

CRISIS IMPACT OVERVIEW

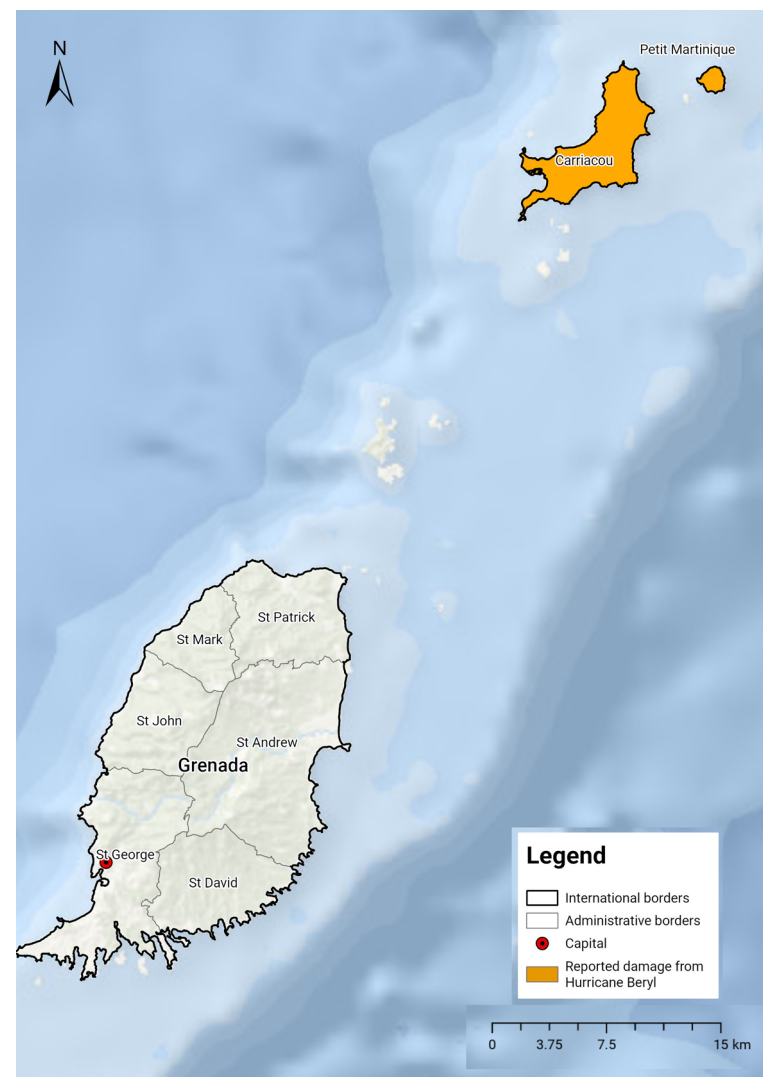
- Hurricane Beryl made landfall on 1 July as a category 4, moving west-northwest at approximately 20 mph with maximum sustained winds of 140 mph (UN 02/07/2024). **In Grenada, Carriacou, Petite Martinique, and northern Grenada have been the hardest hit**, with initial reports indicating significant destruction and 6 hurricane-related fatalities, 27 injuries and 2 people were missing as of 10 July. Additionally, 98% of the infrastructure in Carriacou and Petite Martinique was destroyed by the hurricane (IOM 10/07/2024).
- According to a 5 July Government Gazette, the parishes of Saint Patrick, Carriacou and Petite Martinique had been declared disaster zones from 1 July to 30 September 2024. Although less than 1,000 people remained in the 13 shelters available across the country as of 8 July, more than 12,000 people were in need of humanitarian assistance across the country (OCHA 10/07/2024).
- As of 3 July, the hurricane had destroyed Carriacou island's only Hospital (NY Times 03/07/2024). As of 8 July, priority needs included emergency shelter materials, temporary housing, food assistance, livelihood support and WASH (DEEP 08/07/2024).

Table 1. Post-Hurricane Beryl impact across Grenada

HURRICANE-RELATED DEATHS	6
Population in emergency shelters (estimates 9 July)	281
Population displaced outside of emergency shelters	Unknown
Population potentially affected	42,000

Source: Map Action 11/07/2024; OCHA 10/07/2024; 09/07/2024

Location of most reported damage from hurricane beryl



Source: ACAPS using OCHA accessed 12/07/2024.

