



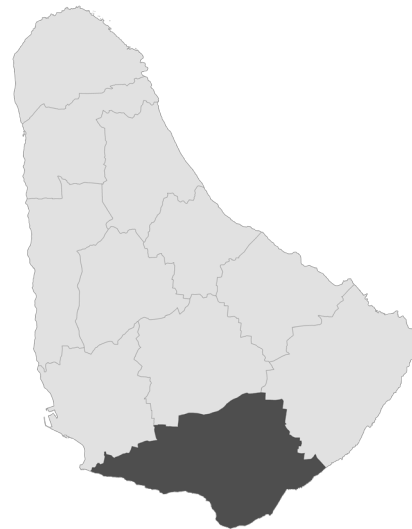
BARBADOS

CHRIST CHURCH

NDPBA SUBNATIONAL PROFILE

BARBADOS CHRIST CHURCH

Area: 57 km²



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR)

- Moderate

Score: 0.448 • Rank: 6/11



RESILIENCE (R)

- Moderate

Score: 0.590 • Rank: 6/11



MULTI-HAZARD EXPOSURE (MHE)

- High

Score: 0.525 • Rank: 3/11



VULNERABILITY (V)

- Moderate

Score: 0.392 • Rank: 6/11



COPING CAPACITY (CC)

- High

Score: 0.571 • Rank: 4/11



Population (2010 Census)

43,127



Population Density
(persons per sq km)

757



Poverty Rate

17.4%



Housing Built Prior to
1991

70.0%



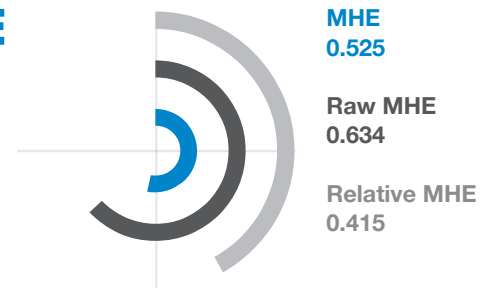
Households with
Unimproved Sanitation

4.2%



MULTI-HAZARD EXPOSURE (MHE)

RANK: 3 / 11 PARISHES ASSESSED
SCORE: 0.525



ESTIMATED EXPOSURE TO EACH HAZARD:



Coastal Flooding

2%

1,060

Buildings Exposed: **3%**

Critical Infrastructure Exposed: **18%**



Hurricane Winds

100%

55,600

Buildings Exposed: **100%**

Critical Infrastructure Exposed: **100%**



Earthquake

100%

55,600

Buildings Exposed: **100%**

Critical Infrastructure Exposed: **100%**



Landslide

0%

0

Buildings Exposed: **0%**

Critical Infrastructure Exposed: **0%**



Extreme Heat

76%

42,000

Buildings Exposed: **79%**

Critical Infrastructure Exposed: **79%**



Sea Level Rise

1%

692

Buildings Exposed: **2%**

Critical Infrastructure Exposed: **17%**



Flash Flood

9%

4,990

Buildings Exposed: **10%**

Critical Infrastructure Exposed: **17%**



Tsunami

2%

1,040

Buildings Exposed: **3%**

Critical Infrastructure Exposed: **17%**

NOTE: Population exposure values for Barbados are estimated using PDC's AIM model. Values may differ from Census population.



MULTI-HAZARD EXPOSURE (MHE)

RANK: 3 / 11 PARISHES ASSESSED
SCORE: 0.525

ESTIMATED EXPOSURE TO EACH HAZARD (CONTINUED):



Volcanic Ashfall

100%

55,600

Buildings Exposed: **100%**

Critical Infrastructure Exposed: **100%**



Wildfire

17%

9,280

Buildings Exposed: **15%**

Critical Infrastructure Exposed: **10%**



VULNERABILITY (V)

RANK: 6 / 11 PARISHES ASSESSED
SCORE: 0.392

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



Information Access Vulnerability

0  1 **SCORE: 0.272** **RANK: 9/11 PARISHES ASSESSED**

82.7%

Primary School
Attendance
Rate

55.1%

Secondary
School
Attendance
Rate

81.6%

Household
Access to
Radio

93.7%

Household
Access to
Television



Economic Constraints

0  1 **SCORE: 0.599** **RANK: 3/11 PARISHES ASSESSED**

0.49

Economic
Dependency
Ratio

17.4%

Poverty Rate

32.2%

GINI
Coefficient



Environmental Stress

0  1 **SCORE: 0.500** **RANK: 5/11 PARISHES ASSESSED**

14.5%

Coastline
Exposure to
Local or Global
Threats

16.0%

Tree Cover
Loss



Gender Inequality

0  1 **SCORE: 0.277** **RANK: 7/11 PARISHES ASSESSED**

0.10

Female to Male
Labor Ratio

0.07

Female
to Male
Secondary
School
Attendance



VULNERABILITY (V)

RANK: 6 / 11 PARISHES ASSESSED
SCORE: 0.392



Housing and Transportation Vulnerability

0  1 **SCORE: 0.412** **RANK: 7/11 PARISHES ASSESSED**

70.0%

Housing Built
Prior to 1991

15.0%

Household
Overcrowding

37.8%

Households
without a
Private Vehicle



Household Composition and Vulnerable Health

0  1 **SCORE: 0.503** **RANK: 5/11 PARISHES ASSESSED**

4.1

Prevalence of
Disability (per
100 persons)

14.3%

Population
Age 65 and
Over

22.5%

Population
Under Age 18



Population Pressures

0  1 **SCORE: 0.557** **RANK: 2/11 PARISHES ASSESSED**

1.4%

Average Annual
Population
Change

757

Population
Density
(persons per
sq km)



Clean Water Access Vulnerability

0  1 **SCORE: 0.011** **RANK: 11/11 PARISHES ASSESSED**

96.5%

Households
with Piped
Water

4.2%

Households
with
Unimproved
Sanitation



ISLAND CAPACITY (IC)

RANK: 3 / 11 PARISHES ASSESSED
SCORE: 0.569

Christ Church exhibits weaker Island Capacity in the areas of Environmental Capacity and Energy Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Islands Capacity score.



Environmental Capacity

0  1 **SCORE: 0.116** **RANK: 11/11 PARISHES ASSESSED**

15.1%
Croplands

-0.1
Net Carbon
Flux

0.9%
Protected Area

0.0%
Protected
Coastlines



Infrastructure Capacity

0  1 **SCORE: 0.764** **RANK: 1/11 PARISHES ASSESSED**



Communications Capacity

0  1 **SCORE: 0.838** **RANK: 2/11 PARISHES ASSESSED**

78.2%
Households
with Fixed
Phones

61.8%
Households
with Computer

53.0%
Households
with Internet
Access



Emergency Services and Health Care Capacity

0  1 **SCORE: 0.727** **RANK: 3/11 PARISHES ASSESSED**

3.1
Average
Distance to
Fire Station
(km)

1.9
Average
Distance to
Hospital or
Clinic (km)

2.3
Average
Distance to
Police Station
(km)

1.0
Average
Distance to
Shelter (km)

1.1
Hospitals
and Clinics
per 10,000
Persons



Energy Capacity

0  1 **SCORE: 0.726** **RANK: 5/11 PARISHES ASSESSED**

98.8%
Households
with Electric
Lighting

92.0%
Households
Using Gas for
Cooking



LOGISTICS CAPACITY (LC)

RANK: 4 / 11 PARISHES ASSESSED
SCORE: 0.574

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



Maritime Logistics

0  1 **SCORE: 0.402** **RANK: 6/11 PARISHES ASSESSED**

3.1

Average
Distance to
Seaport (km)

230.6

Distance
to External
Medium or
Large Seaport
(km)

0.05

Port Density
(ports per km
of coastline)



Air Support

0  1 **SCORE: 0.611** **RANK: 5/11 PARISHES ASSESSED**

162.9

Distance to
External C130
Airport (km)

4.4

Average
Distance to
Airport or
Heliport (km)



Transportation Capacity

0  1 **SCORE: 0.433** **RANK: 4/11 PARISHES ASSESSED**

0.13

Gas Stations
per 1,000
Persons

8.7

Road Density
(km of roads
per sq km)



Warehouse Access

0  1 **SCORE: 0.849** **RANK: 2/11 PARISHES ASSESSED**

9.2

Average
Distance to
Warehouse
(km)

0.0

Distance to
CDEMA Sub-
Regional Focal
Point (km)



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 of Barbados was calculated by using a combination of Island Capacity and Logistics Capacity.

RANK: 4 / 11 PARISHES ASSESSED
SCORE: 0.571



RESILIENCE (R)

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

RANK: 6 / 11 PARISHES ASSESSED
SCORE: 0.590

KEY FACTORS INFLUENCING RESILIENCE

Christ Church's score and ranking are due to Moderate Vulnerability combined with High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Economic Constraints

Economic constraints have individual, household, community, and region-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.



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.



Maritime Logistics

Diverse maritime transport options, within and outside the country, offer crucial support for humanitarian efforts and the transit and delivery of disaster relief supplies. Protecting and maintaining port infrastructure and equipment can help safeguard these key assets and sustain functional operations during a disaster.

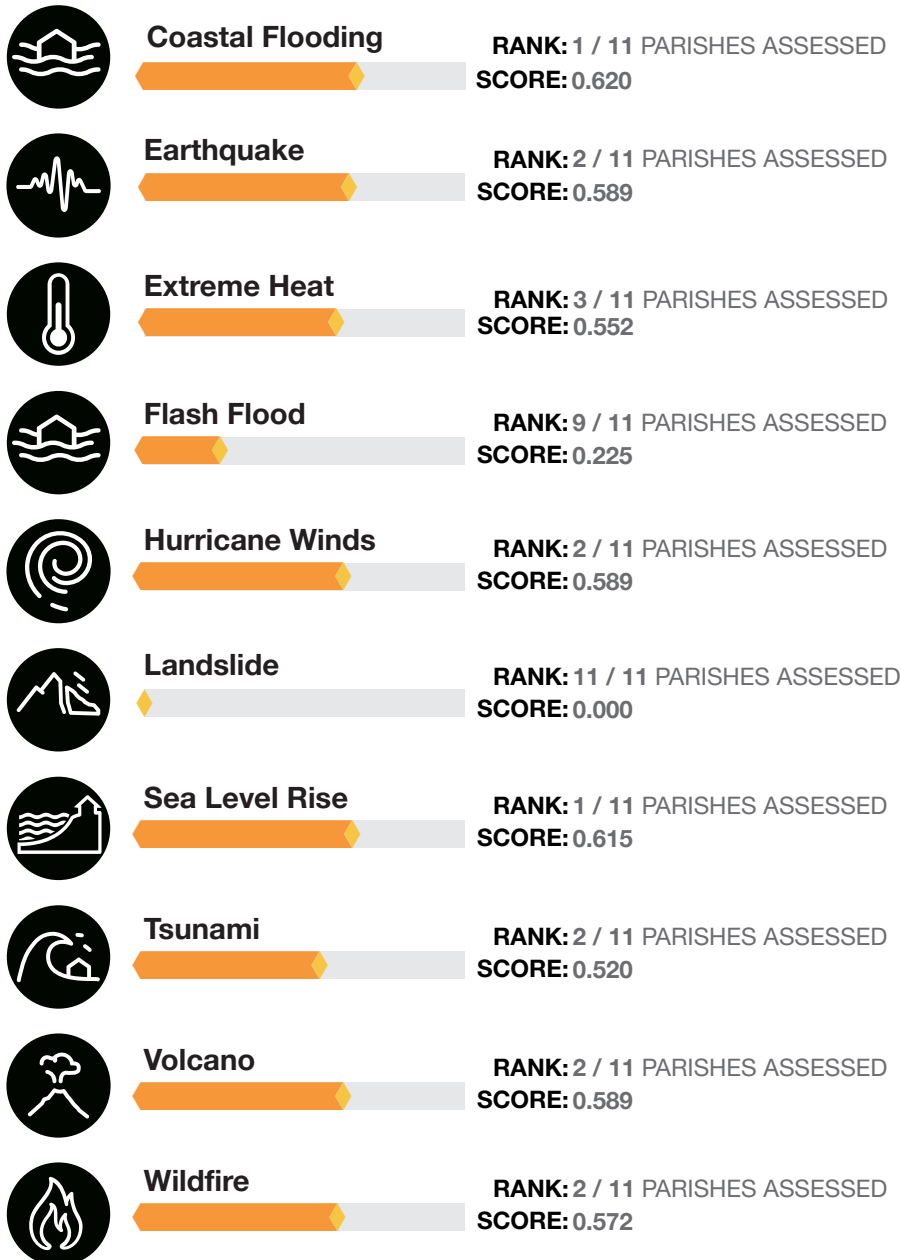


Transportation Capacity

Dense road networks and refueling locations facilitate the evacuation of populations during a disaster and increase the ability of response stakeholders to access affected populations. Improved transportation capacity supports the ability to distribute resources before, during, and after a disaster.



HAZARD-SPECIFIC RISK (HSR)





MULTI-HAZARD RISK (MHR)

6 / 11RANK AMONG PARISHES
Score: 0.448

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

Multi-Hazard Risk component scores compared to overall average country scores:

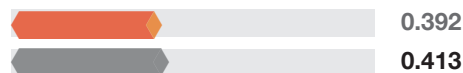
PARISH SCORE
COUNTRY SCORE



Multi-Hazard Exposure



Vulnerability



Coping Capacity



**Better solutions.
Fewer disasters.**

Safer world.

**1305 N. Holopono Street | P: (808) 891-0525
Suite 2, Kihei, HI 96753 | F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.org



ndpba.eci@pdc.org



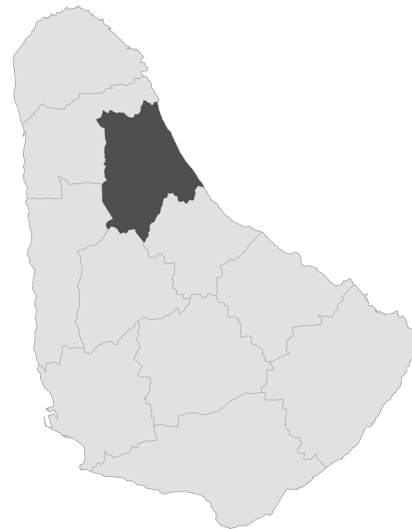
BARBADOS

SAINT ANDREW

NDPBA SUBNATIONAL PROFILE

BARBADOS SAINT ANDREW

Area: 36 km²



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR)

- High

Score: 0.507 • Rank: 4/11



RESILIENCE (R)

- Very Low

Score: 0.411 • Rank: 10/11



MULTI-HAZARD EXPOSURE (MHE)

- Low

Score: 0.345 • Rank: 8/11



VULNERABILITY (V)

- High

Score: 0.535 • Rank: 3/11



COPING CAPACITY (CC)

- Very Low

Score: 0.358 • Rank: 10/11



Population (2010 Census)

4,631



Population Density
(persons per sq km)

129



Poverty Rate

17.1%



Housing Built Prior to
1991

64.1%



Households with
Unimproved Sanitation

18.9%



MULTI-HAZARD EXPOSURE (MHE)

RANK: 8 / 11 PARISHES ASSESSED
SCORE: 0.345



MHE
0.345

Raw MHE
0.002

Relative MHE
0.688

ESTIMATED EXPOSURE TO EACH HAZARD:



Coastal Flooding

<1%

👤 12

Buildings Exposed: **<1%**

Critical Infrastructure Exposed: **0%**



Hurricane Winds

100%

👤 4,590

Buildings Exposed: **100%**

Critical Infrastructure Exposed: **100%**



Earthquake

100%

👤 4,590

Buildings Exposed: **100%**

Critical Infrastructure Exposed: **100%**



Landslide

89%

👤 4,070

Buildings Exposed: **88%**

Critical Infrastructure Exposed: **100%**



Extreme Heat

35%

👤 1,600

Buildings Exposed: **32%**

Critical Infrastructure Exposed: **81%**



Sea Level Rise

<1%

👤 2

Buildings Exposed: **<1%**

Critical Infrastructure Exposed: **0%**



Flash Flood

64%

👤 2,930

Buildings Exposed: **59%**

Critical Infrastructure Exposed: **75%**



Tsunami

0%

👤 0

Buildings Exposed: **0%**

Critical Infrastructure Exposed: **0%**

NOTE: Population exposure values for Barbados are estimated using PDC's AIM model. Values may differ from Census population.



