

HURRICANE BERYL

Humanitarian impact

CRISIS IMPACT OVERVIEW

Tropical Cyclone Beryl formed on 28 June 2024 and intensified into a powerful Category 4 hurricane on 30 June, bringing life-threatening winds and storm surges to several countries in the southwestern Caribbean (ECHO 30/06/2024; Spectrum News 04/07/2024). **On 1 July, Hurricane Beryl made landfall** in southern Windward Island, becoming the earliest Category 5 Atlantic Basin hurricane on record, with winds topping at 165mph (WMO 02/07/2024).

Hurricane Beryl has affected Barbados, the Cayman Islands, the Dominican Republic, Grenada, Haiti, Jamaica, Mexico, Saint Vincent and the Grenadines (SVG), and Trinidad and Tobago. **By 4 July, its impact had killed ten people across the Caribbean** (three each in Grenada, SVG, and Venezuela, as well as one in Jamaica) and led to five people missing (France 24 04/07/2024; ECHO 04/07/2024).

Some of the most affected islands are Carriacou and Petite Martinique in Grenada, with 95% of houses damaged. In SVG, 90% of infrastructure is damaged, including houses, roads, and the airport terminal on Union Island (IFRC 04/07/2024). There is no complete information on the damage in Jamaica because 60% of the population has no electricity (BBC 04/07/2024; The Gleaner 03/07/2024 a). When the hurricane passed through the Cayman Islands on 4 July, it caused some destruction. However, clear information on the severity and extent of the destruction is still unavailable (Reuters 04/07/2024; NBC News 05/07/2024).

Beryl is the 2024 Atlantic season's first hurricane and the earliest storm on record to reach the strongest possible ranking of Category 5, before weakening to Category 4 as it made landfall on small islands in the eastern Caribbean (Reuters 03/07/2024). Category 3 and above hurricanes are characterised by wind speeds of at least 111mph (178kph) (BBC 23/05/2024). These types of hurricanes often strengthen quickly into stronger categories. Beryl, for example, intensified from a Category 4 to a Category 5 in just one day. Rapidly intensifying hurricanes pose a greater threat because they give people in the projected impact areas limited time to prepare and evacuate (NYT 02/07/2024).

The most vulnerable groups to the impact of the hurricane are the elderly, children, people with disabilities, and those with chronic illnesses (OCHA 02/07/2024 a).

Anticipated scope and scale

Hurricane Beryl is expected to weaken into a Category 1 hurricane as it moves in a west-northwest direction, reaching Quintana Roo state, Mexico, on 5 July. It will likely quickly lose strength and become a tropical storm as it crosses the Yucatan Peninsula, entering the Gulf of Mexico later on the same day. Beryl is forecasted to move northwest across the southwestern Gulf of Mexico, heading towards Tamaulipas state by the afternoon of 7 July. The heavy rainfall from the hurricane is likely to cause flooding in low-lying areas and places with inadequate drainage systems, leading to stagnant water and an increased risk of waterborne diseases (ECHO 04/07/2024; Crisis24 03/07/2024).

The projected path and strength of the storm may change accordingly in the upcoming days (Crisis24 03/07/2024).

Beryl is projected to put at least three million children in the Caribbean at risk (UNICEF 03/07/2024 a).

The 2024 Atlantic hurricane season, which runs from June–November, is forecasted to be exceptionally active, with 20–25 storms projected. 8–12 of these have the potential to develop into hurricanes (IOM 01/07/2024; UNDP 02/07/2024; BBC 23/05/2024). The Atlantic Basin typically encounters an annual average of 14 named tropical storms, with seven hurricanes and three major hurricanes (BBC 23/05/2024).

Hurricane Beryl increases the risk of waterborne diseases, such as dengue fever, malaria, and cholera, in the region. Some of the affected countries have already had cases of these diseases (OPS 27/06/2024).