Information gaps

- Updated baseline information on poverty and food security for Grenada is not available.
- Information on livelihood loss including agricultural losses and support for affected farmers was not available up until 17 July.
- There are information gaps regarding the availability and functionality of health care providers in Petite Martinique.
- Anticipated scope and scale
- The impact of the hurricane is likely to affect livelihoods, as tourism is a major driver of Grenada's economy. The impact of the hurricane is likely to affect livelihoods, as tourism is a major driver of Grenada's economy. The destruction of tourism infrastructure is expected to impact income generation, especially since the country is currently in its low season (Sandals accessed 17/07/2024)

Humanitarian constraints

- As of 12 July, electricity was restored to 97% of people in Grenada. **2,000 people remained without electricity on the mainland** (PAHO 12/07/2024). In addition to damaging basic infrastructure, the hurricane also disrupted electricity, water, and telecommunications services throughout Grenada. By July 5, over 70% of utilities in non-disaster zones had been restored (CNW 12/07/2024).
- **Mainland Grenada:** Preliminary structural damage assessments as of 11 July, showed varying levels of damage to roads around Lauriston Airport area, Belmont parish and Argyle/Six roads. **In St George parish**, there was damage along the main road at Vendome, Bellevue and Birchgrove towns. **In St David** there was damage along the main road at Bellevue. In St John, there was damage along the main road at Maran and along the tertiary road at Loretto and Clozier. **In St Patrick**, there was damage along the main road at Chantimelle, Union, Mount Rose and along the tertiary road at River Sallee, Mount Craven and Mount Rodney. **In Belmont**, severe all tertiary roads were damaged to varying degrees (Map Action 11/07/2024; 11/07/2024; EC 08/07/2024).
- Carriacou: As of 7 July, **the airport terminal in Carriacou was destroyed, limiting flights to fly-by-visibility due to damaged air control towers** (OCHA 07/07/2024). Additionally, initial rough seas hindered access and inaccessible roads delayed distribution of goods arriving at the airport. However, the restoration of operations at the seaport in Carriacou has allowed the movement of relief items. While accessibility has improved, some areas still remained cut off with access remaining a challenge (OCHA 10/07/2024). As of 8 July, evacuations have been conducted for medical reasons, but residents report limited

access to information about available public transportation between Carriacou and the mainland (OCHA 08/07/2024). **As of 12 July, there was a 6am–6pm curfew in Carricou and all travel to the island required approval from authorities** (PAHO 12/07/2024).

- **Petite Martinique: As of 11 July, there was damage on all the tertiary roads in the island** (Map Action 11/07/2024; EC 08/07/2024).

CRISIS IMPACTS

Shelter

- Grenada's mainland has been mildly affected (IOM 10/07/2024). **Damage to houses has been reported in St. David and St. Andrew parishes** (DEEP 08/07/2024). As of 14 July, the decrease in available emergency shelter space has resulted in overcrowded conditions.
- **Carriacou:** As of 10 July, **more than 6,000 people were affected** (IOM 10/07/2024). **Five out of eight official shelters were unusable because of significant structural damage, as of 16 July** (OCHA 16/07/2024). As of 15 July, there were 281 people in shelters (Active shelters-109, Pop up shelters- 172). there were 23 people in a shelter set up at Our Lady of the Rosary Catholic School, 29- Harvey Vale Government, Bishop's School College-11, Hillsborough Government School- 30, Dover Government School- 16 (Map Action 15/07/2024).
- **Petite Martinique: The island suffered near-total devastation, with 100% of homes either damaged or destroyed** (DEEP 08/07/2024). As of 7 July, more than 900 people had **been affected** (IOM 10/07/2024). As of 11 July, there were 63 people were sheltered at St. Thomas Aquinas Catholic School (Map Action 11/07/2024). **One of the two shelters was inoperable because of structural damages** (OCHA 16/07/2024).
- According to a survey conducted between 2008 and 2018, a high number of the population (34%) felt deprived in relation to housing, while 13% lived in overcrowded conditions (World Bank 2021). According to the Interamerican Development Bank, damages and losses caused by hurricanes and floods—the most frequent hazards impacting Grenada— occur largely in the residential infrastructure and they mostly have to do with deficiencies in the way roofs are constructed and connected to walls. In 2004, Hurricane Ivan resulted in the damage and destruction 90% of the island's building stock, including 30% of the housing stock, which required complete replacement (WB 02/04/2024; IMF 2019; GoG 2021)

