

16 August 2021

PRELIMINARY SATELLITE- DERIVED EARTHQUAKE DAMAGE ASSESSMENT



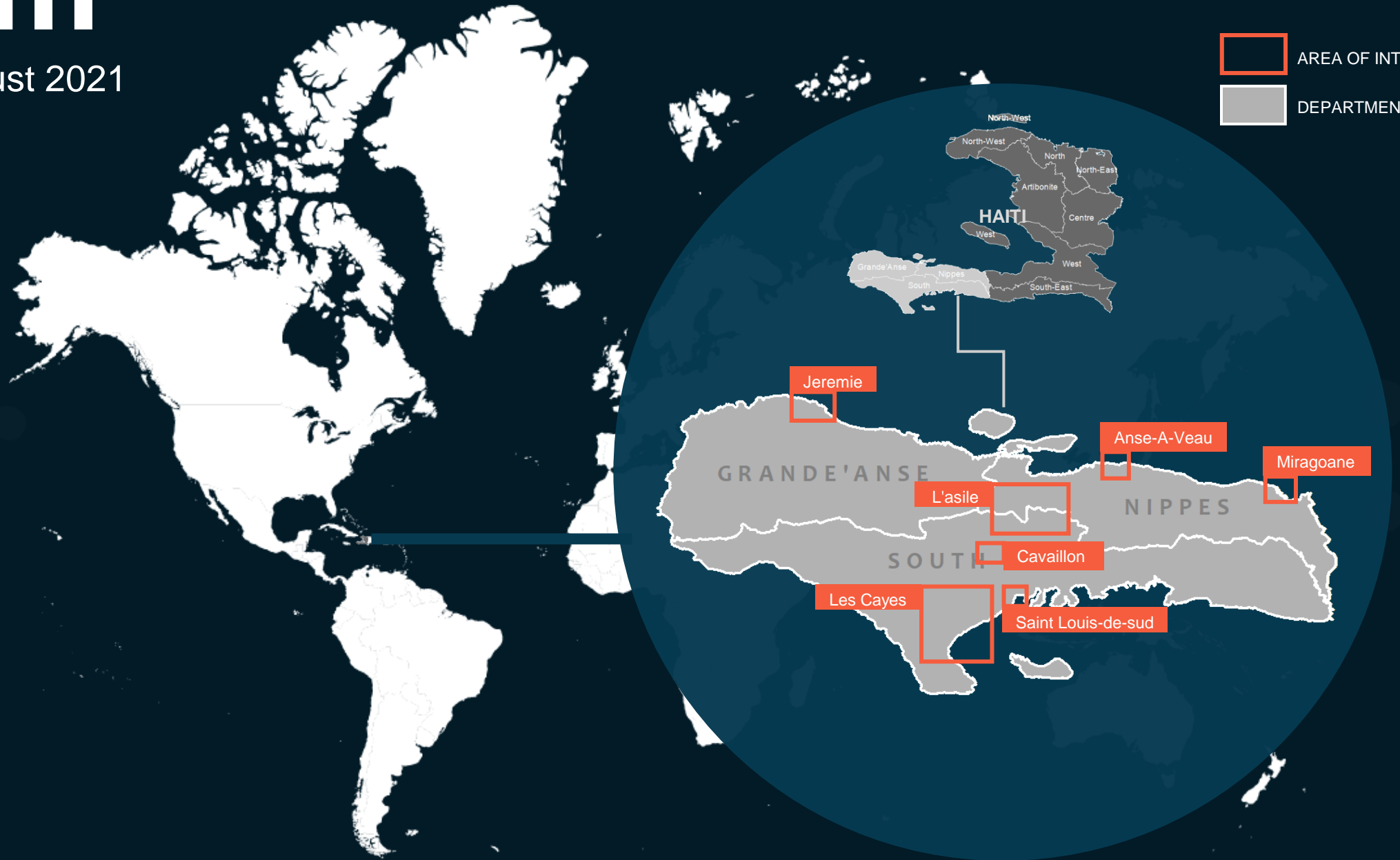
Nippe, Grand'Anse and South Departments, Haiti

 Status: Destroyed and damaged structures observed.

