Covered Area Rainfall Event (27/10/2025 to 30/10/2025)

Excess Rainfall

Event Briefing

Jamaica

06 November 2025

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1 INTRODUCTION

This event briefing describes the impact of rainfall on Jamaica, which was associated with a Covered Area Rainfall Event (CARE) starting on 27 October 2025 and ending on 30 October 2025, this CARE is associated with Tropical Cyclone Melissa. The Rainfall Index Loss (RIL) for the Covered Area Rainfall Event was above the attachment point of Jamaica's Excess Rainfall policy, and therefore a payout of US$21,085,8560 is due to the Government of Jamaica on its Excess Rainfall policy. This CARE did not activate the Wet Season Trigger[1] or Localized Event Trigger[2] endorsement of Jamaica's Excess Rainfall policy and therefore no payout under either of these endorsements is due.

2 EVENT DESCRIPTION

On 25 October, Tropical Storm Melissa was located over the central Caribbean Sea, about 170 mi (275 km) southeast of Kingston, Jamaica, moving generally west-northwestward at a very slow pace, varying between 1 mph (2 km/h) and 3 mph (6 km/h) (Figure 1a). The system was starting a rapid intensification phase, triggered by a reduction in vertical wind shear that had previously hindered its strengthening. By 1800 UTC, Melissa had intensified into a Category 1 hurricane, with maximum sustained winds of 75 mph (120 km/h) and a minimum central pressure of 980 mb. Satellite imagery at that time (Figure 2a) showed a large burst of deep convection enveloping the hurricane's centre, with its northwestern sector approaching eastern Jamaica. Consequently, in the late hours of 25 October, from 1800UTC to 0000UTC on 26 October, moderate to locally heavy precipitation from the hurricane's convective core spread over eastern Jamaica. This marked the beginning of the rainfall event associated with Melissa over Jamaica.

On 26 October, Melissa continued to intensify rapidly, reaching Category 4 status by 0900 UTC, with maximum sustained winds estimated at 140 mph (220 km/h) and a minimum central pressure of 944 mb. Throughout the day, the hurricane moved slowly westward at about 5 mph (7 km/h), steered by a ridge to its north, tracking nearly parallel to Jamaica's southeastern coast at a distance of approximately 110 mi (180 km). Satellite imagery indicated that the eye was becoming clear of clouds, while convection had become well organized, with strong inner rainbands and an extensive outer rainband in the eastern semicircle (Figure 2b). The rapid intensification caused a progressive contraction of the inner convective rainbands (Figure 2b). Despite being slightly closer to Jamaica than the previous day, the most intense convective regions remained well offshore (Figure 2b), with only their northern edge producing moderate to locally heavy rainfall along Jamaica's southern and eastern coasts.

During 27 October, Melissa maintained a slow westward motion, continuing nearly parallel to Jamaica's southern and southwestern coasts. By 0900 UTC, it had reached Category 5 intensity, with maximum sustained winds estimated at 160 mph (260 km/h) and a minimum central pressure of 917 mb. The hurricane continued to strengthen throughout the day. Satellite imagery showed a

[1] The Wet Index (WI) was below the Wet Season Trigger Activation Threshold (AT_{WST})
[2] The Local Index (LI) was below the Localized Event Trigger Activation Threshold (AT_{LET})

well-defined, cloud-free eye about 11 mi (18 km) in diameter, surrounded by a compact ring of deep convection (Figure 2c). The inner rainbands gradually expanded inland (Figure 2c), affecting much of Jamaica with moderate to locally heavy rainfall throughout the day, peaking between 1700 UTC and 1900 UTC along southern coastal areas.

In the early hours of 28 October, Melissa began turning north-northeastward and accelerating, influenced by an amplifying trough over the southeastern United States (Figure 1b). This shift in steering flow directed the hurricane's core toward Jamaica. Satellite imagery showed that Melissa's convective core had expanded and intensified compared to the previous day (Figure 2d). Between 0000 UTC and 0600 UTC, strong convection developed within the outer rainband in the northeastern quadrant, directly over Jamaica, producing widespread heavy rainfall (Figure 2d).

At 0600 UTC, the centre was located near 16.8°N, 78.4°W, about 87 mi (140 km) from Jamaica's closest point (Figure 2e). Satellite data indicated that the hurricane's inner rainbands were approaching southwestern Jamaica (Figure 2e). Over the following 24 hours, heavy to very heavy rainfall impacted the island as Melissa approached, made landfall, and eventually moved away.

Landfall occurred at 1700 UTC near New Hope, in the parish of Westmoreland, southwestern Jamaica. At that time, Melissa had maximum sustained winds of 185 mph (295 km/h) and a minimum central pressure of 892 mb. The approach phase (0600–1700 UTC) brought the heaviest rainfall to western and central Jamaica, as convection remained vigorous, sustained by the high ocean heat content.

