

# HAITI

## Earthquake - Artibonite, North and North-West departments

A magnitude 5.9 earthquake struck Haiti on 6 October, and was followed by a magnitude 5.2 aftershock on 7 October and a magnitude 4.2 aftershock on 8 October. The departments affected by seismic activity were Artibonite, North and North-West. So far, 17 people have died and at least 421 have been injured. The earthquakes destroyed 353 houses and damaged 7,430. An estimated 31,132 people were affected, although needs assessments are still being completed.

Considering the presence of UN agencies, the scale of pre-positioned aid and the reported response by the government as well as national and external relief actors, the need for international assistance and the impact are estimated at low to moderate.

### NEED FOR INTERNATIONAL ASSISTANCE



### IMPACT



### Anticipated scope and scale

The sudden influx of injured people is likely to further strain an already weak healthcare system.

Shelter needs are likely to remain until damaged buildings are repaired.

Some residents who experienced the devastating earthquake of 2010 are afraid to return to their houses, and are reportedly sleeping outdoors.

Needs for psychosocial support may also grow.

### Key priorities



**+400**  
people injured



**+350**  
homes destroyed



**+7,400**  
homes damaged

### Fatalities and Injuries - overview

Affected areas	Resident population	People affected	Killed
Artibonite	1,727,524	8,712	7
North	1,067,177	2,420	0
North-West	728,807	20,000	10

Source: DPC 08/10/2018

### Humanitarian constraints



Official sources and NGOs on the ground reported no major issues with bridges, roads or the airport. However, sources in at least one rural community report damaged infrastructure, and emergency medical services were unable to reach people because of an overflowing river.

#### Limitations

There is a delay in reporting from official sources, leading to the release of outdated information. Reports by sources on the ground conflict, especially regarding infrastructural damage. Disaggregated data with regard to age, gender and disability, as well as per sector, is missing.

## Crisis impact

On Saturday 6 October at 20:12 local time, a magnitude 5.9 earthquake struck Haiti. The epicentre was about 19 km northwest of Port-de-Paix, at a depth of 11.7 km. The following day, at approximately 15:00 local time, a magnitude 5.2 aftershock occurred. The epicentre of the aftershock was 15.7 km north-northwest of Port-de-Paix and had a depth of 10 km. On Monday 8 October at 01:04 local time, a magnitude 4.2, aftershock struck north of Tortuga Island. The Haiti DPC (Directorate of Civil Protection) did not issue a tsunami alert.

The departments of Artibonite, North-West (including Tortuga Island) and North were affected. The latest figures released by the Haiti Directorate of Civil Protection (DPC) (updated on Monday 8 October at 13:00) show that 17 fatalities were recorded and at least 421 people were injured across the three departments. Search-and-rescue operations ended on 8 October, with no reported case of missing people or displacement (OCHA 06/10/2018, OCHA 09/10/2018, Telegraph 08/10/2018, Tribune 08/10/2018).

Department	Town (Commune)	Deaths	People Injured
Artibonite	Gros-Morne	7	118
Artibonite	Terre-Neuve	0	4
Artibonite	Gonaïves	0	20
North	Borgne	0	1
North	Cap-Haïtien	0	14
North	Grand-Rivière	0	0
North	Plaisance	0	4
North	Pilate	0	15
North	Quartier Morin	0	0
North-West	Port-de-Paix	9	200
North-West	Saint Louis du Nord	1	25
North-West	Bassin Bleu	0	20
<b>Total</b>		<b>17</b>	<b>421</b>

Source: (DPC 08/10/2018)

**Shelter** is the most pressing need for people affected by the earthquakes. Some 31,132 people (7,783 households) need urgent shelter assistance, due to the total or partial destruction of their houses. Overall, 353 houses were destroyed, while 7,430 were badly or lightly damaged. Initial assessments in predominantly urban areas found 729 people were living in shelters (CWS 11/10/2018). The breakdown of residential houses destroyed or

damaged is as follows, as recorded by the DPC up to 8 October at 13:00 (DPC 08/10/2018, UN 2017).

