

The Bahamas Preparation Mechanisms and Entities for Contingency and Crisis Management

Michael Fountain – Director of
State Safety Programme

Fantella Davis – Management
Information Specialist

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Introduction

Objective: To provide an overview of how The Bahamas prepares for and manages crises and contingencies through a comprehensive disaster management system led by The Bahamas Disaster Risk Management Authority.

Focus Areas

- Key national entities
- Frameworks and protocols
- Preparedness mechanisms
- Inter-agency coordination



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Vulnerabilities

The Bahamas is highly vulnerable to the following disasters which highlights the importance of coordinated disaster preparedness

- Hurricanes and tropical storms
- Coastal flooding and storm surges
- Wildfires
- Aviation and transportation disruptions
- Public health emergencies (e.g., pandemics)



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Geographic Challenges of The Bahamas



Archipelago Structure:

- The Bahamas consists of over **700 islands and cays**, spread over approximately **100,000 square miles** of ocean.

Complex Geography: The islands vary significantly in size and accessibility, with some being densely populated while others are remote and sparsely inhabited.

Challenges:

- **Transportation:** The need for effective and reliable transportation across scattered islands for both people and goods, especially during emergencies.
- **Vulnerability to Natural Disasters:** Exposure to hurricanes, storm surges, and rising sea levels is compounded by the vast, dispersed geography, making it difficult to provide rapid disaster relief to all islands simultaneously.
- **Communication:** Ensuring seamless communication across islands during crises, with challenges like limited infrastructure and connectivity in more remote areas.
- **Logistical Coordination:** Coordinating disaster management, resources, and services across multiple islands requires a high level of coordination and infrastructure.

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Institutional Framework

Disaster Risk Management Authority (DRM Authority):

- Established in 2022, merging NEMA (National Emergency Management Authority) and the Disaster Reconstruction Authority.
- Coordinates national disaster risk reduction strategies and oversees response planning, drills, and simulations.
- Maintains the National Disaster Emergency Operations Centre (NDEOC).

Source: drm.gov.bs

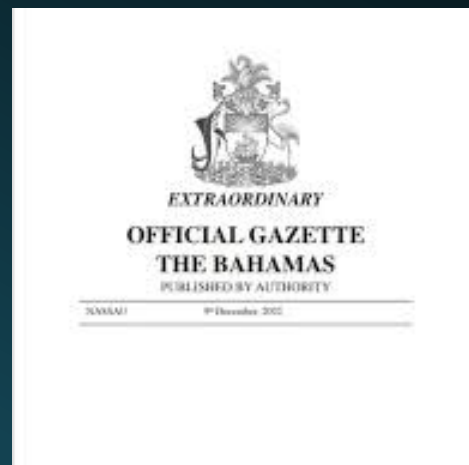
Key Entities:

- **Inter-Ministerial Committee:** Advises on disaster management policy.
- **National Disaster Emergency Consultative Committee (NDECC):** Coordinates with various sectors during emergencies.
- **Family Island Emergency Operations Centers:** Localized coordination for island-specific responses

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Legal and Policy Framework

- **Disaster Management Act:** Establishes the legal foundation for disaster preparedness, response, and recovery.
- **Key Protocols:**
 - Disaster Risk Management Preparedness Protocols
 - National Emergency Management Plan
 - Family Island Disaster Plans
 - Sector-Specific Contingency Plans
- **Governance:**
 - Mandates inter-agency cooperation and communication during crises.



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Contingency Planning Mechanism

Risk Assessments:

- Hazard maps and vulnerability analysis are the key to risk mitigation strategies.

Early Warning Systems:

- Meteorological alerts help provide timely warnings for natural disasters like hurricanes.

Simulation Exercises:

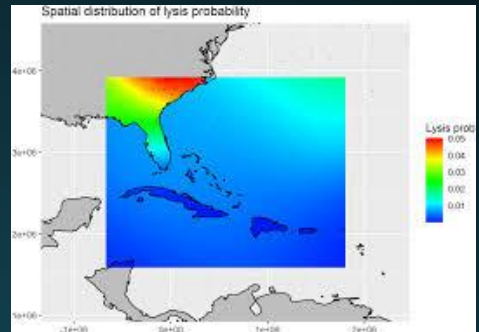
- Regular hurricane drills and airport emergency simulations to test readiness.

Incident Command System (ICS):

- Standardized crisis response structure, ensuring coordinated efforts across agencies.

Inter-agency Coordination Meetings:

- Regular meetings to streamline actions across all sectors during crises.



