

ERM Tool

Evaluating the Impact of Extreme Weather Events

BRIEF DESCRIPTION OF TOOL

Extreme weather events can be devastating to the ongoing operations of an enterprise. Recent events highlight episodes of extreme weather that might emerge and disrupt an organization's core processes. These extreme weather events might include:

- Severe flooding
- Extended drought
- Extreme heat
- Extreme cold
- Wildfires
- Sustained high winds
- Others

Organizations that evaluate the potential disruptions to their core business processes before a disruption occurs are better positioned to proactively develop plans that can be implemented to help limit the impact of disruptions to critical aspects important to their success and survival.

HOW TO USE

The tool on the next page can be used by an organization's leaders to consider the impact a potential extreme weather event may have on the entity's core operations. The first column in the tool highlights a number of typical core operations critical to most organizations related to the following processes:

- Revenue Generation
- Manufacturing, Warehousing, and Distribution
- Workforce Engagement
- Core Systems
- Financial Management
- Other Critical Processes

The tool then prompts business leaders to consider answers to these three questions for each of those core processes, should an extreme weather event occur:

- 1. How would the extreme weather event impact our organization?*
- 2. What is our organization's current plan to minimize the impact on our organization should the extreme weather event occur?*
- 3. What additional actions should our organization take to further minimize the potential impact of disruption caused by the event?*

Following the template, this tool provides an example of a completed assessment using a multi-location coffee company that considered the impact of severe flooding in their local area as an extreme weather event.

TEMPLATE TO GUIDE DISCUSSIONS ABOUT IMPACT OF EXTREME WEATHER ON CRITICAL OPERATIONS

The following template can be used as a guide for executives to evaluate their organization's exposure to significant consequences to an extreme weather event. Several different questions are provided under each key process to help prompt leaders to consider different potential points of failure. Some prompts may not be relevant to different businesses. Leaders might want to consider which type of extreme weather event might be most likely to emerge for their organization and use this template to help them evaluate the impact of that event on their organization's critical processes. They may want to do that for more than one extreme weather event. However, as they do so, they may find that their organization's planned actions may help address impacts from more than one event.

Consider How the Extreme Weather Event Might Impact These Key Processes:	How Would the Extreme Weather Event Impact Our Organization?	What is Our Organization's Current Plan to Minimize the Impact if the Severe Weather Event Occurs?	What Additional Actions Should Our Organization Take to Further Minimize Potential Impact of Disruption?
REVENUE GENERATION			
Sale and delivery of products or services: <ul style="list-style-type: none"> • <i>Can we access key customers; can they access us?</i> • <i>Will the usefulness of our core products or services be impacted by the event?</i> • <i>Might demand for core products or services be affected?</i> 			
MANUFACTURING, WAREHOUSING AND DISTRIBUTION			
Access to critical raw materials and supplies: <ul style="list-style-type: none"> • <i>Will our suppliers be able to produce needed products?</i> • <i>Will transportation of needed raw materials/supplies be delayed?</i> • <i>How will the event impact availability of raw materials?</i> 			

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MANUFACTURING, WAREHOUSING AND DISTRIBUTION CONTINUED			
Manufacture core product: <ul style="list-style-type: none"> • Will our manufacturing facilities be able to operate? • Will core utility systems (power, water, etc.) be available to support ongoing operations? • How will distribution and transportation of finished products to our retail facilities or direct to customers be affected? 			
Store and protect inventories and key supplies: <ul style="list-style-type: none"> • How will the event affect our warehouse facilities? • How will the event affect our retail locations? 			
WORKFORCE ENGAGEMENT			
Ensure talent and workforce are able to perform key tasks <ul style="list-style-type: none"> • How will employees be impacted personally by the event? • Will employees be able to work onsite or remotely? • Will onsite work conditions be acceptable or even allowed? 			

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CORE SYSTEMS			
IT Systems: <ul style="list-style-type: none"> • Will our core IT systems be able to function to support key operations? • Will employees be able to access needed IT systems remotely? • Will IT service providers be able to troubleshoot IT issues on our behalf? • Will access to cloud computing and storage be disrupted? • How will the event impact our IT data center facilities? • Do we have sufficient work-around procedures should a prolonged IT disruption occur? 			
FINANCIAL MANAGEMENT			
Financial Systems: <ul style="list-style-type: none"> • Will our core financial systems be operational? • Will we be able to access core banking and other financial payment systems? • Will we be able to process customer receipts? • Will we be able to pay vendors? • How will payroll processing be impacted? 			
OTHER CRITICAL PROCESSES			

EXAMPLE FOR A MULTILLOCATION COFFEE COMPANY:

A multilocation coffee company operates in 15 locations in a three-county region, featuring locally roasted and brewed coffees and locally sourced pastries from area bakeries. The company's leaders are particularly concerned about the impact of severe flooding on the company's operations. They used this template to evaluate the potential exposures of a severe flooding event in their local area.

While their focus was on considering the impact of severe flooding on their organization, they realized that a number of their current plans and additional actions would help strengthen their resilience against potential exposures to other weather events, such as extreme heat or wildfire, and other non-weather-related events such as a building fire.