Department	Town (Commune)	Houses destroyed	Houses damaged	People affected (HH affected)
Artibonite	Gros-Morne	115	2,050	8,660 (2,165)
Artibonite	Terre-Neuve	8	0	32 (8)
Artibonite	Gonaïves	0	5	20 (5)
North	Borgne	2	16	72 (18)
North	Cap-Haïtien	0	0	0
North	Grand-Rivière	1	15	64 (16)
North	Plaisance	6	30	144 (36)
North	Pilate	57	476	2,132 (533)
North	Quartier Morin	1	1	8 (2)
North-West	Port-de-Paix	163	4,836	19,996 (4,999)
North-West	Saint Louis du Nord	0	0	4 (1)
North-West	Bassin Bleu	0	0	0
<b>Total</b>		<b>353</b>	<b>7,430</b>	<b>31,132 (7,783)</b>

Source: (DPC 08/10/2018)

**Health:** Earthquake casualties were taken to hospitals in the North-West, Artibonite and North departments. In Port-de-Paix, the hardest-hit Haitian city, medical personnel at the Immaculate Conception Hospital reported they were struggling to treat the wounded and were running out of the supplies needed for treatment. In Gros-Morne, parts of a hospital collapsed (DPC 08/10/2018).

On 8 October, a local official said many of the people injured in Pilate couldn't get to emergency medical services because of an overflowing river (Miami Herald 08/10/2018).

**Food:** Local media sources reported that affected people need food and supplies (News Press 12/10/2018). On 11 October, local authorities of Port-de-Paix said the distribution of food kits that was taking place was insufficient to respond to the needs of the population (AlterPresse 11/10/2018). The food security situation in Haiti was fragile before the earthquakes. The last IPC report classified 1.32 million people as severely food insecure in early 2018 (OCHA 01/2018). Late but good rains in July and August meant that most of the affected departments were in IPC Phase 1 or 2 in September, and were projected to remain so until January 2019 (FEWS NET 09/2018). However, populations still recovering from drought in 2015/16 and recent hurricanes – including Matthew, Irma and Maria, which affected agricultural livelihoods in the northern departments of Haiti – and local

fishers, who lost all their equipment, including boats engines and fishing nets, remain susceptible to shocks (OCHA 01/2018). The earthquakes hit in the middle of the land preparation and planting season, and could have longer lasting impacts on agriculture and food security.

**WASH:** Haiti continues to recover from a cholera outbreak that caused 447 deaths in 2016 and 159 deaths in 2017, as well as 35 deaths in the first seven months of 2018. An upward trend in the number of suspected cases was observed in April and May, with localised outbreaks due to heavy rains (ACAPS 2018). A robust and timely response that covers the provision of safe drinking water and sanitation facilities is critical to control the spread of cholera (WHO 01/02/2018).

**Education:** According to DPC, 42 institutional buildings (schools, churches and others) were damaged across Artibonite (DPC 08/10/2018). In Gros-Morne, several classrooms of the San Gabriel National School were severely damaged, interrupting educational activities for around 500 students (Telegraph 08/10/2018). In Pilate (North department), four national and private schools were destroyed. On 11 October, local authorities of Port-de-Paix and Plaisance said educational activities were paralysed in the two communes (AlterPresse 11/10/2018).

## Vulnerable groups affected

Children, older people and people with disabilities are particularly vulnerable to earthquakes, as they are slow to react and to move to safe environments. Protection concerns arise in temporary shelters, especially for girls and women (CFE-DM 06/2018).

More than 37,000 people are still living in IDP camps following the 2010 earthquake, and are in need of protection and WASH assistance, as they lack access to drinking water and sanitation facilities and risk violence and exploitation. They are more likely than the general population to be affected by new disasters (OCHA 01/2018, AlterPresse 12/01/2018).

## Humanitarian and operational constraints

The Haiti DPC as well as some local sources reported that there had been no major damage to bridges, roads or the airport following the earthquakes (DPC 08/10/2018, CWS 11/10/2018). However, other sources reported damage to local infrastructure, such as in Pilate, a rural community (Miami Herald 08/10/2018).

With the three affected departments having a large population living in rural settings, it is likely that response will be delayed in remote or hard-to-reach areas.

