



Covered Area Rainfall Event (16/10/2025 to 18/10/2025)

Excess Rainfall

Event Briefing

Montserrat

27 October 2025

1 INTRODUCTION

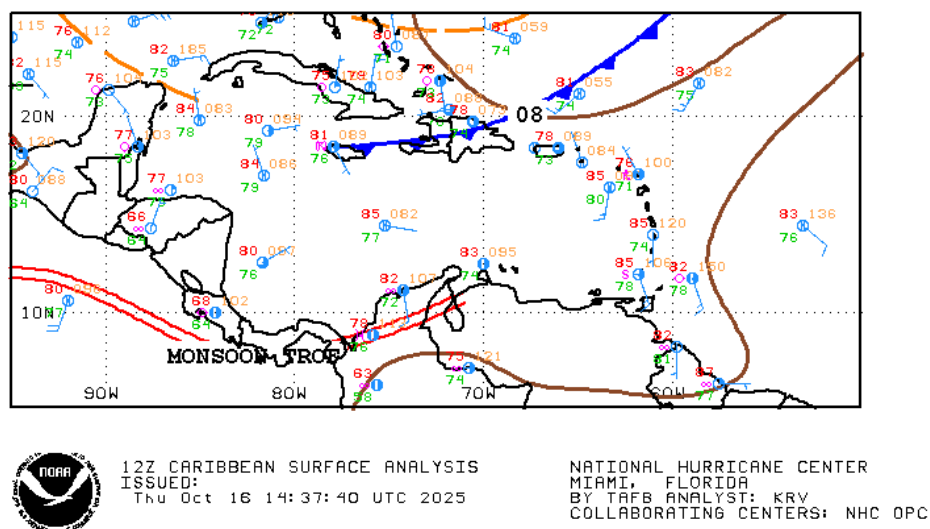
This event briefing describes the impact of rainfall on Montserrat which was associated with a Covered Area Rainfall Event (CARE) starting on 16 October and ending on 18 October 2025. The Rainfall Index Loss (RIL) for the Covered Area Rainfall Event was below the attachment point of Montserrat's Excess Rainfall policy, and therefore no payout is due to the Government of Montserrat. This CARE did not activate the Wet Season Trigger¹ endorsement of Montserrat's Excess Rainfall policy and therefore no payout under this endorsement is due.

2 EVENT DESCRIPTION

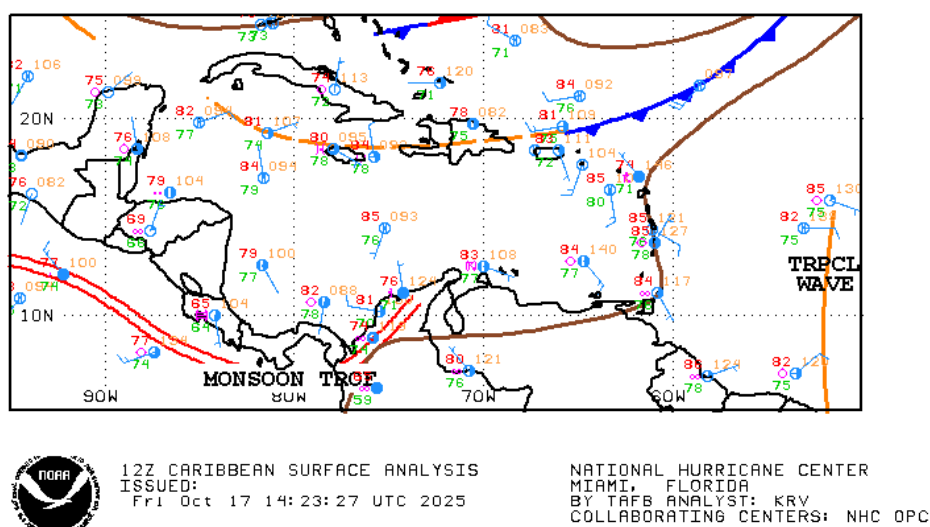
On 16 October at 1200 UTC, a cold front extended from latitude 31° North and longitude 55° West southwestward to Hispaniola and was moving southeastward (Figure 1a). Around this time, satellite imagery indicated the development of two thunderstorm squall lines several hundred kilometers ahead of the cold front, over a large area including the northern Leeward Islands and the Atlantic waters to the north and east (Figures 2a and 2b). Convective activity peaked around 1500 UTC, about 500 miles (800 km) ahead of the front, in the vicinity of Montserrat (Figure 2b). This convective episode weakened during the night of 16 October.

