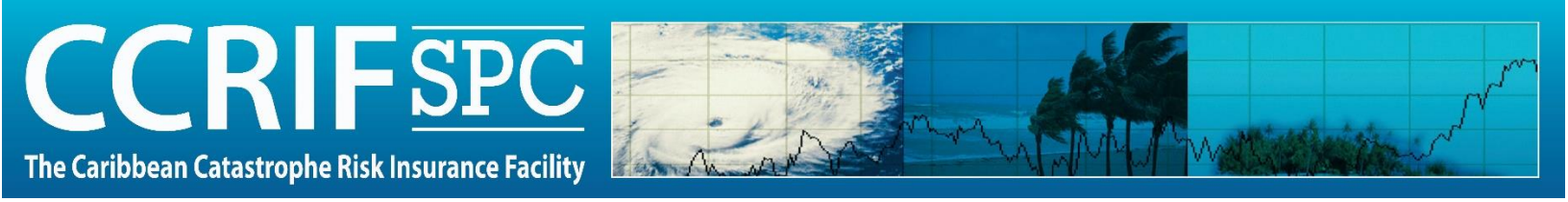

Covered Area Rainfall Events (19/06/2025 to 19/06/2025)

Excess Rainfall

Event Briefing

Guatemala

27 June 2025

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1 INTRODUCTION

This event briefing describes the impact of rainfall on Guatemala, which was associated with a Covered Area Rainfall Event (CARE) starting on 19 June and ending on 19 June 2025. The Rainfall Index Loss (RIL) for the Covered Area Rainfall Event was below the attachment point of Guatemala's Excess Rainfall policy, and therefore no payout is due to the Government of Guatemala. This CARE did not activate the Wet Season Trigger or Localized Event Trigger endorsement of the Excess Rainfall policy and therefore no payout under either this endorsement is due.

2 EVENT DESCRIPTION

Between 16 and 19 June 2025, Guatemala was affected by intense rainfall associated with the development and passage of Tropical Cyclone Erick along its Pacific coast.

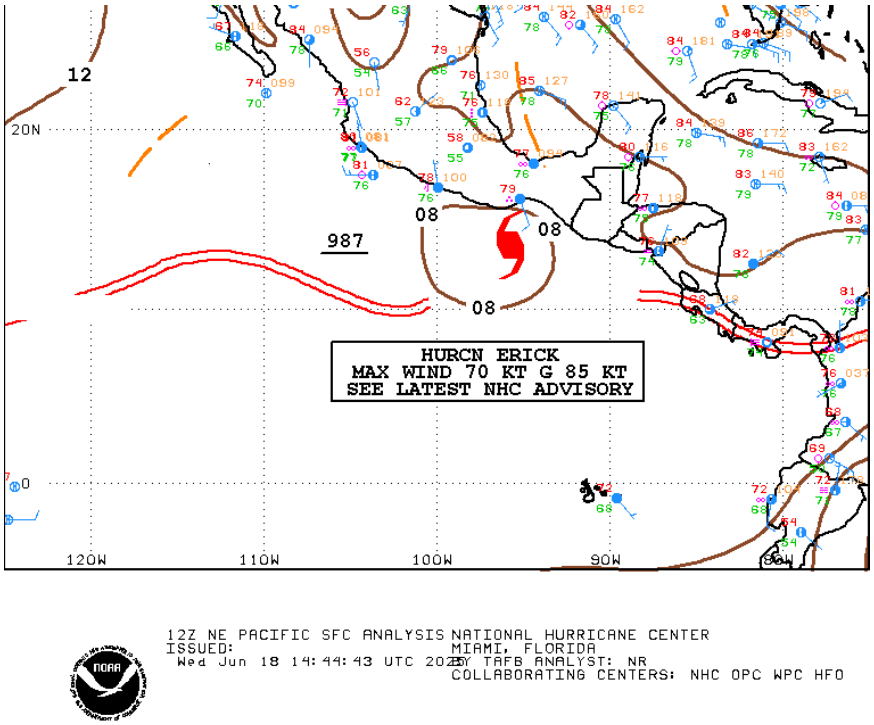
On 16 June, a broad area of low pressure was centred about 200 mi (320 km) south of the coast of Guatemala. The next day, 17 June at 0900UTC, the system was classified as a tropical storm and named Erick, while it was centred near latitude 11.9°North and longitude 93.6°West. Erick then tracked west-northwestward, gradually intensifying as it moved parallel to the Central America coast. By 18 June at 1200 UTC, Erick had strengthened into a Category 1 hurricane, centred near latitude 13.9°North and longitude 96.0°West (Figure 1), and continued to intensify, reaching Category 2 status by 18 June at 1800 UTC as it moved northwestward toward the southern coast of Mexico.