MULTI-HAZARD EXPOSURE (MHE)

RANK: 8 / 11 PARISHES ASSESSED
SCORE: 0.345

ESTIMATED EXPOSURE TO EACH HAZARD *(CONTINUED)*:



Volcanic Ashfall

100%

4,590

Buildings Exposed: **100%**

Critical Infrastructure Exposed: **100%**



Wildfire

4%

190

Buildings Exposed: **4%**

Critical Infrastructure Exposed: **0%**



VULNERABILITY (V)

RANK: 3 / 11 PARISHES ASSESSED
SCORE: 0.535

Vulnerability in Saint Andrew is primarily driven by Clean Water Access Vulnerability and Housing and Transportation Vulnerability. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.



Information Access Vulnerability

0  1 **SCORE: 0.450** **RANK: 5/11 PARISHES ASSESSED**

81.9%

Primary School
Attendance
Rate

53.8%

Secondary
School
Attendance
Rate

81.8%

Household
Access to
Radio

91.6%

Household
Access to
Television



Economic Constraints

0  1 **SCORE: 0.346** **RANK: 7/11 PARISHES ASSESSED**

0.48

Economic
Dependency
Ratio

17.1%

Poverty Rate

30.4%

GINI
Coefficient



Environmental Stress

0  1 **SCORE: 0.342** **RANK: 8/11 PARISHES ASSESSED**

70.4%

Coastline
Exposure to
Local or Global
Threats

3.6%

Tree Cover
Loss



Gender Inequality

0  1 **SCORE: 0.555** **RANK: 3/11 PARISHES ASSESSED**

0.10

Female to Male
Labor Ratio

0.15

Female
to Male
Secondary
School
Attendance



VULNERABILITY (V)

RANK: 3 / 11 PARISHES ASSESSED
SCORE: 0.535



Housing and Transportation Vulnerability

0  1 **SCORE: 0.837** **RANK: 2/11 PARISHES ASSESSED**

64.1%

Housing Built
Prior to 1991

20.9%

Household
Overcrowding

50.5%

Households
without a
Private Vehicle



Household Composition and Vulnerable Health

0  1 **SCORE: 0.417** **RANK: 7/11 PARISHES ASSESSED**

3.1

Prevalence of
Disability (per
100 persons)

11.0%

Population
Age 65 and
Over

25.7%

Population
Under Age 18



Population Pressures

0  1 **SCORE: 0.334** **RANK: 4/11 PARISHES ASSESSED**

1.3%

Average Annual
Population
Change

129

Population
Density
(persons per
sq km)



Clean Water Access Vulnerability

0  1 **SCORE: 1.000** **RANK: 1/11 PARISHES ASSESSED**

86.3%

Households
with Piped
Water

18.9%

Households
with
Unimproved
Sanitation



ISLAND CAPACITY (IC)

RANK: 10 / 11 PARISHES ASSESSED
SCORE: 0.296

Saint Andrew exhibits weaker Island Capacity in the areas of Communications Capacity and Emergency Services and Health Care Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Islands Capacity score.



Environmental Capacity

0  1 **SCORE: 0.336** **RANK: 4/11 PARISHES ASSESSED**

1.4% Croplands	-4.2 Net Carbon Flux	2.2% Protected Area	0.0% Protected Coastlines
--------------------------	--------------------------------	-------------------------------	-------------------------------------



Infrastructure Capacity

0  1 **SCORE: 0.279** **RANK: 11/11 PARISHES ASSESSED**



Communications Capacity

0  1 **SCORE: 0.062** **RANK: 10/11 PARISHES ASSESSED**

69.5% Households with Fixed Phones	44.2% Households with Computer	33.4% Households with Internet Access
--	--	---



Emergency Services and Health Care Capacity

0  1 **SCORE: 0.165** **RANK: 11/11 PARISHES ASSESSED**

8.5 Average Distance to Fire Station (km)	6.7 Average Distance to Hospital or Clinic (km)	6.1 Average Distance to Police Station (km)	1.4 Average Distance to Shelter (km)	0.0 Hospitals and Clinics per 10,000 Persons
---	---	---	--	--



Energy Capacity

0  1 **SCORE: 0.609** **RANK: 8/11 PARISHES ASSESSED**

96.3% Households with Electric Lighting	94.9% Households Using Gas for Cooking
---	--



LOGISTICS CAPACITY (LC)

RANK: 7 / 11 PARISHES ASSESSED
SCORE: 0.42

Saint Andrew exhibits weaker Logistics Capacity in the areas of Maritime Logistics and Warehouse Access. The bar charts indicate the socioeconomic themes contributing to the overall Logistics Capacity score.



Maritime Logistics

0  1 **SCORE: 0.271** **RANK: 8/11 PARISHES ASSESSED**

8.5

Average
Distance to
Seaport (km)

215.8

Distance
to External
Medium or
Large Seaport
(km)

0.00

Port Density
(ports per km
of coastline)



Air Support

0  1 **SCORE: 0.581** **RANK: 6/11 PARISHES ASSESSED**

154.7

Distance to
External C130
Airport (km)

8.7

Average
Distance to
Airport or
Heliport (km)



Transportation Capacity

0  1 **SCORE: 0.500** **RANK: 2/11 PARISHES ASSESSED**

0.44

Gas Stations
per 1,000
Persons

3.2

Road Density
(km of roads
per sq km)



Warehouse Access

0  1 **SCORE: 0.326** **RANK: 9/11 PARISHES ASSESSED**

16.9

Average
Distance to
Warehouse
(km)

12.2

Distance to
CDEMA Sub-
Regional Focal
Point (km)



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 of Barbados was calculated by using a combination of Island Capacity and Logistics Capacity.

RANK: 10 / 11 PARISHES ASSESSED
SCORE: 0.358



RESILIENCE (R)

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

RANK: 10 / 11 PARISHES ASSESSED
SCORE: 0.411

KEY FACTORS INFLUENCING RESILIENCE

Saint Andrew's score and ranking are due to High Vulnerability combined with Very Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



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 improves health outcomes and frees up resources to decrease further susceptibility to impacts.



Housing and Transportation Vulnerability

Populations living in older housing, and prior to the enactment of modern building codes, are more susceptible to structural damage and losses as a result of hazard impacts. In addition, higher density living situations such as crowded housing increase susceptibility to negative consequences as a result of hazard exposure. Populations with limited vehicle access are more likely to experience mobility challenges during an evacuation, and have difficulty accessing needed supplies and services before, during and after a hazard event.



Maritime Logistics

Diverse maritime transport options, within and outside the country, offer crucial support for humanitarian efforts and the transit and delivery of disaster relief supplies. Protecting and maintaining port infrastructure and equipment can help safeguard these key assets and sustain functional operations during a disaster.

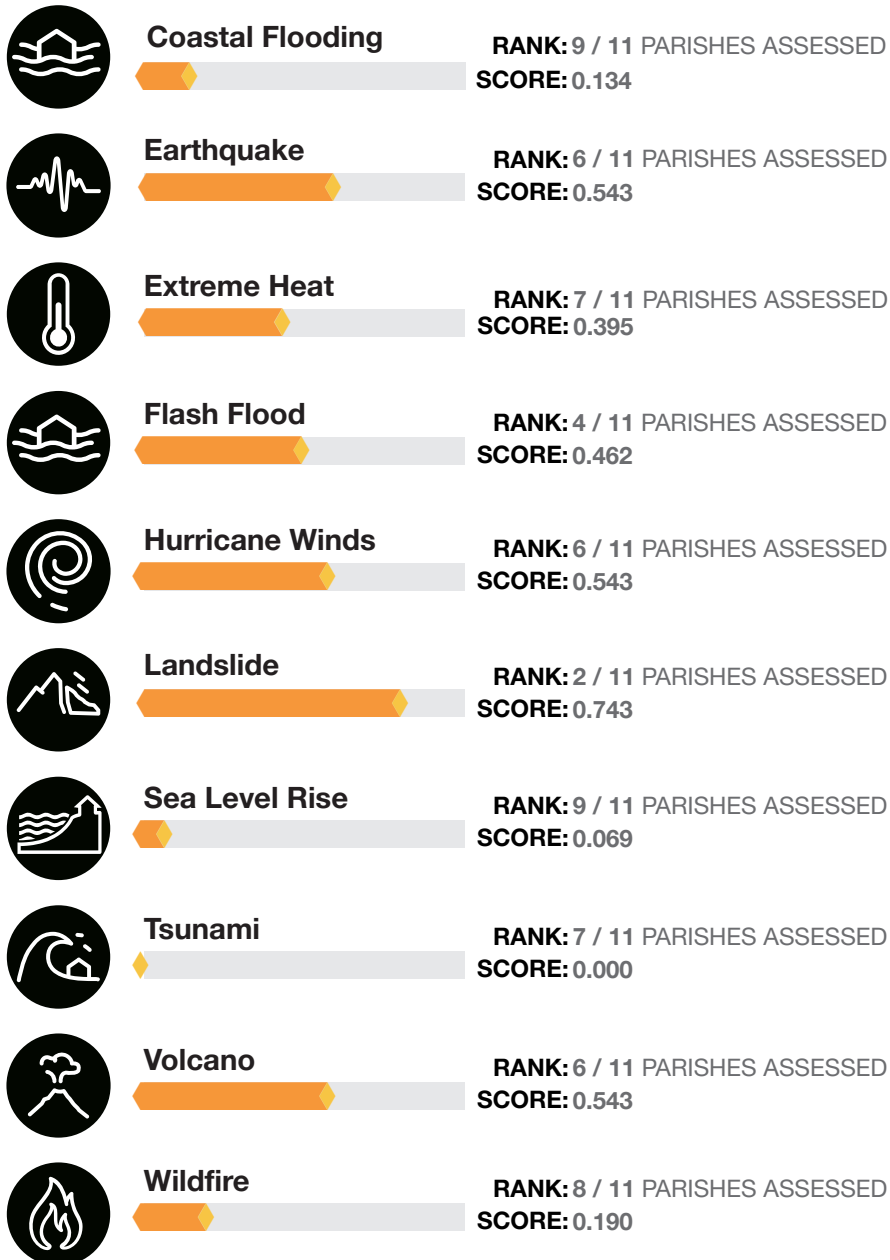


Warehouse Access

Efficient storage, movement and delivery of resources are key to effective humanitarian assistance and disaster relief operations. Access to both local and regional supply chains can significantly improve the speed and quality of response operations, reducing the negative social and economic impacts of an emergency.



HAZARD-SPECIFIC RISK (HSR)





MULTI-HAZARD RISK (MHR)

4 / 11RANK AMONG PARISHES
Score: 0.507

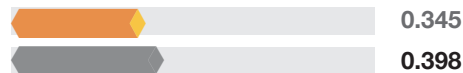
Saint Andrew's score and ranking are due to Low Multi-Hazard Exposure combined with High Vulnerability and Very Low Coping Capacity scores.

Multi-Hazard Risk component scores compared to overall average country scores:

PARISH SCORE
COUNTRY SCORE



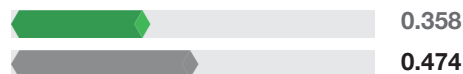
Multi-Hazard Exposure



Vulnerability



Coping Capacity



**Better solutions.
Fewer disasters.**

Safer world.

**1305 N. Holopono Street | P: (808) 891-0525
Suite 2, Kihei, HI 96753 | F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.org



ndpba.eci@pdc.org



BARBADOS

SAINT GEORGE

NDPBA SUBNATIONAL PROFILE

BARBADOS SAINT GEORGE

Area: 44 km²



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR)

- Very Low

Score: 0.271 • Rank: 11/11



RESILIENCE (R)

- High

Score: 0.612 • Rank: 3/11



MULTI-HAZARD EXPOSURE (MHE)

- Very Low

Score: 0.038 • Rank: 11/11



VULNERABILITY (V)

- Very Low

Score: 0.245 • Rank: 9/11



COPING CAPACITY (CC)

- Moderate

Score: 0.470 • Rank: 6/11



Population (2010 Census)

18,203



Population Density
(persons per sq km)

414



Poverty Rate

19.7%



Housing Built Prior to
1991

59.2%



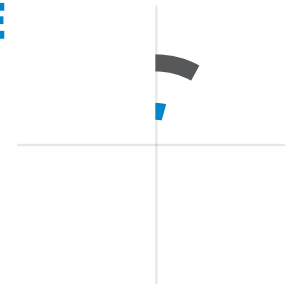
Households with
Unimproved Sanitation

8.7%



MULTI-HAZARD EXPOSURE (MHE)

RANK: 11 / 11 PARISHES ASSESSED
SCORE: 0.038



MHE
0.038

Raw MHE
0.077

Relative MHE
0.000

ESTIMATED EXPOSURE TO EACH HAZARD:



Coastal Flooding

0%

0

Buildings Exposed: **0%**

Critical Infrastructure Exposed: **0%**



Hurricane Winds

100%

21,000

Buildings Exposed: **100%**

Critical Infrastructure Exposed: **100%**



Earthquake

100%

21,000

Buildings Exposed: **100%**

Critical Infrastructure Exposed: **100%**



Landslide

12%

2,470

Buildings Exposed: **12%**

Critical Infrastructure Exposed: **0%**



Extreme Heat

<1%

3

Buildings Exposed: **<1%**

Critical Infrastructure Exposed: **0%**



Sea Level Rise

0%

0

Buildings Exposed: **0%**

Critical Infrastructure Exposed: **0%**



Flash Flood

0%

0

Buildings Exposed: **0%**

Critical Infrastructure Exposed: **0%**



Tsunami

0%

0

Buildings Exposed: **0%**

Critical Infrastructure Exposed: **0%**

NOTE: Population exposure values for Barbados are estimated using PDC's AIM model. Values may differ from Census population.



MULTI-HAZARD EXPOSURE (MHE)

RANK: 11 / 11 PARISHES ASSESSED
SCORE: 0.038

ESTIMATED EXPOSURE TO EACH HAZARD *(CONTINUED)*:



Volcanic Ashfall

100%

21,000

Buildings Exposed: **100%**

Critical Infrastructure Exposed: **100%**



Wildfire

5%

992

Buildings Exposed: **6%**

Critical Infrastructure Exposed: **0%**



VULNERABILITY (V)

RANK: 9 / 11 PARISHES ASSESSED
SCORE: 0.245

Vulnerability in Saint George is primarily driven by Housing and Transportation Vulnerability and Economic Constraints. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.