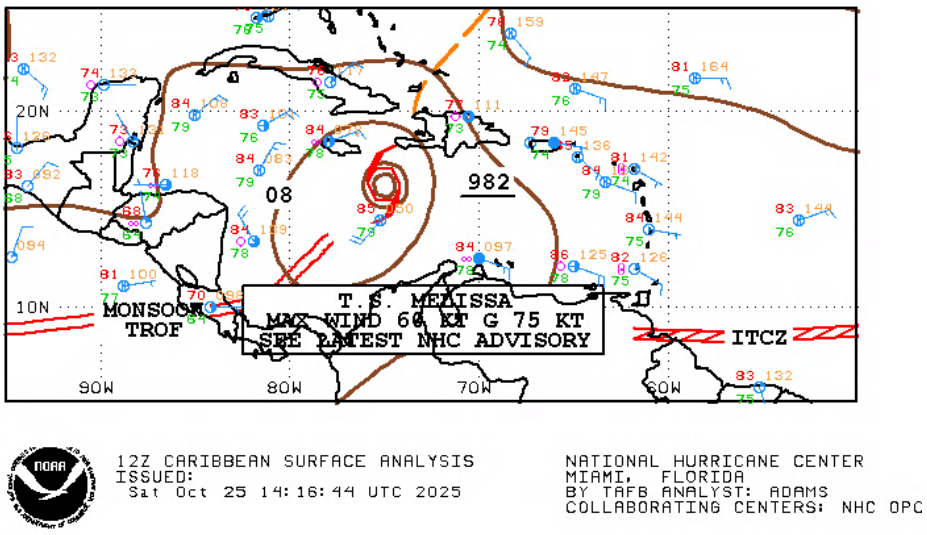
After landfall, the hurricane's eye crossed western Jamaica in about four hours. During this period, interaction with the island's mountainous terrain led to some weakening, as seen in the satellite imagery (Figure 2f): the eye became partially obscured, cloud tops warmed, and cold cloud regions contracted – signs of reduced convective intensity. Nevertheless, heavy to very heavy rainfall persisted over western and central areas, while moderate rainfall affected the east.

Upon emerging off Jamaica's northwestern coast around 2100 UTC, Melissa remained a Category 5 hurricane, with maximum sustained winds of 145 mph (230 km/h) and a minimum central pressure of 921 mb. Satellite imagery in the ensuing hours indicated rapid redevelopment of the eye and surrounding convection (Figure 2g), as Melissa moved north-northeastward – over still warm waters – at an increasing speed of about 10 mph (17 km/h), heading toward Cuba. During this phase, from 2100UTC on 28 October to 0600UTC on 29 October, Jamaica remained under the influence of the hurricane's redeveloping convection in the southern semicircle (Figure 2g), with heavy to very heavy rainfall gradually shifting from western and central areas toward the north.

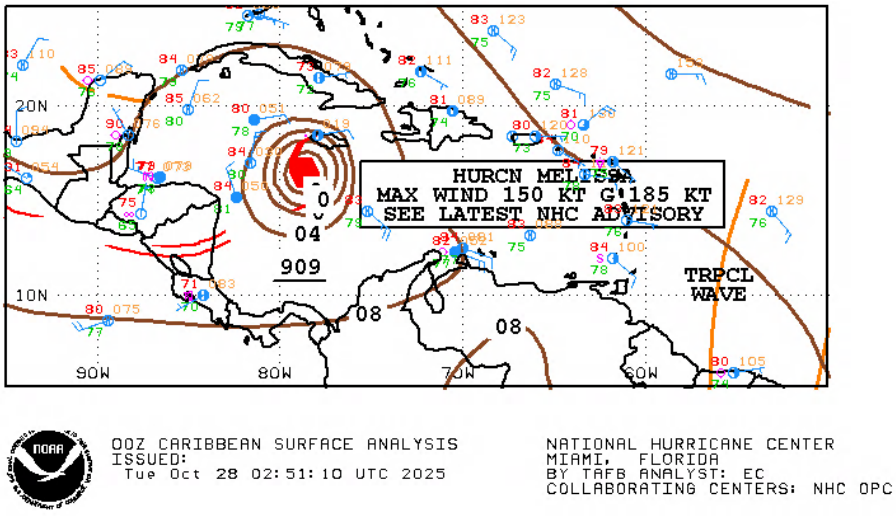
At 0710 UTC, Melissa made a second landfall along southeastern Cuba. The land interaction caused rapid weakening and contraction of the hurricane's convection. As a result, and due to the increasing distance from Jamaica, rainfall over the island subsided quickly, ceasing completely by 0900 UTC.

During the remainder of 29 October and into 30 October, Melissa gradually re-intensified and further accelerated northeastward, passing over The Bahamas. Despite this renewed strengthening,

its rainbands remained well north of Jamaica, marking the end of the rainfall episode over the country.