During its development stage, from 16 to 18 June, Erik showed some banding features, generally appearing fractured surrounding the cyclone, over an area from latitude 10°North to 16°North between longitudes 90°West and 98°West (Figures 2a and 2b). Moderate to locally intense thunderstorms developed over Guatemala mostly over the southern regions along the Pacific coast and over the extreme northern portion of the country (Figures 2a and 2b). Convection was active mainly between 2100UTC and 0600UTC, corresponding to the afternoon-evening hours in local time.

After Erik becoming a hurricane, from 18 June to 19 June, satellite imagery indicated the formation of well-organized internal convective banding surrounding its centre. Numerous strong convective cells were observed within the outer rainbands of the hurricane, extending well northeastward from the cyclone centre, over the northern portion of Guatemala (Figures 2c and 2d). On 18 June and 19 June during the afternoon-evening hours in local time (between 2100UTC and 0600UTC), this outer rainband produced widespread moderate to locally intense precipitation across much of Guatemala with the most significant events over the northern portion of the country (Figures 2c and 2d).

As Hurricane Erick made landfall in the extreme western sector of the Oaxaca state of Mexico, near latitude 16.7°North and longitude 98.8°West on 19 June 1200 UTC, the system weakened rapidly due to the interaction with the mountain region. The associated convective activity in the outer rainband over Guatemala diminished during the latter part of 19 June as the tropical

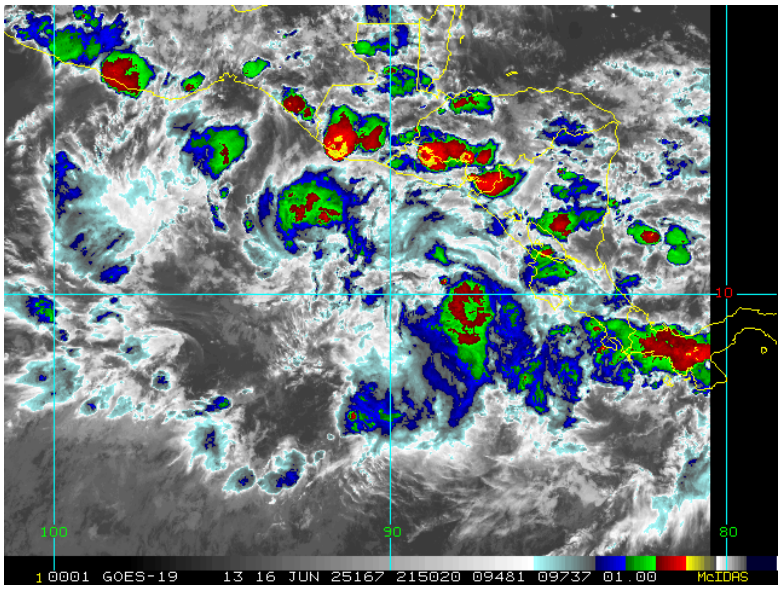
cyclone dissipated over land.



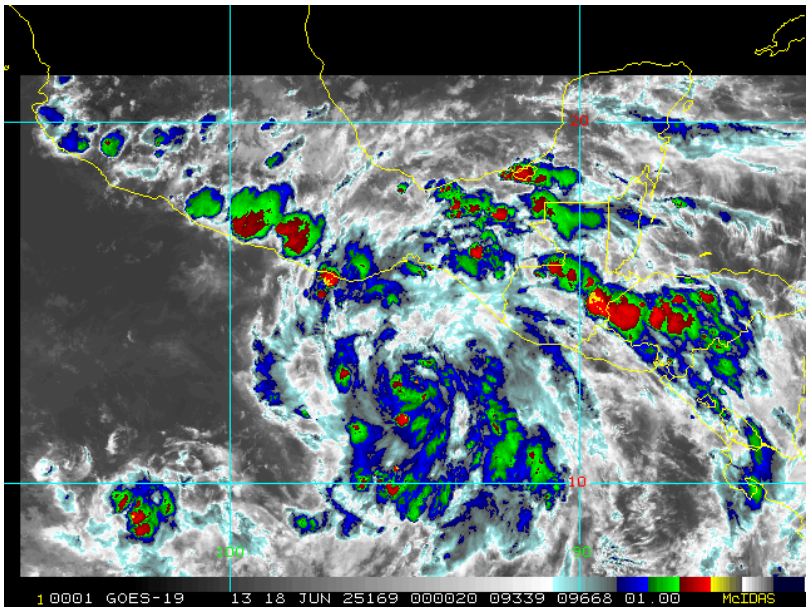
18 June at 1200UTC

Figure 1. Surface analysis over the Central America and eastern Pacific Ocean on 18 June 2025 at 1200 UTC. Source: US National Hurricane Center[1]