Information Access Vulnerability

0 1 **SCORE: 0.063** **RANK: 11/11 PARISHES ASSESSED**

83.7%

Primary School
Attendance
Rate

56.8%

Secondary
School
Attendance
Rate

86.0%

Household
Access to
Radio

93.5%

Household
Access to
Television



Economic Constraints

0 1 **SCORE: 0.387** **RANK: 6/11 PARISHES ASSESSED**

0.47

Economic
Dependency
Ratio

19.7%

Poverty Rate

31.1%

GINI
Coefficient



Environmental Stress

0 1 **SCORE: 0.194** **RANK: 11/11 PARISHES ASSESSED**

No Data

Coastline
Exposure to
Local or Global
Threats

6.0%

Tree Cover
Loss



Gender Inequality

0 1 **SCORE: 0.188** **RANK: 9/11 PARISHES ASSESSED**

0.10

Female to Male
Labor Ratio

0.04

Female
to Male
Secondary
School
Attendance



VULNERABILITY (V)

RANK: 9 / 11 PARISHES ASSESSED
SCORE: 0.245



Housing and Transportation Vulnerability

0  1 SCORE: 0.400 RANK: 8/11 PARISHES ASSESSED

59.2%

Housing Built
Prior to 1991

17.7%

Household
Overcrowding

38.4%

Households
without a
Private Vehicle



Household Composition and Vulnerable Health

0  1 SCORE: 0.379 RANK: 9/11 PARISHES ASSESSED

3.4

Prevalence of
Disability (per
100 persons)

11.2%

Population
Age 65 and
Over

24.7%

Population
Under Age 18



Population Pressures

0  1 SCORE: 0.086 RANK: 10/11 PARISHES ASSESSED

0.2%

Average Annual
Population
Change

414

Population
Density
(persons per
sq km)



Clean Water Access Vulnerability

0  1 SCORE: 0.267 RANK: 8/11 PARISHES ASSESSED

94.3%

Households
with Piped
Water

8.7%

Households
with
Unimproved
Sanitation



ISLAND CAPACITY (IC)

RANK: 6 / 11 PARISHES ASSESSED
SCORE: 0.522

Saint George exhibits weaker Island Capacity in the areas of Emergency Services and Health Care Capacity and Communications Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Islands Capacity score.



Environmental Capacity

0  1 **SCORE: 0.359** **RANK: 3/11 PARISHES ASSESSED**

44.9%
Croplands

-0.4
Net Carbon
Flux

0.0%
Protected Area

No Data
Protected
Coastlines



Infrastructure Capacity

0  1 **SCORE: 0.592** **RANK: 7/11 PARISHES ASSESSED**



Communications Capacity

0  1 **SCORE: 0.598** **RANK: 6/11 PARISHES ASSESSED**

75.2%
Households
with Fixed
Phones

57.0%
Households
with Computer

47.0%
Households
with Internet
Access



Emergency Services and Health Care Capacity

0  1 **SCORE: 0.452** **RANK: 7/11 PARISHES ASSESSED**

4.4
Average
Distance to
Fire Station
(km)

4.9
Average
Distance to
Hospital or
Clinic (km)

2.6
Average
Distance to
Police Station
(km)

1.4
Average
Distance to
Shelter (km)

0.0
Hospitals
and Clinics
per 10,000
Persons



Energy Capacity

0  1 **SCORE: 0.725** **RANK: 6/11 PARISHES ASSESSED**

98.5%
Households
with Electric
Lighting

92.3%
Households
Using Gas for
Cooking



LOGISTICS CAPACITY (LC)

RANK: 8 / 11 PARISHES ASSESSED
SCORE: 0.419

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



Maritime Logistics

0  1 **SCORE: 0.241** **RANK: 9/11 PARISHES ASSESSED**

7.8

Average
Distance to
Seaport (km)

226.3

Distance
to External
Medium or
Large Seaport
(km)

No Data

Port Density
(ports per km
of coastline)



Air Support

0  1 **SCORE: 0.432** **RANK: 8/11 PARISHES ASSESSED**

161.6

Distance to
External C130
Airport (km)

8.4

Average
Distance to
Airport or
Heliport (km)



Transportation Capacity

0  1 **SCORE: 0.294** **RANK: 6/11 PARISHES ASSESSED**

0.10

Gas Stations
per 1,000
Persons

6.7

Road Density
(km of roads
per sq km)



Warehouse Access

0  1 **SCORE: 0.707** **RANK: 5/11 PARISHES ASSESSED**

9.0

Average
Distance to
Warehouse
(km)

5.4

Distance to
CDEMA Sub-
Regional Focal
Point (km)



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 of Barbados was calculated by using a combination of Island Capacity and Logistics Capacity.

RANK: 6 / 11 PARISHES ASSESSED
SCORE: 0.470



RESILIENCE (R)

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

RANK: 3 / 11 PARISHES ASSESSED
SCORE: 0.612

KEY FACTORS INFLUENCING RESILIENCE

Saint George's score and ranking are due to Very Low Vulnerability combined with Moderate Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Housing and Transportation Vulnerability

Populations living in older housing, and prior to the enactment of modern building codes, are more susceptible to structural damage and losses as a result of hazard impacts. In addition, higher density living situations such as crowded housing increase susceptibility to negative consequences as a result of hazard exposure. Populations with limited vehicle access are more likely to experience mobility challenges during an evacuation, and have difficulty accessing needed supplies and services before, during and after a hazard event.



Economic Constraints

Economic constraints have individual, household, community, and region-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.



Maritime Logistics

Diverse maritime transport options, within and outside the country, offer crucial support for humanitarian efforts and the transit and delivery of disaster relief supplies. Protecting and maintaining port infrastructure and equipment can help safeguard these key assets and sustain functional operations during a disaster.



Transportation Capacity

Dense road networks and refueling locations facilitate the evacuation of populations during a disaster and increase the ability of response stakeholders to access affected populations. Improved transportation capacity supports the ability to distribute resources before, during, and after a disaster.



HAZARD-SPECIFIC RISK (HSR)



Coastal Flooding

RANK: 10 / 11 PARISHES ASSESSED
SCORE: 0.000



Earthquake

RANK: 10 / 11 PARISHES ASSESSED
SCORE: 0.472



Extreme Heat

RANK: 10 / 11 PARISHES ASSESSED
SCORE: 0.005



Flash Flood

RANK: 11 / 11 PARISHES ASSESSED
SCORE: 0.000



Hurricane Winds

RANK: 10 / 11 PARISHES ASSESSED
SCORE: 0.472



Landslide

RANK: 8 / 11 PARISHES ASSESSED
SCORE: 0.278



Sea Level Rise

RANK: 10 / 11 PARISHES ASSESSED
SCORE: 0.000



Tsunami

RANK: 7 / 11 PARISHES ASSESSED
SCORE: 0.000



Volcano

RANK: 10 / 11 PARISHES ASSESSED
SCORE: 0.472



Wildfire

RANK: 7 / 11 PARISHES ASSESSED
SCORE: 0.210



MULTI-HAZARD RISK (MHR)

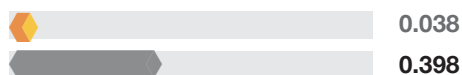
11 / 11RANK AMONG PARISHES
Score: 0.271

Saint George's score and ranking are due to Very Low Multi-Hazard Exposure combined with Very Low Vulnerability and Moderate Coping Capacity scores.

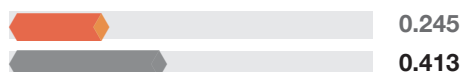
Multi-Hazard Risk component scores compared to overall average country scores:

 **PARISH SCORE**
COUNTRY SCORE

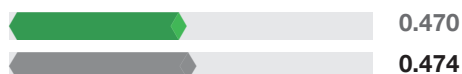
Multi-Hazard Exposure



Vulnerability



Coping Capacity



**Better solutions.
Fewer disasters.**

Safer world.

**1305 N. Holopono Street | P: (808) 891-0525
Suite 2, Kihei, HI 96753 | F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.org



ndpba.eci@pdc.org



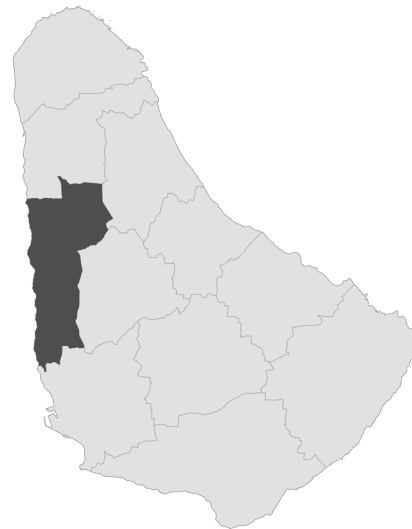
BARBADOS

SAINT JAMES

NDPBA SUBNATIONAL PROFILE

BARBADOS SAINT JAMES

Area: 31 km²



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR)

- Very Low

Score: 0.345 • Rank: 9/11



RESILIENCE (R)

- Very High

Score: 0.663 • Rank: 1/11



MULTI-HAZARD EXPOSURE (MHE)

- Moderate

Score: 0.361 • Rank: 6/11



VULNERABILITY (V)

- Low

Score: 0.277 • Rank: 8/11



COPING CAPACITY (CC)

- Very High

Score: 0.602 • Rank: 2/11



Population (2010 Census)

21,258



Population Density
(persons per sq km)

686



Poverty Rate

13.5%



Housing Built Prior to
1991

65.7%



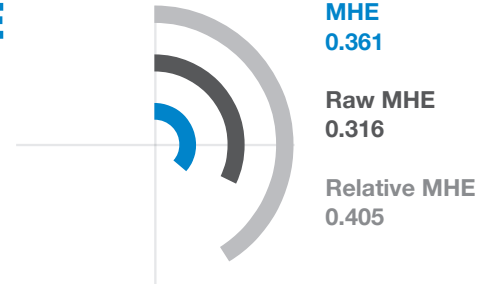
Households with
Unimproved Sanitation

3.9%



MULTI-HAZARD EXPOSURE (MHE)

RANK: 6 / 11 PARISHES ASSESSED
SCORE: 0.361



ESTIMATED EXPOSURE TO EACH HAZARD:



Coastal Flooding

1%

503

Buildings Exposed: **3%**

Critical Infrastructure Exposed: **10%**



Hurricane Winds

100%

34,300

Buildings Exposed: **100%**

Critical Infrastructure Exposed: **100%**



Earthquake

100%

34,300

Buildings Exposed: **100%**

Critical Infrastructure Exposed: **100%**



Landslide

12%

4,140

Buildings Exposed: **11%**

Critical Infrastructure Exposed: **28%**



Extreme Heat

43%

14,800

Buildings Exposed: **44%**

Critical Infrastructure Exposed: **20%**



Sea Level Rise

1%

325

Buildings Exposed: **2%**

Critical Infrastructure Exposed: **9%**



Flash Flood

37%

12,600

Buildings Exposed: **42%**

Critical Infrastructure Exposed: **59%**



Tsunami

3%

923

Buildings Exposed: **4%**

Critical Infrastructure Exposed: **34%**

NOTE: Population exposure values for Barbados are estimated using PDC's AIM model. Values may differ from Census population.



MULTI-HAZARD EXPOSURE (MHE)

RANK: 6 / 11 PARISHES ASSESSED
SCORE: 0.361

ESTIMATED EXPOSURE TO EACH HAZARD *(CONTINUED)*:



Volcanic Ashfall

100%

34,300

Buildings Exposed: **100%**

Critical Infrastructure Exposed: **100%**



Wildfire

1%

504

Buildings Exposed: **1%**

Critical Infrastructure Exposed: **2%**



VULNERABILITY (V)

RANK: 8 / 11 PARISHES ASSESSED
SCORE: 0.277

Vulnerability in Saint James is primarily driven by Environmental Stress and Household Composition and Vulnerable Health. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.



Information Access Vulnerability

0  1 **SCORE: 0.338** **RANK: 7/11 PARISHES ASSESSED**

78.7%

Primary School
Attendance
Rate

55.7%

Secondary
School
Attendance
Rate

81.8%

Household
Access to
Radio

93.3%

Household
Access to
Television



Economic Constraints

0  1 **SCORE: 0.209** **RANK: 10/11 PARISHES ASSESSED**

0.47

Economic
Dependency
Ratio

13.5%

Poverty Rate

31.1%

GINI
Coefficient



Environmental Stress

0  1 **SCORE: 0.483** **RANK: 6/11 PARISHES ASSESSED**

44.6%

Coastline
Exposure to
Local or Global
Threats

11.0%

Tree Cover
Loss



Gender Inequality

0  1 **SCORE: 0.278** **RANK: 6/11 PARISHES ASSESSED**

0.09

Female to Male
Labor Ratio

0.09

Female
to Male
Secondary
School
Attendance



VULNERABILITY (V)

RANK: 8 / 11 PARISHES ASSESSED

SCORE: 0.277



Housing and Transportation Vulnerability

0  1 SCORE: 0.218 RANK: 10/11 PARISHES ASSESSED

65.7%

Housing Built
Prior to 1991

13.8%

Household
Overcrowding

33.5%

Households
without a
Private Vehicle



Household Composition and Vulnerable Health

0  1 SCORE: 0.352 RANK: 10/11 PARISHES ASSESSED

3.6

Prevalence of
Disability (per
100 persons)

13.0%

Population
Age 65 and
Over

22.7%

Population
Under Age 18



Population Pressures

0  1 SCORE: 0.324 RANK: 5/11 PARISHES ASSESSED

0.7%

Average Annual
Population
Change

686

Population
Density
(persons per
sq km)



Clean Water Access Vulnerability

0  1 SCORE: 0.013 RANK: 10/11 PARISHES ASSESSED

96.2%

Households
with Piped
Water

3.9%

Households
with
Unimproved
Sanitation



ISLAND CAPACITY (IC)

RANK: 1 / 11 PARISHES ASSESSED
SCORE: 0.626

Saint James exhibits weaker Island Capacity in the areas of Energy Capacity and Emergency Services and Health Care Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Islands Capacity score.



Environmental Capacity

0  1 **SCORE: 0.541** **RANK: 1/11 PARISHES ASSESSED**

0.6% Croplands	-0.7 Net Carbon Flux	6.7% Protected Area	46.2% Protected Coastlines
--------------------------	--------------------------------	-------------------------------	--------------------------------------



Infrastructure Capacity

0  1 **SCORE: 0.663** **RANK: 4/11 PARISHES ASSESSED**



Communications Capacity

0  1 **SCORE: 1.000** **RANK: 1/11 PARISHES ASSESSED**

79.1% Households with Fixed Phones	65.7% Households with Computer	58.8% Households with Internet Access
--	--	---



Emergency Services and Health Care Capacity

0  1 **SCORE: 0.593** **RANK: 5/11 PARISHES ASSESSED**

3.5 Average Distance to Fire Station (km)	2.3 Average Distance to Hospital or Clinic (km)	3.1 Average Distance to Police Station (km)	1.4 Average Distance to Shelter (km)	1.2 Hospitals and Clinics per 10,000 Persons
---	---	---	--	--



Energy Capacity

0  1 **SCORE: 0.395** **RANK: 10/11 PARISHES ASSESSED**

98.0% Households with Electric Lighting	89.3% Households Using Gas for Cooking
---	--



LOGISTICS CAPACITY (LC)

RANK: 3 / 11 PARISHES ASSESSED
SCORE: 0.578

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



Maritime Logistics

0  1 **SCORE: 0.407** **RANK: 5/11 PARISHES ASSESSED**

5.8

Average
Distance to
Seaport (km)

216.2

Distance
to External
Medium or
Large Seaport
(km)

0.00

Port Density
(ports per km
of coastline)



Air Support

0  1 **SCORE: 0.729** **RANK: 4/11 PARISHES ASSESSED**

152.4

Distance to
External C130
Airport (km)

6.8

Average
Distance to
Airport or
Heliport (km)



Transportation Capacity

0  1 **SCORE: 0.408** **RANK: 5/11 PARISHES ASSESSED**

0.12

Gas Stations
per 1,000
Persons

8.4

Road Density
(km of roads
per sq km)



Warehouse Access

0  1 **SCORE: 0.767** **RANK: 3/11 PARISHES ASSESSED**

9.3

Average
Distance to
Warehouse
(km)

3.0

Distance to
CDEMA Sub-
Regional Focal
Point (km)



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 of Barbados was calculated by using a combination of Island Capacity and Logistics Capacity.

RANK: 2 / 11 PARISHES ASSESSED
SCORE: 0.602



RESILIENCE (R)

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

RANK: 1 / 11 PARISHES ASSESSED
SCORE: 0.663

KEY FACTORS INFLUENCING RESILIENCE

Saint James's score and ranking are due to Low Vulnerability combined with Very High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Environmental Stress

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



Household Composition and Vulnerable Health

Households with dependent populations, such as the very young, elderly and the disabled may have more difficulty with mobilizing and evacuating in a timely fashion and therefore become even more susceptible to harm during times of disaster. Further, the deaf or hard of hearing may not hear audible hazard alerts. Once evacuated, these populations will require additional services and care considerations in the response aftermath and during recovery. Plans and strategies must consider the special accommodations for these populations during response and recovery, including evacuation and sheltering.