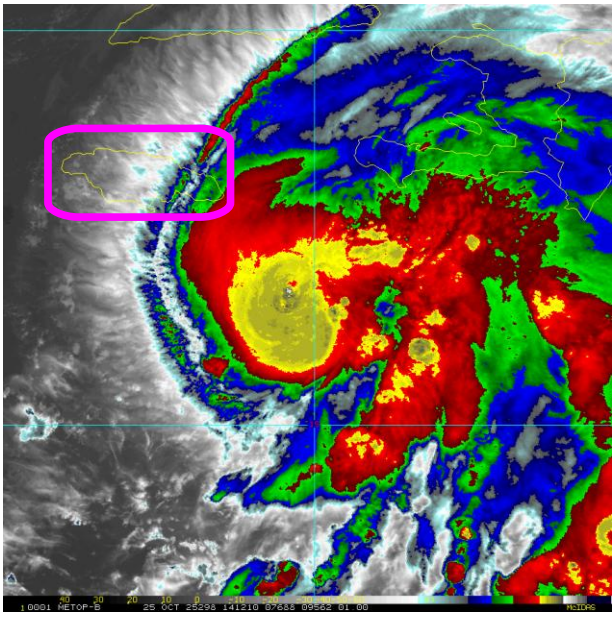
a) 25 October at 1200UTC



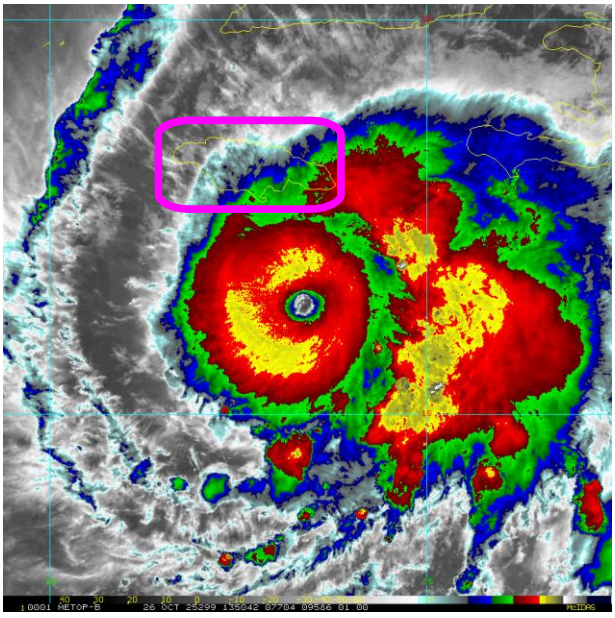
b) 28 October at 0000UTC

Figure 1 Surface analysis over the Caribbean area on 25 and 28 October at different times as indicated in the labels. Source: US National Hurricane Center[3]

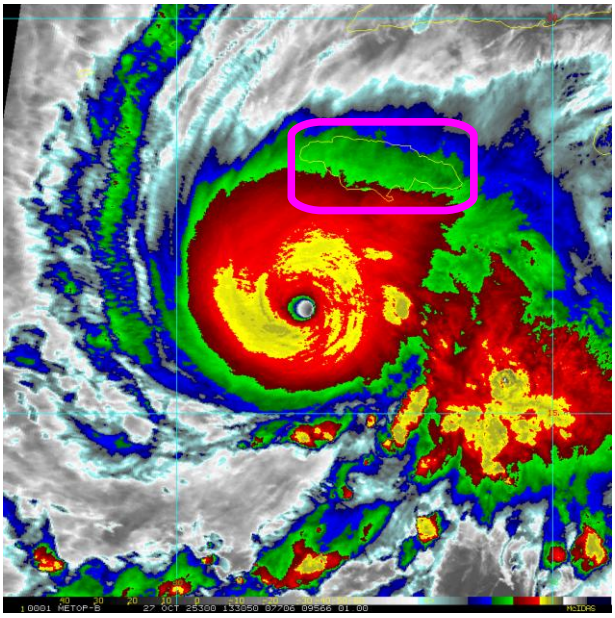
[3] National Oceanic and Atmospheric Administration - FTP, National Hurricane centre, review date: 26 and 28 October 2025, available at: *https://www.nhc.noaa.gov/tafb/CAR_00Z.gif*



