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Business Continuity & Resiliency

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Why do I need a strong resiliency plan?



Continuous Business Operations

Require strategic planning and product implementation well in advance of a business interruption



In The Past 50 Years

The number of disasters worldwide has more than quadrupled to around 400 a year¹



Cyber Threats are on the Rise

The volume and variety of cyber threats today cross all sectors and industries



Know Where You're Weak

Well in advance of an event and establish the right back-up protocols



People Are Critical

Protect and support your constituents



A Full Risk Management Strategy

With a well defined and developed plan, you can reduce impact to the business

¹ The Economist: Weather-related disasters are increasing 2017



Natural Disasters

“The year 2017 was marked as the most expensive year for disasters in the US, with total damage exceeding \$300 billion (NOAA, 2017)”





Hurricane Harvey and Irma

Financial Impact to Households, Small Business and Local Commerce

Impacts

Findings

Analysis

Household Impact



Account inflows and outflows dropped
Debt Payments dropped



- Impact on one million households
- Disasters such as hurricanes disrupt the flow of money and people's financial routines

Small Business Impact



Depressed activity and curtailed inflows and outflows

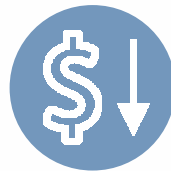


- Significant short-term financial impact to small business and the families that own them.
- Large reduction in inflows and outflows were material and significant for the Houston and Miami Economies. This corresponds to several days of missed economic activity

Local Commerce Impact



Local consumer commerce declined in Houston and Miami

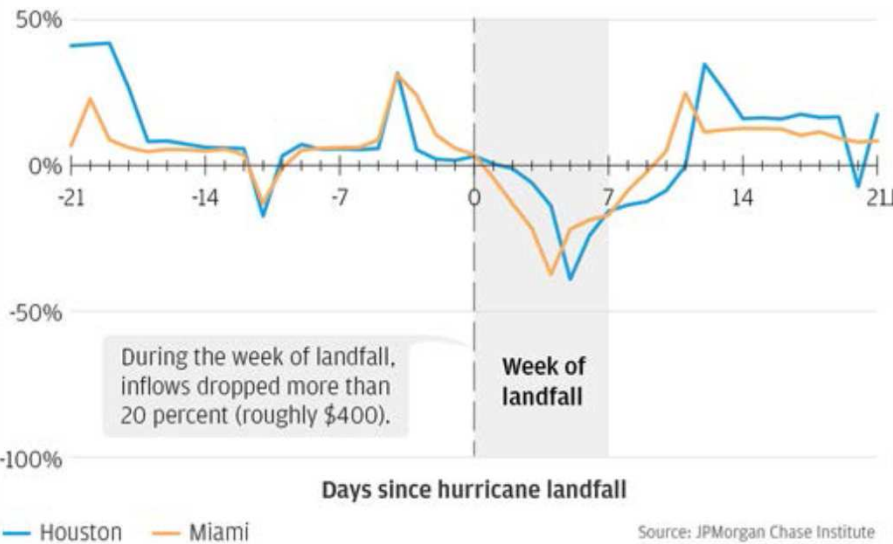


- The storms damaged short-term economic activity through the slowing of local commerce
- Natural Disasters are not only a threat to life and property but to the economic vibrancy of a metro region

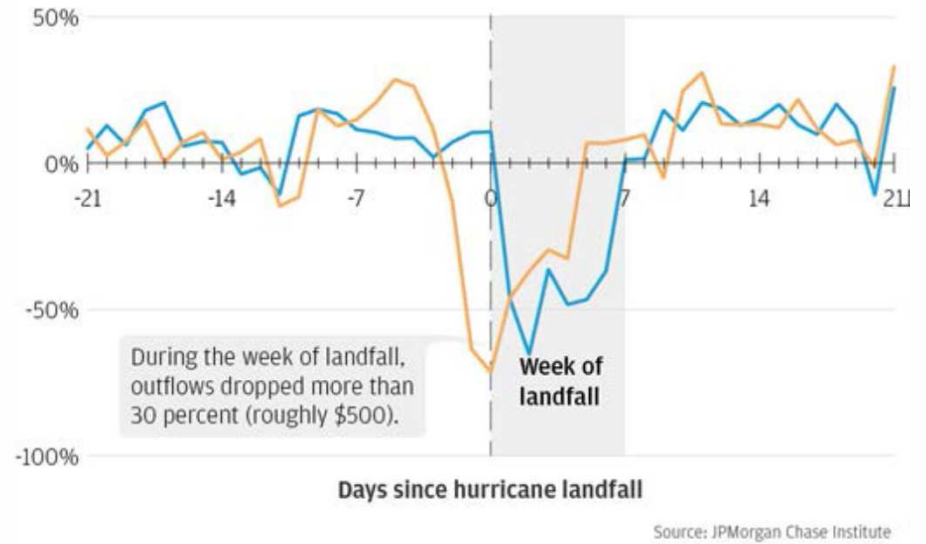


Hurricane Harvey and Irma

Total checking account inflows
(7-day lagged moving average)



