Covered Area Rainfall Events (16/08/2025 to 16/08/2025)

Excess Rainfall

Event Briefing

St. Kitts and Nevis

22 August 2025

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1 INTRODUCTION

This event briefing describes the impact of rainfall on St. Kitts and Nevis, which was associated with a Covered Area Rainfall Event (CARE) starting on 16 August and ending on 16 August 2025. The Rainfall Index Loss (RIL) for the Covered Area Rainfall Event was below the attachment point of St. Kitts and Nevis's Excess Rainfall policy, and therefore no payout is due to the Government of St. Kitts and Nevis. 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 endorsement is due.

2 EVENT DESCRIPTION

On 11 August 2025 at 1500 UTC, a tropical storm formed just west of the Cabo Verde Islands and was named Erin. Over the next four days, Tropical Storm Erin strengthened slowly as it moved westward across the central Atlantic Ocean, hindered by relatively cool sea surface temperatures. On 15 August at 1500 UTC, it was upgraded to a hurricane while located approximately 460 mi (740 km) east of the northern Leeward Islands. From that point, Erin began to rapidly intensify due to warmer sea surface temperatures over the Atlantic waters east of the northern Caribbean Sea.

By 0600 UTC on 16 August, Erin had become a Category 2 hurricane with sustained winds of 100 mph (155 km/h), as it approached the northern Leeward Islands. At that time, the hurricane's centre was located at latitude 19.5° North, longitude 59.5° West, approximately 260 mi (415 km) northeast of St. Kitts and Nevis. It was moving west-north-westward at 17 mph (28 km/h) (see Figure 1).

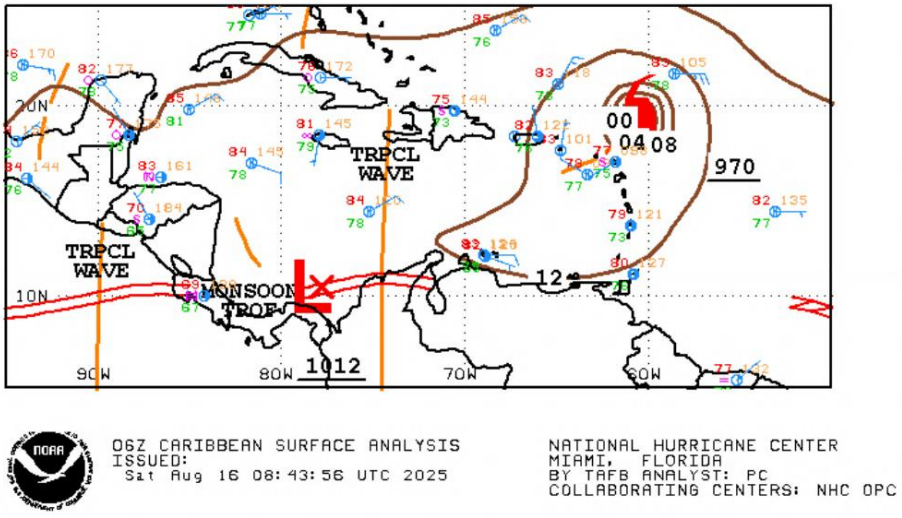
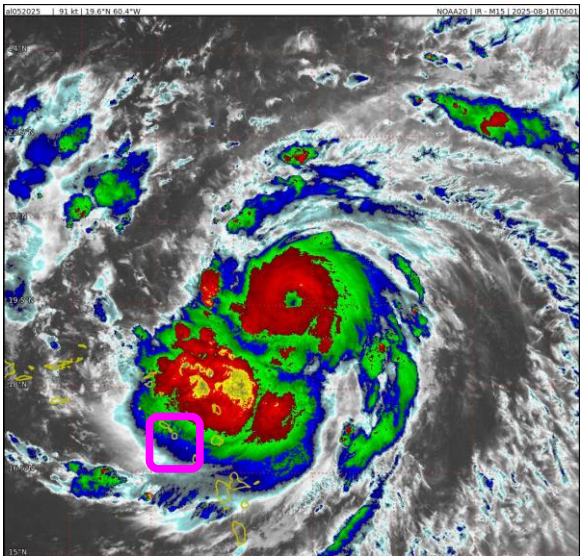