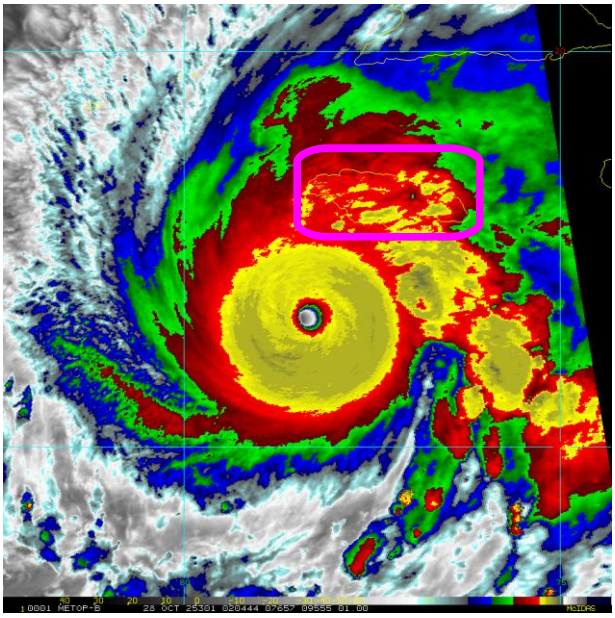
a) 25 October at 1412UTC



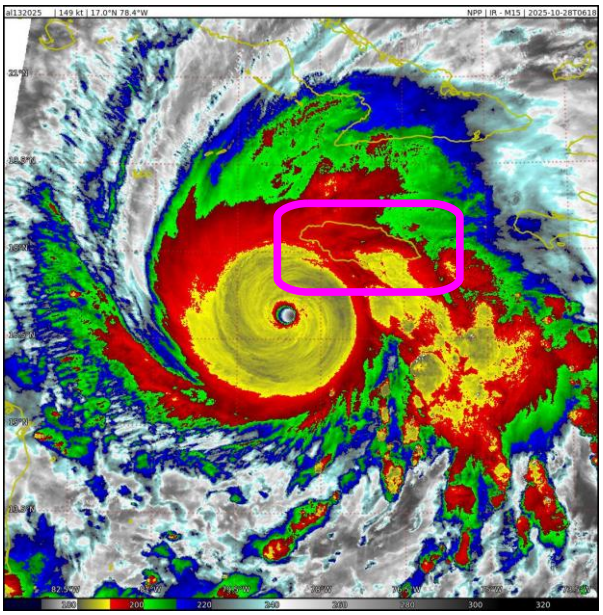
b) 26 October at 1350UTC



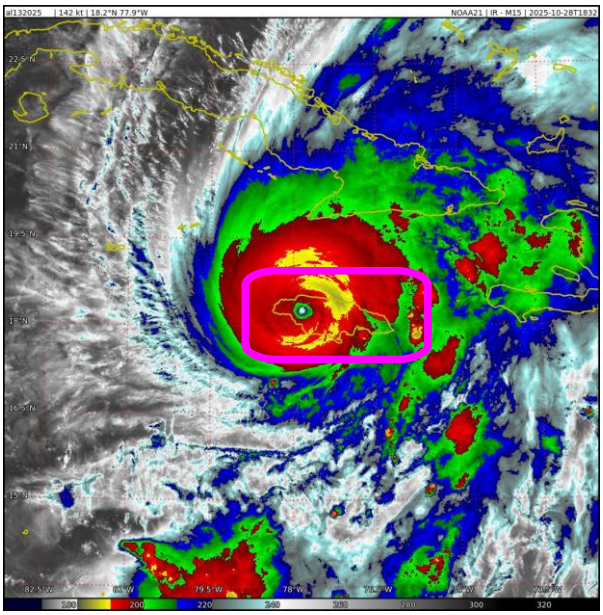
c) 27 October at 1330UTC



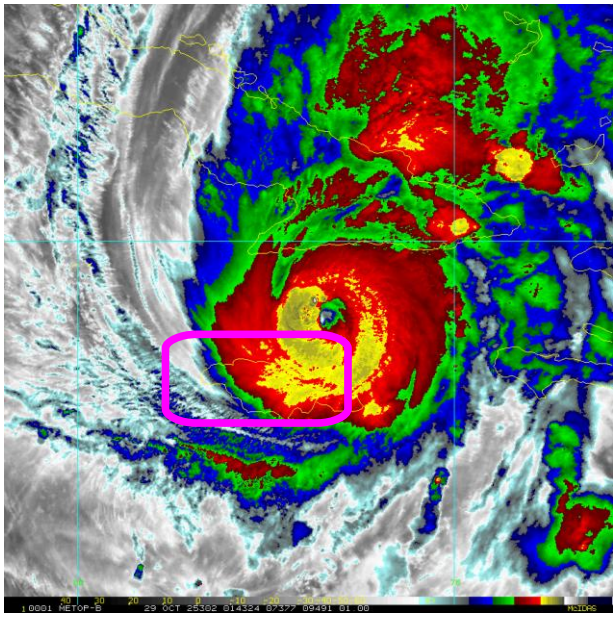
d) 28 October at 0202UTC



e) 28 October at 0618UTC



f) 28 October at 1832UTC



g) 29 October at 0143

Figure 2 Satellite imagery from 25 to 29 October, 2025 at different times as indicated by the labels from the thermal infrared channel enhanced with colour. Blue/green colours represent high altitude clouds (top cloud temperature between -50°C and -70°C), while the red/yellow colours represent very high altitude clouds (top cloud lower than -70°C). High altitude clouds indicate strong convection associated with intense precipitation. Source: NOAA, National Environmental Satellite, Data and Information Service[4]. The violet square indicates Jamaica's location

[4] RAMSDIS Online Archive, NOAA Satellite and Information Service, available at: al132025

3 REPORTED IMPACTS

Intense and sustained rainfall from Hurricane Melissa resulted in widespread flooding and numerous landslides throughout Jamaica. Some regions received up to 30 inches of rain, with isolated locations reporting totals as high as 40 inches. This deluge triggered severe, life-threatening flash flooding and landslides, especially in the central and western parishes of St. Elizabeth, St. James, Trelawny, Manchester, Hanover, and Westmoreland. The effects were catastrophic, with water inundating communities and destabilizing hillsides, making many areas inaccessible and unsafe[5].

