

# **Tropical Cyclone EARL (AL052016)**

## **Wind and Storm Surge**

### **Event Briefing**

**5 August 2016**

## 1 SUMMARY

Tropical Cyclone Earl affected one CCRIF member country, Belize. The preliminary runs of CCRIF's loss model indicate that the Tropical Cyclone policy for this country did not trigger and therefore no payout is due.

Tropical Cyclone policies are designed to cover damages from wind and storm surge but not rainfall. A separate excess rainfall report will be issued for Tropical Cyclone Earl.

## 2 INTRODUCTION

On 2 August 2016 at 1600 UTC an Air Force Hurricane hunter plane identified Tropical Storm Earl in the northwestern Caribbean Sea. Earl is the fifth Tropical Storm of the 2016 Hurricane season. The Government of Belize issued a Tropical Storm Warning and Hurricane Watch<sup>1</sup> for the all the Belize coast, from the border with Mexico in the north to the Guatemala border in the south.

At 5:00 AM EDT (0900 UTC) on 3 August the centre of Tropical Storm Earl was located near latitude 16.1° North, longitude 83.7° West about 195 mi (310 km) E of Isla Roatan, Honduras and 315 mi (505 km/h) ESE of Belize City, with maximum sustained winds of 65 mph (100 km/h).

At 11:00 AM EDT (1500 UTC) the centre of Tropical Storm Earl was located near latitude 16.5° North, longitude 84.8° West, about 120 mi (195 km ) E of Isla Roatan, Honduras and 235 mi (380 km/h) ESE of Belize City, with maximum sustained winds of 70 mph (110 km/h).

At 4:00 PM CDT (2100 UTC) Earl became a Category 1 Hurricane. Earl was located near latitude 17.1° North, longitude 86.0° West, about 150 mi (240 km) E of Belize City, with maximum sustained winds of 75 mph (120 km/h).

At 10:00 PM CDT (0300 UTC) the eye of Hurricane Earl was located near latitude 17.4° North, longitude 87.6° West, about 40 mi (65 km) E of Belize City, with maximum sustained winds of 75 mph (120 km/h).

At 1:00 AM CDT (0600 UTC) on 4 August, Hurricane Earl made landfall about 5 mi (10 km) SW of Belize City, located near latitude 17.4° North, longitude 88.3° West with maximum

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<sup>1</sup> A Tropical Storm Warning means that tropical storm conditions are expected somewhere within the warning area within 36 hours, and a Hurricane Watch means that hurricane conditions are possible within the watch area.

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sustained winds of 80 mph (130 km/h) as a Category 1 Hurricane.

At 4:00 AM CDT (0900 UTC) the centre of Hurricane Earl was located near latitude 17.3° North, longitude 88.9° West, about 50 mi (75 km) WSW Belize City with maximum sustained winds of 75 mph (120 km/h).

At 7:00 AM CDT (1200 UTC) Earl became a Tropical Storm again, located about 90 mi (145 km) W of Belize City.

By 10:00 AM CDT (1500 UTC) the center of Tropical Storm Earl was located inland near latitude 17.2° North, longitude 89.9° West, about 115 mi (185 km) W of Belize City with maximum sustained winds of 50 mph (85 km/h). At this time the Government of Belize discontinued all coastal warnings.

By 10:00 AM CDT (1500 UTC) on 5 August, the centre of Tropical Storm Earl was located near latitude 18.6° North, longitude 94.2° West, inland of Mexico, weakening and moving away from any other CCRIF member countries.

## CCRIF SPC MODEL OUTPUTS

Under CCRIF’s loss calculation protocol, a CCRIF Multi-Peril Risk Estimation System (MPRES) report is required for any tropical cyclone affecting at least one of the member countries with winds greater than 39 mph. Tropical Cyclone Earl qualified as a Loss Event with Belize experiencing Hurricane Category 1 force winds. The wind footprint (Figure 1) and surge field (Figure 2) are two of the outputs from the CCRIF model.

