Cyber Risks on Natural Disasters

Case:Huracán María

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Cyber exposure is growing as Organizations are becoming more dependent on technology

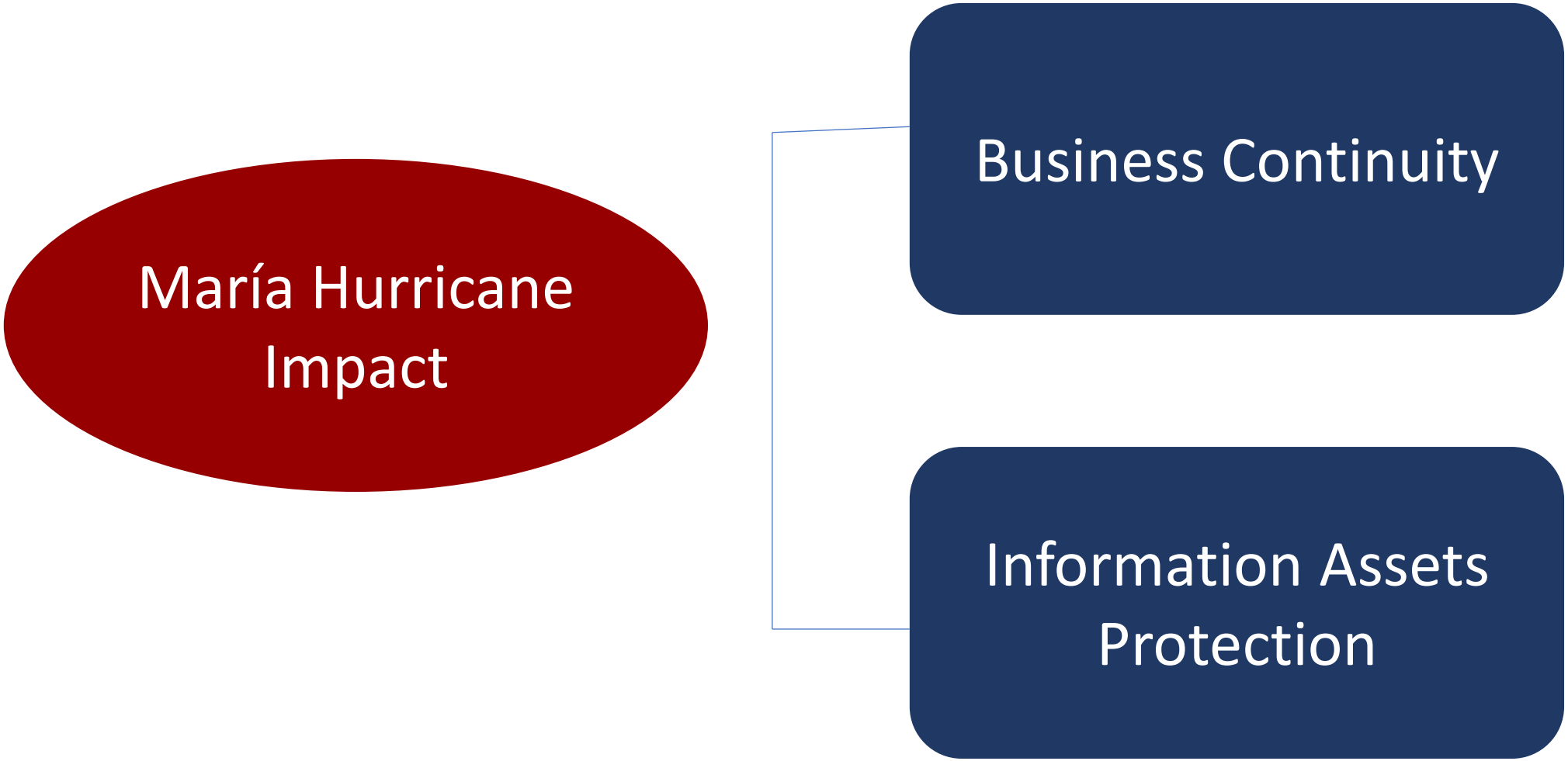
Business Goals

- Used to enable business initiatives
- Critical dependence of many business processes on information technology
- Has moved from providing largely back-office support to becoming the prime facilitator and enabler of the total business

Risks

- Are vulnerable to a variety of risks

María Hurricane Impact


María Hurricane Impact
Business Continuity
Information Assets Protection

María Hurricane Impact

Business Continuity

Scenario of Main Threats

- No availability or destruction of locations / facilities
- Failures of electricity generation backup systems
- Electricity and telecommunications not available
- Limited fuel supply
- Failure or destruction of equipment
- Key personnel were not available for operations or could not be contacted
- Failures or non-accessibility of critical systems
- Third-party services not available

