NDPBA

THE BAHAMAS ISLAND RISK PROFILES

SUBNATIONAL ASSESSMENT RESULTS

THE BAHAMAS
ABACO

NDPBA ISLAND PROFILE

PDC | GLOBAL

THE BAHAMAS
ABACO

CAPITAL: MARSH HARBOUR

Area: 649 sq. mi (1,681 sq. km)

RISK AND VULNERABILITY
COMPONENT SCORE

MULTI-HAZARD RISK (MHR) - Moderate
Score: 0.395 • Rank: 7/17

RESILIENCE (R) - High
Score: 0.563 • Rank: 6/17

MULTI-HAZARD EXPOSURE (MHE) - Very High
Score: 0.689 • Rank: 2/17

VULNERABILITY (V) - Moderate
Score: 0.465 • Rank: 6/17

COPING CAPACITY (CC) - High
Score: 0.759 • Rank: 4/17

Population (2010 Census)
17,224

Population in Poverty
43.1%

Average Annual Foreign Arrivals Per Capita
24.6

Households with Piped Water
85.1%

Prevalence of Crowded Housing
29.9%

*For more information on data and components please visit: https://bit.ly/2LqVoUO

MULTI-HAZARD EXPOSURE (MHE)

RANK: 2 / 17 ISLANDS
SCORE: 0.689

MHE
0.689

Raw MHE
0.705

Relative MHE
0.673

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:

Note: Population values from PDC's All-hazard Impact Model (AIM) leverage 2020 estimates for The Bahamas. Values may exceed 2010 Census population.

Tropical Cyclone Winds
100.0%
19,552
$1.1 Billion

Storm Surge
82.2%
16,062
$937.5 Million

Flooding
38.6%
7,539
$491.4 Million

Wildfire
27.7%
5,410
$601.7 Million

Landslide
2.0%
399
$17.4 Million

Sea Level Rise
0.8%
163
$11.9 Million

VULNERABILITY (V)

RANK: 6 / 17 ISLANDS ASSESSED
SCORE: 0.465

Vulnerability in Abaco is primarily driven by Population Pressures and Clean Water Access Vulnerability. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.

Environmental Stress

0 — 1 **SCORE: 0.525** **RANK: 10/17** ISLANDS ASSESSED

55.7% Coral reef exposed to local threats

75.4% Coral reef exposed to thermal stress

12.0% Tree cover loss

0.68 per mi. (0.42 per km) Historical hurricane hits per length of coastline

Household Composition Vulnerability

0 — 1 **SCORE: 0.059** **RANK: 16/17** ISLANDS ASSESSED

2.6% Disability

6.1% Elderly population (65+)

Clean Water Access Vulnerability

0 — 1 **SCORE: 0.647** **RANK: 2/17** ISLANDS ASSESSED

85.1% Households with piped water

93.7% Households with flush toilets

6.2% Households with shared toilet facilities

Housing and Transportation Vulnerability

0 — 1 **SCORE: 0.449** **RANK: 8/17** ISLANDS ASSESSED

29.9% Crowded housing

32.0% Population without private vehicle

17.5% Housing built before 1980

Economic Constraints

0 — 1 **SCORE: 0.431** **RANK: 8/17** ISLANDS ASSESSED

49.1 Economic dependency ratio

$87 Government benefits received (Bahamian Dollars)

58.9% Non-wage earning population

43.1% Poverty rate

Gender Inequality

0 — 1 **SCORE: 0.447** **RANK: 7/17** ISLANDS ASSESSED

0.39
Ratio female to male income

1.06
Ratio female to male avg. years of school

12
Adolescent birth rate (per 1,000)

Population Pressures

0 — 1 **SCORE: 0.700** **RANK: 1/17** ISLANDS ASSESSED

30.8%
Average population change (2000 - 2010)

24.6
Average annual foreign arrivals per capita

652.1
Average annual foreign arrivals per sq. mile

14.7
Migration per 100 persons

ISLAND CAPACITY (IC)

RANK: 7 / 17 ISLANDS ASSESSED
SCORE: 0.548

Abaco exhibits weaker Island Capacity in the areas of Emergency Service Capacity and Health Care Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Island Capacity score.

Economic Capacity

0 — 1 **SCORE: 0.645** **RANK: 4/17** ISLANDS ASSESSED

0.9%
Households receiving remittances

$14,700
Median income, Bahamian dollars

Environmental Capacity

0 — 1 **SCORE: 0.753** **RANK: 3/17** ISLANDS ASSESSED

5.9%
Protected areas

57%
Coastline protected by natural habitat

0.14 oz. per sq. ft (42.08 g per sq. m)
Standing fish stock

Infrastructure Capacity

0 — 1 **SCORE: 0.409** **RANK: 15/17** ISLANDS ASSESSED

Health Care Capacity **SCORE: 0.245** **RANK: 15/17** ISLANDS ASSESSED

1.2
Physicians per 10,000

13.4
Nurses & midwives per 10,000

6.4
Clinics per 10,000

98.0%
DTP3 Vaccine coverage rate

Transportation Capacity **SCORE: 0.527** **RANK: 8/17** ISLANDS ASSESSED

1.93 mi per sq. mi (1.2 km per sq. km)
Road density

Communications Capacity **SCORE: 0.624** **RANK: 12/17** ISLANDS ASSESSED

49.4%
Internet access

71.4%
Mobile coverage

Emergency Services Capacity **SCORE: 0.108** **RANK: 16/17** ISLANDS ASSESSED

9.25 mi (14.89 km)
Average distance to police station

75.52 mi (121.51 km)
Average distance to shelter

0.0
Shelter capacity per 100 persons

Energy Capacity **SCORE: 0.538** **RANK: 15/17** ISLANDS ASSESSED

82.9%
Households with electricity

68.2%
Households with liquid propane gas

LOGISTICS CAPACITY (LC)

RANK: 3 / 18 ISLANDS ASSESSED
SCORE: 0.966

Logistics Capacity describes the ability of the island to ensure efficient storage, movement, and delivery of resources key for effective humanitarian assistance and disaster relief operations. Logistics Capacity is driven by distances to a major airport, major seaport, and disaster warehouse.

0 mi (0 km)
Distance to port

0 mi (0 km)
Distance to airport

65.39 mi (105.21 km)
Distance to warehouse

COPING CAPACITY (CC)

Coping Capacity measures the systems, means, and abilities of people and societies to absorb and respond to disruptions in normal function. Coping Capacity in The Bahamas was calculated by using a combination of Island Capacity and Logistics Capacity.

RANK: 4 / 17 ISLANDS ASSESSED
SCORE: 0.759

RESILIENCE (R)

Resilience in The Bahamas was calculated by using a combination of Vulnerability, and Coping Capacity (including both Island Capacity and Logistics Capacity).

RANK: 6 / 17 ISLANDS ASSESSED
SCORE: 0.563

HAZARD-SPECIFIC RISK (HSR)

Tropical Cyclone Winds	**RANK:** 12 / 17 ISLANDS ASSESSED	**SCORE:** 0.405
Storm Surge	**RANK:** 7 / 17 ISLANDS ASSESSED	**SCORE:** 0.414
Flooding	**RANK:** 7 / 17 ISLANDS ASSESSED	**SCORE:** 0.365
Wildfire	**RANK:** 2 / 17 ISLANDS ASSESSED	**SCORE:** 0.411
Landslide	**RANK:** 9 / 17 ISLANDS ASSESSED	**SCORE:** 0.333
Sea Level Rise	**RANK:** 2 / 17 ISLANDS ASSESSED	**SCORE:** 0.410

MULTI-HAZARD RISK (MHR)

7 / 17
RANK WITHIN ISLANDS
Score: 0.395

Abaco's score and ranking are due to Very High Multi-hazard Exposure combined with Moderate Vulnerability and High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

ABACO SCORE
COUNTRY SCORE

Multi-Hazard Exposure
0.689
0.392

Vulnerability
0.465
0.435

Coping Capacity
0.759
0.617

ABACO RECOMMENDATIONS

1

Population Pressures

Rapid changes in population size and distribution can alter population vulnerability characteristics presenting planning challenges and destabilizing social, economic, and environmental systems. Increased population pressures require disaster managers to realign needs, institutional structures, and available resources to support delivery of basic resources before, during, and after an event.

Abaco ranks first for overall Population Pressures in The Bahamas, driven by both the 3rd highest overall population increase between 2000 and 2010 (31%) and the highest migration rate per 100 persons (14.7). Rapid population growth in Abaco and the expansion of informal migrant settlements across the island are linked to unsustainable and unplanned building development, placing strain on the island's services and infrastructure. Undocumented migrant populations can also complicate emergency preparedness and response planning, including evacuation, sheltering, and damage and needs assessments. During Hurricane Dorian, undocumented migrant populations occupied shantytowns in Marsh Harbour, suffering severe flood and wind damages, and obscuring loss estimates. Given Abaco's 2nd highest overall Multi-Hazard Exposure ranking in The Bahamas, it is critical that projects and plans support the growing population, institute coastline protections and setbacks, endorse safer building codes, and emphasize the importance of personal/family disaster preparedness.

Closely monitor migration to Abaco and strengthen short- and long-term planning to anticipate the requirements of a growing population in line with sustainable development practices. Use a multi-stakeholder approach to address issues of sustainable housing development, social services, economic inclusion, public safety, and emergency management.

Conduct periodic surveying and mapping of informal settlement locations to address needs, and update disaster response and recovery plans to ensure adequate planning for evacuation, sheltering and mass care. Assess exposure of undocumented migrant settlements in relation to hazards affecting Abaco, including tropical cyclone wind, storm surge, flood, wildfire, sea-level rise, and landslides to anticipate potential impacts.

ABACO RECOMMENDATIONS

2

Clean Water Access Vulnerability

Those without easy or adequate access to water distribution and containment systems face significant demands on daily routines that effectively limit their response and recovery capacity and the ability to maintain livelihoods. Increasing access to improved water and sanitation in Abaco improves health outcomes and frees up resources to decrease further susceptibility to impacts.

Abaco ranks 2nd in The Bahamas for Clean Water Access Vulnerability, with only 85% of homes having a public or private piped water source. Over 6% of homes do not have access to flush toilets, and the same percentage (6%) use shared toilet facilities. Invest in the expansion of piped water and sewer systems to underserved areas, as growing population and climate change will only exacerbate existing vulnerabilities.

Given Abaco's exposure to storm surge, flood, and sea-level rise, institute measures to protect water supplies and prevent the spread of enteric disease from untreated sewage following hazard events.

Strengthen collaboration with non-government partners to address clean water and sanitation issues within informal settlements, including potential public health and environmental impacts.

ABACO RECOMMENDATIONS

3

Emergency Service Capacity

Societies establish capacities to manage emergencies that scale from day-to-day events up to catastrophes that impact all of society. Establishing and maintaining a broad range of systems and resources to support emergency services in Abaco will increase the capacity for disaster management and response.

Abaco has the 2nd lowest Emergency Services Capacity when compared to the rest of The Bahamas. The island has the highest average distance to shelter as well as the lowest shelter capacity per 100 persons. Most of Abaco's designated hurricane shelters were destroyed by Hurricane Dorian in 2019. In addition, the average distance to a police station is 6th highest in the country.

Strengthen emergency service capacity by increasing the number of designated emergency shelters on the island. Expand shelter capacity by designating existing structures or investing in new purpose-built shelter locations outside of hazard-prone areas. Given Abaco's exposure to hurricanes, ensure that new shelters can withstand wind and flood impacts. Update existing disaster management and logistics plans to incorporate lessons learned from previous disaster events and ensure that adequate resources and equipment are available to support evacuation and mass care of affected populations during a disaster.

Address existing public policy to expand the police force and the presence of patrols. Identify community policing opportunities and promote feedback from communities on efforts that may alleviate the strain caused by lengthy response times and/or limited police services.

ABACO RECOMMENDATIONS

4

Health Care Capacity

Robust access to skilled caregivers and the dedicated facilities for the treatment of injury and disease during non-disaster times greatly enhances the ability of the served population to absorb and manage post-disaster impacts to health, and increases the likelihood that disaster associated health and medical impacts may be addressed.

Abaco has the 3rd lowest overall Health Care Capacity in The Bahamas, driven by the 5th lowest number of physicians per 10,000 persons (1.2), the 4th lowest numbers of nurses and midwives per 10,000 persons (13.4), and the 4th lowest clinics per 10,000 persons (6.4). A lack of skilled health care professionals and resources creates limitations in meeting emergent medical needs. The resulting triage of limited medical resources can exacerbate mass casualty situations and acute disease outbreaks in the aftermath of a disaster.

Assess and remove health care barriers to adequately address outpatient medical needs for all members of society, preventing medical conditions from turning into more complex in-patient treatment situations. Expand outpatient health clinics to address medical needs without a hospital.

Work with the Ministry of Health and Wellness to promote comprehensive health education programs, including nutrition, exercise, vaccination, child, and maternal health to promote the overall wellbeing and quality of life on the island.

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THE BAHAMAS

ACKLINS

NDPBA ISLAND PROFILE

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THE BAHAMAS
ACKLINS

CAPITAL: COLONEL HILL

Area: 192 sq. mi (497.3 sq. km)

RISK AND VULNERABILITY
COMPONENT SCORE

MULTI-HAZARD RISK (MHR) - Very High
Score: 0.530 • Rank: 1/17

RESILIENCE (R) - Very Low
Score: 0.350 • Rank: 16/17

MULTI-HAZARD EXPOSURE (MHE) - High
Score: 0.469 • Rank: 6/17

VULNERABILITY (V) - High
Score: 0.482 • Rank: 4/17

COPING CAPACITY (CC) - Very Low
Score: 0.382 • Rank: 15/17

Population (2010 Census)
565

Population in Poverty
52.6%

Average Annual Foreign Arrivals Per Capita
0

Households with Piped Water
90.9%

Prevalence of Crowded Housing
19.1%

*For more information on data and components please visit: https://bit.ly/2LqVoUO

MULTI-HAZARD EXPOSURE (MHE)

RANK: 6 / 17 ISLANDS
SCORE: 0.469

MHE
0.469

Raw MHE
0.194

Relative MHE
0.745

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:

Note: Population values from PDC's All-hazard Impact Model (AIM) leverage 2020 estimates for The Bahamas. Values may exceed 2010 Census population.

Tropical Cyclone Winds
100.0%
630
$24.9 Million

Storm Surge
88.8%
560
$22.9 Million

Flooding
73.6%
464
$14.9 Million

Wildfire
0.0%
0
0

Landslide
0.0%
0
$150 Thousand

Sea Level Rise
0.0%
0
$490 Thousand

VULNERABILITY (V)

RANK: 4 / 17 ISLANDS ASSESSED
SCORE: 0.482

Vulnerability in Acklins is primarily driven by Economic Constraints and Household Composition Vulnerability. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.

Environmental Stress

0 — 1 **SCORE: 0.17** **RANK: 18/17** ISLANDS ASSESSED

4.7% Coral reef exposed to local threats

37.5% Coral reef exposed to thermal stress

1.3% Tree cover loss

0.74 per mi. (0.46 per km) Historical hurricane hits per length of coastline

Household Composition Vulnerability

0 — 1 **SCORE: 0.701** **RANK: 4/17** ISLANDS ASSESSED

6.0% Disability

13.6% Elderly population (65+)

Clean Water Access Vulnerability

0 — 1 **SCORE: 0.529** **RANK: 5/17** ISLANDS ASSESSED

90.9% Households with piped water

94.3% Households with flush toilets

4.8% Households with shared toilet facilities

Housing and Transportation Vulnerability

0 — 1 **SCORE: 0.413** **RANK: 11/17** ISLANDS ASSESSED

19.1% Crowded housing

42.6% Population without private vehicle

26.3% Housing built before 1980

Economic Constraints

0 — 1 **SCORE: 0.869** **RANK: 2/17** ISLANDS ASSESSED

71.1 Economic dependency ratio

$381 Government benefits received (Bahamian Dollars)

57.2% Non-wage earning population

52.6% Poverty rate

Gender Inequality

0 — 1 **SCORE: 0.498** **RANK: 6/17** ISLANDS ASSESSED

0.32
Ratio female to male income

1.02
Ratio female to male avg. years of school

32
Adolescent birth rate (per 1,000)

Population Pressures

0 — 1 **SCORE: 0.196** **RANK: 12/17** ISLANDS ASSESSED

32.0%
Average population change (2000 - 2010)

0.0
Average annual foreign arrivals per capita

0.0
Average annual foreign arrivals per sq. mile

1.1
Migration per 100 persons

ISLAND CAPACITY (IC)

RANK: 16 / 17 ISLANDS ASSESSED
SCORE: 0.318

Acklins exhibits weaker Island Capacity in the areas of Logistics Capacity and Emergency Service Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Island Capacity score.

Economic Capacity

0 — 1 **SCORE: 0.000** **RANK: 17/17** ISLANDS ASSESSED

0.0%
Households receiving remittances

$8,000
Median income, Bahamian dollars

Environmental Capacity

0 — 1 **SCORE: 0.414** **RANK: 8/17** ISLANDS ASSESSED

0.7%
Protected areas

60%
Coastline protected by natural habitat

0.09 oz. per sq. ft (27.22 g per sq. m)
Standing fish stock

Infrastructure Capacity

0 — 1 **SCORE: 0.470** **RANK: 14/17** ISLANDS ASSESSED

Health Care Capacity **SCORE: 0.779** **RANK: 1/17** ISLANDS ASSESSED

17.7
Physicians per 10,000

53.1
Nurses & midwives per 10,000

88.5
Clinics per 10,000

100.0%
DTP3 Vaccine coverage rate

Transportation Capacity **SCORE: 0.156** **RANK: 14/17** ISLANDS ASSESSED

0.47 mi per sq. mi (0.29 km per sq. km)
Road density

Communications Capacity **SCORE: 0.479** **RANK: 15/17** ISLANDS ASSESSED

21.4%
Internet access

96.2%
Mobile coverage

Emergency Services Capacity **SCORE: 0.058** **RANK: 17/17** ISLANDS ASSESSED

13.07 mi (21.03 km)
Average distance to police station

12.34 mi (19.85 km)
Average distance to shelter

10.6
Shelter capacity per 100 persons

Energy Capacity **SCORE: 0.878** **RANK: 8/17** ISLANDS ASSESSED

94.7%
Households with electricity

87.6%
Households with liquid propane gas

LOGISTICS CAPACITY (LC)

RANK: 15 / 18 ISLANDS ASSESSED
SCORE: 0.445

Logistics Capacity describes the ability of the island to ensure efficient storage, movement, and delivery of resources key for effective humanitarian assistance and disaster relief operations. Logistics Capacity is driven by distances to a major airport, major seaport, and disaster warehouse.

138.27 mi (222.47 km)
Distance to port

103.11 mi (165.9 km)
Distance to airport

125.46 mi (201.86 km)
Distance to warehouse

COPING CAPACITY (CC)

Coping Capacity measures the systems, means, and abilities of people and societies to absorb and respond to disruptions in normal function. Coping Capacity in The Bahamas was calculated by using a combination of Island Capacity and Logistics Capacity.

RANK: 15 / 17 ISLANDS ASSESSED
SCORE: 0.382

RESILIENCE (R)

Resilience in The Bahamas was calculated by using a combination of Vulnerability, and Coping Capacity (including both Island Capacity and Logistics Capacity).

RANK: 16 / 17 ISLANDS ASSESSED
SCORE: 0.350

HAZARD-SPECIFIC RISK (HSR)

	RANK	SCORE
Tropical Cyclone Winds	1 / 17 ISLANDS ASSESSED	0.526
Storm Surge	1 / 17 ISLANDS ASSESSED	0.570
Flooding	1 / 17 ISLANDS ASSESSED	0.559
Wildfire	7 / 17 ISLANDS ASSESSED	0.000
Landslide	8 / 17 ISLANDS ASSESSED	0.339
Sea Level Rise	3 / 17 ISLANDS ASSESSED	0.397

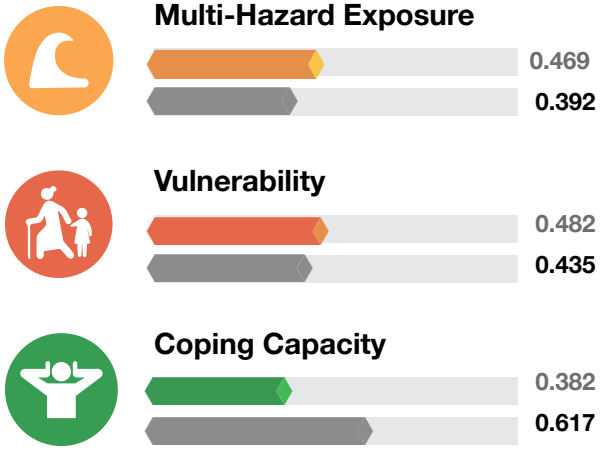
MULTI-HAZARD RISK (MHR)

1 / 17
RANK WITHIN ISLANDS
Score: 0.530

Acklins' score and ranking are due to High Multi-hazard Exposure combined with High Vulnerability and Very Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

ACKLINS SCORE
COUNTRY SCORE



ACKLINS RECOMMENDATIONS

1

Economic Constraints

Economic constraints have individual, household, community, and district-wide influence. Limitations on available financial resources reduce opportunities to invest in mitigation and preparedness measures and limit the Acklins' ability to facilitate short- and long-term recovery.

Acklins scores the 2nd highest in Economic Constraints in The Bahamas. Contributing to this is the highest economic dependency ratio and highest government benefit recipient percentages in The Bahamas. In addition, more than half of Acklins' population live below the poverty line ranking 2nd highest in the Commonwealth. Dependency of individuals limits mobility for populations and increases vulnerability due to lack of opportunity. Hurricane Joaquin struck Acklins in 2015, causing significant damage to homes and infrastructure, further complicating economic dependency issues on the island. Additionally, unlike most of the islands, Acklins is not known as a tourist island and does not have the amenities and infrastructure to support large-scale tourism, limiting economic growth and opportunity.

Evaluate disaster response and recovery plans to ensure the inclusion of economically vulnerable populations in long- and short-term recovery processes. Create public policies guaranteeing equal opportunity and fair wages for all.

Assess feasibility of government programs to assist in job creation and economic growth through education and short-term assistance designed to promote self-sustaining economic opportunities and decrease long-term reliance on government programs.

ACKLINS RECOMMENDATIONS

2

Household Composition Vulnerability

Vulnerable household members may have special needs that necessitate additional support to ensure their safety before, during, and after a disaster. Elderly or disabled family members more likely to require financial support, transportation, or specialized resources to support their daily care.

Acklins scores the 4th highest in The Bahamas in Household Composition Vulnerability. Contributing to the higher score are approximately 6% of the population with a disability, and more than 13% of the population over the age of 65. Households with dependent individuals increases vulnerability due to dependence for sustenance, health care, and shelter placed on other members within the household. Additionally, a higher population of elderly individuals and/or individuals with long-term disabilities can strain public and private resources without proper planning and increases care requirements during mass casualty situations.

Increase social services to support vulnerable households. Ensure medical care is adequate through both government programs and non-government organizations to meet the medical, nutritional, and housing needs of both children and the elderly. Create public health programs to provide free or reduced cost medical services to dependent populations to help reduce future healthcare costs.

Evaluate disaster preparedness and response plans and incorporate actions and programs designed to meet the requirements of special needs populations, notably the elderly and handicapped. Focus on preparedness and advance planning to reduce the strain on these individuals and the government during times of disaster. Emphasize individual/family disaster preparedness and have clear pre- and post-storm evacuation plans that are well-publicized and practiced.

ACKLINS RECOMMENDATIONS

3

Logistics Capacity

Efficient storage, movement and delivery of resources are key to effective humanitarian assistance and disaster relief operations. Ensuring that the supply chain can reach vulnerable and isolated communities can significantly improve the speed and quality of response operations, reducing the negative social and economic impacts of an emergency.

Acklins ranks highest among all islands in The Bahamas for Multi-Hazard Risk with highest overall single-hazard risk for hurricane wind, storm surge, and flood hazards. In addition, Acklins ranks 3rd lowest in The Bahamas for overall Logistics Capacity, with the 3rd greatest average distance to port and airport facilities, and the 5th greatest distance to a warehouse. Reduced Logistics Capacity affects the speed and agility of emergency response operations in times of disaster. Long supply chain distances to reach remote and isolated communities in an island nation can exacerbate the vulnerabilities of a disaster-affected population. Efficient movement of resources and continuity of supply chains resulting in timely arrival of disaster relief supplies can offset the potential for negative secondary and tertiary effects of a disaster.

Identify and establish strategic storage locations and capacities for emergency supplies. Create emergency action plans that include routing for emergency supplies and communications during transit. Include secondary, tertiary, and quaternary movement plans. Develop a communications plan for movement in conjunction with planned routes with primary, alternate, and emergency methods. Hold annual training to identify training gaps in movement and loading of supplies.

ACKLINS RECOMMENDATIONS

4

Emergency Service Capacity

Societies establish capacities to manage emergencies that scale from day-to-day events up to catastrophes that impact all of society. Establishing and maintaining a broad range of systems and resources to support emergency services in the Acklins will increase the capacity for disaster management and response.

Acklins has the lowest Emergency Services Capacity in The Bahamas with the 3rd greatest average distance to police stations, the 2nd greatest distance to designated shelters, and 6th lowest shelter capacity. Reduced emergency service capacity can increase risk to the population with limited police presence and lower shelter capacities. A diminished police presence can lead to an increase in criminal activity and create an environment for influence by criminal groups.

Address existing public policy to increase police presence through the building of new police sub-stations or increasing patrols. Identify community policing opportunities and promote feedback from communities on potential efforts that may alleviate the strain caused by lengthy response times and/or limited police services.

Identify structures that could serve to increase shelter capacity within Acklins and reduce the average distance to shelters. Ensure that structures designated as shelters can withstand hazard impacts (e.g., hurricane winds, storm surge, flood, etc.) to which Acklins is exposed. Develop storage plans to warehouse shelter supplies and increase overall shelter capacity for the island.

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THE BAHAMAS

ANDROS

NDPBA ISLAND PROFILE

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THE BAHAMAS
ANDROS

CAPITAL: ANDROS TOWN

Area: 2300 sq. mi (5,957 sq. km)

RISK AND VULNERABILITY
COMPONENT SCORE

MULTI-HAZARD RISK (MHR) - High
Score: 0.431 • Rank: 4/17

RESILIENCE (R) - Moderate
Score: 0.496 • Rank: 8/17

MULTI-HAZARD EXPOSURE (MHE) - Very High
Score: 0.564 • Rank: 3/17

VULNERABILITY (V) - Moderate
Score: 0.463 • Rank: 8/17

COPING CAPACITY (CC) - Moderate
Score: 0.658 • Rank: 8/17

Population (2010 Census)
7,490

Population in Poverty
60.6%

Average Annual Foreign Arrivals Per Capita
1.4

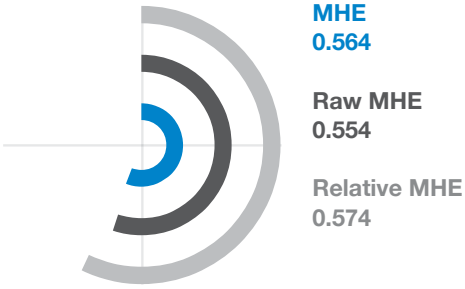
Households with Piped Water
90.4%

Prevalence of Crowded Housing
22.6%

*For more information on data and components please visit: https://bit.ly/2LqVoUO

MULTI-HAZARD EXPOSURE (MHE)

RANK: 3 / 17 ISLANDS
SCORE: 0.564



ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:

Note: Population values from PDC's All-hazard Impact Model (AIM) leverage 2020 estimates for The Bahamas. Values may exceed 2010 Census population.

Tropical Cyclone Winds
100.0%
7,504
$511 Million

Storm Surge
41.1%
3,081
$323.5 Million

Flooding
52.1%
3,908
$360 Million

Wildfire
30.4%
2,278
$184.5 Million

Landslide
1.1%
80
$5.1 Million

Sea Level Rise
0.0%
0
$100 Thousand

VULNERABILITY (V)

RANK: 8 / 17 ISLANDS ASSESSED
SCORE: 0.463

Vulnerability in Andros is primarily driven by Economic Constraints and Environmental Stress. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.

