

INSIGHT REPORT:

AMERICAS

PREPARING FOR HURRICANE SEASON AMID COVID-19

MAY 2020

KEY JUDGEMENTS

The Caribbean, Central America, and coastal areas of the eastern United States, as well as Mexico's pacific coast to a lesser extent, are most affected by hurricanes and tropical storms each year. Hurricane season in the Atlantic Basin and Eastern Pacific typically runs from June to November, albeit peaking between August and October.

The 2020 hurricane season is expected to yield 14-18 named storms, up to four of which are forecast to be major.

- › A country's level of preparation, supporting infrastructure and response capabilities play a major role in the impact of a hurricane, which can vary from short-duration travel disruption to serious infrastructural damage, in addition to multiple casualties – though less-developed countries and small islands are more vulnerable to long-lasting disruption. Everywhere, response capabilities are likely to be already strained by COVID-19 containment efforts.
- › Managers with operations in areas at risk from hurricane-related damage and disruption should ensure they have comprehensive procedures in place to ensure business continuity, considering the need for possible international relocation or evacuation and factoring in constraints related to ongoing efforts against the spread of COVID-19.
- › Plans should also factor in potential disruption to essential services, such as power and communications; having a clear structure (and redundant channels) for communicating decision points and actions throughout the organization – both locally and more broadly – is crucial.



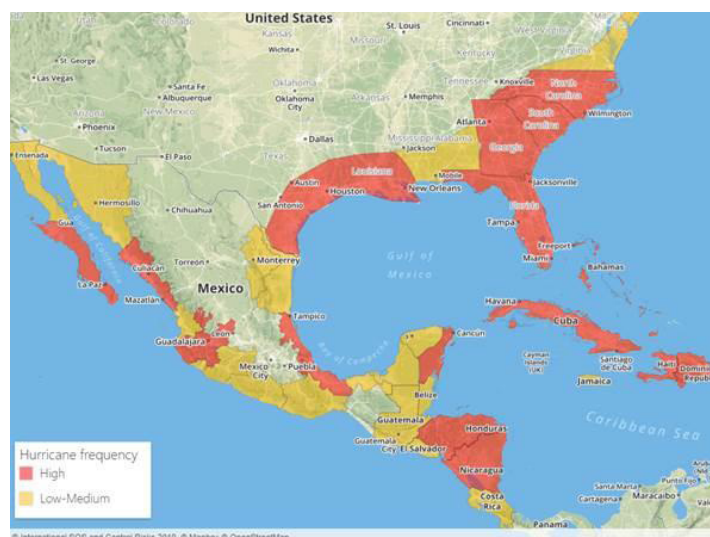
This report compiled by our Americas security team looks at the threats posed by hurricanes amid the specific context of the global COVID-19 pandemic, as well as providing recommendations to facilitate planning and decision-making by risk managers, drawing on their extensive experience of supporting our members in handling hurricane situations (and related evacuations). The Appendix provides a summary of preparatory and post-event decisions and actions.

OVERVIEW

Hurricanes and tropical storms affect the Caribbean, Central America and the coastal areas of the eastern US each year. In the Atlantic Basin and Eastern Pacific, **hurricane season runs from 1 June until 30 November**, with a typical peak between August and October.

Forecasters from the Colorado State University predict that this season will be above-average, with 16 named storms and eight hurricanes. They believe up to four of these will be Category 3 strength or above on the five-tier Saffir-Simpson Hurricane Wind Scale (see *table 1 below*). Although initially expected to be below- to near-average, the 2019 hurricane season was also above-average, concluding with 18 named storms and six hurricanes, three of which were major.

The map below shows the areas most affected by hurricane activity. Around one third of hurricanes that made landfall in Mexico over the past decade affected the state of Baja California Sur, with Jalisco, Quintana Roo, Sinaloa and Veracruz states also having experienced above-average activity. Most hurricanes in the US make landfall in Florida, Louisiana and Texas, though storms may travel as far north as Massachusetts state. Hurricanes can occasionally make landfall in north-western Mexico and travel into California state (US), though they typically weaken significantly in the process. In the Caribbean, the Bahamas and Cuba usually experience the most hurricanes. Hurricane Dorian in 2019 devastated the northern Bahamas, though its effects were felt as far north as Nova Scotia.