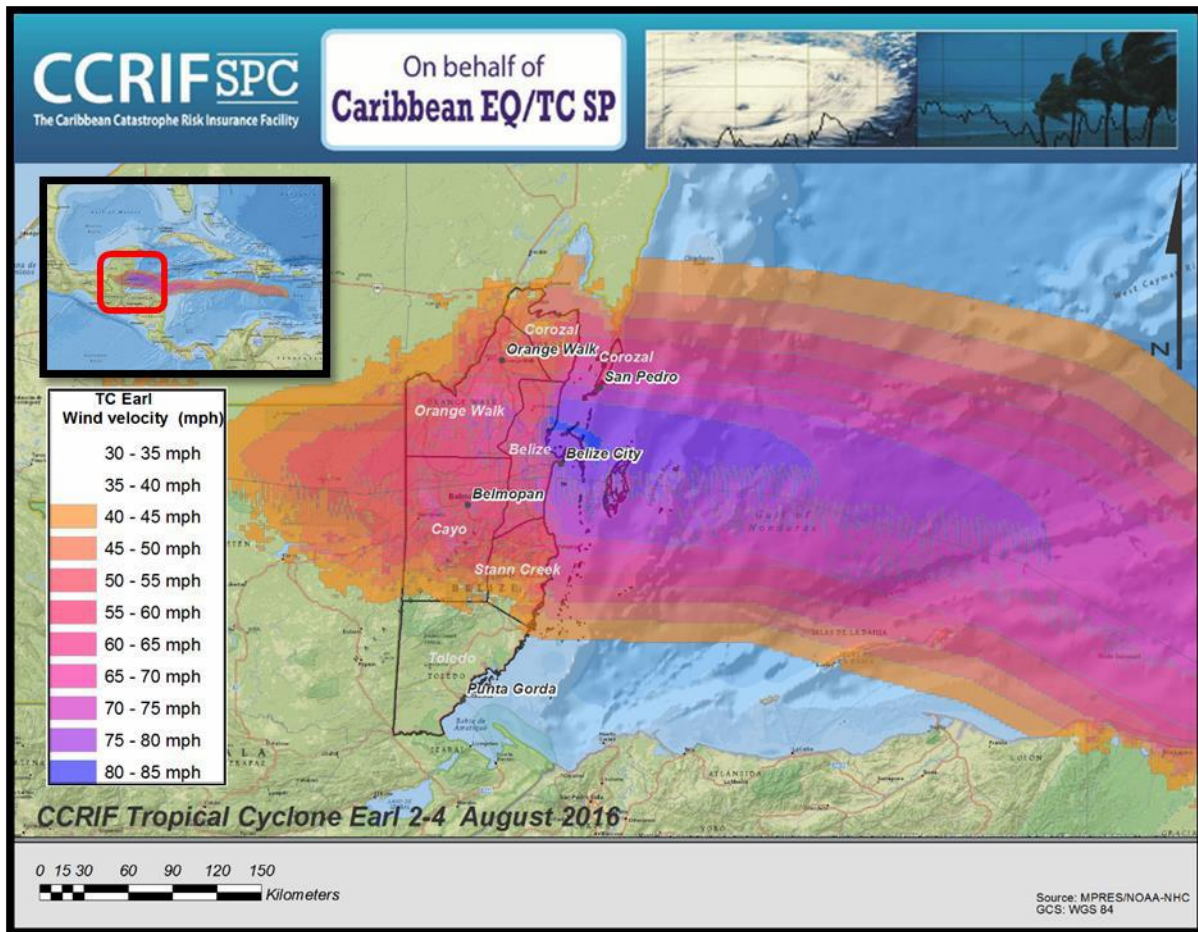


Figure 1 Map showing the path and wind field associated with Tropical Cyclone Earl.  
Source: NHC & CCRIF/MPRES