Environmental Stress

0 — 1 **SCORE: 0.529** **RANK: 9/17** ISLANDS ASSESSED

67.3% Coral reef exposed to local threats
83.9% Coral reef exposed to thermal stress
6.7% Tree cover loss
0.53 per mi. (0.33 per km) Historical hurricane hits per length of coastline

Household Composition Vulnerability

0 — 1 **SCORE: 0.387** **RANK: 7/17** ISLANDS ASSESSED

4.4% Disability
9.9% Elderly population (65+)

Clean Water Access Vulnerability

0 — 1 **SCORE: 0.460** **RANK: 10/17** ISLANDS ASSESSED

90.4% Households with piped water
96.0% Households with flush toilets
3.0% Households with shared toilet facilities

Housing and Transportation Vulnerability

0 — 1 **SCORE: 0.522** **RANK: 4/17** ISLANDS ASSESSED

22.6% Crowded housing
34.9% Population without private vehicle
37.8% Housing built before 1980

Economic Constraints

0 — 1 **SCORE: 0.879** **RANK: 1/17** ISLANDS ASSESSED

68.0 Economic dependency ratio
$186 Government benefits received (Bahamian Dollars)
65.6% Non-wage earning population
60.6% Poverty rate

Gender Inequality

0 — 1 **SCORE: 0.281** **RANK: 13/17** ISLANDS ASSESSED

0.72
Ratio female to male income

1.03
Ratio female to male avg. years of school

20
Adolescent birth rate (per 1,000)

Population Pressures

0 — 1 **SCORE: 0.185** **RANK: 13/17** ISLANDS ASSESSED

-2.6%
Average population change (2000 - 2010)

1.4
Average annual foreign arrivals per capita

4.6
Average annual foreign arrivals per sq. mile

4.7
Migration per 100 persons

ISLAND CAPACITY (IC)

RANK: 12 / 17 ISLANDS ASSESSED
SCORE: 0.411

Andros exhibits weaker Island Capacity in the areas of Transportation Capacity and Communications Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Island Capacity score.

Economic Capacity

0 — 1 **SCORE: 0.087** **RANK: 15/17** ISLANDS ASSESSED

0.2%
Households receiving remittances

$8,400
Median income, Bahamian dollars

Environmental Capacity

0 — 1 **SCORE: 0.908** **RANK: 1/17** ISLANDS ASSESSED

55.0%
Protected areas

49%
Coastline protected by natural habitat

0.15 oz. per sq. ft (45 g per sq. m)
Standing fish stock

Infrastructure Capacity

0 — 1 **SCORE: 0.405** **RANK: 17/17** ISLANDS ASSESSED

Health Care Capacity **SCORE: 0.377** **RANK: 8/17** ISLANDS ASSESSED

4.0
Physicians per 10,000

21.4
Nurses & midwives per 10,000

13.4
Clinics per 10,000

112.5%
DTP3 Vaccine coverage rate

Transportation Capacity **SCORE: 0.000** **RANK: 17/17** ISLANDS ASSESSED

0.26 mi per sq. mi (0.16 km per sq. km)
Road density

Communications Capacity **SCORE: 0.325** **RANK: 17/17** ISLANDS ASSESSED

38.9%
Internet access

35.8%
Mobile coverage

Emergency Services Capacity **SCORE: 0.519** **RANK: 9/17** ISLANDS ASSESSED

7.06 mi (11.36 km)
Average distance to police station

2.26 mi (3.64 km)
Average distance to shelter

14.9
Shelter capacity per 100 persons

Energy Capacity **SCORE: 0.805** **RANK: 11/17** ISLANDS ASSESSED

92.0%
Households with electricity

84.1%
Households with liquid propane gas

LOGISTICS CAPACITY (LC)

RANK: 5 / 18 ISLANDS ASSESSED
SCORE: 0.900

Logistics Capacity describes the ability of the island to ensure efficient storage, movement, and delivery of resources key for effective humanitarian assistance and disaster relief operations. Logistics Capacity is driven by distances to a major airport, major seaport, and disaster warehouse.

39.32 mi (63.27 km)
Distance to port

0 mi (0 km)
Distance to airport

39.32 mi (63.27 km)
Distance to warehouse

COPING CAPACITY (CC)

Coping Capacity measures the systems, means, and abilities of people and societies to absorb and respond to disruptions in normal function. Coping Capacity in The Bahamas was calculated by using a combination of Island Capacity and Logistics Capacity.

RANK: 8 / 17 ISLANDS ASSESSED
SCORE: 0.658

RESILIENCE (R)

Resilience in The Bahamas was calculated by using a combination of Vulnerability, and Coping Capacity (including both Island Capacity and Logistics Capacity).

RANK: 8 / 17 ISLANDS ASSESSED
SCORE: 0.496

HAZARD-SPECIFIC RISK (HSR)

Tropical Cyclone Winds
RANK: 7 / 17 ISLANDS ASSESSED
SCORE: 0.454

Storm Surge
RANK: 8 / 17 ISLANDS ASSESSED
SCORE: 0.408

Flooding
RANK: 4 / 17 ISLANDS ASSESSED
SCORE: 0.443

Wildfire
RANK: 1 / 17 ISLANDS ASSESSED
SCORE: 0.460

Landslide
RANK: 6 / 17 ISLANDS ASSESSED
SCORE: 0.357

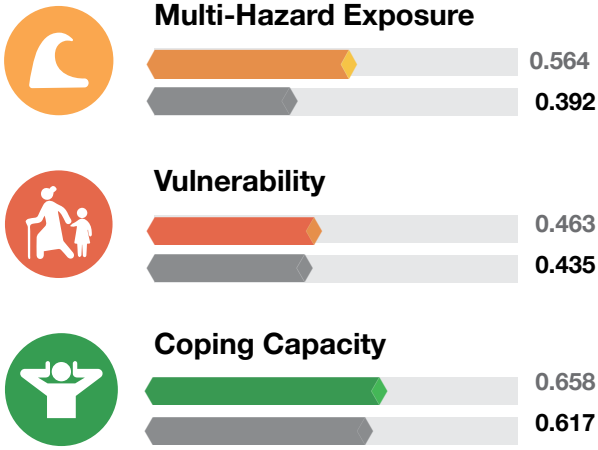
Sea Level Rise
RANK: 11 / 17 ISLANDS ASSESSED
SCORE: 0.306

MULTI-HAZARD RISK (MHR)

4 / 17
RANK WITHIN ISLANDS
Score: 0.431

Andros' score and ranking are due to Very High Multi-hazard Exposure combined with Moderate Vulnerability and Moderate Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:



ANDROS RECOMMENDATIONS

1

Economic Constraints

Economic constraints have individual, household, community, and district-wide influence. Limitations on available financial resources reduce opportunities to invest in mitigation and preparedness measures and limit Andros' ability to facilitate short- and long-term recovery.

Andros scores the highest in overall Economic Constraints in The Bahamas. Contributing to this score is the highest poverty rate (60.6%) and the highest percentage of non-wage earners in the country. Just over 65% of the population does not earn a wage or have business income.

Assess disaster preparedness, response, and recovery plans to ensure economically vulnerable populations are included. Create public policies guaranteeing equal opportunity and fair wages for all.

ANDROS RECOMMENDATIONS

2

Environmental Stress

Environmental stressors such as the depletion, degradation, or contamination of natural resources can exacerbate natural hazards and negatively impact the health, safety, and economic security of Andros' population.

Andros ranks 8th in thermal reef stress, 10th in reef exposure to local threats, and 9th overall for Environmental Stress. High poverty rates, income inequality, food insecurity, and other population pressures can be exacerbated by environmental stressors brought about by human influences or natural processes.

Environmental protection is vital to ensuring sustainable development within the islands, and land and reef management is essential to monitor ecological stress while balancing economic use. Recommend instituting monitoring and protection programs for local reefs, to include regulations limiting coastal development, increased oversight of the fishing industry, pollution control programs, and additional policies designed to minimize the effects of climate change. Increase public awareness on reef preservation and climate change.

Given Andros' 3rd highest Multi-Hazard Exposure ranking and significant exposure to wildfire, hurricane wind, and flood hazards, provide educational training to both private and public entities to promote hazard awareness and sustainable development to monitor, manage, and reduce environmental stress.

ANDROS RECOMMENDATIONS

3

Transportation Capacity

Denser and more diverse transportation networks provide more options for bringing outside resources into an impacted area and increase the ability of response stakeholders to access island populations. Improved transportation capacity supports all aspects of Andros' ability to distribute resources before, during, and after a disaster.

Andros ranks last in Transportation Capacity, with the lowest road density in The Bahamas. Poor transportation capacity within a region limits the economic opportunity and mobility of society and can prevent individuals from attending higher education or finding gainful employment. Transportation capacity constraints also hamper emergency response activities and decrease public access to vital resources.

Identify areas with limited transportation networks to identify the most beneficial areas where increasing transportation capacity will have the greatest impact. Identify emergency routes and vital transportation routes that provide critical access to services for the population and ensure services have secondary and tertiary means of access. Ensure new transportation routes are developed within sustainable development guidelines and include hazard mitigation strategies to reduce future hazard impacts.

ANDROS RECOMMENDATIONS

4

Communications Capacity

The density, diversity, resilience, and quality of communications infrastructure influence how island- and local-level populations able to facilitate effective and coordinated communication.

Andros ranks the lowest among islands in The Bahamas for Communications Capacity with approximately 39% of the population having internet access and only 36% of land area with mobile phone coverage. Unreliable communications and lack of access to communications infrastructure increases information access vulnerability and hinders the ability of government agencies to share critical information during disasters. Lack of adequate communication can also contribute to limited access to public health, safety, and nutrition.

Increase communications infrastructure to ensure coverage, accessibility, and reliability of communications during disasters. Ensure that all new or improvements to existing infrastructure incorporate risk reduction measures, with special consideration for wildfire, hurricane wind, and flood hazards. Encourage telecommunication infrastructure development at a sustainable pace. Create communications plans to share critical information with the public during disasters with primary, alternate, contingency, and emergency plans for communication. Ensure that the public is aware of how and where to get critical information during and after a disaster.

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THE BAHAMAS

BERRY ISLANDS

NDPBA ISLAND PROFILE

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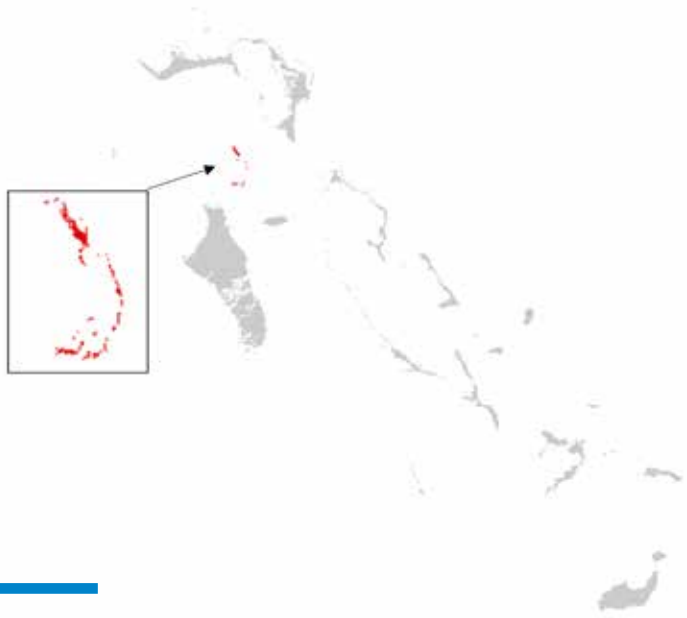
THE BAHAMAS
BERRY ISLANDS

CAPITAL: GREAT HARBOUR CAY

Area: 12 sq. mi (31.1 sq. km)



RISK AND VULNERABILITY
COMPONENT SCORE

MULTI-HAZARD RISK (MHR) - Low
Score: 0.322 • Rank: 13/17

RESILIENCE (R) - Moderate
Score: 0.502 • Rank: 7/17

MULTI-HAZARD EXPOSURE (MHE) - Low
Score: 0.200 • Rank: 12/17

VULNERABILITY (V) - Low
Score: 0.427 • Rank: 11/17

COPING CAPACITY (CC) - Low
Score: 0.646 • Rank: 10/17

Population (2010 Census)
807

Population in Poverty
24.0%

Average Annual Foreign Arrivals Per Capita
954.5

Households with Piped Water
90.9%

Prevalence of Crowded Housing
19.0%

*For more information on data and components please visit: https://bit.ly/2LqVoUO

MULTI-HAZARD EXPOSURE (MHE)

RANK: 12 / 17 ISLANDS
SCORE: 0.200

MHE
0.200

Raw MHE
0.246

Relative MHE
0.155

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:

Note: Population values from PDC's All-hazard Impact Model (AIM) leverage 2020 estimates for The Bahamas. Values may exceed 2010 Census population.

Tropical Cyclone Winds
100.0%
863
$169.6 Million

Storm Surge
58.2%
502
$77.1 Million

Flooding
0.0%
0
0

Wildfire
0.0%
0
0

Landslide
0.9%
8
$1.9 Million

Sea Level Rise
0.0%
0
$40 Thousand

VULNERABILITY (V)

RANK: 11 / 17 ISLANDS ASSESSED
SCORE: 0.427

Vulnerability in Berry Islands is primarily driven by Population Pressures and Environmental Stress. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.

Environmental Stress

0 — 1 **SCORE: 0.611** **RANK: 7/17** ISLANDS ASSESSED

68.7% Coral reef exposed to local threats
83.2% Coral reef exposed to thermal stress
6.7% Tree cover loss
1.61 per mi. (1 per km) Historical hurricane hits per length of coastline

Household Composition Vulnerability

0 — 1 **SCORE: 0.097** **RANK: 13/17** ISLANDS ASSESSED

2.1% Disability
7.8% Elderly population (65+)

Clean Water Access Vulnerability

0 — 1 **SCORE: 0.467** **RANK: 9/17** ISLANDS ASSESSED

90.9% Households with piped water
99.7% Households with flush toilets
17.0% Households with shared toilet facilities

Housing and Transportation Vulnerability

0 — 1 **SCORE: 0.441** **RANK: 9/17** ISLANDS ASSESSED

19.0% Crowded housing
44.4% Population without private vehicle
28.1% Housing built before 1980

Economic Constraints

0 — 1 **SCORE: 0.100** **RANK: 17/17** ISLANDS ASSESSED

47.0 Economic dependency ratio
$80 Government benefits received (Bahamian Dollars)
39.9% Non-wage earning population
24.0% Poverty rate

Gender Inequality

0 — 1 **SCORE: 0.611** **RANK: 3/17** ISLANDS ASSESSED

0.72
Ratio female to male income

1.06
Ratio female to male avg. years of school

57
Adolescent birth rate (per 1,000)

Population Pressures

0 — 1 **SCORE: 0.659** **RANK: 3/17** ISLANDS ASSESSED

13.8%
Average population change (2000 - 2010)

954.5
Average annual foreign arrivals per capita

64,192.1
Average annual foreign arrivals per sq. mile

1.7
Migration per 100 persons

ISLAND CAPACITY (IC)

RANK: 9 / 17 ISLANDS ASSESSED
SCORE: 0.430

Berry Islands exhibits weaker Island Capacity in the areas of Energy Capacity and Emergency Service Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Island Capacity score.

Economic Capacity

0 — 1 **SCORE: 0.454** **RANK: 8/17** ISLANDS ASSESSED

0.0%
Households receiving remittances

$16,800
Median income, Bahamian dollars

Environmental Capacity

0 — 1 **SCORE: 0.453** **RANK: 7/17** ISLANDS ASSESSED

8.1%
Protected areas

37%
Coastline protected by natural habitat

0.11 oz. per sq. ft (32.81 g per sq. m)
Standing fish stock

Infrastructure Capacity

0 — 1 **SCORE: 0.407** **RANK: 16/17** ISLANDS ASSESSED

Health Care Capacity **SCORE: 0.498** **RANK: 4/17** ISLANDS ASSESSED

12.4
Physicians per 10,000

24.8
Nurses & midwives per 10,000

12.4
Clinics per 10,000

109.1%
DTP3 Vaccine coverage rate

Transportation Capacity **SCORE: 0.558** **RANK: 7/17** ISLANDS ASSESSED

2.17 mi per sq. mi (1.35 km per sq. km)
Road density

Communications Capacity **SCORE: 0.710** **RANK: 9/17** ISLANDS ASSESSED

55.0%
Internet access

77.0%
Mobile coverage

Emergency Services Capacity **SCORE: 0.268** **RANK: 15/17** ISLANDS ASSESSED

8.26 mi (13.29 km)
Average distance to police station

8.41 mi (13.53 km)
Average distance to shelter

5.0
Shelter capacity per 100 persons

Energy Capacity **SCORE: 0.000** **RANK: 17/17** ISLANDS ASSESSED

71.4%
Households with electricity

18.7%
Households with liquid propane gas

LOGISTICS CAPACITY (LC)

RANK: 8 / 18 ISLANDS ASSESSED
SCORE: 0.857

Logistics Capacity describes the ability of the island to ensure efficient storage, movement, and delivery of resources key for effective humanitarian assistance and disaster relief operations. Logistics Capacity is driven by distances to a major airport, major seaport, and disaster warehouse.

56.19 mi (90.41 km)
Distance to port

0 mi (0 km)
Distance to airport

56.19 mi (90.41 km)
Distance to warehouse

COPING CAPACITY (CC)

Coping Capacity measures the systems, means, and abilities of people and societies to absorb and respond to disruptions in normal function. Coping Capacity in The Bahamas was calculated by using a combination of Island Capacity and Logistics Capacity.

RANK: 10 / 17 ISLANDS ASSESSED
SCORE: 0.646

RESILIENCE (R)

Resilience in The Bahamas was calculated by using a combination of Vulnerability, and Coping Capacity (including both Island Capacity and Logistics Capacity).

RANK: 7 / 17 ISLANDS ASSESSED
SCORE: 0.502

HAZARD-SPECIFIC RISK (HSR)

Tropical Cyclone Winds
RANK: 10 / 17 ISLANDS ASSESSED
SCORE: 0.427

Storm Surge
RANK: 13 / 17 ISLANDS ASSESSED
SCORE: 0.367

Flooding
RANK: 11 / 17 ISLANDS ASSESSED
SCORE: 0.000

Wildfire
RANK: 7 / 17 ISLANDS ASSESSED
SCORE: 0.000

Landslide
RANK: 10 / 17 ISLANDS ASSESSED
SCORE: 0.330

Sea Level Rise
RANK: 12 / 17 ISLANDS ASSESSED
SCORE: 0.305

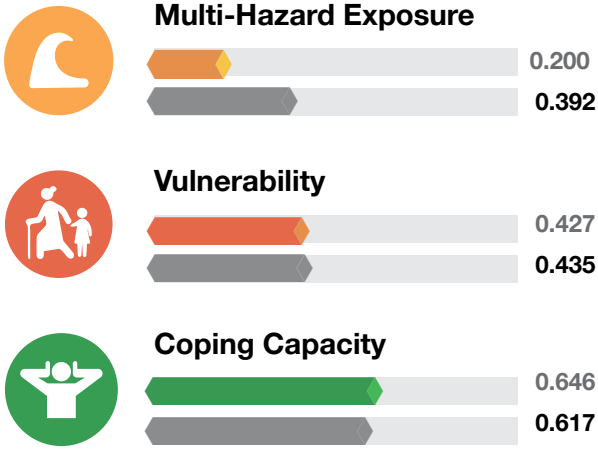
MULTI-HAZARD RISK (MHR)

13 / 17
RANK WITHIN ISLANDS
Score: 0.322

Berry Islands' score and ranking are due to Low Multi-hazard Exposure combined with Low Vulnerability and Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

BERRY ISLANDS SCORE
COUNTRY SCORE



BERRY ISLANDS RECOMMENDATIONS

1

Population Pressures

Rapid changes in population size and distribution can alter population vulnerability characteristics presenting planning challenges and destabilizing social, economic, and environmental systems. Increased population pressures require disaster managers to realign needs, institutional structures, and available resources to support delivery of basic resources before, during, and after an event.

Berry Islands ranks 3rd in Population Pressures in The Bahamas, with the highest average annual foreign arrivals per capita, and the highest density of foreign arrivals per square mile. Population increases place stress on public utilities, emergency services, and health care and subsequently decreases the ability for governments to respond adequately to disasters.

Review and update disaster response plans to account for tourists and other foreign arrivals. High numbers of transient arrivals can cause fluctuations in response needs and must be accounted for in shelter plans, evacuation plans, and commodity supplies and distribution.

BERRY ISLANDS RECOMMENDATIONS

2

Environmental Stress

Environmental stressors such as the depletion, degradation, or contamination of natural resources can exacerbate natural hazards and negatively impact the health, safety, and economic security of Berry Islands' population.

Berry Islands ranks 7th overall for Environmental Stress, with the 3rd highest number of hurricane hits per kilometer of coastline and the 9th highest percentage of reefs exposed to local threats. In addition, climate change may exacerbate environmental stressors and contribute to food insecurity, unhabitable environments, internally displaced people, and forced migration.

Review building codes and coastal development plans for long range sustainability of not only the structures, but the island and surrounding environment. Institute programs designed to increase reef preservation and protect the marine environment. Increase the cultivation of natural vegetation in and near coastal areas to offer added protection from storms. Provide educational training on sustainable development and environmental stewardship for both private and public entities.

BERRY ISLANDS RECOMMENDATIONS

3

Energy Capacity

Homes, businesses, industry, and government all rely on access to energy resources for continuity of daily activities. Expanding, strengthening, and securing the energy network and increasing the availability and quantity of energy reserves in Berry Islands will contribute to economic development and increase the speed of recovery processes in the aftermath of a disaster.

Berry Islands ranks last in overall Energy Capacity in The Bahamas, with only 19% of households using gas or propane as a fuel type and only 71% of households using electricity as a light source. Households without adequate energy sources increase dependency on government resources during a disaster.

Identify households in need of upgrades to meet energy requirements for lighting and cooking safely and consistently. Develop programs that provide grants or low-cost loans to homeowners for household energy improvements. Expand service areas as needed to meet energy demand and accommodate future growth and development.

BERRY ISLANDS RECOMMENDATIONS

4

Emergency Service Capacity

Societies establish capacities to manage emergencies that scale from day-to-day events up to catastrophes that impact all of society. Establishing and maintaining a broad range of systems and resources to support emergency services in Berry Islands will increase the capacity for disaster management and response.

Berry Islands has the 3rd lowest Emergency Services Capacity in The Bahamas, with the 3rd greatest distance to an emergency shelter, and the 4th lowest shelter capacity. Low shelter capacities and fewer shelters can create an unnecessary burden on government responders in a disaster by increasing evacuation requirements, search and rescue demands, and the need for temporary housing.

Identify buildings that could act as shelters to increase shelter capacity within Berry Islands and decrease average distance to shelters. Develop storage plans to store shelter supplies and increase shelter capacity in the islands. Ensure shelter and evacuation plans are up to date.

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THE BAHAMAS

BIMINI

NDPBA ISLAND PROFILE

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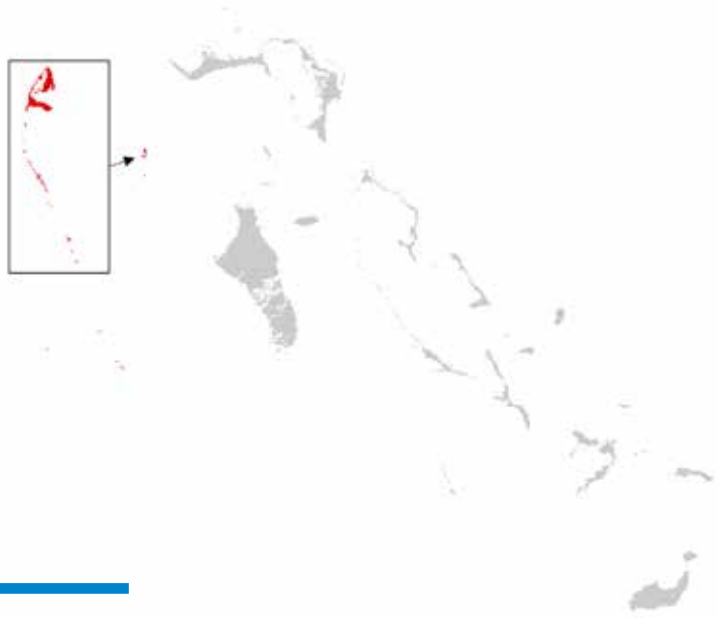
THE BAHAMAS
BIMINI

CAPITAL: ALICE TOWN

Area: 11 sq. mi (28.5 sq. km)



RISK AND VULNERABILITY
COMPONENT SCORE

MULTI-HAZARD RISK (MHR) - Very Low
Score: 0.287 • Rank: 16/17

RESILIENCE (R) - Low
Score: 0.484 • Rank: 10/17

MULTI-HAZARD EXPOSURE (MHE) - Very Low
Score: 0.114 • Rank: 16/17

VULNERABILITY (V) - Low
Score: 0.432 • Rank: 10/17

COPING CAPACITY (CC) - Low
Score: 0.617 • Rank: 11/17

Population (2010 Census)
1,988

Population in Poverty
33.7%

Average Annual Foreign Arrivals Per Capita
61.2

Households with Piped Water
97.1%

Prevalence of Crowded Housing
22.5%

*For more information on data and components please visit: https://bit.ly/2LqVoUO

MULTI-HAZARD EXPOSURE (MHE)

RANK: 16 / 17 ISLANDS
SCORE: 0.114

MHE
0.114

Raw MHE
0.199

Relative MHE
0.029

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:

Note: Population values from PDC's All-hazard Impact Model (AIM) leverage 2020 estimates for The Bahamas. Values may exceed 2010 Census population.

Tropical Cyclone Winds
100.0%
2,020
$59.4 Million

Storm Surge
15.8%
319
$23.8 Million

Flooding
0.0%
0
0

Wildfire
0.0%
0
0

Landslide
6.5%
131
$1.2 Million

Sea Level Rise
0.5%
< 25
$230 Thousand

VULNERABILITY (V)

RANK: 10 / 17 ISLANDS ASSESSED
SCORE: 0.432

Vulnerability in Bimini is primarily driven by Housing and Transport Vulnerability and Environmental Stress. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.

Environmental Stress

0 — 1 **SCORE: 0.688** **RANK: 6/17** ISLANDS ASSESSED

100.0% Coral reef exposed to local threats
100.0% Coral reef exposed to thermal stress
9.9% Tree cover loss
0.59 per mi. (0.36 per km) Historical hurricane hits per length of coastline

Household Composition Vulnerability

0 — 1 **SCORE: 0.108** **RANK: 11/17** ISLANDS ASSESSED

2.4% Disability
7.6% Elderly population (65+)

Clean Water Access Vulnerability

0 — 1 **SCORE: 0.263** **RANK: 16/17** ISLANDS ASSESSED

97.1% Households with piped water
100.0% Households with flush toilets
7.5% Households with shared toilet facilities

Housing and Transportation Vulnerability

0 — 1 **SCORE: 0.691** **RANK: 1/17** ISLANDS ASSESSED

22.5% Crowded housing
61.3% Population without private vehicle
35.2% Housing built before 1980

Economic Constraints

0 — 1 **SCORE: 0.165** **RANK: 14/17** ISLANDS ASSESSED

44.5 Economic dependency ratio
$62 Government benefits received (Bahamian Dollars)
46.3% Non-wage earning population
33.7% Poverty rate

Gender Inequality

0 — 1 **SCORE: 0.565** **RANK: 5/17** ISLANDS ASSESSED

0.71
Ratio female to male income

1.09
Ratio female to male avg. years of school

37
Adolescent birth rate (per 1,000)

Population Pressures

0 — 1 **SCORE: 0.544** **RANK: 5/17** ISLANDS ASSESSED

15.8%
Average population change (2000 - 2010)

61.2
Average annual foreign arrivals per capita

11,064.2
Average annual foreign arrivals per sq. mile

2.7
Migration per 100 persons

ISLAND CAPACITY (IC)

RANK: 13 / 17 ISLANDS ASSESSED
SCORE: 0.397

Bimini exhibits weaker Island Capacity in the areas of Health Care Capacity and Transportation Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Island Capacity score.