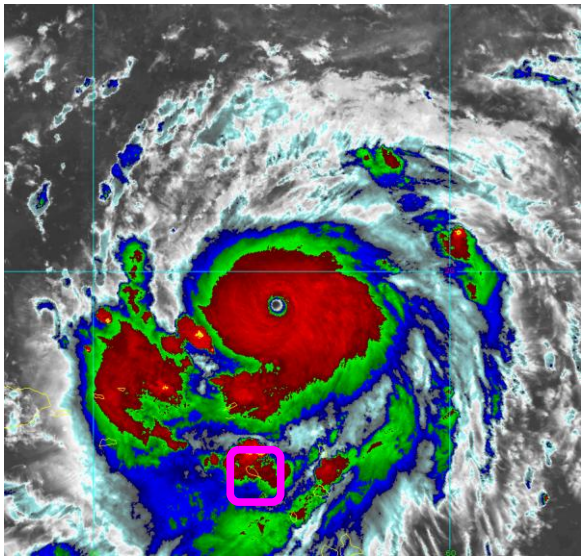
Figure 1 Surface analysis over the Caribbean area on 16 August at 0600UTC. Source: US National Hurricane centre[1]

[1] National Oceanic and Atmospheric Administration - FTP, National Hurricane centre, review date: 16 August 2025, available at: *https://www.nhc.noaa.gov/tafb /CAR 06 Z.gif*

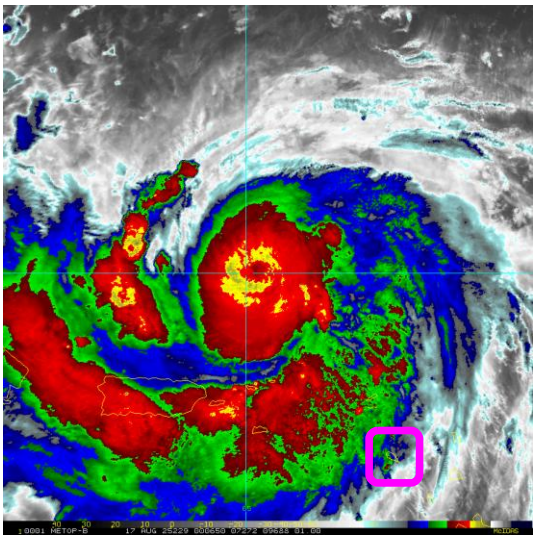
Satellite imagery (Figure 2a) showed a well-organized hurricane, characterized by a small eye, a compact and symmetric inner core, and a large area of deep convection southwest of the centre. Those outer rainbands were beginning to affect the northern Leeward Islands, including St. Kitts and Nevis, with moderate to locally intense precipitation (Figure 2a).



a) 16 August at 0600UTC



b) 16 August at 1336UTC



c) 17 August at 0006UTC

Figure 2 Satellite imagery on 16 and 17 August 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. The violet square indicates the location of St. Kitts and Nevis. Source: NOAA, National Environmental Satellite, Data and Information Service[2].

[2] RAMSDIS Online Archive, NOAA Satellite and Information Service, available at: https://rammb-data.cira.colostate.edu/tc_realtime/storm.asp?storm_identifier=al052025

Over the following nine hours, Erin rapidly intensified and, by 1520 UTC, had reached Category 5 status, with maximum sustained winds near 160 mph (255 km/h) and a minimum central pressure of 917 mb. At that time, the hurricane's centre was located at latitude 19.7° North and longitude 62.8° West, approximately 170 mi (270 km) north of St. Kitts and Nevis.

During its intensification phase—specifically between 0600 UTC and 1500 UTC—Erin passed at its closest point to St. Kitts and Nevis. Moderate to heavy rainfall persisted over St. Kitts and Nevis throughout this period, driven by intense convection within the outer rainbands located southwest of the hurricane's inner core (Figure 2b). The Category 5 hurricane continued moving westward at approximately 16 mph (26 km/h), maintaining its intensity. By 1800 UTC, the southern outer rainband had moved away from St. Kitts and Nevis. However, over the following six hours, moderate showers associated with the hurricane's peripheral bands temporarily affected St. Kitts and Nevis (Figure 2c).

