Marsh

Environmental pollution in the age of climate change

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Abstract

Climate change is causing more frequent and severe weather events. In 2024, the hottest year on record, natural disasters resulted in over US$320 billion in economic losses, mainly due to weather catastrophes such as hurricanes, thunderstorms, and floods. These figures often exclude costs related to loss of life, healthcare, and environmental pollution. However, environmental damage significantly affects organizations and their operations through infrastructure failures and inadequate risk mitigation, potentially leading to long-term liabilities and negative financial consequences.

Weather catastrophes, exacerbated by climate change, contribute to environmental pollution in several ways. Floodwaters can carry harmful pollutants, including sewage and chemicals, contaminating waterways and threatening wildlife and human health. Severe weather and rising sea level can disrupt Superfund sites, spreading contaminants. Damage to hydraulic infrastructure can release stored pollutants, while flooding can alter the transport of metals and toxic elements in groundwater. Increased storm activity can cause water damage in buildings, leading to toxic mold growth. Wildfires contaminate air, soil, and water, while changing weather patterns exacerbate soil erosion, exposing buried contaminants. High temperatures can increase pollutant toxicity, and reduced rainfall can prolong the persistence of contaminants in soil. Additionally, altered precipitation patterns can lead to nutrient runoff, causing eutrophication and harmful algal blooms. These pollution triggers highlight the urgent need for effective management and mitigation strategies.

Risk managers should recognize these escalating threats and take proactive measures to protect their operations and assets. This includes conducting thorough risk assessments, implementing risk reduction strategies, and utilizing relevant risk transfer solutions. Risk managers should evaluate various insurance options, particularly environmental impairment liability (EIL) insurance, as the demand for comprehensive coverage grows. Insurers are innovating to address heightened pollution risks associated with extreme weather, including coverage for gradual pollution and biodiversity loss. In this evolving landscape, risk managers are encouraged to explore risk transfer solutions to navigate the complexities of environmental risks in a changing climate.

This paper outlines the main drivers of environmental pollution and damage risk, provides a roadmap for action for risk managers, discusses insurance solutions, and shares insights from insurers on potential innovations and opportunities for coverage expansion.

Over 50% of organizations lack EIL coverage, indicating a potential gap in protection against environmental pollution and damage from severe weather events.

Contents

Climate change: A catalyst for environmental pollution and damage

Climate change is elevating risks to organizations' assets, operations, and environmental impacts, emphasizing the growing importance of integrating comprehensive strategies to address these evolving challenges. Scientific evidence shows that the rising frequency and intensity of extreme weather events — such as severe storms, tropical cyclones, and the subsequent natural disasters, such as floods, droughts, and wildfires — are direct consequences of climate change. The environmental aftermath of these events varies by geographical location and is influenced by factors such as urban planning, infrastructure resilience, socioeconomic conditions, geopolitical dynamics, and the state of the natural environment.

The combined effects of extreme weather-related natural disasters and pollution can severely damage ecosystems, creating a feedback loop that heightens vulnerability to pollution by reducing natural filtration, increasing soil erosion, disrupting ecological balance, and altering water cycles. Consequently, various factors influence an organization's risk profile for increased environmental pollution and damage, with climate change acting as a catalyst.

Extreme weather catastrophes are increasingly leading to substantial global economic losses. In 2024, the hottest year on record, marking the first time global warming exceeded 1.5 degrees Celsius, natural disasters resulted in over US$320 billion in global economic losses, with insurance covering US$140 billion. Weather-related events, particularly powerful hurricanes, severe thunderstorms, and floods were the primary contributors. Around one-third of these economic losses stemmed from major hurricanes in the United States. In the same year, Texas experienced its largest wildfire, consuming more than 500,000 hectares and devastating lives and the economy. One of the costliest flood disasters also occurred in Valencia, Spain, resulting in approximately US$16 billion in economic losses, with US$4 billion insured, and the loss of more than 200 people. The year 2025 began with devastating wildfires in Southern California, leveling thousands of homes and businesses, disrupting livelihoods, and impacting major industries. These fires resulted in 28 fatalities and consumed over 16,000 hectares, with economic losses estimated at over US$200 billion.

Estimated economic losses from natural disasters typically do not account for loss of life, healthcare costs, or environmental and biodiversity damage. These events can cause immediate damage and lead to gradual pollution of air, water, and soil when infrastructure containing hazardous materials deteriorates, fails, or is inadequate — particularly in high-risk areas with concentrated economic activities. This creates long-term liability risks. For example, in the built environment, flooding can clog rivers and sewage systems with sediment, overwhelming treatment plants and increasing the risk of disease outbreaks. Additionally, changes in temperature, humidity, and precipitation can accelerate corrosion due to increased carbonation and chloride ingress, compromising the structural integrity of containment systems.

Moreover, Superfund sites — specific locations in the US designated by the Environmental Protection Agency (EPA) as contaminated by hazardous substances and requiring cleanup under the Superfund program — are increasingly vulnerable to climate change. Factors such as increased flooding, rising sea levels, extreme heat, changes in ecosystems, and potential regulatory and funding challenges can complicate contamination issues and remediation efforts. Under the US Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as the Superfund law, organizations can be held strictly liable for the cleanup of hazardous waste sites, meaning they may be responsible for cleanup costs regardless of fault or negligence.

