newsroom.statefarm.com/state-farm-general-insurance-company-update-on-california-2-2025/

[19] Oh, Sangmin, Ishita Sen, and Ana-Maria Tenekedjieva. "Pricing of climate risk insurance: Regulation and cross-subsidies," Finance and Economics Discussion Series 2022-064. Washington: Board of Governors of the Federal Reserve System, https://doi.org/10.17016/FEDS.2022.064

[20] Eastman, Evan and Kim, Kyeonghee and Zhou, Tingyu, Homeowners Insurance and Housing Prices (June 3, 2024). Available at SSRN: https://ssrn.com/abstract=4852702 or http://dx.doi.org/10.2139/ssrn.4852702

[21] Gourevitch, J.D., Kousky, C., Liao, Y. et al. Unpriced climate risk and the potential consequences of overvaluation in US housing markets. Nat. Clim. Chang. 13, 250–257 (2023). https://doi.org/10.1038/s41558-023-01594-8

[22] First Street, 12th National Risk Assessment: Property Prices in Peril. (2025). https://firststreet.org/research-library/property-prices-in-peril

[23] Senate Bill 2A, Florida. https://www.flsenate.gov/Session/Bill/2022A/2A

[24] National Association of Insurance Commissioners, "Reduce your risk against climate-related losses." https://content.naic.org/article/reduce-your-risk-against-climate-related-losses

[25] https://www.fema.gov/case-study/building-code-lessons-1994-northridge-earthquake

FOOTNOTE

[26] https://www.conservation.ca.gov/cgs/sh/program#:~:text=The%20Seismic%20Hazards%20Program%20delineates,

earthquake%20damage%20and%20loss%20estimates.

[27] https://www.californiaresidentialmitigationprogram.com/our-seismic-retrofit-programs/see-if-you-qualify/ebb-supplemental-grant-for-income-eligible-homeowners

[28] U.S. EIA Commercial Buildings Energy Consumption Survey 2018 (CBECS)

[29] https://www.insurancejournal.com/news/west/2025/03/11/815122.htm

[30] See: https://www.insuranceforgood.org/resilience

[31] https://www.iii.org/press-release/excess-and-surplus-lines-see-growth-in-recent-years-due-to-admitted-markets-pulling-back-or-exiting-markets-triple-i-092324

[32] Measured by CalFire.

[33] Measured by Corelogic, https://www.corelogic.com/intelligence/dry-conditions-santa-ana-winds-fuel-southern-california-wildfires/

[34] https://www.climate.gov/news-features/event-tracker/weather-and-climate-influences-january-2025-fires-around-los-angeles#:~:text=A%20preliminary%20attribution%20analysis%20concluded,more%20likely%20and%20more%20extreme.

[35] Madakumbura G, et al., "Climate Change a Factor in Unprecedented LA Fires," Jan. 13, 2025. https://sustainablela.ucla.edu/2025lawildfires

[36] Ibid.

[37] Ibid.

[38] https://www.worldweatherattribution.org/climate-change-increased-the-likelihood-of-wildfire-disaster-in-highly-exposed-los-angeles-area/

[39] https://sustainablela.ucla.edu/fuels-management-jan-2025

[40] https://www.insurance.ca.gov/0400-news/0100-press-releases/2023/release051-2023.cfm

[41] https://newsroom.statefarm.com/state-farm-general-insurance-company-update-on-california-2-2025/

[42] https://www.whitehouse.gov/presidential-actions/2025/01/council-to-assess-the-federal-emergency-management-agency/

[43] Ibid.

[44] https://www.whitehouse.gov/presidential-actions/2025/03/test/

DISCLAIMER

This material (including any commentary, data, trends, observations or the like) has been prepared by certain personnel of JPMorgan Chase & Co. It has not been reviewed, endorsed or otherwise approved by, and is not a work product of, any research department of JPMorgan Chase & Co. and/or its affiliates (collectively, "JPMorgan Chase", "The firm", "we", "our", or "us"). Any views or opinions expressed herein are solely those of the individual author and may differ from the views and opinions expressed by other departments or divisions of JPMorgan Chase.

The information provided in this document reflects its author's understanding and approach to climate change as at the date of this document and is subject to change without notice. We do not undertake to update any of such information in this document. Any and all transactions (including potential transactions) presented herein are for illustration purposes only. Neither JPMorgan Chase nor any of its directors, officers, employees, or agents shall incur any responsibility or liability whatsoever to any person or entity with respect to the contents of any matters referred herein, or discussed as a result of, this material. This material is for general information only and is not intended to be comprehensive and does not constitute investment, legal, or tax advice and it is not intended as an offer or solicitation for the purchase or sale of any financial instrument or as an official confirmation of any transaction or a recommendation for any investment product or strategy. The opinions and estimates herein constitute the author's judgment and should be regarded as indicative, preliminary and for illustrative purposes only.

No reports, documents or websites that are cited or referred to in this document shall be deemed to form part of this document. Information contained in this document has been obtained from sources, including those publicly available, believed to be reliable, but no representation or warranty is made by the document's authors or JPMorgan Chase as to the quality, completeness, accuracy, fitness for a particular purpose or non-infringement of such information. Sources of third-party information referred to herein retain all rights with respect to such data and use of such data by JPMorgan Chase herein shall not be deemed to grant a license to any third party. In no event shall JPMorgan Chase be liable (whether in contract, tort, equity or otherwise) for any use by any party of, for any decision made or action taken by any party in reliance upon, or for any inaccuracies or errors in, or omissions from, the information contained herein and such information may not be relied upon by you in evaluating the merits of participating in any transaction. Numbers in various tables may not sum due to rounding. This material does not and should not be deemed to constitute an advertisement or marketing of the Firm's products and/or services or an advertisement to the public. The use of any third-party trademarks or brand names is for informational purposes only and does not imply an endorsement by JPMorgan Chase or that such trademark owner has authorized JPMorgan Chase to promote its products or services.

RESTRICTED DISTRIBUTION: This material is distributed by the relevant JPMorgan Chase entities that possess the necessary licenses to distribute the material in the respective countries. This material and statements made herein are proprietary and confidential to JPMorgan Chase and are for your personal use only and are not intended to be legally binding. Any distribution, copy, reprints and/or forward to others is strictly prohibited.

https://www.jpmorgan.com/disclosures

J.P.Morgan