

CARIBBEAN



Hurricane Irma: Saffir-Simpson Category 5

	Not required	Low	Moderate	Significant	Major
Need for international assistance		X			
Expected impact	Very low	Low	Moderate	Significant	Major
				X	

Crisis overview

Hurricane Irma made landfall on northeast Caribbean islands during the early hours local time of 6 September, affecting Antigua and Barbuda, Anguilla, Bahamas, British Virgin Islands, Cuba, St Barthélemy, St. Martin, the Virgin Islands, Puerto Rico, Dominican Republic, Haiti, US Virgin Islands, and Turks and Caicos. Two million people live in areas exposed to in excess of 120 km/h winds.

28 people have been reported dead. 1.2 million people have been affected by damage to water infrastructure. An estimated 20,000 children have been affected throughout the region and 17,000 people are in immediate need of shelter. 70%-90% of infrastructure has been destroyed in Anguilla and Barbuda. Livelihoods, housing and infrastructure in the British Virgin Islands, St. Martin, the US Virgin Islands, and Turks and Caicos have been severely affected. 34,000 people have been displaced in Dominican Republic and Haiti alone.

Key findings

Anticipated scope and scale

- Most of the Caribbean Islands battered by Irma were spared by Hurricane Jose
- Assessments will take place in the following days to determine people in need
- The number of dead and missing is expected to rise as communications and access are gradually restored

Key priorities

- Restoration of essential services
- Water and sanitation kits
- Canned food
- Fuel
- Building materials for reconstruction
- Equipment to clean islands
- Health and dignity kits
- Seeds and agricultural goods
- Worst affected locations: Barbuda, Saint Barthelemy, Saint Martin

Humanitarian constraints

- No recognition of a single coordinated system
- Adequate funding for response personnel and supplies
- Availability of assets to move personnel
- Communication and logistics systems affected by the hurricane
- Mobilisation of needs assessments in some areas is challenging due to mountainous areas
- Rain and winds are hampering access to affected communities.

Crisis impact per country

Anguilla

- One fatality reported.
- 4,800 children have been affected.
- Telecommunication infrastructure and health care services and facilities have been destroyed.
- Homes have been damaged and livelihoods affected.
- The airport runway and most roads leading to the airport have been cleared, yet there are no air traffic services and no runway lights.
- 90% of roads impassable.
- Hurricane José has missed Anguilla.

Sources: CDEMA 06/09/2017, CDEMA 07/09/2017, OCHA 08/09/2017, UNICEF 09/09/2017, OCHA 10/09/2017.

Antigua

- No fatalities, four minor injuries reported.
- Damage to infrastructure was minor.
- Airport currently open for emergency landings, and VC Bird International Airport was re-opened for commercial flights on 7 September.
- 1,600 Barbudans evacuated to Antigua need shelter, healthcare, and access to education.
- There are approximately 100 unaccompanied minors from Barbuda evacuated in Antigua.
- The seaport is intact and operational.
- Supermarkets and stores are open

Sources: CDEMA 06/09/2017, CDEMA 07/09/2017, OCHA 10/09/2017.

Barbuda

- One fatality confirmed.
- 1,600 people, including 750 children, have been evacuated
- WASH infrastructure has been significantly damaged
- Almost all critical facilities have been destroyed, including ambulances.

- Initial reports indicate the destruction of 90% of structures. Approximately 50% percent of the island's homes have been destroyed, with more reports of major roof damage.
- Damage to the only airport in Barbuda means supplies have to be sent by boat and helicopter from Antigua.
- Roads and communication systems have been destroyed.

Sources: CDEMA 07/09/2017, USAID 07/09/2017, OCHA 07/09/2017, OCHA 08/09/2017, UNICEF 09/09/2017, OCHA 10/09/2017.

Bahamas

- Irma posed direct threat to the islands of Mayaguana, Inagua, Crooked Island, Acklins, Long Cay and Ragged Island. The government ordered a mandatory evacuation of these islands.
- Approximately 1,000 people were evacuated from the southern islands of Acklins, Crooked, Inagua, Mayaguana, and Ragged to shelters on New Providence Island, the most populous island in the Bahamas, according to the government.
- All airports are closed.
- CDEMA has stated that aerial reconnaissance for the southern islands is required. The full extent of damage remains unclear.
- Storm surge of up to 6m was expected in the islands of the Southern Bahamas. Rough seas and damaging waves are expected to lead to inundation and damage along coastlines.

Sources: OCHA 06/09/2017, USAID 07/09/2017, OCHA 10/09/2017.