Economic Capacity

0 — 1 **SCORE: 0.237** **RANK: 11/17** ISLANDS ASSESSED

0.0%
Households receiving remittances

$12,600
Median income, Bahamian dollars

Environmental Capacity

0 — 1 **SCORE: 0.171** **RANK: 13/17** ISLANDS ASSESSED

0.0%
Protected areas

25%
Coastline protected by natural habitat

0.11 oz. per sq. ft (32.81 g per sq. m)
Standing fish stock

Infrastructure Capacity

0 — 1 **SCORE: 0.584** **RANK: 8/17** ISLANDS ASSESSED

Health Care Capacity

SCORE: 0.352 **RANK: 12/17** ISLANDS ASSESSED

5.0
Physicians per 10,000

20.1
Nurses & midwives per 10,000

10.1
Clinics per 10,000

100.0%
DTP3 Vaccine coverage rate

Transportation Capacity

SCORE: 0.523 **RANK: 9/17** ISLANDS ASSESSED

1.9 mi per sq. mi (1.18 km per sq. km)
Road density

Communications Capacity

SCORE: 0.811 **RANK: 4/17** ISLANDS ASSESSED

62.3%
Internet access

82.1%
Mobile coverage

Emergency Services Capacity

SCORE: 0.663 **RANK: 5/17** ISLANDS ASSESSED

3.44 mi (5.53 km)
Average distance to police station

2.9 mi (4.66 km)
Average distance to shelter

29.7
Shelter capacity per 100 persons

Energy Capacity

SCORE: 0.572 **RANK: 14/17** ISLANDS ASSESSED

94.9%
Households with electricity

41.8%
Households with liquid propane gas

LOGISTICS CAPACITY (LC)

RANK: 9 / 18 ISLANDS ASSESSED
SCORE: 0.833

Logistics Capacity describes the ability of the island to ensure efficient storage, movement, and delivery of resources key for effective humanitarian assistance and disaster relief operations. Logistics Capacity is driven by distances to a major airport, major seaport, and disaster warehouse.

65.39 mi (105.21 km)
Distance to port

0 mi (0 km)
Distance to airport

65.39 mi (105.21 km)
Distance to warehouse

COPING CAPACITY (CC)

Coping Capacity measures the systems, means, and abilities of people and societies to absorb and respond to disruptions in normal function. Coping Capacity in The Bahamas was calculated by using a combination of Island Capacity and Logistics Capacity.

RANK: 11 / 17 ISLANDS ASSESSED
SCORE: 0.617

RESILIENCE (R)

Resilience in The Bahamas was calculated by using a combination of Vulnerability, and Coping Capacity (including both Island Capacity and Logistics Capacity).

RANK: 10 / 17 ISLANDS ASSESSED
SCORE: 0.484

HAZARD-SPECIFIC RISK (HSR)

Tropical Cyclone Winds	**RANK:** 9 / 17 ISLANDS ASSESSED	**SCORE:** 0.432
Storm Surge	**RANK:** 16 / 17 ISLANDS ASSESSED	**SCORE:** 0.309
Flooding	**RANK:** 11 / 17 ISLANDS ASSESSED	**SCORE:** 0.000
Wildfire	**RANK:** 7 / 17 ISLANDS ASSESSED	**SCORE:** 0.000
Landslide	**RANK:** 5 / 17 ISLANDS ASSESSED	**SCORE:** 0.393
Sea Level Rise	**RANK:** 4 / 17 ISLANDS ASSESSED	**SCORE:** 0.395

MULTI-HAZARD RISK (MHR)

16 / 17
RANK WITHIN ISLANDS
Score: 0.287

Bimini's score and ranking are due to Very Low Multi-hazard Exposure combined with Low Vulnerability and Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

BIMINI SCORE
COUNTRY SCORE

Multi-Hazard Exposure
0.114
0.392

Vulnerability
0.432
0.435

Coping Capacity
0.617
0.617

BIMINI RECOMMENDATIONS

1

Housing and Transport Vulnerability

Older housing units, constructed prior to modern building codes, are more susceptible to the damaging effects of natural hazards. Crowded housing is linked to both economic constraints and vulnerable health status, which are be exacerbated by hazard exposure. Crowding presents a challenge for disaster response activities including evacuation and sheltering when large numbers of people must relocate from their homes. These challenges are further complicated when households do not have personal means of transportation, relying instead on public or mass transit.

Bimini ranks highest in Housing and Transport Vulnerability. Contributing to this score is 61% of the population without a vehicle for private use. Inadequate transportation services for populations can limit mobility, economic opportunity, access to adequate food sources, access to necessary healthcare, and access to government services. Not having reliable transportation also increases dependency on other individuals and government resources in times of disaster.

Identify alternative methods of transportation such as bicycles and walking and focus on adequately developing infrastructure to encourage it. Survey the population to identify desirable transportation options, balancing development and implementation with realistic, sustainable solutions. Ensure emergency supply, evacuation and shelter planning consider an increased need in transportation support.

BIMINI RECOMMENDATIONS

2

Environmental Stress

Environmental stressors such as the depletion, degradation, or contamination of natural resources can exacerbate natural hazards and negatively impact the health, safety, and economic security of Bimini's population.

Bimini ranks 6th overall for Environmental Stress, with 100% of reefs exposed to local threats, and 100% exposed to thermal stress, the highest out of all islands in The Bahamas. In addition, Bimini ranks 4th highest in The Bahamas for exposure to sea level rise. Reefs already under stress may experience more dramatic decline due to the effects of climate change.

Ensure climate change policies account for development of programs to monitor reef stress in and around the islands. Institute policies to decrease public or commercial activity near the reefs, perhaps establishing additional environmental protection areas where applicable and economically feasible. Provide educational training on sustainable development and environmental stewardship for both private and public entities.

BIMINI RECOMMENDATIONS

3

Health Care Capacity

Robust access to skilled caregivers and the dedicated facilities for the treatment of injury and disease during non-disaster times greatly enhances the ability of the served population to absorb and manage post-disaster impacts to health, and increases the likelihood that disaster associated health and medical impacts may be addressed.

Bimini has the 6th lowest Health Care Capacity in The Bahamas, driven by both the 6th lowest number of clinics per 10,000 persons (10), and nurses and midwives per 10,000 persons (20). A lack of skilled health care professionals and resources creates limitations in meeting emergent medical needs. The resulting triage of limited medical resources can exacerbate mass casualties and acute disease outbreaks during a disaster.

Build additional health clinics to address medical needs that do not require a hospital. Locate new health care infrastructure outside of identified hazard zones.

Work with the Ministry of Health and Wellness to promote comprehensive health education programs, including nutrition, exercise, vaccination, and child and maternal health to promote the overall well-being and quality of life on the island.

BIMINI RECOMMENDATIONS

4

Transportation Capacity

Denser and more diverse transportation networks provide more options for bringing outside resources into an impacted area and increase the ability of response stakeholders to access island populations. Improved transportation capacity supports all aspects of Bimini's ability to distribute resources before, during, and after a disaster.

Bimini ranks 9th lowest among islands in The Bahamas for Transportation Capacity. Poor transportation capacity limits economic opportunities and mobility of society and reduces opportunities for individuals to attend higher education and find gainful employment. In addition, poor transportation capacity can hamper emergency response activities and decrease public access to vital resources such as adequate healthcare and food.

Evaluate transportation routes, including air and maritime, to reduce impact to movement in times of disaster. Identify emergency routes and vital transportation routes that provide critical access to services for the population. Update emergency plans to reflect transportation limitations and workarounds.

Identify areas with limited transportation opportunities to identify the best project areas where increasing transportation capacity has the highest impact. Ensure that all new transportation infrastructure projects include risk reduction initiatives to mitigate the impacts of future hazards, including sea level rise.

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THE BAHAMAS

CAT ISLAND

NDPBA ISLAND PROFILE

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THE BAHAMAS
CAT ISLAND

CAPITAL: ARTHUR'S TOWN

Area: 150 sq. mi (388.5 sq. km)

RISK AND VULNERABILITY
COMPONENT SCORE

MULTI-HAZARD RISK (MHR) - Very High
Score: 0.455 • Rank: 3/17

RESILIENCE (R) - Very Low
Score: 0.425 • Rank: 14/17

MULTI-HAZARD EXPOSURE (MHE) - Moderate
Score: 0.423 • Rank: 8/17

VULNERABILITY (V) - Very High
Score: 0.548 • Rank: 1/17

COPING CAPACITY (CC) - Low
Score: 0.586 • Rank: 13/17

Population (2010 Census)
1,522

Population in Poverty
49.9%

Average Annual Foreign Arrivals Per Capita
290.3

Households with Piped Water
74.8%

Prevalence of Crowded Housing
14.2%

*For more information on data and components please visit: https://bit.ly/2LqVoUO

MULTI-HAZARD EXPOSURE (MHE)

RANK: 8 / 17 ISLANDS
SCORE: 0.423

MHE
0.423

Raw MHE
0.337

Relative MHE
0.508

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:

Note: Population values from PDC's All-hazard Impact Model (AIM) leverage 2020 estimates for The Bahamas. Values may exceed 2010 Census population.

Tropical Cyclone Winds
100.0%
1,463
$118.6 Million

Storm Surge
75.0%
1,097
$75.8 Million

Flooding
42.0%
614
$44.8 Million

Wildfire
0.6%
8
$4.6 Million

Landslide
4.5%
66
$4.3 Million

Sea Level Rise
1.0%
< 25
$1.5 Million

VULNERABILITY (V)

RANK: 1 / 17 ISLANDS ASSESSED
SCORE: 0.548

Vulnerability in Cat Island is primarily driven by Clean Water Access Vulnerability and Economic Constraints. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.

Environmental Stress

0 — 1 **SCORE: 0.559** **RANK: 8/17** ISLANDS ASSESSED

69.4% Coral reef exposed to local threats

73.3% Coral reef exposed to thermal stress

9.5% Tree cover loss

0.88 per mi. (0.55 per km) Historical hurricane hits per length of coastline

Household Composition Vulnerability

0 — 1 **SCORE: 0.601** **RANK: 6/17** ISLANDS ASSESSED

5.1% Disability

13.1% Elderly population (65+)

Clean Water Access Vulnerability

0 — 1 **SCORE: 0.869** **RANK: 1/17** ISLANDS ASSESSED

74.8% Households with piped water

83.5% Households with flush toilets

4.8% Households with shared toilet facilities

Housing and Transportation Vulnerability

0 — 1 **SCORE: 0.406** **RANK: 12/17** ISLANDS ASSESSED

14.2% Crowded housing

40.2% Population without private vehicle

37.2% Housing built before 1980

Economic Constraints

0 — 1 **SCORE: 0.681** **RANK: 3/17** ISLANDS ASSESSED

60.8 Economic dependency ratio

$231 Government benefits received (Bahamian Dollars)

56.1% Non-wage earning population

49.9% Poverty rate

Gender Inequality

0 — 1 **SCORE: 0.226** **RANK: 15/17** ISLANDS ASSESSED

0.66
Ratio female to male income

0.97
Ratio female to male avg. years of school

8
Adolescent birth rate (per 1,000)

Population Pressures

0 — 1 **SCORE: 0.499** **RANK: 6/17** ISLANDS ASSESSED

-7.6%
Average population change (2000 - 2010)

290.3
Average annual foreign arrivals per capita

2,945.5
Average annual foreign arrivals per sq. mile

1.0
Migration per 100 persons

ISLAND CAPACITY (IC)

RANK: 15 / 17 ISLANDS ASSESSED
SCORE: 0.351

Cat Island exhibits weaker Island Capacity in the areas of Health Care Capacity and Transportation Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Island Capacity score.

Economic Capacity

0 — 1 **SCORE: 0.126** **RANK: 14/17** ISLANDS ASSESSED

0.3%
Households receiving remittances

$8,400
Median income, Bahamian dollars

Environmental Capacity

0 — 1 **SCORE: 0.188** **RANK: 12/17** ISLANDS ASSESSED

0.0%
Protected areas

35%
Coastline protected by natural habitat

-
Standing fish stock

Infrastructure Capacity

0 — 1 **SCORE: 0.552** **RANK: 12/17** ISLANDS ASSESSED

Health Care Capacity

SCORE: 0.375 **RANK: 9/17** ISLANDS ASSESSED

6.6
Physicians per 10,000

19.7
Nurses & midwives per 10,000

26.3
Clinics per 10,000

70.0%
DTP3 Vaccine coverage rate

Transportation Capacity

SCORE: 0.414 **RANK: 12/17** ISLANDS ASSESSED

1.26 mi per sq. mi (0.78 km per sq. km)
Road density

Communications Capacity

SCORE: 0.595 **RANK: 13/17** ISLANDS ASSESSED

32.5%
Internet access

97.0%
Mobile coverage

Emergency Services Capacity

SCORE: 0.558 **RANK: 8/17** ISLANDS ASSESSED

6.05 mi (9.74 km)
Average distance to police station

3.69 mi (5.93 km)
Average distance to shelter

26.6
Shelter capacity per 100 persons

Energy Capacity

SCORE: 0.816 **RANK: 10/17** ISLANDS ASSESSED

91.9%
Households with electricity

85.8%
Households with liquid propane gas

LOGISTICS CAPACITY (LC)

RANK: 11 / 18 ISLANDS ASSESSED
SCORE: 0.816

Logistics Capacity describes the ability of the island to ensure efficient storage, movement, and delivery of resources key for effective humanitarian assistance and disaster relief operations. Logistics Capacity is driven by distances to a major airport, major seaport, and disaster warehouse.

61.2 mi (98.47 km)
Distance to port

0 mi (0 km)
Distance to airport

113.06 mi (181.92 km)
Distance to warehouse

COPING CAPACITY (CC)

Coping Capacity measures the systems, means, and abilities of people and societies to absorb and respond to disruptions in normal function. Coping Capacity in The Bahamas was calculated by using a combination of Island Capacity and Logistics Capacity.

RANK: 13 / 17 ISLANDS ASSESSED
SCORE: 0.586

RESILIENCE (R)

Resilience in The Bahamas was calculated by using a combination of Vulnerability, and Coping Capacity (including both Island Capacity and Logistics Capacity).

RANK: 14 / 17 ISLANDS ASSESSED
SCORE: 0.425

HAZARD-SPECIFIC RISK (HSR)

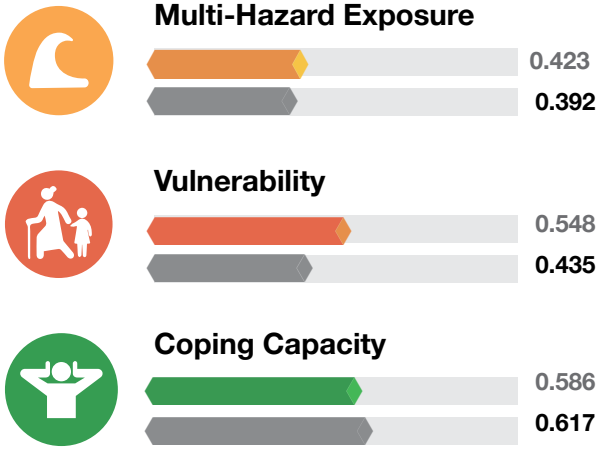
Tropical Cyclone Winds	**RANK:** 3 / 17 ISLANDS ASSESSED	**SCORE:** 0.492
Storm Surge	**RANK:** 5 / 17 ISLANDS ASSESSED	**SCORE:** 0.495
Flooding	**RANK:** 5 / 17 ISLANDS ASSESSED	**SCORE:** 0.442
Wildfire	**RANK:** 4 / 17 ISLANDS ASSESSED	**SCORE:** 0.323
Landslide	**RANK:** 1 / 17 ISLANDS ASSESSED	**SCORE:** 0.438
Sea Level Rise	**RANK:** 1 / 17 ISLANDS ASSESSED	**SCORE:** 0.495

MULTI-HAZARD RISK (MHR)

3 / 17
RANK WITHIN ISLANDS
Score: 0.455

Cat Island's score and ranking are due to Moderate Multi-hazard Exposure combined with Very High Vulnerability and Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:



CAT ISLAND RECOMMENDATIONS

1

Clean Water Access Vulnerability

Those without easy or adequate access to water distribution and containment systems face significant demands on daily routines that effectively limit their response and recovery capacity and the ability to maintain livelihoods. Increasing access to improved water and sanitation in Cat Island improves health outcomes and frees up resources to decrease further susceptibility to impacts.

RVA findings show that Cat Island has the highest overall Vulnerability in The Bahamas and the highest Clean Water Access Vulnerability in the islands, with approximately 25% of households lacking a public or private piped water source and approximately 18% without access to flush toilets. A lack of access to improved water sources and improved sanitation can lead to contracting enteric diseases from contaminated water supplies, exacerbating existing vulnerabilities. Lack of clean water in specific environments can quickly lead to a mass casualty situation requiring national-level resources and external assistance to ensure a population has clean drinking water necessary for survival.

Invest in the development of water treatment and water distribution systems to ensure populations have access to clean water and adequate sanitation services. Create and implement a plan for all households to have access to a piped water source. In all infrastructure enhancements, implement hazard mitigation strategies that consider hazard-specific risk. Cat Island has the 3rd highest overall Multi-Hazard Risk in the islands, with the highest rankings for landslide and sea level rise risk, 3rd highest hurricane wind risk, 4th highest wildfire risk, and 5th highest risk to both flood and storm surge, relative to other islands in The Bahamas.

CAT ISLAND RECOMMENDATIONS

2

Economic Constraints

Economic constraints have individual, household, community, and district-wide influence. Limitations on available financial resources reduce opportunities to invest in mitigation and preparedness measures and limit Cat Island's ability to facilitate short- and long-term recovery.

Also contributing to Cat Island's very high Vulnerability is it's 3rd highest ranking for overall Economic Constraints in The Bahamas, driven by an economic dependency ratio of just over 60% and poverty rate of 50%. Cat Island has the 3rd highest number of social benefits recipients, and 56% of the population does not earn a wage or have business income. Economic constraints have individual, household, community, and island-wide influence. Limitations on available financial resources reduce opportunities to invest in mitigation and preparedness measures and hinder short- and long-term recovery efforts after a disaster.

Include considerations for economically vulnerable populations in disaster response and recovery plans. Institute programs to help prepare residents for disasters and provide support for short- and long-term recovery efforts in the aftermath of a disaster.

Assess feasibility of government programs to assist in job creation and economic growth through education and short-term assistance designed to promote self-sustaining economic opportunities and decrease long-term reliance on government programs.

CAT ISLAND RECOMMENDATIONS

3

Health Care Capacity

Robust access to skilled caregivers and the dedicated facilities for the treatment of injury and disease during non-disaster times greatly enhances the ability of the served population to absorb and manage post-disaster impacts to health, and increases the likelihood that disaster associated health and medical impacts may be addressed.

There are fewer than seven physicians per 10,000 persons in Cat Island, and just 70% of the population has received the DTP3 vaccination. Inadequate Health Care Capacity exacerbates other areas such as economic participation, dependency, and adolescent and elder care.

Develop programs to target the health care needs of the population. As needed, increase facilities and/or providers or implement a program to provide increased services at designated times to address preventative and routine care, decreasing the burden on providers. Implement education programs related to personal and preventative care to lessen the need for acute care services.

CAT ISLAND RECOMMENDATIONS

4

Transportation Capacity

Denser and more diverse transportation networks provide more options for bringing outside resources into an impacted area and increase the ability of response stakeholders to access island populations. Improved transportation capacity supports all aspects of Cat Island ability to distribute resources before, during, and after a disaster.

Cat Island ranks 6th lowest for overall Transportation Capacity. Denser and more diverse transportation networks provide additional options for bringing outside resources into an impacted area and increase the ability of response stakeholders to access disaster-affected populations. Poor transportation capacity hampers emergency response activities and decreases public access to vital resources such as adequate healthcare and food.

Identify areas underserved by existing transportation routes and identify potential projects to increase access. Evaluate air, ground, and marine transport options, and ensure transportation limitations are considered in disaster response planning. Consideration should be given to evacuation routes, supply routes, and distribution plans that account for minimal transportation options.

Given Cat Island's risk to multiple hazards, ensure that transportation enhancements incorporate risk reduction strategies to minimize the impacts of future hazards.

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THE BAHAMAS

CROOKED ISLAND

NDPBA ISLAND PROFILE

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THE BAHAMAS
CROOKED ISLAND

CAPITAL: COLONEL HILL

Area: 93 sq. mi (240.9 sq. km)

RISK AND VULNERABILITY
COMPONENT SCORE

MULTI-HAZARD RISK (MHR) - Very High
Score: 0.475 • Rank: 2/17

RESILIENCE (R) - Very Low
Score: 0.408 • Rank: 15/17

MULTI-HAZARD EXPOSURE (MHE) - Moderate
Score: 0.441 • Rank: 7/17

VULNERABILITY (V) - Moderate
Score: 0.446 • Rank: 9/17

COPING CAPACITY (CC) - Very Low
Score: 0.476 • Rank: 14/17

Population (2010 Census)
330

Population in Poverty
33.0%

Average Annual Foreign Arrivals Per Capita
0

Households with Piped Water
89.5%

Prevalence of Crowded Housing
15.3%

*For more information on data and components please visit: https://bit.ly/2LqVoUO

MULTI-HAZARD EXPOSURE (MHE)

RANK: 7 / 17 ISLANDS
SCORE: 0.441

MHE
0.441

Raw MHE
0.139

Relative MHE
0.742

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:

Note: Population values from PDC's All-hazard Impact Model (AIM) leverage 2020 estimates for The Bahamas. Values may exceed 2010 Census population.

Tropical Cyclone Winds
100.0%
323
$23.4 Million

Storm Surge
85.1%
275
$21.3 Million

Flooding
61.6%
199
$19.4 Million

Wildfire
0.0%
0
0

Landslide
0.9%
3
$10 Thousand

Sea Level Rise
0.0%
0
$180 Thousand

VULNERABILITY (V)

RANK: 9 / 17 ISLANDS ASSESSED
SCORE: 0.446

Vulnerability in Crooked Island is primarily driven by Household Composition Vulnerability and Gender Inequality. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.

Environmental Stress

0 — 1 **SCORE: 0.268** **RANK: 16/17** ISLANDS ASSESSED

13.2% Coral reef exposed to local threats
15.2% Coral reef exposed to thermal stress
13.8% Tree cover loss
0.9 per mi. (0.56 per km) Historical hurricane hits per length of coastline

Household Composition Vulnerability

0 — 1 **SCORE: 0.948** **RANK: 1/17** ISLANDS ASSESSED

7.9% Disability
15.5% Elderly population (65+)

Clean Water Access Vulnerability

0 — 1 **SCORE: 0.345** **RANK: 14/17** ISLANDS ASSESSED

89.5% Households with piped water
94.4% Households with flush toilets
0.0% Households with shared toilet facilities

Housing and Transportation Vulnerability

0 — 1 **SCORE: 0.353** **RANK: 16/17** ISLANDS ASSESSED

15.3% Crowded housing
31.5% Population without private vehicle
36.3% Housing built before 1980

Economic Constraints

0 — 1 **SCORE: 0.500** **RANK: 7/17** ISLANDS ASSESSED

57.9 Economic dependency ratio
$286 Government benefits received (Bahamian Dollars)
48.2% Non-wage earning population
33.0% Poverty rate

Gender Inequality

0 — 1 **SCORE: 0.617** **RANK: 2/17** ISLANDS ASSESSED

0.80
Ratio female to male income

1.12
Ratio female to male avg. years of school

-
Adolescent birth rate (per 1,000)

Population Pressures

0 — 1 **SCORE: 0.088** **RANK: 17/17** ISLANDS ASSESSED

-5.7%
Average population change (2000 - 2010)

0.0
Average annual foreign arrivals per capita

0.0
Average annual foreign arrivals per sq. mile

0.6
Migration per 100 persons

ISLAND CAPACITY (IC)

RANK: 10 / 17 ISLANDS ASSESSED
SCORE: 0.421

Crooked Island exhibits weaker Island Capacity in the areas of Logistics Capacity and Transportation Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Island Capacity score.

Economic Capacity

0 — 1 **SCORE: 0.206** **RANK: 12/17** ISLANDS ASSESSED

0.0%
Households receiving remittances

$12,000
Median income, Bahamian dollars

Environmental Capacity

0 — 1 **SCORE: 0.370** **RANK: 9/17** ISLANDS ASSESSED

0.0%
Protected areas

60%
Coastline protected by natural habitat

0.09 oz. per sq. ft (27.22 g per sq. m)
Standing fish stock

Infrastructure Capacity

0 — 1 **SCORE: 0.571** **RANK: 10/17** ISLANDS ASSESSED

Health Care Capacity **SCORE: 0.318** **RANK: 13/17** ISLANDS ASSESSED

0.0
Physicians per 10,000

30.3
Nurses & midwives per 10,000

60.6
Clinics per 10,000

50.0%
DTP3 Vaccine coverage rate

Transportation Capacity **SCORE: 0.071** **RANK: 16/17** ISLANDS ASSESSED

0.34 mi per sq. mi (0.21 km per sq. km)
Road density

Communications Capacity **SCORE: 0.788** **RANK: 7/17** ISLANDS ASSESSED

57.3%
Internet access

87.2%
Mobile coverage

Emergency Services Capacity **SCORE: 0.732** **RANK: 3/17** ISLANDS ASSESSED

7.64 mi (12.29 km)
Average distance to police station

3.56 mi (5.72 km)
Average distance to shelter

72.7
Shelter capacity per 100 persons

Energy Capacity **SCORE: 0.944** **RANK: 2/17** ISLANDS ASSESSED

98.4%
Households with electricity

87.9%
Households with liquid propane gas

LOGISTICS CAPACITY (LC)

RANK: 14 / 18 ISLANDS ASSESSED
SCORE: 0.531

Logistics Capacity describes the ability of the island to ensure efficient storage, movement, and delivery of resources key for effective humanitarian assistance and disaster relief operations. Logistics Capacity is driven by distances to a major airport, major seaport, and disaster warehouse.

107.41 mi (172.82 km)
Distance to port

88.36 mi (142.17 km)
Distance to airport

137.5 mi (221.23 km)
Distance to warehouse

COPING CAPACITY (CC)

Coping Capacity measures the systems, means, and abilities of people and societies to absorb and respond to disruptions in normal function. Coping Capacity in The Bahamas was calculated by using a combination of Island Capacity and Logistics Capacity.

RANK: 14 / 17 ISLANDS ASSESSED
SCORE: 0.476

RESILIENCE (R)

Resilience in The Bahamas was calculated by using a combination of Vulnerability, and Coping Capacity (including both Island Capacity and Logistics Capacity).

RANK: 15 / 17 ISLANDS ASSESSED
SCORE: 0.408

HAZARD-SPECIFIC RISK (HSR)

Tropical Cyclone Winds	**RANK:** 5 / 17 ISLANDS ASSESSED	**SCORE:** 0.472
Storm Surge	**RANK:** 3 / 17 ISLANDS ASSESSED	**SCORE:** 0.510
Flooding	**RANK:** 2 / 17 ISLANDS ASSESSED	**SCORE:** 0.497
Wildfire	**RANK:** 7 / 17 ISLANDS ASSESSED	**SCORE:** 0.000
Landslide	**RANK:** 14 / 17 ISLANDS ASSESSED	**SCORE:** 0.265
Sea Level Rise	**RANK:** 6 / 17 ISLANDS ASSESSED	**SCORE:** 0.374

MULTI-HAZARD RISK (MHR)

2 / 17
RANK WITHIN ISLANDS
Score: 0.475

Crooked Island's score and ranking are due to Moderate Multi-hazard Exposure combined with Moderate Vulnerability and Very Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

CROOKED ISLAND SCORE
COUNTRY SCORE

Multi-Hazard Exposure

0.441
0.392

Vulnerability

0.446
0.435

Coping Capacity

0.476
0.617

CROOKED ISLAND RECOMMENDATIONS

1

Household Composition Vulnerability

Vulnerable household members may have special needs that necessitate additional support to ensure their safety before, during, and after a disaster. Elderly or disabled family members more likely to require financial support, transportation, or specialized resources to support their daily care.

Ranking 2nd highest for overall Multi-Hazard Risk, Crooked Island ranks highest in The Bahamas for overall Household Composition Vulnerability with 8% percent of the population reporting a disability, and approximately 15% over the age of 65.

Increase social services to support vulnerable households and encourage access to those services. Periodically review and update disaster response plans, including evacuation plans, to account for special needs populations and include provisions for the care, transport, and housing of elderly and handicapped individuals.

CROOKED ISLAND RECOMMENDATIONS

2

Gender Inequality

Marginalized populations are less likely to have their needs met under pre-disaster conditions, and therefore become even more susceptible to harm during times of disaster. Increase gender-based inclusion in all phases of DM, ensuring the implementation at the district and local levels. Course of action must recognize the role of women in society and support changes to policies and programs to promote gender-equal access.

Crooked Island ranks 2nd highest for overall Gender Inequality, driven by the highest disparity in female-to-male schooling in The Bahamas. In Crooked Island, the average number of years of schooling is higher for women than men, with somewhat equitable incomes (women earn 80% of their male counterparts).

