

Improved Disaster Risk Management for Ports in the Caribbean Business Continuity

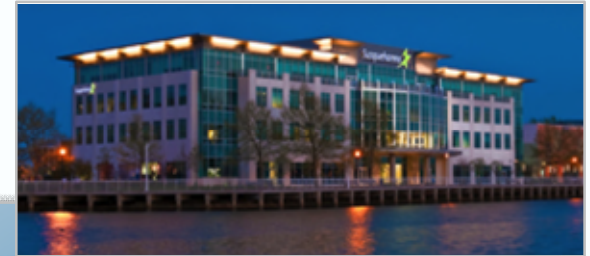
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Who We Are

HudsonAnalytix is a US-based international business risk solutions company providing expertise and support to the world's leading commercial shipping, ports and terminals, insurance, and government sectors. Our clients include:

- Port Authorities and Terminal Operators
- National and Regional Port Systems
- Integrated Oil and Gas Companies
- National Oil Companies
- Global Maritime Transportation Companies
- Insurance Companies
- Governments



Key Facts:

- Established in 1986
- Worldwide Presence:
 - Philadelphia (Global HQ)
 - Washington, DC
 - Seattle, WA
 - San Diego, CA
 - Rome, Italy
 - Piraeus, Greece
 - Manila, Philippines

Operating Subsidiaries

HudsonMarine – Risk and Crisis Management

HudsonTrident – Physical and Cyber Security

HudsonTactix - Consequence Management

HudsonDynamix – Integrated Training Solutions

HudsonSystems – Management Systems Development and Improvement

Course Logistics / Content

Business Continuity Planning

- Program Initiation/Management
- Risk Assessment
 - Key Processes
 - Risk Assessment Matrix
 - Controls
- Business Impact Analysis
- Business Continuity Strategies
- Incident Response
- Plan Development & Implementation
- Awareness & Training Program
- Plan Exercise, Assessment & Maintenance
- Crisis Communications
- Coordination with External Agencies

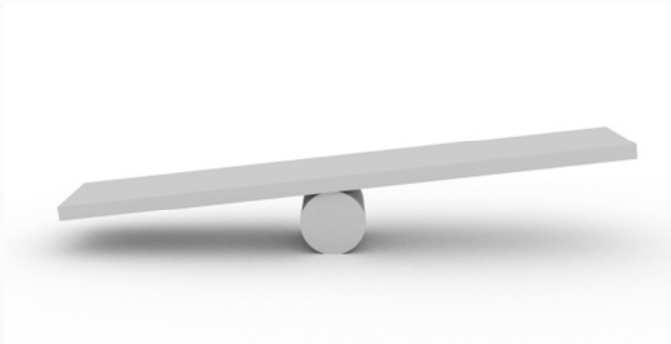
Business Continuity

Goal

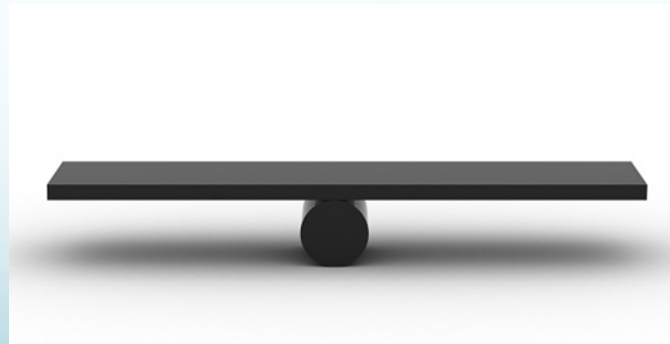
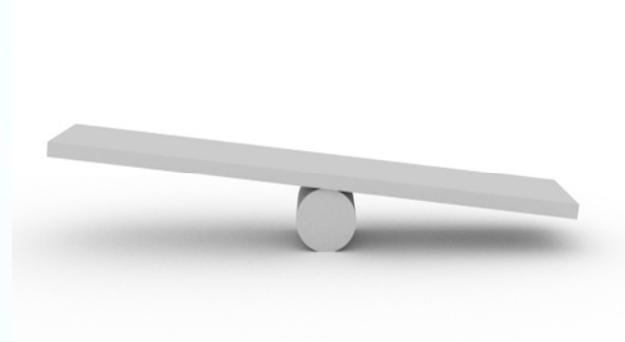
- Reduce the likelihood of an event
- Minimize the impact of an event
- Speedy return to operations following an event

Caveats

Meteorite /
Nuclear Bomb



That could never
happen....