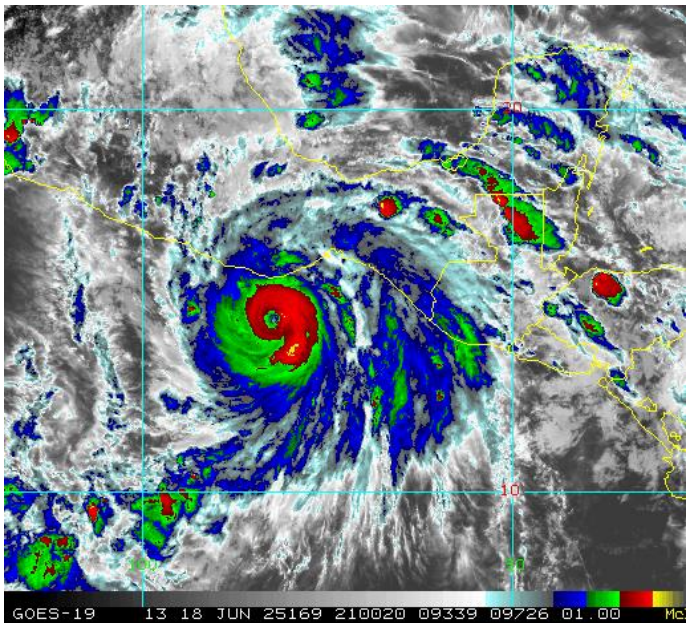
1 National Oceanic and Atmospheric Administration - FTP, National Hurricane Center, review dates: 18 June 2025, available at: https://www.nhc.noaa.gov/tafb/EPAC_12Z.gif



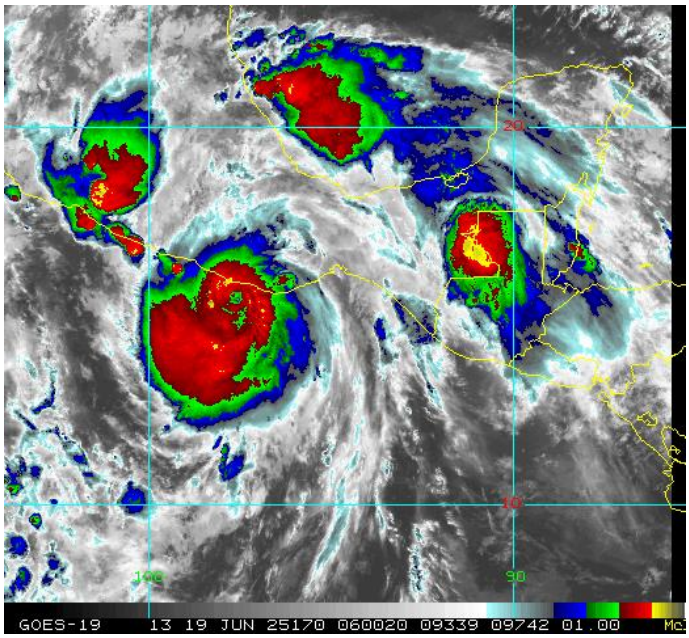
a) 16 June at 2100UTC



b) 18 June at 0000UTC



c) 18 June at 2100UTC



d) 19 June at 0600UTC

Figure 2 Satellite imagery between 16 and 19 June 2025 at different times as indicated in the labels. 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[2].

[2] RAMSDIS Online Archive, NOAA Satellite and Information Service, available at: EP052025 - ERICK

3 REPORTED IMPACTS

At the time of writing this report, the information about damage in Guatemala due to this Covered Area Rainfall Event during the indicated period is described below.

According to CONRED (National Coordinator for Disaster Reduction), between April 19 and June 20, 5,053 people were affected due to flooding, landslides, mudflows, and strong winds were assisted. Minor damage to 1,017 homes was reported.