Given women's active participation in the workforce, institute and/or expand programs that provide quality, affordable childcare to support their continued participation in the labor force. Review employer leave policies (family, sick, maternity, paternity) to accommodate the needs of family members when necessary.

Encourage employers to provide equitable pay for both men and women performing the same work.

CROOKED ISLAND RECOMMENDATIONS

3

Logistics Capacity

Efficient storage, movement and delivery of resources are key to effective humanitarian assistance and disaster relief operations. Ensuring that the supply chain can reach vulnerable and isolated communities can significantly improve the speed and quality of response operations, reducing the negative social and economic impacts of an emergency.

Crooked Island has the 4th lowest Logistics Capacity in The Bahamas, with the 4th greatest distance to a port, the 4th greatest distance to a warehouse, and the 5th greatest distance to an airport. Low logistics capacity can affect the speed and agility of emergency response operations in times of disaster.

Identify or create storage capacities on the island for housing disaster response and relief supplies such as food and water, shelter equipment and supplies, cots, roofing material and medicine. Address logistical challenges in operations plans by developing alternate routes, pre-storm allocations, and building partner-island relationships. Explore the feasibility of engaging the public/private sector to assist in storage, delivery, and distribution in times of emergency.

CROOKED ISLAND RECOMMENDATIONS

4

Transportation Capacity

Denser and more diverse transportation networks provide more options for bringing outside resources into an impacted area and increase the ability of response stakeholders to access island populations. Improved transportation capacity supports all aspects of Crooked Island ability to distribute resources before, during, and after a disaster.

Crooked Island has the 2nd lowest Transportation Capacity ranking in The Bahamas. Denser and more diverse transportation networks provide additional options for bringing outside resources into an impacted area and increase the ability of response stakeholders to access disaster-affected populations. Poor transportation capacity hampers emergency response activities and decreases public access to vital resources such as adequate healthcare and food.

Work with the population to identify transportation needs and implement projects to decrease isolation and increase capacity. Ensure transportation limitations are accounted for in disaster response planning, including routes to shelters and emergency services, evacuation planning and commodity distribution.

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THE BAHAMAS

ELEUTHERA

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THE BAHAMAS
ELEUTHERA

CAPITAL: GOVERNOR'S HARBOUR

Area: 198 sq. mi (512.8 sq. km)

RISK AND VULNERABILITY
COMPONENT SCORE

MULTI-HAZARD RISK (MHR) - High
Score: 0.425 • Rank: 6/17

RESILIENCE (R) - Moderate
Score: 0.489 • Rank: 9/17

MULTI-HAZARD EXPOSURE (MHE) - High
Score: 0.502 • Rank: 5/17

VULNERABILITY (V) - High
Score: 0.472 • Rank: 5/17

COPING CAPACITY (CC) - Moderate
Score: 0.650 • Rank: 9/17

Population (2010 Census)
8,202

Population in Poverty
49.9%

Average Annual Foreign Arrivals Per Capita
42.1

Households with Piped Water
92.2%

Prevalence of Crowded Housing
20.0%

*For more information on data and components please visit: https://bit.ly/2LqVoUO

MULTI-HAZARD EXPOSURE (MHE)

RANK: 5 / 17 ISLANDS
SCORE: 0.502

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:

Note: Population values from PDC's All-hazard Impact Model (AIM) leverage 2020 estimates for The Bahamas. Values may exceed 2010 Census population.

Tropical Cyclone Winds
100.0%
7,118
$385.7 Million

Storm Surge
28.6%
2,034
$165.3 Million

Flooding
67.9%
4,833
$216.6 Million

Wildfire
0.0%
0
0

Landslide
10.4%
741
$17.1 Million

Sea Level Rise
0.1%
< 25
$110 Thousand

VULNERABILITY (V)

RANK: 5 / 17 ISLANDS ASSESSED
SCORE: 0.472

Vulnerability in Eleuthera is primarily driven by Environmental Stress and Economic Constraints. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.

Environmental Stress

0 — 1 **SCORE: 0.688** **RANK: 5/17** ISLANDS ASSESSED

96.1% Coral reef exposed to local threats

95.8% Coral reef exposed to thermal stress

10.7% Tree cover loss

0.76 per mi. (0.47 per km) Historical hurricane hits per length of coastline

Household Composition Vulnerability

0 — 1 **SCORE: 0.313** **RANK: 8/17** ISLANDS ASSESSED

3.0% Disability

10.8% Elderly population (65+)

Clean Water Access Vulnerability

0 — 1 **SCORE: 0.438** **RANK: 12/17** ISLANDS ASSESSED

92.2% Households with piped water

96.4% Households with flush toilets

3.5% Households with shared toilet facilities

Housing and Transportation Vulnerability

0 — 1 **SCORE: 0.458** **RANK: 7/17** ISLANDS ASSESSED

20.0% Crowded housing

29.4% Population without private vehicle

40.4% Housing built before 1980

Economic Constraints

0 — 1 **SCORE: 0.581** **RANK: 6/17** ISLANDS ASSESSED

54.6 Economic dependency ratio

$138 Government benefits received (Bahamian Dollars)

58.5% Non-wage earning population

49.9% Poverty rate

Gender Inequality

0 — 1 **SCORE: 0.429** **RANK: 9/17** ISLANDS ASSESSED

0.53
Ratio female to male income

1.06
Ratio female to male avg. years of school

18
Adolescent birth rate (per 1,000)

Population Pressures

0 — 1 **SCORE: 0.396** **RANK: 8/17** ISLANDS ASSESSED

2.5%
Average population change (2000 - 2010)

42.1
Average annual foreign arrivals per capita

1,743.2
Average annual foreign arrivals per sq. mile

3.4
Migration per 100 persons

ISLAND CAPACITY (IC)

RANK: 11 / 17 ISLANDS ASSESSED
SCORE: 0.420

Eleuthera exhibits weaker Island Capacity in the areas of Health Care Capacity and Emergency Service Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Island Capacity score.

Economic Capacity

0 — 1 **SCORE: 0.199** **RANK: 13/17** ISLANDS ASSESSED

0.3%
Households receiving remittances

$10,251
Median income, Bahamian dollars

Environmental Capacity

0 — 1 **SCORE: 0.199** **RANK: 11/17** ISLANDS ASSESSED

0.0%
Protected areas

20%
Coastline protected by natural habitat

0.12 oz. per sq. ft (36.87 g per sq. m)
Standing fish stock

Infrastructure Capacity

0 — 1 **SCORE: 0.642** **RANK: 5/17** ISLANDS ASSESSED

Health Care Capacity

SCORE: 0.419 **RANK: 7/17** ISLANDS ASSESSED

4.9
Physicians per 10,000

34.1
Nurses & midwives per 10,000

15.9
Clinics per 10,000

96.1%
DTP3 Vaccine coverage rate

Transportation Capacity

SCORE: 0.612 **RANK: 5/17** ISLANDS ASSESSED

2.67 mi per sq. mi (1.66 km per sq. km)
Road density

Communications Capacity

SCORE: 0.811 **RANK: 5/17** ISLANDS ASSESSED

52.7%
Internet access

99.8%
Mobile coverage

Emergency Services Capacity

SCORE: 0.469 **RANK: 13/17** ISLANDS ASSESSED

11.76 mi (18.92 km)
Average distance to police station

2.04 mi (3.29 km)
Average distance to shelter

29.3
Shelter capacity per 100 persons

Energy Capacity

SCORE: 0.898 **RANK: 7/17** ISLANDS ASSESSED

96.8%
Households with electricity

85.2%
Households with liquid propane gas

LOGISTICS CAPACITY (LC)

RANK: 6 / 18 ISLANDS ASSESSED
SCORE: 0.874

Logistics Capacity describes the ability of the island to ensure efficient storage, movement, and delivery of resources key for effective humanitarian assistance and disaster relief operations. Logistics Capacity is driven by distances to a major airport, major seaport, and disaster warehouse.

49.26 mi (79.26 km)
Distance to port

0 mi (0 km)
Distance to airport

49.26 mi (79.26 km)
Distance to warehouse

COPING CAPACITY (CC)

Coping Capacity measures the systems, means, and abilities of people and societies to absorb and respond to disruptions in normal function. Coping Capacity in The Bahamas was calculated by using a combination of Island Capacity and Logistics Capacity.

RANK: 9 / 17 ISLANDS ASSESSED
SCORE: 0.650

RESILIENCE (R)

Resilience in The Bahamas was calculated by using a combination of Vulnerability, and Coping Capacity (including both Island Capacity and Logistics Capacity).

RANK: 9 / 17 ISLANDS ASSESSED
SCORE: 0.489

HAZARD-SPECIFIC RISK (HSR)

Tropical Cyclone Winds
RANK: 6 / 17 ISLANDS ASSESSED
SCORE: 0.459

Storm Surge
RANK: 9 / 17 ISLANDS ASSESSED
SCORE: 0.394

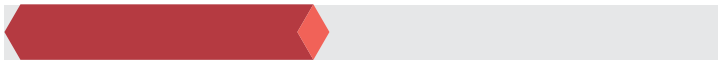
Flooding
RANK: 3 / 17 ISLANDS ASSESSED
SCORE: 0.454

Wildfire
RANK: 5 / 17 ISLANDS ASSESSED
SCORE: 0.272

Landslide
RANK: 4 / 17 ISLANDS ASSESSED
SCORE: 0.422

Sea Level Rise
RANK: 9 / 17 ISLANDS ASSESSED
SCORE: 0.331

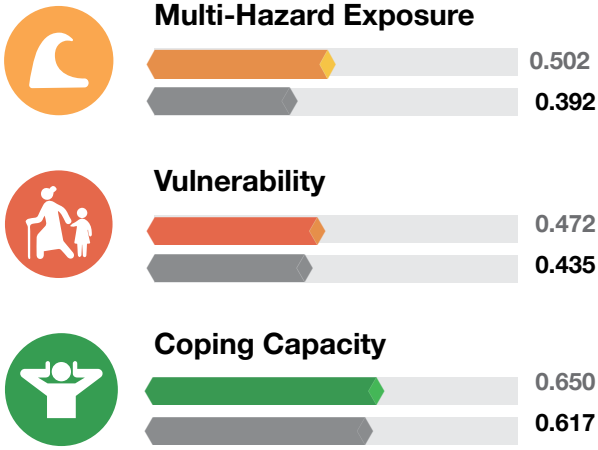
MULTI-HAZARD RISK (MHR)



6 / 17
RANK WITHIN ISLANDS
Score: 0.425

Eleuthera's score and ranking are due to High Multi-hazard Exposure combined with High Vulnerability and Moderate Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:



ELEUTHERA RECOMMENDATIONS

1

Environmental Stress

Environmental stressors such as the depletion, degradation, or contamination of natural resources can exacerbate natural hazards and negatively impact the health, safety, and economic security of Eleuthera's population.

Ranking 5th highest for overall Vulnerability in The Bahamas, Eleuthera also ranks 5th for Environmental Stress, with 96% of its coral reef exposed to local threats, over 95% of its coral reef exposed to thermal stress, and a loss of nearly 11% of its tree cover over the last 20 years.

Land and reef management is essential to monitor ecological stress while balancing economic use. Implement programs to monitor reef stress and potentially increase environmental protection zones around reefs. Eleuthera's exposure to flood, landslide and hurricane wind hazards have the potential to exacerbate already fragile ecosystems.

Monitor island development to limit loss of natural vegetation and implement programs to decrease the risks of fire and other human stressors to the environment.

ELEUTHERA RECOMMENDATIONS

2

Economic Constraints

Economic constraints have individual, household, community, and district-wide influence. Limitations on available financial resources reduce opportunities to invest in mitigation and preparedness measures and limit Eleuthera's ability to facilitate short- and long-term recovery.

Eleuthera ranks 6th for overall Economic Constraints in The Bahamas with 58% of the population not earning a wage and 50% of the population living in poverty. Economic dependency increases reliance on government programs and directly relates to increased need in times of disaster.

Assess disaster response and recovery plans to ensure that economically vulnerable populations are included for long- and short-term recovery.

Expand programs supporting school to work pathways and those that provide training and skill building to increase economic and career opportunities.

ELEUTHERA RECOMMENDATIONS

3

Health Care Capacity

Robust access to skilled caregivers and the dedicated facilities for the treatment of injury and disease during non-disaster times greatly enhances the ability of the served population to absorb and manage post-disaster impacts to health, and increases the likelihood that disaster associated health and medical impacts may be addressed.

There are fewer than five physicians and 35 nurses and midwives per 10,000 people on Eleuthera. Access to skilled caregivers and dedicated facilities for the treatment of injury and disease during non-disaster times greatly enhances the ability of the served population to absorb and manage post-disaster impacts to health, and increases the likelihood that disaster associated health and medical impacts may be addressed.

Develop programs to increase clinics and physicians and other healthcare personnel on the island. If a permanent increase is not sustainable, develop a country-wide program to support underserved populations with visiting physicians to provide preventative and acute care at designated times, decreasing the need for more extensive and specialized treatment and hospitalization.

ELEUTHERA RECOMMENDATIONS

4

Emergency Service Capacity

Societies establish capacities to manage emergencies that scale from day-to-day events up to catastrophes that impact all of society. Establishing and maintaining a broad range of systems and resources to support emergency services in Eleuthera will increase the capacity for disaster management and response.

Eleuthera has the 5th lowest Emergency Service Capacity, driven by the 4th greatest distance to police stations and a shelter capacity that is below the national average. Low emergency service capacity increases risk to members of society with longer police response times and low shelter capacities.

Evaluate the need for additional police stations or sub-stations and/or increased police presence. Additionally, investigate additional shelter options to increase capacity and decrease distances to shelters. Ensure suitability of shelters and implement plans to provide adequate supplies in times of emergency, namely food and water, bedding, and medicine.

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THE BAHAMAS

EXUMA AND CAYS

NDPBA ISLAND PROFILE

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THE BAHAMAS
EXUMA AND CAYS

CAPITAL: GEORGE TOWN

Area: 112 sq. mi (290.1 sq. km)

RISK AND VULNERABILITY
COMPONENT SCORE

MULTI-HAZARD RISK (MHR) - Low
Score: 0.325 • Rank: 12/17

RESILIENCE (R) - High
Score: 0.572 • Rank: 4/17

MULTI-HAZARD EXPOSURE (MHE) - Low
Score: 0.363 • Rank: 11/17

VULNERABILITY (V) - Moderate
Score: 0.465 • Rank: 7/17

COPING CAPACITY (CC) - Very High
Score: 0.771 • Rank: 3/17

Population (2010 Census)
6,928

Population in Poverty
37.4%

Average Annual Foreign Arrivals Per Capita
9.5

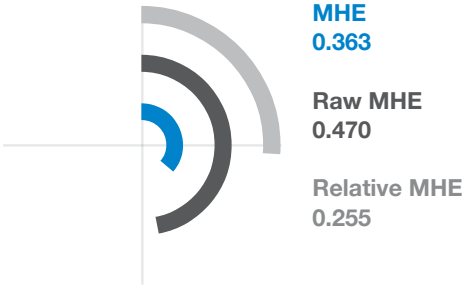
Households with Piped Water
93.6%

Prevalence of Crowded Housing
30.0%

*For more information on data and components please visit: https://bit.ly/2LqVoUO

MULTI-HAZARD EXPOSURE (MHE)

RANK: 11 / 17 ISLANDS
SCORE: 0.363



ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:

Note: Population values from PDC's All-hazard Impact Model (AIM) leverage 2020 estimates for The Bahamas. Values may exceed 2010 Census population.

Tropical Cyclone Winds
100.0%
9,702
$261.9 Million

Storm Surge
59.6%
5,785
$206.1 Million

Flooding
0.0%
0
0

Wildfire
0.0%
0
0

Landslide
3.5%
338
$4.8 Million

Sea Level Rise
0.2%
< 25
$1.8 Million

VULNERABILITY (V)

RANK: 7 / 17 ISLANDS ASSESSED
SCORE: 0.465

Vulnerability in Exuma and Cays is primarily driven by Population Pressures and Economic Constraints. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.

Environmental Stress

0 — 1 **SCORE: 0.353** **RANK: 15/17** ISLANDS ASSESSED

24.6% Coral reef exposed to local threats
83.8% Coral reef exposed to thermal stress
2.3% Tree cover loss
0.46 per mi. (0.29 per km) Historical hurricane hits per length of coastline

Household Composition Vulnerability

0 — 1 **SCORE: 0.174** **RANK: 10/17** ISLANDS ASSESSED

3.1% Disability
7.6% Elderly population (65+)

Clean Water Access Vulnerability

0 — 1 **SCORE: 0.497** **RANK: 7/17** ISLANDS ASSESSED

93.6% Households with piped water
96.4% Households with flush toilets
7.8% Households with shared toilet facilities

Housing and Transportation Vulnerability

0 — 1 **SCORE: 0.501** **RANK: 5/17** ISLANDS ASSESSED

30.0% Crowded housing
28.0% Population without private vehicle
26.4% Housing built before 1980

Economic Constraints

0 — 1 **SCORE: 0.626** **RANK: 4/17** ISLANDS ASSESSED

69.2 Economic dependency ratio
$164 Government benefits received (Bahamian Dollars)
54.7% Non-wage earning population
37.4% Poverty rate

Gender Inequality

0 — 1 **SCORE: 0.422** **RANK: 10/17** ISLANDS ASSESSED

0.64
Ratio female to male income

1.10
Ratio female to male avg. years of school

7
Adolescent birth rate (per 1,000)

Population Pressures

0 — 1 **SCORE: 0.682** **RANK: 2/17** ISLANDS ASSESSED

94.0%
Average population change (2000 - 2010)

9.5
Average annual foreign arrivals per capita

586.6
Average annual foreign arrivals per sq. mile

12.1
Migration per 100 persons

ISLAND CAPACITY (IC)

RANK: 5 / 17 ISLANDS ASSESSED
SCORE: 0.588

Exuma and Cays exhibits weaker Island Capacity in the areas of Health Care Capacity and Emergency Service Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Island Capacity score.

Economic Capacity

0 — 1 **SCORE: 0.695** **RANK: 3/17** ISLANDS ASSESSED

1.1%
Households receiving remittances

$14,560
Median income, Bahamian dollars

Environmental Capacity

0 — 1 **SCORE: 0.456** **RANK: 6/17** ISLANDS ASSESSED

6.5%
Protected areas

30%
Coastline protected by natural habitat

0.12 oz. per sq. ft (37.37 g per sq. m)
Standing fish stock

Infrastructure Capacity

0 — 1 **SCORE: 0.576** **RANK: 9/17** ISLANDS ASSESSED

Health Care Capacity **SCORE: 0.365** **RANK: 11/17** ISLANDS ASSESSED

2.9
Physicians per 10,000

33.2
Nurses & midwives per 10,000

10.1
Clinics per 10,000

98.7%
DTP3 Vaccine coverage rate

Transportation Capacity **SCORE: 0.587** **RANK: 6/17** ISLANDS ASSESSED

2.43 mi per sq. mi (1.51 km per sq. km)
Road density

Communications Capacity **SCORE: 0.696** **RANK: 10/17** ISLANDS ASSESSED

50.6%
Internet access

82.4%
Mobile coverage

Emergency Services Capacity **SCORE: 0.502** **RANK: 11/17** ISLANDS ASSESSED

10.34 mi (16.64 km)
Average distance to police station

3.45 mi (5.55 km)
Average distance to shelter

37.2
Shelter capacity per 100 persons

Energy Capacity **SCORE: 0.728** **RANK: 12/17** ISLANDS ASSESSED

90.8%
Households with electricity

75.7%
Households with liquid propane gas

LOGISTICS CAPACITY (LC)

RANK: 4 / 18 ISLANDS ASSESSED
SCORE: 0.951

Logistics Capacity describes the ability of the island to ensure efficient storage, movement, and delivery of resources key for effective humanitarian assistance and disaster relief operations. Logistics Capacity is driven by distances to a major airport, major seaport, and disaster warehouse.

0 mi (0 km)
Distance to port

0 mi (0 km)
Distance to airport

92.38 mi (148.64 km)
Distance to warehouse

COPING CAPACITY (CC)

Coping Capacity measures the systems, means, and abilities of people and societies to absorb and respond to disruptions in normal function. Coping Capacity in The Bahamas was calculated by using a combination of Island Capacity and Logistics Capacity.

RANK: 3 / 17 ISLANDS ASSESSED
SCORE: 0.771

RESILIENCE (R)

Resilience in The Bahamas was calculated by using a combination of Vulnerability, and Coping Capacity (including both Island Capacity and Logistics Capacity).

RANK: 4 / 17 ISLANDS ASSESSED
SCORE: 0.572

HAZARD-SPECIFIC RISK (HSR)

Tropical Cyclone Winds	**RANK:** 13 / 17 ISLANDS ASSESSED	**SCORE:** 0.382
Storm Surge	**RANK:** 11 / 17 ISLANDS ASSESSED	**SCORE:** 0.373
Flooding	**RANK:** 11 / 17 ISLANDS ASSESSED	**SCORE:** 0.000
Wildfire	**RANK:** 7 / 17 ISLANDS ASSESSED	**SCORE:** 0.000
Landslide	**RANK:** 11 / 17 ISLANDS ASSESSED	**SCORE:** 0.327
Sea Level Rise	**RANK:** 8 / 17 ISLANDS ASSESSED	**SCORE:** 0.333

MULTI-HAZARD RISK (MHR)

12 / 17
RANK WITHIN ISLANDS
Score: 0.325

Exuma and Cays' score and ranking are due to Low Multi-hazard Exposure combined with Moderate Vulnerability and Very High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

EXUMA AND CAYS SCORE
COUNTRY SCORE

Multi-Hazard Exposure
0.363
0.392

Vulnerability
0.465
0.435

Coping Capacity
0.771
0.617

EXUMA AND CAYS RECOMMENDATIONS

1

Population Pressures

Rapid changes in population size and distribution can alter population vulnerability characteristics presenting planning challenges and destabilizing social, economic, and environmental systems. Increased population pressures require disaster managers to realign needs, institutional structures, and available resources to support delivery of basic resources before, during, and after an event.

Exuma and Cays ranks 2nd highest for overall Population Pressures in The Bahamas with a 94% annual change in population between 2000 and 2010 and a migration rate of twelve persons per 100 people. Rapid population growth and high migration rates increase stress on public utilities, emergency services, and health care.

Evaluate population changes and expand government plans and programs to accommodate the needs of a growing population. Monitor seasonal population fluctuations to understand the changes in needs during times of increased tourism. Ensure a comprehensive understanding of population change across the country to meet public safety requirements.

EXUMA AND CAYS RECOMMENDATIONS

2

Economic Constraints

Economic constraints have individual, household, community, and district-wide influence. Limitations on available financial resources reduce opportunities to invest in mitigation and preparedness measures and limit the Exumas' ability to facilitate short- and long-term recovery.

Exuma and Cays ranks 4th in overall Economic Constraints in The Bahamas, with the 2nd highest economic dependency ratio (69%) and over half of the population not earning a wage. Just over 37% of the island's population lives in poverty. Economic dependency and poverty directly correlate to increased need during times of disaster and can strain government resources.

Evaluate disaster preparedness, response, and recovery plans for inclusion of vulnerable populations. Develop and/or enhance existing community outreach and education programs to increase personal disaster preparedness among residents. Identify vulnerable populations who may require extra assistance or supplies to adequately prepare for a disaster.

EXUMA AND CAYS RECOMMENDATIONS

3

Health Care Capacity

Robust access to skilled caregivers and the dedicated facilities for the treatment of injury and disease during non-disaster times greatly enhances the ability of the served population to absorb and manage post-disaster impacts to health, and increases the likelihood that disaster associated health and medical impacts may be addressed.

Exuma and Cays has the 7th lowest Health Care Capacity in The Bahamas, with fewer than five physicians per 10,000 persons, and ten health clinics for every 10,000 persons. Robust access to skilled caregivers and the dedicated facilities for the treatment of injury and disease during non-disaster times greatly enhances the ability of the served population to absorb and manage post-disaster impacts to health, and increases the likelihood that disaster associated health and medical impacts may be addressed.

Evaluate the need and most beneficial locations for additional medical clinics. Implement programs to incentivize physicians to locate practices in underserved areas and/or develop a government program to provide traveling physicians to support underserved areas throughout the islands.

EXUMA AND CAYS RECOMMENDATIONS

4

Emergency Service Capacity

Societies establish capacities to manage emergencies that scale from day-to-day events up to catastrophes that impact all of society. Establishing and maintaining a broad range of systems and resources to support emergency services in the Exumas will increase the capacity for disaster management and response.

Exuma and Cays has the 7th lowest Emergency Services Capacity in The Bahamas, with the 5th greatest distance to a police station. Establishing and maintaining a broad range of systems and resources to support emergency services in Exuma and Cays will increase the capacity to address day-to-day events as well as disaster management and response.

Evaluate options to increase police presence and reduce response time to police services.

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THE BAHAMAS

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THE BAHAMAS
GRAND BAHAMA

CAPITAL: WEST END

Area: 530 sq. mi (1,372.7 sq. km)

RISK AND VULNERABILITY
COMPONENT SCORE

MULTI-HAZARD RISK (MHR) - Moderate
Score: 0.388 • Rank: 8/17

RESILIENCE (R) - Very High
Score: 0.608 • Rank: 2/17

MULTI-HAZARD EXPOSURE (MHE) - Very High
Score: 0.964 • Rank: 1/17

VULNERABILITY (V) - Very Low
Score: 0.376 • Rank: 15/17

COPING CAPACITY (CC) - Very High
Score: 0.782 • Rank: 2/17

Population (2010 Census)
51,368

Population in Poverty
31.2%

Average Annual Foreign Arrivals Per Capita
11.8

Households with Piped Water
98.3%

Prevalence of Crowded Housing
22.7%

*For more information on data and components please visit: https://bit.ly/2LqVoUO

MULTI-HAZARD EXPOSURE (MHE)

RANK: 1 / 17 ISLANDS
SCORE: 0.964

MHE
0.964

Raw MHE
0.928

Relative MHE
1.000

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:

Note: Population values from PDC's All-hazard Impact Model (AIM) leverage 2020 estimates for The Bahamas. Values may exceed 2010 Census population.

Tropical Cyclone Winds
100.0%
54,355
$6.2 Billion

Storm Surge
68.1%
36,989
$4.3 Billion

Flooding
98.3%
53,438
$6.1 Billion

Wildfire
64.4%
35,001
$4.6 Billion

Landslide
0.2%
101
$18.8 Million

Sea Level Rise
<0.01%
< 25
$6.9 Million

VULNERABILITY (V)

RANK: 15 / 17 ISLANDS ASSESSED
SCORE: 0.376

Vulnerability in Grand Bahama is primarily driven by Environmental Stress and Population Pressures. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.

Environmental Stress

0 — 1 **SCORE: 0.737** **RANK: 3/17** ISLANDS ASSESSED

91.7% Coral reef exposed to local threats

98.3% Coral reef exposed to thermal stress

22.4% Tree cover loss

0.89 per mi. (0.56 per km) Historical hurricane hits per length of coastline

Household Composition Vulnerability

0 — 1 **SCORE: 0.086** **RANK: 14/17** ISLANDS ASSESSED

3.0% Disability

6.0% Elderly population (65+)

Clean Water Access Vulnerability

0 — 1 **SCORE: 0.154** **RANK: 17/17** ISLANDS ASSESSED

98.3% Households with piped water

99.6% Households with flush toilets

1.7% Households with shared toilet facilities

Housing and Transportation Vulnerability

0 — 1 **SCORE: 0.380** **RANK: 15/17** ISLANDS ASSESSED

22.7% Crowded housing

16.6% Population without private vehicle

36.8% Housing built before 1980

Economic Constraints

0 — 1 **SCORE: 0.395** **RANK: 10/17** ISLANDS ASSESSED

49.2 Economic dependency ratio

$169 Government benefits received (Bahamian Dollars)

54.0% Non-wage earning population

31.2% Poverty rate

Gender Inequality

0 — 1 **SCORE: 0.395** **RANK: 11/17** ISLANDS ASSESSED

0.70
Ratio female to male income

1.08
Ratio female to male avg. years of school

15
Adolescent birth rate (per 1,000)

Population Pressures

0 — 1 **SCORE: 0.486** **RANK: 7/17** ISLANDS ASSESSED

9.3%
Average population change (2000 - 2010)

11.8
Average annual foreign arrivals per capita

1,138.7
Average annual foreign arrivals per sq. mile

7.2
Migration per 100 persons

ISLAND CAPACITY (IC)

RANK: 6 / 17 ISLANDS ASSESSED
SCORE: 0.559

Grand Bahama exhibits weaker Island Capacity in the areas of Health Care Capacity and Emergency Service Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Island Capacity score.