During the next three days, Erin experienced some fluctuations in intensity as it moved initially west-northwest across the Atlantic waters north of Puerto Rico and Turks and Caicos Islands, then turned north-northwest, passing east of The Bahamas. At the time of writing, Erin is a large Category 2 hurricane and is forecast to curve toward the western Atlantic, remaining between the east coast of the United States and Bermuda.

3 REPORTED IMPACTS

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

According to the programme STEPS (Safety Through Education Prevention and Strategy, a local programme of Antigua and Barbuda) a flash flood advisory was released in effect for minor flooding in low lying and flood-prone areas of St. Kitts and Nevis.

4 RAINFALL MODEL OUTPUTS

All data sources used by the XSR 3.1 model, CMORPH, IMERG, WRF5, WRF7, WRF11 and WRF15[3], detected the occurrence of precipitation over St. Kitts and Nevis and the surrounding waters during the period 14 to 16 August 2025. Each data source reported a specific distribution and accumulation of rainfall, as discussed below and shown in Figure 3. A CARE for St. Kitts and Nevis was activated on 16 August and ended on 16 August. The CARE was activated due

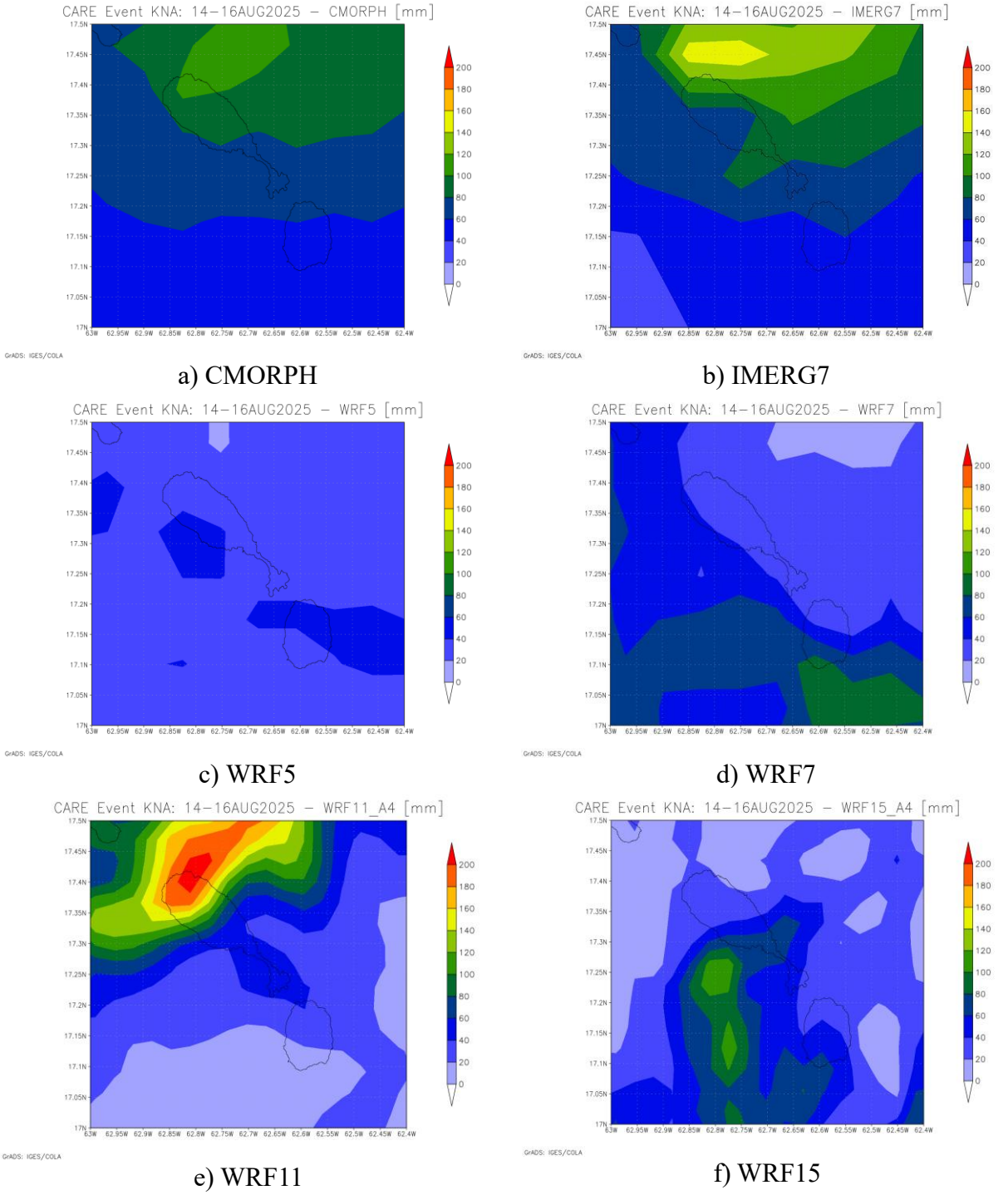
[3] CMORPH Model: the satellite-based rainfall precipitation estimates provided by the NOAA Climate Prediction centre (CPC) using the so-called Morphing Technique *http://www.cpc.ncep.noaa.gov/products/janowiak/cmorph_description.html*. Further details are provided in the Definitions section of this 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 report. WRF5,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.