The destruction of infrastructure was extensive. Housing bore the brunt of the disaster, as thousands of homes were damaged or destroyed by floodwaters and landslides. Early assessments in St. Elizabeth revealed that in some areas, such as Black River, 80 to 90 percent of roofs were lost. Essential services were also severely affected, with island-wide power outages impacting more than 72% of customers. Communication networks suffered significant disruption, leaving many communities cut off and hampering coordination of emergency relief[6].

Figure 3 An aerial view of Black River, Jamaica, Thursday, Oct. 30, 2025(AP Photo-Matias Delacroix) [7]

Transportation infrastructure was paralyzed as flooded roads, fallen trees, and mudslides isolated communities and impeded the movement of relief teams. Major roads required clearance by the Jamaica Defence Force before aid could reach those in need. Both of Jamaica's international airports sustained damage; however, Norman Manley International Airport in Kingston was able to reopen by October 30 to facilitate relief operations.

[5] Emergency Appeal Jamaica | Hurricane Melissa (MDRJM005)
[6] IOM Caribbean: Hurricane Melissa SITUATION REPORT: 03 November 2025
[7] Photos show Hurricane Melissa's impact on the Caribbean | AP News

Health facilities were also severely damaged. Major hospitals, including Black River Hospital, Cornwall Regional Hospital, Falmouth Hospital, and Noel Holmes Hospital in Hanover, sustained structural damage and experienced flooded wards, rendering some non-operational and further straining healthcare resources in the midst of the crisis.

4 RAINFALL MODEL OUTPUTS

All data sources used by the XSR 3.1 model, CMORPH, IMERG, WRF5, WRF7, WRF11 and WRF15[8], detected the occurrence of precipitation over Jamaica and the surrounding waters during the period 25 to 30 October 2025. Each data source reported a specific distribution and accumulation of rainfall, as discussed below and shown in Figure 4. A CARE for Jamaica was activated on 27 October and closed on 30 October. The CARE was activated due to the use of the 12-hour and the 48-hour aggregation intervals for precipitation and thus the period considered by the XSR 3.1 model for the loss estimate based on the accumulated precipitation in Jamaica was 25 to 30 October 2025.

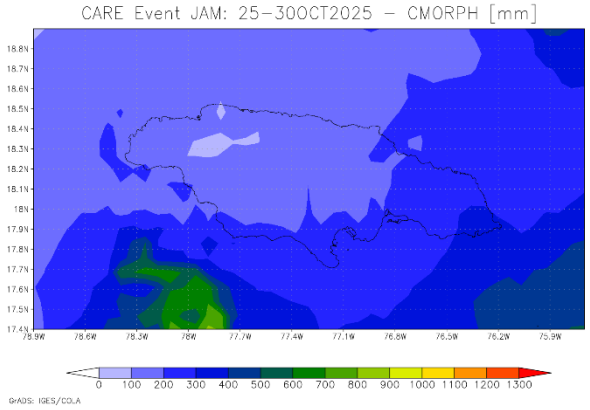
Table 1: Report from XSR 3.1 Data Sources on the Precipitation over Jamaica, October 25 to 30, 2025

CMORPH	CMORPH reported total accumulated precipitation exceeding 200 mm over eastern Jamaica and along the southern coast, with the highest values—ranging between 300 mm and 400 mm—reported along the southeastern edge of the island. Lower values were recorded across the remainder of the country
IMERG	IMERG indicated total accumulated precipitation greater than 200 mm over most of Jamaica and exceeding 400 mm over central areas. The highest values, between 500 mm and 600 mm, were recorded across nearly the entire parish of Saint Catherine .
WRF5	WRF5 simulated total accumulated precipitation exceeding 400 mm over central and eastern Jamaica, with maximum values, between 1200 mm and 1400 mm, across the parishes of Saint Thomas and Portland. Lower values were reported over western Jamaica.
WRF7	WRF7 showed total accumulated precipitation exceeding 400 mm across most of Jamaica. The highest values, ranging between 800 mm and 1000 mm, were located over Manchester, with a peak near the town of Mandeville.

