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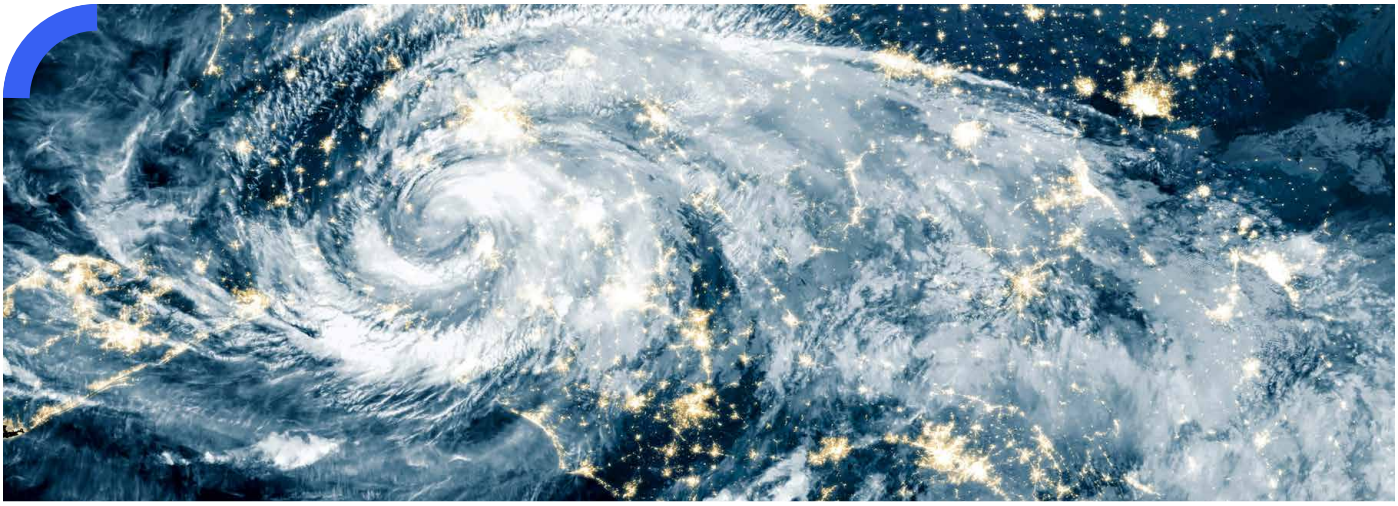
Managing severe weather events during other crises



While progress is made day by day, worrisome forecasts for the upcoming hurricane and wildfire seasons means organizations remain under duress.

First responders, cybersecurity experts, and others in the field of crisis management are trained and prepared to manage uncertainty during critical events, but the extent and duration of several overlapping crises have tested the resilience of command centers around the world. Many with facilities and offices in multiple countries are grappling with varying risks revised expectations of how and where work occurs, and other shifts in business and cultural norms.

Those unable to respond quickly and completely to critical events risk losing thousands, if not millions, in revenue and associated costs. Such outcomes are partially due to organizations' tendency to rely on multiple, separate systems for critical event management (CEM). The siloed nature of these solutions makes processes needlessly complex and creates challenges for security experts. Without a unifying CEM platform, teams and centers struggle with a coordinated responce: damaging budgets, stakeholder confidence, and employee and customer trust.

An integrated CEM platform produces a consolidated response. Teams and command centers are alerted of threats in advance, allowing them to assess risk as well as identify and locate appropriate responders and assets at risk. CEM software can then automate action plans, SOPs, and communications, providing teams with timely information and actionable data so they can quickly mitigate the risk. Afterward, analytics identify where bottlenecks or delays arose and where improvements can be made.

As hurricane season ramps up and we look ahead to potential wildfires and even winter storms, now is the time to assess your systems and processes and ensure their health and efficacy. Below, we review severe weather forecasts and, more importantly, recommend four key steps to prepare responses that mitigate harm.

Hurricanes and Storms

In the United States, severe thunderstorms tend to occur in the spring and peak in mid-June, according to Jeff Noel, an executive of insurance solutions for IBM's The Weather Company.[1]

The calendar then segues into tropical storm and hurricane season, which officially begins on June 1 and ends on November 30 annually, according to the National Oceanic and Atmospheric Administration (NOAA).[2] The greatest activity typically concentrates in August, September, and October of any given year, with storms following three main paths. The first two begin with storms that spin off the coast of Africa towards the middle latitudes of the East Coast or move in a more southerly direction, encompassing southern Florida and the Gulf. The third path features storms that begin in the Caribbean before moving north towards Louisiana and nearby states. Those three areas are at the greatest risk for landfall.