British Virgin Islands

- Five confirmed dead.
- 9,500 children have been affected.
- 100 people are housed in 9 shelters.
- Water supply infrastructure has been significantly damaged.
- Authorities have declared a state of emergency and curfew.
- Water and food supplies are currently limited.
- Critical facilities, homes, and businesses have been devastated.

- Communication systems have been impacted, but communication has been restored with CDEMA.
- The airport is operational but the tower has been compromised.
- National Emergency Operations Centre has been destroyed.
- Airport is now re-opened.

Sources: CDEMA 06/09/2017, CDEMA 07/09/2017, OCHA 08/09/2017, UNICEF 09/09/2017, OCHA 10/09/2017.

Cuba

- Massive destruction and widespread flooding has been reported along the northern coast.
- Within the east and centre, Holguín, Las Tunas, Camaguey, Ciego de Avila, Sancti Spiritus, and Villa Clara provinces have also been severely affected.
- Large-scale destruction to major sugarcane, plantain crops and poultry farms has been reported throughout the country.
- Authorities are concerned with disease outbreaks given the flooding is expected to persist until Tuesday.
- Government has declared that electric infrastructure have been affected in almost all the counties.
- In Havana, roofs have been ripped off buildings and there are power outages.
- Holguín, Santiago, Camaguey and Cayo Cocos airports closed while Havana and Varadero will remain open unless forced to close due to winds.
- Authorities have reported that even though Irma continues to drift away, its effects will persist in the western and central regions until Tuesday.
- Government declared the Hurricane Alarm Phase in eight provinces (Camagüey, Ciego de Ávila, Granma, Guantánamo, Holguín, Las Tunas, Santiago de Cuba and Villa Clara), affecting 5.2 million people.
- More than 1,130,000 people were evacuated.
- Persistent rain and winds have made the assessment of damage more difficult.

Sources: CUBA ORC 07/09/2017, OCHA 07/09/2017, UN Country Team 07/09/2017, Act Alliance 10/09/2017, IFRC 10/09/2017, Government 09/09/2017, OCHA 10/09/2017.

Dominica

- Some rains, gusty winds, and flash flooding in the south of the island.
- The Tropical Storm Warning was lifted, and the population has still been advised to exercise caution.

Sources: CDEMA 07/09/2017.

Dominican Republic

- Damage to the islands was far less than expected, with no fatalities reported.
- Water infrastructure used by 1.2 million people (12% of population) has been damaged.
- Concerns over contamination and salinisation of clean water supplies on affected islands will present major health needs.
- 24,000 people were displaced, half of them are in shelters.
- 18-24 provinces remain on red alert due to the possibility of landslides and floods.
- Airports have resumed normal operations.

Sources: OCHA 07/09/2017, Save the Children 07/09/2017, COE 07/09/17, WFP 08/09/2017, OCHA 08/09/2017, Act Alliance 10/09/2017, OCHA 10/09/2017.

Haiti

- The northeast and northwest of the island is severely affected, particularly the coastline.
- Most affected areas include Post de Pain, Jean Rabel in the Northwest, The Ouanaminthe area on the border with the Dominican Republic, and Gonaives in the Upper Artibonite.
- Areas have been flooded but considered localised and water is receding quickly.
- There is significant damage to agricultural fields, livestock, and banana plantations.
- Three departments were put on hurricane alert: Nord, Nord-Ouest, and Nord-Est (the entire northern seaboard), and three others have been put on tropical-storm alert (lower intensity): Centre, Ouest (Port-au-Prince) and Artibonite.
- St. Thomas Hospital has suffered structural damage and is undergoing repairs.
- 10,000 people in the north are in temporary shelters.

- There is concern that the number of cholera cases could increase. Sources: OCHA 06/09/2017, OCHA 08/09/2017, ACTED 08/09/2017, MAF 08/09/2017, Act Alliance 10/09/2017, OCHA 10/09/2017.

Puerto Rico

- Three fatalities reported.
- 42 hospitals and more than two thirds of homes are without electricity.
- 17% of homes are without water.
- Media report that several thousand people remain in shelters and rescue teams are searching for missing people.
- Air traffic has resumed.

Sources: OCHA 08/09/2017, OCHA 10/09/2017.

Saint Barthélemy

- Urgent need for water and food has been reported.
- Major damages to airports.
- The French government has confirmed widespread flooding and power outages on the islands of St Barthélemy.
- Homes have been damaged and roofs blown off.

Sources: OCHA 06/09/2017, OCHA 10/09/2017.

Saint Kitts and Nevis

- Damage to healthcare facilities has been reported.
- Damage to homes in Saint Kitts in areas such as Conaree, Molineaux, and St.Paul's Keys.
- Disruption to electricity supply was reported in Saint Kitts.
- There is no electricity in Nevis.
- 12 shelters were opened with 33 persons housed in Nevis. Several people had to be evacuated due to roofs being blown off houses.
- Some air traffic has been restored.

