



EMSR847 - AOI14
Tropical Storm Melissa in the Caribbean
GUANTANAMO

Situation as of 29/10/2025 23:12 UTC
Delineation - Overview map 01



Flooded area
EO-based 911.1 ha
Model-based 1,491.5 ha



Potentially affected
population
~ 5,600

Potentially Affected Built-up and Transportations



Built-Up
19.5 ha



Road
28.7 km



Railway
19.5 km

Estimated flood depth (m)

- Below 0.50
- 0.50 to 1.00
- 1.00 to 2.00
- 2.00 to 4.00
- Above 4.00

General Information

- Area of Interest
- Image Footprint
- Not Analysed

Administrative Boundaries

- Province

Placenames

- Placename

Built-Up Area

- Residential
- Non residential
- School, university and research buildings
- Hospital or institutional care buildings

Hydrography

- Lake, River

Facilities

- Long-distance pipelines or lines
- Water or Aquatic infrastructure
- Dam
- Power plant
- Sport and recreation constructions
- Dump Site

Transportation

- Highway
- Main road
- Local road
- Track
- Railway
- Airfield runway
- Bridge and elevated highway
- Airfield

Event: On 25 October 2025 at 20:00, Tropical Storm Melissa is forecast to affect Jamaica and the southern peninsula of Haiti. The event is expected to cause damage to housing, infrastructure, and transport networks due to heavy rainfall, strong winds, flooding, and landslides. Hurricane conditions are forecast for Jamaica during the weekend and subsequently for the southern peninsula of Haiti. Copernicus EMS Rapid Mapping is requested to provide flood extent and damage assessment emergency mapping.

Data sources and analysis: Pre-event image: Sentinel-2A/B (2025) (acquired on 26/08/2025 at 15:46 UTC, resolution 10.0 m). This image is used as background image. Post-event image: PAZ satellite image © Hisdesat Servicios Estratégicos S.A., 2025 (acquired on 29/10/2025 at 23:12 UTC, resolution 3 m). All images are provided under COPERNICUS by the European Union and ESA, all rights reserved.

The thematic layer has been derived from post-event satellite image using a semi-automatic approach. Please be aware that the thematic accuracy might be lower in urban and forested areas due to inherent limitations of the SAR analysis technique.

The flooded area corresponds to the water observed in the most recent satellite imagery, excluding the permanent water. An extrapolated flood extent is generated by integrating observed flood areas with a Digital Terrain Model (DTM). The model's accuracy and spatial coverage depend on DTM resolution and quality, enabling the prediction of potentially flooded areas in regions with limited visibility in imagery, such as urban and forested zones.

Map produced by GAF AG released by e-GEOS on the 30/10/2025.

Details on this activation and service conditions available through the QR code or at the link: <https://mapping.emergency.copernicus.eu/activations/EMSR847>



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Consequences within the AOI

				LATEST IMPACT		
			Unit of measurement	EO-based observation*	Model-based observation	EO- and Model-based observation
Crisis information	Flooded area		ha	911.1	1,491.5	2,402.6
	Maximum of all extents**		ha	911.1	1,491.5	2,402.6

				POTENTIALLY AFFECTED		TOTAL POTENTIALLY AFFECTED	Total in AOI
Estimated population		Inhabitants	No.	~ 600	~ 5,000	~ 5,600	~ 240,000
Assets	Built-up	Residential Buildings	ha	0.4	12.4	12.8	1,133.1
		Office buildings	ha	0	0	0	31.4
		Industrial buildings	ha	0.9	5.7	6.7	264.8
		School, university and research buildings	ha	0	0.01	0.01	83.5
		Hospital or institutional care buildings	ha	0	0	0	10.5
		Cemetery	ha	0	0.1	0.1	5.8
	Transportation	Airfield runways	ha	0	0	0	48.5
		Airfield runways	km	0	0	0	2.6
		Bridges and elevated highways	km	0.03	0.03	0.1	0.1
		Highways	km	0	0	0	1.9
		Primary Road	km	0.2	0.9	1.0	48.4
		Secondary Road	km	0.4	4.1	4.6	68.1
		Local Road	km	0.7	15.7	16.3	416.3
		Cart Track	km	1.8	5.0	6.7	264.2
		Long-distance railways	km	2.8	16.7	19.5	108.2
	Facilities	Power plant constructions	ha	0	0	0	12.5
		Sport and recreation constructions	ha	1.2	0.8	2.1	79.1
		Other civil engineering works not elsewhere classified	ha	3.4	1.6	5.0	6.5
		Long-distance pipelines, communication and electricity lines	km	0.3	2.8	3.0	24.5
		Breakwater	km	0	0	0	0.6
		Dams	km	0	0	0	1.2
	Land use	Inland wetlands	ha	427.1	602.7	1,029.8	2,018.2
		Other	ha	186.3	171.9	358.2	8,139.6
		Shrub and/or herbaceous vegetation association	ha	181.2	414.3	595.5	11,323.0
		Forests	ha	61.3	200.1	261.4	9,240.0
		Heterogeneous agricultural areas	ha	40.5	99.5	140.1	6,902.5
		Open spaces with little or no vegetation	ha	14.6	3.0	17.6	19.8

* Corresponds to the water observed in the most recent satellite imagery, excluding permanent water
** Corresponds to the geographic union (and NOT the sum) of all Crisis Information extents.

Disclaimer:
Full disclaimer and other helpful information available in the online manual:
<https://mapping.emergency.copernicus.eu/about/rapid-mapping-manual/>
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Data Access:
All data displayed on the map(s), as well as Land Use - Land Cover layer(s), are available in the Crisis Information Package and the Base Layer Package (for reference data).
The table above is available in editable format in the Crisis Information Package.
All products and data are also available for download on the portal.

Estimated Population:
Estimated population is based on Copernicus Global Human Settlement Layer (GHSL) dataset.
Additional population datasets and analysis are available in the summary table.

Data Sources:
Base Vector Layers: OpenStreetMap © OpenStreetMap contributors (2025); Wikimapia.org; GeoNames 2015;
Global Administrative Areas (2022), refined by the producer, Copernicus Global Land Service: Land Cover (2019).

Inset Maps: Natural Earth 2023; HydroLAKES 2016 by HydroSHEDS;
© EuroGeographics, © TurkStat. Source: European Commission – Eurostat/GISCO, 2021.

Digital Elevation Model:
FABDEM (ForestAndBuildingsremovedCopernicusDEM) removes building and tree height biases from the Copernicus GLO 30
Digital Elevation Model (DEM) (Airbus, 2020).