Besides those pathways, all forecasts of seasonal activity take into account the temperature of the Atlantic Ocean. "If the waters are warmer in the Atlantic, then you're going to spin up more storms. It's that simple," says Dr. Todd Crawford, chief meteorologist, data scientist, and senior product manager at The Weather Company.

Another important factor is La Niña, a meteorological event occurring approximately every three to five years and involving colder than normal temperatures in the eastern equatorial Pacific Ocean. The probability of storms and hurricanes increases during La Niña "all because you don't have as much wind shear over the Atlantic," explains Dr. Crawford. In fact, twice as many hurricanes occur during La Niña than in other years, he says. When we have an El Niño climate pattern, which increases vertical wind shear, hurricane activity is more sluggish.[3]

Whether storms and hurricanes make landfall is the greater concern, but predicting that risk more than fifteen days out is more difficult than forecasting seasonal activity. The Weather Company offers fifteen-day forecasts that update twice daily, while the National Hurricane Center (NHC) offers five-day forecasts for storms that have already developed. But, as NHC director Ken Graham notes, "It doesn't matter if there's 30 storms or one . . . if it impacts you, it's a busy season."

Whether those storms and hurricanes make landfall is the greater concern, but predicting that risk more than fifteen days out is more difficult than forecasting seasonal activity.

So, while it's important to know where landfall will occur, being prepared is the higher imperative. Crisis managers can plan accordingly and take heart in the NHC's improved storm-surge modeling to help aid preparedness efforts.

Improvements to the NHC's storm-surge modeling can help decision-makers make difficult decisions on evaculations when every second counts. In more good news, the NHC is planning to release its outlook for hurricane season more than two weeks ahead of its regular publication. The change will better serve communities typically affected by early-season tropical systems.

But while thunderstorms, tropical storms, and hurricanes have rough seasonal occurrences and are limited to certain parts of the world, hailstorms take place more widely and shouldn't be discounted, Noel reminds us. In fact, according to Aon, a global professional services firm focused on risk, retirement, and health solutions, hail-related insured losses cost $8 billion to $14 billion per year.[5] Tracking the probability of hailstorms in your area on an ongoing basis would be wise.

Of course, some weather events are neither seasonal nor continuous but are simple anomalies, such as the winter storms that struck much of the United States in early 2021. In the Pacific Northwest, snow, freezing rain, and ice caused widespread chaos, with tens of thousands left without power or transportation for days and days,[6] while in California, much-needed rain led to mudslides and flooding.[7]

But Texas bore the greatest brunt, with Winter Storm Uri costing the state between $195 billion and $295 billion, according to estimates from economic research firm The Perryman Group. Not known for cold weather and ill-prepared for the ice and snow, the Lone Star State saw millions struggle without heat or electricity for days. Pipes burst, homes flooded, and production across industries such as food processing, manufacturing, oil, and gas came to a standstill.[8]

So, while preparing for recurring weather events such as hurricanes and wildfires is a top priority for critical event managers, that preparation is equally vital when faced with historic anomalies like Winter Storm Uri.

1 Firms with offices or branches overseas should keep in mind the periods in which severe weather is typically expected in those locations and plan accordingly.

2 "Busy Atlantic hurricane season predicted for 2020," NOAA, 21 May 2020, https://www.noaa.gov/media-release/busy-atlantic-hurricane-season-predicted-for-2020. Accessed 21 July 2020.

3 Allison Chinchar and Haley Brink, "Forecasters expect another overactive hurricane season with 17 named storms, CNN, 8 Apr. 2021, https://www.cnn com/2021/04/08/weather/hurricane-season-forecast-active/index.html. Accessed 19 Apr. 2021.

4 Anne Manning, "Global ranking nets CSU a trio of top-10 spots," Colorado State, 1 Apr. 2017, https://source.colostate.edu/global-ranking-nets-csu-trio-top-10-spots/. Accessed 19 Apr. 2021.

5 "Weather, Climate & Catastrophe Insight: 2019 Annual Report," Aon, http://thoughtleadership.aon.com/Documents/20200122-if-natcat2020.pdf?utm_source=ceros&utm_medium=storypage&utm_campaign=natcat20, p. 25. Accessed 29 Apr. 2021.

6 AP and OPB staff, "Northwest storm leaves hundreds of thousands without power," OPB, 14 Feb. 2021, https://www.opb.org/article/2021/02/14/northwest-storm-leaves-hundreds-of-thousands-without-power/. Accessed 28 Apr. 2021.