Economic Capacity

0 — 1 **SCORE: 0.581** **RANK: 6/17** ISLANDS ASSESSED

0.7%
Households receiving remittances

$15,000
Median income, Bahamian dollars

Environmental Capacity

0 — 1 **SCORE: 0.523** **RANK: 5/17** ISLANDS ASSESSED

0.1%
Protected areas

48%
Coastline protected by natural habitat

0.14 oz. per sq. ft (42.08 g per sq. m)
Standing fish stock

Infrastructure Capacity

0 — 1 **SCORE: 0.560** **RANK: 11/17** ISLANDS ASSESSED

Health Care Capacity

SCORE: 0.444 **RANK: 5/17** ISLANDS ASSESSED

12.9
Physicians per 10,000

32.3
Nurses & midwives per 10,000

3.9
Clinics per 10,000

94.3%
DTP3 Vaccine coverage rate

Transportation Capacity

SCORE: 0.635 **RANK: 4/17** ISLANDS ASSESSED

2.91 mi per sq. mi (1.81 km per sq. km)
Road density

Communications Capacity

SCORE: 0.691 **RANK: 11/17** ISLANDS ASSESSED

68.2%
Internet access

49.1%
Mobile coverage

Emergency Services Capacity

SCORE: 0.497 **RANK: 12/17** ISLANDS ASSESSED

2.22 mi (3.58 km)
Average distance to police station

5.08 mi (8.18 km)
Average distance to shelter

0.1
Shelter capacity per 100 persons

Energy Capacity

SCORE: 0.532 **RANK: 16/17** ISLANDS ASSESSED

98.9%
Households with electricity

25.6%
Households with liquid propane gas

LOGISTICS CAPACITY (LC)

RANK: 1 / 18 ISLANDS ASSESSED
SCORE: 1.000

Logistics Capacity describes the ability of the island to ensure efficient storage, movement, and delivery of resources key for effective humanitarian assistance and disaster relief operations. Logistics Capacity is driven by distances to a major airport, major seaport, and disaster warehouse.

0 mi (0 km)
Distance to port

0 mi (0 km)
Distance to airport

0 mi (0 km)
Distance to warehouse

COPING CAPACITY (CC)

Coping Capacity measures the systems, means, and abilities of people and societies to absorb and respond to disruptions in normal function. Coping Capacity in The Bahamas was calculated by using a combination of Island Capacity and Logistics Capacity.

RANK: 2 / 17 ISLANDS ASSESSED
SCORE: 0.782

RESILIENCE (R)

Resilience in The Bahamas was calculated by using a combination of Vulnerability, and Coping Capacity (including both Island Capacity and Logistics Capacity).

RANK: 2 / 17 ISLANDS ASSESSED
SCORE: 0.608

HAZARD-SPECIFIC RISK (HSR)

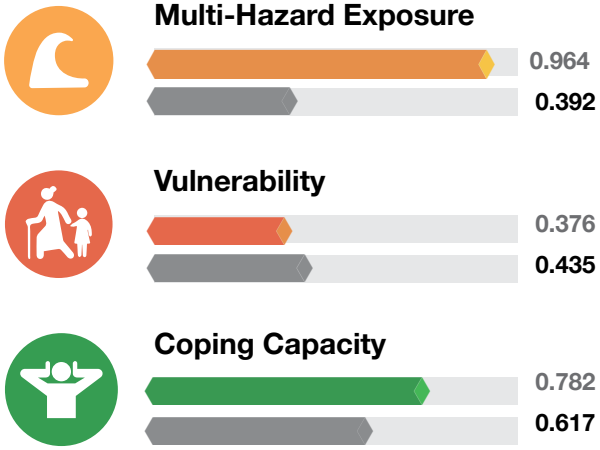
Tropical Cyclone Winds	**RANK:** 14 / 17 ISLANDS ASSESSED	**SCORE:** 0.377
Storm Surge	**RANK:** 12 / 17 ISLANDS ASSESSED	**SCORE:** 0.369
Flooding	**RANK:** 6 / 17 ISLANDS ASSESSED	**SCORE:** 0.392
Wildfire	**RANK:** 3 / 17 ISLANDS ASSESSED	**SCORE:** 0.392
Landslide	**RANK:** 13 / 17 ISLANDS ASSESSED	**SCORE:** 0.267
Sea Level Rise	**RANK:** 13 / 17 ISLANDS ASSESSED	**SCORE:** 0.297

MULTI-HAZARD RISK (MHR)

8 / 17
RANK WITHIN ISLANDS
Score: 0.388

Grand Bahama's score and ranking are due to Very High Multi-hazard Exposure combined with Very Low Vulnerability and Very High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:



GRAND BAHAMA RECOMMENDATIONS

1

Environmental Stress

Environmental stressors such as the depletion, degradation, or contamination of natural resources can exacerbate natural hazards and negatively impact the health, safety, and economic security of Grand Bahama's population.

Grand Bahama ranks 3rd highest for overall Environmental Stress, with the 4th highest loss in tree cover over the last twenty years, the 4th highest percentage of coral reef under thermal stress, and the 5th highest percentage of coral reef exposed to local threats. Grand Bahama also has the highest overall Multi-Hazard Exposure ranking relative to other islands in The Bahamas.

While much of the tree loss can be attributed to hurricane impact, economic development trends must also be monitored for environmental impacts. Implement environmental programs to decrease the potential for loss of natural vegetation and encourage replanting and growth of new vegetation. Develop programs to monitor coral reef stress and provide added protections such as environmental protected areas, buffers, set-backs or exclusion zones. Ensure climate change is considered in planning efforts. Provide training and education focused on sustainable development and environmental stewardship for both private and public entities. Review building codes and coastal development plans for long-term sustainability of natural and built environments.

GRAND BAHAMA RECOMMENDATIONS

2

Population Pressures

Rapid changes in population size and distribution can alter population vulnerability characteristics presenting planning challenges and destabilizing social, economic, and environmental systems. Increased population pressures require disaster managers to realign needs, institutional structures, and available resources to support delivery of basic resources before, during, and after an event.

Grand Bahama ranks 7th highest for overall Population Pressures in The Bahamas, with the 5th highest migration rate and 6th highest density of foreign arrivals. In addition, Grand Bahama saw a population increase of nearly 10% between 2000 and 2010. Rapid changes in population size and distribution can alter population vulnerability characteristics, presenting planning challenges and destabilizing social, economic, and environmental systems. Increased population pressures require disaster managers to realign needs, institutional structures, and available resources to support delivery of basic resources before, during, and after an event.

Review and update planning documents, considering changes in population. This includes planning for government services during normal operations and disasters. Develop programs to account for and serve the cultural needs of migrant populations, including the provision of services in other languages. Consider language barriers when crafting public alert and warning communications to ensure that all residents understand when to take life-saving action during a disaster.

Given Grand Bahama's very high Multi-Hazard Exposure and growing population, review plans and policies to address coastline protections, safer building codes and enhanced personal/family disaster preparedness.

GRAND BAHAMA RECOMMENDATIONS

3

Health Care Capacity

Robust access to skilled caregivers and the dedicated facilities for the treatment of injury and disease during non-disaster times greatly enhances the ability of the served population to absorb and manage post-disaster impacts to health, and increases the likelihood that disaster associated health and medical impacts may be addressed.

Grand Bahama has fewer than four clinics per 10,000 persons and just under 13 physicians per 10,000 people. As the 2nd most populous island and having the highest Multi-Hazard Exposure in The Bahamas, a lack of skilled health care professionals and resources in Grand Bahama creates limitations in meeting emergent medical needs. The resulting triage of limited medical resources can exacerbate mass casualties and acute disease outbreaks during disaster situations.

Identify potential locations for additional health care services. Modernize hospital services and capabilities to ensure that hospital care levels are adequate for the population served. Work with the Ministry of Health and Wellness to promote comprehensive health education programs, including nutrition, exercise, vaccination, child, and maternal health to promote the overall wellbeing and quality of life on the island.

GRAND BAHAMA RECOMMENDATIONS

4

Emergency Service Capacity

Societies establish capacities to manage emergencies that scale from day-to-day events up to catastrophes that impact all of society. Establishing and maintaining a broad range of systems and resources to support emergency services in Grand Bahama will increase the capacity for disaster management and response.

Grand Bahama has the 6th lowest Emergency Services Capacity when compared to the rest of The Bahamas. This is mainly driven by low shelter capacities (3rd lowest) and the 4th greatest distance to an emergency shelter (over 8 km).

Many of the island's emergency shelters were compromised by Hurricane Dorian. Evaluate the number and capacity of emergency shelters in relation to the potential need to shelter the island's permanent and transient population at any given time. Review recent disaster lessons learned and ensure plans are in place and practiced for pre- and post-hurricane evacuation and sheltering operations. Given Grand Bahama's exposure to flooding, wildfire, hurricane wind, and storm surge hazards, ensure that existing and new shelters are located outside hazard zones and built to withstand hazard impacts. Maintain adequate supplies to serve potential shelter populations.

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THE BAHAMAS

HARBOUR ISLAND

NDPBA ISLAND PROFILE

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THE BAHAMAS
HARBOUR ISLAND

CAPITAL: DUNMORE TOWN

Area: 1 sq. mi (2.6 sq. km)

RISK AND VULNERABILITY
COMPONENT SCORE

MULTI-HAZARD RISK (MHR) - Very Low
Score: 0.238 • Rank: 17/17

RESILIENCE (R) - High
Score: 0.569 • Rank: 5/17

MULTI-HAZARD EXPOSURE (MHE) - Very Low
Score: 0.111 • Rank: 17/17

VULNERABILITY (V) - Low
Score: 0.399 • Rank: 13/17

COPING CAPACITY (CC) - High
Score: 0.737 • Rank: 5/17

Population (2010 Census)
1,762

Population in Poverty
29.3%

Average Annual Foreign Arrivals Per Capita
0.0

Households with Piped Water
98.0%

Prevalence of Crowded Housing
23.5%

*For more information on data and components please visit: https://bit.ly/2LqVoUO

MULTI-HAZARD EXPOSURE (MHE)

RANK: 17 / 17 ISLANDS
SCORE: 0.111

MHE
0.111

Raw MHE
0.100

Relative MHE
0.122

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:

Note: Population values from PDC's All-hazard Impact Model (AIM) leverage 2020 estimates for The Bahamas. Values may exceed 2010 Census population.

Tropical Cyclone Winds
100.0%
1,762
$35.7 Million

Storm Surge
6.5%
114
$3.3 Million

Flooding
0.0%
0
0

Wildfire
0.0%
0
0

Landslide
11.4%
201
$7 Million

Sea Level Rise
0.0%
0
0

VULNERABILITY (V)

RANK: 13 / 17 ISLANDS ASSESSED
SCORE: 0.399

Vulnerability in Harbour Island is primarily driven by Environmental Stress and Housing and Transport Vulnerability. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.

Environmental Stress

0 — 1 **SCORE: 0.971** **RANK: 1/17** ISLANDS ASSESSED

100.0% Coral reef exposed to local threats
100.0% Coral reef exposed to thermal stress
25.1% Tree cover loss
14.29 per mi. (8.88 per km) Historical hurricane hits per length of coastline

Household Composition Vulnerability

0 — 1 **SCORE: 0.106** **RANK: 12/17** ISLANDS ASSESSED

2.7% Disability
7.0% Elderly population (65+)

Clean Water Access Vulnerability

0 — 1 **SCORE: 0.375** **RANK: 13/17** ISLANDS ASSESSED

98.0% Households with piped water
99.2% Households with flush toilets
12.4% Households with shared toilet facilities

Housing and Transportation Vulnerability

0 — 1 **SCORE: 0.532** **RANK: 3/17** ISLANDS ASSESSED

23.5% Crowded housing
43.0% Population without private vehicle
30.5% Housing built before 1980

Economic Constraints

0 — 1 **SCORE: 0.163** **RANK: 15/17** ISLANDS ASSESSED

47.4 Economic dependency ratio
$53 Government benefits received (Bahamian Dollars)
47.9% Non-wage earning population
29.3% Poverty rate

Gender Inequality

0 — 1 **SCORE: 0.338** **RANK: 12/17** ISLANDS ASSESSED

0.72
Ratio female to male income

1.06
Ratio female to male avg. years of school

16
Adolescent birth rate (per 1,000)

Population Pressures

0 — 1 **SCORE: 0.311** **RANK: 9/17** ISLANDS ASSESSED

7.5%
Average population change (2000 - 2010)

0.0
Average annual foreign arrivals per capita

0.0
Average annual foreign arrivals per sq. mile

12.3
Migration per 100 persons

ISLAND CAPACITY (IC)

RANK: 2 / 17 ISLANDS ASSESSED
SCORE: 0.647

Harbour Island exhibits weaker Island Capacity in the areas of Health Care Capacity and Environmental Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Island Capacity score.

Economic Capacity

0 — 1 **SCORE: 0.703** **RANK: 2/17** ISLANDS ASSESSED

1.2%
Households receiving remittances

$14,400
Median income, Bahamian dollars

Environmental Capacity

0 — 1 **SCORE: 0.000** **RANK: 16/17** ISLANDS ASSESSED

0.0%
Protected areas

-
Coastline protected by natural habitat

-
Standing fish stock

Infrastructure Capacity

0 — 1 **SCORE: 0.872** **RANK: 1/17** ISLANDS ASSESSED

Health Care Capacity **SCORE: 0.095** **RANK: 17/17** ISLANDS ASSESSED

0.0
Physicians per 10,000

0.0
Nurses & midwives per 10,000

5.7
Clinics per 10,000

-
DTP3 Vaccine coverage rate

Transportation Capacity **SCORE: 0.996** **RANK: 2/17** ISLANDS ASSESSED

11.58 mi per sq. mi (7.2 km per sq. km)
Road density

Communications Capacity **SCORE: 0.826** **RANK: 3/17** ISLANDS ASSESSED

54.1%
Internet access

100.0%
Mobile coverage

Emergency Services Capacity **SCORE: 0.667** **RANK: 4/17** ISLANDS ASSESSED

0.6 mi (0.97 km)
Average distance to police station

0.56 mi (0.9 km)
Average distance to shelter

0.0
Shelter capacity per 100 persons

Energy Capacity **SCORE: 1.000** **RANK: 1/17** ISLANDS ASSESSED

99.7%
Households with electricity

92.8%
Households with liquid propane gas

LOGISTICS CAPACITY (LC)

RANK: 10 / 18 ISLANDS ASSESSED
SCORE: 0.826

Logistics Capacity describes the ability of the island to ensure efficient storage, movement, and delivery of resources key for effective humanitarian assistance and disaster relief operations. Logistics Capacity is driven by distances to a major airport, major seaport, and disaster warehouse.

60.14 mi (96.76 km)
Distance to port

9.91 mi (15.95 km)
Distance to airport

60.14 mi (96.76 km)
Distance to warehouse

COPING CAPACITY (CC)

Coping Capacity measures the systems, means, and abilities of people and societies to absorb and respond to disruptions in normal function. Coping Capacity in The Bahamas was calculated by using a combination of Island Capacity and Logistics Capacity.

RANK: 5 / 17 ISLANDS ASSESSED
SCORE: 0.737

RESILIENCE (R)

Resilience in The Bahamas was calculated by using a combination of Vulnerability, and Coping Capacity (including both Island Capacity and Logistics Capacity).

RANK: 5 / 17 ISLANDS ASSESSED
SCORE: 0.569

HAZARD-SPECIFIC RISK (HSR)

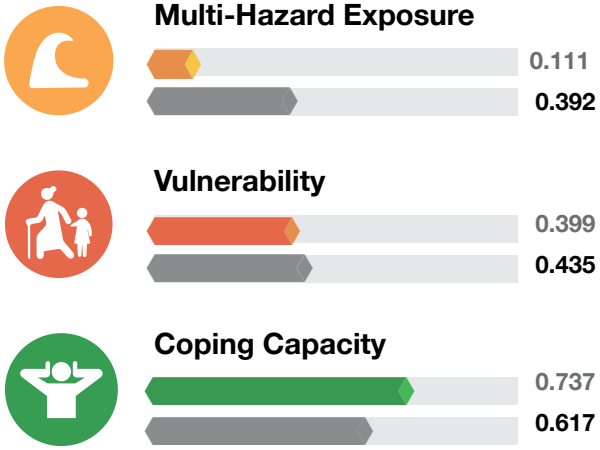
Tropical Cyclone Winds	**RANK:** 16 / 17 ISLANDS ASSESSED	**SCORE:** 0.350
Storm Surge	**RANK:** 17 / 17 ISLANDS ASSESSED	**SCORE:** 0.000
Flooding	**RANK:** 10 / 17 ISLANDS ASSESSED	**SCORE:** 0.210
Wildfire	**RANK:** 7 / 17 ISLANDS ASSESSED	**SCORE:** 0.000
Landslide	**RANK:** 7 / 17 ISLANDS ASSESSED	**SCORE:** 0.356
Sea Level Rise	**RANK:** 14 / 17 ISLANDS ASSESSED	**SCORE:** 0.284

MULTI-HAZARD RISK (MHR)

17 / 17
RANK WITHIN ISLANDS
Score: 0.238

Harbour Island's score and ranking are due to Very Low Multi-hazard Exposure combined with Low Vulnerability and High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:



HARBOUR ISLAND RECOMMENDATIONS

1

Environmental Stress

Environmental stressors such as the depletion, degradation, or contamination of natural resources can exacerbate natural hazards and negatively impact the health, safety, and economic security of Harbour Island's population.

Harbour Island has the highest Environmental Stress score in The Bahamas, with 100 percent of its coral reef exposed to both local threats and thermal stress, more than 25 percent loss in tree cover, and the highest number of historical hurricane hits per kilometer of coastline.

Develop programs to increase monitoring of reef stress and increase protection through environmentally protected areas, natural reserves, or exclusion zones. Include potential climate change effects in planning. Provide education and training on sustainable development and environmental stewardship for both private and public entities. Review building codes and coastal development plans for long-term sustainability of natural and built environments. Monitor natural vegetation cover and implement policies to reduce loss due to man-made events (i.e., fire, land development), and encourage planting and cultivation of natural vegetation where practicable.

HARBOUR ISLAND RECOMMENDATIONS

2

Housing and Transport Vulnerability

Older housing units, constructed prior to modern building codes, are more susceptible to the damaging effects of natural hazards. Crowded housing is linked to both economic constraints and vulnerable health status, which are be exacerbated by hazard exposure. Crowding presents a challenge for disaster response activities including evacuation and sheltering when large numbers of people must relocate from their homes. These challenges are further complicated when households do not have personal means of transportation, relying instead on public or mass transit.

Harbour Island has the 3rd highest Housing and Transport Vulnerability ranking. Approximately 43% of households have no vehicle for private use, over 30% of homes were built prior to 1980, and crowding occurs in over 23% of households. Given the island's exposure to hurricanes, among other hazards, these factors may result in an increased need for government services during and after a disaster, especially with regard to evacuation, shelter, and long-term housing.

Evaluate transportation needs throughout the island during normal operations and in times of disaster. Consider all available transportation modes, including air, maritime, and land to support evacuation and transport of equipment and relief supplies. Address Harbour Island's transportation challenges and the increased need for shelter and temporary housing in response and recovery plan updates. Enforce building codes on any new development and where possible, identify opportunities for dual use to expand shelter capacity.

HARBOUR ISLAND RECOMMENDATIONS

3

Health Care Capacity

Robust access to skilled caregivers and the dedicated facilities for the treatment of injury and disease during non-disaster times greatly enhances the ability of the served population to absorb and manage post-disaster impacts to health, and increases the likelihood that disaster associated health and medical impacts may be addressed.

Harbour Island has the lowest Health Care Capacity ranking in The Bahamas, ranking last in health care personnel and with fewer than six clinics per 10,000 people. Robust access to skilled caregivers and dedicated facilities for the treatment of injury and disease during non-disaster times greatly enhances the ability of the served population to absorb and manage post-disaster impacts to health, and increases the likelihood that disaster associated health and medical impacts may be addressed.

Offer incentives to encourage health care personnel to locate practices on Harbour Island. Develop a government-sponsored program with traveling physicians and/or nurses to offer targeted and preventative medical care to residents. Promote programs that encourage preventative and self-care to include smoking cessation, weight loss, birth control and proper nutrition.

HARBOUR ISLAND RECOMMENDATIONS

4

Environmental Capacity

Properly managed environments sustain populations by providing food, water, and even economic benefits from industries such as tourism. Increasing protected areas can also serve as additional buffers between the population and impacted area.

Harbour Island ranks the lowest in Environmental Capacity in The Bahamas, with no reported protected areas, protection by natural habitat, or standing fish stock. Properly managed environments sustain populations by providing food, water, and economic benefits from industries such as tourism. Establishing and increasing protected areas can serve as buffers between populated areas and those impacted by disaster.

Evaluate the benefits and costs associated with establishing and managing protected areas on Harbour Island. Provide education and training for both private and public entities to simultaneously promote sustainable development and environmental preservation.

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THE BAHAMAS

INAGUA

NDPBA ISLAND PROFILE

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THE BAHAMAS
INAGUA

CAPITAL: MATTHEW TOWN

Area: 599 sq. mi (1,551.4 sq. km)

RISK AND VULNERABILITY
COMPONENT SCORE

MULTI-HAZARD RISK (MHR) - Low
Score: 0.345 • Rank: 10/17

RESILIENCE (R) - Low
Score: 0.443 • Rank: 12/17

MULTI-HAZARD EXPOSURE (MHE) - Very Low
Score: 0.170 • Rank: 14/17

VULNERABILITY (V) - Very Low
Score: 0.280 • Rank: 17/17

COPING CAPACITY (CC) - Very Low
Score: 0.351 • Rank: 16/17

Population (2010 Census)
913

Population in Poverty
21.8%

Average Annual Foreign Arrivals Per Capita
1.4

Households with Piped Water
94.7%

Prevalence of Crowded Housing
14.7%

*For more information on data and components please visit: https://bit.ly/2LqVoUO

MULTI-HAZARD EXPOSURE (MHE)

RANK: 14 / 17 ISLANDS
SCORE: 0.170

MHE
0.170

Raw MHE
0.100

Relative MHE
0.239

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:

Note: Population values from PDC's All-hazard Impact Model (AIM) leverage 2020 estimates for The Bahamas. Values may exceed 2010 Census population.

Tropical Cyclone Winds
100.0%
898
$42.2 Million

Storm Surge
40.5%
364
$34.5 Million

Flooding
0.0%
0
0

Wildfire
0.0%
0
0

Landslide
0.0%
0
$60 Thousand

Sea Level Rise
0.0%
0
0

VULNERABILITY (V)

RANK: 17 / 17 ISLANDS ASSESSED
SCORE: 0.280

Vulnerability in Inagua is primarily driven by Gender Inequality and Housing and Transport Vulnerability. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.

Environmental Stress

0 — 1 **SCORE: 0.407** **RANK: 13/17** ISLANDS ASSESSED

60.9% Coral reef exposed to local threats
81.2% Coral reef exposed to thermal stress
0.8% Tree cover loss
0.68 per mi. (0.42 per km) Historical hurricane hits per length of coastline

Household Composition Vulnerability

0 — 1 **SCORE: 0.061** **RANK: 15/17** ISLANDS ASSESSED

2.0% Disability
7.3% Elderly population (65+)

Clean Water Access Vulnerability

0 — 1 **SCORE: 0.306** **RANK: 15/17** ISLANDS ASSESSED

94.7% Households with piped water
98.4% Households with flush toilets
2.5% Households with shared toilet facilities

Housing and Transportation Vulnerability

0 — 1 **SCORE: 0.428** **RANK: 10/17** ISLANDS ASSESSED

14.7% Crowded housing
28.5% Population without private vehicle
48.3% Housing built before 1980

Economic Constraints

0 — 1 **SCORE: 0.157** **RANK: 16/17** ISLANDS ASSESSED

46.9 Economic dependency ratio
$91 Government benefits received (Bahamian Dollars)
45.6% Non-wage earning population
21.8% Poverty rate

Gender Inequality

0 — 1 **SCORE: 0.435** **RANK: 8/17** ISLANDS ASSESSED

0.53
Ratio female to male income

1.05
Ratio female to male avg. years of school

23
Adolescent birth rate (per 1,000)

Population Pressures

0 — 1 **SCORE: 0.167** **RANK: 15/17** ISLANDS ASSESSED

-5.8%
Average population change (2000 - 2010)

1.4
Average annual foreign arrivals per capita

2.1
Average annual foreign arrivals per sq. mile

1.9
Migration per 100 persons

ISLAND CAPACITY (IC)

RANK: 4 / 17 ISLANDS ASSESSED
SCORE: 0.596

Inagua exhibits weaker Island Capacity in the areas of Logistics Capacity and Transportation Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Island Capacity score.

Economic Capacity

0 — 1 **SCORE: 0.577** **RANK: 7/17** ISLANDS ASSESSED

0.3%
Households receiving remittances

$17,280
Median income, Bahamian dollars

Environmental Capacity

0 — 1 **SCORE: 0.770** **RANK: 2/17** ISLANDS ASSESSED

53.7%
Protected areas

50%
Coastline protected by natural habitat

0.12 oz. per sq. ft (36.39 g per sq. m)
Standing fish stock

Infrastructure Capacity

0 — 1 **SCORE: 0.538** **RANK: 13/17** ISLANDS ASSESSED

Health Care Capacity **SCORE: 0.301** **RANK: 14/17** ISLANDS ASSESSED

11.0
Physicians per 10,000

11.0
Nurses & midwives per 10,000

11.0
Clinics per 10,000

50.0%
DTP3 Vaccine coverage rate

Transportation Capacity **SCORE: 0.137** **RANK: 15/17** ISLANDS ASSESSED

0.43 mi per sq. mi (0.27 km per sq. km)
Road density

Communications Capacity **SCORE: 0.500** **RANK: 14/17** ISLANDS ASSESSED

71.5%
Internet access

7.9%
Mobile coverage

Emergency Services Capacity **SCORE: 0.841** **RANK: 1/17** ISLANDS ASSESSED

0.6 mi (0.96 km)
Average distance to police station

0.62 mi (1 km)
Average distance to shelter

38.3
Shelter capacity per 100 persons

Energy Capacity **SCORE: 0.911** **RANK: 4/17** ISLANDS ASSESSED

98.1%
Households with electricity

83.7%
Households with liquid propane gas

LOGISTICS CAPACITY (LC)

RANK: 17 / 18 ISLANDS ASSESSED
SCORE: 0.100

Logistics Capacity describes the ability of the island to ensure efficient storage, movement, and delivery of resources key for effective humanitarian assistance and disaster relief operations. Logistics Capacity is driven by distances to a major airport, major seaport, and disaster warehouse.

222.13 mi (357.41 km)
Distance to port

222.13 mi (357.41 km)
Distance to airport

0 mi (0 km)
Distance to warehouse

COPING CAPACITY (CC)

Coping Capacity measures the systems, means, and abilities of people and societies to absorb and respond to disruptions in normal function. Coping Capacity in The Bahamas was calculated by using a combination of Island Capacity and Logistics Capacity.

RANK: 16 / 17 ISLANDS ASSESSED
SCORE: 0.351

RESILIENCE (R)

Resilience in The Bahamas was calculated by using a combination of Vulnerability, and Coping Capacity (including both Island Capacity and Logistics Capacity).

RANK: 12 / 17 ISLANDS ASSESSED
SCORE: 0.443

HAZARD-SPECIFIC RISK (HSR)

Tropical Cyclone Winds	RANK: 8 / 17 ISLANDS ASSESSED	SCORE: 0.452
Storm Surge	RANK: 6 / 17 ISLANDS ASSESSED	SCORE: 0.434
Flooding	RANK: 11 / 17 ISLANDS ASSESSED	SCORE: 0.000
Wildfire	RANK: 7 / 17 ISLANDS ASSESSED	SCORE: 0.000
Landslide	RANK: 15 / 17 ISLANDS ASSESSED	SCORE: 0.241
Sea Level Rise	RANK: 10 / 17 ISLANDS ASSESSED	SCORE: 0.310

MULTI-HAZARD RISK (MHR)

10 / 17
RANK WITHIN ISLANDS
Score: 0.345

Inagua's score and ranking are due to Very Low Multi-hazard Exposure combined with Very Low Vulnerability and Very Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

INAGUA SCORE
COUNTRY SCORE

Multi-Hazard Exposure

0.170
0.392

Vulnerability

0.280
0.435

Coping Capacity

0.351
0.617

INAGUA RECOMMENDATIONS

1

Gender Inequality

Marginalized populations are less likely to have their needs met under pre-disaster conditions, and therefore become even more susceptible to harm during times of disaster. Increase gender-based inclusion in all phases of DM, ensuring the implementation at the district and local levels. Course of action must recognize the role of women in society and support changes to policies and programs to promote gender-equal access.