 Further action(s): full assessment to be conducted

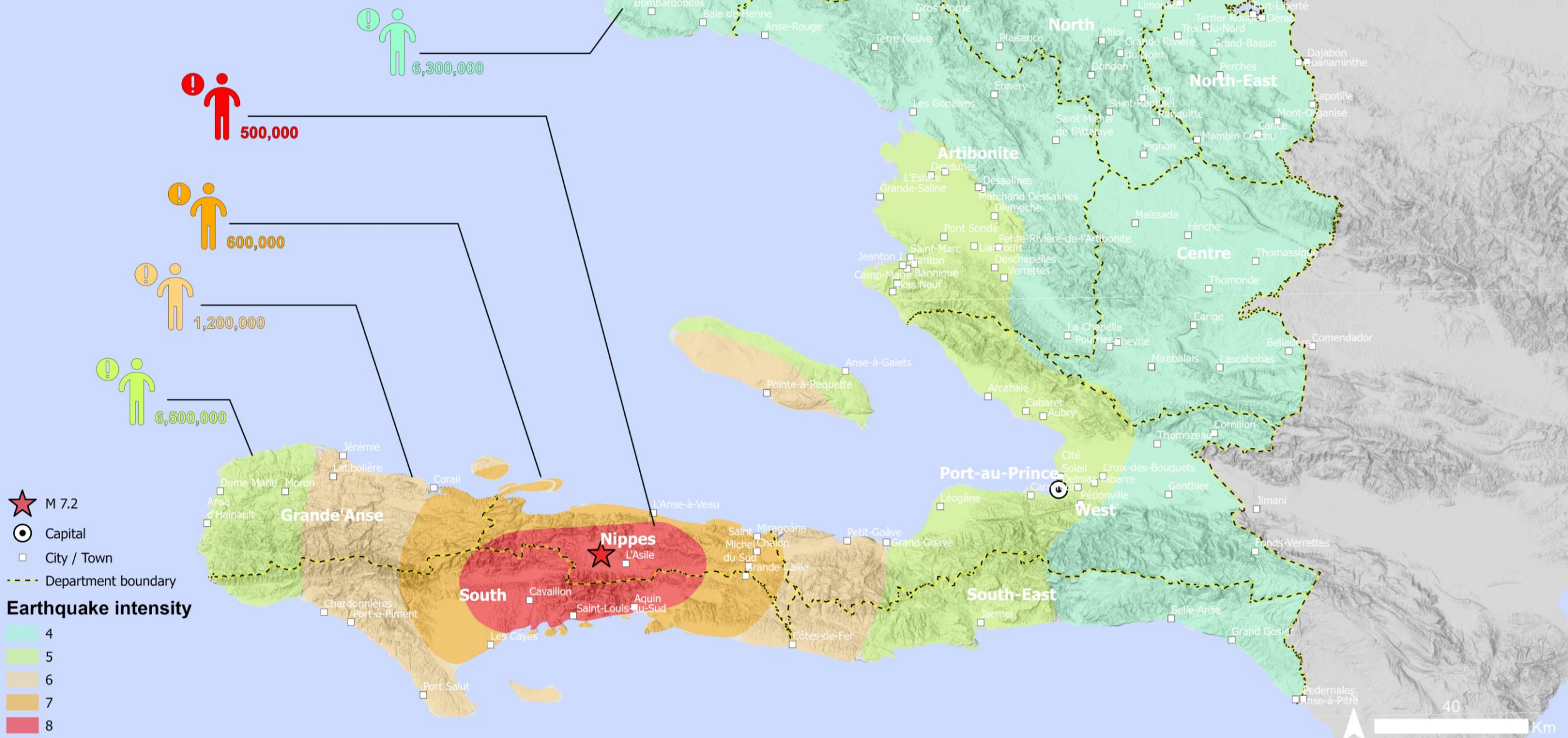
HAITI

16 August 2021



14 August 2021 earthquake mainshock epicentre

18.408°N 73.475°W



Haiti Earthquake Overview

A magnitude 7.2 earthquake struck Haiti on August 14 2021, at 8:29am local time. The earthquake occurred 78 miles (125km) west of the capital city of Port-au-Prince at a depth of 6.2 miles (10 kilometres). The epicentre of the earthquake was recorded in Haiti's southwest peninsula, approximately 125km west of Port-au-Prince. The United States Geological Society (USGS) scientists expect that this event will trigger aftershocks which will decrease in frequency over time.

Damage

Three departments have been affected: Nippe, Grande'Anse and the Sud, specifically the cities of Les Cayes, Jeremie and Anse à Veux. According to [ECHO](#), 1,860 houses have been damaged or destroyed in Nippe, with data unavailable for other departments. Other reports indicate that more than 700 collapsed buildings have been destroyed, including hospitals and schools and at least 3,778 homes destroyed with further damage to infrastructure and roads.

Deaths and Injuries

A number of [sources](#) have noted that the Civil Protection authorities report 304 deaths and 1,800 injured with numbers expected to rise.

Storm Grace

Tropical storm [Grace](#) is approaching Haiti from East-South-East and it is expected to make landfall on 16th August. Heavy rains are expected across southern terrains which may lead to flash floods and urban flooding, and possible mudslides.

Actions

The United Nations Satellite Centre was activated to support the disaster assessment (GLIDE number: [EQ-2021-000116-HTI/EQ20210814HTI](#))

AOI 1 JEREMIE COMMUNE, GRANDE'ANSE DEPARTMENT (≈70 km from the epicenter)

Image center:
74°06'52.073"W
18°38'40.857"N



Damaged structures observed



Worldview-3 / 14 Oct 2020



Pleiades / 15 Aug 2021

AOI 1 JEREMIE COMMUNE, GRANDE'ANSE DEPARTMENT (≈70 km from the epicenter)

Image center:
74°7'0.628"W
18°38'48.509"N



Damaged structures observed



Worldview-3 / 14 Oct 2020



Pleiades / 15 Aug 2021

AOI 2 : LES CAYES CITY, SOUTH DEPARTMENT (≈37 km from the epicenter)

Image center:
73°45'46.313"W
18°12'44.285"N



Destroyed structures of the hotel observed



Worlview-2 / 27 Feb 2021



Pleiades / 15 Aug 2021

AOI 2 : LES CAYES CITY, SOUTH DEPARTMENT (≈37 km from the epicenter)

Image center:
73°44'49.996"W
18°11'31.694"N



Destroyed structures of the church observed



Worlview-2 / 13 Jul 2021



Pleiades / 15 Aug 2021

AOI 2 : LES CAYES CITY, SOUTH DEPARTMENT (≈37 km from the epicenter)