Map 1:

Frequency of hurricanes in the southern US and Central America

IMPACT

Of the five categories of Western Hemisphere tropical cyclones, **categories 3, 4 and 5 are considered major hurricanes.**

With wind speeds of at least **110 miles per hour** (177 kph), these hurricanes can cause significant damage to buildings and infrastructure.



The extent of a hurricane's impact also varies according to the level of preparedness, infrastructure and response plans in place – all of which can be adversely impacted, this season, by a strong focus on fighting the COVID-19 pandemic.

While the US National Hurricane Center (NHC) amended the initial Saffir-Simpson Scale to remove storm surge estimations, the latter is vital in determining the potential coastal damage impact, particularly in the mainland US. The National Storm Surge Hazard Maps as well as Sea Lake and Overland Surges from Hurricanes (SLOSH) models from the NHC help to forecast the potential surge damage caused by storms. Organizations should consult these resources when predicting the impact of as well as outlining their response to a tropical cyclone.

Travel disruption is the most common impact of such storms, which can flood, block or damage roads, as well as cause flight cancellations and temporary airport closures. Telecommunications and essential services such as electricity and water supply may also experience disruption. The level of damage is often higher and the consequent reconstruction period more protracted in less-developed countries and on small islands, as illustrated by the severe damage and disruption in the Leeward Islands caused by the passage of hurricanes Maria and Irma in September 2017. However, powerful hurricanes can have a major impact and pose challenges even in developed countries; Hurricane Florence in September 2018 caused around \$20bn in damages and 54 fatalities across the Carolinas in the US.

Efforts to counter the COVID-19 pandemic strain resources or infrastructure also normally involved in the response to hurricanes. Impacts of a potential second wave of the pandemic, which is a possibility even as most countries gradually relax travel restrictions and other mobility measures, may also compound challenges in the late hurricane season in October-November. Access to typical makeshift shelters such as stadiums and convention centers may be limited either as those are already in use as part of pandemic response efforts, or as a result of social distancing.

The situation in the city of Ponce in southern Puerto Rico illustrates the significant challenges COVID-19 presents in terms of managing the immediate aftermath of a natural disaster as well as longer-term rebuilding efforts. Restrictions on movement and business operations as well as COVID-19 related fund diversions severely hampered restoration initiatives. Hundreds of families in the area affected by an earthquake in January were reportedly still without homes when a weaker temblor struck on 2 May. The authorities struggled to accommodate victims of the May earthquake in shelters while ensuring inhabitants could maintain social distancing amid the COVID-19 outbreak.

If intrastate travel restrictions and mandatory self-quarantines persist, coastal communities may be unable to get support from out-of-state volunteers and emergency responders should a hurricane hit. Support from armed forces in relief efforts, a common feature in hurricane disaster management and humanitarian response, may be hindered. Supply chains, already facing significant disruption, could be further affected if flooding or evacuations make the overland movement of goods impossible or if strong winds ground cargo flights. Access to aircraft for any relocations may also be limited by new sanitary measures resulting from the pandemic.

Recovery efforts following a series of tornadoes that ravaged the south in early March were significantly hampered by COVID-19 considerations. **More than 500 victims across four states** were put up in hotel rooms rather than mass shelters due to concerns of contagion.





 CATEGORY	 WIND SPEED	 STORM SURGE	 DAMAGE
1	74-95 MPH (119-153KPH)	4-5 FT (1-2 M)	VERY DANGEROUS WINDS; WILL CAUSE SOME DAMAGE
2	96-110 MPH (154-177KPH)	6-8 FT (2-3 M)	EXTREMELY DANGEROUS WINDS; WILL CAUSE EXTENSIVE DAMAGE
3 MAJOR	96-110 MPH (154-177KPH)	9-12 FT (3-4 M)	DEVASTATING DAMAGE
4 MAJOR	96-110 MPH (154-177KPH)	13-18 FT (4-6 M)	CATASTROPHIC DAMAGE
5 MAJOR	96-110 MPH (154-177KPH)	>18 FT (>6 M)	CATASTROPHIC DAMAGE