In summary, organizations must recognize how their infrastructure and operations may become more vulnerable to emerging risks, increasing the likelihood of toxic spills, contaminated runoff from heavy rain, or airborne chemical releases. These incidents may necessitate extensive cleanup and remediation efforts, which can consume substantial time and resources.

Table 01| Main triggers of environmental pollution and damage, and examples following extreme weather and natural events

Table 1 highlights examples of how terrestrial, aquatic, and atmospheric environments have been impacted by environmental pollution and damage following recent catastrophic events.

Triggers of pollution and contamination	Examples
Floodwater can dislodge structures containing pollutants like oil, chemicals, sewage, and waste, contaminating land and waterways and posing risks to wildlife and human health.	An oil tank float incident occurred during Hurricane Katrina in August 2005, when floodwaters caused an oil storage tank to float and rupture, releasing approximately 1.2 million gallons of crude oil into the environment. This spill contaminated nearby waterways, marshlands, and residential areas, severely impacting local water bodies and disrupting ecosystems, particularly in wetlands crucial for biodiversity. The oil seeped into the soil, necessitating extensive remediation efforts, while the release posed health risks to residents and cleanup workers. This incident highlighted the vulnerabilities of oil storage facilities during extreme weather events and emphasized the need for improved emergency preparedness and response measures to mitigate the risks of oil spills. Long-term monitoring was also required to assess the ongoing environmental impacts and recovery of affected ecosystems.
Rising sea levels and extreme weather events, such as intense rainfall and wildfires, can disrupt Superfund sites, potentially spreading contaminants beyond their original boundaries into surrounding areas, including waterways and residential zones.	US federal data suggests that about 60% of Superfund sites overseen by the EPA are located in areas vulnerable to wildfires and various types of flooding — natural hazards that may be exacerbated by climate change. In 2017, Hurricane Harvey flooded and damaged around 13 of the 41 Superfund sites in Texas, releasing toxic waste. Similarly, the 2018 fire at the Iron Mountain Superfund site in California posed significant risks, as intense heat and altered water flows threatened to mobilize hazardous materials and disrupt wastewater treatment processes. This incident raised concerns about long-term contamination of water supplies and fisheries.
Destruction of hydraulic infrastructures, including dams, levees, storage basins, and sewer pipelines, released pollutants, such as chemicals, sewage, or heavy metals into the surrounding water bodies and soil.	In July 2021, heavy rainfall caused severe flooding across Belgium, Germany, Luxembourg, and the Netherlands, impacting populations and damaging infrastructure. Disruptions to wells and water supply systems rendered tap water unsafe to drink in most affected areas. This extreme hydrological event led to the accumulation of floating debris at various bridges, obstructing water flow and posing risks to the structural integrity of these infrastructures. Additionally, the flood resulted in the loss of critical infrastructure, including water management systems essential for controlling and directing water flow during such extreme weather events. Following Hurricane Katrina, household hazardous wastes, pesticides, heavy metals, and other toxic chemicals mixed into floodwaters, contaminating groundwater over hundreds of kilometers.