Image center:
73°45'55.501"W
18°12'21.728"N



Destroyed structure observed



Worldview-2 / 13 Jul 2021



Pleiades / 15 Aug 2021

AOI 3 : SAINT LOUIS DU SUD TOWN, SOUTH DEPARTMENT
(≈20 km from the epicenter)

Image center:
73°32'48.858"W
18°15'42.047"N



Damaged structures observed



Pleiades / 18 Feb 2020



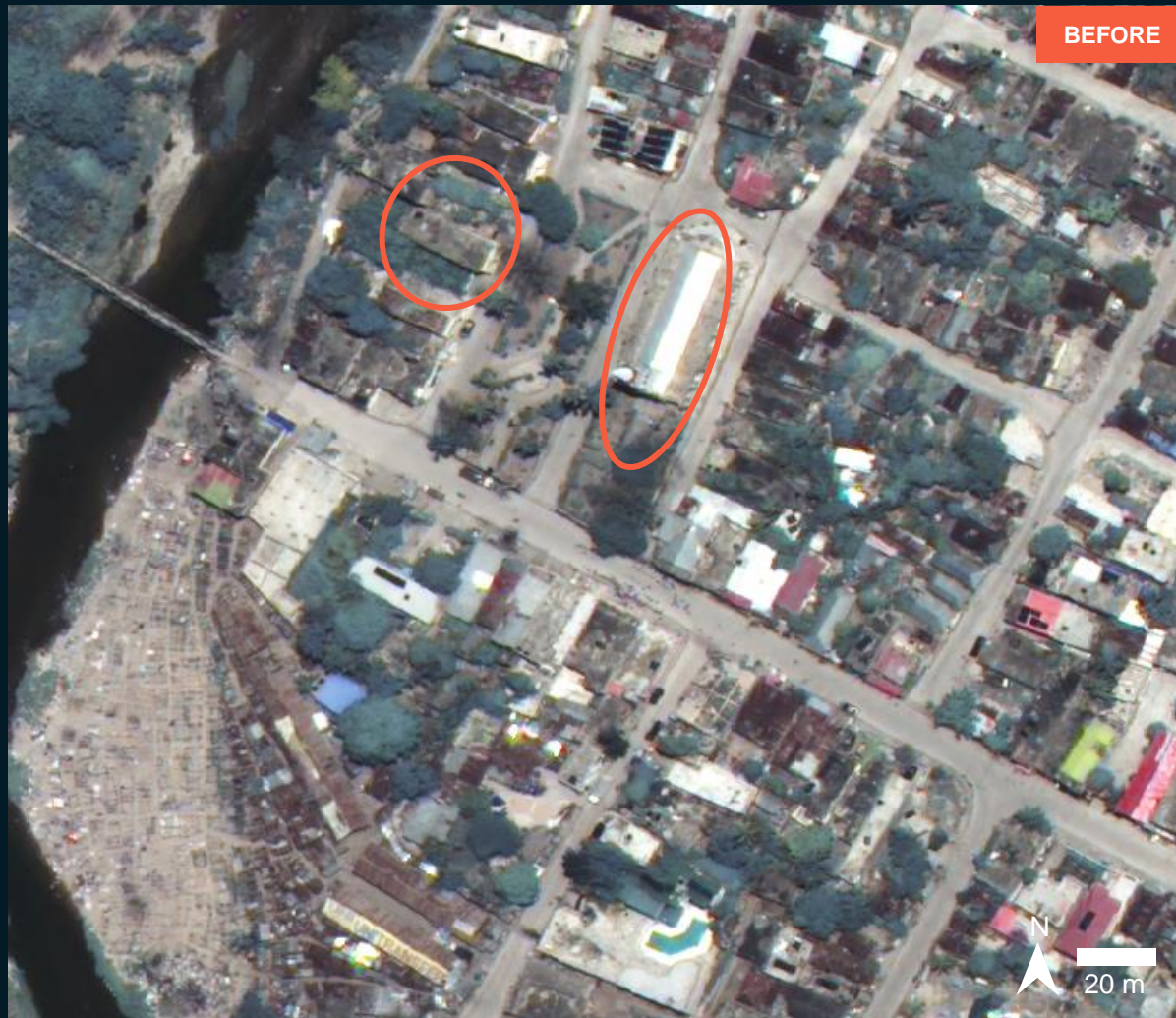
Pleiades / 15 Aug 2021

AOI 4 : CAVAILLON TOWN, SOUTH DEPARTMENT (≈20 km from the epicenter)

