Title: Planning for Natural Disasters: A Growing Priority in Supply Chain Risk Management

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When it comes to assessing the many risks to supply chains, planners generally don’t place natural disasters at the top of the list. But with the growing number of extreme weather events affecting the movement of goods worldwide, that could change in the coming years.

Foremost on the minds of supply chain risk managers are events such as factory fires, vendor bankruptcies, labor disruptions, cyberattacks and the impact of mergers and acquisitions on suppliers, says Jim Wetekamp, chief executive officer of [Riskonnect](https://riskonnect.com/).

Yet companies can’t afford to ignore the wave of weather events, many the result of climate change, that have occurred in recent years. According to the [National Centers for Environmental Information](https://www.ncei.noaa.gov/), part of the National Oceanic and Atmospheric Administration, 2023 was [a historic year](https://www.climate.gov/news-features/blogs/beyond-data/2023-historic-year-us-billion-dollar-weather-and-climate-disasters#:~:text=2023%20was%20also%20deadly%2C%20causing,least%20%241%20billion%20in%20damages.) in the number and severity of natural disasters to strike the U.S. NCEI counted 28 events costing a minimum of $1 billion apiece, surpassing the previous record of 22 in 2020, and racking up a total price tag of at least $92.9 billion. (The final number is likely to be even higher, once the cost of flooding along the East Coast in December is factored in.)

Total losses from natural disasters globally in 2023 reached $250 billion, with less than half that amount insured. And the outlook for 2024 and beyond is even more dire, if recent patterns continue.

What’s troubling businesses is the anomalous nature of many recent weather extremes: hotter weather showing up in colder climes, and vice versa. “The traditional hottest points along the equator are now spreading up and down,” Wetekamp notes. Meanwhile, there were [snowstorms in Texas](https://en.wikipedia.org/wiki/February_13%E2%80%9317,_2021_North_American_winter_storm).

Companies seeking to manage weather risk have to adopt two distinct mindsets: short-term and long. In the case of the former, they must have on hand a detailed contingency plan for dealing with the crisis of the moment. Typically that consists of a “playbook” that assigns roles to key managers in the event of an emergency, and designates temporary alternative sources of supply should access to major vendors be cut off.

The problem with such plans is that they quickly become obsolete, as supply strategies evolve in line with changing markets and economies. But Wetekamp says companies today are doing a better job of crafting business continuity plans that conform to the existing landscape, widening their perspective to include the full range of supply chain partners and customers. “They’ve gotten smarter and better on mapping outside the four walls, forward and backward,” he says.

To prepare for the odd flood, fire, hurricane or volcanic eruption, to name but a few of the events that disrupted supply chains in recent years, managers need to address such possibilities as a sudden loss of internal servers, absence of key personnel, inability to pay bills or the shutdown of an essential production site.

For the most part, companies have long been able to map their primary suppliers, but only now are they getting a handle on the “knock-on” effects of losing sub-tier partners, any one of which can bring an entire supply chain to an abrupt halt. Lack of visibility to all upstream supplier tiers can magnify the effects of an otherwise manageable climate disaster.

Making the job of short-term risk mitigation easier today is the rapid maturation of artificial intelligence, especially generative AI, which allows companies to crunch historical data as the basis for crafting future mitigation efforts. The technology makes possible the creation of virtual “what-if” scenarios that reveal the strengths and flaws of business continuity plans before they’re deployed in the real world.

Even as they set their sights on singular weather events that could occur at a moment’s notice, supply chain planners must also take the long view. Climate change has to be a prime consideration when planning a new factory, or seeking to reduce risk through geographic diversification of the supplier base. Again, total visibility of the extended supply chain is a must, but in this case it informs actions extending into the far future. Should a semiconductor manufacturer, for example, site a water-hungry production plant in a location that’s likely to be plagued by persistent drought in the years ahead?

Weather, of course, can’t be treated as a standalone risk when drawing up business continuity plans. Factors such as geopolitical strife, punitive tariffs and rising labor costs must also be part of the mix. They all come down to a mandate to acquire comprehensive supply chain visibility, along with tools for addressing all manner of potential disruptions, both tomorrow and in the distant future.

Wetekamp says many organizations are “just scratching the surface” in their efforts to envision long-term scenarios and respond to them effectively. That’s especially the case when it comes to reducing the carbon footprint of supply chains in line with targets for minimizing global warming — a concern that should elevate climate to the top of the risk column. “Some organizations are more active than others,” he says. “That’s one area where we as a series of industries have more work to do.”