2015 Year In Review: Valuable Lessons & Best Practices

For copies of the slides presented during today’s session, please visit:

http://agil.me/2016lessons

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1. 2015 Year-In-Review
2. Disaster Lessons Learned
3. Taking Action
- United States: 45 Presidentially Declared Disasters, Affecting 32 states, territories and tribal regions
- 10 U.S. disasters causing over $1 Billion in Damage
  - Caused 155 fatalities
  - Result of 5 distinct disaster types (typical is 3-4)

Historical Averages:
- 1980-2015 Average is 5.2 “$1+ Billion events” per year
- 2011-2015 Average is 10.8 “$1+ Billion events” per year

* Data as of January 6, 2015

2015 U.S. Disasters
Worldwide data (courtesy of Munich Re):

- Insurers worldwide paid out over $27 Billion for natural disaster claims
  (lower than $31 Billion in 2014 and the 10-year average of $56 Billion)

- Overall damage cost, including that not covered by insurance, was $90 billion, the lowest level since 2009

- 23,000 people were killed by natural disasters.
  Compared to 7,700 in 2014, but still well below 10-year average of 68,000. (Nepal Earthquake caused highest toll)

* Data as of January 6, 2015
45 Total Disaster Declarations (FEMA.gov)

* Declarations as of January 6, 2016
Source: https://www.fema.gov/disasters/grid/year

2015 Federally Declared Disasters
Estimated Billion Dollar Disasters in the United States

1. February - Central & Eastern Winter Storm (19 States, Boston alone $1 Billion +)
2. April - Midwest Ohio Valley Severe Weather (16 States)
3. April - South/Southeast Severe Weather (12 States)
4. May - Southern Plains Tornadoes (7 States)
5. May - TX & OK Flood & Severe Weather
6. June - Central & Northeast Severe Weather (12 States)
7. October - SC & Southeast Flooding
8. Summer/Fall - West & Alaskan Wildfires (8 States)
9. December - Midwest Tornadoes & Flooding (6 States)
10. 2015 - Western Drought (8 States)

* Data as of January 8, 2015 – Source: https://www.ncdc.noaa.gov/billions/events

2015 Billion Dollar Disasters
U.S. 2015 Billion-Dollar Weather and Climate Disasters

Western and Alaskan Wildfires Summer-Fall 2015

Western Drought Entire Year

Southern Plains Tornadoes May 6–10

Texas and Oklahoma Flooding and Severe Weather May 23–26

Texas Tornadoes and Midwest Flooding December 26–29

Central/Northeast Severe Weather June 21–25

Central/Eastern Winter Storm Cold Wave February 14–20

South Carolina and East Coast Flooding October 1–5

Midwest/Ohio Valley Severe Weather April 7–9

South/Southeast Severe Weather April 18–20

This map denotes the approximate location for each of the ten billion-dollar weather and climate disasters that impacted the United States during 2015.
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US Billion $ Disasters 1980 - 2012

Billion Dollar Weather/Climate Disasters

1980 - 2012

Courtesy of: National Climate Assessment/NOAA NCDC
Billion-Dollar Disaster Event Types by Year (CPI-Adjusted)

- Winter Storm
- Wildfire
- Trop Cycl
- Severe Storm
- Freeze
- Flooding
- Drought

5-Year Mean


Courtesy of: National Climate Assessment/NOAA NCDC
Agility Disaster Events
Categorized by Type

<table>
<thead>
<tr>
<th>Interruption Type</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isolated</td>
<td>254</td>
</tr>
<tr>
<td>Winter Storm</td>
<td>163</td>
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<tr>
<td>Hurricane</td>
<td>105</td>
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<tr>
<td>Severe Weather</td>
<td>31</td>
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<tr>
<td>Thunderstorm</td>
<td>27</td>
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<tr>
<td>Flood</td>
<td>15</td>
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<td>Fire</td>
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<td>Ice Storm</td>
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<tr>
<td>Wildfire</td>
<td>3</td>
</tr>
<tr>
<td>Earthquake</td>
<td>2</td>
</tr>
<tr>
<td>Planned Event</td>
<td>2</td>
</tr>
<tr>
<td>Power Outage</td>
<td>2</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>637</strong></td>
</tr>
</tbody>
</table>