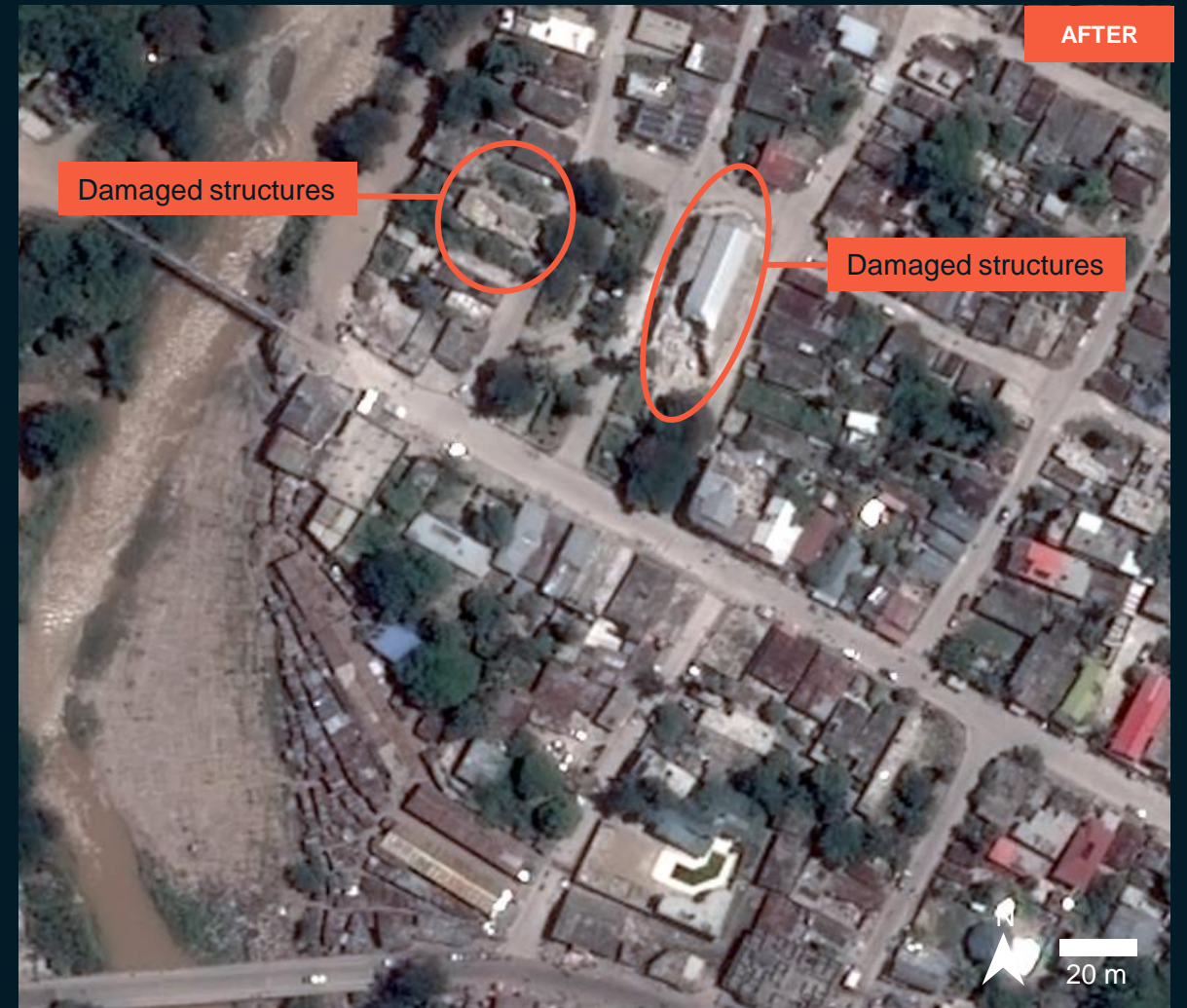
Image center:
73°39'18.117"W
18°17'57.244"N