Hurricane Beryl is anticipated to affect the jobs and economy of all the affected countries, which all rely heavily on tourism.

Fisheries in Barbados and several islands have reported damages. The hurricane is also likely to affect ocean life as it results in high temperatures in the sea (NPR 03/07/2024; NG 06/09/2023).

Humanitarian constraints

The small size and scattered distribution of the affected islands pose significant logistical challenges. The limited infrastructure and vast geographical spread also challenge aid delivery and relief operations. Accessibility issues on these smaller islands could cause delays in the arrival of emergency aid and humanitarian workers (UN RC Barbados and the Eastern Caribbean 01/07/2024).

Access constraints in Carriacou (Grenada) include the lack of an airport and flooding and a large amount of debris near the coast. The lack of electricity also affects communications, further hampering humanitarian access on the island (PAHO 03/07/2024).

CRISIS AND ANTICIPATED IMPACT BY COUNTRY

Barbados

Although Barbados did not directly experience hurricane-force winds, the peripheral bands of the hurricane brought storm-force winds, intense rainfall, and storm surges, damaging properties and livelihoods, including 40 houses (IOM 01/07/2024). The impact also resulted in water and electricity supply interruptions, although all crucial services had been restored by 2 July (CBC 02/07/2024; PAHO 01/07/2024 and 03/07/2024).

Until 1 July, there were around 400 people in shelters (PAHO 01/07/2024). Most of the shelters in Barbados are churches with support from the Government (Govt. Barbados accessed 04/07/2024). On 4 July, the number of people remaining in shelters was unclear, with government assessments still underway (CBC 02/07/2024).

Grenada and Saint Vincent and the Grenadines

The hurricane has affected approximately 200,000 people (nearly the entire population of both Grenada and SVG) (OCHA 01/07/2024 UN RC Barbados and the Eastern Caribbean 01/07/2024). In SVG, the Government had evacuated 1,752 people to 71 shelters by 2 July. Until 2 July, Grenada evacuated 2,500 people to 40 shelters; on 3 July, around 3,000 people in Carriacou and Petit Martinique (Grenada) (over 30% of both islands' total population) remained in 77 shelters (IFRC Americas X 04/07/2024; OCHA 02/07/2024a OCHA 02/07/2024 b and 02/07/2024 b).

There is an urgent need for shelters in both countries (UNICEF 03/07/2024 b). In SVG, there have been reports of hospital roof damage and other infrastructural impacts (PAHO 01/07/2024). The hurricane also affected 98% of homes on Union Island (SVG) and Carriacou (Grenada),

with significant roof and structural damage resulting in a high need for shelter materials and NFIs (OCHA 02/07/2024 b and 02/07/2024 a; IOM 03/07/2024; PAHO 03/07/2024). Mount Gay Psychiatric Hospital in Grenada (which had a capacity of 100,000 people) lost a section of its building, leading to the relocation of patients to another facility (PAHO 01/07/2024). Until 4 July, there were no reports on the state of other hospitals and health facilities in the main island of Grenada.

Union Island lacks sanitation facilities, has limited water access, and has suffered extensive damage to its power plant. People continue to evacuate to SVG, but accommodation is limited because of the Vincy Mas Carnival, a traditional celebration that usually attracts tourism and represents an important income for the islands (IOM 03/07/2024). The carnival corporation has announced that activities will continue until 9 July despite the destruction in various parts of the country (Loop 04/07/2024; Searchlight 03/07/2024).

By 4 July, there was no information on the restoration of electricity in Carriacou and Petite Martinique. Many people have decided to leave towards Grenada or other bigger islands (La 1ère 03/07/2024; PAHO 03/07/2024).

The hurricane destroyed 50% of plantain and banana crops and led to significant losses in root crops and vegetables in SVG (France 24 04/07/2024). This is likely to affect food security and livelihoods, as the SVG economy heavily relies on banana production (EC accessed 04/07/2024).