Sources: CDEMA 06/09/2017, OCHA 08/09/2017.

Saint Martin

- Urgent need for water and food.
- Nine fatalities have been reported.
- 95% of St Martin is estimated destroyed.
- The island's jail was reportedly destroyed and 250 inmates remain at large.
- Reports of widespread looting.
- Power and water supplies in the Dutch part, Saint Maartin, have been destroyed.
- Saint Maartin, Saba, and Saint Eustatius were impacted, but Saint Martin sustained the most damage.
- Major damage to airports has been reported.
- Hurricane Jose did not affect St Martin.

Sources: OCHA 06/09/2017, OCHA 10/09/2017.

Turks and Caicos

- CDEMA reported on percentages of household damages: 70% in Southern Caicos, 70% in Providenciales, and 50% in in Grand Turk Island.
- Serious damage to health facilities.
- 10,000 children have been affected.
- Assessment teams have not yet arrived.
- Wave heights were likely to exceed 8m with storm surge in excess of 4m.
- The National Emergency Operations Centre was moved.

Sources: OCHA 06/09/2017, OCHA 08/09/2017, UNICEF 09/09/2017, OCHA 10/09/2017.

United States Virgin Islands

- Four fatalities have been confirmed.
- A public health emergency has been declared
- Extensive damage to homes and buildings has been reported and roads remain inaccessible.
- Land has been stripped of vegetation.

Sources: OCHA 08/09/2017, OCHA 10/09/2017.

Response capacity

Regional response capacity

The Barbados-based Caribbean Disaster Emergency Management Agency (CDEMA) is coordinating the emergency and disaster response. Under CDEMA, the United Nations and donor agencies in the Caribbean, including USAID/OFDA, ECHO, DFID, Global Affairs Canada and others, have mobilised resources.

CDEMA has developed operational scenarios and plans with affected participating Member States and development partners from eastern Caribbean. The Caribbean Institute for Meteorology and Hydrology (CIMH) continues to provide daily briefings on weather systems and impact analysis. CDEMA Regional Security System (RSS) headquarters has issued an initial warning order to Member States to have 15 people per defense force on 24 hour notice to deploy to Antigua to conduct disaster relief operations. Two c26 aircraft remain on standby for CDEMA to provide reconnaissance troop deployment and logistical support. The Barbados Defense and St Kitts and Nevis Defense Force have received requests to have one standby offshore patrol vessel for each deployment after the passage of Hurricane Jose. European Civil Protection and Humanitarian Aid Operations (ECHO) has a Civil Protection Team on standby and has humanitarian experts deployed in Haiti and the Dominican Republic standing by for Cuba and eastern Caribbean islands, possibly to be deployed on 11 September. The National Emergency Operations Centers (COE) in affected countries are all active. The centers are providing relief to the affected and information to partners on a regular basis, when permitted by weather conditions and telecommunications infrastructure conditions.

Sources: CDEMA 11/09/2017, OCHA 10/09/2017.

International response capacity

As of 6 September, OCHA have deployed a United Nations Disaster Assessment and Coordination (UNDAC) team to Barbados to support CDEMA in the regional response across the Caribbean.

Members of the private sector, such as DHL, have volunteered to assist in the delivery of relief supplies. Superyacht AYSS Global Network have been contacted to potentially mobilise private boats.

Sources: OCHA 10/09/2017.

Gaps and needs

- Immediate needs for the most affected communities include restoration of critical services.
- Emergency relief supplies, water, tarpaulins, canned foods, plywood and sanitary packs.
- Assessment of airports and alternative mechanisms to reach affected communities.

Lessons learned

The lessons learned below are a result of the analysis of main findings and lessons from the impact and response to past hurricanes, specifically Hurricane Matthew in 2016.

On Assessment Techniques:

- Consult on the questions vital to assessment quality
- Including return areas in assessments improves understanding of needs

On Communication with Affected Populations:

- A dialogue-based approach is more effective than a one-way information campaign
- Messages must be clear, well-defined and unambiguous
- Repetition of messaging is key
- The response must take the result of consultations into account

On Coordination between responders:

- Lack of coordination in the response process can result in unreliable response
- Communication and coordination between actors can prevent secondary impacts

On Health:

- Delays in treatment for injuries heighten the risk of tetanus and infection
- Waterborne diseases can break out among the affected population
- Rehydration treatment, provision of NFIs and water purification, and the dry season are key to cholera response
- Social mobilisation is essential in the fight against cholera
- Overcrowding due to displacement facilitates the transmission of disease
- Mosquito-borne disease incidence may fall in the first few weeks after the hurricane