Triggers of pollution and contamination	Examples
Floodwater can transport and accumulate pollutants like oil, chemicals, sewage, and waste, contaminating land and waterways and posing risks to wildlife and human health.	The flooding of New York University's parking deck during Hurricane Ida in September 2021 caused significant environmental and infrastructural damage. Key impacts included extensive water damage to vehicles and the parking structure, affecting electrical systems and mechanical equipment. Contaminated runoff from the flooded deck carried pollutants such as oil and gasoline into nearby waterways and soil, contributing to water quality issues. The flooding also resulted in debris accumulation, including damaged vehicles, which posed environmental hazards and required careful disposal. Prolonged water exposure raised concerns about mold growth, posing health risks to individuals. Additionally, contaminated runoff entered storm drains and water bodies. Cleanup efforts were necessary to address water damage, remove debris, and mitigate environmental contamination. These efforts involved water testing, soil remediation, and other assessments.
More frequent severe storms and altered precipitation patterns can cause water damage in buildings, promoting toxic mold growth in damp environments.	The extensive flooding following Hurricanes Katrina, Rita, Florance, and Milton created conditions that were conducive to indoor mold growth. Studies conducted in the aftermath of these events showed higher levels of mold in homes and businesses that experienced significant flood damage. Related research has also identified acute health conditions linked to toxic mold exposure. Water intrusion from heavy rainfall not only promotes mold and microbial growth but also worsens existing conditions. This has resulted in lawsuits from residents of multi-family housing developments, who claim respiratory issues, property damage, and unsafe living conditions. In the US, several military families have filed lawsuits against property managers for these damages, leading to multi-million-dollar settlements. In 2022, water damage, including mold, accounted for around a third of homeowners insurance losses. Although specific percentages of mold-related claims in business insurance are not publicly available, they are consistently reported to represent most environmental claims in sectors like hospitality, high-rise condominiums, and commercial real estate.
Wildfires and fires leave behind ash and debris that contaminate air, soil, and water supplies. This residue alters soil properties, affecting its biological, chemical, and physical aspects. Consequently, these changes influence soil organic matter, structure, erosion, and metal transport, resulting in costly treatment and potential shortages.	The Arkema chemical fire in Crosby, Texas, in 2017 was triggered by the failure of refrigeration systems during Hurricane Harvey, resulting in the release of hazardous chemicals, including organic peroxides, into the environment. Key environmental impacts included the combustion of these flammable chemicals, which posed risks to air quality and surrounding ecosystems. Smoke and fumes from the fire contained harmful pollutants, leading to respiratory issues among residents. Concerns also arose about potential runoff contaminating nearby waterways, adversely affecting aquatic life and water quality. The fire and firefighting efforts also caused soil contamination, necessitating remediation. Following the incident, environmental agencies conducted assessments and monitoring to evaluate contamination levels and long-term impacts on public health and the environment. The Arkema fire underscored the risks associated with chemical manufacturing during extreme weather events and highlighted the need for effective emergency preparedness and response measures to mitigate environmental damage. Cleanup and remediation efforts were essential to restore the affected areas. The catastrophic bushfires that swept across Australia in 2019 and 2020 caused widespread destruction of habitats and wildlife, and also led to significant air pollution. The fires released large amounts of carbon dioxide and particulate matter into the atmosphere, affecting air quality across the country and even reaching other regions. Additionally, runoff from burned areas contaminated water sources with ash and pollutants, impacting freshwater ecosystems. In early 2025, a fire broke out at the Moss Landing Power Plant in California, raising significant environmental concerns and prompting immediate investigations into its causes and effects. Preliminary soil testing by the California Department of Toxic Substances Control (DTSC) indicated potential contamination in areas near the facility. While results are still being validated, significant expenses are anticipated for environmental cleanup, regulatory compliance, and potential legal liabilities.

Triggers of pollution and contamination	Examples
Changing weather patterns can exacerbate soil erosion, which may expose buried contaminants and allow them to migrate into the environment, affecting soil and water quality.	In 2012, Superstorm Sandy caused significant coastal erosion and flooding in New Jersey and New York. In areas with a history of industrial activity, the erosion exposed buried contaminants, such as polychlorinated biphenyls (PCBs) and heavy metals, leading to their migration into the environment and affecting local ecosystems.
High temperatures can increase the toxicity of various chemical pollutants and enhance their uptake by organisms in the environment, can influence the chemical behavior of pollutants, potentially increasing their volatility or solubility, which can lead to greater environmental and health risk.	During the summer of 2022, Europe experienced extreme heatwaves that led to drought conditions. These high temperatures increased the solubility of certain pollutants in water bodies, leading to higher concentrations of toxic substances, like heavy metals and pesticides. The increased temperature enhanced the uptake of these pollutants by aquatic organisms, posing risks to biodiversity and human health.
Reduced rainfall can extend the persistence of contaminants in soil.	From 2020 to 2021, the Mississippi River Basin experienced a cycle of flooding followed by drought conditions. During the drought phase, contaminants washed into the soil during flooding events became concentrated due to reduced rainfall. This persistence led to long-term soil contamination issues, affecting agricultural lands and water quality.
Altered precipitation patterns lead to increased runoff of fertilizers and nutrients into water bodies causing eutrophication, resulting in algal blooms that produce toxins and deplete oxygen in the water, further harming aquatic life.	The 2019 Midwest floods in the US exemplified how altered precipitation patterns led to increased runoff of fertilizers into water bodies, causing eutrophication and harmful algal blooms that depleted oxygen and harmed aquatic life.

Embracing comprehensive approaches to understand and respond to climate-amplified environmental risks

As climate change increases the risks of natural disasters, organizations may consider tailored strategies to understand and address the resulting cascading impacts, such as environmental pollution and damage.

Adjusting standards and operational practices to align with changing climate and environmental conditions can improve public health and safety, lead to long-term cost savings, meet regulatory compliance, and foster community well-being. For example, updated technical and operational standards can enhance resilience to severe weather events. Measures to consider include improving hazardous material containment, boosting indoor air quality in response to increased flooding risks, and promoting sustainable design principles, such as using non-pollutant chemicals and nutrients at the source. Implementing better water management practices can help mitigate the effects of altered precipitation patterns, while prioritizing ventilation and non-toxic materials can prevent indoor pollutants and mold growth.

