

Climate change – Evolving risk and regulation

Guy Carpenter's Sam Phibbs, Katy Reyner and Sandra Hansen on the need to navigate the changing regulatory landscape related to climate change

In 2023, we have seen record-breaking temperatures, updated projections on the accelerating pace of climate change and a growing number of severe events. The September global surface temperature was 1.68°C above the 20th century average, making it the warmest September on record by a wide margin.

With the forecasted strengthening of El Niño, multiple outlooks have suggested over a 90 percent probability of 2023 becoming the warmest year on record and a 50 percent chance of meeting or beating the 1.5°C above pre-industrial temperatures threshold.

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, sea surface temperatures (SSTs) in the North Atlantic 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 has so far been above average in terms of accumulated cyclone energy.
- **Flood:** Heavy rainfall in May led to widespread flooding in the Emilia-Romagna region of Italy. Additional flooding occurred in Slovenia in August and in Greece, Turkey, Bulgaria, Spain and Libya in September. Warmer air holds more moisture, adding to the risk of extreme precipitation.
- **Severe convective storm:** In July, heat waves along with low-pressure systems bringing warm humid air from the Mediterranean resulted in extreme hail in central Europe, particularly in Italy. The Mediterranean reached its highest ever recorded temperature of over 28°C. The conditions persisted for a week and resulted in some of the largest hail on record. Warmer surface temperatures with increasing atmospheric moisture and instability increase the risk of extreme hail events.
- **Wildfire:** 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 the first half of 2023 remain well above the decadal average despite the comparatively smaller impact on reinsurers. A range of industry sources have estimated that first-half insured losses from natural catastrophes were in the \$50bn to \$53bn range. The first-half 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.

Climate change disclosure

Europe continues to push ahead with a variety of sustainable finance regulations, and preparing for the Corporate Sustainability Reporting Directive and extended EU Taxonomy disclosures remains a priority for many in the industry.

In July, the European Commission adopted the first set of European sustainability reporting standards, which will require insurers to undertake a double materiality assessment and 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.

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.



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