Table 1: The Saffir-Simpson Hurricane Wind scale

CASE STUDIES

HURRICANE DORIAN, SEPTEMBER 2019

Hurricane Dorian hit Great Abaco Island (Bahamas) on 1 September 2019 as a category 5 hurricane. Dorian tied the record for the most powerful hurricane at landfall. The storm battered Great Abaco Island for nearly 24 hours, the longest an Atlantic hurricane has impacted a specific land area in over a century, resulting in catastrophic damage to homes and critical infrastructure, including Freeport's Grand Bahama International Airport (FPO) and Leonard M. Thompson International Airport (MHH) serving Marsh Harbour. The storm weakened as it moved north, hitting Cape Hatteras (North Carolina state, US) as a category 1 hurricane five days later. Over 70 people died in the storm.

Damages from Dorian were **estimated at \$3.4bn in the Bahamas and \$1.2bn in the US**. The storm also caused significant flooding and wind damage in the Canadian Maritime provinces as it progressed into the North Atlantic, causing an **estimated \$70m in damages**. Its passage disrupted power supply to **80%** of Nova Scotia province and prompted a local state of emergency in a downtown area of the provincial capital Halifax where it toppled a construction crane.

HURRICANE HUMBERTO, SEPTEMBER 2019

Hurricane Humberto – a category 3 hurricane at its peak – followed shortly after Dorian impacting Bermuda even as it moved away north of the island, after earlier passing east of the Bahamas.

While Bermuda was spared from a direct hit, strong winds during its passage caused some damage nonetheless, knocking down trees, damaging properties, disrupting power supply to around **80%** of the island and amounting to an **estimated \$25m in damages**.

RECOMMENDATIONS TO SECURITY MANAGERS

The location of your operations, support infrastructure available and capabilities of the authorities will all play a part in how comprehensively you can prepare for and respond to a hurricane.

WHAT YOU SHOULD DO NOW

Managers operating in at-risk locations should have a comprehensive policy in place to deal with hurricane season. This should take into account business-as-usual (BAU) processes and more extreme evacuation scenarios.

Considerations should be made for the potential of COVID-19 exposure and spread, such as factoring social distancing norms into evacuation and shelter-in-place plans. For example, transportation of a large number of staff typically feasible by bus may now instead necessitate utilization of several smaller vehicles instead. Emergency management officials in Florida (US) indicated that app-based rideshare services such as Uber were being considered as an option to transport people to shelters instead of public transport; similarly, hotels were also being considered as shelters instead of schools as has been the norm to ensure social distancing. This may translate into a heightened demand and consequently significantly decreased availability of viable transport and accommodation options. The primary focus should be maintaining the safety of staff.

Plans should also factor in potential disruption to essential services, such as power and communications. Secondary concerns should revolve around assessing the integrity of structures that may be affected during a tropical storm, including by heavy flooding, high winds and debris. Consider incorporating preventative measures into planning, such as securely covering exposed windows and sourcing sandbags to stack in vulnerable areas.

HOW TO RESPOND IN THE EVENT OF A HURRICANE

- › Review evacuation and business continuity plans as soon as you receive notification that a hurricane is forecast to affect your area of operations.
- › Confirm the number of staff – local employees, travelers and expatriates – in the areas likely to be affected and decide whether relocation/evacuation of staff is necessary.
- › Identify likely assistance requirements and ensure that the management team has clearly defined roles and responsibilities and understand what they need to do.
- › Do not rely solely on local or national emergency services, as they may be overstretched.

In some situations, relocating may not be feasible, and standing fast and allowing the situation to stabilize may be the only viable option. Several factors should be considered when deciding whether to relocate or evacuate staff in a disaster scenario:

- The ability to gather reliable information on the situation and any emerging threats, and the ability to communicate effectively within your organization and externally.
- The impact on essential infrastructure, such as power, telecommunications and roads.
- The impact on staff. Have they been accounted for? Have they been directly affected? Is there a requirement for medical support?
- The impact on the security environment. Do the local authorities have control of the situation?
- The impact on business operations.

Balance the need for staff to journey into affected areas against the impact. Travel to hurricane-affected areas should only be undertaken with careful risk assessment and forward-planning, which should consider a likely shortage of essential services, commodities, accommodation and transport.