Total checking account outflows





Thomas Fire (2017)

Key Facts

- Impacted Santa Barbara County and Ventura County
- Largest wildfire in modern California history
- 281,893 acres burned
- At least 1,063 Structures destroyed
- Cost more than \$204.5 million to fight
- Over \$2.176 billion in damages
- Over 104,607 evacuated



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Northern California Wildfires (2017)

Key Facts

- Impacted Napa, Lake, Sonoma, Mendocino, Butte, and Solano Counties
- At least 245,000 acres burned
- At least 8,900 structures damaged
- Over \$9.4 billion in damages
- Over 90,000 evacuated, 192 fatalities
- Predicted to cost the US economy at least \$85 billion dollars.





Cyber Threats

“Cyberattacks against local, state and federal government agencies are increasing. A 2016 Government Accountability Office report found that between 2006 and 2015, the federal government alone saw a 1,300 percent increase in information security incidents”

“Only 28 percent of local respondents cited a ‘very high’ ability to recover from a cyberattack”

“Without cybersecurity training, 30 to 60 percent of individuals fell for a social engineering attack”

CYBERATTACKS STRIKE EVERY LEVEL OF GOVERNMENT

Some of the most serious attacks against public sector networks in recent years include:

Federal government: Hackers have breached data files and websites of federal offices and agencies to gain the sensitive personal information—including Social Security numbers and home addresses—of millions of employees, contractors and taxpayers.

State government: Hackers compromised various government websites across four states, littering the sites with pro-terrorist propaganda, though it’s unclear whether a terrorist group was behind the hacks.

City government: As part of local protests, hacktivists attacked a city government’s website, bringing it offline for at least 16 hours. This was an example of a rising trend in hacktivist activity targeting state and local governments.



Disaster Preparedness

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Stages of Disaster Preparedness

Ideal

On-site access to all network servers, phone lines, and internet

Stage 1

Alternate location access to all network servers, phone lines, and internet.

Stage 2

Remote access to all network servers, phone lines, and internet.

Stage 3

No access to network servers or internet but access to phone lines from remote location.

Stage 4

No access to network servers, phone lines, or internet from any location.

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Disaster Preparedness Actions

Ideal

On-site access to all network servers, phone lines, and internet

Stage 1

Alternate location access to all network servers, phone lines, and internet.

Stage 1 – If you are unable to travel to worksite, travel to alternate office. At all stages, Investment staff shall be in contact to confirm cash and trade settlements before any investment decisions are made.

Stage 2

Remote access to all network servers, phone lines, and internet.

Stage 2 - If you are unable to travel to an alternate office, access the agency servers, internet and phone lines from your home or other remote location.

Stage 3

No access to network servers or internet but access to phone lines from remote location.

Stage 3 – If you unable to access the agency servers and internet remotely, utilize phone lines from home or other remote location.

Stage 4

No access to network servers, phone lines, or internet from any location.

Stage 4 – If you do not have any access to agency servers, internet, or phone lines from any location, external expert will take control of the portfolio (establish term maximums).

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Business Resiliency Mission Statement

Ensure your financial partner has the ability to continuously operate during business disruptions.



PEOPLE

Develop dynamic, knowledgeable, risk sensitive community of risk professionals

CLIENT

Demonstrate our ability to continue business during adverse situations

RISK CONTROLS

Effectively manage the resiliency controls in the risk and regulatory environment

PROCESSES

Drive consistency, efficiency and effectiveness through global processes

INNOVATIVE TECHNOLOGY

Develop and leverage effective tools to enhance our capabilities

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Resiliency Risk Implementation Model

MAINTENANCE AND REPORTING

- ▶ Validate to standards
- ▶ Change management
- ▶ Effective reporting

TESTING / AWARENESS

- ▶ Validate plans
- ▶ Proactive training
- ▶ Awareness campaign

DOCUMENT BUSINESS AND CRISIS PLANS

- ▶ Quality planning
- ▶ Key components
- ▶ Notification
- ▶ Crisis plan



- GOVERNANCE OVERSIGHT**
- ▶ Set priorities
 - ▶ Transparency
 - ▶ Major expenditures
 - ▶ Support operating model
 - ▶ Escalation

RISK ASSESSMENT

- ▶ Identify threats
- ▶ Understand vulnerabilities
- ▶ Assess concentration risk

BUSINESS IMPACT ANALYSIS

- ▶ Assess risks
- ▶ Establish tolerances
- ▶ Derives recovery time objectives
- ▶ Interdependencies requirements

STRATEGIES / SOLUTION

- ▶ Mitigate risk
- ▶ Meet RTOs
- ▶ Solution meets business need





Treasury Readiness: Are You Prepared?