On 17 October, the cold front moved further southeast, and at 1200 UTC, it was positioned from latitude 31° North and longitude 48° West to latitude 19° North and longitude 65° West, then transitioning into a trough extending to Hispaniola (Figure 1b). Satellite imagery indicated a second convective impulse organized into a thunderstorm squall line in the pre-frontal region, about 250 miles (400 km) ahead of the cold front, southeast of Puerto Rico, including Montserrat and nearby waters during the morning hours. Convection peaked over Montserrat around 1200 UTC, bringing moderate to locally heavy rainfall to the island (Figure 2c). This convection gradually weakened through the evening (Figure 2d), and by 18 October, rainfall and convective activity over Montserrat had ceased.

¹ The Wet Index WI (The average IMERG-based Exposure Grid Cell SPI-1 calculated over all the XSR Exposure Grid Cells as defined under each Policy Terms and Conditions) was below the Wet Season Trigger Activation Threshold (AT_{WST})



a) 16 October at 1200UTC



b) 17 October at 1200UTC

Figure 1 Surface analysis over the Caribbean area on 16 and 17 October at different times as indicated in the label.
Source: US National Hurricane centre²

² National Oceanic and Atmospheric Administration - FTP, National Hurricane centre, review date: 16 and 17 October 2025, available at: <https://www.nhc.noaa.gov/tafb/CAR12Z.gif>

