

Climate change: Evolving risk and regulation

State of the climate

In 2023 we have seen record-breaking temperatures, updated projections on the alarming pace of climate change and a growing number of severe events. The July global surface temperature was 1.12°C (2.02°F) above the 20th-century average, making it the warmest July on record and likely the warmest month for the planet since 1850. With the forecasted strengthening of El Niño, multiple outlooks have suggested at least 45% probability of 2023 becoming the warmest year on record.

Climate change has significant impacts beyond increasing global temperature, and its effect on natural catastrophe activity can manifest in extreme events for multiple perils:

- **Tropical Cyclone:** Since mid-March, North Atlantic sea-surface temperatures (SSTs) have exceeded daily records every day. North Atlantic SSTs eclipsed 25°C for the first time on record, while global SSTs surpassed 21°C for the first time. Warmer SSTs mean stronger and wetter tropical cyclones are possible. Even with a strengthening El Niño (which typically suppresses hurricane activity), the ongoing North Atlantic hurricane season is projected to be more active than usual.
- **Flood:** The North Island of New Zealand experienced widespread flood loss after Tropical Cyclone Gabrielle in February. In July, the remnants of Typhoon Doksuri brought extensive flooding in China. In the same month, flooding across numerous Vermont and New Hampshire towns made headlines. Warmer air holds more moisture, adding to the risk of storms bringing heavier precipitation.
- **Wildfire:** After experiencing its warmest May and June on record, Canada also had its warmest July, further boosting a record wildfire season. From 1 January to 31 July,

accumulated carbon emissions from wildfires across Canada totalled 290 megatons, already more than double the previous record for an entire year. According to a recent study, climate change more than doubled the likelihood of extreme fire weather conditions in eastern Canada. In Europe, extreme heat contributed to extraordinary wildfire activity, particularly in Italy and Greece. Warmer, drier weather provides conditions conducive for larger, more-intense wildfires.

Industry loss estimates for H1 2023 remain well above the decadal average despite the comparatively smaller impact on reinsurers. A range of industry sources have suggested first-half insured losses from natural catastrophes were in the \$50bn-\$53bn range. The H1 2023 tally is also significantly above the \$44bn decadal average for the 2013-2022 period, as well as the \$38bn 21st-century average. Guy Carpenter has begun to estimate the potential impact of climate change on insured loss using the latest robust scientific projections and internal research. Collaborations with leading academic experts have provided insight on the relative influence of climate change on loss compared to other important factors, such as urbanisation and inflation.

Climate change disclosure

In the US, while the federal Securities and Exchange Commission's climate disclosure rules are finalised, the National Association of Insurance Commissioners has instituted a revised and more thorough climate change questionnaire, which is better aligned with the Task Force on Climate-Related Financial Disclosures. This survey has been adopted across 16 states, accounting for more than 80% of gross written premium in the US.

In July, the European Commission adopted the first set of European sustainability reporting standards, which will require insurers to report on sustainability-related impacts, opportunities and risks. The scope is such that foreign parents can be subject to these tougher reporting requirements, including certain US parent entities with operations in the EU.

At a global level, the International Organization of Securities Commissions recently endorsed the final disclosure standards published by the International Sustainability Standards Board, indicating a trend toward achieving climate regulatory convergence in the long run.

Challenges remain around availability of data, but increasing guidance, particularly around materiality assessments and scenario analysis, is an opportunity for the industry to develop the needed toolkit to incorporate climate change into risk management, pricing and capital decisions, and navigate the changing regulatory landscape.

How Guy Carpenter can help

Guy Carpenter has developed a full suite of climate change physical risk analytics and advisory products, ranging from underwriting and accumulation layers to adjustments to third-party catastrophe models and in-house risk scores developed for climate change. These tools use the latest climate science to assist our clients in responding to a growing number of regulatory requests and industry stress-testing and incorporating climate change into risk management, pricing and capital decisions.

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