WASH

- **The hurricane affected 28 water systems nationwide.** By 9 July, all were commissioned but there were delays in providing water to some communities (PAHO 10/07/2024). This is likely to aggravate the affected population's water needs.
- **Carriacou:** the hurricane damaged the water plant, but it was recommissioned and distribution through trucking had resumed by 10 July. Hurricane Beryl also damaged a desalination plant. It was expected that the plant would be restored by 8 July, but its status as of 17 July was unknown (PAHO 10/07/2024).
- **Petite Martinique:** the desalination plant was damaged but was expected to be functional from 15 July (PAHO 10/07/2024). It's status as of 17 July was unknown.
- In general, surface water from a large river network provides the main source of water for human consumption on the Grenada mainland, while rainwater collection provides most water on Carriacou and Petite Martinique, where 91% of the population own cisterns. Two private companies provide desalinations services to supplement rainwater harvesting on Carriacou and Petite Martinique, which are drier than the mainland and experience more water stress (UN Dept. of Statistics 2019; Grenada Climate Finance Portal accessed 15/07/2024). **The hurricane may have damaged rainwater collection infrastructure and other desalination plants, and contaminated water in tanks.**

Health

- Prior to Hurricane Beryl, since around mid-May, there has been a gastroenteritis outbreak across Grenada. As of 12 July, the most cases were reported in Saint Andrew and Saint George parishes on the mainland. A decrease in reported cases by 12 July was attributed to fewer healthcare visits because of the hurricane (PAHO 12/07/2024). There is a risk of increased cases because of contaminated water and poor access to WASH following the hurricane.
- Reported cases of dengue, which is endemic to Grenada, had been increasing prior to the hurricane, since around the beginning of June (PAHO 12/07/2024; Francis et al 05/06/2023; Loop 19/05/2023). As of 12 July, a decrease in dengue cases reported since Hurricane Beryl was attributed to heavy rainfall that disrupted mosquito breeding habitats and disrupted access to healthcare (PAHO 12/07/2024). **It is likely that dengue will increase in coming weeks because of accumulated stagnant water and poor access to WASH following the hurricane, and the continuation of the June–November rainy season, when dengue cases normally peak** (PAHO 12/07/2024)
- Out of the 41 health centers assessed in Grenada as of 10 July, 26 (64%) were operational, 11 (27%) were operational with damage to power and/or water facilities, and 4 (10%) were non-operational. Water was being trucked to facilities that lack running water. Additionally,

according to PAHO, health emergency supplies are scheduled to be delivered in the country from 13 July (PAHO 08/07/2024 and 10/07/2024).

- **Carriacou:** As of 8 July, 5 out of the island's 6 medical facilities had been damaged (DEEP 08/07/2024). As of 3 July, the hurricane had destroyed Carriacou island's only hospital, the Princess Royal Hospital, which experienced damage to its roof, solar panels, and hot water system (NY Times 03/07/2024; Direct Relief 10/07/2024). The Hillsborough Health Centre, which is serving as a temporary hospital, did not have power until 12 July, when electricity was restored and it became fully operational (PAHO 12/07/2024).
- **Mainland Grenada:** In St. George's, the Mount Gay Psychiatric Hospital and the Celina Clouden Hospital was partially damaged as of 8 July (DEEP 08/07/2024).
- As of 2021, the average national coverage of essential services including reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access was 74% (OWD 2021). In 2018, the number of medical doctors and nursing and midwifery personnel per 10,000 people was 13 and 57 respectively (WHO accessed 11/07/2024).

Livelihoods

- As of 9 July, **there was severe agricultural destruction, especially in Carriacou and Petite Martinique. This is expected to significantly impact food security and the livelihoods of farmers and agricultural workers** (OCHA 10/07/2024).
- Grenada's economy is heavily dependent on tourism and agriculture, both of which are sensitive to climate related events and have been negatively affected (GCF 31/05/2024).