In Port-de-Paix, the police station was reported damaged (North-West department), potentially hampering the response if the security situation deteriorates (DPC 08/10/2018). According to local media reports, a food kit truck was attacked and looted in Montrouis

(south of Saint Marc, Artibonite department) overnight between 10–11 October (Haiti Libre 12/10/2018).

## Aggravating factors

### Healthcare system

According to the 2018 HRP, concerns include a generally weak health system at organisational and structural level, and persistent difficulties regarding access to healthcare in some communes, particularly isolated areas. Haiti is not well prepared to respond to disaster situations, despite its high exposure to natural disasters and epidemics (OCHA 01/2018).

### Type of housing/infrastructure

Haitian officials have struggled to shore up buildings despite the two major fault lines along Hispaniola, which is the island that Haiti shares with the Dominican Republic. Deep poverty remains one of the main reasons that weak homes and structures vulnerable to earthquakes have not been reinforced (Telegraph 08/10/2018).

### Population density

Dense populations are at risk of higher death tolls and injuries in earthquakes. According to data from 2016, Haiti has the 28<sup>th</sup> highest population density in the world, at 398 people per sq.km (World Bank 2016). The population of Port-de-Paix, where considerable damage occurred, is higher than the national average, with 420 people per sq.km (IHSI 2015).

### Internal displacement

Official reports covering events up to 9 October did not mention displacement, but local media reported such instances on 10 October. A local source said the earthquakes had caused people to leave Port-de-Paix, with some moving to rural regions, either because their houses were too seriously damaged or because they feared more aftershocks (Catholic Register 10/10/2018).

### 2010 earthquake

Most of the population experienced the 2010 earthquake, which caused the death of more than 220,000 people. Trauma of the event remains. In Gros-Morne, it was reported that many residents are sleeping in the outdoors, as they are afraid of more aftershocks (Catholic Register 10/10/2018).

By early 2018, 37,667 IDPs remained displaced from the 2010 earthquake. Most IDPs registered in 26 camps in Ouest department are in communes in the metropolitan

area of Port-au-Prince, with others in Leogane and Gressier. More than 45% (17,000 people) of the IDPs still live in camps in areas at risk of flooding and landslides. Besides being vulnerable to new natural disasters, the IDPs are in need of protection and WASH assistance as they lack access to drinking water and sanitation facilities and are at risk of violence and exploitation. Any influx of new IDPs to the camps is likely to exacerbate current needs (ACAPS 2018).

## Hurricanes Matthew, Irma and Maria

Hurricane Matthew, a Category 4 hurricane, struck Haiti on 4 October 2016, affecting 2.1 million people. Two hurricanes threatened the country in September 2017: Irma (Category 5) and Maria (Category 3), which both passed the northern coast of Haiti. The hurricanes brought torrential rains, strong winds and rising tides that caused considerable damage, including in the departments of North-West and Artibonite. Homes were destroyed and the agricultural sector, the main source of income in rural communities, was affected (OCHA 01/2018). The October 2018 earthquakes are likely to have affected victims of the hurricanes, adding to their needs.

## Key characteristics

Key indicators (IHSI 2015)	North-West	North	Artibonite
<b>Total population</b>	728,807	1,067,177	1,727,524
<b>% population in rural areas</b>	72.06%	49.5%	57.17%
<b>Gender distribution of population</b>	Male: 361,310 Female: 367,497	Male: 524,433 Female: 542,744	Male: 854,910 Female: 872,614
<b>Overall PIN (HRP 2018)</b>	111,000	93,000	760,000

## Response capacity

### Local and national response capacity

DPC leads operational coordination with the support of national entities as well as the international community. The overall coordination of the response is under the authority of the Prime Minister in close liaison with the Office of the President (OCHA 09/10/2018).

The National Emergency Operations Centre remains partially activated. Communication is maintained with the hierarchy of the National Risk and Disaster Management System, with the Departmental Emergency Operations Centre involved in the response (OCHA 09/10/2018).

As of 9 October at 09:00, the Haiti government was developing a response plan focusing on the shelter recovery needs of the affected, evaluating buildings in the North-West, and clearing and cleaning works in Gros-Morne (Artibonite). Schools were expected to be assessed on 9 October. Additionally, the Ministry of Defence sent a contingent of 14 soldiers to Port de Paix (North-West) and Gros Morne (Artibonite) for clearing and cleaning works. A second contingent of 70 soldiers was on standby (OCHA 09/10/2018). The Ministry of Education had assessed affected schools and was identifying relocation and psychosocial support solutions for affected children (OCHA 09/10/2018).