7 Nicholas Lee, "California hit by flooding after storm brings heavy rain," The Guardian, 4 Feb. 2021, https://www.theguardian.com/us-news/2021/feb/04/california-hit-by-flooding-after-storm-brings-heavy-rain. Accessed 28 Apr. 2021.

8 Irina Ivanova, "Texas winter storm costs could top $200 billion — more than hurricanes Harvey and Ike," CBS News, 2/25/21, https://www.cbsnews.com/news/texas-winter-storm-uri-costs/.

Wildfires

Global wildfire season has become more extreme, with fires in Australia, Brazil, the Arctic, and the western United States devestating and displacing millions while incurring massive costs.[9] Thankfully, the Australian bushfire season, which runs annually from November to February, has quieted,[10] and no major fires have occurred in Brazil recently.

However, peat fires in Siberia continue to threaten the region. Siberia is often a victim to "zombie fires," the phenomenon involves fires started during the summer and that smoulder through the winter before eventually sparking new fires.11 They may become more common in years ahead as Russia, the fourth-largest emitter of greenhouse gases, warms at twice the rate of other countries due to its vast Arctic holdings.[12]

In North America, drought conditions are expected to continue throughout much of the Mexican Republic, with above-average fire potential expected.[13] In the western United States, wildfire "season" is quickly becoming known as wildfire years."[14] Those facts, have alarmed climatologists and wildfire researchers, particularly after recent catastrophic fires damaged more than 10.3 million acres.[15]

9 Jeff Masters, "Reviewing the horrid global 2020 wildfire season," Yale Climate Connections, 4 Jan. 2021, https://yaleclimateconnections.org/2021/01/reviewing-the-horrid-global-2020-wildfire-season/. Accessed 19 Apr. 2021.

10 Reuters, "Australia marks quietest fire season in a decade," CNN, 31 Mar. 2021, https://www.cnn.com/2021/03/31/australia/australia-fire-season-2021-intl-hnk/index.html. Accessed 19 Apr. 2021.

11 "Peat Fires Smolder in Siberia Despite Bone-Chilling Temperatures," The Moscow Times, 27 Jan. 2021, https://www.themoscowtimes.com/2021/01/27/peat-fires-smolder-in-siberia-despite-bone-chilling-temperatures-a72747. Accessed 19 Apr. 2021.

12 University of Colorado at Boulder, "The Arctic is burning in a whole new way," ScienceDaily, 28 Sept. 2020, https://www.sciencedaily.com/releases/2020/09/200928155746.htm. Accessed 19 Apr. 2021.

13 "North American Seasonal Fire Assessment and Outlook," National Interagency Fire Center, Natural Resources Canda, and Servicio Meteorológico Nacional, 13 Apr. 2021, https://www.predictiveservices.nifc.gov/outlooks/NA_Outlook.pdf. Accessed 19 Apr. 2021.

14 Deb Schweizer, "Wildfires in All Seasons?," USDA, 27 Jun. 2019, https://www.usda.gov/media/blog/2019/06/27/wildfires-all-seasons. Accessed 19 Apr. 2021.

15 "Facts + Statistics: Wildfires," Insurance Information Institute, n.d., https://www.iii.org/fact-statistic/facts-statistics-wildfires. Accessed 19 Apr. 2021.

Four Strategic Vectors for Critical Event Management

With a hurricane and wildfire season forecast to be more active than in years past, critical event managers must be prepared. According to a study conducted by Forrester, when asked about the most common type of critical events, 214 industry executives in the United States put natural disasters and severe weather at the top of their list.

Disaster response planning takes on heightened urgency. Fortunately, Everbridge has identified four strategic vectors of greatest importance for governments, organizations, and businesses seeking to mitigate the impact of severe weather events during layered crises.

1.People

The ongoing health crisis has drastically affected economies worldwide, with most nations pushed into a recession.[16] As a result, financial pressures have shrunk team sizes and resources. “The effect has been a reduction in capacity with little free bandwidth and a high risk of burnout for not just the front lines, but management teams as well.” says George Siegle, senior director of CEM solutions at Everbridge.

Critical event managers and teams have been hard-pressed to find relief and shouldn’t be surprised to learn that external partners — vendors and contractors, for example — may still be feeling a similar crunch. Like other organizations, they may have laid off or furloughed key positions, and as we noted earlier, some businesses may have shuttered for good. As the pandemic rolls on, the stability of any firm, regardless of size or stature, isn’t guaranteed.

Recommendations

Confirm that staff who play a role in your critical event response are still with your organization. This step is especially important for large or multinational companies with distributed teams. Do the same for the partners, vendors, agencies, and others who support your response efforts. Are your points of contact still there? Do they still have the same responsibilities?