Inagua ranks 8th highest in overall Gender Inequality, with the 4th highest adolescent birth rate. Inagua also has the 5th highest disparity in female to male income ratio with women earning just over 50% of what their male counterparts earn, despite females having slightly more years of schooling than males. Populations who are marginalized or less likely to have their needs met under pre-disaster conditions become even more susceptible to harm during times of disaster.

Create targeted interventions to increase school to work opportunities for women that include quality, affordable childcare to boost participation in the labor force and reduce economic dependency. Explore incentive-based initiatives to encourage employers to provide equitable pay.

Increase gender-based inclusion in all phases of disaster management, ensuring implementation at local levels. Courses of action should recognize the role of women in society and support changes to policies and programs to promote gender-equal access.

INAGUA RECOMMENDATIONS

2

Housing and Transport Vulnerability

Older housing units, constructed prior to modern building codes, are more susceptible to the damaging effects of natural hazards. Crowded housing is linked to both economic constraints and vulnerable health status, which are be exacerbated by hazard exposure. Crowding presents a challenge for disaster response activities including evacuation and sheltering when large numbers of people must relocate from their homes. These challenges are further complicated when households do not have personal means of transportation, relying instead on public or mass transit.

Inagua ranks 10th highest in overall Housing and Transport Vulnerability, mostly attributable to the 48% of houses built prior to 1980. Older homes often lack adequate and modernized safety features and can create increased needs for sheltering and long-term housing due to the damages incurred in disasters.

Identify safety features that can be implemented to upgrade older homes, increase public education about available safety upgrades, and develop low to no cost programs in order to implement these features. Ensure building codes are enforced and safety features incorporated for all future construction.

INAGUA RECOMMENDATIONS

3

Logistics Capacity

Efficient storage, movement and delivery of resources are key to effective humanitarian assistance and disaster relief operations. Ensuring that the supply chain can reach vulnerable and isolated communities can significantly improve the speed and quality of response operations, reducing the negative social and economic impacts of an emergency.

Inagua has the 2nd lowest overall Coping Capacity in The Bahamas and the lowest ranking in the Commonwealth for Logistics Capacity, driven by its distance from large international air and seaports, which can impede disaster response and delay transport of relief supplies. Efficient storage, movement and delivery of resources are key to effective humanitarian assistance and disaster relief operations. Ensuring that the supply chain can reach vulnerable and isolated communities can significantly improve the speed and quality of response operations, reducing the negative social and economic impacts of an emergency.

Increase warehousing capacity and identify storage areas for emergency supplies to lessen the impact of long supply chains. Include pre-positioning of resources in disaster planning and ensure evacuation planning accounts for long transits to available shelters. Annually inspect all stored supplies to ensure material readiness and replace in conjunction with product lifecycles. Hold annual training to identify training gaps in movement and loading of supplies.

Create emergency action plans that include routes for movement of emergency supplies and communications during transit. Include secondary, tertiary, and quaternary movement plans. Review emergency action plans at least yearly to identify and implement changes.

INAGUA RECOMMENDATIONS

4

Transportation Capacity

Denser and more diverse transportation networks provide more options for bringing outside resources into an impacted area and increase the ability of response stakeholders to access island populations. Improved transportation capacity supports all aspects of Inagua ability to distribute resources before, during, and after a disaster.

Ranking 3rd lowest in Transportation Capacity, Inagua has a limited road network, and therefore relies heavily on maritime (mail boat) and air transportation.

Denser and more diverse transportation networks provide more options for bringing outside resources into an impacted area and increase the ability of response stakeholders to access island populations. Improved transportation capacity would support all aspects of Inagua's ability to distribute resources before, during, and after a disaster.

Identify potential improvements to transportation capacity through road or port improvements. Continually evaluate mailboat routes and deliveries to ensure an adequate supply of materials, especially during hurricane season and times of approaching storms. With Inagua's high susceptibility to storm surge, ensure supply routes and storage facilities are accessible during and following tropical cyclones.

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THE BAHAMAS

LONG ISLAND

NDPBA ISLAND PROFILE

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THE BAHAMAS
LONG ISLAND

CAPITAL: CLARENCE TOWN

Area: 230 sq. mi (595.7 sq. km)

RISK AND VULNERABILITY
COMPONENT SCORE

MULTI-HAZARD RISK (MHR) - High
Score: 0.429 • Rank: 5/17

RESILIENCE (R) - Low
Score: 0.441 • Rank: 13/17

MULTI-HAZARD EXPOSURE (MHE) - Low
Score: 0.377 • Rank: 10/17

VULNERABILITY (V) - High
Score: 0.508 • Rank: 3/17

COPING CAPACITY (CC) - Low
Score: 0.590 • Rank: 12/17

Population (2010 Census)
3,094

Population in Poverty
39.5%

Average Annual Foreign Arrivals Per Capita
0.6

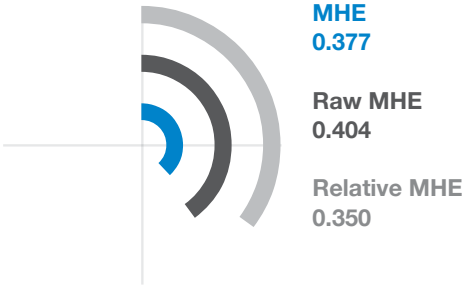
Households with Piped Water
85.3%

Prevalence of Crowded Housing
17.2%

*For more information on data and components please visit: https://bit.ly/2LqVoUO

MULTI-HAZARD EXPOSURE (MHE)

RANK: 10 / 17 ISLANDS
SCORE: 0.377



ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:

Note: Population values from PDC's All-hazard Impact Model (AIM) leverage 2020 estimates for The Bahamas. Values may exceed 2010 Census population.

Tropical Cyclone Winds
100.0%
3,202
$250.8 Million

Storm Surge
71.8%
2,299
$199.8 Million

Flooding
0.0%
0
0

Wildfire
0.0%
0
0

Landslide
5.1%
164
$7.2 Million

Sea Level Rise
0.1%
< 25
$470 Thousand

VULNERABILITY (V)

RANK: 3 / 17 ISLANDS ASSESSED
SCORE: 0.508

Vulnerability in Long Island is primarily driven by Household Composition Vulnerability and Economic Constraints. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.

Environmental Stress

0 — 1 **SCORE: 0.355** **RANK: 14/17** ISLANDS ASSESSED

40.0% Coral reef exposed to local threats
54.8% Coral reef exposed to thermal stress
2.8% Tree cover loss
0.78 per mi. (0.49 per km) Historical hurricane hits per length of coastline

Household Composition Vulnerability

0 — 1 **SCORE: 0.768** **RANK: 3/17** ISLANDS ASSESSED

6.1% Disability
14.8% Elderly population (65+)

Clean Water Access Vulnerability

0 — 1 **SCORE: 0.603** **RANK: 3/17** ISLANDS ASSESSED

85.3% Households with piped water
94.4% Households with flush toilets
4.6% Households with shared toilet facilities

Housing and Transportation Vulnerability

0 — 1 **SCORE: 0.385** **RANK: 13/17** ISLANDS ASSESSED

17.2% Crowded housing
24.4% Population without private vehicle
41.9% Housing built before 1980

Economic Constraints

0 — 1 **SCORE: 0.621** **RANK: 5/17** ISLANDS ASSESSED

62.0 Economic dependency ratio
$165 Government benefits received (Bahamian Dollars)
59.8% Non-wage earning population
39.5% Poverty rate

Gender Inequality

0 — 1 **SCORE: 0.590** **RANK: 4/17** ISLANDS ASSESSED

0.44
Ratio female to male income

1.06
Ratio female to male avg. years of school

-
Adolescent birth rate (per 1,000)

Population Pressures

0 — 1 **SCORE: 0.234** **RANK: 11/17** ISLANDS ASSESSED

3.4%
Average population change (2000 - 2010)

0.6
Average annual foreign arrivals per capita

7.7
Average annual foreign arrivals per sq. mile

6.8
Migration per 100 persons

ISLAND CAPACITY (IC)

RANK: 14 / 17 ISLANDS ASSESSED
SCORE: 0.394

Long Island exhibits weaker Island Capacity in the areas of Emergency Service Capacity and Health Care Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Island Capacity score.

Economic Capacity

0 — 1 **SCORE: 0.329** **RANK: 10/17** ISLANDS ASSESSED

0.7%
Households receiving remittances

$10,000
Median income, Bahamian dollars

Environmental Capacity

0 — 1 **SCORE: 0.000** **RANK: 16/17** ISLANDS ASSESSED

0.0%
Protected areas

-
Coastline protected by natural habitat

0.08 oz. per sq. ft (25.11 g per sq. m)
Standing fish stock

Infrastructure Capacity

0 — 1 **SCORE: 0.590** **RANK: 7/17** ISLANDS ASSESSED

Health Care Capacity **SCORE: 0.430** **RANK: 6/17** ISLANDS ASSESSED

6.5
Physicians per 10,000

22.6
Nurses & midwives per 10,000

19.4
Clinics per 10,000

106.7%
DTP3 Vaccine coverage rate

Transportation Capacity **SCORE: 0.482** **RANK: 11/17** ISLANDS ASSESSED

1.63 mi per sq. mi (1.01 km per sq. km)
Road density

Communications Capacity **SCORE: 0.803** **RANK: 6/17** ISLANDS ASSESSED

51.8%
Internet access

100.0%
Mobile coverage

Emergency Services Capacity **SCORE: 0.336** **RANK: 14/17** ISLANDS ASSESSED

13.42 mi (21.59 km)
Average distance to police station

2.82 mi (4.53 km)
Average distance to shelter

14.5
Shelter capacity per 100 persons

Energy Capacity **SCORE: 0.898** **RANK: 6/17** ISLANDS ASSESSED

95.3%
Households with electricity

89.2%
Households with liquid propane gas

LOGISTICS CAPACITY (LC)

RANK: 12 / 18 ISLANDS ASSESSED
SCORE: 0.783

Logistics Capacity describes the ability of the island to ensure efficient storage, movement, and delivery of resources key for effective humanitarian assistance and disaster relief operations. Logistics Capacity is driven by distances to a major airport, major seaport, and disaster warehouse.

31.57 mi (50.8 km)
Distance to port

31.57 mi (50.8 km)
Distance to airport

169.89 mi (273.35 km)
Distance to warehouse

COPING CAPACITY (CC)

Coping Capacity measures the systems, means, and abilities of people and societies to absorb and respond to disruptions in normal function. Coping Capacity in The Bahamas was calculated by using a combination of Island Capacity and Logistics Capacity.

RANK: 12 / 17 ISLANDS ASSESSED
SCORE: 0.590

RESILIENCE (R)

Resilience in The Bahamas was calculated by using a combination of Vulnerability, and Coping Capacity (including both Island Capacity and Logistics Capacity).

RANK: 13 / 17 ISLANDS ASSESSED
SCORE: 0.441

HAZARD-SPECIFIC RISK (HSR)

Tropical Cyclone Winds	**RANK:** 4 / 17 ISLANDS ASSESSED	**SCORE:** 0.491
Storm Surge	**RANK:** 4 / 17 ISLANDS ASSESSED	**SCORE:** 0.503
Flooding	**RANK:** 11 / 17 ISLANDS ASSESSED	**SCORE:** 0.000
Wildfire	**RANK:** 7 / 17 ISLANDS ASSESSED	**SCORE:** 0.000
Landslide	**RANK:** 2 / 17 ISLANDS ASSESSED	**SCORE:** 0.434
Sea Level Rise	**RANK:** 5 / 17 ISLANDS ASSESSED	**SCORE:** 0.388

MULTI-HAZARD RISK (MHR)

5 / 17
RANK WITHIN ISLANDS
Score: 0.429

Long Island's score and ranking are due to Low Multi-hazard Exposure combined with High Vulnerability and Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

LONG ISLAND SCORE
COUNTRY SCORE

Multi-Hazard Exposure
0.377
0.392

Vulnerability
0.508
0.435

Coping Capacity
0.590
0.617

LONG ISLAND RECOMMENDATIONS

1

Household Composition Vulnerability

Vulnerable household members may have special needs that necessitate additional support to ensure their safety before, during, and after a disaster. Elderly or disabled family members more likely to require financial support, transportation, or specialized resources to support their daily care.

Long Island scores 3rd highest in The Bahamas for overall Vulnerability, as well as Household Composition Vulnerability. Contributing to the higher score is approximately 15% of households with elderly 65 and older (4th highest) and the 2nd highest reported disability ratio. Households with dependent individuals are often more vulnerable due to the reliance on other family members for sustenance, healthcare, mobility assistance, and shelter.

Increase social services to support vulnerable households that may require assistance and increased levels of care during evacuation and sheltering. Create public health programs to provide free or reduced cost medical services to dependent populations to help alleviate future health care costs.

Review and update local emergency plans to anticipate and address the special needs of vulnerable population groups. Include special considerations in disaster management and sheltering plans for those with chronic health conditions, mobility challenges or other disabilities. These individuals will require extra precautions to protect against transmission of COVID-19 during sheltering.

LONG ISLAND RECOMMENDATIONS

2

Economic Constraints

Economic constraints have individual, household, community, and district-wide influence. Limitations on available financial resources reduce opportunities to invest in mitigation and preparedness measures and limit Long Island's ability to facilitate short- and long-term recovery.

Long Island ranks 5th for overall Economic Constraints in The Bahamas, driven by the 2nd highest ratio of non-wage earners, and 4th highest economic dependency ratio. Long Island also has the 6th highest number of recipients of social benefits in the islands. Economic constraints have individual, household, community, and island-wide influence. Limitations on available financial resources reduce opportunities to invest in mitigation and preparedness measures and limit the ability to facilitate short- and long-term recovery. Assess disaster response and recovery plans to ensure that economically vulnerable populations are included in short- and long-term recovery.

Strengthen collaboration between social service entities, private sector organizations and NGOs to coordinate poverty reduction efforts and delivery of services. Expand social assistance programs that provide benefits for elderly, low income, and single-parent households.

Evaluate factors contributing to dependency on social benefits and develop incentives for recipients to join or re-join the workforce. Institute training, education, and job skills development programs geared towards workforce re-entry and job creation.

LONG ISLAND RECOMMENDATIONS

3

Emergency Service Capacity

Societies establish capacities to manage emergencies that scale from day-to-day events up to catastrophes that impact all of society. Establishing and maintaining a broad range of systems and resources to support emergency services in Long Island will increase the capacity for disaster management and response.

Long Island has the 4th lowest Emergency Services Capacity score in the Commonwealth, driven primarily by the 2nd greatest distance to police services (nearly 22 km) and below average shelter capacities. Establishing and maintaining a broad range of systems and resources to support emergency services on Long Island will simultaneously increase the capacity for disaster management and response.

Evaluate the need for additional police services and most efficient use of existing services. Determine if more police and police stations are needed or if current assets need to be re-allocated to better serve the population.

Evaluate current shelter plans to examine the potential need for additional shelters. Consider options for dual-use of new construction to expand shelter capacity. Given Long Island's susceptibility to flooding and storm surge, ensure sufficient shelters are located outside hazard zones.

LONG ISLAND RECOMMENDATIONS

4

Health Care Capacity

Robust access to skilled caregivers and the dedicated facilities for the treatment of injury and disease during non-disaster times greatly enhances the ability of the served population to absorb and manage post-disaster impacts to health, and increases the likelihood that disaster associated health and medical impacts may be addressed.

Long Island's overall Health Care Capacity is constrained by the number of healthcare providers available per 10,000 persons (fewer than seven physicians, and just over 22 nurses and midwives). Robust access to skilled caregivers and dedicated facilities for the treatment of injury and disease during non-disaster times greatly enhances the ability of the served population to absorb and manage post-disaster impacts to health, and increases the likelihood that disaster associated health and medical impacts may be addressed.

Increase health care providers on Long Island through incentive programs to encourage providers to open new or support existing clinics, or a national program of traveling medical personnel to manage routine care at designated intervals.

Work with the Ministry of Health and Wellness to promote comprehensive health education programs, including nutrition, exercise, vaccination, child, and maternal health to promote the overall wellbeing and quality of life on the island.

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THE BAHAMAS

MAYAGUANA

NDPBA ISLAND PROFILE

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THE BAHAMAS
MAYAGUANA

CAPITAL: ABRAHAM'S BAY

Area: 110 sq. mi (284.9 sq. km)

RISK AND VULNERABILITY
COMPONENT SCORE

MULTI-HAZARD RISK (MHR) - Moderate
Score: 0.377 • Rank: 9/17

RESILIENCE (R) - Very Low
Score: 0.349 • Rank: 17/17

MULTI-HAZARD EXPOSURE (MHE) - Very Low
Score: 0.133 • Rank: 15/17

VULNERABILITY (V) - Very Low
Score: 0.387 • Rank: 14/17

COPING CAPACITY (CC) - Very Low
Score: 0.263 • Rank: 17/17

Population (2010 Census)
277

Population in Poverty
41.2%

Average Annual Foreign Arrivals Per Capita
0

Households with Piped Water
91.6%

Prevalence of Crowded Housing
28.0%

*For more information on data and components please visit: https://bit.ly/2LqVoUO

MULTI-HAZARD EXPOSURE (MHE)

RANK: 15 / 17 ISLANDS
SCORE: 0.133

MHE
0.133

Raw MHE
0.018

Relative MHE
0.247

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:

Note: Population values from PDC's All-hazard Impact Model (AIM) leverage 2020 estimates for The Bahamas. Values may exceed 2010 Census population.

Tropical Cyclone Winds
100.0%
287
$20.1 Million

Storm Surge
71.7%
206
$16.7 Million

Flooding
0.0%
0
0

Wildfire
0.0%
0
0

Landslide
0.0%
0
$20 Thousand

Sea Level Rise
0.0%
0
0

VULNERABILITY (V)

RANK: 14 / 17 ISLANDS ASSESSED
SCORE: 0.387

Vulnerability in Mayaguana is primarily driven by Household Composition Vulnerability and Housing and Transport Vulnerability. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.

Environmental Stress

0 — 1 **SCORE: 0.261** **RANK: 17/17** ISLANDS ASSESSED

0.8% Coral reef exposed to local threats
51.9% Coral reef exposed to thermal stress
2.0% Tree cover loss
1.19 per mi. (0.74 per km) Historical hurricane hits per length of coastline

Household Composition Vulnerability

0 — 1 **SCORE: 0.608** **RANK: 5/17** ISLANDS ASSESSED

3.3% Disability
16.6% Elderly population (65+)

Clean Water Access Vulnerability

0 — 1 **SCORE: 0.525** **RANK: 6/17** ISLANDS ASSESSED

91.6% Households with piped water
86.9% Households with flush toilets
1.9% Households with shared toilet facilities

Housing and Transportation Vulnerability

0 — 1 **SCORE: 0.605** **RANK: 2/17** ISLANDS ASSESSED

28.0% Crowded housing
33.6% Population without private vehicle
37.4% Housing built before 1980

Economic Constraints

0 — 1 **SCORE: 0.431** **RANK: 9/17** ISLANDS ASSESSED

57.1 Economic dependency ratio
$107 Government benefits received (Bahamian Dollars)
49.5% Non-wage earning population
41.2% Poverty rate

Gender Inequality

0 — 1 **SCORE: 0.099** **RANK: 16/17** ISLANDS ASSESSED

0.83
Ratio female to male income

1.00
Ratio female to male avg. years of school

-
Adolescent birth rate (per 1,000)

Population Pressures

0 — 1 **SCORE: 0.178** **RANK: 14/17** ISLANDS ASSESSED

7.0%
Average population change (2000 - 2010)

0.0
Average annual foreign arrivals per capita

0.0
Average annual foreign arrivals per sq. mile

5.1
Migration per 100 persons

ISLAND CAPACITY (IC)

RANK: 17 / 17 ISLANDS ASSESSED
SCORE: 0.317

Mayaguana exhibits weaker Island Capacity in the areas of Logistics Capacity and Communications Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Island Capacity score.

Economic Capacity

0 — 1 **SCORE: 0.021** **RANK: 16/17** ISLANDS ASSESSED

0.0%
Households receiving remittances

$8,412
Median income, Bahamian dollars

Environmental Capacity

0 — 1 **SCORE: 0.069** **RANK: 15/17** ISLANDS ASSESSED

0.1%
Protected areas

23%
Coastline protected by natural habitat

0.09 oz. per sq. ft (27.22 g per sq. m)
Standing fish stock

Infrastructure Capacity

0 — 1 **SCORE: 0.594** **RANK: 6/17** ISLANDS ASSESSED

Health Care Capacity **SCORE: 0.750** **RANK: 2/17** ISLANDS ASSESSED

0.0
Physicians per 10,000

72.2
Nurses & midwives per 10,000

108.3
Clinics per 10,000

250.0%
DTP3 Vaccine coverage rate

Transportation Capacity **SCORE: 0.414** **RANK: 12/17** ISLANDS ASSESSED

1.26 mi per sq. mi (0.78 km per sq. km)
Road density

Communications Capacity **SCORE: 0.393** **RANK: 16/17** ISLANDS ASSESSED

23.5%
Internet access

76.5%
Mobile coverage

Emergency Services Capacity **SCORE: 0.514** **RANK: 10/17** ISLANDS ASSESSED

6.31 mi (10.15 km)
Average distance to police station

5.08 mi (8.17 km)
Average distance to shelter

27.1
Shelter capacity per 100 persons

Energy Capacity **SCORE: 0.899** **RANK: 5/17** ISLANDS ASSESSED

94.4%
Households with electricity

91.6%
Households with liquid propane gas

LOGISTICS CAPACITY (LC)

RANK: 16 / 18 ISLANDS ASSESSED
SCORE: 0.209

Logistics Capacity describes the ability of the island to ensure efficient storage, movement, and delivery of resources key for effective humanitarian assistance and disaster relief operations. Logistics Capacity is driven by distances to a major airport, major seaport, and disaster warehouse.

201.73 mi (324.58 km)
Distance to port

160.57 mi (258.36 km)
Distance to airport

107.67 mi (173.24 km)
Distance to warehouse

COPING CAPACITY (CC)

Coping Capacity measures the systems, means, and abilities of people and societies to absorb and respond to disruptions in normal function. Coping Capacity in The Bahamas was calculated by using a combination of Island Capacity and Logistics Capacity.

RANK: 17 / 17 ISLANDS ASSESSED
SCORE: 0.263

RESILIENCE (R)

Resilience in The Bahamas was calculated by using a combination of Vulnerability, and Coping Capacity (including both Island Capacity and Logistics Capacity).

RANK: 17 / 17 ISLANDS ASSESSED
SCORE: 0.349

HAZARD-SPECIFIC RISK (HSR)

Tropical Cyclone Winds	**RANK:** 2 / 17 ISLANDS ASSESSED	**SCORE:** 0.513
Storm Surge	**RANK:** 2 / 17 ISLANDS ASSESSED	**SCORE:** 0.522
Flooding	**RANK:** 11 / 17 ISLANDS ASSESSED	**SCORE:** 0.000
Wildfire	**RANK:** 7 / 17 ISLANDS ASSESSED	**SCORE:** 0.000
Landslide	**RANK:** 16 / 17 ISLANDS ASSESSED	**SCORE:** 0.238
Sea Level Rise	**RANK:** 17 / 17 ISLANDS ASSESSED	**SCORE:** 0.000

MULTI-HAZARD RISK (MHR)

9 / 17
RANK WITHIN ISLANDS
Score: 0.377

Mayaguana's score and ranking are due to Very Low Multi-hazard Exposure combined with Very Low Vulnerability and Very Low Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

MAYAGUANA SCORE
COUNTRY SCORE

Multi-Hazard Exposure

0.133
0.392

Vulnerability

0.387
0.435

Coping Capacity

0.263
0.617

MAYAGUANA RECOMMENDATIONS

1

Household Composition Vulnerability

Vulnerable household members may have special needs that necessitate additional support to ensure their safety before, during, and after a disaster. Elderly or disabled family members more likely to require financial support, transportation, or specialized resources to support their daily care.

Mayaguana has the lowest overall Resilience ranking in The Bahamas and ranks 5th highest for Household Composition Vulnerability, driven by the highest percentage of households with elderly persons (17%) age 65 and older. Households with elderly individuals may require special accommodations during evacuation and sheltering during a disaster and may be dependent on other household members or caregivers for sustenance, health care, and housing needs.

Review and update local emergency plans to anticipate and address the special needs of vulnerable population groups. Include special considerations in disaster management and sheltering plans for those with chronic health conditions, mobility challenges or other disabilities. These individuals will require extra precautions to protect against transmission of COVID-19 or other communicable diseases during sheltering.

Strengthen partnerships with government agencies and non-government organizations to improve availability of, and access to, social programs providing services to vulnerable populations (e.g., children, the elderly, disabled). As part of service delivery, assist families in developing disaster preparedness and response plans.

MAYAGUANA RECOMMENDATIONS

2

Housing and Transport Vulnerability

Older housing units, constructed prior to modern building codes, are more susceptible to the damaging effects of natural hazards. Crowded housing is linked to both economic constraints and vulnerable health status, which are be exacerbated by hazard exposure. Crowding presents a challenge for disaster response activities including evacuation and sheltering when large numbers of people must relocate from their homes. These challenges are further complicated when households do not have personal means of transportation, relying instead on public or mass transit.

Mayaguana has the 2nd highest ranking for overall Housing and Transport Vulnerability. Contributing to this score is the 4th highest reported crowding rate per household, 34% of households without private vehicles, and 37% of homes built prior to 1980. Older housing units, constructed prior to modern building codes, are more susceptible to the damaging effects of natural hazards. Crowded housing is linked to both economic constraints and vulnerable health status, which are exacerbated by hazard exposure. Crowding presents a challenge for disaster response activities including evacuation and sheltering when large numbers of people must relocate from their homes. These challenges are further complicated when households do not have personal means of transportation, relying instead on public or mass transit.

Ensure that disaster response plans incorporate the requirement for additional transportation due to the number of households without vehicles and the number of persons in each household.

Boost resilience by implementing programs that provide government or private sector assistance to install safety measures, reinforce, or bring up to code existing older homes to reduce disaster impacts on Mayaguana's housing.

MAYAGUANA RECOMMENDATIONS

3

Logistics Capacity

Efficient storage, movement and delivery of resources are key to effective humanitarian assistance and disaster relief operations. Ensuring that the supply chain can reach vulnerable and isolated communities can significantly improve the speed and quality of response operations, reducing the negative social and economic impacts of an emergency.

Mayaguana has the lowest overall Coping Capacity in The Bahamas and ranks 2nd lowest for Logistics Capacity. Driving this ranking is the 2nd greatest distance to an international airport, the 2nd greatest distance to a port facility, and the 8th greatest distance to a warehouse. Airports and seaports are vital to receiving assistance in The Bahamas and long supply chains can greatly affect the ability of a population to absorb and respond to disasters. Strategic locations of warehouses for disaster equipment and supplies can facilitate effective and efficient response during a disaster.

Evaluate options to provide permanent storage for disaster response material such as bedding, food and water, roofing material, and medicine. Resident storage will make the island population more self -sufficient and decrease reliance on outside supplies during the early phase of a disaster.

Evaluate maritime routes and mailboat deliveries. Develop plans to increase delivery quantities from the mailboat or other shipping methods during hurricane season, especially prior to an approaching storm.

MAYAGUANA RECOMMENDATIONS

4

Communications Capacity

The density, diversity, resilience, and quality of communications infrastructure influence how island- and local-level populations able to facilitate effective and coordinated communication.

Mayaguana ranks 2nd lowest in The Bahamas for overall Communications Capacity with the 2nd lowest percentage of the population with internet access (23%) and the 5th lowest percentage of land area with mobile phone coverage (76%). Limited communications and lack of access to communications infrastructure exacerbate information access vulnerability and hinder the ability of government agencies to share critical information during disasters.

Boost Communications Capacity and overall resilience through the expansion of infrastructure to ensure coverage, accessibility, and reliability of communications during disasters. Encourage telecommunication infrastructure development at a sustainable pace and implement risk reduction measures in all infrastructure enhancements to protect against hazard impacts. Create communications plans to share critical information with the public during disasters with primary, alternate, contingency, and emergency plans for communication.