On WASH:

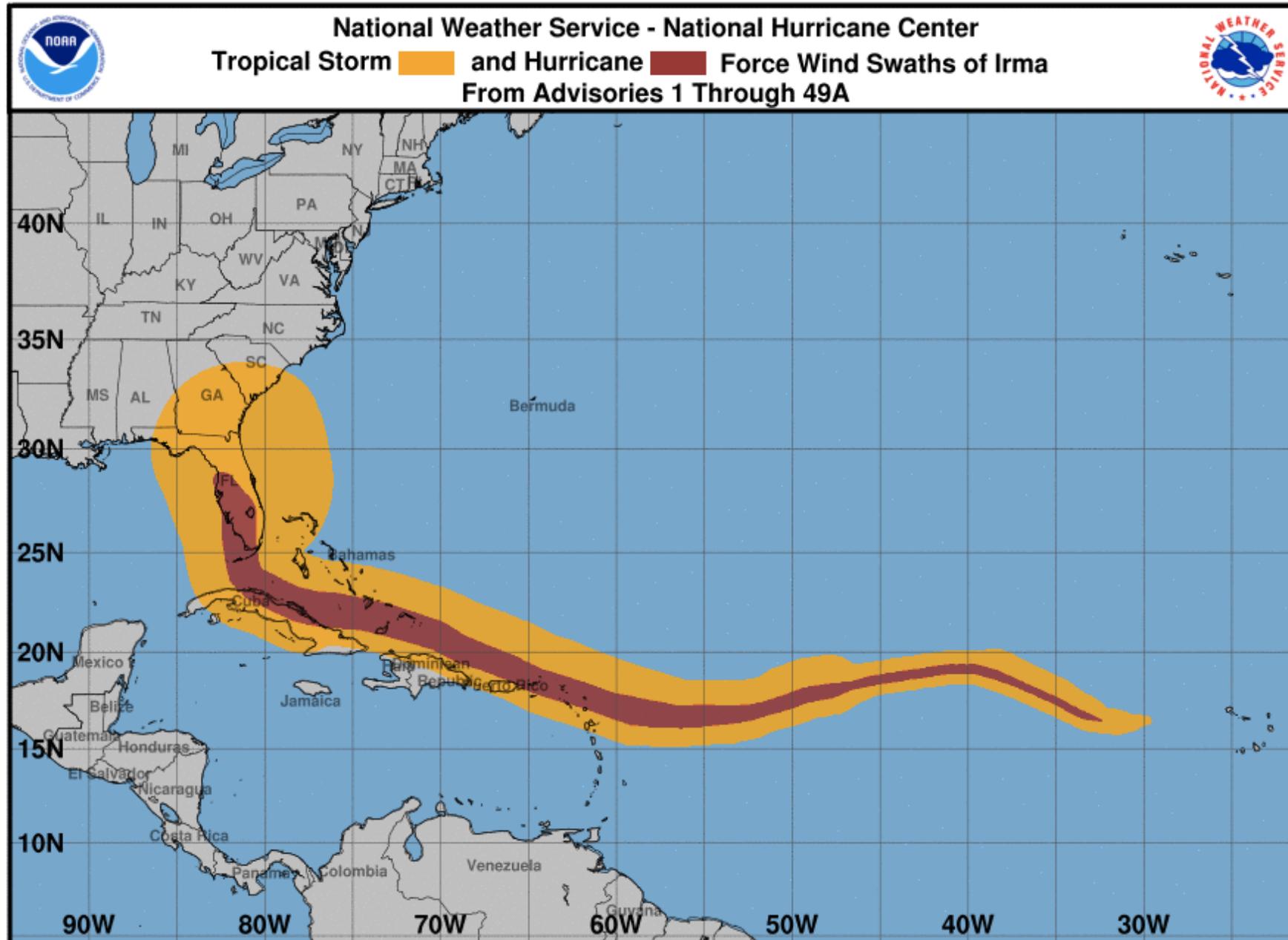
- Chlorine is the most effective drinking-water disinfectant
- Rainwater catchment systems can make a long-term improvement to water supply
- Water trucking is not sustainable after the initial response

On Shelters and NFIs

- Building camp management capacity by involving local authorities and community leaders
- Involving community members in shelter management benefits everyone
- Collective housing enables better response planning but can cause tensions and heighten health risks
- Shelter must take into account other sectorial needs, and carry out integrated planning

Sources: ACAPS

Cumulative Wind History for Hurricane Irma



Source: NOAA