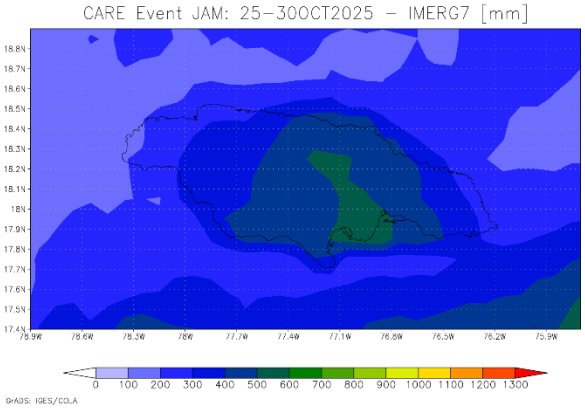
[8] CMORPH Model: the satellite-based rainfall precipitation estimates provided by the NOAA Climate Prediction centre (CPC) using the so-called Morphing Technique Further details are provided in the Definitions section of this report IMERG Model: The satellite-based rainfall estimation model developed by NASA, expressed in mm, derived by aggregating the IMERG 30-minute Rainfall Data at 10km spatial resolution and available at *https://jsimpsonhttps.pps.eosdis.nasa.gov/imerg/late*. Further details in the Definitions section of this reportWRF5, WRF7, WRF11 and WRF15 Models: the Weather Research and Forecasting Model weather model-based Configuration #1 and #2 data *https://www.mmm.ucar.edu/weather-research-and-forecasting-model.* These data are initialised by the NCEP FNL dataset. (NCEP FNL Operational Model Global Tropospheric Analyses [*http://rda.ucar.edu/datasets/ds083.2/*]). Further details are provided in the Definitions section of this report.

WRF11 WRF11 reported totals accumulated precipitation values above 300 mm over most of Jamaica. In three distinct areas, values exceeded 700 mm: across much of the eastern region, over the parish of Manchester, and between Saint Ann and Saint Catherine. The maximum values, between 1000 mm and 1200 mm, were located in a small area within Portland.

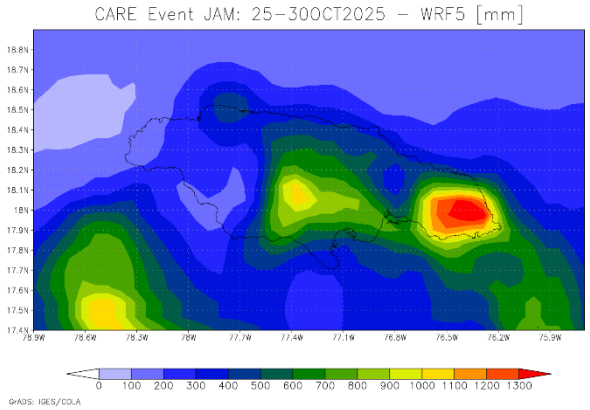
WRF15 WRF15 reported accumulated values of precipitation higher than 300 mm over most of central and eastern Jamaica. The maximum values, between 900 mm and 1100 mm, were reported over a small area in Portland.



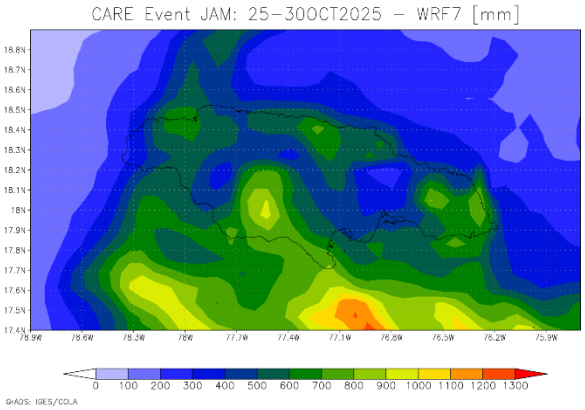
a) CMORPH



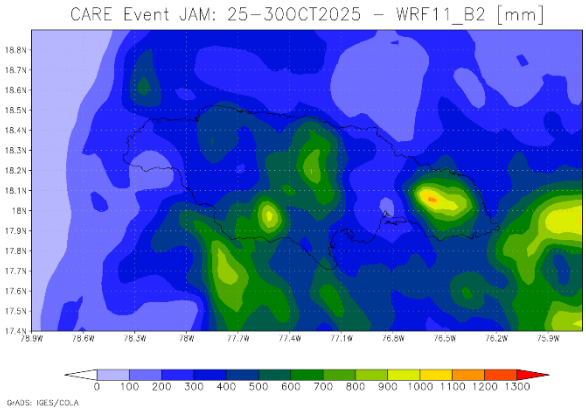
b) IMERG



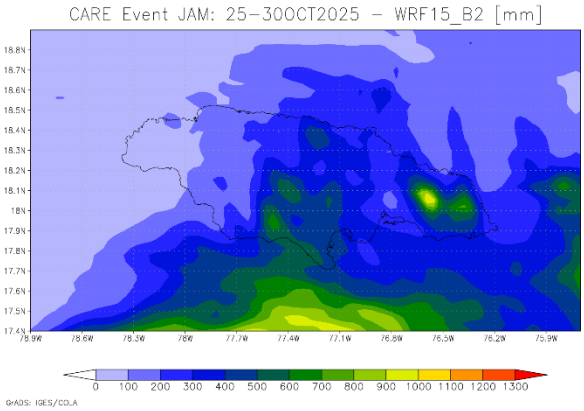
c) WRF5



d) WRF7



e) WRF11



f) WRF15

Figure 4 Total accumulated precipitation during the period 25 to 30 October 2025 estimated by CMORPH (a), IMERG7 (b), WRF5 (c), WRF7 (d), WRF11 (e), WRF15 (f). Source: CCRIF SPC