4

Everbridge has identified four strategic vectors of greatest importance for governments, organizations, and businesses seeking to mitigate the impact of severe weather events during the global health crisis.

16 “The Global Economic Outlook During the Covid-19 Pandemic: A Changed World,” The World Bank, 8 June 2020, https://www.worldbank.org/en/news/feature/2020/06/08/the-global-economic-outlook-during-the-covid-19-pandemic-a-changed-world. Accessed 21 Jul. 2020.

Simplify and automate critical event management processes around a common operating platform that makes these processes easier to understand and perform. A well-implemented solution acts as a force multiplier, minimizes complexity, and enables reduced staff to get more done.

You may also consider outsourcing certain tasks to contractors or consultants. In addition, you could offload or shift tasks to other teams or regions, a common strategy for those with multiple regional or global command centers.

2. Processes

SOPs and response plans drafted before the global health crisis may have become less relevant or may now be invalid. New considerations such as spatial layouts and the size of gatherings may render your past processes and plans moot, as would changes to current staff or key contacts.

Recommendations

Review your SOPs. Has the unfolding of certain critical events required different protocols? For instance, if your SOP calls for assembling teams in a hallway or other indoor site, is your team still operating from an office setting or are they working remotely?

Automate wherever you can. If you're still spending time learning about critical events from news channels and the Internet (or spending time with phone trees when you need to inform people of an event), look to automation to help speed things up. This is even more critical when operating with reduced staffing.

Make sure that remote workers have everything they need to respond from their home offices. Supporting software tools should be easily accessible and perform well on a standard home Internet connection.

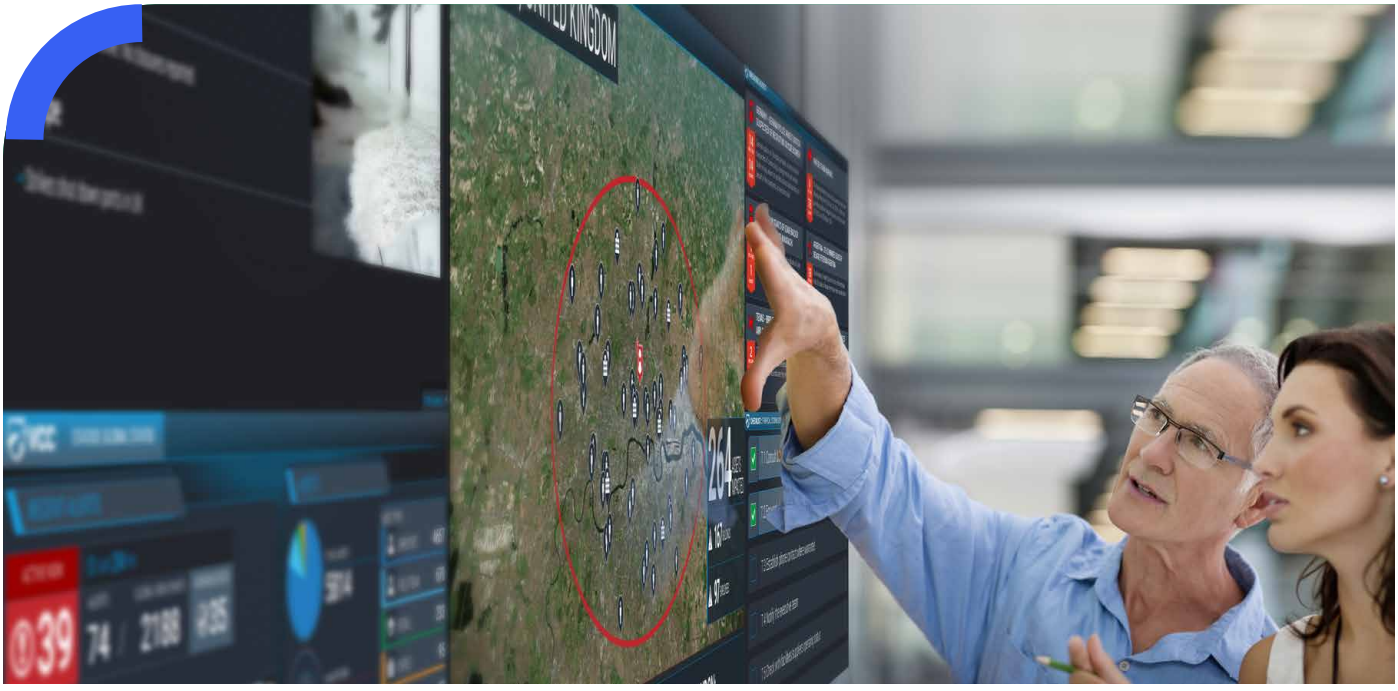
Review processes that intersect with customers, partners, and other external organizations. What are the process dependencies on these external partners? Do they still interact with you in the same way, or do you need to adjust their participation? How have the manufacturers and facilities you rely on adapted their processes during ongoing and emerging threats? Will your supply chain be disrupted or delayed due to the changing movement of goods and services?