Isolated Events 40%
Agility Disaster Events
Categorized by Recovery Element

- Connectivity: 20%
- Power: 50%
- Space: 17%
- Technology: 13%
2015 Lessons Learned
Top Stories & Events from 2015 Offering Lessons:

A. Natural Disasters
B. Unique Events
C. Social Unrest
D. Accidents
E. Pandemic
F. Terror / Violence
Lessons Learned...

A. Natural Disasters
Nepal Earthquake

- 7.8 Magnitude Earthquake occurred northwest of the capital Kathmandu
- Killed approximately 8,000 people and injured an additional 21,000+
- Hundreds of thousands let homeless
- Additional aftershocks were numerous and severe, including one that measured 7.3 and killed an additional 200+, injuring 2,500+
Headline:
Nepal Earthquake

Lessons Learned:

• Remote regions could be without utilities for months, if not years
• Aftershocks can cause delays in recovery
• Don’t overlook this threat, especially in West Coast and New Madrid Seismic Zone (Central US)
• Experts warn the Cascadia Subduction Zone is overdue by 75 years for a major quake (Canada to N. California)
• West Coast threat includes major quake, liquefied soil regions and tsunamis
California Wildfires

- 6,337 fires total
- 307,000+ ac burned
- Butte Fire one of the worst, burning over 70,000 acres and killing two people
- Butte and Valley fires in CA were among the Top 10 costliest in state history
- Most destructive fire season nationally since 2011, burning 10+ million acres
Lessons Learned:

• Incorporate loss of your ENTIRE FACILITY
• Know your options for relocating personnel, forwarding telephones and obtaining replacement equipment.
• Have access to petty cash for emergency supplies
• Have a strategy for notifying employees, customers and stakeholders (remote website access)
• Follow mitigation protocols if you are in a threatened region
• All it takes is one spark!
South Carolina Flooding

- Fueled by moisture from Hurricane Joaquin just off the SE coast, rain event culminated in a 4-5 day total over 25 inches in some places in South Carolina, and a 1-in-1000 year flood
- 19 Deaths, 18 Dams breached, 541 roads closed incl’d I-95
- Many businesses & homeowners affected had no flood insurance

South Carolina Flooding
Lessons Learned:

• Where it rains, it can flood
• Know your local flood zones & possible threats
• Be aware of storm water drainage paths, gullies & lines
• Pay attention to watches, warnings & emergency notifications
• Practice evacuation plans & have relocation strategy in place
• Prepare for supply chain disruptions (roads closed, bridges out, travel impaired, airports closed, ports closed)
Lessons Learned...

B. Unique Events
Headline:

Papal Visit to the U.S.

- Pope Francis visits three major American cities: Philadelphia, New York and Washington, DC
- Widely regarded as one of the most popular and loved Pope’s, massive crowds attended events and lined the routes traveled by Pope Francis’s motorcade
- Large areas sealed off and transportation shut down in each city
- Law Enforcement & Traffic control made typical commuting difficult or impossible
Lessons Learned:

• Consider using your Work-From-Home Strategy and test beforehand
• Ensure logistics and transportation needs account for delays and closures, as well as any unforeseen effects of closures
• Postpone deliveries, meetings, special events, and work to move critical deadlines if possible
• Consider physical location proximity to events and travel routes, overall property security, employee safety, potential crowd control
Upstate New York Prison Escape

- June – Two convicted murderers escape from a Maximum Security facility in Dannemora, New York
- Inmates were on the loose for over 3 weeks, causing many schools and businesses to remain closed during the manhunt
- Massive law enforcement presence for weeks
- Long term investigation left many places throughout the region inaccessible due to crime scene status
Lessons Learned:

• Know your environment and any possible neighbors with inherent threats
• Plan for the safety and security of your employees and visitors
• Have a strategy for any situation that may affect employees’ families (school closings, etc.)
• Know your local law enforcement leaders, and how to contact them
Lessons Learned...