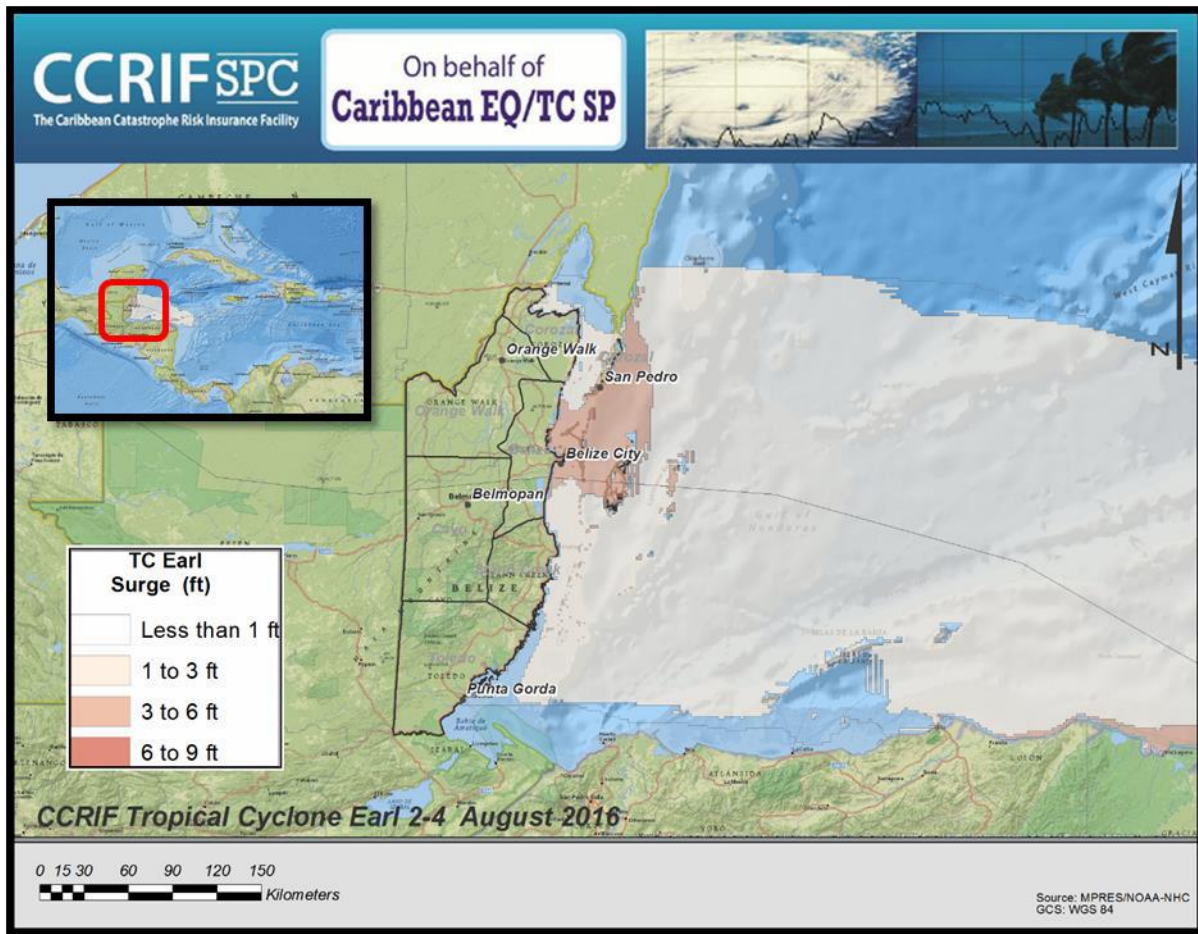


Figure 2 Map showing the path and surge field associated with Tropical Cyclone Earl.  
Source: NHC & CCRIF/MPRES

### 3 IMPACTS

Based on the MPRES footprint, CCRIF member country Belize was affected by Hurricane Category 1 force winds from Earl.

According to the initial reports and assessments provided by the National Emergency Management Organization (NEMO) and the Caribbean Disaster Emergency Management Agency (CDEMA), the impact of Earl passing through Belize with Hurricane Category 1 strength included the following:

- Structural damage to houses, businesses, government and private buildings was reported.
- Many roads and streets were blocked in San Pedro, Caye Caulker, Belize City, River Valley, Orange Walk and Belmopan.
- Roofing and broken lumber, fallen trees, electrical wires, splinters and nails were strewn all over the affected cities.
- The City Emergency Management Organization (CEMO), the Police and Belize Defence Force (BDF) participated in at least 100 search and rescue requests.
- At 9:00 a.m. on 4 August (local time), NEMO declared the ALL CLEAR phase for the country.
- The Philip Goldson International Airport restarted operations late on 4 August.
- Flash flooding occurred in some communities along the Macal and Mopan rivers.



Figure 3 Damage caused by TC Earl in Belize. *Source: 7 News Belize and Caribbean 360.*

#### **4 CCRIF LOSS MODEL**

Modelled losses and any subsequent payouts are based on the conditions of the countries' tropical cyclone policies. Preliminary runs of the CCRIF loss model generated some government losses due to wind and storm surge damage in Belize. However, the modelled loss was below the attachment point of the country's Tropical Cyclone policy and therefore no payout is due.

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