When seeking overarching solutions and measures, organizations should consider the following three categories of risk management actions:

1: Conduct risk assessment	2: Implement risk reduction principles	3: Consider risk transfer
• To effectively manage environmental risks, organizations should evaluate hazard scores, identify vulnerabilities in critical equipment, and reassess property and business interruption risks • Analyzing supply chain pollution vulnerabilities and using scenario stress testing and risk modeling will strengthen their mitigation strategies	• Organizations can manage environmental risks by reducing pollutants at the source, containing contaminants, and maintaining infrastructure • Additionally, establishing pollution monitoring systems, promoting waste reduction and recycling, investing in resilient infrastructure, training employees, and engaging with communities are essential for effective environmental protection	• To enhance risk management, organizations should analyze insurance programs for coverage gaps, clarify overlapping insurance clauses, and ensure robust insurance and emergency response plans

1. Conducting thorough risk assessment

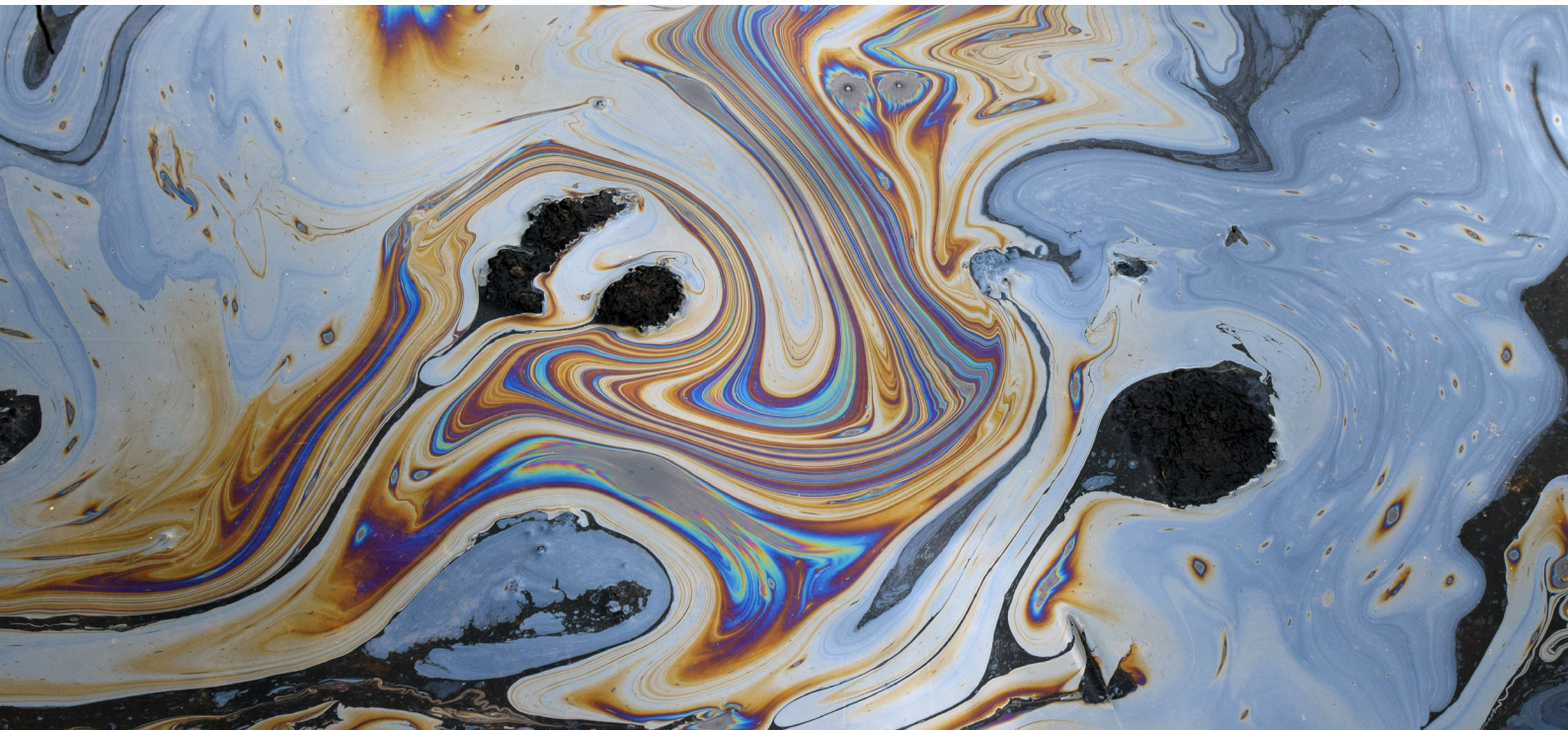
- Evaluate the aggregate hazard scores of assets to assess the likelihood and potential impact of specific hazards, including environmental risks related to pollution and damage
- Identify vulnerabilities, such as critical equipment in flood-prone areas, and assess secondary risks like pollution from heavy rainfall and landslides
- Reassess property and business interruption risks, factoring in environmental impacts in addition to direct property damage and loss of use
- Analyze pollution and contamination vulnerabilities across value and supply chains, considering the increased frequency and severity of climate-related disruptions to supplier operations and trade routes
- Use what-if scenario stress testing, risk engineering, and modeling to manage complex environmental risks