What do YOU provide?

Individual Time – 5 mins

Group Discussion

What do YOU provide?

Group Discussion

What do YOU provide:

- Food
- Hygiene products
- Petroleum
- Electricity?
- Tourism (economy)

*Why is it important to KNOW what you provide?

Risk Assessment - Key Processes

What are your port's Key Processes?

Key Processes are functions/processes which allow you to perform your port's operations:

- Key Processes can be related to:
 - Staffing/Personnel
 - Equipment
 - Processes/functions

Individual Time – 5 mins

Group Discussion

Risk Assessment - Key Processes

Group Discussion

Staffing/Personnel

- Payroll
- Hiring
- Fill shifts
- DECISION MAKING PROTOCOLS / Chain of Command

Security

- Access Control
- Cargo
- Passengers
- Theft

Communications

- IT systems
- Radio with ships
- Digital comms with banks, brokers, agents

Ship Reception

- Navigation channel
- Navigation assistance / Traffic Control
- Pier

Manage Cargo Manifests

Manage Passenger Manifests

Risk Assessment

What are risks to your business continuity?

**Anything that interrupts a Key Process.*

What sources of info can help you determine your risks?

Individual Time – 5 mins

Group Discussion

Group Discussion

What are risks to your business continuity?

- Power outage
- Hurricane, storm, weather
- Crime, theft
- Fire, arson
- Terrorist attack
- Cyber attack
- Earthquake
- Strike, civil unrest
- Ship grounding
- Oil spill
- Pandemic (*caveat)