Consider the following:

- How will you pay your employees? How will you pay the employees who do not have checking accounts?
- How much line of credit do you need in case you're unable to make deposits to cover your disbursements?
- How will you process your ACH and wire transfers to pay your vendors?
- How will your employees pay for emergency needs?
- How will you access your online reports?



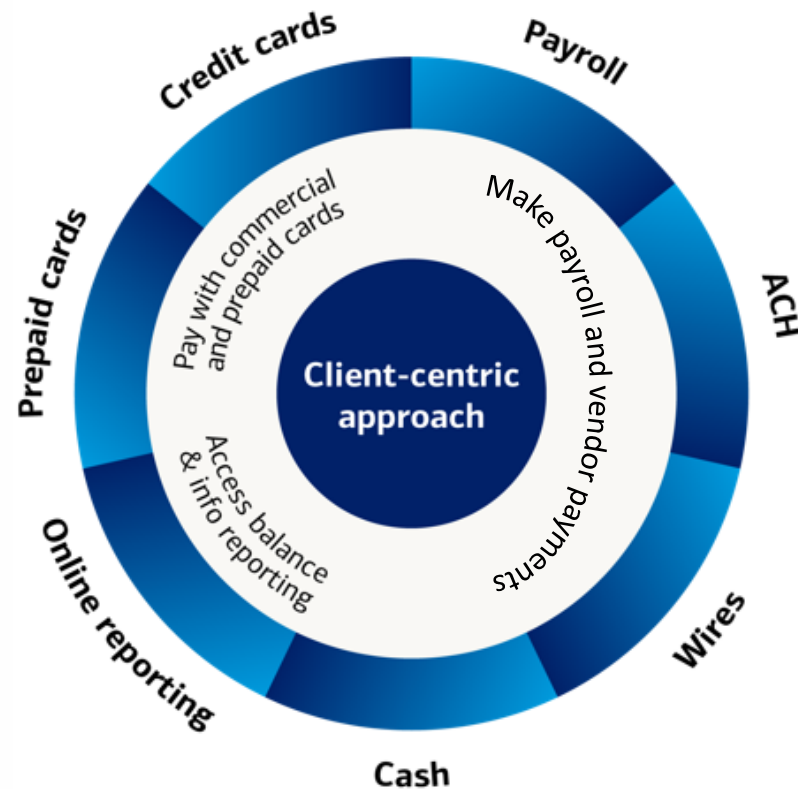
Your Bank can help you address needs like:

- Payables—cover payroll and make urgent payments
- Receivables—track collections
- Treasury—monitor your cash position (balance and detail activity) remotely

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Your Bank can help support your contingency plan



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Need	Banking Solutions
Online Reporting	<ul style="list-style-type: none"> ▪ Balance reporting, lockbox, controlled disbursement and other critical reports can be faxed to your business continuity site ▪ Mobile capabilities for access to track daily cash management activities
Receivables	<ul style="list-style-type: none"> ▪ Lockbox reports can be faxed to your business continuity site ▪ Mobile capabilities for flexible access to daily
ACH	<ul style="list-style-type: none"> ▪ Several backup procedures are offered –and may be customized according to your requirements ▪ Examples of file deliveries: HTTPs, email
Wire Transfers	<ul style="list-style-type: none"> ▪ Wire initiation can be made via telephone and secure PINS ▪ Mobile review and approval of pending payments
Payroll	<ul style="list-style-type: none"> ▪ Replicate the last payroll file to help ensure funds are disbursed to your employees on time ▪ ACH and wire transfers are options for your employees who do not have direct deposit ▪ Prepaid cards may be an option for your employees who do not have bank accounts
Credit Cards	<ul style="list-style-type: none"> ▪ Emergency card issuance—generally with next-day delivery ▪ Card cancellation and replacements processed by your card program administrator directly ▪ 24/7/365 customer service support
Prepaid Cards	<ul style="list-style-type: none"> ▪ Emergency access cards for employees ▪ New prepaid card programs generally can be setup in two to three days
Cash	<ul style="list-style-type: none"> ▪ Understand your cash needs and adjust cash ordering well in advance of a possible event ▪ Establish a deposit work order sheet to expedite cash orders ▪ Web ordering available as well ▪ Leverage Retail branch locations



What else can we do to keep my business running smoothly in an emergency?



Make emergency payments



Mobile Options

Receive emergency payments



Mobile Options

Make emergency deposits



Remote Check Deposit

Keep funds earning interest



Alternative Liquidity Options

Make emergency purchases



Card Programs

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