Damaged structures observed



Pleiades / 18 Feb 2020



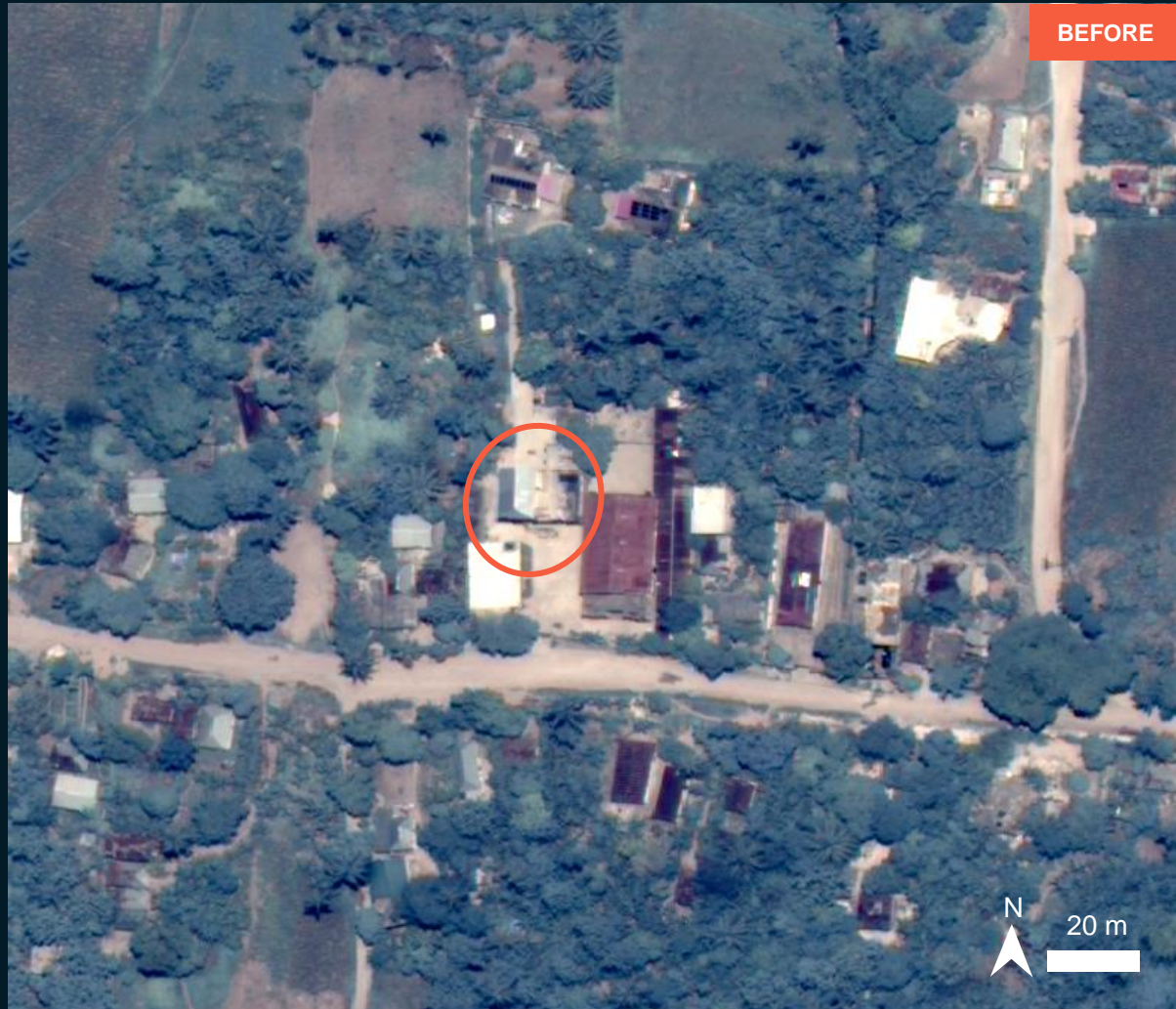
Pleiades / 15 Aug 2021

AOI 4 : CAVAILLON COMMUNE, SOUTH DEPARTMENT (≈20 km from the epicenter)