Types of Incidents/Crises

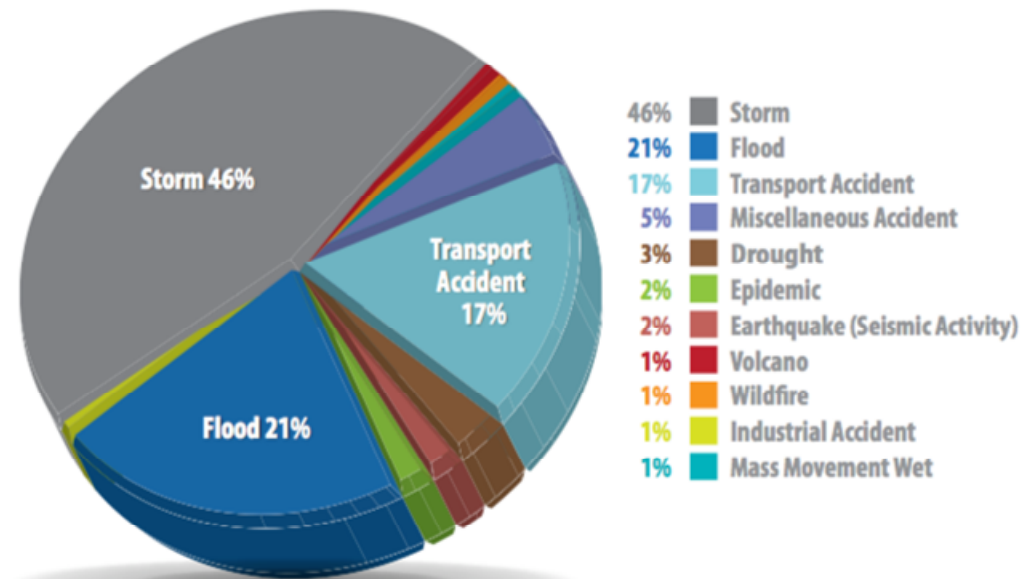


Figure 1: Distribution by Disaster Type/Caribbean 1980-2009

Source: EM-Dat 2010

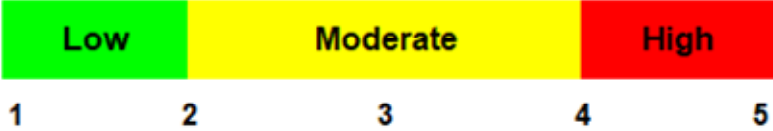
Risk Assessment - Matrix

Computation of Risk

DISASTER / EMERGENCY RISK ASSESSMENT

TYPE OF INCIDENT / HAZARD	VULNERABILITY ASSESSMENT				CAPABILITY ASSESSMENT					CONSEQUENCE FACTORS				TOTAL RISK RATING
	MOORING	CARGO XFER	TOURISM	TOTAL VULNERABILITY RATING	CONSTRUCTION CODE	REDUNDANT ELECTRICAL SUPPLY	MATURE COM	TRAINED PERSONNEL	TOTAL VULNERABILITY RATING	LIKELIHOOD / PROBABILITY	PROPERTY DAMAGE	ECONOMIC DISRUPTION	TOTAL CONSEQUENCE RATING	
HURRICANE / SEVERE WEATHER	3	3	4	3.3	3	3	2	2	2.5	4	4	5	4.3	3.4
TERRORISM / SECURITY EVENT	2	2	4	3.2	3	3	2	2	2.4	1	2	3	1.9	2.6
OIL SPILL	2	1	4	2.3	1	1	2	2	1.5	2	4	4	3.3	2.4
MINIMUM	2.0	1.0	4.0	2.3	1.0	1.0	2.0	2.0	1.5	1.0	2.0	3.0	1.9	2.4
MAXIMUM	3.0	3.0	4.0	3.3	3.0	3.0	2.0	2.0	2.5	4.0	4.0	5.0	4.3	3.4
WEIGHTED AVERAGE	2.3	2.0	4.0	3.3	3.0	3.0	2.0	2.0	2.5	2.5	3.0	4.0	3.1	3.0

RISK Rankings



1 2 3 4 5

Caveat #1: Objective numbers in a matrix/model

Caveat #2: Model accuracy/applicability

Risk Assessment - Controls

Any safeguard, mitigation measure instituted to

- Reduce the likelihood of an event
- Minimize impact of an event
- Speed recovery after an event

Can be related to:

- Staffing/people
- Equipment
- Operations/processes

Individual Time – 5 mins

Group Discussion

Risk Assessment - Controls

Group Discussion

Fire fighting equipment, fire department

Firewall for IT systems

Passwords

IT back ups

Locks on restricted areas

Gate, Access Control, CCTV

Generator

Maintenance program

Off-site, Site Relocation
(admin functions)

Service Agreements with

Vendors to provide

emergency services

Back-up communications

Business Impact Analysis – Categories

Categories of Business Impact

- Financial (costs & revenue loss)
- Legal / Regulatory
- Operational
- Customer Service
- Brand / Reputation
- Human

Business Impact Analysis - Dependencies

Identify Dependencies

What Key Processes/operations depend on other processes/operations?

Individual Time – 5 mins

Group Discussion

Business Impact Analysis - Dependencies

Identify Dependencies

Group Discussion – Example #1

What processes/operations depend on other processes/operations?

- Ship Reception
 - Nav Channel
 - Aids to Navigation
 - Communications
 - Electricity
 - ISPS Certification

Business Impact Analysis - Dependencies

Identify Dependencies

Group Discussion – Example #2

What processes/operations depend on other processes/operations?

- Managing Passenger Manifests
 - Communications
 - Electricity
 - Security
 - Customs/Immigration
 - Electricity
 - Access Control

Business Impact Analysis – RTO/RPO

Recovery Time Objective (RTO):

How quickly do I need to resume operations?

- How many days/weeks petroleum does my port/nation have in reserve?
- How many days/weeks food does my port/nation have in reserve?

Recovery Point Objective (RPO): *IT related*

How much of data gap am I willing to accept?

- How often do I do back ups?
- Pay ransom to release IT/data? Or accept loss?

Example – Power Outage

Risk Assessment:

- **Electrical grid is solid/fragile?**
- **What Controls do we have in place?**
- **What is dependent on electricity?**

Dependencies (Key Processes at Risk): IT functions, payroll, receive ships(?), manage manifests, security systems

THEREFORE, our RTO for restoring electricity is

- **4 Hrs (security systems, manage manifests)**
- **12 Hrs (communications)**
- **48 Hrs (receive ships)**

Summary

Discussed 2 of the 10 elements of Business Continuity Planning

The Goals of Business Continuity Planning:

- **Reduce the likelihood of an event**
- **Minimize the impact of an event**
- **Speedy return to normal operations**

The Risk Assessment Matrix is the BEST method to quantify risks. The Risk Assessment is still SUBJECTIVE.

Summary (cont.)

Controls

Dependencies

Philosophical points:

- **Balance between “OUTLANDISH” and “THAT COULD NEVER HAPPEN”**
- **MUST have buy-in from Leadership**

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