Consider, for example, the disruption to supply chains during Winter Storm Uri, which blanketed most of Texas. In that instance, those ferrying supplies may have been diverted to new routes. “Drivers may be going into unfamiliar places with new risks or different government requirements, explains Greg Mummah, corporate solutions director at Everbridge. “Your team would have access to such information in Everbridge and can communicate the specifics to drivers via messaging or phone call.”

Updating your SOPs to accommodate these new realities has a corollary: practice. “You need to validate your new SOPs and build confidence with testing and drills,” says Siegle. “Tough to do right now with everything going on but it’s essential to practice so that your team performs in a severe weather event.”

3. Systems and Software

The global health crisis puts increased pressure on the systems you use to respond to critical events. Systems and software have to be capable of managing new risks while continuing to support long-running risk management. In some cases, systems put in place before the pandemic may now actually hinder your response to critical events. In other cases, you may have duplicate or overlapping systems that should be eliminated or consolidated for optimal efficiency.



Recommendations

Using existing data, create a map-based common operating picture. This involves consolidating your assets (people, buildings, partners, customers, etc.) and risk monitoring (health crises, tropical weather systems, man-made risk, etc.) into a single software platform.

You can drive critical event management from this common operating picture and use it as a framework for all risk management: improving process efficiency and consistency across the board while minimizing manual work.

Stress-test systems and software with your new and modified processes. Have you run virtual tabletop exercises to validate that systems support the processes? Do teams that are now remote have easy access and know how to participate? Are there any issues with throughput and scale?

Take this opportunity to improve your audit capability. From not knowing who performed a specific task to being unable to identify when and how an employee received a message, many systems lack detailed auditing. Consolidating on a CEM platform like Everbridge enables an inventory of all communications, activities, and tasks from a single place.

Eliminate redundant systems and software. This helps simplify operations and reduces both expense and complexity.

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4. Data and Intelligence

Certain critical events can take place seemingly overnight. When rapid changes occurr against a backdrop of other hazards faced by organizations, it creates added work and increased complexity for data gathering. In many cases, speed of change may outpace intelligence-collection capabilities or render existing assets, risk, and supporting data incomplete or obsolete. As we continue to weave risk management into our processes and daily lives, it becomes more important than ever to keep information current and have visibility into internal and external events as well as supporting data.

Recommendations

Keep asset data up to date in your common operating picture. Make sure all relevant facilities, routes, and people are added and that their data is correct. For mobile assets like lone or remote workers, ensure they can communicate trouble and share their location.

Reduce time-to-know by engaging partners for intelligence gathering. Many origins of open-source intelligence may be useful. Your systems should support easy integration with new sources, and current risk intel should reside in the same common operating picture as your assets.

Make sure vetted risk and asset information can be quickly and clearly conveyed to stakeholders. Having current risk intelligence is valuable, but its value is greatly reduced if you can't get the proper intelligence to the people who need it. Add value by taking risk data from internal or external sources in your common operating picture and convey it with maps and imagery to your stakeholders.

Carefully manage access to risk information and organizational data. For example, an executive protection team might want to see executive locations in the common operating picture but not want to share that information with other system users. Leverage role-based access to ensure users can only access what they're allowed to see and do.

The four vectors identified here will help professionals, organizations, and governments best prepare themselves for the challenges raised by multiple, co-occurring critical events.

Conclusion

The world hasn’t experienced a layering of crises on this scale in at least a century, and the response to these layering crises continues to be uneven for organizations, communities, and governments around the globe.

With the four vectors identified in this white paper, professionals, organizations, and governments can better prepare themselves for the challenges raised by multiple, co-occurring critical events. Supported by a robust CEM platform, teams can assess threats early, confidently locate their assets and people, and act swiftly and efficiently through automated processes: keeping teams safe and command centers running smoothly.

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About Everbridge

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Everbridge, Inc. (NASDAQ: EVBG) empowers enterprises and government organizations to anticipate, mitigate, respond to, and recover stronger from critical events. In today's unpredictable world, resilient organizations minimize impact to people and operations, absorb stress, and return to productivity faster when deploying critical event management (CEM) technology. Everbridge digitizes organizational resilience by combining intelligent automation with the industry's most comprehensive risk data to Keep People Safe and Organizations Running™.

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