to the use of the 12-hour and the 48-hour aggregation intervals for precipitation[4] and thus the period considered by the XSR 3.1 model for the loss estimate based on the accumulated precipitation in St. Kitts and Nevis was 14 to 16 August 2025.

Table 1: Report from XSR 3.1 Data Sources on the Precipitation over St. Kitts and Nevis, August 16, 2025

CMORPH	CMORPH reported total accumulated precipitation values ranging from 40 mm to 120 mm over St. Kitts and Nevis, with higher values moving from south to north across the territory. The highest values, between 100 mm and 120 mm, were reported in the parish of Saint John Capisterre, in the northeast of St. Kitts
IMERG	IMERG reported total accumulated precipitation values higher than 80 mm over portions of St. Kitts, particularly along the northern edge and the central part. The highest values, between 100 mm and 120 mm, were reported in the parishes of Saint John Capisterre and Saint Paul Capisterre, in the north of St. Kitts. Lower values were reported over the rest of the island as well as Nevis.
WRF5	WRF5 showed total accumulated values of precipitation lower than 60 mm over the entire territory of St. Kitts and Nevis
WRF7	WRF7 showed total accumulated values of precipitation higher than 60 mm along the southern edge of Nevis, with the highest values, between 80 mm and 100 mm, in the parish of Saint John Figtree. Lower values were reported over the rest of St. Kitts and Nevis.
WRF11	WRF11 reported total accumulated precipitation values higher than 80 mm along the northern portion of St. Kitts, with the highest values between 200mm and 220mm in the parish of Saint John Capisterre. Lower values were reported over the St. Kitts and Nevis.
WRF15	WRF15 reported accumulated values of precipitation ranging from 60 mm to 80 mm over the central portion of St. Kitts and along the southern edge of Nevis. Lower values were reported over the rest of the country.

[4] 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.



a) CMORPH b) IMERG7

c) WRF5 d) WRF7

e) WRF11 f) WRF15

Figure 3 Total accumulated precipitation during the period 14 to 16 August, 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 from WEMAp at the following

links for 12-hour aggregation and 48-hour aggregation respectively:

https://wemap.ccrif.org/OUTPUT/CCRIF/XSR/Events/KNA/CARE_1_2025/daily_prec_short.mp4

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

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

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

The Wet Season Trigger (WST) endorsement of the XSR3.1 model did not identify this CARE as a "Wet Season" event[5]. Therefore, no payout is due under the Wet Season Trigger endorsement of St. Kitts and Nevis' Excess Rainfall policy.

5 TRIGGER POTENTIAL

The Rainfall Index Loss calculated for the Covered Area Rainfall Event (CARE) for St. Kitts and Nevis was below the attachment point of St. Kitts and Nevis 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

[5] 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.

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.