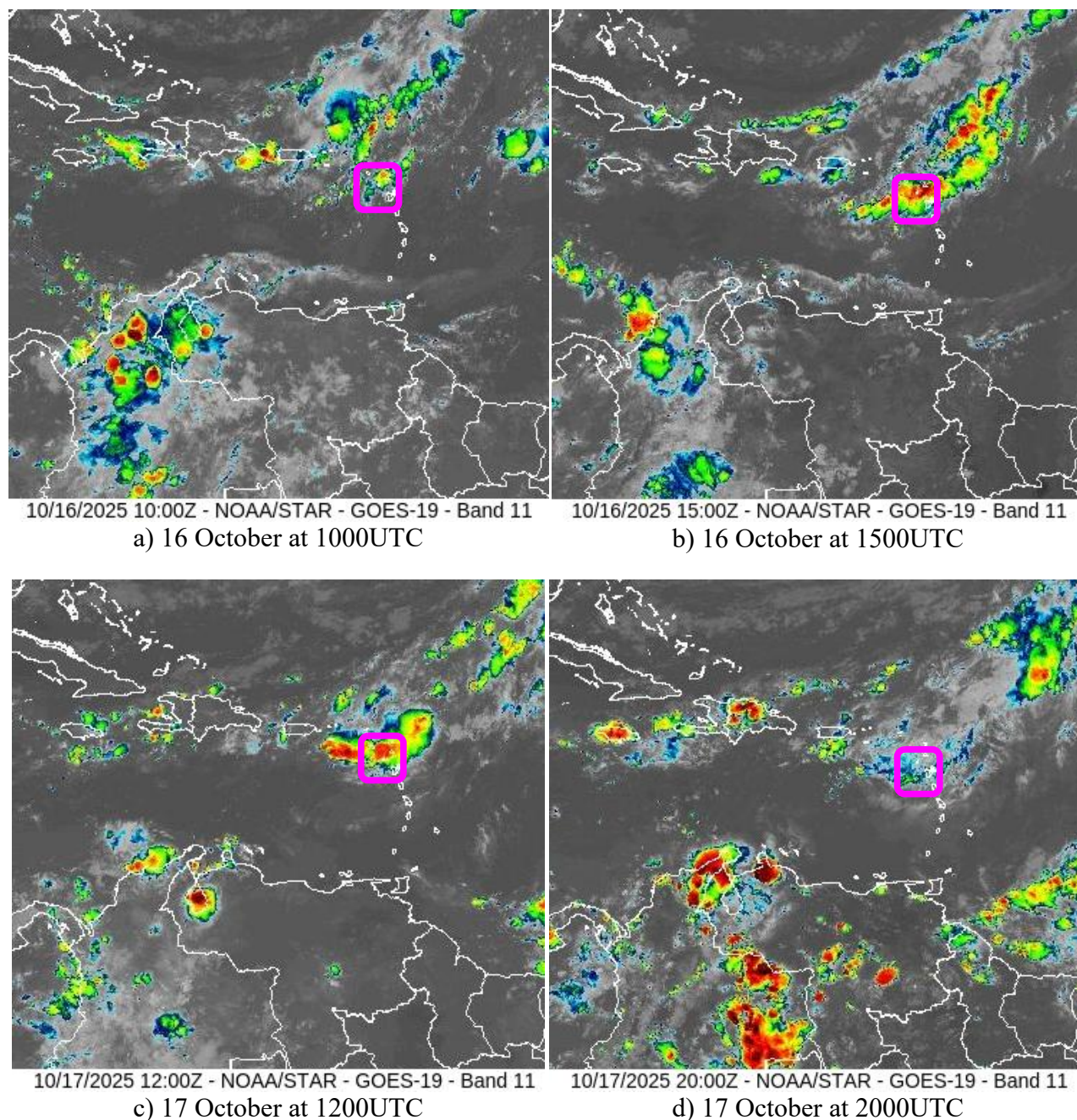


Figure 2 Satellite imagery on 16 and 17 October, 2025 at different times as indicated in the labels from the thermal infrared channel enhanced with colour. Blue/green colours represent high altitude clouds (top cloud temperature between -50°C and -70°C), while the red/yellow colours represent very high altitude clouds (top cloud lower than -70°C). High altitude clouds indicate strong convection associated with intense precipitation. Montserrat's position is highlighted by a violet square. Source: NOAA, National Environmental Satellite, Data and Information Service³.

³ RAMSDIS Online Archive, NOAA Satellite and Information Service, available at:
<https://www.star.nesdis.noaa.gov/GOES/sector.php?sat=G19§or=car>

3 REPORTED IMPACTS

At the time of writing this report, there was no information about damage in Montserrat due to this Covered Area Rainfall Event during the indicated period (16 to 18 October).

4 RAINFALL MODEL OUTPUTS

All data sources used by the XSR 3.1 model, CMORPH, IMERG, WRF5, WRF7, WRF11 and WRF15^{4, 5}, detected the occurrence of precipitation over Montserrat and the surrounding waters during the period 14 to 18 October 2025. Each data source reported a specific distribution and accumulation of rainfall, as discussed below and shown in Figure 3. A CARE for Montserrat was activated on 16 October and closed on 18 October. The CARE was activated due to the use of the 12-hour and the 48-hour aggregation intervals for precipitation⁶ and thus the period considered by the XSR 3.1 model for the loss estimate based on the accumulated precipitation in Montserrat was 14 to 18 October 2025.

Table 1: Report from XSR 3.1 Data Sources on the Precipitation over Montserrat, October 14 to 18, 2025

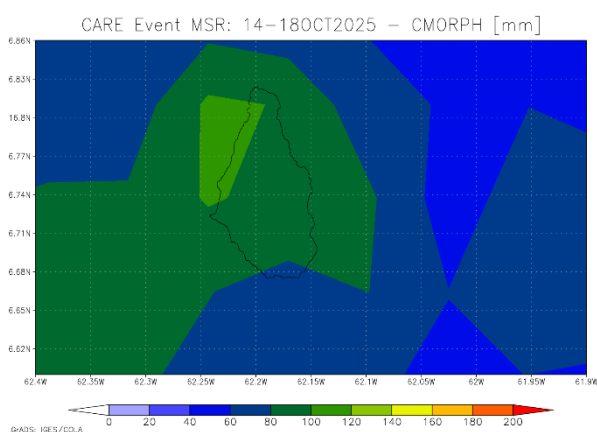
CMORPH	CMORPH reported total accumulated values of precipitation higher than 100 mm over the western portion of St. Peter parish. Values between 60 mm and 100 mm were reported over the remainder of the territory.
IMERG	IMERG showed total accumulated values of precipitation ranging between 60 mm and 80 mm over the entire country.

⁴ CMORPH Model: the satellite-based rainfall precipitation estimates provided by the NOAA Climate Prediction centre (CPC) using the so-called Morphing Technique http://www.cpc.ncep.noaa.gov/products/janowiak/cmorph_description.html. Further details are provided in the Definitions section of this reportIMERG 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.

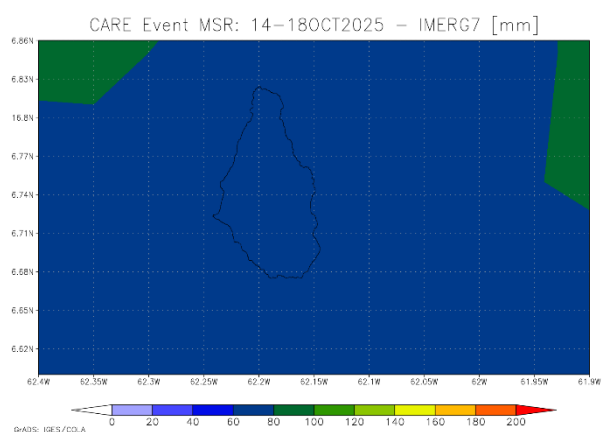
⁵ CMORPH Model: the satellite-based rainfall precipitation estimates provided by the NOAA Climate Prediction centre (CPC) using the so-called Morphing Technique http://www.cpc.ncep.noaa.gov/products/janowiak/cmorph_description.html. Further details are provided in the Definitions section of this reportIMERG 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.