Saint Lucia and Trinidad and Tobago

The hurricane had a minimal impact on Saint Lucia and Trinidad and Tobago on 1 July (CNN 01/07/2024). A total of 80 people were evacuated to state-operated emergency shelters in both countries. Heavy rainfall affected several of the Water and Sewerage Authority's facilities in northern Trinidad and Tobago, while, by 2 July, some parts of Corinth (Saint Lucia) did not have electricity (PAHO 01/07/2024 and 03/07/2024). On 4 July, it was unclear if the electricity service had been re-established.

Dominican Republic and Haiti

Hurricane Beryl affected the south of Haiti and the Dominican Republic on 4 July. Around 160,000 Dominicans in Barahona and Pedernales provinces, particularly in Enriquillo and Paraiso towns (Barahona) and Oviedo and Pedernales cities (Pedernales), and more than two million Haitians in Sud-East department lived in the exposed areas (PI 02/07/2024). Despite the strong rainfall, elevated sea level, power outages, and sewage damage reported in the Dominican Republic, there are no reported casualties in either country (EFE 04/07/2024; 20 Minutos 03/07/2024).

Jamaica

Hurricane Beryl affected Jamaica on 3 July (The Jamaica Star 02/07/2024). By 4 July, 60% of Jamaica lacked electricity access, restricting information-gathering on casualties and damage (BBC 04/07/2024; The Gleaner 03/07/2024 a). On 2 July, Prime Minister Andrew Holness declared the entire island a disaster area for the next seven days and announced an evacuation order for flood-prone and low-lying areas of Jamaica (The Jamaica Star 02/07/2024 a). Both Sangster International Airport in Saint James and Norman Manley International Airport in Kingston were closed on 2 July to ensure safety during the hurricane's passage (The Jamaica Star 02/07/2024 b). Sangster International Airport was set to reopen at 6:00 pm local time on 4 July, while Norman Manley International Airport was scheduled to reopen at 5:00 am local time on 5 July (SFCN 05/07/2024). By 5 July there was no updated information on whether the airports had reopened, but most flights remained listed as cancelled or delayed (Airportia accessed 05/07/2024).

By 3 July, over 500 individuals had relocated to primarily government-operated shelters. The main shelter is located at Jamaica National Arena, and several schools have been prepared to also serve as shelters (The Gleaner 03/07/2024 b; Jamaica Observer 03/07/2024 a). Fallen trees and electricity poles have affected several roadways in the country's interior settlements, resulting in electricity shortages for more than 400,000 people (65% of Jamaica Public Service Company customers) in communities in the north (AP 04/07/2024; The Jamaica Star 03/07/2024).

On 3 July, the Meteorological Service of Jamaica discontinued the hurricane warning as the country fell outside the range of hurricane-force winds. Instead, it issued a flash flood warning over low-lying and flood-prone areas of the southwestern parishes on 3 July, as the country expected a continued period of rainfall through 4 July (Meteorological Service of Jamaica X 04/07/2024).

Mexico

According to the National Meteorological Service of Mexico, Hurricane Beryl is expected to make landfall in Mexico's Yucatan Peninsula on Thursday, 4 July, at around 16:00. It will affect Campeche, Quintana Roo, Tamaulipas, Veracruz, and Yucatán states, exposing at least 1.87 million people to its impact (NHC 02/07/2024; CONAGUA/SMN 03/07/2024; PDC 04/07/2024).

Local governments have raised alerts recommending precautionary measures to residents in states likely to be affected. Until 4 July, Quintana Roo remained on an orange alert in all municipalities, indicating high danger. People were advised to monitor water levels if near the ocean or a river, close their doors and windows, or go to temporary shelters (BBC 04/07/2024; Infobae 05/07/2024). On 2 July, the Yucatán government declared a green alert in

106 municipalities (around 2.3 million people), representing the need to stock first aid kits, non-perishable food, potable water, and torches and stay in their homes or shelters. As of 5 July, Mexican authorities had deployed more than 8,000 troops to provide humanitarian support. Additionally, all schools were directed to close, hundreds of tourists had been evacuated from hotels across the peninsula's coastline, and more than 300 flights had been cancelled or delayed (BBC 05/07/2024).