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THE BAHAMAS

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THE BAHAMAS
NEW PROVIDENCE

CAPITAL: NASSAU

Area: 80 sq. mi (207.2 sq. km)

RISK AND VULNERABILITY
COMPONENT SCORE

MULTI-HAZARD RISK (MHR) - Very Low
Score: 0.316 • Rank: 14/17

RESILIENCE (R) - Very High
Score: 0.627 • Rank: 1/17

MULTI-HAZARD EXPOSURE (MHE) - High
Score: 0.542 • Rank: 4/17

VULNERABILITY (V) - Low
Score: 0.419 • Rank: 12/17

COPING CAPACITY (CC) - Very High
Score: 0.822 • Rank: 1/17

Population (2010 Census)
246,329

Population in Poverty
28.6%

Average Annual Foreign Arrivals Per Capita
15.7

Households with Piped Water
92.4%

Prevalence of Crowded Housing
29.2%

*For more information on data and components please visit: https://bit.ly/2LqVoUO

MULTI-HAZARD EXPOSURE (MHE)

RANK: 4 / 17 ISLANDS
SCORE: 0.542

MHE
0.542

Raw MHE
0.962

Relative MHE
0.121

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:

Note: Population values from PDC's All-hazard Impact Model (AIM) leverage 2020 estimates for The Bahamas. Values may exceed 2010 Census population.

Tropical Cyclone Winds
100.0%
270,273
$31.6 Billion

Storm Surge
41.8%
113,050
$7.9 Billion

Flooding
7.8%
21,140
$618.5 Million

Wildfire
1.9%
5,014
$173.4 Million

Landslide
0.9%
2,414
$581.5 Million

Sea Level Rise
0.0%
0
$100 Thousand

VULNERABILITY (V)

RANK: 12 / 17 ISLANDS ASSESSED
SCORE: 0.419

Vulnerability in New Providence is primarily driven by Environmental Stress and Population Pressures. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.

Environmental Stress

0 — 1 **SCORE: 0.697** **RANK: 4/17** ISLANDS ASSESSED

74.1% Coral reef exposed to local threats
88.6% Coral reef exposed to thermal stress
27.9% Tree cover loss
1.2 per mi. (0.75 per km) Historical hurricane hits per length of coastline

Household Composition Vulnerability

0 — 1 **SCORE: 0.051** **RANK: 17/17** ISLANDS ASSESSED

2.6% Disability
6.0% Elderly population (65+)

Clean Water Access Vulnerability

0 — 1 **SCORE: 0.492** **RANK: 8/17** ISLANDS ASSESSED

92.4% Households with piped water
96.1% Households with flush toilets
5.9% Households with shared toilet facilities

Housing and Transportation Vulnerability

0 — 1 **SCORE: 0.475** **RANK: 6/17** ISLANDS ASSESSED

29.2% Crowded housing
18.7% Population without private vehicle
32.7% Housing built before 1980

Economic Constraints

0 — 1 **SCORE: 0.312** **RANK: 11/17** ISLANDS ASSESSED

48.4 Economic dependency ratio
$107 Government benefits received (Bahamian Dollars)
53.6% Non-wage earning population
28.6% Poverty rate

Gender Inequality

0 — 1 **SCORE: 0.259** **RANK: 14/17** ISLANDS ASSESSED

0.76
Ratio female to male income

1.04
Ratio female to male avg. years of school

15
Adolescent birth rate (per 1,000)

Population Pressures

0 — 1 **SCORE: 0.647** **RANK: 4/17** ISLANDS ASSESSED

16.8%
Average population change (2000 - 2010)

15.7
Average annual foreign arrivals per capita

48,338.9
Average annual foreign arrivals per sq. mile

9.1
Migration per 100 persons

ISLAND CAPACITY (IC)

RANK: 3 / 17 ISLANDS ASSESSED
SCORE: 0.640

New Providence exhibits weaker Island Capacity in the areas of Health Care Capacity and Emergency Service Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Island Capacity score.

Economic Capacity

0 — 1 **SCORE: 0.627** **RANK: 5/17** ISLANDS ASSESSED

0.4%
Households receiving remittances

$17,700
Median income, Bahamian dollars

Environmental Capacity

0 — 1 **SCORE: 0.327** **RANK: 10/17** ISLANDS ASSESSED

2.0%
Protected areas

27%
Coastline protected by natural habitat

0.12 oz. per sq. ft (35.8 g per sq. m)
Standing fish stock

Infrastructure Capacity

0 — 1 **SCORE: 0.772** **RANK: 2/17** ISLANDS ASSESSED

Health Care Capacity **SCORE: 0.367** **RANK: 10/17** ISLANDS ASSESSED

11.7
Physicians per 10,000

33.0
Nurses & midwives per 10,000

1.2
Clinics per 10,000

87.7%
DTP3 Vaccine coverage rate

Transportation Capacity **SCORE: 1.000** **RANK: 1/17** ISLANDS ASSESSED

11.76 mi per sq. mi (7.31 km per sq. km)
Road density

Communications Capacity **SCORE: 0.909** **RANK: 2/17** ISLANDS ASSESSED

63.0%
Internet access

98.9%
Mobile coverage

Emergency Services Capacity **SCORE: 0.648** **RANK: 6/17** ISLANDS ASSESSED

1.14 mi (1.83 km)
Average distance to police station

0.99 mi (1.59 km)
Average distance to shelter

1.6
Shelter capacity per 100 persons

Energy Capacity **SCORE: 0.938** **RANK: 3/17** ISLANDS ASSESSED

97.3%
Households with electricity

89.9%
Households with liquid propane gas

LOGISTICS CAPACITY (LC)

RANK: 1 / 18 ISLANDS ASSESSED
SCORE: 1.000

Logistics Capacity describes the ability of the island to ensure efficient storage, movement, and delivery of resources key for effective humanitarian assistance and disaster relief operations. Logistics Capacity is driven by distances to a major airport, major seaport, and disaster warehouse.

0 mi (0 km)
Distance to port

0 mi (0 km)
Distance to airport

0 mi (0 km)
Distance to warehouse

COPING CAPACITY (CC)

Coping Capacity measures the systems, means, and abilities of people and societies to absorb and respond to disruptions in normal function. Coping Capacity in The Bahamas was calculated by using a combination of Island Capacity and Logistics Capacity.

RANK: 1 / 17 ISLANDS ASSESSED
SCORE: 0.822

RESILIENCE (R)

Resilience in The Bahamas was calculated by using a combination of Vulnerability, and Coping Capacity (including both Island Capacity and Logistics Capacity).

RANK: 1 / 17 ISLANDS ASSESSED
SCORE: 0.627

HAZARD-SPECIFIC RISK (HSR)

Tropical Cyclone Winds	**RANK:** 15 / 17 ISLANDS ASSESSED	**SCORE:** 0.373
Storm Surge	**RANK:** 14 / 17 ISLANDS ASSESSED	**SCORE:** 0.327
Flooding	**RANK:** 9 / 17 ISLANDS ASSESSED	**SCORE:** 0.280
Wildfire	**RANK:** 6 / 17 ISLANDS ASSESSED	**SCORE:** 0.259
Landslide	**RANK:** 12 / 17 ISLANDS ASSESSED	**SCORE:** 0.299
Sea Level Rise	**RANK:** 16 / 17 ISLANDS ASSESSED	**SCORE:** 0.218

MULTI-HAZARD RISK (MHR)

14 / 17
RANK WITHIN ISLANDS
Score: 0.316

New Providence's score and ranking are due to High Multi-hazard Exposure combined with Low Vulnerability and Very High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

NEW PROVIDENCE SCORE
COUNTRY SCORE

Multi-Hazard Exposure

0.542
0.392

Vulnerability

0.419
0.435

Coping Capacity

0.822
0.617

NEW PROVIDENCE RECOMMENDATIONS

1

Environmental Stress

Environmental stressors such as the depletion, degradation, or contamination of natural resources can exacerbate natural hazards and negatively impact the health, safety, and economic security of New Providence's population.

New Providence has the 4th highest Environmental Stress ranking, driven by the 2nd highest rate of forest cover loss 28%) between 2000 and 2019, and the 4th highest number of hurricane hits per kilometer of coastline. The island has the highest single-hazard exposure to hurricane winds in the islands.

Ensure climate change adaptation strategies are incorporated into island-level and national planning. Understand climate change risks, including susceptibility to sea-level rise and storm surge. Provide education and training on sustainable development practices to both private and public entities to minimize negative impacts on the environment.

Closely monitor forest cover change and loss of natural vegetation. Develop programs to encourage replanting of natural vegetation and protection of natural areas that provide environmental buffers and/or mitigate against hazard impacts.

NEW PROVIDENCE RECOMMENDATIONS

2

Population Pressures

Rapid changes in population size and distribution can alter population vulnerability characteristics presenting planning challenges and destabilizing social, economic, and environmental systems. Increased population pressures require disaster managers to realign needs, institutional structures, and available resources to support delivery of basic resources before, during, and after an event.

New Providence ranks 4th highest in overall Population Pressures in The Bahamas, with the 2nd highest density of foreign arrivals per square mile, 4th highest migration rate, and 4th highest rate of population change (17%). Significant changes in population size and distribution can alter population vulnerability characteristics presenting planning challenges and destabilizing social, economic, and environmental systems. Increased population pressures require disaster managers to realign needs, institutional structures, and available resources to support delivery of basic resources before, during, and after an event.

Monitor the expansion of informal migrant settlements and unsustainable and unplanned building development in New Providence and the strain placed on the island's infrastructure and services. Implement sustainable development practices that anticipate the requirements of a growing population and consider exposure to future hazards such as hurricanes, storm surge, landslides, wildfires, flooding, and the impacts of climate change. Use a multi-stakeholder approach to address issues of sustainable housing development, social services, economic inclusion, public safety, and emergency management.

Conduct annual reviews and updates of response plans to ensure that evacuation, alert and warning procedures, and shelter operations can adequately serve residents, migrants, and visitors. Build contingencies into existing plans to manage seasonal increases in populations.

NEW PROVIDENCE RECOMMENDATIONS

3

Health Care Capacity

Robust access to skilled caregivers and the dedicated facilities for the treatment of injury and disease during non-disaster times greatly enhances the ability of the served population to absorb and manage post-disaster impacts to health, and increases the likelihood that disaster associated health and medical impacts may be addressed.

Despite having the highest population and three of the four hospitals in the Commonwealth, New Providence has the 8th lowest overall Health Care Capacity due to the fewest number of clinics per 10,000 persons, and the 3rd lowest DTP3 vaccination coverage. The increased need for medical services during the COVID-19 pandemic has placed a strain on existing health care systems. Those systems already operating at or near full capacity may be overwhelmed by the additional needs of a disaster-affected population.

Led by the Ministry of Health and Wellness, and engaging public and private sectors, evaluate the requirements to improve access to quality routine, preventative, and emergency health care services for the population of New Providence. Develop a plan to incrementally improve service delivery, reach underserved populations, expand health care infrastructure, and attract health care providers and staff to meet the health care needs of the growing population.

NEW PROVIDENCE RECOMMENDATIONS

4

Emergency Service Capacity

Societies establish capacities to manage emergencies that scale from day-to-day events up to catastrophes that impact all of society. Establishing and maintaining a broad range of systems and resources to support emergency services in New Providence will increase the capacity for disaster management and response.

Overall Emergency Service Capacity in New Providence could be improved by increasing shelter capacities. The island has the 4th highest Multi-Hazard Exposure ranking in The Bahamas and ranks 3rd lowest for shelter capacity per 100 persons. The sheltering of evacuees from other islands on New Providence, such as occurred during Hurricane Dorian, could severely overburden already limited shelter capacities during a disaster. The shelter limitations of surrounding islands should also be considered should there be a need to evacuate the considerable population of New Providence given its very high exposure to hurricane winds.

Ascertain realistic shelter requirements for New Providence and establish a task force to identify existing structures and assess their suitability for serving as shelters during an emergency. Consider dual-use options in planning new developments to better accommodate the sheltering needs of the population during a disaster. Include special considerations in disaster management and sheltering plans for those with chronic health conditions, mobility challenges or other disabilities. These individuals will require extra precautions to protect against transmission of COVID-19 or other communicable diseases during sheltering.

Develop and/or update storage plans for the island to strategically locate and warehouse disaster equipment and shelter supplies to boost overall shelter capacities.

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THE BAHAMAS

RAGGED ISLAND

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THE BAHAMAS
RAGGED ISLAND

CAPITAL: DUNCAN TOWN

Area: 14 sq. mi (36.3 sq. km)

RISK AND VULNERABILITY
COMPONENT SCORE

MULTI-HAZARD RISK (MHR) -
Score: • Rank: /

RESILIENCE (R) -
Score: • Rank: /

MULTI-HAZARD EXPOSURE (MHE) -
Score: • Rank: /

VULNERABILITY (V) -
Score: • Rank: /

COPING CAPACITY (CC) -
Score: • Rank: /

Population (2010 Census)

Population in Poverty

Average Annual Foreign Arrivals Per Capita

Households with Piped Water

Prevalence of Crowded Housing

*For more information on data and components please visit: https://bit.ly/2LqVoUO

MULTI-HAZARD EXPOSURE (MHE)

RANK: / ISLANDS
SCORE:

MHE

Raw MHE

Relative MHE

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:

Note: Population values from PDC's All-hazard Impact Model (AIM) leverage 2020 estimates for The Bahamas. Values may exceed 2010 Census population.

Tropical Cyclone Winds

Storm Surge

Flooding

Wildfire

Landslide

Sea Level Rise

VULNERABILITY (V)

RANK: / ISLANDS ASSESSED
SCORE:

Environmental Stress

0 — 1 **SCORE:** **RANK: /** ISLANDS ASSESSED

Coral reef exposed to local threats | Coral reef exposed to thermal stress | Tree cover loss | Historical hurricane hits per length of coastline

Household Composition Vulnerability

0 — 1 **SCORE:** **RANK: /** ISLANDS ASSESSED

Disability | Elderly population (65+)

Clean Water Access Vulnerability

0 — 1 **SCORE:** **RANK: /** ISLANDS ASSESSED

Households with piped water | Households with flush toilets | Households with shared toilet facilities

Housing and Transportation Vulnerability

0 — 1 **SCORE:** **RANK: /** ISLANDS ASSESSED

Crowded housing | Population without private vehicle | Housing built before 1980

Economic Constraints

0 — 1 **SCORE:** **RANK: /** ISLANDS ASSESSED

Economic dependency ratio | Government benefits received (Bahamian Dollars) | Non-wage earning population | Poverty rate

Gender Inequality

0 — 1 **SCORE:** **RANK: /** ISLANDS ASSESSED

Ratio female to male income	Ratio female to male avg. years of school	Adolescent birth rate (per 1,000)

Population Pressures

0 — 1 **SCORE:** **RANK: /** ISLANDS ASSESSED

Average population change (2000 - 2010)	Average annual foreign arrivals per capita	Average annual foreign arrivals per sq. mile	Migration per 100 persons

ISLAND CAPACITY (IC)

RANK: / ISLANDS ASSESSED
SCORE:

Economic Capacity

0 — 1 **SCORE:** **RANK: /** ISLANDS ASSESSED

Households receiving remittances

Median income, Bahamian dollars

Environmental Capacity

0 — 1 **SCORE:** **RANK: /** ISLANDS ASSESSED

Protected areas

Coastline protected by natural habitat

Standing fish stock

Infrastructure Capacity

0 — 1 **SCORE:** **RANK: /** ISLANDS ASSESSED

Health Care Capacity

SCORE: **RANK: /** ISLANDS ASSESSED

Physicians per 10,000

Nurses & midwives per 10,000

Clinics per 10,000

DTP3 Vaccine coverage rate

Transportation Capacity

SCORE: **RANK: /** ISLANDS ASSESSED

mi per sq. mi (km per sq. km)
Road density

Communications Capacity

SCORE: **RANK: /** ISLANDS ASSESSED

Internet access

Mobile coverage

Emergency Services Capacity

SCORE: **RANK: /** ISLANDS ASSESSED

Average distance to police station

Average distance to shelter

Shelter capacity per 100 persons

Energy Capacity

SCORE: **RANK: /** ISLANDS ASSESSED

Households with electricity

Households with liquid propane gas

LOGISTICS CAPACITY (LC)

RANK: 14 / 18 ISLANDS ASSESSED
SCORE: 0.573

Logistics Capacity describes the ability of the island to ensure efficient storage, movement, and delivery of resources key for effective humanitarian assistance and disaster relief operations. Logistics Capacity is driven by distances to a major airport, major seaport, and disaster warehouse.

93.37 mi (150.23 km)
Distance to port

93.35 mi (150.2 km)
Distance to airport

160.57 mi (258.35 km)
Distance to warehouse

COPING CAPACITY (CC)

Coping Capacity measures the systems, means, and abilities of people and societies to absorb and respond to disruptions in normal function. Coping Capacity in The Bahamas was calculated by using a combination of Island Capacity and Logistics Capacity.

RANK: / ISLANDS ASSESSED
SCORE:

RESILIENCE (R)

Resilience in The Bahamas was calculated by using a combination of Vulnerability, and Coping Capacity (including both Island Capacity and Logistics Capacity).

RANK: / ISLANDS ASSESSED
SCORE:

HAZARD-SPECIFIC RISK (HSR)

Tropical Cyclone Winds
RANK: / ISLANDS ASSESSED
SCORE:

Storm Surge
RANK: / ISLANDS ASSESSED
SCORE:

Flooding
RANK: / ISLANDS ASSESSED
SCORE:

Wildfire
RANK: / ISLANDS ASSESSED
SCORE:

Landslide
RANK: / ISLANDS ASSESSED
SCORE:

Sea Level Rise
RANK: / ISLANDS ASSESSED
SCORE:

MULTI-HAZARD RISK (MHR)

/

RANK WITHIN ISLANDS
Score:

Ragged Island's score and ranking are due to Multi-hazard Exposure combined with Vulnerability and Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

RAGGED ISLAND SCORE
COUNTRY SCORE

Multi-Hazard Exposure

Vulnerability

Coping Capacity

RAGGED ISLAND RECOMMENDATIONS

1

RAGGED ISLAND RECOMMENDATIONS

2

RAGGED ISLAND RECOMMENDATIONS

3

RAGGED ISLAND RECOMMENDATIONS

4

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THE BAHAMAS

SAN SALVADOR AND RUM CAY

NDPBA ISLAND PROFILE

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THE BAHAMAS
SAN SALVADOR AND RUM CAY

CAPITAL: COCKBURN TOWN

Area: 90 sq. mi (233.1 sq. km)

RISK AND VULNERABILITY
COMPONENT SCORE

MULTI-HAZARD RISK (MHR) - Very Low
Score: 0.311 • Rank: 15/17

RESILIENCE (R) - Very High
Score: 0.604 • Rank: 3/17

MULTI-HAZARD EXPOSURE (MHE) - Moderate
Score: 0.408 • Rank: 9/17

VULNERABILITY (V) - Very Low
Score: 0.300 • Rank: 16/17

COPING CAPACITY (CC) - High
Score: 0.733 • Rank: 6/17

Population (2010 Census)
1039

Population in Poverty
20.1%

Average Annual Foreign Arrivals Per Capita
16.3

Households with Piped Water
96.6%

Prevalence of Crowded Housing
23.8%

*For more information on data and components please visit: https://bit.ly/2LqVoUO

MULTI-HAZARD EXPOSURE (MHE)

RANK: 9 / 17 ISLANDS
SCORE: 0.408

MHE
0.408

Raw MHE
0.240

Relative MHE
0.575

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:

Note: Population values from PDC's All-hazard Impact Model (AIM) leverage 2020 estimates for The Bahamas. Values may exceed 2010 Census population.

Tropical Cyclone Winds
100.0%
1033
$74.5 Million

Storm Surge
42.5%
439
$48.3 Million

Flooding
63.0%
651
$41.3 Million

Wildfire
0.0%
0
0.0%

Landslide
0.3%
3
$150 Thousand

Sea Level Rise
0.0%
0
0

VULNERABILITY (V)

RANK: 16 / 17 ISLANDS ASSESSED
SCORE: 0.300

Vulnerability in San Salvador and Rum Cay is primarily driven by Environmental Stress and Clean Water Access Vulnerability. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.

Environmental Stress

0 — 1 **SCORE: 0.443** **RANK: 12/17** ISLANDS ASSESSED

79.7% Coral reef exposed to local threats

79.7% Coral reef exposed to thermal stress

0.4% Tree cover loss

0.97 per mi. (0.61 per km) Historical hurricane hits per length of coastline

Household Composition Vulnerability

0 — 1 **SCORE: 0.296** **RANK: 9/17** ISLANDS ASSESSED

3.9% Disability

8.9% Elderly population (65+)

Clean Water Access Vulnerability

0 — 1 **SCORE: 0.440** **RANK: 11/17** ISLANDS ASSESSED

96.6% Households with piped water

96.3% Households with flush toilets

6.8% Households with shared toilet facilities

Housing and Transportation Vulnerability

0 — 1 **SCORE: 0.382** **RANK: 14/17** ISLANDS ASSESSED

23.8% Crowded housing

32.5% Population without private vehicle

21.7% Housing built before 1980

Economic Constraints

0 — 1 **SCORE: 0.200** **RANK: 13/17** ISLANDS ASSESSED

47.6 Economic dependency ratio

$156 Government benefits received (Bahamian Dollars)

43.4% Non-wage earning population

20.1% Poverty rate

Gender Inequality

0 — 1 **SCORE: 0.027** **RANK: 17/17** ISLANDS ASSESSED

0.99
Ratio female to male income

1
Ratio female to male avg. years of school

11
Adolescent birth rate (per 1,000)

Population Pressures

0 — 1 **SCORE: 0.309** **RANK: 10/17** ISLANDS ASSESSED

-1.2%
Average population change (2000 - 2010)

16.33
Average annual foreign arrivals per capita

188.5
Average annual foreign arrivals per sq. mile

5.5
Migration per 100 persons

ISLAND CAPACITY (IC)

RANK: 1 / 17 ISLANDS ASSESSED
SCORE: 0.692

San Salvador and Rum Cay exhibits weaker Island Capacity in the areas of Transportation Capacity and Health Care Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Island Capacity score.

Economic Capacity

0 — 1 **SCORE: 0.830** **RANK: 1/17** ISLANDS ASSESSED

1.6%
Households receiving remittances

14400
Median income, Bahamian dollars

Environmental Capacity

0 — 1 **SCORE: 0.574** **RANK: 4/17** ISLANDS ASSESSED

14.0%
Protected areas

39%
Coastline protected by natural habitat

-
Standing fish stock

Infrastructure Capacity

0 — 1 **SCORE: 0.656** **RANK: 4/17** ISLANDS ASSESSED

Health Care Capacity

SCORE: 0.531 **RANK: 3/17** ISLANDS ASSESSED

9.62
Physicians per 10,000

28.87
Nurses & midwives per 10,000

28.9
Clinics per 10,000

114.3%
DTP3 Vaccine coverage rate

Transportation Capacity

SCORE: 0.492 **RANK: 10/17** ISLANDS ASSESSED

1.69 mi per sq. mi (1.05 km per sq. km)
Road density

Communications Capacity

SCORE: 0.774 **RANK: 8/17** ISLANDS ASSESSED

49.7%
Internet access

98.5%
Mobile coverage

Emergency Services Capacity

SCORE: 0.615 **RANK: 7/17** ISLANDS ASSESSED

60.34 mi (97.09 km)
Average distance to police station

2.04 mi (3.29 km)
Average distance to shelter

70.7
Shelter capacity per 100 persons

Energy Capacity

SCORE: 0.869 **RANK: 9/17** ISLANDS ASSESSED

97.9%
Households with electricity

78.0%
Households with liquid propane gas

LOGISTICS CAPACITY (LC)

RANK: 13 / 18 ISLANDS ASSESSED
SCORE: 0.773

Logistics Capacity describes the ability of the island to ensure efficient storage, movement, and delivery of resources key for effective humanitarian assistance and disaster relief operations. Logistics Capacity is driven by distances to a major airport, major seaport, and disaster warehouse.

62.63 mi (100.77 km)
Distance to port

0 mi (0 km)
Distance to airport

189.86 mi (305.48 km)
Distance to warehouse

COPING CAPACITY (CC)

Coping Capacity measures the systems, means, and abilities of people and societies to absorb and respond to disruptions in normal function. Coping Capacity in The Bahamas was calculated by using a combination of Island Capacity and Logistics Capacity.

RANK: 6 / 17 ISLANDS ASSESSED
SCORE: 0.733

RESILIENCE (R)

Resilience in The Bahamas was calculated by using a combination of Vulnerability, and Coping Capacity (including both Island Capacity and Logistics Capacity).

RANK: 3 / 17 ISLANDS ASSESSED
SCORE: 0.604

HAZARD-SPECIFIC RISK (HSR)

Tropical Cyclone Winds	**RANK:** 17 / 17 ISLANDS ASSESSED	**SCORE:** 0.330
Storm Surge	**RANK:** 15 / 17 ISLANDS ASSESSED	**SCORE:** 0.311
Flooding	**RANK:** 8 / 17 ISLANDS ASSESSED	**SCORE:** 0.333
Wildfire	**RANK:** 7 / 17 ISLANDS ASSESSED	**SCORE:** 0.000
Landslide	**RANK:** 17 / 17 ISLANDS ASSESSED	**SCORE:** 0.214
Sea Level Rise	**RANK:** 15 / 17 ISLANDS ASSESSED	**SCORE:** 0.241

MULTI-HAZARD RISK (MHR)

15 / 17
RANK WITHIN ISLANDS
Score: 0.311

San Salvador and Rum Cay's score and ranking are due to Moderate Multi-hazard Exposure combined with Very Low Vulnerability and High Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

SAN SALVADOR AND RUM CAY SCORE
COUNTRY SCORE

Multi-Hazard Exposure
0.408
0.392

Vulnerability
0.300
0.435

Coping Capacity
0.733
0.617

SAN SALVADOR AND RUM CAY RECOMMENDATIONS

1

Environmental Stress

Environmental stressors such as the depletion, degradation, or contamination of natural resources can exacerbate natural hazards and negatively impact the health, safety, and economic security of San Salvador and Rum Cay's population.

San Salvador and Rum Cay have the 6th highest number of hurricane hits per square kilometer of coastline and the 6th highest percentage of reef exposed to local threats. Environmental stress can be exacerbated by climate change and contribute to food insecurity, unhabitable environments, internally displaced people, and forced migration.

Review building codes and coastal development plans for long range sustainability. Develop and enforce building and development standards, and setbacks to reduce environmental impacts to beaches, reefs and surrounding natural areas as well as exposure to high winds, flooding, and storm surge. Where applicable, retrofit existing construction with additional safety measures to increase resilience.

Environmental protection is vital to ensuring sustainable development within the islands, and land and reef management are essential to monitor ecological stress while balancing economic use. Institute programs to increase reef protection through environmental protection areas and monitor reefs closely for health and stress.

SAN SALVADOR AND RUM CAY RECOMMENDATIONS

2

Clean Water Access Vulnerability

Those without easy or adequate access to water distribution and containment systems face significant demands on daily routines that effectively limit their response and recovery capacity and the ability to maintain livelihoods. Increasing access to improved water and sanitation in San Salvador and Rum Cay improves health outcomes and frees up resources to decrease further susceptibility to impacts.

San Salvador and Rum Cay rank 11th for overall Clean Water Access Vulnerability, ranking 5th highest for the percentage of households sharing toilet facilities (7%). Those without easy or adequate access to water distribution and containment systems face significant demands on daily routines that effectively limit their response and recovery capacity and the ability to maintain livelihoods. Increasing access to improved water and sanitation improves health outcomes and frees up resources to decrease further susceptibility to impacts.

Invest in the development of water treatment and water distribution systems to expand access to clean water and adequate sanitation services. Create and implement a plan for all households to have in-home access to a flush toilet and a piped water source.

SAN SALVADOR AND RUM CAY RECOMMENDATIONS

3

Transportation Capacity

Denser and more diverse transportation networks provide more options for bringing outside resources into an impacted area and increase the ability of response stakeholders to access island populations. Improved transportation capacity supports all aspects of San Salvador and Rum Cay's ability to distribute resources before, during, and after a disaster.

San Salvador and Rum Cay rank 8th lowest for overall Transportation Capacity. Poor transportation capacity can hamper emergency response activities and decrease public access to vital resources such as adequate healthcare and food.

Identify areas with limited transportation opportunities to identify the best project areas where increasing transportation capacity has the highest impact. Identify emergency routes and vital transportation routes that provide critical access to services to the population. Ensure new transportation routes are developed within sustainable development guidelines with proper materials. Evaluate land, sea, and air transportation routes to ensure sufficient access during normal operations and in times of disaster.