Maritime Logistics

Diverse maritime transport options, within and outside the country, offer crucial support for humanitarian efforts and the transit and delivery of disaster relief supplies. Protecting and maintaining port infrastructure and equipment can help safeguard these key assets and sustain functional operations during a disaster.



Transportation Capacity

Dense road networks and refueling locations facilitate the evacuation of populations during a disaster and increase the ability of response stakeholders to access affected populations. Improved transportation capacity supports the ability to distribute resources before, during, and after a disaster.



HAZARD-SPECIFIC RISK (HSR)



Coastal Flooding

RANK: 4 / 11 PARISHES ASSESSED

SCORE: 0.459



Earthquake

RANK: 9 / 11 PARISHES ASSESSED

SCORE: 0.477



Extreme Heat

RANK: 9 / 11 PARISHES ASSESSED

SCORE: 0.302



Flash Flood

RANK: 5 / 11 PARISHES ASSESSED

SCORE: 0.346



Hurricane Winds

RANK: 9 / 11 PARISHES ASSESSED

SCORE: 0.477



Landslide

RANK: 5 / 11 PARISHES ASSESSED

SCORE: 0.384



Sea Level Rise

RANK: 5 / 11 PARISHES ASSESSED

SCORE: 0.449



Tsunami

RANK: 3 / 11 PARISHES ASSESSED

SCORE: 0.506



Volcano

RANK: 9 / 11 PARISHES ASSESSED

SCORE: 0.477



Wildfire

RANK: 10 / 11 PARISHES ASSESSED

SCORE: 0.142



MULTI-HAZARD RISK (MHR)

9 / 11RANK AMONG PARISHES
Score: 0.345

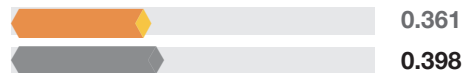
Saint James's score and ranking are due to Moderate Multi-Hazard Exposure combined with Low Vulnerability and Very High Coping Capacity scores.

Multi-Hazard Risk component scores compared to overall average country scores:

PARISH SCORE
COUNTRY SCORE



Multi-Hazard Exposure



Vulnerability



Coping Capacity



**Better solutions.
Fewer disasters.**

Safer world.

**1305 N. Holopono Street | P: (808) 891-0525
Suite 2, Kihei, HI 96753 | F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.org



ndpba.eci@pdc.org



BARBADOS

SAINT JOHN

NDPBA SUBNATIONAL PROFILE

BARBADOS SAINT JOHN

Area: 34 km²



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR)

- Moderate

Score: 0.504 • Rank: 5/11



RESILIENCE (R)

- Low

Score: 0.419 • Rank: 8/11



MULTI-HAZARD EXPOSURE (MHE)

- Low

Score: 0.350 • Rank: 7/11



VULNERABILITY (V)

- High

Score: 0.530 • Rank: 4/11



COPING CAPACITY (CC)

- Low

Score: 0.367 • Rank: 8/11



Population (2010 Census)

8,617



Population Density
(persons per sq km)

253



Poverty Rate

23.9%



Housing Built Prior to
1991

61.5%



Households with
Unimproved Sanitation

13.2%



MULTI-HAZARD EXPOSURE (MHE)

RANK: 7 / 11 PARISHES ASSESSED
SCORE: 0.350



MHE
0.350

Raw MHE
0.052

Relative MHE
0.647

ESTIMATED EXPOSURE TO EACH HAZARD:



Coastal Flooding

1%

80

Buildings Exposed: **1%**

Critical Infrastructure Exposed: **14%**



Hurricane Winds

100%

8,710

Buildings Exposed: **100%**

Critical Infrastructure Exposed: **100%**



Earthquake

100%

8,710

Buildings Exposed: **100%**

Critical Infrastructure Exposed: **100%**



Landslide

41%

3,560

Buildings Exposed: **47%**

Critical Infrastructure Exposed: **67%**



Extreme Heat

65%

5,690

Buildings Exposed: **68%**

Critical Infrastructure Exposed: **65%**



Sea Level Rise

1%

67

Buildings Exposed: **1%**

Critical Infrastructure Exposed: **14%**



Flash Flood

30%

2,640

Buildings Exposed: **36%**

Critical Infrastructure Exposed: **36%**



Tsunami

0%

0

Buildings Exposed: **0%**

Critical Infrastructure Exposed: **0%**

NOTE: Population exposure values for Barbados are estimated using PDC's AIM model. Values may differ from Census population.



MULTI-HAZARD EXPOSURE (MHE)

RANK: 7 / 11 PARISHES ASSESSED
SCORE: 0.350

ESTIMATED EXPOSURE TO EACH HAZARD (CONTINUED):



Volcanic Ashfall

100%

8,710

Buildings Exposed: **100%**

Critical Infrastructure Exposed: **100%**



Wildfire

24%

2,090

Buildings Exposed: **23%**

Critical Infrastructure Exposed: **20%**



VULNERABILITY (V)

RANK: 4 / 11 PARISHES ASSESSED
SCORE: 0.530

Vulnerability in Saint John is primarily driven by Housing and Transportation Vulnerability and Clean Water Access Vulnerability. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.



Information Access Vulnerability



SCORE: 0.528

RANK: 4/11 PARISHES ASSESSED

81.8%

Primary School
Attendance
Rate

52.3%

Secondary
School
Attendance
Rate

80.7%

Household
Access to
Radio

92.2%

Household
Access to
Television



Economic Constraints



SCORE: 0.645

RANK: 1/11 PARISHES ASSESSED

0.48

Economic
Dependency
Ratio

23.9%

Poverty Rate

31.8%

GINI
Coefficient



Environmental Stress



SCORE: 0.629

RANK: 1/11 PARISHES ASSESSED

96.1%

Coastline
Exposure to
Local or Global
Threats

6.8%

Tree Cover
Loss



Gender Inequality



SCORE: 0.510

RANK: 5/11 PARISHES ASSESSED

0.16

Female to Male
Labor Ratio

0.01

Female
to Male
Secondary
School
Attendance



VULNERABILITY (V)

RANK: 4 / 11 PARISHES ASSESSED
SCORE: 0.530



Housing and Transportation Vulnerability

0  1 **SCORE: 0.669** **RANK: 4/11 PARISHES ASSESSED**

61.5%

Housing Built
Prior to 1991

19.6%

Household
Overcrowding

46.7%

Households
without a
Private Vehicle



Household Composition and Vulnerable Health

0  1 **SCORE: 0.536** **RANK: 4/11 PARISHES ASSESSED**

4.4

Prevalence of
Disability (per
100 persons)

12.7%

Population
Age 65 and
Over

23.7%

Population
Under Age 18



Population Pressures

0  1 **SCORE: 0.071** **RANK: 11/11 PARISHES ASSESSED**

0.3%

Average Annual
Population
Change

253

Population
Density
(persons per
sq km)



Clean Water Access Vulnerability

0  1 **SCORE: 0.652** **RANK: 2/11 PARISHES ASSESSED**

89.6%

Households
with Piped
Water

13.2%

Households
with
Unimproved
Sanitation



ISLAND CAPACITY (IC)

RANK: 8 / 11 PARISHES ASSESSED
SCORE: 0.395

Saint John exhibits weaker Island Capacity in the areas of Communications Capacity and Emergency Services and Health Care Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Islands Capacity score.



Environmental Capacity

0  1 **SCORE: 0.220** **RANK: 6/11 PARISHES ASSESSED**

30.3%
Croplands

-0.9
Net Carbon
Flux

0.0%
Protected Area

0.0%
Protected
Coastlines



Infrastructure Capacity

0  1 **SCORE: 0.471** **RANK: 8/11 PARISHES ASSESSED**



Communications Capacity

0  1 **SCORE: 0.211** **RANK: 9/11 PARISHES ASSESSED**

71.6%
Households
with Fixed
Phones

46.0%
Households
with Computer

37.9%
Households
with Internet
Access



Emergency Services and Health Care Capacity

0  1 **SCORE: 0.364** **RANK: 9/11 PARISHES ASSESSED**

3.2
Average
Distance to
Fire Station
(km)

7.1
Average
Distance to
Hospital or
Clinic (km)

3.5
Average
Distance to
Police Station
(km)

1.4
Average
Distance to
Shelter (km)

0.0
Hospitals
and Clinics
per 10,000
Persons



Energy Capacity

0  1 **SCORE: 0.837** **RANK: 2/11 PARISHES ASSESSED**

97.6%
Households
with Electric
Lighting

95.3%
Households
Using Gas for
Cooking



LOGISTICS CAPACITY (LC)

RANK: 10 / 11 PARISHES ASSESSED
SCORE: 0.339

Saint John exhibits weaker Logistics Capacity in the areas of Air Support and Transportation Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Logistics Capacity score.



Maritime Logistics

0  1 **SCORE: 0.454** **RANK: 4/11 PARISHES ASSESSED**

4.2

Average
Distance to
Seaport (km)

227.6

Distance
to External
Medium or
Large Seaport
(km)

0.12

Port Density
(ports per km
of coastline)



Air Support

0  1 **SCORE: 0.181** **RANK: 11/11 PARISHES ASSESSED**

165.1

Distance to
External C130
Airport (km)

11.8

Average
Distance to
Airport or
Heliport (km)



Transportation Capacity

0  1 **SCORE: 0.225** **RANK: 9/11 PARISHES ASSESSED**

0.11

Gas Stations
per 1,000
Persons

5.0

Road Density
(km of roads
per sq km)



Warehouse Access

0  1 **SCORE: 0.496** **RANK: 7/11 PARISHES ASSESSED**

15.8

Average
Distance to
Warehouse
(km)

7.1

Distance to
CDEMA Sub-
Regional Focal
Point (km)



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 of Barbados was calculated by using a combination of Island Capacity and Logistics Capacity.

RANK: 8 / 11 PARISHES ASSESSED
SCORE: 0.367



RESILIENCE (R)

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

RANK: 8 / 11 PARISHES ASSESSED
SCORE: 0.419

KEY FACTORS INFLUENCING RESILIENCE

Saint John's score and ranking are due to High Vulnerability combined with Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Housing and Transportation Vulnerability

Populations living in older housing, and prior to the enactment of modern building codes, are more susceptible to structural damage and losses as a result of hazard impacts. In addition, higher density living situations such as crowded housing increase susceptibility to negative consequences as a result of hazard exposure. Populations with limited vehicle access are more likely to experience mobility challenges during an evacuation, and have difficulty accessing needed supplies and services before, during and after a hazard event.



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 improves health outcomes and frees up resources to decrease further susceptibility to impacts.



Air Support

Air transport is a key component of timely response operations, supporting search and rescue, damage assessment efforts, and the delivery of relief supplies. Increasing air support capacity to accommodate C130 aircraft strengthens the ability to quickly deliver and disseminate emergency relief supplies to where they are most needed.



Transportation Capacity

Dense road networks and refueling locations facilitate the evacuation of populations during a disaster and increase the ability of response stakeholders to access affected populations. Improved transportation capacity supports the ability to distribute resources before, during, and after a disaster.



HAZARD-SPECIFIC RISK (HSR)



Coastal Flooding

RANK: 7 / 11 PARISHES ASSESSED

SCORE: 0.375



Earthquake

RANK: 5 / 11 PARISHES ASSESSED

SCORE: 0.554



Extreme Heat

RANK: 5 / 11 PARISHES ASSESSED

SCORE: 0.470



Flash Flood

RANK: 7 / 11 PARISHES ASSESSED

SCORE: 0.336



Hurricane Winds

RANK: 5 / 11 PARISHES ASSESSED

SCORE: 0.554



Landslide

RANK: 3 / 11 PARISHES ASSESSED

SCORE: 0.640



Sea Level Rise

RANK: 7 / 11 PARISHES ASSESSED

SCORE: 0.398



Tsunami

RANK: 7 / 11 PARISHES ASSESSED

SCORE: 0.000



Volcano

RANK: 5 / 11 PARISHES ASSESSED

SCORE: 0.554



Wildfire

RANK: 1 / 11 PARISHES ASSESSED

SCORE: 0.593



MULTI-HAZARD RISK (MHR)

5 / 11RANK AMONG PARISHES
Score: 0.504

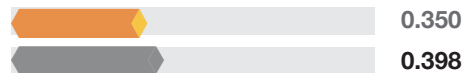
Saint John's score and ranking are due to Low Multi-Hazard Exposure combined with High Vulnerability and Low Coping Capacity scores.

Multi-Hazard Risk component scores compared to overall average country scores:

PARISH SCORE
COUNTRY SCORE



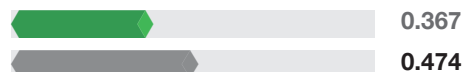
Multi-Hazard Exposure



Vulnerability



Coping Capacity



**Better solutions.
Fewer disasters.**

Safer world.

**1305 N. Holopono Street | P: (808) 891-0525
Suite 2, Kihei, HI 96753 | F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.org



ndpba.eci@pdc.org



BARBADOS

SAINT JOSEPH

NDPBA SUBNATIONAL PROFILE

BARBADOS SAINT JOSEPH

Area: 26 km²



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR)

- High

Score: 0.517 • Rank: 3/11



RESILIENCE (R)

- Very Low

Score: 0.338 • Rank: 11/11



MULTI-HAZARD EXPOSURE (MHE)

- Very Low

Score: 0.229 • Rank: 9/11



VULNERABILITY (V)

- Very High

Score: 0.594 • Rank: 2/11



COPING CAPACITY (CC)

- Very Low

Score: 0.270 • Rank: 11/11



Population (2010 Census)

5,939



Population Density
(persons per sq km)

228



Poverty Rate

20.3%



Housing Built Prior to
1991

65.0%



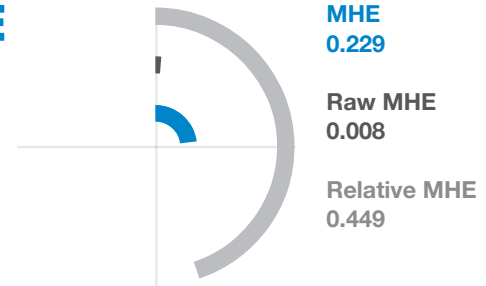
Households with
Unimproved Sanitation

13.4%



MULTI-HAZARD EXPOSURE (MHE)

RANK: 9 / 11 PARISHES ASSESSED
SCORE: 0.229



ESTIMATED EXPOSURE TO EACH HAZARD:



Coastal Flooding

2%

122

Buildings Exposed: **1%**

Critical Infrastructure Exposed: **7%**



Hurricane Winds

100%

6,330

Buildings Exposed: **100%**

Critical Infrastructure Exposed: **100%**



Earthquake

100%

6,330

Buildings Exposed: **100%**

Critical Infrastructure Exposed: **100%**



Landslide

80%

5,070

Buildings Exposed: **77%**

Critical Infrastructure Exposed: **80%**



Extreme Heat

0%

0

Buildings Exposed: **0%**

Critical Infrastructure Exposed: **0%**



Sea Level Rise

1%

91

Buildings Exposed: **1%**

Critical Infrastructure Exposed: **7%**



Flash Flood

27%

1,740

Buildings Exposed: **25%**

Critical Infrastructure Exposed: **44%**



Tsunami

0%

0

Buildings Exposed: **0%**

Critical Infrastructure Exposed: **0%**

NOTE: Population exposure values for Barbados are estimated using PDC's AIM model. Values may differ from Census population.