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Information Assets Protection

Scenario of Main Threats

Emergency changes being implemented without adequate security configuration

- Temporary Internet services
- Connected services
- Routers, Access Points, Switches

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Information Assets Protection

Scenario of Main Threats

Allowing temporary / extraordinary access to the network

- Other entities
- Internet of Things devices
- Unsecure remote access
- Unchallenged wireless access to the network in the physical vicinity

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Information Assets Protection

Scenario of Main Threats

Rogue access points / devices not sanctioned

- By employees
- By third party / provider
- By nearby entities

María Hurricane Impact

Information Assets Protection

Scenario of Main Threats

Cyber scams (new and recycled scams)

- eMail Spoofing
- Malicious phishing emails
- Links to malicious websites

María Hurricane Impact

Information Assets Protection

Scenario of Main Threats

Poor data management practices

- Poor data retention, transmission and disposal practices
- Hurricane literally blew away sensitive personal information

María Hurricane Impact

Information Assets Protection

Scenario of Main Threats

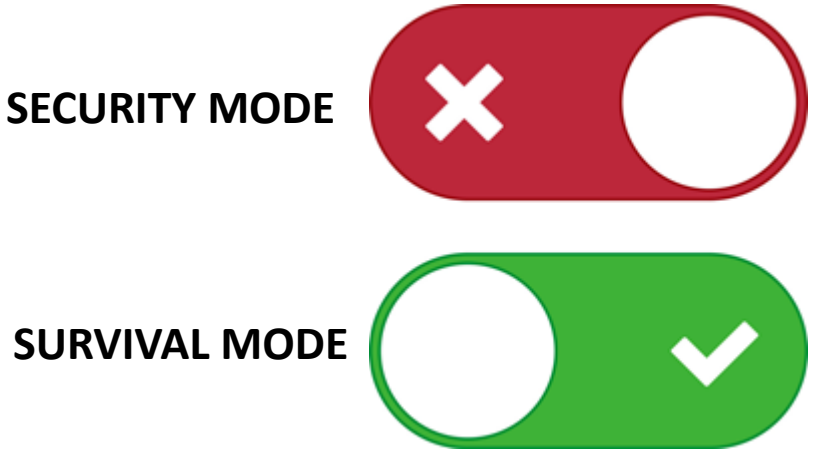
Planning Issues

- Lack of disaster preparedness
- Lack of Disaster Recovery Plans tests
- Lack of incident response plans

The perfect storm:

Cyber-Attacks During Natural Disasters

- When a natural disaster hits, surges in cybercrime may rise.
- When disasters hit, people immediately shifted away



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The perfect storm:

Cyber-Attacks During Natural Disasters

- When a natural disaster hits, surges in cybercrime may rise.
- When disasters hit, people immediately shifted away from **security mode** into **survival mode.**
- When physical assets have been compromised, IT staff priority is business continuity—times like that make cyber assets easy prey for an attacker. After a disaster strikes cyber attackers are likely to make their move when a company's IT staff and resources are consumed in post-incident recovery.