⁶ The two aggregation periods correspond to the Rainfall Aggregation Period #1 and Rainfall Aggregation Period #2, as indicated in the Schedule. Further details in the Definitions section of this report.

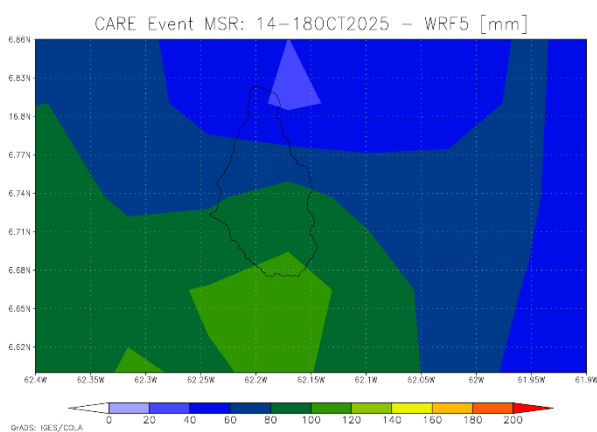
- WRF5** WRF5 showed total accumulated values of precipitation ranging between 60 mm and 120 mm over almost the entire country. The highest values, between 100 mm and 120 mm, were reported over the southeastern area of Montserrat.
- WRF7** WRF7 showed total accumulated values of precipitation higher than 20 mm over the southern half of Montserrat. The highest values, between 60 mm and 80 mm, were reported over a small area in St. Anthony parish. Lower values were shown over the rest of the territory.
- WRF11** WRF11 showed total accumulated values of precipitation lower than 20 mm over the entire country.
- WRF15** WRF15 reported accumulated values of precipitation higher than 140 mm over almost the entire country. The highest values, between 200 mm and 220 mm, were reported over an extended area of St. George parish. Values lower than 140 mm were shown over the rest of the country.