2. Implementing risk reduction principles

- Reduce or eliminate pollutants at the source by using safer materials and cleaner technologies
- Use physical barriers to prevent the spread of contaminants, ensuring proper storage practices
- Conduct routine maintenance and inspections to identify and address vulnerabilities in infrastructure
- Implement monitoring systems for early detection of pollution through air, water, and soil testing
- Adopt waste reduction, recycling, and renewable resources to minimize environmental impact
- Invest in infrastructure improvements that enhance resilience to natural disasters
- Implement site-level adaptations to enable quicker recovery from disruptions caused by environmental risks, including consideration of nature-based solutions to increase resilience against extreme weather events and natural catastrophes
- Provide ongoing training for employees on environmental management and compliance practices
- Engage with communities and stakeholders to share information and collaborate on pollution prevention

3. Employing risk transfer

- Analzse current insurance programs to identify coverage grants and gaps that respond to pollution damages and liabilities
- Ensure that other insurance clauses in policies with coverage overlap are structured clearly to indicate which policy responds on a primary basis
- Ensure robust insurance protection, emergency response, and operations to address escalating challenges related to pollution and contamination
- Various types of insurance are available to cover different aspects of environmental pollution, as detailed in the following section.



Assessing insurance coverage and emerging trends in environmental pollution risks

We evaluate insurance coverage based on the rising risks of environmental pollution, influenced by the increasing frequency and severity of extreme weather events that have lasting effects on health, the environment, and property.

Having insurance can help organizations mitigate financial losses from cleanup costs, health claims, and potential lawsuits, against government entities and corporations for inadequate disaster preparedness and response. Insurance can provide essential protection for businesses in vulnerable sectors and support recovery efforts in the face of increasing environmental risks.

Environmental pollution and damage claims are covered differently by various types of insurance:

- General liability insurance (GL) may offer limited coverage for time element pollution, which is defined in the policy as a pollution release occurring during the policy period, discovered by the insured and reported to the insurer within a stated number of days, covering property damage, bodily injury, and potentially off-site cleanup costs, but it typically excludes on-site cleanup costs and damage to natural resources.
- Property damage insurance covers damage to physical property and cleanup costs, but only for the insured property and subject to a very low sub-limit (typically well below US$1 million). It may provide limited coverage for soil and groundwater pollution.
- Directors and officers (D&O) insurance protects corporate leaders from personal liability for alleged wrongful acts in their management roles. If the policy does not contain an absolute pollution exclusion coverage may include claims related to environmental pollution and damage. It covers legal costs and settlements arising from regulatory violations, shareholder lawsuits, negligence claims, and reputational damage linked to environmental issues.
- Auto insurance covers vehicles owned or used by a business, providing protection against accidents, theft, and damage. It can address environmental pollution and damage risks by covering liability for pollution incidents resulting from vehicle accidents, including the release of hazardous materials. This insurance may also cover cleanup costs, bodily injury, and property damage claims related to environmental contamination caused by business vehicles. In many cases, recovery for cleanup costs is provided as part of a surety-like arrangement, requiring indemnification by the insured to the insurance company.
- Cyber insurance protects organizations against financial losses and liabilities associated with cyber incidents, data breaches, network security failures, and privacy violations. However, it typically does not extend to damages caused by pollution releases related to the cyber incident.
- Environmental impairment liability (EIL) insurance covers liabilities from pollution incidents globally, addressing gaps in coverage, including first and third-party losses, cleanup costs, and natural resource and biodiversity damages.

While GL, D&O, property, cyber, and business auto insurance provide limited coverage for environmental pollution, they often exclude gradual pollution events and long-term damage. EIL insurance fills these gaps by offering comprehensive protection, including coverage for risks excluded by GL policies, such as first-party property loss and third-party liability for pollution-related damages at scheduled sites. EIL policies typically cover statutory cleanup requirements, third-party bodily injury and property damage

> **Insurance can provide essential protection for businesses in vulnerable sectors and support recovery efforts in the face of increasing environmental risks.**

claims, legal expenses, and business interruption losses for both sudden and gradual pollution incidents, including emerging environmental risks.

For example, standard GL policies may exclude or limit coverage for pollution damage, prompting companies that handle hazardous materials to seek separate EIL policies. Regulations and public concern over contaminants like per- and polyfluoroalkyl substances (PFAS), ethylene oxide (EtO), and microplastics have led many GL policies to outright exclude these substances, leaving companies without recovery options.

Moreover, while GL policies often limit coverage for pollution releases to those reported within a defined period (usually seven to thirty days), EIL policies require only that pollution is discovered and reported during the policy term, which can range from one to ten years. Furthermore, standard commercial property and casualty policies frequently exclude pollution damage or offer minimal coverage, with sublimits for first-party remediation often proving inadequate. For example, the average cost of remediating mold in a commercial building is around US$250,000, while typical sublimits range from US$10,000 to US$25,000.

Additionally, EIL insurance offers supplemental coverage for waste disposal, damage to natural resources and biodiversity, and, to some extent, fines and penalties where insurable by law, helping businesses better protect themselves against the financial impacts of pollution incidents related to nature loss.

Table 02| Comparison of pollution coverage found in EIL with respect to standard policies

Table 2 compares the coverage provided by these insurance solutions.