DRIVERS OF THE CRISIS

Climate change

- **Climate change has driven more powerful and destructive hurricanes in Grenada.** Warmer ocean temperatures provide more energy for storms to develop and intensify. This leads to hurricanes reaching higher wind speeds and producing more rainfall. Additionally, rising sea levels can cause storm surges to reach further inland, inundating coastal communities and causing catastrophic damage (NASA 01/06/2024; C2ES accessed 12/07/2024).
- As a Small Island Developing State (SIDS), Grenada has inherent characteristics that make it particularly vulnerable to the adverse impacts of climate change. Its economy relies heavily on a limited range of activities and outputs that are largely climate-dependent and sensitive, making it susceptible to any changes in these activities. Climate screening studies from 2022 indicate that 13.5% of the national budget was at risk of being negatively affected by climate change, and 86% of the economy had an active link to climate conditions (IFAD 10/2021; GoG 2022).
- Climate change projections for Grenada include an increase in average annual temperature, a decrease in average annual rainfall across all seasons, and potentially greater intensity of extreme events such as hurricanes, tropical storms, droughts, severe floods, and rising sea surface temperatures. In May 2024, the country experienced the most severe water crisis in 14 years resulting in the Government declaring a water crisis (IFRC 24/05/2024; IFAD 07/2019).

COMPOUNDING/AGGRAVATING FACTORS

Poverty

- Grenada faces significant inequality, unemployment, and poverty, with 54.8% of the population living in poverty or at risk of falling into poverty in 2020. The highest poverty rates were found in St. Mark, where over 50% of residents were affected, and St. Andrew, with 44% (OCHA 31/07/2020).
- As of July 2021, Grenada had the highest poverty rate among Eastern Caribbean countries, significantly exceeding the regional average of 23%. Financial constraints have limited the ability of communities to prepare for and recover from disasters, while housing settlements along coastlines, riverbanks, and steep slopes have further increased their vulnerability (UNICEF 01/07/2021; OCHA 31/07/2020).

Climate vulnerable infrastructure

- Grenada's basic infrastructure, particularly its housing stock and other buildings, always suffers the most damage during hurricanes. This is due to poor building standards and an over-reliance on rehabilitating damaged buildings rather than redeveloping them. As a result, weather events like tropical storms and hurricanes can destroy up to 100% of the island's housing stock. For example, during Hurricane Ivan, 90% of the entire housing stock and infrastructure was destroyed, and only 2 of the nation's 75 primary and secondary schools escaped severe damage (OAS 2014).

FUNDING AND RESPONSE CAPACITY

- According to the minister overseeing Grenada's islands of Carriacou and Petite Martinique, these islands are in need of humanitarian assistance across all sectors (CNW 12/07/2024).
- As of 15 July, 2000 relief packages of food, water and NFI had been delivered in Carriacou and Petit Martinique (Map Action 16/07/2024).
- As of 11 July, the National Emergency Operations Center (NEOC) had been activated and was coordinating the response to all the affected areas in Northern Grenada, Carriacou and Petite Martinique (CDEMA 12/07/2024; CNW 12/07/2024).
- On 10 July, the Caribbean Catastrophe Risk Insurance facility (CCRIF) announced a USD 44 million to Grenada as a result of the damage and destruction caused (CLN 10/07/2024).
- As of 10 July, the country required at least USD 5 Million for humanitarian assistance in the affected locations (OCHA 10/07/2024).
- By 8 July, there were 19 organisations operating in Carriacou, National and Petite Martinique including UN agencies (30%), INGOs (51.3%) and NNGOs (17.5%). The top sectors represented were Coordination (5), Health (5), and Shelter (5) and WASH (5) (OCHA 08/07/2024).
- By 2 July, the multidisciplinary Rapid Needs Assessment Teams and members of the UN Emergency Technical Team had been deployed in the country (OCHA 02/07/2024).

Table 2. Pre-hurricane statistics on Grenada

TOTAL POPULATION (2022 ESTIMATE)	125,433
Population under 15 years old (2022 estimate)	(17%)
Population over 65 years old (2022 estimate)	(8.9%)
Population density (total population/total area)	371 people/km ²
Population with disabilities	N/A
Poverty rates % (2016 estimate)	55%
Food insecurity % (2022 estimate, moderate–severe food insecurity)	21%
Malnutrition in children under five years old %	N/A
Access to improved water sources (2017 estimate)	97%
Access to improved sanitation sources (2017 estimate)	97%

Source: (Map Action 11/07/2024; OCHA 10/07/2024; 09/07/2024; UNICEF 2023; Worldometers accessed 11/07/2024; FAO accessed 11/07/2024)