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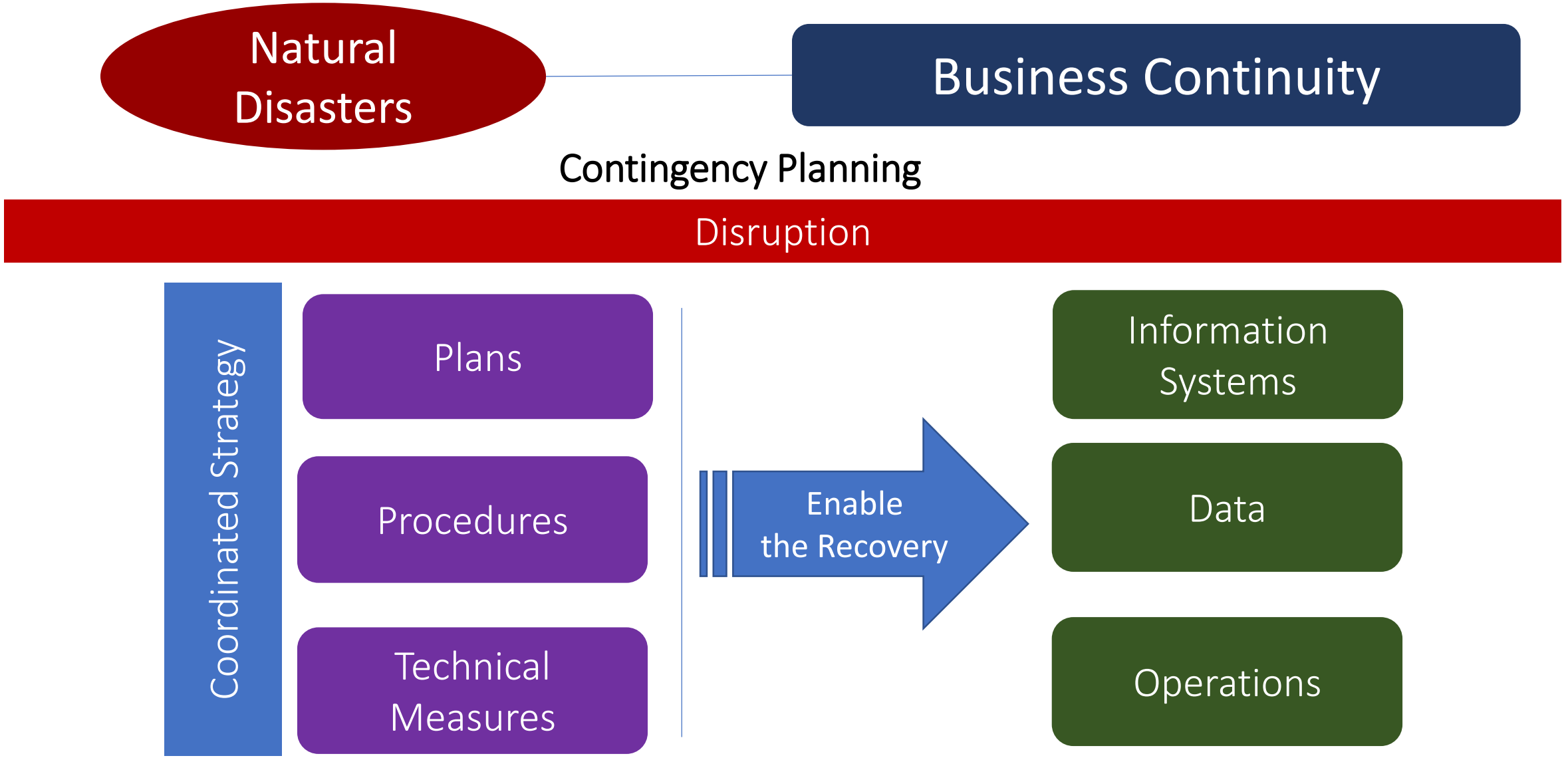
Natural Disasters are Magnets for Cyber Criminals

- eMail scams
- Push malicious websites to the top of search results
- Break into business data while people work remotely