Airports may be closed due to damage and commercial flights may be canceled to allow military or aid flights to land. Commercial flight options will be limited as most airlines affected by the pandemic run notably reduced operations due to decreased global travel. Additionally, any social distancing measures linked to COVID-19 – ranging from temperature screening/health checks at airports to seat blocking – may entail additional time for procedures at airports and limited availability of seats on flights. Medical challenges may require additional preparation and precaution. At least 12-24 hours prior to a storm's passage, evacuations options will become more limited due to precautionary suspensions of transport services. Therefore, decisions regarding evacuation scenarios and the activation of crisis management plans should be made as early as possible.

Finally, managers should be prepared to respond as soon as the storm has passed. Damage to critical infrastructure, the inability of emergency services to respond, lack of transportation and potential shortages of basic goods can exacerbate any post-disaster scenario. Managers should expediently locate and assess the status of staff in affected areas, manage the immediate needs of those who are ill or injured, and work to move staff out of affected zones as quickly as possible.

For follow-up questions about the assessments or recommendations in this Report, please call your dedicated line and ask to speak with the Regional Security Centre.

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APPENDIX 1: Summary of pre- and post- event decisions and actions

AHEAD OF A HURRICANE	DURING A HURRICANE	IN THE AFTERMATH OF A HURRICANE
<p>STAY INFORMED: Monitor the radio for developments and directions from the authorities.</p>	<p>KNOW WHAT TO EXPECT: The worst part of the storm is when the eye passes over and winds blow from the opposite direction. Trees, buildings and objects damaged by the first winds can be broken or destroyed by the second winds.</p>	<p>SAFETY CONSIDERATIONS: Put out any fires and monitor the building for smoke for several hours. Clean up spilled medication, bleach, gasoline or other flammable liquid that could become a fire hazard.</p>
<p>PREPARE YOUR PROPERTY: Monitor the radio for developments and directions from the authorities.</p>	<p>SHELTER: If you are not advised to evacuate, stay indoors and away from windows.</p> <p>The safest place to be is an underground shelter, basement or safe room. If no such location is available, a small, windowless interior room or hallway on the lowest level of a sturdy building is the safest alternative.</p>	<p>Gas leaks are possible due to damaged infrastructure; do not use candles, matches or lighters. Turn off the building's gas supply. Do not operate light switches if you suspect that there has been a gas leak. If you smell gas or hear a blowing or hissing noise, open a window and get everyone out of the building quickly; call the gas company or local fire service.</p>
<p>CONSIDER RELOCATION/ EVACUATION OPTIONS: Identify alternative accommodation in the event that evacuation is necessary, such as friends' or relatives' homes in other towns, public shelters or hotels. Factor COVID-19 related guidelines issued by local authorities into your planning, as public shelters may be limited due to social distancing requirements. Register related contact numbers in your mobile phone. Ensure you know how to reach your pre-identified accommodation and be ready to take alternative routes if major roads are closed or congested.</p>	<p>If caught outside, immediately get into a vehicle, buckle your seat belt and drive to the closest sturdy shelter. If flying debris is present, pull over and park. Stay in the car with the seat belt on. Put your head down below the windows; cover your head with your hands and a blanket if possible. If possible to get lower than the level of the roadway, exit the vehicle and lie in that area, covering your head with your hands.</p>	<p>ESSENTIAL SERVICES: Use the telephone only for emergency calls. Ensure that any mobile phones are kept charged where there is power. Where there are multiple phones, use one phone at a time, while keeping the others charged.</p> <p>During a blackout, turn off any electrical equipment that was in use when the power went out. If you use a generator, connect equipment that you want to power directly to the outlets on the generator. Never connect a generator to a building's electrical supply.</p>
<p>KNOW WHO TO CONTACT: Ensure you save contact numbers of the police/emergency services, your nearest Assistance Centre and other local numbers that could be helpful in an emergency. Write down these details in the event that your phone runs out of power and is unable to be recharged.</p>		<p>TRAVEL Roads may be blocked or subject to closure by the authorities. Ensure that your vehicle is adequately equipped with full spare tyres, supplies, life-safety equipment and enough fuel to complete your return journey.</p> <p>CRIME: In a major disaster, the security environment may become more complex, with the risk of looting, robbery and burglary increasing. Ensure that movement through severely affected areas is safe prior to setting out.</p>