	General liability	Property	D&O	Auto	Cyber	Environmental impairment liability
Underground storage tanks (UST)	Excluded	Excluded	Excluded	Excluded	Excluded	Scheduled primary or excess of UST policy
Waste disposal	Excluded	Excluded	Excluded	Excluded	Excluded	Add optional Non-owned disposal coverage
Material transport	Limited coverage possible	Excluded	Excluded	Limited coverage	Excluded	Add optional first-party or contingent trans
Hostile fire driven pollution	Limited coverage possible	Limited coverage possible	Excluded	Limited coverage possible	Excluded	Pollution coverage is all peril risk policy
Business interruption	Excluded	Excluded	Excluded	Excluded	Coverage limited to the cyber incident	Add optional loss of rents/extra expense
Fuels/chemical storage	Limited coverage possible	Limited coverage possible – named peril	Excluded	Excluded	Excluded	Liability coverage is provided for releases
On-site clean-up	Excluded	Limited coverage possible - sublimit	Excluded	Excluded	Excluded	Covered unless specifically excluded due to known liability
Waste storage on-site	Excluded	Excluded	Excluded	Excluded	Excluded	Liability coverage for releases
Pre-existing environmental conditions	Excluded	Excluded	Limited coverage for shareholder suits	Excluded	Excluded	Covered unless specifically excluded by retroactive date or due to known liability
Biodiversity and natural resource damages	Excluded	Excluded	Excluded	Excluded	Excluded	Covered

In April 2025, Marsh conducted a global sentiment survey among a group of insurers to assess trends and implications related to rising environmental pollution risks. The survey aimed to gather insights from insurers on the environmental pollution and damage risks faced by insured organizations, particularly in the context of climate change and the factors driving demand for risk transfer. While the survey included both US and non-US insurers, the results are skewed toward the US market, which experiences greater exposure to natural weather catastrophes compared to Europe. In contrast, heavily impacted regions like Asia tend to have lower levels of insurance coverage.

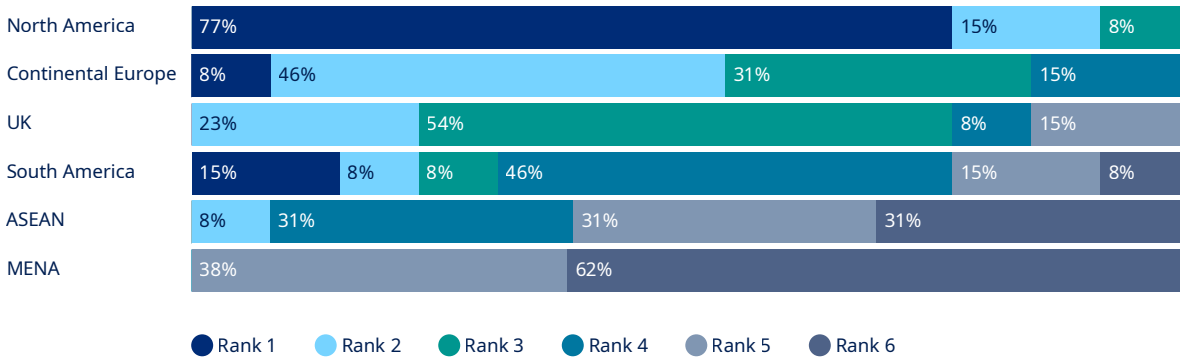
The findings are intended to assist market participants, including at-risk organizations, in addressing coverage gaps and improving risk management strategies in response to changing environmental conditions and global uncertainties.

The main findings are summarized in five key areas:

1. Insurers report that organizations operating primarily in North America, Continental Europe, and the UK, are increasingly concerned about environmental pollution and contamination risks (see Figure 1).

Figure 01| Are there regions where organizations are increasingly concerned about environmental pollution and contamination risks?

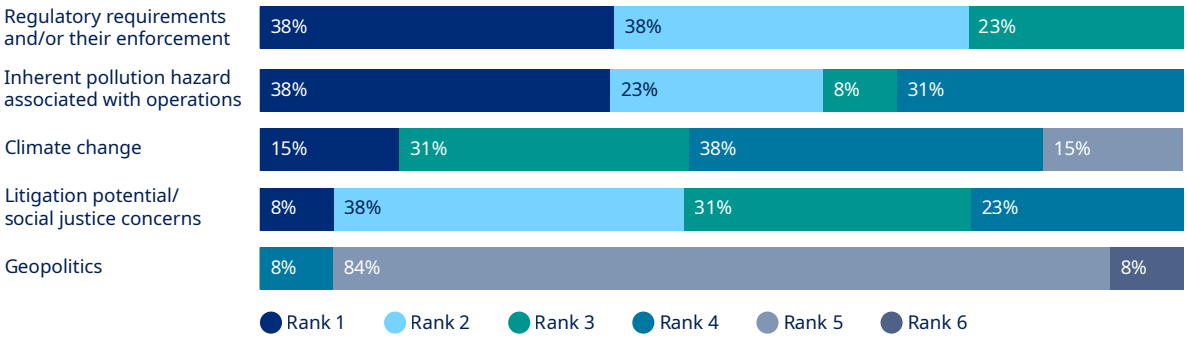
Please rank the following regions from most important (1) to least important (7) based on these growing concerns.