MULTI-HAZARD EXPOSURE (MHE)

RANK: 9 / 11 PARISHES ASSESSED
SCORE: 0.229

ESTIMATED EXPOSURE TO EACH HAZARD (CONTINUED):



Volcanic Ashfall

100%

6,330

Buildings Exposed: **100%**

Critical Infrastructure Exposed: **100%**



Wildfire

<1%

20

Buildings Exposed: **<1%**

Critical Infrastructure Exposed: **0%**



VULNERABILITY (V)

RANK: 2 / 11 PARISHES ASSESSED
SCORE: 0.594

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



Information Access Vulnerability

0  1 **SCORE: 0.645** **RANK: 3/11 PARISHES ASSESSED**

81.1%

Primary School
Attendance
Rate

53.4%

Secondary
School
Attendance
Rate

77.3%

Household
Access to
Radio

90.6%

Household
Access to
Television



Economic Constraints

0  1 **SCORE: 0.559** **RANK: 4/11 PARISHES ASSESSED**

0.50

Economic
Dependency
Ratio

20.3%

Poverty Rate

29.8%

GINI
Coefficient



Environmental Stress

0  1 **SCORE: 0.594** **RANK: 2/11 PARISHES ASSESSED**

62.8%

Coastline
Exposure to
Local or Global
Threats

11.0%

Tree Cover
Loss



Gender Inequality

0  1 **SCORE: 0.656** **RANK: 2/11 PARISHES ASSESSED**

0.16

Female to Male
Labor Ratio

0.07

Female
to Male
Secondary
School
Attendance



VULNERABILITY (V)

RANK: 2 / 11 PARISHES ASSESSED
SCORE: 0.594



Housing and Transportation Vulnerability

0  1 **SCORE: 0.756** **RANK: 3/11 PARISHES ASSESSED**

65.0%

Housing Built
Prior to 1991

20.0%

Household
Overcrowding

47.7%

Households
without a
Private Vehicle



Household Composition and Vulnerable Health

0  1 **SCORE: 0.617** **RANK: 2/11 PARISHES ASSESSED**

4.1

Prevalence of
Disability (per
100 persons)

12.2%

Population
Age 65 and
Over

25.2%

Population
Under Age 18



Population Pressures

0  1 **SCORE: 0.393** **RANK: 3/11 PARISHES ASSESSED**

1.4%

Average Annual
Population
Change

228

Population
Density
(persons per
sq km)



Clean Water Access Vulnerability

0  1 **SCORE: 0.529** **RANK: 3/11 PARISHES ASSESSED**

92.2%

Households
with Piped
Water

13.4%

Households
with
Unimproved
Sanitation



ISLAND CAPACITY (IC)

RANK: 9 / 11 PARISHES ASSESSED
SCORE: 0.325

Saint Joseph exhibits weaker Island Capacity in the areas of Communications Capacity and Emergency Services and Health Care Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Islands Capacity score.



Environmental Capacity

0  1 **SCORE: 0.220** **RANK: 6/11 PARISHES ASSESSED**

14.6%
Croplands

-1.2
Net Carbon
Flux

1.9%
Protected Area

0.0%
Protected
Coastlines



Infrastructure Capacity

0  1 **SCORE: 0.369** **RANK: 9/11 PARISHES ASSESSED**



Communications Capacity

0  1 **SCORE: 0.025** **RANK: 11/11 PARISHES ASSESSED**

68.3%
Households
with Fixed
Phones

42.4%
Households
with Computer

35.4%
Households
with Internet
Access



Emergency Services and Health Care Capacity

0  1 **SCORE: 0.349** **RANK: 10/11 PARISHES ASSESSED**

4.7
Average
Distance to
Fire Station
(km)

7.1
Average
Distance to
Hospital or
Clinic (km)

2.1
Average
Distance to
Police Station
(km)

1.6
Average
Distance to
Shelter (km)

0.0
Hospitals
and Clinics
per 10,000
Persons



Energy Capacity

0  1 **SCORE: 0.734** **RANK: 4/11 PARISHES ASSESSED**

97.2%
Households
with Electric
Lighting

94.8%
Households
Using Gas for
Cooking



LOGISTICS CAPACITY (LC)

RANK: 11 / 11 PARISHES ASSESSED
SCORE: 0.215

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



Maritime Logistics

0  1 **SCORE: 0.154** **RANK: 11/11 PARISHES ASSESSED**

9.0

Average
Distance to
Seaport (km)

222.2

Distance
to External
Medium or
Large Seaport
(km)

0.00

Port Density
(ports per km
of coastline)



Air Support

0  1 **SCORE: 0.234** **RANK: 10/11 PARISHES ASSESSED**

160.1

Distance to
External C130
Airport (km)

13.0

Average
Distance to
Airport or
Heliport (km)



Transportation Capacity

0  1 **SCORE: 0.044** **RANK: 11/11 PARISHES ASSESSED**

0.00

Gas Stations
per 1,000
Persons

4.1

Road Density
(km of roads
per sq km)



Warehouse Access

0  1 **SCORE: 0.430** **RANK: 8/11 PARISHES ASSESSED**

14.2

Average
Distance to
Warehouse
(km)

10.8

Distance to
CDEMA Sub-
Regional Focal
Point (km)



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 of Barbados was calculated by using a combination of Island Capacity and Logistics Capacity.

RANK: 11 / 11 PARISHES ASSESSED
SCORE: 0.270



RESILIENCE (R)

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

RANK: 11 / 11 PARISHES ASSESSED
SCORE: 0.338

KEY FACTORS INFLUENCING RESILIENCE

Saint Joseph's score and ranking are due to Very High Vulnerability combined with Very Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Housing and Transportation Vulnerability

Populations living in older housing, and prior to the enactment of modern building codes, are more susceptible to structural damage and losses as a result of hazard impacts. In addition, higher density living situations such as crowded housing increase susceptibility to negative consequences as a result of hazard exposure. Populations with limited vehicle access are more likely to experience mobility challenges during an evacuation, and have difficulty accessing needed supplies and services before, during and after a hazard event.



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 subnational and local levels. Courses of action must recognize the role of women in society and support changes to policies and programs to promote gender-equal access.



Transportation Capacity

Dense road networks and refueling locations facilitate the evacuation of populations during a disaster and increase the ability of response stakeholders to access affected populations. Improved transportation capacity supports the ability to distribute resources before, during, and after a disaster.



Maritime Logistics

Diverse maritime transport options, within and outside the country, offer crucial support for humanitarian efforts and the transit and delivery of disaster relief supplies. Protecting and maintaining port infrastructure and equipment can help safeguard these key assets and sustain functional operations during a disaster.



HAZARD-SPECIFIC RISK (HSR)



Coastal Flooding

RANK: 5 / 11 PARISHES ASSESSED

SCORE: 0.443



Earthquake

RANK: 3 / 11 PARISHES ASSESSED

SCORE: 0.581



Extreme Heat

RANK: 11 / 11 PARISHES ASSESSED

SCORE: 0.000



Flash Flood

RANK: 6 / 11 PARISHES ASSESSED

SCORE: 0.345



Hurricane Winds

RANK: 3 / 11 PARISHES ASSESSED

SCORE: 0.581



Landslide

RANK: 1 / 11 PARISHES ASSESSED

SCORE: 0.783



Sea Level Rise

RANK: 4 / 11 PARISHES ASSESSED

SCORE: 0.455



Tsunami

RANK: 7 / 11 PARISHES ASSESSED

SCORE: 0.000



Volcano

RANK: 3 / 11 PARISHES ASSESSED

SCORE: 0.581



Wildfire

RANK: 11 / 11 PARISHES ASSESSED

SCORE: 0.000



MULTI-HAZARD RISK (MHR)

3 / 11RANK AMONG PARISHES
Score: 0.517

Saint Joseph's score and ranking are due to Very Low Multi-Hazard Exposure combined with Very High Vulnerability and Very Low Coping Capacity scores.

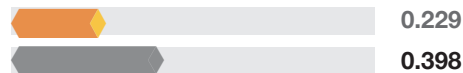
Multi-Hazard Risk component scores compared to overall average country scores:



PARISH SCORE
COUNTRY SCORE



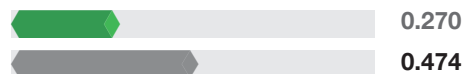
Multi-Hazard Exposure



Vulnerability



Coping Capacity



**Better solutions.
Fewer disasters.**

Safer world.

**1305 N. Holopono Street | P: (808) 891-0525
Suite 2, Kihei, HI 96753 | F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.org



ndpba.eci@pdc.org



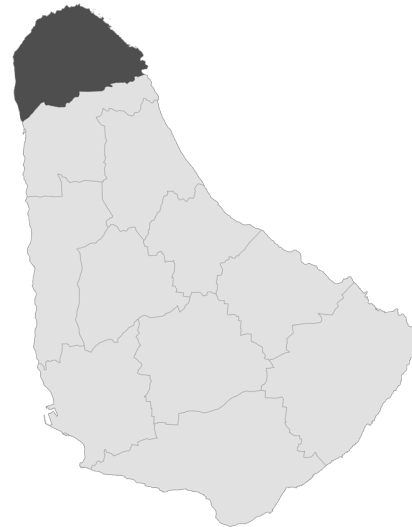
BARBADOS

SAINT LUCY

NDPBA SUBNATIONAL PROFILE

BARBADOS SAINT LUCY

Area: 36 km²



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR)

- Very High

Score: 0.573 • Rank: 2/11



RESILIENCE (R)

- Low

Score: 0.419 • Rank: 8/11



MULTI-HAZARD EXPOSURE (MHE)

- Very High

Score: 0.557 • Rank: 2/11



VULNERABILITY (V)

- Moderate

Score: 0.525 • Rank: 5/11



COPING CAPACITY (CC)

- Very Low

Score: 0.363 • Rank: 9/11



Population (2010 Census)

8,609



Population Density
(persons per sq km)

239



Poverty Rate

17.8%



Housing Built Prior to
1991

60.6%



Households with
Unimproved Sanitation

9.8%



MULTI-HAZARD EXPOSURE (MHE)

RANK: 2 / 11 PARISHES ASSESSED
SCORE: 0.557



MHE
0.557

Raw MHE
0.115

Relative MHE
1.000

ESTIMATED EXPOSURE TO EACH HAZARD:



Coastal Flooding

1%

68

Buildings Exposed: **2%**

Critical Infrastructure Exposed: **18%**



Hurricane Winds

100%

9,830

Buildings Exposed: **100%**

Critical Infrastructure Exposed: **100%**



Earthquake

100%

9,830

Buildings Exposed: **100%**

Critical Infrastructure Exposed: **100%**



Landslide

36%

3,550

Buildings Exposed: **36%**

Critical Infrastructure Exposed: **22%**



Extreme Heat

100%

9,830

Buildings Exposed: **100%**

Critical Infrastructure Exposed: **100%**



Sea Level Rise

<1%

43

Buildings Exposed: **1%**

Critical Infrastructure Exposed: **18%**



Flash Flood

97%

9,490

Buildings Exposed: **96%**

Critical Infrastructure Exposed: **100%**



Tsunami

<1%

26

Buildings Exposed: **1%**

Critical Infrastructure Exposed: **15%**

NOTE: Population exposure values for Barbados are estimated using PDC's AIM model. Values may differ from Census population.



MULTI-HAZARD EXPOSURE (MHE)

RANK: 2 / 11 PARISHES ASSESSED
SCORE: 0.557

ESTIMATED EXPOSURE TO EACH HAZARD *(CONTINUED)*:



Volcanic Ashfall

100%

9,830

Buildings Exposed: **100%**

Critical Infrastructure Exposed: **100%**



Wildfire

10%

993

Buildings Exposed: **11%**

Critical Infrastructure Exposed: **20%**



VULNERABILITY (V)

RANK: 5 / 11 PARISHES ASSESSED
SCORE: 0.525

Vulnerability in Saint Lucy is primarily driven by Information Access Vulnerability and Gender Inequality. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.



Information Access Vulnerability

0  1 **SCORE: 0.786** **RANK: 2/11 PARISHES ASSESSED**

77.9%

Primary School
Attendance
Rate

53.7%

Secondary
School
Attendance
Rate

76.0%

Household
Access to
Radio

89.5%

Household
Access to
Television



Economic Constraints

0  1 **SCORE: 0.339** **RANK: 8/11 PARISHES ASSESSED**

0.48

Economic
Dependency
Ratio

17.8%

Poverty Rate

29.8%

GINI
Coefficient



Environmental Stress

0  1 **SCORE: 0.510** **RANK: 4/11 PARISHES ASSESSED**

63.5%

Coastline
Exposure to
Local or Global
Threats

8.8%

Tree Cover
Loss



Gender Inequality

0  1 **SCORE: 0.756** **RANK: 1/11 PARISHES ASSESSED**

0.13

Female to Male
Labor Ratio

0.18

Female
to Male
Secondary
School
Attendance



VULNERABILITY (V)

RANK: 5 / 11 PARISHES ASSESSED
SCORE: 0.525



Housing and Transportation Vulnerability

0  1 **SCORE: 0.518** **RANK: 5/11 PARISHES ASSESSED**

60.6%

Housing Built
Prior to 1991

17.5%

Household
Overcrowding

44.4%

Households
without a
Private Vehicle



Household Composition and Vulnerable Health

0  1 **SCORE: 0.612** **RANK: 3/11 PARISHES ASSESSED**

5.3

Prevalence of
Disability (per
100 persons)

12.5%

Population
Age 65 and
Over

23.4%

Population
Under Age 18



Population Pressures

0  1 **SCORE: 0.228** **RANK: 6/11 PARISHES ASSESSED**

0.9%

Average Annual
Population
Change

239

Population
Density
(persons per
sq km)



Clean Water Access Vulnerability

0  1 **SCORE: 0.455** **RANK: 4/11 PARISHES ASSESSED**

91.2%

Households
with Piped
Water

9.8%

Households
with
Unimproved
Sanitation



ISLAND CAPACITY (IC)

RANK: 11 / 11 PARISHES ASSESSED
SCORE: 0.282

Saint Lucy exhibits weaker Island Capacity in the areas of Communications Capacity and Energy Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Islands Capacity score.



Environmental Capacity

0  1 **SCORE: 0.203** **RANK: 8/11 PARISHES ASSESSED**

33.5%
Croplands

-0.3
Net Carbon
Flux

0.0%
Protected Area

0.0%
Protected
Coastlines



Infrastructure Capacity

0  1 **SCORE: 0.316** **RANK: 10/11 PARISHES ASSESSED**



Communications Capacity

0  1 **SCORE: 0.230** **RANK: 8/11 PARISHES ASSESSED**

70.0%
Households
with Fixed
Phones

48.5%
Households
with Computer

40.4%
Households
with Internet
Access



Emergency Services and Health Care Capacity

0  1 **SCORE: 0.438** **RANK: 8/11 PARISHES ASSESSED**

14.5
Average
Distance to
Fire Station
(km)

3.1
Average
Distance to
Hospital or
Clinic (km)

3.0
Average
Distance to
Police Station
(km)

1.1
Average
Distance to
Shelter (km)

1.0
Hospitals
and Clinics
per 10,000
Persons



Energy Capacity

0  1 **SCORE: 0.280** **RANK: 11/11 PARISHES ASSESSED**

95.3%
Households
with Electric
Lighting

92.6%
Households
Using Gas for
Cooking



LOGISTICS CAPACITY (LC)

RANK: 6 / 11 PARISHES ASSESSED
SCORE: 0.444

Saint Lucy exhibits weaker Logistics Capacity in the areas of Warehouse Access and Transportation Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Logistics Capacity score.



Maritime Logistics

0  1 **SCORE: 0.630** **RANK: 3/11 PARISHES ASSESSED**

4.2

Average
Distance to
Seaport (km)

209.1

Distance
to External
Medium or
Large Seaport
(km)

0.05

Port Density
(ports per km
of coastline)



Air Support

0  1 **SCORE: 0.872** **RANK: 2/11 PARISHES ASSESSED**

148.7

Distance to
External C130
Airport (km)

5.7

Average
Distance to
Airport or
Heliport (km)



Transportation Capacity

0  1 **SCORE: 0.274** **RANK: 7/11 PARISHES ASSESSED**

0.10

Gas Stations
per 1,000
Persons

6.2

Road Density
(km of roads
per sq km)



Warehouse Access

0  1 **SCORE: 0.000** **RANK: 11/11 PARISHES ASSESSED**

23.4

Average
Distance to
Warehouse
(km)

18.3

Distance to
CDEMA Sub-
Regional Focal
Point (km)



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 of Barbados was calculated by using a combination of Island Capacity and Logistics Capacity.