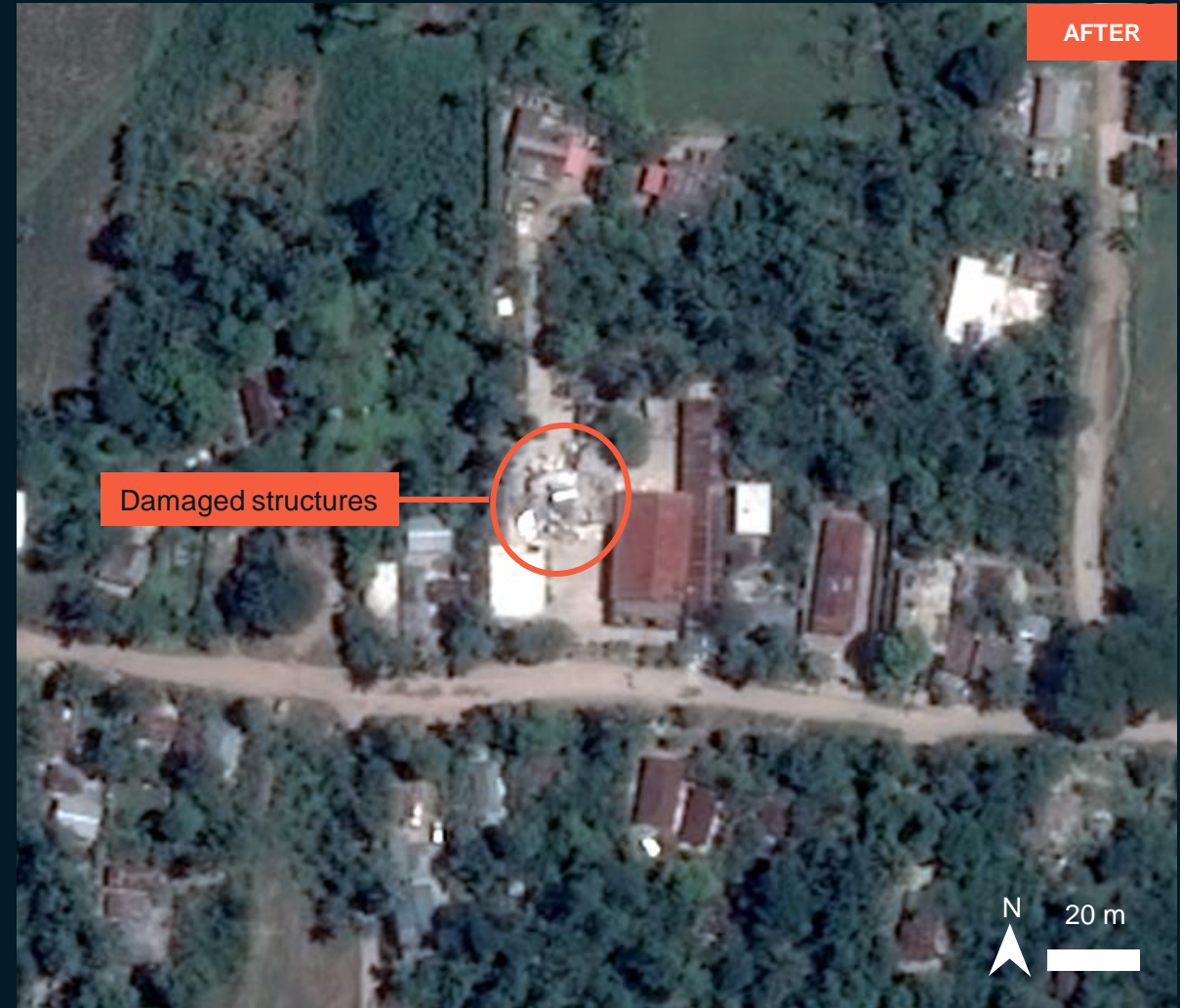
Image center:
73°39'37"W
18°18'4.614"N



Damaged structures observed



Worlview-3 / 18 May 2021

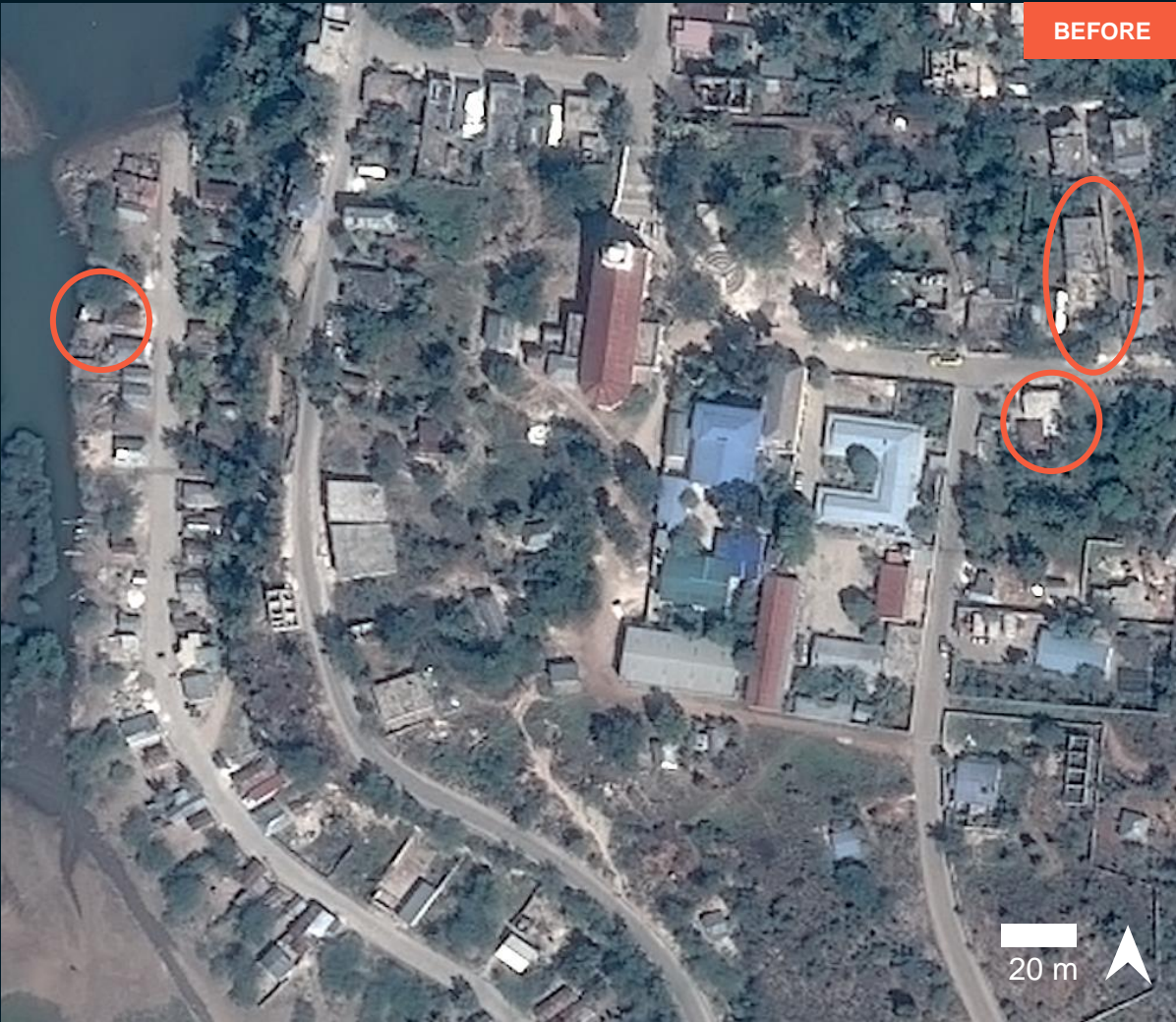


Pleiades / 15 Aug 2021

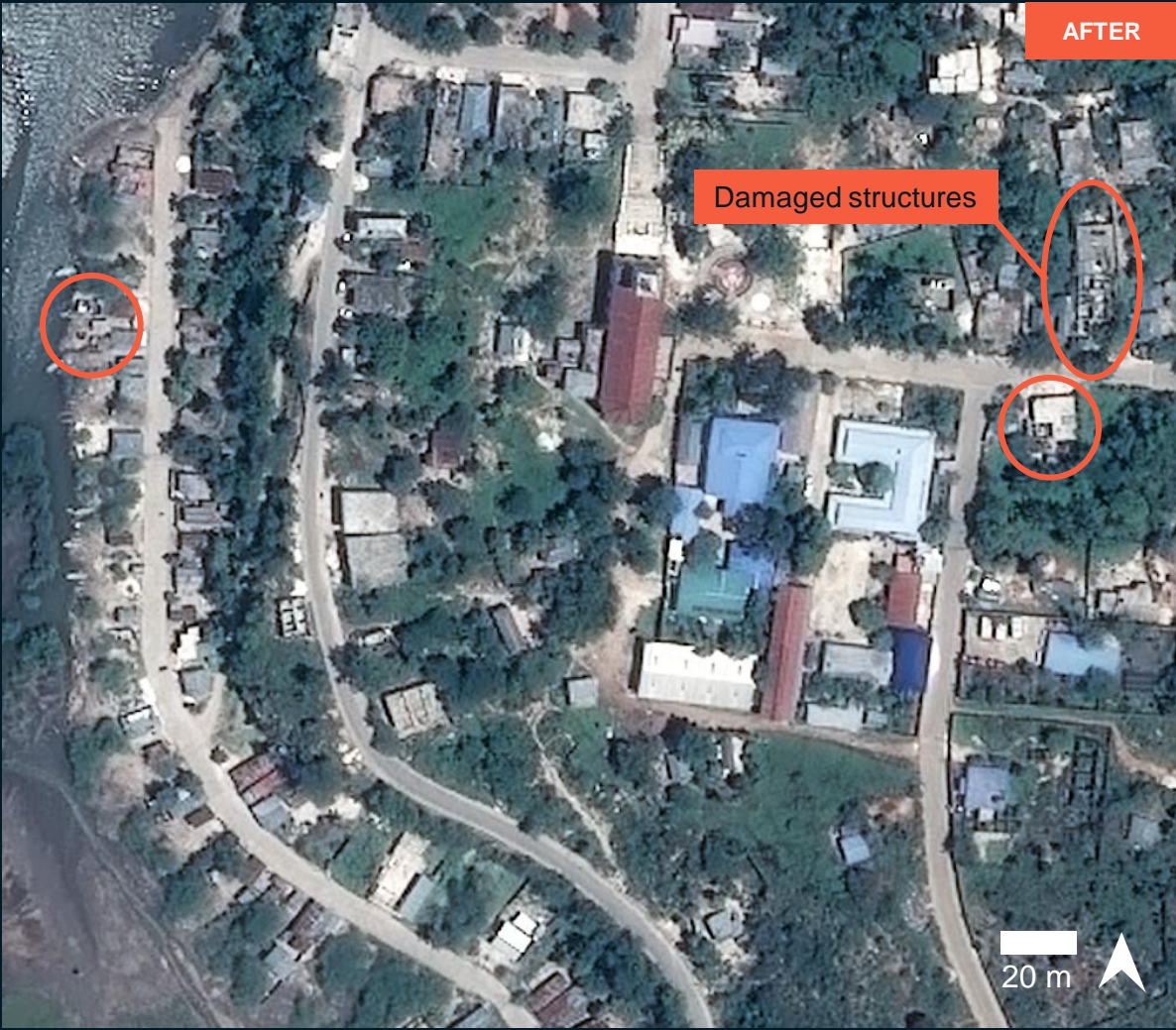
AOI 5 ANSE-A-VEAU COMMUNE, NIPPES DEPARTMENT
(≈17 km from the epicenter)

Damaged structures observed

Image center:
73°20'43.07"W
18°30'12.528"N