2. Regulatory requirements and enforcement, along with inherent pollution hazards associated with operations, are the primary factors driving organizations' demand for risk transfer. Climate change ranks among the top three risk factors related to environmental pollution and contamination, followed by the potential for litigation, social justice concerns, and geopolitical issues (see Figure 2).

Figure 02| What risk factors drive organizations' willingness to identify and transfer risks related to environmental pollution and contamination?

Please rank the following risk factors in order of importance for growth, from most important (1) to least important (6).

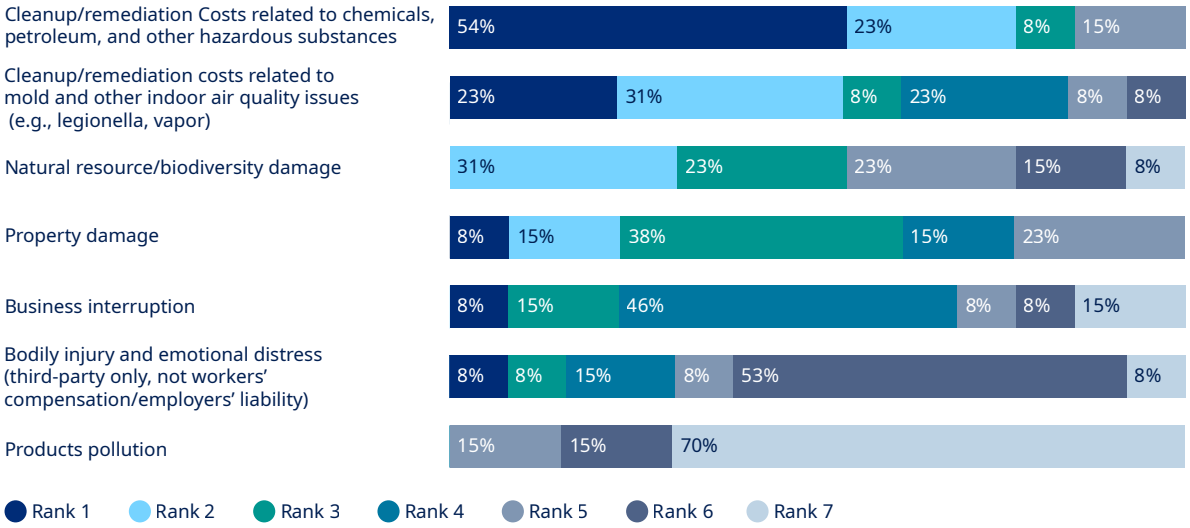


3. Insurers report that claims arising from extreme weather events that result in pollution releases and cleanup costs are the primary source of environmental risk coverage claims. Following this, other significant risks include ecosystem damage, loss of biodiversity, and flooding that leads to waterborne diseases and bodily injury claims. Although less frequently mentioned, issues such as contamination of water sources, humidity-related mold growth, and air pollution claims are emerging in the risk landscape (see Figure 3).

Figure 03| Which of the following climate-related environmental risks have resulted in claims received or handled by your organization?

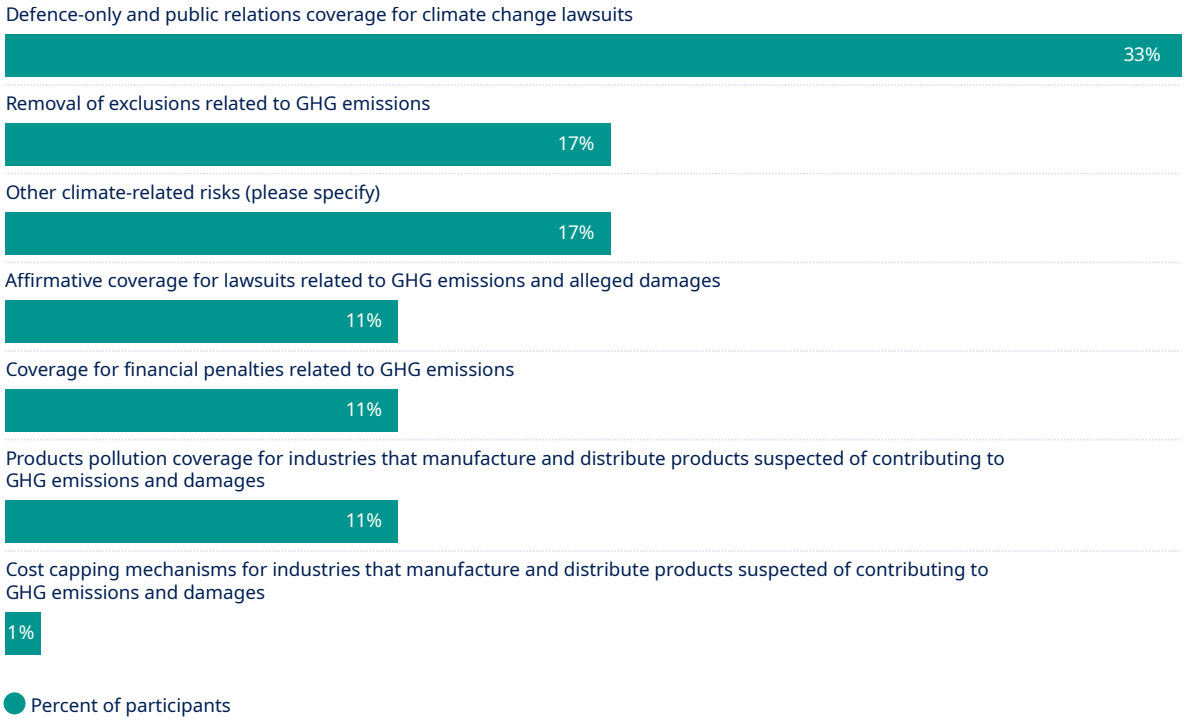
4. When asked about climate change-related environmental damages reported by claimants, insurers noted that cleanup and remediation costs for chemicals, petroleum, and hazardous substances are the most frequently claimed. Additionally, damages related to mold, indoor air quality issues, biodiversity loss, and property damage are also commonly reported (see Figure 4).