The Haiti Red Cross had, as of 8 October, activated its national and North-West branch Emergency Operations Centre, and was coordinating with the DPC and the regional disaster management committees in each department. A medical team and 35 blood bags were sent to North-West department. Thirty volunteer were providing first aid in Port-de-Paix; 10 first aid personnel were mobilised in Gonaives (IFRC 09/10/2018)

### International response capacity

By 9 October, OCHA announced it was collaborating with the DPC to collect information and ensure the implementation of coordination mechanisms. Representatives of the Haitian government and the international community met on 8 October to discuss the situation. The key ministries, the DPC, ambassadors, the Special Representative of the UN Secretary General (SRSG), the Deputy Special Representative of the UN Secretary General/Resident Coordinator/Humanitarian Coordinator DSRSG/RC/HC and UN heads of agencies and CLIO representatives (NGO coordination platform) attended the meeting (OCHA 09/10/2018).

According to the OCHA Situation Report of 7 October, some UN agencies are ready to respond (UNICEF, WHO in North-West; IOM, WFP, UNICEF in Artibonite; IOM, WHO, UNICEF and WFP in North). Stocks already pre-positioned include 2,000 shelter kits in Cap-Haitien and Port-au-Prince, as well as 2,260 metric tons of food. WASH stocks are available in North, North-West and Artibonite departments. Staff and cars are available to support rapid assessments (OCHA 07/10/2018).

On 9 October, EU ECHO announced it was monitoring the situation, having deployed two technical experts to Haiti to support needs assessments and coordination. The EU's Copernicus Emergency Management Service was activated on 8 October to produce satellite maps to assess the extent of the damage (ECHO 09/10/2018)

On 9 October, the Pan American Health Organization (PAHO) announced it was evacuating people by helicopter, having also sent surgeons to the field, while two PAHO teams were conducting assessments and distributing emergency kits (PAHO 09/10/2018).

Caritas Haiti announced on 10 October that it was distributing emergency food supplies, sanitation kits, tents and shelter materials as well as solar lamps, shovels and wheelbarrows to the affected population (Catholic Register 10/10/2018).

Cuban authorities sent two mobile surgical teams to affected areas of northwest Haiti on 7 October to assist Haitian healthcare workers (Miami Herald 08/10/2018).

It is important to improve capacity building, coordination and advocacy when addressing post-disaster psychological issues, and to facilitate the participation of the affected people (IOM 2010).

Haiti still has a limited ability to cope, recover and adapt to shocks from natural disasters. The increased frequency and magnitude of disasters in recent years highlight the need for greater focus on disaster risk reduction and for more durable preparedness measures to be put in place (OCHA 01/2018).

## Information gaps and needs

- Although official sources did not report on internal displacement, local media sources did report that displacement was taking place. Concrete information is missing about the level of displacement (if any) and the capacity of the receiving areas to cope with any influx.
- Information is scarce regarding damage to roads and other infrastructure. On 8 October, media cited local officials as saying the local infrastructure in Pilate had been destroyed, but gave no details (Miami Herald 08/10/2018). Such information has not been reported on by the DPC.
- Information is missing on WASH needs of the people affected
- The full extent of damage has not yet been reported as assessments continue and some areas are difficult to access.

## Lessons learned

Humanitarian access after the 2010 earthquake was reportedly difficult in mountain areas, in Grande'Anse, Ouest, Sud-Est, Centre and Artibonite (Deseret News 25/05/2011).

Following the 2010 earthquake, coordination and leadership were challenges from the outset. It is necessary to ensure that key experienced staff are in place and supported, and that operational protocols are established early on (DAC 06/2011). Conversely, closer cooperation with local actors, the UN and security forces has facilitated rapid and efficient food distribution in the past (HPN 08/2010).

A high population density can be leveraged to improve distribution operations (water, food, NFI) (ACF 19/03/2009).



## Haiti – Reference Map



Source: OCHA