RANK: 9 / 11 PARISHES ASSESSED
SCORE: 0.363



RESILIENCE (R)

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

RANK: 8 / 11 PARISHES ASSESSED
SCORE: 0.419

KEY FACTORS INFLUENCING RESILIENCE

Saint Lucy's score and ranking are due to Moderate Vulnerability combined with Very Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Information Access Vulnerability

Limitations in information access can impede a population's ability to receive, understand, and take action. Emergency messages must take into account the unique information access constraints of the region. Emergency messages presented to the population must contain clear and simple information to ensure an appropriate response to save lives and reduce losses.



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 subnational and local levels. Courses of action must recognize the role of women in society and support changes to policies and programs to promote gender-equal access.



Warehouse Access

Efficient storage, movement and delivery of resources are key to effective humanitarian assistance and disaster relief operations. Access to both local and regional supply chains can significantly improve the speed and quality of response operations, reducing the negative social and economic impacts of an emergency.



Transportation Capacity

Dense road networks and refueling locations facilitate the evacuation of populations during a disaster and increase the ability of response stakeholders to access affected populations. Improved transportation capacity supports the ability to distribute resources before, during, and after a disaster.



HAZARD-SPECIFIC RISK (HSR)



Coastal Flooding

RANK: 6 / 11 PARISHES ASSESSED

SCORE: 0.422



Earthquake

RANK: 4 / 11 PARISHES ASSESSED

SCORE: 0.563



Extreme Heat

RANK: 2 / 11 PARISHES ASSESSED

SCORE: 0.586



Flash Flood

RANK: 2 / 11 PARISHES ASSESSED

SCORE: 0.586



Hurricane Winds

RANK: 4 / 11 PARISHES ASSESSED

SCORE: 0.563



Landslide

RANK: 4 / 11 PARISHES ASSESSED

SCORE: 0.560



Sea Level Rise

RANK: 6 / 11 PARISHES ASSESSED

SCORE: 0.408



Tsunami

RANK: 5 / 11 PARISHES ASSESSED

SCORE: 0.276



Volcano

RANK: 4 / 11 PARISHES ASSESSED

SCORE: 0.563



Wildfire

RANK: 4 / 11 PARISHES ASSESSED

SCORE: 0.490



MULTI-HAZARD RISK (MHR)

2 / 11RANK AMONG PARISHES
Score: 0.573

Saint Lucy's score and ranking are due to Very High Multi-Hazard Exposure combined with Moderate Vulnerability and Very Low Coping Capacity scores.

Multi-Hazard Risk component scores compared to overall average country scores:

PARISH SCORE
COUNTRY SCORE



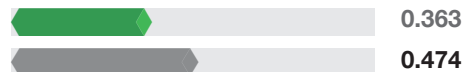
Multi-Hazard Exposure



Vulnerability



Coping Capacity



**Better solutions.
Fewer disasters.**

Safer world.

1305 N. Holopono Street | P: (808) 891-0525
Suite 2, Kihei, HI 96753 | F: (808) 891-0526



@PDC_Global



/PDCGlobal



www.pdc.org



ndpba.eci@pdc.org



BARBADOS

SAINT MICHAEL

NDPBA SUBNATIONAL PROFILE

BARBADOS

SAINT MICHAEL

Area: 39 km²



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR)

- Very High

Score: 0.584 • Rank: 1/11



RESILIENCE (R)

- Low

Score: 0.546 • Rank: 7/11



MULTI-HAZARD EXPOSURE (MHE)

- Very High

Score: 0.842 • Rank: 1/11



VULNERABILITY (V)

- Very High

Score: 0.596 • Rank: 1/11



COPING CAPACITY (CC)

- Very High

Score: 0.688 • Rank: 1/11



Population (2010 Census)

69,604



Population Density
(persons per sq km)

1,785



Poverty Rate

18.6%



Housing Built Prior to
1991

74.0%



Households with
Unimproved Sanitation

9.6%



MULTI-HAZARD EXPOSURE (MHE)

RANK: 1 / 11 PARISHES ASSESSED
SCORE: 0.842



MHE
0.842

Raw MHE
1.000

Relative MHE
0.683

ESTIMATED EXPOSURE TO EACH HAZARD:



Coastal Flooding

1%

👤 976

Buildings Exposed: <1%

Critical Infrastructure Exposed: **24%**



Hurricane Winds

100%

👤 81,300

Buildings Exposed: **100%**

Critical Infrastructure Exposed: **100%**



Earthquake

100%

👤 81,300

Buildings Exposed: **100%**

Critical Infrastructure Exposed: **100%**



Landslide

1%

👤 1,090

Buildings Exposed: **2%**

Critical Infrastructure Exposed: **2%**



Extreme Heat

75%

👤 61,200

Buildings Exposed: **83%**

Critical Infrastructure Exposed: **83%**



Sea Level Rise

1%

👤 565

Buildings Exposed: <1%

Critical Infrastructure Exposed: **22%**



Flash Flood

71%

👤 58,000

Buildings Exposed: **81%**

Critical Infrastructure Exposed: **82%**



Tsunami

4%

👤 2,920

Buildings Exposed: **2%**

Critical Infrastructure Exposed: **25%**

NOTE: Population exposure values for Barbados are estimated using PDC's AIM model. Values may differ from Census population.



MULTI-HAZARD EXPOSURE (MHE)

RANK: 1 / 11 PARISHES ASSESSED
SCORE: 0.842

ESTIMATED EXPOSURE TO EACH HAZARD (CONTINUED):



Volcanic Ashfall

100%

81,300

Buildings Exposed: **100%**

Critical Infrastructure Exposed: **100%**



Wildfire

2%

1,400

Buildings Exposed: **1%**

Critical Infrastructure Exposed: **2%**



VULNERABILITY (V)

RANK: 1 / 11 PARISHES ASSESSED
SCORE: 0.596

Vulnerability in Saint Michael is primarily driven by Population Pressures and Housing and Transportation Vulnerability. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.



Information Access Vulnerability



SCORE: 0.430

RANK: 6/11 PARISHES ASSESSED

81.4%

Primary School
Attendance
Rate

54.6%

Secondary
School
Attendance
Rate

78.3%

Household
Access to
Radio

93.2%

Household
Access to
Television



Economic Constraints



SCORE: 0.620

RANK: 2/11 PARISHES ASSESSED

0.50

Economic
Dependency
Ratio

18.6%

Poverty Rate

31.4%

GINI
Coefficient



Environmental Stress



SCORE: 0.567

RANK: 3/11 PARISHES ASSESSED

32.0%

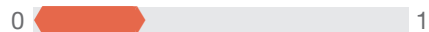
Coastline
Exposure to
Local or Global
Threats

15.0%

Tree Cover
Loss



Gender Inequality



SCORE: 0.263

RANK: 8/11 PARISHES ASSESSED

0.12

Female to Male
Labor Ratio

0.01

Female
to Male
Secondary
School
Attendance



VULNERABILITY (V)

RANK: 1 / 11 PARISHES ASSESSED
SCORE: 0.596



Housing and Transportation Vulnerability

0  1 SCORE: 0.919 RANK: 1/11 PARISHES ASSESSED

74.0%

Housing Built
Prior to 1991

19.2%

Household
Overcrowding

51.9%

Households
without a
Private Vehicle



Household Composition and Vulnerable Health

0  1 SCORE: 0.660 RANK: 1/11 PARISHES ASSESSED

4.7

Prevalence of
Disability (per
100 persons)

13.0%

Population
Age 65 and
Over

24.3%

Population
Under Age 18



Population Pressures

0  1 SCORE: 1.000 RANK: 1/11 PARISHES ASSESSED

1.9%

Average Annual
Population
Change

1,785

Population
Density
(persons per
sq km)



Clean Water Access Vulnerability

0  1 SCORE: 0.313 RANK: 7/11 PARISHES ASSESSED

94.0%

Households
with Piped
Water

9.6%

Households
with
Unimproved
Sanitation



ISLAND CAPACITY (IC)

RANK: 4 / 11 PARISHES ASSESSED
SCORE: 0.554

Saint Michael exhibits weaker Island Capacity in the areas of Communications Capacity and Environmental Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Islands Capacity score.



Environmental Capacity

0  1 **SCORE: 0.202** **RANK: 10/11 PARISHES ASSESSED**

2.9% Croplands	-0.1 Net Carbon Flux	0.0% Protected Area	34.4% Protected Coastlines
--------------------------	--------------------------------	-------------------------------	--------------------------------------



Infrastructure Capacity

0  1 **SCORE: 0.705** **RANK: 2/11 PARISHES ASSESSED**



Communications Capacity

0  1 **SCORE: 0.246** **RANK: 7/11 PARISHES ASSESSED**

69.6% Households with Fixed Phones	50.3% Households with Computer	40.7% Households with Internet Access
--	--	---



Emergency Services and Health Care Capacity

0  1 **SCORE: 1.000** **RANK: 1/11 PARISHES ASSESSED**

2.9 Average Distance to Fire Station (km)	0.9 Average Distance to Hospital or Clinic (km)	1.6 Average Distance to Police Station (km)	0.6 Average Distance to Shelter (km)	3.0 Hospitals and Clinics per 10,000 Persons
---	---	---	--	--



Energy Capacity

0  1 **SCORE: 0.869** **RANK: 1/11 PARISHES ASSESSED**

98.2% Households with Electric Lighting	94.6% Households Using Gas for Cooking
---	--



LOGISTICS CAPACITY (LC)

RANK: 1 / 11 PARISHES ASSESSED
SCORE: 0.821

Saint Michael exhibits weaker Logistics Capacity in the areas of Transportation Capacity and Air Support. The bar charts indicate the socioeconomic themes contributing to the overall Logistics Capacity score.



Maritime Logistics

0 1 **SCORE: 0.796** **RANK: 1/11 PARISHES ASSESSED**

2.7

Average
Distance to
Seaport (km)

224.0

Distance
to External
Medium or
Large Seaport
(km)

0.34

Port Density
(ports per km
of coastline)



Air Support

0 1 **SCORE: 0.791** **RANK: 3/11 PARISHES ASSESSED**

157.1

Distance to
External C130
Airport (km)

3.4

Average
Distance to
Airport or
Heliport (km)



Transportation Capacity

0 1 **SCORE: 0.698** **RANK: 1/11 PARISHES ASSESSED**

0.17

Gas Stations
per 1,000
Persons

12.7

Road Density
(km of roads
per sq km)



Warehouse Access

0 1 **SCORE: 1.000** **RANK: 1/11 PARISHES ASSESSED**

3.1

Average
Distance to
Warehouse
(km)

0.0

Distance to
CDEMA Sub-
Regional Focal
Point (km)



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 of Barbados was calculated by using a combination of Island Capacity and Logistics Capacity.

RANK: 1 / 11 PARISHES ASSESSED
SCORE: 0.688



RESILIENCE (R)

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

RANK: 7 / 11 PARISHES ASSESSED
SCORE: 0.546

KEY FACTORS INFLUENCING RESILIENCE

Saint Michael's score and ranking are due to Very High Vulnerability combined with Very High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



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.



Housing and Transportation Vulnerability

Populations living in older housing, and prior to the enactment of modern building codes, are more susceptible to structural damage and losses as a result of hazard impacts. In addition, higher density living situations such as crowded housing increase susceptibility to negative consequences as a result of hazard exposure. Populations with limited vehicle access are more likely to experience mobility challenges during an evacuation, and have difficulty accessing needed supplies and services before, during and after a hazard event.



Communications Capacity

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



Transportation Capacity

Dense road networks and refueling locations facilitate the evacuation of populations during a disaster and increase the ability of response stakeholders to access affected populations. Improved transportation capacity supports the ability to distribute resources before, during, and after a disaster.



HAZARD-SPECIFIC RISK (HSR)



Coastal Flooding

RANK: 2 / 11 PARISHES ASSESSED

SCORE: 0.505



Earthquake

RANK: 1 / 11 PARISHES ASSESSED

SCORE: 0.674



Extreme Heat

RANK: 1 / 11 PARISHES ASSESSED

SCORE: 0.640



Flash Flood

RANK: 1 / 11 PARISHES ASSESSED

SCORE: 0.638



Hurricane Winds

RANK: 1 / 11 PARISHES ASSESSED

SCORE: 0.674



Landslide

RANK: 10 / 11 PARISHES ASSESSED

SCORE: 0.211



Sea Level Rise

RANK: 3 / 11 PARISHES ASSESSED

SCORE: 0.473



Tsunami

RANK: 1 / 11 PARISHES ASSESSED

SCORE: 0.620



Volcano

RANK: 1 / 11 PARISHES ASSESSED

SCORE: 0.674



Wildfire

RANK: 9 / 11 PARISHES ASSESSED

SCORE: 0.183



MULTI-HAZARD RISK (MHR)

1 / 11RANK AMONG PARISHES
Score: 0.584

Saint Michael's score and ranking are due to Very High Multi-Hazard Exposure combined with Very High Vulnerability and Very High Coping Capacity scores.

Multi-Hazard Risk component scores compared to overall average country scores:



PARISH SCORE
COUNTRY SCORE



Multi-Hazard Exposure



Vulnerability



Coping Capacity



**Better solutions.
Fewer disasters.**

Safer world.

**1305 N. Holopono Street | P: (808) 891-0525
Suite 2, Kihei, HI 96753 | F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.org



ndpba.eci@pdc.org



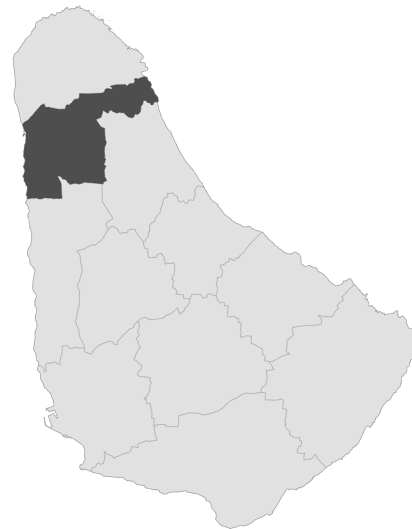
BARBADOS

SAINT PETER

NDPBA SUBNATIONAL PROFILE

BARBADOS SAINT PETER

Area: 34 km²



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR)

- Low

Score: 0.433 • Rank: 7/11



RESILIENCE (R)

- High

Score: 0.602 • Rank: 4/11



MULTI-HAZARD EXPOSURE (MHE)

- High

Score: 0.503 • Rank: 4/11



VULNERABILITY (V)

- Low

Score: 0.388 • Rank: 7/11



COPING CAPACITY (CC)

- High

Score: 0.592 • Rank: 3/11



Population (2010 Census)

10,382



Population Density
(persons per sq km)

305



Poverty Rate

15.6%



Housing Built Prior to
1991

59.7%



Households with
Unimproved Sanitation

9.3%



MULTI-HAZARD EXPOSURE (MHE)

RANK: 4 / 11 PARISHES ASSESSED
SCORE: 0.503



MHE
0.503

Raw MHE
0.181

Relative MHE
0.824

ESTIMATED EXPOSURE TO EACH HAZARD:



Coastal Flooding

2%

210

Buildings Exposed: **3%**

Critical Infrastructure Exposed: **26%**



Hurricane Winds

100%

10,400

Buildings Exposed: **100%**

Critical Infrastructure Exposed: **100%**



Earthquake

100%

10,400

Buildings Exposed: **100%**

Critical Infrastructure Exposed: **100%**



Landslide

13%

1,360

Buildings Exposed: **12%**

Critical Infrastructure Exposed: **10%**



Extreme Heat

81%

8,420

Buildings Exposed: **81%**

Critical Infrastructure Exposed: **86%**



Sea Level Rise

1%

129

Buildings Exposed: **2%**

Critical Infrastructure Exposed: **26%**



Flash Flood

97%

10,100

Buildings Exposed: **97%**

Critical Infrastructure Exposed: **100%**



Tsunami

2%

211

Buildings Exposed: **3%**

Critical Infrastructure Exposed: **28%**

NOTE: Population exposure values for Barbados are estimated using PDC's AIM model. Values may differ from Census population.