Daily rainfall maps by CMORPH, IMERG, WRF5, WRF7, WRF11 and WRF15 over the exposure map of XSR 3.1 are not included here and they can be downloaded at the following links for 12-hour aggregation and 48-hour aggregation respectively:

https://wemap.ccrif.org/OUTPUT/CCRIF/XSR/Events/JAM/CARE_3_2025/daily_prec_short.mp4

https://wemap.ccrif.org/OUTPUT/CCRIF/XSR/Events/JAM/CARE_3_2025/daily_prec_long.mp4

The Rainfall Index Loss (RIL) was above the loss threshold for Jamaica for all of the data sources used by XSR3.1: CMORPH, IMERG, WRF5, WRF7, WRF11 and WRF15. The RIL was the highest for WRF7.

The final RIL (RIL_{FINAL}) was calculated as the average of all the RILs from CMORPH, IMERG, WRF5, WRF7, WRF11 and WRF15. The RIL_{FINAL} was above the attachment point of the country's Excess Rainfall policy, and thus the policy was triggered. Therefore, a payout of US$21,085,860 is due under Jamaica's Excess Rainfall policy to the Government of Jamaica.

The Wet Season Trigger (WST) endorsement of the XSR3.1 model did not identify this CARE as a "Wet Season" event[9]. Therefore, no payout is due under the Wet Season Trigger endorsement of Jamaica's Excess Rainfall policy.

[9] The WST endorsement is designed to provide a predetermined payout for rainfall events occurring amidst already saturated soil conditions, effectively capturing the heightened risk of flooding and landslides. It is activated based on two factors: the Wet Index (the average 1-month Standardized Precipitation Index for all grid cells in the country) and Wet Periods (the period of time where the Wet Index exceeds 1, which indicates that the soil is wetter than its long-term average and serves as an indicator of soil saturation). The WST policy endorsement provides a payment when one or more CAREs with a modelled loss greater than zero and lower than the policy Attachment Point occur within a Wet Period and the corresponding value of the Wet Index during the Wet Period exceeds a predetermined threshold. Wet season event (WE). Any period of consecutive days, during which the Wet Index (WI) is equal or greater than 1.

The Localized Event Trigger (LET) component of the XSR3.1 model did not identify this CARE as a localized event[10]. Therefore, no payout is due under the Local Event Trigger endorsement of Jamaica's Excess Rainfall policy.

5 TRIGGER POTENTIAL

The Rainfall Index Loss calculated for this Covered Area Rainfall Event (CARE) was above the attachment point of Jamaica's Excess Rainfall policy and therefore a payout of US$21,085,860 is due to the Government of Jamaica under Jamaica's Excess Rainfall policy .

The Wet Season Trigger (WST) endorsement of the XSR3.1 model did not identify this CARE as a "Wet Season" event. Therefore, no payout is due under the Wet Season Trigger endorsement of Jamaica's Excess Rainfall policy.

The Localized Event Trigger (LET) component of the XSR3.1 model did not identify this CARE as a localized event. Therefore, no payout is due under the Local Event Trigger endorsement of Jamaica's Excess Rainfall policy.

For additional information, please contact CCRIF SPC at: pr@ccrif.org

[10] The LET is designed to cover rainfall events that affect only a small portion of the country. To determine a qualifying localized event, two conditions must be met: the average precipitation in the 10% of the area with highest precipitation – known as the "Local Exposure" - must be greater than the local precipitation threshold (LPT) for (i) at least one of the satellite datasets (CMORPH or IMERG) and (ii) at least three of the six models (CMORPH, IMERG, WRF5, WRF7, WRF11 and WRF15).

DEFINITIONS

Active Exposure Cell Percentage Threshold	The percentage of the total number of XSR Exposure Grid Cells within the Covered Area of the Insured, that must be exceeded to trigger a Covered Area Rainfall Event.
Active Exposure Grid Cells	The XSR Exposure Grid Cells for which in the same single day the Aggregate Rainfall #1 value computed using the CMORPH-based Rainfall Estimate equals or exceeds the Rainfall Event Threshold #1 or the Aggregate Rainfall #2 value computed using the CMORPH-based Rainfall Estimate equals or exceeds the Rainfall Event Threshold #2.
Aggregate Rainfall #1	The rainfall amount accumulated over the Rainfall Aggregation Period #1 (as defined in the Schedule) measured in millimeters (mm) in any of the XSR Exposure Grid Cells in the Covered Area of the Insured. For a given day and a Rainfall Aggregation Period #1 of n hours, the Aggregate Rainfall #1 is the maximum amount of rainfall accumulated over any of the n-hour windows that intersect the day itself considering a time interval of 3 hours.
Aggregate Rainfall #2	The rainfall amount accumulated over the Rainfall Aggregation Period #2 (as defined in the Schedule) measured in millimeters (mm) in any of the XSR Exposure Grid Cells in the Covered Area of the Insured. For a given day and a Rainfall Aggregation Period #2 of n hours, the Aggregate Rainfall #2 is the maximum amount of rainfall accumulated over any of the n-hour windows that intersect the day itself considering a time interval of 3 hours.
Calculation Agent	Entity charged with undertaking the primary calculation of the Rainfall Index Loss.
CMORPH-based Maximum Aggregate Rainfall #1	The maximum value during the Covered Area Rainfall Event of the Aggregate Rainfall #1 computed using the CMORPH-based Rainfall Estimates in any given XSR Exposure Grid Cell over the Covered Area of the Insured.
CMORPH-based Maximum Aggregate Rainfall #2	The maximum value during the Covered Area Rainfall Event of the Aggregate Rainfall #2 computed using the CMORPH-based Rainfall Estimates in any given XSR Exposure Grid Cell over the Covered Area of the Insured.