C. Accidents
Amtrak Derailed - Philadelphia

- Washington, DC to NYC train derailed in Philadelphia
- 8 passengers were killed and over 200 injured, 11 critically.
- Train was traveling at 102 mph in a 50 mph zone of curved tracks when it derailed.
Lessons Learned:

• Once again…Know Your Area and threats nearby
• If your organization relies on heavily traveled corridors, consider how you would operate if those were compromised
• If key personnel utilize mass transit, how can your operations be maintained if those personnel are unable to report to work?
• Consider hazmat transportation on corridors near you (rail lines, pipelines, ports, storage depots, etc.)

Amtrak Derailment
China Warehouse Explosions

- Series of massive explosions in Tianjin, China at a container storage station
- Possibly the result of hazardous materials stored improperly
- Official casualty report was 170+ deaths, & 800+ injured
- Entire port disrupted, Toyota and John Deere plants shut down, port security & safety checks increased (delays)
Lessons Learned:

• Incidents at major chokepoints of logistics networks can cripple an industry overnight. Have backup plans in place for both supplier networks and transportation providers.

• Be prepared for delays throughout your supply chain, even if not directly impacted.

• Have strong communications, social media & press liaison personnel prepared for such incidents, & train for them.
Lessons Learned...

D. Social Unrest / Demonstration
Baltimore Protests

- Following the death of a suspect in the custody of the Baltimore Police, residents protested, with some events turning violent.
- Civil unrest resulted in dozens of police officers injured, 250+ arrests, 300+ businesses damaged, 150 vehicle fires, 60 structure fires, stores looted, and a state of emergency declared in the city limits of Baltimore.
- The death of the suspect was ruled to be a homicide, with charges issued against the officers involved.
Lessons Learned:

• Beyond the obvious safety & physical property concerns, consider the impact of curfews and changes to mass transit schedules on your employees and customers
• Have the ability to quickly and effectively communicate with staff, customers and other stakeholders at a moment’s notice, and from a remote location
• Be prepared for a lengthy recovery/relocation/crisis management. Be able to sustain employees, relieve staff, bring in additional resources
• If items or materials of value are present at your location, consider enhanced security during uncertain times
• Engage with, and get to know your local community.
E. Pandemic Outbreak

Lessons Learned...
Measles Outbreak – Disney Park in California

- Throughout 2015, 189 people from 24 states and DC were reported to have measles
- 60% were part of a large multi-state outbreak linked to a Disney amusement park in California
- Outbreak attributed to a traveler infected overseas, then visited the amusement park while infectious
- Over 80% of 2015 cases occurred among persons who were unvaccinated or had unknown vaccination status.
Headline:
Measles Outbreak – Disney Park in California

Lessons Learned:

• Get Vaccinated
• Have a strong communications strategy in place
• Practice strong infectious control measures in your workplace
• Help employees & staff protect themselves (training & workshops)
• Practice work-from-home strategy regularly
• Diversify your supply chain
Lessons Learned...

F. Terror
Headlines throughout the year:

- Terror across France (Charlie Hebdo & Paris Attacks)
- Russian Airline Crash (Suspicion of bomb aboard)
- Charleston Church Shooting
- Chattanooga Recruiting Station Shooting
- Oregon Community College Shooting
- San Bernardino Shooting
- Planned Parenthood Shooting
Lessons Learned:

• If you See Something, Say Something. Stay Vigilant.
• Exercise both your evacuation and “shelter-in-place” plans
• Train employees to recognize odd and potentially threatening behavior by fellow employees and have a policy for reporting safely and anonymously
• Review your security and building access policies
• Stay engaged with employees, proactively address issues through Employee Assistance Programs, etc.
Taking Action
Feb: Social Media & Disaster Recovery
March: Preparing For Severe Spring Weather
April: Supply Chain Preparedness
May: Hurricane Preparedness
June: Leading with Resiliency During a Crisis
July: Top 5 Risks to Business in America
August: Impact of Preparedness on Bottom Line
September: National Preparedness Month
    - Four Separate Training Topics
    - One each week
October: Winter Weather Preparedness
November: Start Building Your D/R Plan Today!
December: Top 10 Most Common Disaster Mistakes

2016 Training Topics
QUESTIONS?

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Today’s session has been recorded.
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