Figure 04| Rank, in order of frequency (1 highest, 7 lowest), the types of damages reported by claimants related to climate change.



5. Standard pollution liability policies present opportunities for expansion and innovation as the insurance market adapts to the challenges posed by climate change. When presented with ideas for coverage expansion options, many insurers prioritized defense-only and public relations coverage for climate change lawsuits. This was followed by removing exclusions related to accidental greenhouse gas emissions, which contribute to climate change and other associated risks such as biodiversity loss (see Figure 5).

Figure 05| How can pollution liability coverage be expanded to address climate change-related pollution risks that standard pollution liability (PLL) policies typically do not cover?



The sentiment survey highlights the increasing relevance of climate-amplified risks on environmental pollution and damage. This emphasizes the need for organizations to identify and mitigate these risks, which can have cascading impacts on economies and societies. As demand for comprehensive insurance coverage grows, insurers are innovating and expanding their offerings to address heightened pollution risks from extreme weather events, including coverage for emerging issues like gradual pollution and biodiversity loss. Organizations that include severe weather impacts in their risk assessments and prevention measures will provide insurers with valuable data that supports coverage innovations.

In this evolving landscape, risk managers may choose to explore solutions in environmental impairment liability (EIL) insurance to effectively navigate the complexities of environmental risks in a changing climate.

The growing importance of environmental impairment liability insurance

The environmental impairment liability (EIL) market is continually evolving as climate change creates a challenging operating environment, leading to business disruptions and increased vulnerabilities from infrastructure breakdowns and pollution. The Marsh sentiment survey highlights the increasing relevance of environmental claims and the need for innovation and potential coverage expansion to address these challenges. Insurers are exploring new risk classes to better meet the changing needs of organizations facing environmental risks and adapting to new regulatory thresholds.

As environmental pollution risks increase due to climate change, demand for EIL insurance is expected to rise. Organizations are becoming more aware of their potential liabilities, prompting them to seek coverage. According to Marsh sources, globally, over 50% of organizations lack EIL coverage, indicating a potential gap in protection against environmental pollution and damage from severe weather events. This situation also presents an opportunity for the insurance market to enhance its offerings of comprehensive risk protection.

While environmental coverage is largely discretionary, it can become mandatory through contracts, such as in mergers and acquisitions or public sector agreements. Some countries have financial security requirements under the EU's Environmental Liability Directive.

To secure coverage, organizations typically need to provide an environmental report for historic or pre-existing pollution conditions or an environmental management plan for new operations. Although policies often exclude coverage for development cost overruns due to existing soil pollution, they may cover cleanup outside excavation areas and off-site third-party claims for bodily injury or property damage during development.

Jurisdictional variations are also significant; EU law emphasizes biodiversity liability and restoration, while US Natural Resource Damage (NRD) claims focus on compensating property damage. Consequently, the approaches and costs associated with claims can differ across jurisdictions. It is therefore crucial for risk managers to thoroughly review their insurance programs and adapt their risk transfer strategies in this evolving landscape.

Envisioning the future and the path forward

Organizations across all sectors rely on natural ecosystem services, infrastructure, and supply chains, many of which are increasingly threatened by environmental pollution and damage risks intensified by climate change. As these systems face greater exposure to extreme weather, their reliability and integrity are at stake. Effective interventions will vary by industry and region, but collective action will be necessary, with coordinated efforts from both the private and public sectors, to enhance resilience and reduce vulnerability to pollution-related disruptions.

As the costs of pollution from natural disasters rise — and are expected to increase further with climate change — risk managers should consider undertaking analyses of pollution risk exposure and anticipating solutions. This proactive approach can help navigate the intricacies of climate change and environmental damage, safeguarding against long-term liabilities and reputational damage.

In conclusion, the growing significance of environmental impairment liability insurance underscores the heightened awareness of environmental pollution and damage risks, prompting insurers to innovate and expand their coverage in an ever-evolving market. By prioritizing risk mitigation and transfer, organizations can best prepare themselves for the future.

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