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Sector-specific Preparedness – ESF Areas

- ESF 1 – Transportation & Evacuation
- ESF 2 – Disaster Communication & Technology
- ESF 3 – Public Works & Infrastructure
- ESF 4 – International Assistance
- ESF 5 – Planning, Information & Public Information
- ESF 6 – Mass Care & Shelter
- ESF 7 – Relief Supply and Distribution
- ESF 8 – Public Health & Medical Services
- ESF 9 – Search & Rescue (SAR)
- ESF 10 – Oil and Hazardous Material Response
- ESF 11 – Agriculture and Natural Resources
- ESF 12 – Utilities, Water and Energy
- ESF 13 – Public Safety & Security

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Aviation Sector CAA-B



Aviation-Specific Contingency Plans:

- Coordination with DRA, Airport Authority, and the Department of Meteorology.
- Air Traffic Contingency Plans for uninterrupted operations during crises.

Preparedness:

- Regular emergency preparation drills involving airport authorities, airlines, and emergency response teams.
- Table Top Exercises

Inter-agency Coordination:

- Close collaboration between CAAB and key aviation stakeholders to ensure operational continuity during emergencies.

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Public Health Sector (Ministry of Health)



Health Emergency Operations Centre:

- Coordinates the country's response to public health emergencies such as pandemics.

Pandemic Response Protocols:

- Detailed plans for response to health crises, including quarantine measures, vaccination distribution, and public health communication.

•CAPSCA (Collaborative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation)

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Case Studies



1. Hurricane Dorian (2019)

- **Overview:** Category 5 hurricane, one of the most destructive in Bahamian history, causing severe damage to Abaco and Grand Bahama.
- **Challenges:**
 - Massive infrastructure damage; many homes destroyed.
 - Disruption of communication and transport networks.
 - Need for rapid sheltering and evacuation.
- **Preparedness Actions & Innovations:**
 - Rapid deployment of the **National Disaster Emergency Operations Centre (NDEOC)**.
 - Use of **drone technology and aerial imagery** to assess damage quickly.
 - Social media and radio used for real-time **community alerts and coordination**.
 - Activation of **Family Island Emergency Operations Centres (FIEOCs)** to decentralize response.
- **Lessons Learned:**
 - Importance of **pre-positioning relief supplies**.
 - Need for **enhanced early warning systems** and community engagement.
 - Reinforced the value of **inter-agency coordination** (DRM Authority, CAA-B, Police, Health, Port Authority).

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Case Studies



2. COVID-19 Response (2020–2022)

- **Overview:** Pandemic required multi-sectoral coordination for health and transportation management.
- **Challenges:**
 - Risk of virus spread across multiple islands via air and sea.
 - Managing healthcare resources in remote Family Islands.
 - Implementing border controls and quarantine procedures.
- **Preparedness Actions & Innovations:**
 - Activation of the **Health Emergency Operations Centre** for pandemic response.
 - Coordination with **CAA-B** to manage air traffic, enforce health protocols at airports.
 - Deployment of **digital tools** for tracking cases and vaccination campaigns.
 - Inter-agency collaboration: Ministry of Health, DRM Authority, Police, Port Authority.
- **Lessons Learned:**
 - Strengthened **public health contingency planning**.
 - Highlighted the importance of **technology in remote monitoring and reporting**.
 - Reinforced **government and private sector collaboration** for emergency supply distribution.

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Technological Innovations in Disaster Management



1. Building Damage Assessment Toolkit

- **Partnership:**
Collaborated with UNDP and Engineers Without Borders.
- **Innovation:**
Adopted a digital toolkit for rapid building damage assessments post-Hurricane Dorian.
- **Impact:**
Reduced assessment time from months to days, facilitating quicker recovery decisions.

2. Aerial Imagery and LiDAR (Light Detection & Radiation) Integration

- **Objective:**
Enhance roof classification and vulnerability assessments.
- **Methodology:**
Utilized high-resolution aerial imagery combined with LiDAR data.
- **Outcome:**
Achieved high accuracy in damage assessments, informing targeted interventions.

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International Collaboration and Support

• Inter-American Development Bank (IDB):

Approved a US\$160 million loan to bolster disaster risk governance.

• Support Areas:

Risk identification, disaster preparedness, recovery, and financial protection.

• Regional Partnerships:

Active participation in the Caribbean Disaster Emergency Management Agency (CDEMA) initiatives.



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Challenges and Future Directions

Challenges:

- Data collection in remote areas.
- Integration of diverse technological systems.
- Ensuring sustainability of technological solutions.

Future Directions:

- Expansion of drone technology for medical supply delivery.
- Enhancement of early warning systems using AI and machine learning.
- Strengthening public-private partnerships for resource mobilization.



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Conclusion

Summary:

The Bahamas demonstrates a proactive approach in integrating technology and innovation into its disaster management framework.

Commitment:

Ongoing efforts to enhance resilience through continuous learning, collaboration, and technological advancement.

Call to Action:

Encourage stakeholders to support and participate in these initiatives for a more disaster-resilient Bahamas.



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Thank you!!
Question or Comments