The departments with the highest number of reported emergencies were Suchitepéquez, Alta Verapaz and Guatemala.[3]

Figure 4 Downed tree damage due to strong winds. CONRED

4 RAINFALL MODEL OUTPUTS

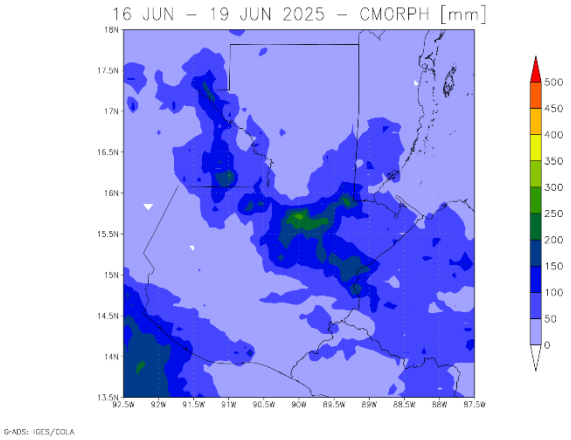
All data sources used by the XSR 3.1 model, CMORPH, IMERG, WRF5, WRF7, WRF11 and WRF15[4], detected the occurrence of precipitation over Guatemala during the period 16 to 19 June 2025. Each data source reported a specific distribution and accumulation of rainfall, as discussed below and shown in Figure 3. A CARE for Guatemala was activated on 19 June and closed the same day. The CARE was activated due to the use of the 24-hour and the 72-hour aggregation intervals for precipitation[5] and thus the period considered by the XSR 3.1 model for the loss estimate based on the accumulated precipitation in Guatemala was 16 to 19 June 2025.

[3] CONRED: More than 530 emergencies recorded during the 2025 rainy season » CONRED

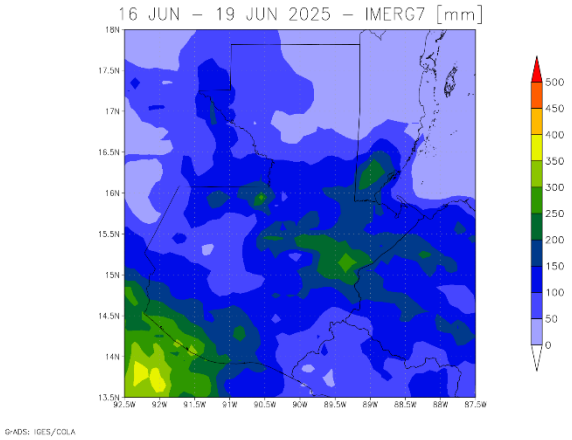
[4] CMORPH Model: the satellite-based rainfall precipitation estimates provided by the NOAA Climate Prediction Center (CPC) using the so-called Morphing Technique *http://www.cpc.ncep.noaa.gov/products/janowiak/cmorph_description.html*. Further details are provided in the Definitions section of this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

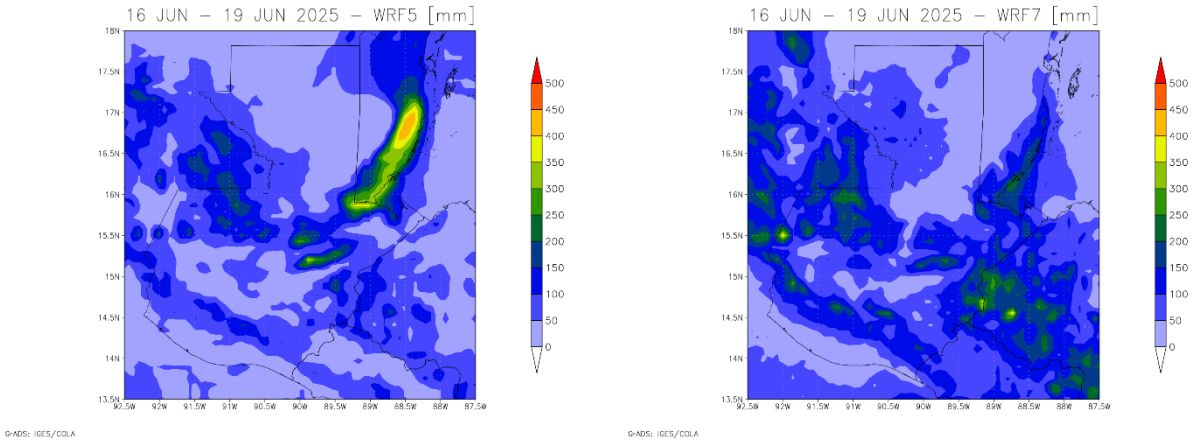
CMORPH	CMORPH reported total accumulated values of precipitation higher than 50 mm over the central portion of Guatemala and over a small area in the south of the country, with the highest values, between 200 mm and 300 mm, over Norte Region. Lower values were reported over the rest of Guatemala.
IMERG	IMERG reported total accumulated values of precipitation higher than 50 mm over most of Guatemala, with the highest values, between 200 mm and 350 mm, over the coastal region of southern Guatemala.
WRF5	WRF5 showed total accumulated values of precipitation higher than 50 mm over most of Guatemala, with the highest values, between 200 mm and 400 mm, over Izabal Department. Lower values were reported over the rest of Guatemala.
WRF7	WRF7 showed total accumulated values of precipitation higher than 200 mm only in few small areas in the southern portion of Guatemala. The highest values, between 350 mm and 400 mm, were reported in a small area in Huehuetenango Department.
WRF11	WRF11 showed total accumulated values of precipitation higher than 50 mm over most of the country, with the highest values, between 450 mm and 550 mm, in a small area between the Norte and Nororiental Regions.
WRF15	WRF15 reported accumulated values of precipitation greater than 500 mm in five different areas in the central and south part of the country. The more extensive area with accumulated values of precipitation greater than 500 mm is in the southeastern part of Petén Region. Lower values were reported over the rest of Guatemala.