MULTI-HAZARD EXPOSURE (MHE)

RANK: 4 / 11 PARISHES ASSESSED
SCORE: 0.503

ESTIMATED EXPOSURE TO EACH HAZARD *(CONTINUED)*:



Volcanic Ashfall

100%

10,400

Buildings Exposed: **100%**

Critical Infrastructure Exposed: **100%**



Wildfire

7%

723

Buildings Exposed: **4%**

Critical Infrastructure Exposed: **12%**



VULNERABILITY (V)

RANK: 7 / 11 PARISHES ASSESSED
SCORE: 0.388

Vulnerability in Saint Peter is primarily driven by Information Access Vulnerability and Gender Inequality. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.



Information Access Vulnerability



SCORE: 0.824

RANK: 1/11 PARISHES ASSESSED

72.3%

Primary School
Attendance
Rate

51.9%

Secondary
School
Attendance
Rate

77.8%

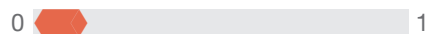
Household
Access to
Radio

92.3%

Household
Access to
Television



Economic Constraints



SCORE: 0.101

RANK: 11/11 PARISHES ASSESSED

0.45

Economic
Dependency
Ratio

15.6%

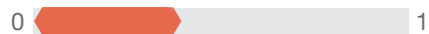
Poverty Rate

30.0%

GINI
Coefficient



Environmental Stress



SCORE: 0.363

RANK: 7/11 PARISHES ASSESSED

43.5%

Coastline
Exposure to
Local or Global
Threats

8.2%

Tree Cover
Loss



Gender Inequality



SCORE: 0.515

RANK: 4/11 PARISHES ASSESSED

0.13

Female to Male
Labor Ratio

0.08

Female
to Male
Secondary
School
Attendance



VULNERABILITY (V)

RANK: 7 / 11 PARISHES ASSESSED
SCORE: 0.388



Housing and Transportation Vulnerability

0  1 **SCORE: 0.424** **RANK: 6/11 PARISHES ASSESSED**

59.7%

Housing Built
Prior to 1991

16.9%

Household
Overcrowding

41.6%

Households
without a
Private Vehicle



Household Composition and Vulnerable Health

0  1 **SCORE: 0.393** **RANK: 8/11 PARISHES ASSESSED**

4.5

Prevalence of
Disability (per
100 persons)

12.4%

Population
Age 65 and
Over

22.5%

Population
Under Age 18



Population Pressures

0  1 **SCORE: 0.090** **RANK: 9/11 PARISHES ASSESSED**

0.3%

Average Annual
Population
Change

305

Population
Density
(persons per
sq km)



Clean Water Access Vulnerability

0  1 **SCORE: 0.396** **RANK: 5/11 PARISHES ASSESSED**

92.1%

Households
with Piped
Water

9.3%

Households
with
Unimproved
Sanitation



ISLAND CAPACITY (IC)

RANK: 2 / 11 PARISHES ASSESSED
SCORE: 0.581

Saint Peter exhibits weaker Island Capacity in the areas of Communications Capacity and Emergency Services and Health Care Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Islands Capacity score.



Environmental Capacity

0  1 **SCORE: 0.371** **RANK: 2/11 PARISHES ASSESSED**

23.6%
Croplands

-1.2
Net Carbon
Flux

4.7%
Protected Area

0%
Protected
Coastlines



Infrastructure Capacity

0  1 **SCORE: 0.671** **RANK: 3/11 PARISHES ASSESSED**



Communications Capacity

0  1 **SCORE: 0.624** **RANK: 5/11 PARISHES ASSESSED**

77.1%
Households
with Fixed
Phones

55.1%
Households
with Computer

46.6%
Households
with Internet
Access



Emergency Services and Health Care Capacity

0  1 **SCORE: 0.653** **RANK: 4/11 PARISHES ASSESSED**

9.5
Average
Distance to
Fire Station
(km)

2.4
Average
Distance to
Hospital or
Clinic (km)

2.9
Average
Distance to
Police Station
(km)

1.2
Average
Distance to
Shelter (km)

2.9
Hospitals
and Clinics
per 10,000
Persons



Energy Capacity

0  1 **SCORE: 0.735** **RANK: 3/11 PARISHES ASSESSED**

98.1%
Households
with Electric
Lighting

93.3%
Households
Using Gas for
Cooking



LOGISTICS CAPACITY (LC)

RANK: 2 / 11 PARISHES ASSESSED
SCORE: 0.603

Saint Peter exhibits weaker Logistics Capacity in the areas of Warehouse Access and Transportation Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Logistics Capacity score.



Maritime Logistics

0  1 **SCORE: 0.716** **RANK: 2/11 PARISHES ASSESSED**

3.1

Average
Distance to
Seaport (km)

212.7

Distance
to External
Medium or
Large Seaport
(km)

0.12

Port Density
(ports per km
of coastline)



Air Support

0  1 **SCORE: 0.956** **RANK: 1/11 PARISHES ASSESSED**

150.5

Distance to
External C130
Airport (km)

3.2

Average
Distance to
Airport or
Heliport (km)



Transportation Capacity

0  1 **SCORE: 0.486** **RANK: 3/11 PARISHES ASSESSED**

0.29

Gas Stations
per 1,000
Persons

6.2

Road Density
(km of roads
per sq km)



Warehouse Access

0  1 **SCORE: 0.253** **RANK: 10/11 PARISHES ASSESSED**

18.4

Average
Distance to
Warehouse
(km)

13.6

Distance to
CDEMA Sub-
Regional Focal
Point (km)



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 of Barbados was calculated by using a combination of Island Capacity and Logistics Capacity.

RANK: 3 / 11 PARISHES ASSESSED
SCORE: 0.592



RESILIENCE (R)

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

RANK: 4 / 11 PARISHES ASSESSED
SCORE: 0.602

KEY FACTORS INFLUENCING RESILIENCE

Saint Peter's score and ranking are due to Low Vulnerability combined with High Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Information Access Vulnerability

Limitations in information access can impede a population's ability to receive, understand, and take action. Emergency messages must take into account the unique information access constraints of the region. Emergency messages presented to the population must contain clear and simple information to ensure an appropriate response to save lives and reduce losses.



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 subnational and local levels. Courses of action must recognize the role of women in society and support changes to policies and programs to promote gender-equal access.



Warehouse Access

Efficient storage, movement and delivery of resources are key to effective humanitarian assistance and disaster relief operations. Access to both local and regional supply chains can significantly improve the speed and quality of response operations, reducing the negative social and economic impacts of an emergency.



Transportation Capacity

Dense road networks and refueling locations facilitate the evacuation of populations during a disaster and increase the ability of response stakeholders to access affected populations. Improved transportation capacity supports the ability to distribute resources before, during, and after a disaster.



HAZARD-SPECIFIC RISK (HSR)



Coastal Flooding

RANK: 3 / 11 PARISHES ASSESSED

SCORE: 0.502



Earthquake

RANK: 8 / 11 PARISHES ASSESSED

SCORE: 0.481



Extreme Heat

RANK: 6 / 11 PARISHES ASSESSED

SCORE: 0.450



Flash Flood

RANK: 3 / 11 PARISHES ASSESSED

SCORE: 0.502



Hurricane Winds

RANK: 8 / 11 PARISHES ASSESSED

SCORE: 0.481



Landslide

RANK: 6 / 11 PARISHES ASSESSED

SCORE: 0.329



Sea Level Rise

RANK: 2 / 11 PARISHES ASSESSED

SCORE: 0.489



Tsunami

RANK: 4 / 11 PARISHES ASSESSED

SCORE: 0.430



Volcano

RANK: 8 / 11 PARISHES ASSESSED

SCORE: 0.481



Wildfire

RANK: 6 / 11 PARISHES ASSESSED

SCORE: 0.292



MULTI-HAZARD RISK (MHR)

7 / 11RANK AMONG PARISHES
Score: 0.433

Saint Peter's score and ranking are due to High Multi-Hazard Exposure combined with Low Vulnerability and High Coping Capacity scores.

Multi-Hazard Risk component scores compared to overall average country scores:

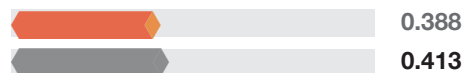
PARISH SCORE
COUNTRY SCORE



Multi-Hazard Exposure



Vulnerability



Coping Capacity



**Better solutions.
Fewer disasters.**

Safer world.

**1305 N. Holocono Street | P: (808) 891-0525
Suite 2, Kihei, HI 96753 | F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.org



ndpba.eci@pdc.org



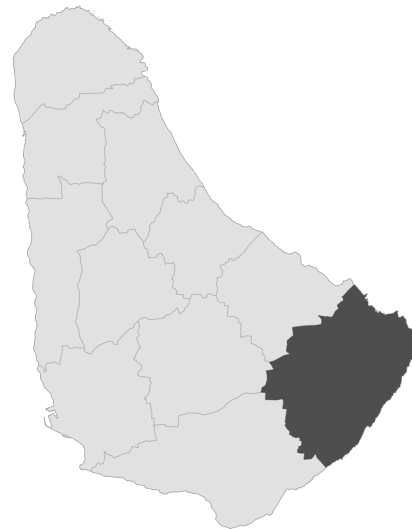
BARBADOS

SAINT PHILIP

NDPBA SUBNATIONAL PROFILE

BARBADOS SAINT PHILIP

Area: 60 km²



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR)

- Low

Score: 0.415 • Rank: 8/11



RESILIENCE (R)

- Moderate

Score: 0.601 • Rank: 5/11



MULTI-HAZARD EXPOSURE (MHE)

- Moderate

Score: 0.447 • Rank: 5/11



VULNERABILITY (V)

- Very Low

Score: 0.232 • Rank: 10/11



COPING CAPACITY (CC)

- Low

Score: 0.434 • Rank: 7/11



Population (2010 Census)

23,788



Population Density
(persons per sq km)

396



Poverty Rate

12.6%



Housing Built Prior to
1991

50.1%



Households with
Unimproved Sanitation

6.3%



MULTI-HAZARD EXPOSURE (MHE)

RANK: 5 / 11 PARISHES ASSESSED
SCORE: 0.447



MHE
0.447

Raw MHE
0.337

Relative MHE
0.557

ESTIMATED EXPOSURE TO EACH HAZARD:



Coastal Flooding

<1%

👤 138

Buildings Exposed: **<1%**

Critical Infrastructure Exposed: **11%**



Hurricane Winds

100%

👤 37,600

Buildings Exposed: **100%**

Critical Infrastructure Exposed: **100%**



Earthquake

100%

👤 37,600

Buildings Exposed: **100%**

Critical Infrastructure Exposed: **100%**



Landslide

6%

👤 2,200

Buildings Exposed: **6%**

Critical Infrastructure Exposed: **12%**



Extreme Heat

100%

👤 37,600

Buildings Exposed: **100%**

Critical Infrastructure Exposed: **100%**



Sea Level Rise

<1%

👤 105

Buildings Exposed: **<1%**

Critical Infrastructure Exposed: **11%**



Flash Flood

26%

👤 9,930

Buildings Exposed: **28%**

Critical Infrastructure Exposed: **18%**



Tsunami

<1%

👤 2

Buildings Exposed: **<1%**

Critical Infrastructure Exposed: **0%**

NOTE: Population exposure values for Barbados are estimated using PDC's AIM model. Values may differ from Census population.



MULTI-HAZARD EXPOSURE (MHE)

RANK: 5 / 11 PARISHES ASSESSED
SCORE: 0.447

ESTIMATED EXPOSURE TO EACH HAZARD *(CONTINUED)*:



Volcanic Ashfall

100%

37,600

Buildings Exposed: **100%**

Critical Infrastructure Exposed: **100%**



Wildfire

19%

7,130

Buildings Exposed: **19%**

Critical Infrastructure Exposed: **19%**



VULNERABILITY (V)

RANK: 10 / 11 PARISHES ASSESSED
SCORE: 0.232

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



Information Access Vulnerability

0  1 **SCORE: 0.196** **RANK: 10/11 PARISHES ASSESSED**

83.6%

Primary School
Attendance
Rate

55.1%

Secondary
School
Attendance
Rate

81.8%

Household
Access to
Radio

94.8%

Household
Access to
Television



Economic Constraints

0  1 **SCORE: 0.453** **RANK: 5/11 PARISHES ASSESSED**

0.47

Economic
Dependency
Ratio

12.6%

Poverty Rate

34.5%

GINI
Coefficient



Environmental Stress

0  1 **SCORE: 0.211** **RANK: 10/11 PARISHES ASSESSED**

40.5%

Coastline
Exposure to
Local or Global
Threats

4.9%

Tree Cover
Loss



Gender Inequality

0  1 **SCORE: 0.054** **RANK: 11/11 PARISHES ASSESSED**

0.09

Female to Male
Labor Ratio

0.02

Female
to Male
Secondary
School
Attendance



VULNERABILITY (V)

RANK: 10 / 11 PARISHES ASSESSED
SCORE: 0.232



Housing and Transportation Vulnerability

0  1 **SCORE: 0.161** **RANK: 11/11 PARISHES ASSESSED**

50.1%

Housing Built
Prior to 1991

16.3%

Household
Overcrowding

36.0%

Households
without a
Private Vehicle



Household Composition and Vulnerable Health

0  1 **SCORE: 0.444** **RANK: 6/11 PARISHES ASSESSED**

3.7

Prevalence of
Disability (per
100 persons)

11.2%

Population
Age 65 and
Over

24.8%

Population
Under Age 18



Population Pressures

0  1 **SCORE: 0.153** **RANK: 7/11 PARISHES ASSESSED**

0.5%

Average Annual
Population
Change

396

Population
Density
(persons per
sq km)



Clean Water Access Vulnerability

0  1 **SCORE: 0.184** **RANK: 9/11 PARISHES ASSESSED**

94.4%

Households
with Piped
Water

6.3%

Households
with
Unimproved
Sanitation



ISLAND CAPACITY (IC)

RANK: 7 / 11 PARISHES ASSESSED
SCORE: 0.516

Saint Philip exhibits weaker Island Capacity in the areas of Emergency Services and Health Care Capacity and Environmental Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Islands Capacity score.