Course of Action



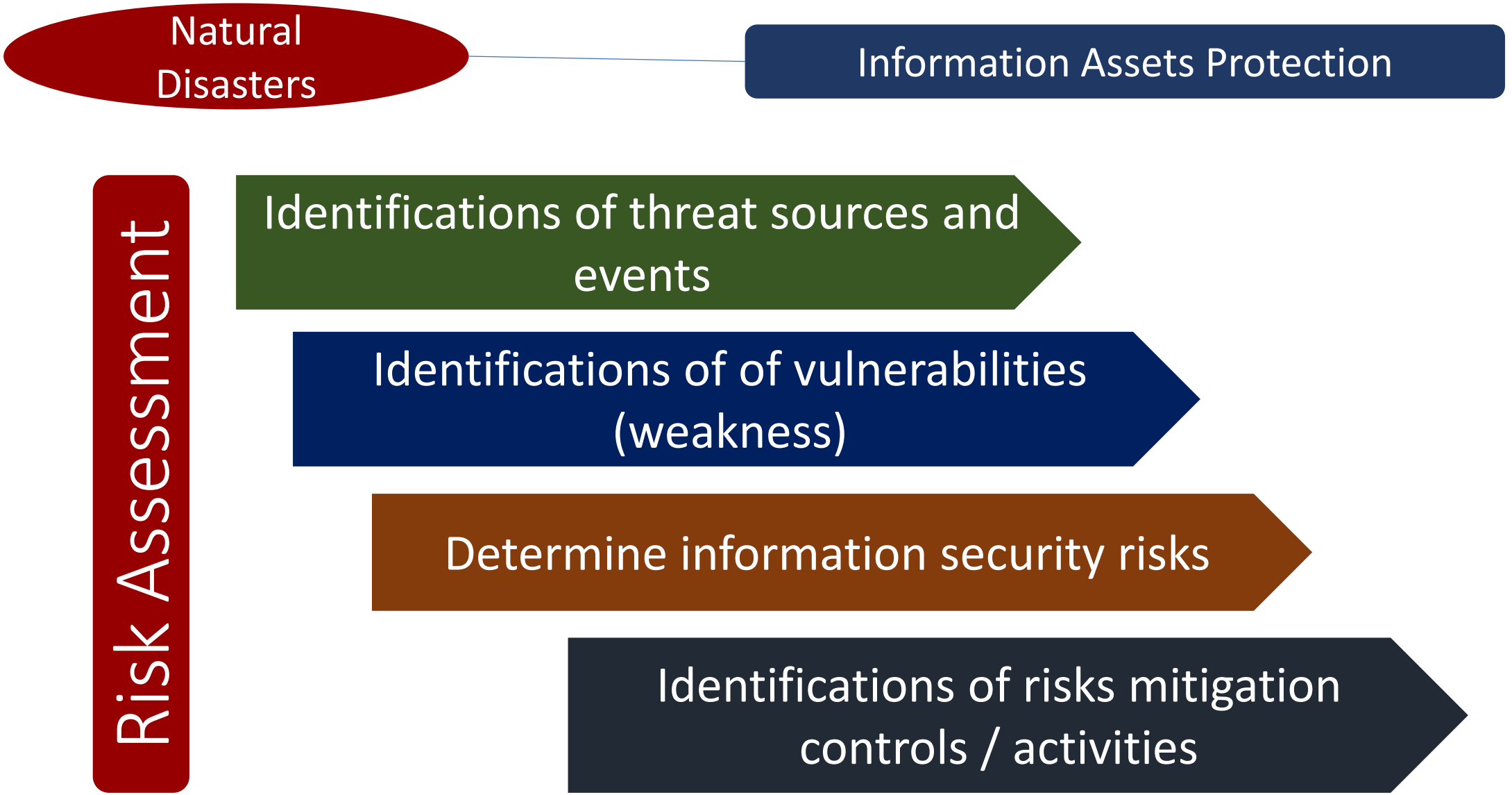
Course of Action

	Business Continuity Planning	Disaster Recovery Planning
Purpose	Provides procedures for sustaining mission/business operations while recovering from a significant disruption.	Provides procedures and capabilities for recovering information systems.
Scope	Addresses mission/business processes	Addresses information systems recovery

Contingency Planning Process

Develop Contingency Planning Policy	Conduct Business Impact Analysis	Identify Preventive Controls	Create Contingency Strategies	Develop Contingency Planning	Plan Testing, Training, and Exercises	Plan Maintenance
Identify statutory or regulatory requirements Develop contingency planning policy statement Publish policy	Determine business processes and recovery criticality Identify outage impacts and estimated downtime Identify recovery priorities	Identify controls Implement controls Maintain controls	Mitigate the risks arising from use of information systems in the execution of mission/business processes	Business continuity planning Disaster recovery planning	Plans testing Train personnel Plans exercises	Review and update plans Document changes

Course of Action



Course of Action

Threats

Emergency changes being implemented without adequate security configuration

Controls

- Change Management
- Configuration Management

Course of Action

Information Assets Protection

Threats

Allowing temporary / extraordinary access to the network

Controls

Logical and physical security controls over IT assets in the following layers

- Networks
- Applications
- Platforms (OS)
- Databases

Network Access Control (NAC) tools

Course of Action

Information Assets Protection

Threats

Rogue access points / devices not sanctioned

Controls

Network Access Control (NAC) tools to implement policies for controlling devices and user access to the network

Course of Action

Natural Disasters

Information Assets Protection

Threats

Cyber scams (new and recycled scams)

Controls

Periodic personnel information security awareness

RESPONSIBILITY

No single drop of water thinks it is responsible for the flood.

Course of Action

Natural Disasters

Information Assets Protection

Threats

Cyber scams (new and recycled scams)

Controls

- Periodic personnel information security awareness
- eMail / Spam filtering
- Domain-based Message Authentication Reporting and Conformance (DMARC) Implementation

Course of Action

Natural Disasters

Information Assets Protection

Threats

Poor data management practices

Controls

- Strong cryptography and security protocols
- Data retention and disposal controls
- Physical security controls for sensitive personal information

Course of Action

Threats **Controls**

Planning Issues

Contingency Planning

What critical operational or security controls require implementation prior to recovery?

Determine threats and vulnerabilities to the organization's contingency planning process.

- Technological and security vulnerabilities;
- Internally identified threats; and
- Externally identified threats

Course of Action

Threats

Controls

Planning Issues

Incident Response Planning

In the event of a security incident, management must decide how to properly protect information systems and confidential data while also maintaining business continuity.

Thank you!

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