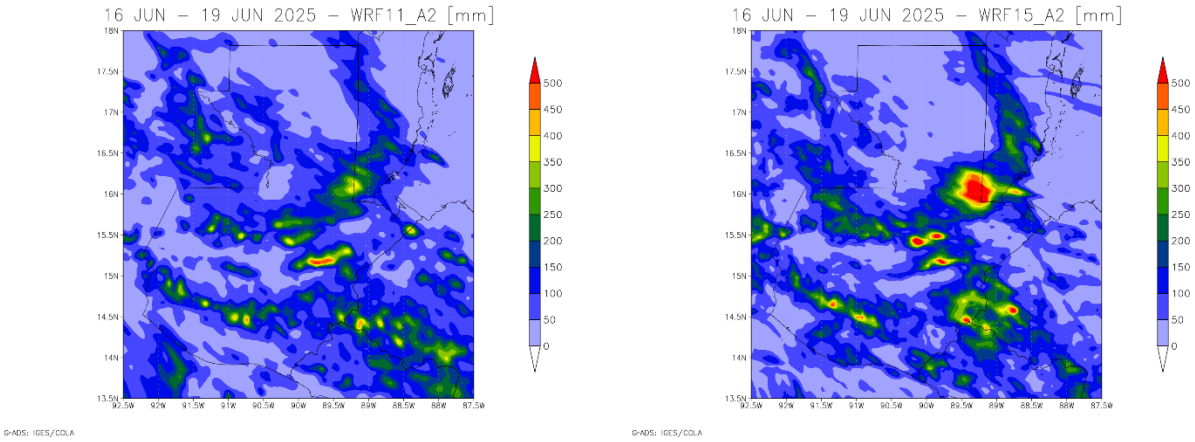
a) CMORPH



b) IMERG



c) WRF5 d) WRF7



e) WRF11 f) WRF15

Figure 3 Total accumulated precipitation during the period 16 to 19 June, 2025
estimated by CMORPH (a), IMERG (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/GTM/CARE_1_2025/daily_prec_short.mp4

https://wemap.ccrif.org/OUTPUT/CCRIF/XSR/Events/GTM/CARE_1_2025/daily_prec_long.mp4

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

The final RIL (RIL_{FINAL}) was calculated as the average of the three RILs from IMERG, WRF11 and WRF15. The RIL_{FINAL} was below the attachment point of the Excess Rainfall policy for Guatemala, and thus the policy was not triggered. Therefore, no payout is due under this Excess Rainfall policy to the Government of Guatemala.

The Wet Season Trigger (WST) endorsement of the XSR3.1 model did not identify this CARE as a "Wet Season" event[6]. Therefore, no payment is due under the Wet Season Trigger endorsement of Guatemala's Excess Rainfall policy.

The Localized Event Trigger (LET) component of the XSR3.1 model did not identify this CARE as a localized event [7]. Therefore, no payout is due under the Local Event Trigger endorsement of Guatemala's Excess Rainfall policy.

5 TRIGGER POTENTIAL

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

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

[6] 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.

[7] 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" – from (i) either of the satellite datasets (CMORPH or IMERG) and (ii) at least three of the six WRF models must be greater than the local precipitation threshold (LPT).

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.