CMORPH-based Covered Area Rainfall Parameters	The CMORPH Model information provided on a continuous basis by the XSR Model Data Reporting Agency used by the Calculation Agent to obtain the CMORPH-based Rainfall Estimates using the XSR Rainfall Model. Parameters are drawn from XSR Exposure Grid Cells within the Covered Area of the Insured, by their respective latitude and longitude. Measurement units and precision of data ingested by the XSR Rainfall Model are identical to those provided by the XSR Model Data Reporting Agency and are further elaborated in the Attachment entitled 'Calculation of Rainfall Index Loss and Policy Payment'.
CMORPH Model	The satellite-based rainfall estimation model provided by NOAA CPC as described in the Rainfall Estimation Models section of the Policy.
Covered Area	The territory of the Insured as represented in the XSR Rainfall Model.
Covered Area Rainfall Event	Any period of days, with an interruption less than or equals to the Event Tolerance Period, during which the number of Active Exposure Grid Cells is greater than or equal to the product of (a) Active Exposure Cell Percentage Threshold multiplied by (b) the total number of XSR Exposure Grid Cells within the Covered Area.
Country Disaster Alert	An official disaster alert issued by ReliefWeb (*http://reliefweb.int/*) for the country in question for one of the following types of events: tropical cyclone, flood, flash flood and severe local storm. Any disaster alert issued later than seven (7) days after the completion of the Covered Area Rainfall Event (CARE) event will not be considered. The Disaster Alert description issued by ReliefWeb and/or its attached documentation must include specific reference to the CARE dates with a tolerance period of 2 calendar days.
Maximum Aggregate Rainfall #1	The highest value during a Covered Area Rainfall Event of the Aggregate Rainfall #1 amount in any of the XSR Exposure Grid Cells in the Covered Area of the Insured computed.
Maximum Aggregate Rainfall #2	The highest value during a Covered Area Rainfall Event of the Aggregate Rainfall #2 amount in any of the XSR Exposure Grid Cells in the Covered Area of the Insured computed.

Rainfall Event Threshold #1	Aggregate Rainfall #1 level as defined in the Schedule which should be exceeded to trigger an Active Exposure Cell.
Rainfall Event Threshold #2	Aggregate Rainfall #2 level as defined in the Schedule which should be exceeded to trigger an Active Exposure Cell.
Rainfall Aggregation Period #1	The number of hours over which the Aggregate Rainfall #1 is computed for all XSR Exposure Grid Cells during a Covered Area Rainfall Event.
Rainfall Aggregation Period #2	The number of hours over which the Aggregate Rainfall #2 is computed for all XSR Exposure Grid Cells during a Covered Area Rainfall Event.
Rainfall Index Loss	For any Covered Area Rainfall Event affecting the Insured, the US Dollar loss calculated by the Calculation Agent using the XSR Rainfall Model, as described in the Attachment entitled 'Calculation of Rainfall Index Loss and Policy Payment'. The Rainfall Index Loss can only be calculated once the Covered Area Rainfall Event is completed.
WRF5 Model	The weather research and forecasting rainfall model by NOAA with Configuration #5 data initialized with and assimilating the data provided by the National Center for Environmental Prediction as described in the Rainfall Estimation Models and in the Input Data to the Rainfall Estimation Models sections of this Attachment.
WRF7 Model	The weather research and forecasting rainfall model by NOAA with Configuration #7 data initialized with and assimilating the data provided by the National Center for Environmental Prediction as described in the Rainfall Estimation Models and in the Input Data to the Rainfall Estimation Models sections of this Attachment.
XSR Rainfall Model	The computer model used to calculate the Rainfall Index Loss, as described in the Attachment entitled 'Calculation of Rainfall Index Loss and Policy Payment'.
XSR Exposure Grid Cells	The 30 arc-second by 30 arc-second grid of cells each of which is attributed with an XSR Grid Cell Exposure Value greater than zero.

XSR Grid Cell Exposure Value	The value, used to calculate the CMORPH-based Exposure Grid Cell Loss, the WRF5-based Exposure Grid Cell Loss, and the WRF7-based Exposure Grid Cell Loss.