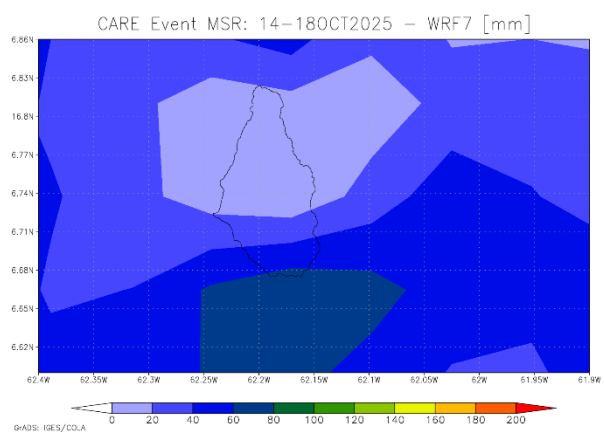
a) CMORPH



b) IMERG7



c) WRF5



d) WRF7

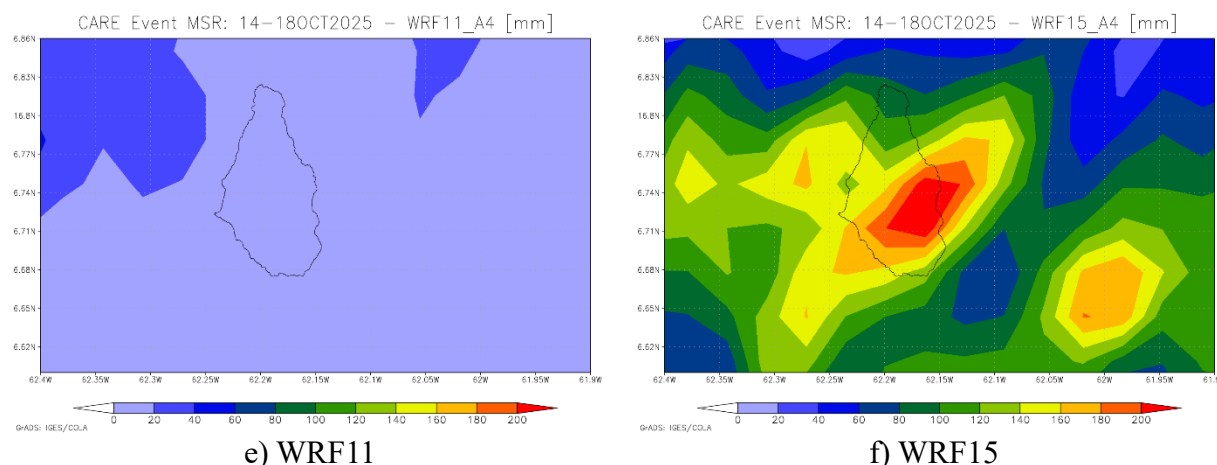


Figure 3 Total accumulated precipitation during the period 14 to 18 October, 2025 estimated by CMORPH (a), IMERG7 (b), WRF5 (c), WRF7 (d), WRF11 (e), WRF15 (f). Source: CCRIF SPC

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 24-hour aggregation and 72-hour aggregation respectively:

https://wemap.ccrif.org/OUTPUT/CCRIF/XSR/Events/MSR/CARE_2_2025/daily_prec_short.mp4

https://wemap.ccrif.org/OUTPUT/CCRIF/XSR/Events/MSR/CARE_2_2025/daily_prec_long.mp4

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

The final RIL (RIL_{FINAL}) was calculated as the average of the three RILs from CMORPH, WRF5 and WRF15. The RIL_{FINAL} was below the attachment point of the country's Excess Rainfall policy, and thus the policy was not triggered. Therefore, no payout is due to the Government of Montserrat under its Excess Rainfall policy.

The Wet Season Trigger (WST) endorsement of the XSR3.1 model did not identify this CARE as a "Wet Season" event⁷. Therefore, no payout is due under the Wet Season Trigger endorsement of Montserrat's Excess Rainfall policy.

⁷ 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.

5 TRIGGER POTENTIAL

The Rainfall Index Loss calculated for the Covered Area Rainfall Event (CARE) for Montserrat was below the attachment point of Montserrat's Excess Rainfall policy, and therefore no payout is due. This CARE did not activate the Wet Season Trigger endorsement of the Excess Rainfall policy and therefore no payout under this endorsement is due.

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

DEFINITIONS

<i>Active Exposure Cell Percentage Threshold</i>	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.
<i>Active Exposure Grid Cells</i>	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.
<i>Aggregate Rainfall #1</i>	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.
<i>Aggregate Rainfall #2</i>	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.
<i>Calculation Agent</i>	Entity charged with undertaking the primary calculation of the Rainfall Index Loss.
<i>CMORPH-based Maximum Aggregate Rainfall #1</i>	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.
<i>CMORPH-based Maximum Aggregate Rainfall #2</i>	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.
<i>CMORPH-based Covered Area Rainfall Parameters</i>	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’.
<i>CMORPH Model</i>	The satellite-based rainfall estimation model provided by NOAA CPC as described in the Rainfall Estimation Models section of the Policy.
<i>Covered Area</i>	The territory of the Insured as represented in the XSR Rainfall Model.
<i>Covered Area Rainfall Event</i>	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.
<i>Country Disaster Alert</i>	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.
<i>Maximum Aggregate Rainfall #1</i>	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.
<i>Maximum Aggregate Rainfall #2</i>	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.
<i>Rainfall Event Threshold #1</i>	Aggregate Rainfall #1 level as defined in the Schedule which should be exceeded to trigger an Active Exposure Cell.

<i>Rainfall Event Threshold #2</i>	Aggregate Rainfall #2 level as defined in the Schedule which should be exceeded to trigger an Active Exposure Cell.
<i>Rainfall Aggregation Period #1</i>	The number of hours over which the Aggregate Rainfall #1 is computed for all XSR Exposure Grid Cells during a Covered Area Rainfall Event.
<i>Rainfall Aggregation Period #2</i>	The number of hours over which the Aggregate Rainfall #2 is computed for all XSR Exposure Grid Cells during a Covered Area Rainfall Event.
<i>Rainfall Index Loss</i>	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.
<i>WRF5 Model</i>	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.
<i>WRF7 Model</i>	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.
<i>XSR Rainfall Model</i>	The computer model used to calculate the Rainfall Index Loss, as described in the Attachment entitled ‘Calculation of Rainfall Index Loss and Policy Payment’.
<i>XSR Exposure Grid Cells</i>	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.
<i>XSR Grid Cell Exposure Value</i>	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.