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REVENUE GENERATION			
Sale and delivery of products or services: <ul style="list-style-type: none"> • Can we access key customers; can they access us? • Will the usefulness of our core products or services be impacted by the event? • Might demand for core products or services be affected? 	<ul style="list-style-type: none"> • Severe flooding may temporarily cut off access to our locations. Road access may be damaged with road repairs significantly delayed. • Some of our locations are in low-lying areas that may flood. • Customers may be personally impacted by the flooding, thus less able to purchase our coffee and bakery products. 	<ul style="list-style-type: none"> • We have contracts with an experienced disaster recovery company that will be onsite within hours to clean out damaged facilities. • We have mobile "food trucks" that we can use to establish temporary operating locations to reach our customers. 	<ul style="list-style-type: none"> • As we evaluate lease renewals and new store locations we are avoiding locations in low-lying areas. • We are also seeking locations that have multiple access roads to the location. • For our more flood-prone locations we have stockpiled sandbags and trained managers on installation.
MANUFACTURING, WAREHOUSING AND DISTRIBUTION			
Access to critical raw materials and supplies: <ul style="list-style-type: none"> • Will our suppliers be able to produce needed products? • Will transportation of needed raw materials/supplies be delayed? • How will the event impact availability of raw materials? 	<ul style="list-style-type: none"> • Deliveries of coffee beans, paper products and other foods may be temporarily delayed due to road closures. • Bakery products may become unavailable due to flooding experienced by local bakeries. • Our local water utility may be damaged, limiting access to fresh water. 	<ul style="list-style-type: none"> • We maintain a one-month supply of unroasted beans. • Core paper products (coffee cups, filters, napkins, etc.) are stored at each location and at our central warehouse. • Each store is maintaining large containers of bottled water that are rotated on a ongoing basis, in the event water supply is impacted. 	<ul style="list-style-type: none"> • Consider identifying an alternative storage facility that is not in areas prone to flooding and with multiple road access.

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MANUFACTURING, WAREHOUSING AND DISTRIBUTION CONTINUED			
Manufacture core product: <ul style="list-style-type: none"> Will our manufacturing facilities be able to operate? Will core utility systems (power, water, etc.) be available to support ongoing operations? How will distribution and transportation of finished products to our retail facilities or direct to customers be affected? 	<ul style="list-style-type: none"> While we don't "manufacture" products, our coffee bean roasting facility may be impacted by flooding, given our roasting facility is located near the river running through our city. 	<ul style="list-style-type: none"> Our roasting equipment is on a raised platform which would not be impacted by flooding in the facility that is less than 3 feet deep. 	<ul style="list-style-type: none"> Explore feasibility of having a second roasting facility in a different location that is not near flood-prone site. Consider partnering with other food retailers in the area on supporting an offsite kitchen and food storage backup location as a shared service.
Store and protect inventories and key supplies: <ul style="list-style-type: none"> How will the event affect our warehouse facilities? How will the event affect our retail locations? 	<ul style="list-style-type: none"> The storage of our coffee products that are shipped to us from suppliers is in the same location where roasting occurs. Flooding could damage our inventory. Some inventory is on site at each location. Those locations in low-lying areas may have damaged inventory. 	<ul style="list-style-type: none"> Inventory storage bins are elevated so that all products are stored at least 3 feet above floor level. Each store is maintaining a week's supply of key already roasted coffee and other needed products so that inventory storage is not limited to our roaster facilities. 	<ul style="list-style-type: none"> Consider opening a second offsite storage facility in each of our three counties served. Work with each store location to elevate the storage of product on shelves that are at least 3 feet above floor.
WORKFORCE ENGAGEMENT			
Ensure talent and workforce are able to perform key tasks <ul style="list-style-type: none"> How will employees be impacted personally by the event? Will employees be able to work onsite or remotely? Will onsite work conditions be acceptable or even allowed? 	<ul style="list-style-type: none"> Team members who work at each store location may not be able to obtain access to the location from their homes. Roasting coffee beans requires training and experience to properly roast beans. If those personnel are not able to access the facility, we may be unable to roast beans. 	<ul style="list-style-type: none"> We are in the process of cross training store and roaster facility personnel so that they are able to perform core operations. 	<ul style="list-style-type: none"> Prioritize stores that we will open and shift personnel to staff those stores until we have capacity to reopen all locations.

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IT Systems: <ul style="list-style-type: none"> Will our core IT systems be able to function to support key operations? Will employees be able to access needed IT systems remotely? Will IT service providers be able to troubleshoot IT issues on our behalf? Will access to cloud computing and storage be disrupted? How will the event impact our IT data center facilities? Do we have sufficient work-around procedures should a prolonged IT disruption occur? 	<ul style="list-style-type: none"> Local electric utilities may be damaged causing interruptions in power needed to run core IT systems. Internet access may be temporarily halted. 	<ul style="list-style-type: none"> We have backup servers and power generators that would allow us to restore core systems in less than 3 hours. Backup of all data occurs every hour using cloud storage that can be accessed from other locations. 	<ul style="list-style-type: none"> Enter into a formal agreement with third-party IT providers who can immediately support us in the event of an emergency with onsite and remote personnel. Consider contracting with satellite internet service provider that can serve as a backup should our local internet service be disrupted.
FINANCIAL MANAGEMENT			
Financial Systems: <ul style="list-style-type: none"> Will our core financial systems be operational? Will we be able to access core banking and other financial payment systems? Will we be able to process customer receipts? Will we be able to pay vendors? How will payroll processing be impacted? 	<ul style="list-style-type: none"> Customer payments are dependent on the ability for our stores "point of sale" machines to be functional. Power or internet disruptions may impact ability to process customer payments. If locations are not able to operate for sustained periods of time, we will experience cash shortfalls that may make it difficult to pay vendors on a timely basis. 	<ul style="list-style-type: none"> Each store has an already-installed power generation system that can run core operations for prolonged periods of time assuming there is sufficient fuel available to power generators. Point of sales systems batch process financial transactions. Data can be downloaded from store point of sales machines and transported to a different location for processing with external financial service providers. 	<ul style="list-style-type: none"> Work with our local bank to increase line of credit to provide quick access to funds in the event of a cash shortfall.
OTHER CRITICAL PROCESSES			