Pleiades / 27 Jan 2021



Pleiades / 15 Aug 2021

AOI 6 JEREMIE COMMUNE, GRANDE'ANSE DEPARTMENT (≈70 km from the epicenter)

Image center:
74°6'19.938"W
18°38'4.476"N



Damaged structures observed



Worldview-3 / 14 Oct 2020



Pleiades / 15 Aug 2021

AOI 6 JEREMIE COMMUNE, GRANDE'ANSE DEPARTMENT (≈70 km from the epicenter)

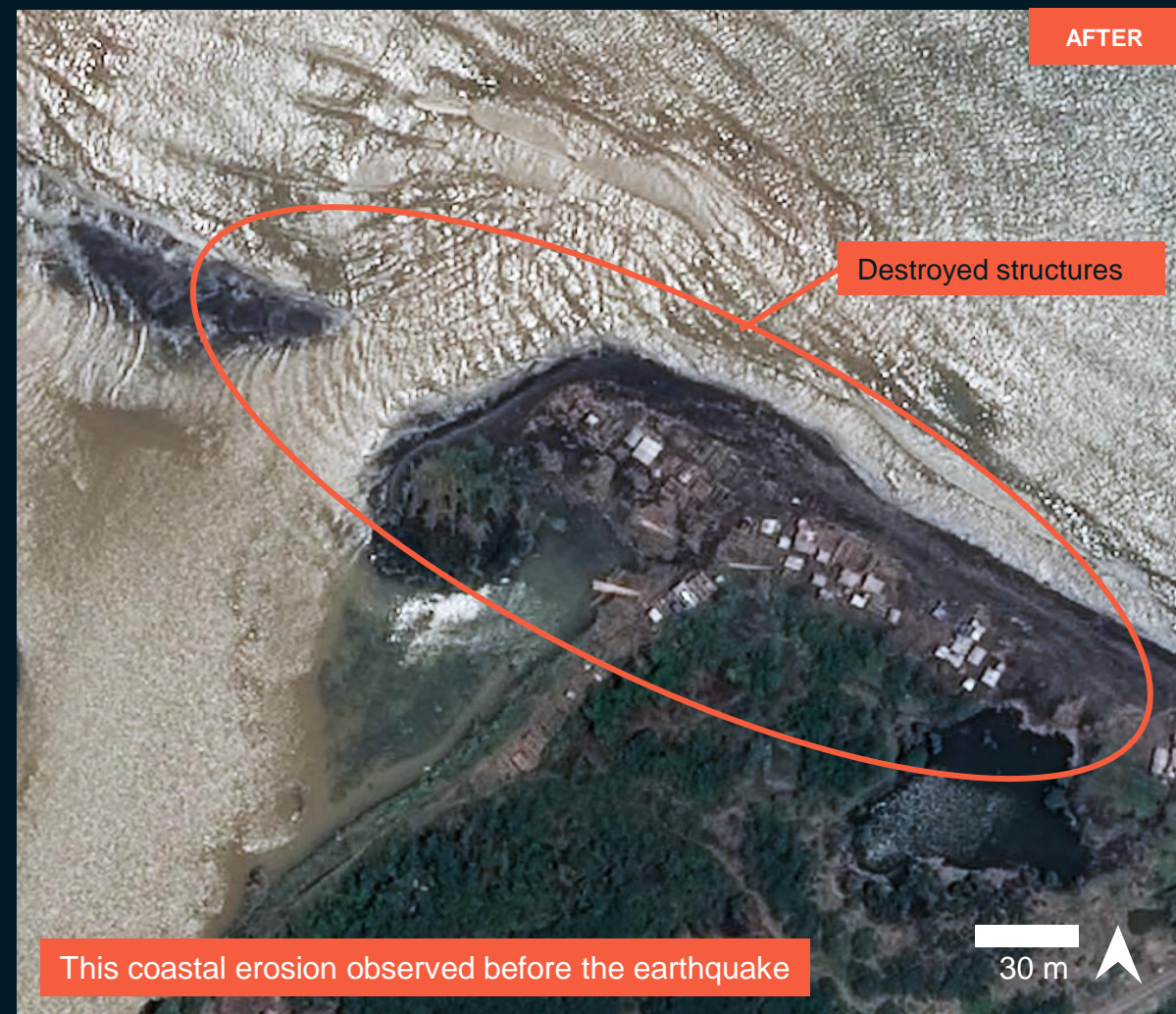
Image center:
74°6'4.973"W
18°37'55.646"N