The ensuing floods may destroy roads and bridges, disrupting movement for the affected communities and humanitarian responders.

CRISIS DRIVERS

Climate-related issues

Although climate change is not the only reason behind the increase in the number of hurricanes, it is amplifying the probability of the most intense hurricanes occurring and leading to more substantial precipitation. The recent decline in the El Niño weather pattern and anticipated transition to La Niña conditions in the near future are creating more favourable atmospheric circumstances for the occurrence of storms in the Atlantic (BBC 23/05/2024). La Niña reduces wind shear, which in turn decreases the inhibiting effect on hurricanes (The Conversation 09/05/2024).

An intense drought might also result in a stronger-than-normal hurricane season (UNDP 02/07/2024). In May, Grenada and some states of Mexico experienced severe drought (IFRC 13/06/2024).

COMPOUNDING/AGGRAVATING FACTORS

Socioeconomic vulnerabilities

Caribbean economies rank among the poorest in the Latin America and the Caribbean region. Compared to countries in Central, North, and South America, many Caribbean nations have a lower GDP per capita. These economies also heavily rely on tourism and a limited range of primary commodities, such as bananas and sugar. This dependence makes them highly vulnerable to climate hazards. External influences can significantly affect their economic stability and growth (WB 17/10/2023; CDB 2019; Statista 27/05/2024). In a 2022 ILO report, youth unemployment rates across the Caribbean were alarmingly high: a staggering 41.1% in SVG, 30.6% in Barbados, 29% in Grenada, and 26.1% in Jamaica (ILO 2022).

Climate hazard exposure

Caribbean countries are highly vulnerable to climate hazards, with extreme weather events being a common occurrence. When a hurricane strikes, it can devastate small islands, sometimes causing damage exceeding their entire annual GDP. Such disasters often most severely affect the poorest populations. The Caribbean Vulnerability Score, an index created using historical demographic and socioeconomic data as well as climate data representing extreme rain events, identifies Jamaica as the most vulnerable to rain events. This index highlights the heightened risk for Caribbean nations, which are prone to climate hazards, and underscores the need for robust disaster preparedness and response strategies (Stennett-Brown et al. 10/07/2019).

Violence and crime

Crime, particularly violent crime, remains a significant issue throughout the Caribbean. The region has some of the highest homicide rates globally, with several countries reporting rates more than five times the global average. Between 2019–2022, homicide rates increased by over 20% in some Caribbean nations. For instance, in SVG, homicide rates rose from 18% in 2019 to 40.4% in 2022. Jamaica saw an increase from 47.6% to 53.3%, and the Dominican Republic from 9.4% to 12%. Conversely, Mexico recorded a decline in homicide rates, dropping from 29% to 26% during the same period (UNODC 2023).

Factors such as drug trafficking, gang violence, and social inequality drive this high level of violence, which not only creates a climate of fear and insecurity for residents but also deters tourism, a crucial economic driver for many Caribbean nations (WB 30/01/2024; InSight Crime 02/11/2023; UNODC 2023).

FUNDING AND RESPONSE CAPACITY

UNICEF has estimated a funding need of USD 500,000 but allocated only USD 120,000 from regular resources to purchase emergency supplies for immediate response needs (UNICEF 03/07/2024 b).