Environmental Capacity

0  1 **SCORE: 0.203** **RANK: 8/11 PARISHES ASSESSED**

35.1%
Croplands

-0.2
Net Carbon
Flux

0.0%
Protected Area

0%
Protected
Coastlines



Infrastructure Capacity

0  1 **SCORE: 0.651** **RANK: 5/11 PARISHES ASSESSED**



Communications Capacity

0  1 **SCORE: 0.777** **RANK: 3/11 PARISHES ASSESSED**

77.0%
Households
with Fixed
Phones

61.4%
Households
with Computer

51.5%
Households
with Internet
Access



Emergency Services and Health Care Capacity

0  1 **SCORE: 0.491** **RANK: 6/11 PARISHES ASSESSED**

6.2
Average
Distance to
Fire Station
(km)

2.3
Average
Distance to
Hospital or
Clinic (km)

4.6
Average
Distance to
Police Station
(km)

1.2
Average
Distance to
Shelter (km)

0.8
Hospitals
and Clinics
per 10,000
Persons



Energy Capacity

0  1 **SCORE: 0.684** **RANK: 7/11 PARISHES ASSESSED**

98.1%
Households
with Electric
Lighting

92.7%
Households
Using Gas for
Cooking



LOGISTICS CAPACITY (LC)

RANK: 9 / 11 PARISHES ASSESSED
SCORE: 0.352

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



Maritime Logistics

0  1 **SCORE: 0.223** **RANK: 10/11 PARISHES ASSESSED**

5.7

Average
Distance to
Seaport (km)

233.4

Distance
to External
Medium or
Large Seaport
(km)

0.05

Port Density
(ports per km
of coastline)



Air Support

0  1 **SCORE: 0.311** **RANK: 9/11 PARISHES ASSESSED**

170.1

Distance to
External C130
Airport (km)

6.9

Average
Distance to
Airport or
Heliport (km)



Transportation Capacity

0  1 **SCORE: 0.272** **RANK: 8/11 PARISHES ASSESSED**

0.05

Gas Stations
per 1,000
Persons

7.2

Road Density
(km of roads
per sq km)



Warehouse Access

0  1 **SCORE: 0.603** **RANK: 6/11 PARISHES ASSESSED**

17.8

Average
Distance to
Warehouse
(km)

1.3

Distance to
CDEMA Sub-
Regional Focal
Point (km)



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 of Barbados was calculated by using a combination of Island Capacity and Logistics Capacity.

RANK: 7 / 11 PARISHES ASSESSED
SCORE: 0.434



RESILIENCE (R)

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

RANK: 5 / 11 PARISHES ASSESSED
SCORE: 0.601

KEY FACTORS INFLUENCING RESILIENCE

Saint Philip's score and ranking are due to Very Low Vulnerability combined with Low Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



Economic Constraints

Economic constraints have individual, household, community, and region-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.



Household Composition and Vulnerable Health

Households with dependent populations, such as the very young, elderly and the disabled may have more difficulty with mobilizing and evacuating in a timely fashion and therefore become even more susceptible to harm during times of disaster. Further, the deaf or hard of hearing may not hear audible hazard alerts. Once evacuated, these populations will require additional services and care considerations in the response aftermath and during recovery. Plans and strategies must consider the special accommodations for these populations during response and recovery, including evacuation and sheltering.



Maritime Logistics

Diverse maritime transport options, within and outside the country, offer crucial support for humanitarian efforts and the transit and delivery of disaster relief supplies. Protecting and maintaining port infrastructure and equipment can help safeguard these key assets and sustain functional operations during a disaster.



Transportation Capacity

Dense road networks and refueling locations facilitate the evacuation of populations during a disaster and increase the ability of response stakeholders to access affected populations. Improved transportation capacity supports the ability to distribute resources before, during, and after a disaster.



HAZARD-SPECIFIC RISK (HSR)



Coastal Flooding

RANK: 8 / 11 PARISHES ASSESSED

SCORE: 0.268



Earthquake

RANK: 7 / 11 PARISHES ASSESSED

SCORE: 0.519



Extreme Heat

RANK: 4 / 11 PARISHES ASSESSED

SCORE: 0.544



Flash Flood

RANK: 8 / 11 PARISHES ASSESSED

SCORE: 0.275



Hurricane Winds

RANK: 7 / 11 PARISHES ASSESSED

SCORE: 0.519



Landslide

RANK: 7 / 11 PARISHES ASSESSED

SCORE: 0.304



Sea Level Rise

RANK: 8 / 11 PARISHES ASSESSED

SCORE: 0.278



Tsunami

RANK: 6 / 11 PARISHES ASSESSED

SCORE: 0.029



Volcano

RANK: 7 / 11 PARISHES ASSESSED

SCORE: 0.519



Wildfire

RANK: 3 / 11 PARISHES ASSESSED

SCORE: 0.566



MULTI-HAZARD RISK (MHR)

8 / 11RANK AMONG PARISHES
Score: 0.415

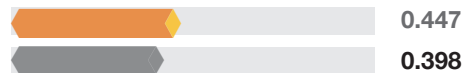
Saint Philip's score and ranking are due to Moderate Multi-Hazard Exposure combined with Very Low Vulnerability and Low Coping Capacity scores.

Multi-Hazard Risk component scores compared to overall average country scores:

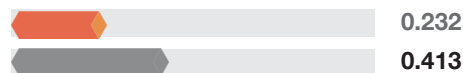
PARISH SCORE
COUNTRY SCORE



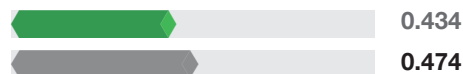
Multi-Hazard Exposure



Vulnerability



Coping Capacity



**Better solutions.
Fewer disasters.**

Safer world.

**1305 N. Holopono Street | P: (808) 891-0525
Suite 2, Kihei, HI 96753 | F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.org



ndpba.eci@pdc.org



BARBADOS

SAINT THOMAS

NDPBA SUBNATIONAL PROFILE

BARBADOS SAINT THOMAS

Area: 34 km²



RISK AND VULNERABILITY COMPONENT SCORE



MULTI-HAZARD RISK (MHR)

- Very Low

Score: 0.303 • Rank: 10/11



RESILIENCE (R)

- Very High

Score: 0.636 • Rank: 2/11



MULTI-HAZARD EXPOSURE (MHE)

- Very Low

Score: 0.180 • Rank: 10/11



VULNERABILITY (V)

- Very Low

Score: 0.225 • Rank: 11/11



COPING CAPACITY (CC)

- Moderate

Score: 0.496 • Rank: 5/11



Population (2010 Census)

12,035



Population Density
(persons per sq km)

354



Poverty Rate

15.9%



Housing Built Prior to
1991

51.8%



Households with
Unimproved Sanitation

9.5%



MULTI-HAZARD EXPOSURE (MHE)

RANK: 10 / 11 PARISHES ASSESSED
SCORE: 0.180



ESTIMATED EXPOSURE TO EACH HAZARD:



Coastal Flooding

0%

0

Buildings Exposed: **0%**

Critical Infrastructure Exposed: **0%**



Hurricane Winds

100%

16,600

Buildings Exposed: **100%**

Critical Infrastructure Exposed: **100%**



Earthquake

100%

16,600

Buildings Exposed: **100%**

Critical Infrastructure Exposed: **100%**



Landslide

11%

1,850

Buildings Exposed: **12%**

Critical Infrastructure Exposed: **0%**



Extreme Heat

44%

7,320

Buildings Exposed: **40%**

Critical Infrastructure Exposed: **66%**



Sea Level Rise

0%

0

Buildings Exposed: **0%**

Critical Infrastructure Exposed: **0%**



Flash Flood

9%

1,480

Buildings Exposed: **9%**

Critical Infrastructure Exposed: **10%**



Tsunami

0%

0

Buildings Exposed: **0%**

Critical Infrastructure Exposed: **0%**

NOTE: Population exposure values for Barbados are estimated using PDC's AIM model. Values may differ from Census population.



MULTI-HAZARD EXPOSURE (MHE)

RANK: 10 / 11 PARISHES ASSESSED
SCORE: 0.180

ESTIMATED EXPOSURE TO EACH HAZARD *(CONTINUED)*:



Volcanic Ashfall

100%

16,600

Buildings Exposed: **100%**

Critical Infrastructure Exposed: **100%**



Wildfire

16%

2,610

Buildings Exposed: **15%**

Critical Infrastructure Exposed: **23%**



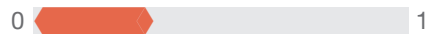
VULNERABILITY (V)

RANK: 11 / 11 PARISHES ASSESSED
SCORE: 0.225

Vulnerability in Saint Thomas is primarily driven by Clean Water Access Vulnerability and Household Composition and Vulnerable Health. The bar charts indicate the socioeconomic themes contributing to the overall Vulnerability score.



Information Access Vulnerability



SCORE: 0.285

RANK: 8/11 PARISHES ASSESSED

82.7%

Primary School
Attendance
Rate

55.4%

Secondary
School
Attendance
Rate

81.6%

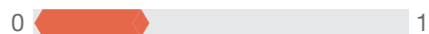
Household
Access to
Radio

93.1%

Household
Access to
Television



Economic Constraints



SCORE: 0.274

RANK: 9/11 PARISHES ASSESSED

0.46

Economic
Dependency
Ratio

15.9%

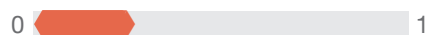
Poverty Rate

31.5%

GINI
Coefficient



Environmental Stress



SCORE: 0.234

RANK: 9/11 PARISHES ASSESSED

No Data

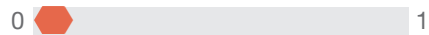
Coastline
Exposure to
Local or Global
Threats

6.5%

Tree Cover
Loss



Gender Inequality



SCORE: 0.061

RANK: 10/11 PARISHES ASSESSED

0.10

Female to Male
Labor Ratio

0.00

Female
to Male
Secondary
School
Attendance



VULNERABILITY (V)

RANK: 11 / 11 PARISHES ASSESSED
SCORE: 0.225



Housing and Transportation Vulnerability

0  1 **SCORE: 0.224** **RANK: 9/11 PARISHES ASSESSED**

51.8%

Housing Built
Prior to 1991

16.9%

Household
Overcrowding

36.5%

Households
without a
Private Vehicle



Household Composition and Vulnerable Health

0  1 **SCORE: 0.290** **RANK: 11/11 PARISHES ASSESSED**

2.8

Prevalence of
Disability (per
100 persons)

10.4%

Population
Age 65 and
Over

25.2%

Population
Under Age 18



Population Pressures

0  1 **SCORE: 0.103** **RANK: 8/11 PARISHES ASSESSED**

0.3%

Average Annual
Population
Change

354

Population
Density
(persons per
sq km)



Clean Water Access Vulnerability

0  1 **SCORE: 0.332** **RANK: 6/11 PARISHES ASSESSED**

93.6%

Households
with Piped
Water

9.5%

Households
with
Unimproved
Sanitation



ISLAND CAPACITY (IC)

RANK: 5 / 11 PARISHES ASSESSED
SCORE: 0.544

Saint Thomas exhibits weaker Island Capacity in the areas of Energy Capacity and Communications Capacity. The bar charts indicate the socioeconomic themes contributing to the overall Islands Capacity score.



Environmental Capacity

0  1 **SCORE: 0.321** **RANK: 5/11 PARISHES ASSESSED**

11.9% Croplands	-1.4 Net Carbon Flux	2.5% Protected Area	No Data Protected Coastlines
---------------------------	--------------------------------	-------------------------------	--



Infrastructure Capacity

0  1 **SCORE: 0.640** **RANK: 6/11 PARISHES ASSESSED**



Communications Capacity

0  1 **SCORE: 0.685** **RANK: 4/11 PARISHES ASSESSED**

75.2% Households with Fixed Phones	60.5% Households with Computer	49.9% Households with Internet Access
--	--	---



Emergency Services and Health Care Capacity

0  1 **SCORE: 0.745** **RANK: 2/11 PARISHES ASSESSED**

3.4 Average Distance to Fire Station (km)	1.8 Average Distance to Hospital or Clinic (km)	2.3 Average Distance to Police Station (km)	1.0 Average Distance to Shelter (km)	1.2 Hospitals and Clinics per 10,000 Persons
---	---	---	--	--



Energy Capacity

0  1 **SCORE: 0.490** **RANK: 9/11 PARISHES ASSESSED**

97.6% Households with Electric Lighting	91.1% Households Using Gas for Cooking
---	--



LOGISTICS CAPACITY (LC)

RANK: 5 / 11 PARISHES ASSESSED
SCORE: 0.449

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



Maritime Logistics

0  1 **SCORE: 0.365** **RANK: 7/11 PARISHES ASSESSED**

7.8

Average
Distance to
Seaport (km)

220.6

Distance
to External
Medium or
Large Seaport
(km)

No Data

Port Density
(ports per km
of coastline)



Air Support

0  1 **SCORE: 0.542** **RANK: 7/11 PARISHES ASSESSED**

156.5

Distance to
External C130
Airport (km)

8.6

Average
Distance to
Airport or
Heliport (km)



Transportation Capacity

0  1 **SCORE: 0.146** **RANK: 10/11 PARISHES ASSESSED**

0.00

Gas Stations
per 1,000
Persons

6.0

Road Density
(km of roads
per sq km)



Warehouse Access

0  1 **SCORE: 0.741** **RANK: 4/11 PARISHES ASSESSED**

8.5

Average
Distance to
Warehouse
(km)

4.6

Distance to
CDEMA Sub-
Regional Focal
Point (km)



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 of Barbados was calculated by using a combination of Island Capacity and Logistics Capacity.

RANK: 5 / 11 PARISHES ASSESSED
SCORE: 0.496



RESILIENCE (R)

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

RANK: 2 / 11 PARISHES ASSESSED
SCORE: 0.636

KEY FACTORS INFLUENCING RESILIENCE

Saint Thomas's score and ranking are due to Very Low Vulnerability combined with Moderate Coping Capacity scores.

Below are the four thematic areas with the weakest relative scores:



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 improves health outcomes and frees up resources to decrease further susceptibility to impacts.



Household Composition and Vulnerable Health

Households with dependent populations, such as the very young, elderly and the disabled may have more difficulty with mobilizing and evacuating in a timely fashion and therefore become even more susceptible to harm during times of disaster. Further, the deaf or hard of hearing may not hear audible hazard alerts. Once evacuated, these populations will require additional services and care considerations in the response aftermath and during recovery. Plans and strategies must consider the special accommodations for these populations during response and recovery, including evacuation and sheltering.



Transportation Capacity

Dense road networks and refueling locations facilitate the evacuation of populations during a disaster and increase the ability of response stakeholders to access affected populations. Improved transportation capacity supports the ability to distribute resources before, during, and after a disaster.



Maritime Logistics

Diverse maritime transport options, within and outside the country, offer crucial support for humanitarian efforts and the transit and delivery of disaster relief supplies. Protecting and maintaining port infrastructure and equipment can help safeguard these key assets and sustain functional operations during a disaster.



HAZARD-SPECIFIC RISK (HSR)



Coastal Flooding

RANK: 10 / 11 PARISHES ASSESSED
SCORE: 0.000



Earthquake

RANK: 11 / 11 PARISHES ASSESSED
SCORE: 0.452



Extreme Heat

RANK: 8 / 11 PARISHES ASSESSED
SCORE: 0.331



Flash Flood

RANK: 10 / 11 PARISHES ASSESSED
SCORE: 0.149



Hurricane Winds

RANK: 11 / 11 PARISHES ASSESSED
SCORE: 0.452



Landslide

RANK: 9 / 11 PARISHES ASSESSED
SCORE: 0.242



Sea Level Rise

RANK: 10 / 11 PARISHES ASSESSED
SCORE: 0.000



Tsunami

RANK: 7 / 11 PARISHES ASSESSED
SCORE: 0.000



Volcano

RANK: 11 / 11 PARISHES ASSESSED
SCORE: 0.452



Wildfire

RANK: 5 / 11 PARISHES ASSESSED
SCORE: 0.445



MULTI-HAZARD RISK (MHR)

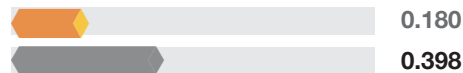
10 / 11RANK AMONG PARISHES
Score: 0.303

Saint Thomas's score and ranking are due to Very Low Multi-Hazard Exposure combined with Very Low Vulnerability and Moderate Coping Capacity scores.

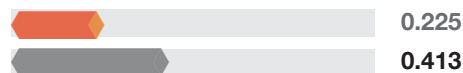
Multi-Hazard Risk component scores compared to overall average country scores:

**PARISH SCORE**
COUNTRY SCORE

Multi-Hazard Exposure



Vulnerability



Coping Capacity



**Better solutions.
Fewer disasters.**

Safer world.

**1305 N. Holopono Street | P: (808) 891-0525
Suite 2, Kihei, HI 96753 | F: (808) 891-0526**



@PDC_Global



/PDCGlobal



www.pdc.org



ndpba.eci@pdc.org