Damaged structures observed



Worldview-3 / 14 Oct 2020



Pleiades / 15 Aug 2021

AOI 7 ANSE-A-VEAU COMMUNE, NIPPES DEPARTMENT (≈17 km from the epicenter)

Image center:
73°17'36.806"W
18°29'0.892"N



ANSE-A-VEAU



Damaged structures observed



BEFORE

Pleiades / 27 Jan 2021



AFTER

Damaged structures

Damage observed before the earthquake

Pleiades / 15 Aug 2021

AOI 7 ANSE-A-VEAU COMMUNE, NIPPES DEPARTMENT

(≈17 km from the epicenter)

Image center:
73°17'53.712"W
18°29'10.344"N



Damaged structures observed



BEFORE

Pleiades / 27 Jan 2021



AFTER

Pleiades / 15 Aug 2021

AOI 7 : MIRAGOANE CITY, NIPPES DEPARTMENT (≈42 km from the epicenter)

Image center:
73°5'18.455"W
18°26'43.828"N



Damaged structures observed



Worldview-2 / 24 Jul 2021



Pleiades / 15 Aug 2021

AOI 8 : L'ASILE COMMUNE, NIPPES DEPARTMENT

(≈8 km from the epicenter)

Damaged structures observed

Image center:
73°24'38.575"W
18°22'42.037"N



Worldview-2 / 29 December 2019



Pleiades / 15 August 2021

AOI 8 : L'ASILE COMMUNE, NIPPES DEPARTMENT

(≈4 km from the epicenter)

Damaged structures observed

Image center:
73°29'45.959"W
18°22'23.153"N



Worldview-2 / 29 Dec 2019



Pleiades / 15 Aug 2021

SUMMARY OF FINDINGS

≈70km radius from epicenter

- Damaged structures observed at Jeremie Commune, Grande' Anse Department as of 15 August 2021;

≈42km radius from epicenter

- Damaged structures observed at Miragoane City, Nippes department as of 15 August 2021;

≈37km radius from epicenter

- Destroyed structures, church, and buildings at Hôtel le Manguier observed at Les Cayes City, South Department as of 15 August 2021;

≈20km radius from epicenter

- Damaged structures observed at Sanit Louis Du Sud Town, Saint Louis du Sud Commune, South Department as of 15 August 2021;
- Damaged structures observed at Cavaillon Town and Cavaillon Commune, South Department as of 15 August 2021;

≈17km radius from epicenter

- Damaged structures observed at Anse-A-Veau Commune, Nippes Department as of 15 August 2021;

≈4-8km radius from epicenter

- Damaged structures observed at L'Asile Commune, Nippes Department as of 15 August 2021;

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Data sources:

(1) Satellite Image (Post-event)

Pleiades / 15 Aug 2021
Copyright: CNES (2021), distribution Airbus D&S
Source : Airbus DS

(2) Satellite Image (Pre-event)

Pleiades / 18 Feb 2020
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Source : Airbus DS

Pleiades / 27 Jan 2021
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Source : Airbus DS

Worlview-2 / 29 Dec 2019
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Source: USGS / HDDS

Worlview-3 / 14 Oct 2020
Copyright: 2019 Digital Globe
Source: USGS / HDDS

Worlview-2 / 27 Feb 2021
Copyright: 2021 Digital Globe
Source: Maxar, Basemap

Worlview-3 / 18 May 2021
Worlview-2 / 13 & 24 Jul 2021
Copyright: 2021 Digital Globe
Source: Source: USGS / HDDS

(3) Ancillary data

Administrative boundaries: Centre National de l'Information
Géo-Spatiale (CNIGS), HDX
Populated places: OpenStreetMap

Analysis: United Nations Satellite Centre (UNOSAT)
Production: United Nations Satellite Centre (UNOSAT)



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