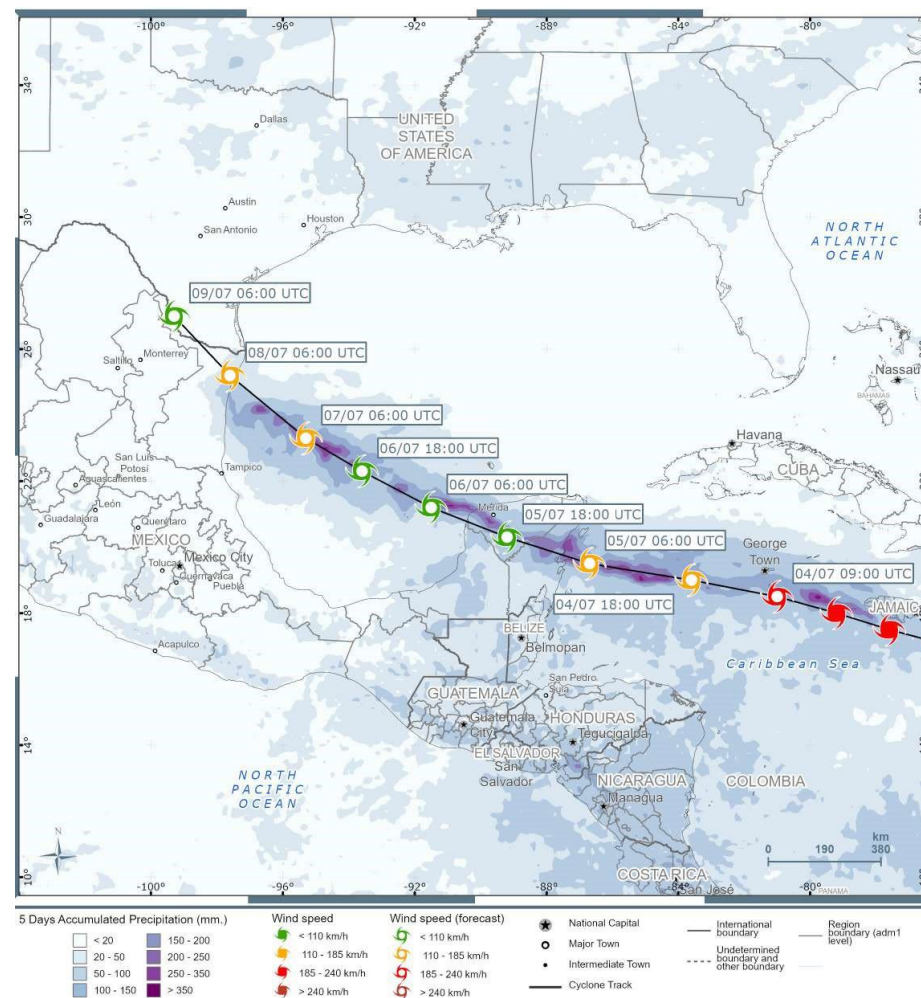
On 4 July, the UN pledged to allocate USD 4 million from the UN Central Emergency Response Fund to Grenada, Jamaica, and SVG (UN News 04/07/2024).

Grenada and SVG: on 1 July, IOM sent its Caribbean Emergency Coordinator to Barbados to assist the Caribbean Disaster and Emergency Management Agency (CDEMA) in coordinating the regional response. The CDEMA is currently working with the national authorities of Grenada and SVG (IOM 01/07/2024). By 2 July, the multidisciplinary Rapid Needs Assessment Teams and members of the UN Emergency Technical Team had been deployed (OCHA 02/07/2024 a).

Mexico: on 3 July, the Mexican Government started the evacuation of people, with the Mexican Navy and Naval Civil Protection Unit on standby to respond to the emergency (La Jornada Maya 03/07/2024; Govt. Mexico 02/07/2024).

Jamaica: the National Emergency Operation Centre at the Office of Disaster Preparedness and Emergency Management, as well as the Parish Disaster Preparedness Committee Command Centre, was coordinating the response at the regional level (Jamaica Observer 03/07/2024 b).

Map 1. FIVE-day precipitation forecast between 4–8 July



Source: WFP (04/07/2024)