SAN SALVADOR AND RUM CAY RECOMMENDATIONS

4

Health Care Capacity

Robust access to skilled caregivers and the dedicated facilities for the treatment of injury and disease during non-disaster times greatly enhances the ability of the served population to absorb and manage post-disaster impacts to health, and increases the likelihood that disaster associated health and medical impacts may be addressed.

While overall Health Care Capacity for San Salvador and Rum Cay ranks 3rd highest for the Commonwealth, the islands have only ten physicians and 29 nurses and midwives per 10,000 persons. A shortage of healthcare professionals can lead to long-term negative effects on the health of a population due to lack of preventative and acute care.

Develop programs to increase health care providers in San Salvador and Rum Cay. This could be incentive programs to encourage providers to open or support current clinics there, or a national program to provide traveling providers to manage routine care at designated intervals.

Work with the Ministry of Health and Wellness to promote comprehensive health education programs, including nutrition, exercise, vaccination, child, and maternal health to promote the overall wellbeing and quality of life on the island.

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THE BAHAMAS

SPANISH WELLS

NDPBA ISLAND PROFILE

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THE BAHAMAS
SPANISH WELLS

CAPITAL: SPANISH WELLS

Area: 1.5 sq. mi (3.9 sq. km)

RISK AND VULNERABILITY
COMPONENT SCORE

MULTI-HAZARD RISK (MHR) - Low
Score: 0.335 • Rank: 11/17

RESILIENCE (R) - Low
Score: 0.482 • Rank: 11/17

MULTI-HAZARD EXPOSURE (MHE) - Low
Score: 0.200 • Rank: 13/17

VULNERABILITY (V) - Very High
Score: 0.527 • Rank: 2/17

COPING CAPACITY (CC) - Moderate
Score: 0.669 • Rank: 7/17

Population (2010 Census)
1551

Population in Poverty
26.2%

Average Annual Foreign Arrivals Per Capita
0.0

Households with Piped Water
83.7%

Prevalence of Crowded Housing
11.3%

*For more information on data and components please visit: https://bit.ly/2LqVoUO

MULTI-HAZARD EXPOSURE (MHE)

RANK: 13 / 17 ISLANDS
SCORE: 0.200

MHE
0.200

Raw MHE
0.130

Relative MHE
0.269

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:

Note: Population values from PDC's All-hazard Impact Model (AIM) leverage 2020 estimates for The Bahamas. Values may exceed 2010 Census population.

Tropical Cyclone Winds
100.0%
3423
$36.7 Million

Storm Surge
33.6%
1,150
$10 Million

Flooding
0.0%
0
0

Wildfire
0.0%
0
0.0%

Landslide
15.4%
526
$3.4 Million

Sea Level Rise
0.0%
0
$30 Thousand

VULNERABILITY (V)

RANK: 2 / 17 ISLANDS ASSESSED
SCORE: 0.527

Vulnerability in Spanish Wells is primarily driven by Environmental Stress and Household Composition Vulnerability. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.

Environmental Stress

0 — 1 **SCORE: 0.921** **RANK: 2/17** ISLANDS ASSESSED

100.0% Coral reef exposed to local threats
100.0% Coral reef exposed to thermal stress
43.1% Tree cover loss
4.84 per mi. (3.01 per km) Historical hurricane hits per length of coastline

Household Composition Vulnerability

0 — 1 **SCORE: 0.791** **RANK: 2/17** ISLANDS ASSESSED

6.1% Disability
15.3% Elderly population (65+)

Clean Water Access Vulnerability

0 — 1 **SCORE: 0.545** **RANK: 4/17** ISLANDS ASSESSED

83.7% Households with piped water
98.2% Households with flush toilets
5.5% Households with shared toilet facilities

Housing and Transportation Vulnerability

0 — 1 **SCORE: 0.333** **RANK: 17/17** ISLANDS ASSESSED

11.3% Crowded housing
16.0% Population without private vehicle
54.8% Housing built before 1980

Economic Constraints

0 — 1 **SCORE: 0.256** **RANK: 12/17** ISLANDS ASSESSED

45.7 Economic dependency ratio
$128 Government benefits received (Bahamian Dollars)
49.8% Non-wage earning population
26.2% Poverty rate

Gender Inequality

0 — 1 **SCORE: 0.750** **RANK: 1/17** ISLANDS ASSESSED

0.18
Ratio female to male income

1.06
Ratio female to male avg. years of school

-
Adolescent birth rate (per 1,000)

Population Pressures

0 — 1 **SCORE: 0.093** **RANK: 16/17** ISLANDS ASSESSED

1.6%
Average population change (2000 - 2010)

0
Average annual foreign arrivals per capita

0.0
Average annual foreign arrivals per sq. mile

5.1
Migration per 100 persons

ISLAND CAPACITY (IC)

RANK: 8 / 17 ISLANDS ASSESSED
SCORE: 0.460

Spanish Wells exhibits weaker Island Capacity in the areas of Health Care Capacity and Environmental Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Island Capacity score.

Economic Capacity

0 — 1 **SCORE: 0.403** **RANK: 9/17** ISLANDS ASSESSED

0.3%
Households receiving remittances

13775
Median income, Bahamian dollars

Environmental Capacity

0 — 1 **SCORE: 0.000** **RANK: 16/17** ISLANDS ASSESSED

0.0%
Protected areas

-
Coastline protected by natural habitat

-
Standing fish stock

Infrastructure Capacity

0 — 1 **SCORE: 0.678** **RANK: 3/17** ISLANDS ASSESSED

Health Care Capacity

SCORE: 0.105 **RANK: 16/17** ISLANDS ASSESSED

0
Physicians per 10,000

0
Nurses & midwives per 10,000

6.5
Clinics per 10,000

-
DTP3 Vaccine coverage rate

Transportation Capacity

SCORE: 0.882 **RANK: 3/17** ISLANDS ASSESSED

7.5 mi per sq. mi (4.66 km per sq. km)
Road density

Communications Capacity

SCORE: 0.942 **RANK: 1/17** ISLANDS ASSESSED

65.7%
Internet access

100.0%
Mobile coverage

Emergency Services Capacity

SCORE: 0.775 **RANK: 2/17** ISLANDS ASSESSED

1.11 mi (1.79 km)
Average distance to police station

2.29 mi (3.69 km)
Average distance to shelter

37.2
Shelter capacity per 100 persons

Energy Capacity

SCORE: 0.689 **RANK: 13/17** ISLANDS ASSESSED

99.7%
Households with electricity

46.7%
Households with liquid propane gas

LOGISTICS CAPACITY (LC)

RANK: 6 / 18 ISLANDS ASSESSED
SCORE: 0.874

Logistics Capacity describes the ability of the island to ensure efficient storage, movement, and delivery of resources key for effective humanitarian assistance and disaster relief operations. Logistics Capacity is driven by distances to a major airport, major seaport, and disaster warehouse.

49.26 mi (79.26 km)
Distance to port

0 mi (0 km)
Distance to airport

49.26 mi (79.26 km)
Distance to warehouse

COPING CAPACITY (CC)

Coping Capacity measures the systems, means, and abilities of people and societies to absorb and respond to disruptions in normal function. Coping Capacity in The Bahamas was calculated by using a combination of Island Capacity and Logistics Capacity.

RANK: 7 / 17 ISLANDS ASSESSED
SCORE: 0.669

RESILIENCE (R)

Resilience in The Bahamas was calculated by using a combination of Vulnerability, and Coping Capacity (including both Island Capacity and Logistics Capacity).

RANK: 11 / 17 ISLANDS ASSESSED
SCORE: 0.482

HAZARD-SPECIFIC RISK (HSR)

Tropical Cyclone Winds	**RANK:** 11 / 17 ISLANDS ASSESSED	**SCORE:** 0.421
Storm Surge	**RANK:** 10 / 17 ISLANDS ASSESSED	**SCORE:** 0.378
Flooding	**RANK:** 11 / 17 ISLANDS ASSESSED	**SCORE:** 0.000
Wildfire	**RANK:** 7 / 17 ISLANDS ASSESSED	**SCORE:** 0.000
Landslide	**RANK:** 3 / 17 ISLANDS ASSESSED	**SCORE:** 0.429
Sea Level Rise	**RANK:** 7 / 17 ISLANDS ASSESSED	**SCORE:** 0.338

MULTI-HAZARD RISK (MHR)

11 / 17
RANK WITHIN ISLANDS
Score: 0.335

Spanish Wells' score and ranking are due to Low Multi-hazard Exposure combined with Very High Vulnerability and Moderate Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

SPANISH WELLS SCORE
COUNTRY SCORE

Multi-Hazard Exposure
0.200
0.392

Vulnerability
0.527
0.435

Coping Capacity
0.669
0.617

SPANISH WELLS RECOMMENDATIONS

1

Environmental Stress

Environmental stressors such as the depletion, degradation, or contamination of natural resources can exacerbate natural hazards and negatively impact the health, safety, and economic security of Spanish Wells' population.

Spanish Wells has the 2nd highest overall Environmental Stress ranking in The Bahamas with the highest rate of forest cover change (43% over a 20-year period), highest percentage of reef exposure to thermal stress (100%) and local threats (100%), and the 2nd highest hurricane hits per kilometer of coastline. Spanish Wells also has the highest landslide exposure ranking in the islands.

Increase environmental protection measures. Develop programs to encourage planting of natural vegetation, replanting of forest, and limit development in natural areas.

Review building codes and coastal development plans for long range sustainability of not only the structures, but the island and surrounding environment. Establish environmental protection areas as needed to protect natural reefs and institute monitoring of reef health and effectiveness of protection measures.

SPANISH WELLS RECOMMENDATIONS

2

Household Composition Vulnerability

Vulnerable household members may have special needs that necessitate additional support to ensure their safety before, during, and after a disaster. Elderly or disabled family members more likely to require financial support, transportation, or specialized resources to support their daily care.

Spanish Wells has the 2nd highest score for overall Vulnerability. It also has the 2nd highest Household Composition Vulnerability ranking, driven by the 3rd highest percentage of households with elders (15.3%) age 65 and older, and the 3rd highest percentage of persons with long-term disabilities. Elderly and/or disabled individuals are more susceptible to negative consequences as a result of a disaster due to their reliance on others for sustenance, health care, mobility assistance, and shelter.

Increase social services to identify and provide assistance to vulnerable households. Expand available medical care through government programs and non-governmental organizations to ensure that children, the elderly, and the disabled have their medical, nutritional, and shelter needs met.

Review and update local emergency plans to anticipate and address the special needs of vulnerable population groups. Include special considerations in disaster management and sheltering plans for those with chronic health conditions, mobility challenges or other disabilities. These individuals will require extra precautions to protect against transmission of COVID-19 and other communicable diseases during sheltering.

SPANISH WELLS RECOMMENDATIONS

3

Health Care Capacity

Robust access to skilled caregivers and the dedicated facilities for the treatment of injury and disease during non-disaster times greatly enhances the ability of the served population to absorb and manage post-disaster impacts to health, and increases the likelihood that disaster associated health and medical impacts may be addressed.

Spanish Wells ranks next to last for overall Health Care Capacity, with fewer than seven health care clinics per 10,000 persons. RVA analysis showed no physicians or nurses/midwives available per 10,000 population. Access to skilled caregivers and dedicated facilities for the treatment of injury and disease during non-disaster times greatly enhances the ability of the served population to absorb and manage post-disaster impacts to health, and increases the likelihood that disaster associated health and medical impacts may be addressed. The health care capacity limitations evident for Spanish Wells could lead to negative consequences during a disaster when urgent care may be required.

Improve health care services in Spanish Wells through expansion of health care infrastructure and availability of medical personnel. Encourage providers to support existing clinics or open new ones on the island. Provide government-supported traveling physicians or nurses/midwives to deliver preventative and acute care on a consistent basis.

Strengthen health education programs focused on promoting overall health and wellness, including maternal and child health, vaccination, nutrition, smoking cessation, family planning and weight loss to minimize the preponderance of long-term illnesses.

SPANISH WELLS RECOMMENDATIONS

4

Environmental Capacity

Properly managed environments sustain populations by providing food, water, and even economic benefits from industries such as tourism. Increasing protected areas can also serve as additional buffers between the population and impacted area.

Spanish Wells ranks the lowest in Environmental Capacity in The Bahamas. The island has no designated protected areas. Properly managed environments sustain populations by providing food, water, and economic benefits from industries such as tourism. Increasing protected areas can serve as additional buffers between the population and disaster-impacted areas.

Identify island features for designation as protected areas, such as beach parks, green belts, and natural area buffers to provide protection from hazard impacts. Institute management programs to monitor use of these areas and environmental changes such climate change impacts, reef health, and erosion.

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NDPBA ISLAND PROFILE

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CAPITAL:

Area:

RISK AND VULNERABILITY
COMPONENT SCORE

MULTI-HAZARD RISK (MHR) -
Score: • Rank: /

RESILIENCE (R) -
Score: • Rank: /

MULTI-HAZARD EXPOSURE (MHE) -
Score: • Rank: /

VULNERABILITY (V) -
Score: • Rank: /

COPING CAPACITY (CC) -
Score: • Rank: /

Population (2010 Census)

Population in Poverty

Average Annual Foreign Arrivals Per Capita

Households with Piped Water

Prevalence of Crowded Housing

*For more information on data and components please visit: https://bit.ly/2LqVoUO

MULTI-HAZARD EXPOSURE (MHE)

RANK: /
SCORE:

MHE

Raw MHE

Relative MHE

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:

Note: Population values from PDC's All-hazard Impact Model (AIM) leverage 2020 estimates for The Bahamas. Values may exceed 2010 Census population.

Tropical Cyclone Winds

Storm Surge

Flooding

Wildfire

Landslide

Sea Level Rise

VULNERABILITY (V)

RANK: / ASSESSED
SCORE:

Vulnerability in is primarily driven by and . The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.

Environmental Stress

0 — 1 **SCORE:** **RANK: /** ASSESSED

Coral reef exposed to local threats | Coral reef exposed to thermal stress | Tree cover loss | Historical hurricane hits per length of coastline

Household Composition Vulnerability

0 — 1 **SCORE:** **RANK: /** ASSESSED

Disability | Elderly population (65+)

Clean Water Access Vulnerability

0 — 1 **SCORE:** **RANK: /** ASSESSED

Households with piped water | Households with flush toilets | Households with shared toilet facilities

Housing and Transportation Vulnerability

0 — 1 **SCORE:** **RANK: /** ASSESSED

Crowded housing | Population without private vehicle | Housing built before 1980

Economic Constraints

0 — 1 **SCORE:** **RANK: /** ASSESSED

Economic dependency ratio | Government benefits received (Bahamian Dollars) | Non-wage earning population | Poverty rate

Gender Inequality

0 — 1 **SCORE:** **RANK: /** ASSESSED

Ratio female to male income

Ratio female to male avg. years of school

Adolescent birth rate (per 1,000)

Population Pressures

0 — 1 **SCORE:** **RANK: /** ASSESSED

Average population change (2000 - 2010)

Average annual foreign arrivals per capita

Average annual foreign arrivals per sq. mile

Migration per 100 persons

ISLAND CAPACITY (IC)

RANK: / ASSESSED
SCORE:

exhibits weaker Island Capacity in the areas of and . The bar charts indicate the socioeconomic themes contributing to the overall Island Capacity score.

Economic Capacity

0 — 1 **SCORE:** **RANK: /** ASSESSED

Households receiving remittances

Median income, Bahamian dollars

Environmental Capacity

0 — 1 **SCORE:** **RANK: /** ASSESSED

Protected areas

Coastline protected by natural habitat

Standing fish stock

Infrastructure Capacity

0 — 1 **SCORE:** **RANK: /** ASSESSED

Health Care Capacity **SCORE:** **RANK: /** ASSESSED

Physicians per 10,000

Nurses & midwives per 10,000

Clinics per 10,000

DTP3 Vaccine coverage rate

Transportation Capacity **SCORE:** **RANK: /** ASSESSED

Road density

Communications Capacity **SCORE:** **RANK: /** ASSESSED

Internet access

Mobile coverage

Emergency Services Capacity **SCORE:** **RANK: /** ASSESSED

Average distance to police station

Average distance to shelter

Shelter capacity per 100 persons

Energy Capacity **SCORE:** **RANK: /** ASSESSED

Households with electricity

Households with liquid propane gas

LOGISTICS CAPACITY (LC)

RANK: / ASSESSED
SCORE:

Logistics Capacity describes the ability of the island to ensure efficient storage, movement, and delivery of resources key for effective humanitarian assistance and disaster relief operations. Logistics Capacity is driven by distances to a major airport, major seaport, and disaster warehouse.

Distance to port

Distance to airport

Distance to warehouse

COPING CAPACITY (CC)

Coping Capacity measures the systems, means, and abilities of people and societies to absorb and respond to disruptions in normal function. Coping Capacity in The Bahamas was calculated by using a combination of Island Capacity and Logistics Capacity.

RANK: / ASSESSED
SCORE:

RESILIENCE (R)

Resilience in The Bahamas was calculated by using a combination of Vulnerability, and Coping Capacity (including both Island Capacity and Logistics Capacity).

RANK: / ASSESSED
SCORE:

HAZARD-SPECIFIC RISK (HSR)

Tropical Cyclone Winds
RANK: / ASSESSED
SCORE:

Storm Surge
RANK: / ASSESSED
SCORE:

Flooding
RANK: / ASSESSED
SCORE:

Wildfire
RANK: / ASSESSED
SCORE:

Landslide
RANK: / ASSESSED
SCORE:

Sea Level Rise
RANK: / ASSESSED
SCORE:

MULTI-HAZARD RISK (MHR)

/

RANK WITHIN
Score:

's score and ranking are due to Multi-hazard Exposure combined with Vulnerability and Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

SCORE
COUNTRY SCORE

Multi-Hazard Exposure

Vulnerability

Coping Capacity

RECOMMENDATIONS

1

RECOMMENDATIONS

2

RECOMMENDATIONS

3

RECOMMENDATIONS

4

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NDPBA ISLAND PROFILE

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CAPITAL:

Area:

RISK AND VULNERABILITY
COMPONENT SCORE

MULTI-HAZARD RISK (MHR) -
Score: • Rank: /

RESILIENCE (R) -
Score: • Rank: /

MULTI-HAZARD EXPOSURE (MHE) -
Score: • Rank: /

VULNERABILITY (V) -
Score: • Rank: /

COPING CAPACITY (CC) -
Score: • Rank: /

Population (2010 Census)

Population in Poverty

Average Annual Foreign Arrivals Per Capita

Households with Piped Water

Prevalence of Crowded Housing

*For more information on data and components please visit: https://bit.ly/2LqVoUO

MULTI-HAZARD EXPOSURE (MHE)

RANK: /
SCORE:

MHE

Raw MHE

Relative MHE

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:

Note: Population values from PDC's All-hazard Impact Model (AIM) leverage 2020 estimates for The Bahamas. Values may exceed 2010 Census population.

Tropical Cyclone Winds

Storm Surge

Flooding

Wildfire

Landslide

Sea Level Rise

VULNERABILITY (V)

RANK: / ASSESSED
SCORE:

Vulnerability in is primarily driven by and . The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.

Environmental Stress

0 — 1 **SCORE:** **RANK: /** ASSESSED

Coral reef exposed to local threats | Coral reef exposed to thermal stress | Tree cover loss | Historical hurricane hits per length of coastline

Household Composition Vulnerability

0 — 1 **SCORE:** **RANK: /** ASSESSED

Disability | Elderly population (65+)

Clean Water Access Vulnerability

0 — 1 **SCORE:** **RANK: /** ASSESSED

Households with piped water | Households with flush toilets | Households with shared toilet facilities

Housing and Transportation Vulnerability

0 — 1 **SCORE:** **RANK: /** ASSESSED

Crowded housing | Population without private vehicle | Housing built before 1980

Economic Constraints

0 — 1 **SCORE:** **RANK: /** ASSESSED

Economic dependency ratio | Government benefits received (Bahamian Dollars) | Non-wage earning population | Poverty rate

Gender Inequality

0 1 **SCORE:** **RANK: /** ASSESSED

Ratio female to male income

Ratio female to male avg. years of school

Adolescent birth rate (per 1,000)

Population Pressures

0 1 **SCORE:** **RANK: /** ASSESSED

Average population change (2000 - 2010)

Average annual foreign arrivals per capita

Average annual foreign arrivals per sq. mile

Migration per 100 persons

ISLAND CAPACITY (IC)

RANK: / ASSESSED
SCORE:

exhibits weaker Island Capacity in the areas of and . The bar charts indicate the socioeconomic themes contributing to the overall Island Capacity score.

Economic Capacity

0 1 **SCORE:** **RANK: /** ASSESSED

Households receiving remittances

Median income, Bahamian dollars

Environmental Capacity

0 1 **SCORE:** **RANK: /** ASSESSED

Protected areas

Coastline protected by natural habitat

Standing fish stock

Infrastructure Capacity

0 1 **SCORE:** **RANK: /** ASSESSED

Health Care Capacity

SCORE: **RANK: /** ASSESSED

Physicians per 10,000

Nurses & midwives per 10,000

Clinics per 10,000

DTP3 Vaccine coverage rate

Transportation Capacity

SCORE: **RANK: /** ASSESSED

Road density

Communications Capacity

SCORE: **RANK: /** ASSESSED

Internet access

Mobile coverage

Emergency Services Capacity

SCORE: **RANK: /** ASSESSED

Average distance to police station

Average distance to shelter

Shelter capacity per 100 persons

Energy Capacity

SCORE: **RANK: /** ASSESSED

Households with electricity

Households with liquid propane gas

LOGISTICS CAPACITY (LC)

RANK: / ASSESSED
SCORE:

Logistics Capacity describes the ability of the island to ensure efficient storage, movement, and delivery of resources key for effective humanitarian assistance and disaster relief operations. Logistics Capacity is driven by distances to a major airport, major seaport, and disaster warehouse.

Distance to port

Distance to airport

Distance to warehouse

COPING CAPACITY (CC)

Coping Capacity measures the systems, means, and abilities of people and societies to absorb and respond to disruptions in normal function. Coping Capacity in The Bahamas was calculated by using a combination of Island Capacity and Logistics Capacity.

RANK: / ASSESSED
SCORE:

RESILIENCE (R)

Resilience in The Bahamas was calculated by using a combination of Vulnerability, and Coping Capacity (including both Island Capacity and Logistics Capacity).

RANK: / ASSESSED
SCORE:

HAZARD-SPECIFIC RISK (HSR)

Tropical Cyclone Winds	**RANK: /** ASSESSED **SCORE:**	
Storm Surge	**RANK: /** ASSESSED **SCORE:**	
Flooding	**RANK: /** ASSESSED **SCORE:**	
Wildfire	**RANK: /** ASSESSED **SCORE:**	
Landslide	**RANK: /** ASSESSED **SCORE:**	
Sea Level Rise	**RANK: /** ASSESSED **SCORE:**	

MULTI-HAZARD RISK (MHR)

/

RANK WITHIN
Score:

's score and ranking are due to Multi-hazard Exposure combined with Vulnerability and Coping Capacity scores.

Multi-hazard risk component scores compared to overall average country scores:

SCORE
COUNTRY SCORE

Multi-Hazard Exposure

Vulnerability

Coping Capacity

RECOMMENDATIONS

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NDPBA ISLAND PROFILE

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CAPITAL:

Area:

RISK AND VULNERABILITY
COMPONENT SCORE

MULTI-HAZARD RISK (MHR) -
Score: • Rank: /

RESILIENCE (R) -
Score: • Rank: /

MULTI-HAZARD EXPOSURE (MHE) -
Score: • Rank: /

VULNERABILITY (V) -
Score: • Rank: /

COPING CAPACITY (CC) -
Score: • Rank: /

Population (2010 Census)

Population in Poverty

Average Annual Foreign Arrivals Per Capita

Households with Piped Water

Prevalence of Crowded Housing

*For more information on data and components please visit: https://bit.ly/2LqVoUO

MULTI-HAZARD EXPOSURE (MHE)

RANK: /
SCORE:

MHE

Raw MHE

Relative MHE

ESTIMATED POPULATION AND CAPITAL EXPOSED TO EACH HAZARD:

Note: Population values from PDC's All-hazard Impact Model (AIM) leverage 2020 estimates for The Bahamas. Values may exceed 2010 Census population.

Tropical Cyclone Winds

Storm Surge

Flooding

Wildfire

Landslide

Sea Level Rise

VULNERABILITY (V)

RANK: / ASSESSED
SCORE:

Vulnerability in is primarily driven by and . The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.

Environmental Stress

0 — 1 **SCORE:** **RANK: /** ASSESSED

Coral reef exposed to local threats | Coral reef exposed to thermal stress | Tree cover loss | Historical hurricane hits per length of coastline

Household Composition Vulnerability

0 — 1 **SCORE:** **RANK: /** ASSESSED

Disability | Elderly population (65+)

Clean Water Access Vulnerability

0 — 1 **SCORE:** **RANK: /** ASSESSED

Households with piped water | Households with flush toilets | Households with shared toilet facilities

Housing and Transportation Vulnerability

0 — 1 **SCORE:** **RANK: /** ASSESSED

Crowded housing | Population without private vehicle | Housing built before 1980

Economic Constraints

0 — 1 **SCORE:** **RANK: /** ASSESSED

Economic dependency ratio | Government benefits received (Bahamian Dollars) | Non-wage earning population | Poverty rate

Gender Inequality

0 — 1 **SCORE:** **RANK: /** ASSESSED

Ratio female to male income

Ratio female to male avg. years of school

Adolescent birth rate (per 1,000)

Population Pressures

0 — 1 **SCORE:** **RANK: /** ASSESSED

Average population change (2000 - 2010)

Average annual foreign arrivals per capita

Average annual foreign arrivals per sq. mile

Migration per 100 persons

ISLAND CAPACITY (IC)

RANK: / ASSESSED
SCORE:

exhibits weaker Island Capacity in the areas of and . The bar charts indicate the socioeconomic themes contributing to the overall Island Capacity score.

Economic Capacity

0 1 **SCORE:** **RANK: /** ASSESSED

Households receiving remittances

Median income, Bahamian dollars

Environmental Capacity

0 1 **SCORE:** **RANK: /** ASSESSED

Protected areas

Coastline protected by natural habitat

Standing fish stock

Infrastructure Capacity

0 1 **SCORE:** **RANK: /** ASSESSED

Health Care Capacity

SCORE: **RANK: /** ASSESSED

Physicians per 10,000

Nurses & midwives per 10,000

Clinics per 10,000

DTP3 Vaccine coverage rate

Transportation Capacity

SCORE: **RANK: /** ASSESSED

Road density

Communications Capacity

SCORE: **RANK: /** ASSESSED

Internet access

Mobile coverage

Emergency Services Capacity

SCORE: **RANK: /** ASSESSED

Average distance to police station

Average distance to shelter

Shelter capacity per 100 persons

Energy Capacity

SCORE: **RANK: /** ASSESSED

Households with electricity

Households with liquid propane gas

LOGISTICS CAPACITY (LC)

RANK: / ASSESSED
SCORE:

Logistics Capacity describes the ability of the island to ensure efficient storage, movement, and delivery of resources key for effective humanitarian assistance and disaster relief operations. Logistics Capacity is driven by distances to a major airport, major seaport, and disaster warehouse.

Distance to port

Distance to airport

Distance to warehouse

COPING CAPACITY (CC)

Coping Capacity measures the systems, means, and abilities of people and societies to absorb and respond to disruptions in normal function. Coping Capacity in The Bahamas was calculated by using a combination of Island Capacity and Logistics Capacity.

RANK: / ASSESSED
SCORE:

RESILIENCE (R)

Resilience in The Bahamas was calculated by using a combination of Vulnerability, and Coping Capacity (including both Island Capacity and Logistics Capacity).

RANK: / ASSESSED
SCORE:

HAZARD-SPECIFIC RISK (HSR)

Tropical Cyclone Winds — **RANK: /** ASSESSED **SCORE:**

Storm Surge — **RANK: /** ASSESSED **SCORE:**

Flooding — **RANK: /** ASSESSED **SCORE:**

Wildfire — **RANK: /** ASSESSED **SCORE:**

Landslide — **RANK: /** ASSESSED **SCORE:**

Sea Level Rise — **RANK: /** ASSESSED **SCORE:**

MULTI-HAZARD RISK (MHR)

/

RANK WITHIN
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SCORE
COUNTRY SCORE

Multi-Hazard Exposure

Vulnerability

Coping Capacity

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