



Tropical Cyclone Erin (AAL052025)

Preliminary Event Briefing

Loss Event Turks and Caicos Islands COAST – TC Component

19 August 2025

1 SUMMARY

Tropical Cyclone Erin is the fifth named cyclone and the first hurricane of the 2025 Atlantic Hurricane Season. On August 16 and 17, 2025, Major Hurricane Erin crossed the Atlantic waters north of the Leeward Islands, bringing tropical storm conditions to the northern Leeward Islands. On August 18, it passed northeast of the Turks and Caicos Islands, at a minimum distance of approximately 120 mi (195 km). Tropical-storm-force winds persisted over the country throughout most of the day. On August 19, Erin weakened to a Category 2 hurricane and turned northwestward, crossing the waters east of The Bahamas and moving away from the Turks and Caicos Islands.

This event briefing is designed to review the modelled losses due to wind and storm surge as a result of TC Erin, calculated using the Tropical Cyclone (TC) component of CCRIF's fisheries model (COAST) for Turks and Caicos Islands. The event briefing is specific to the COAST fisheries policy. A separate report on the Adverse Weather component (impacts due to rain and high waves) of COAST on the country will be issued if applicable.

The final runs of the CCRIF's COAST loss model for wind and storm surge produced government losses due to Tropical Cyclone Erin for Turks and Caicos Islands under the TC component of the country's COAST policy. For this event, the losses in Turks and Caicos Islands were below the lower attachment point of the TC component (the Tier 2 attachment point). Therefore, no payout is due under the TC component of the COAST policy for Turks and Caicos Islands.

2 INTRODUCTION

On August 16 and 17, 2025, Major Hurricane Erin moved across the Atlantic waters north of the Leeward Islands, passing at a minimum distance of approximately 90 mi (145 km) to 150 mi (241 km) from the northern Leeward Islands, and spreading tropical-storm conditions over the region. On August 16, Erin rapidly strengthened into a Category 5 hurricane, while on August 17 it underwent a structural change that occurs in the most powerful hurricanes, resulting in a weakening of intensity but an expansion in size.

On August 17, Hurricane Erin was moving west-north-westward at 14 mph (22 km/h). After passing the Leeward Islands, it headed towards the Turks and Caicos Islands, crossing the Atlantic waters north of Puerto Rico. By 0000 UTC on August 18, the hurricane's centre was located at latitude 22.1° North, longitude 68.8° West, approximately 155 miles (245 km) east of Grand Turk Island, the easternmost island of the Turks and Caicos Islands (Figure 1).

Wind analysis maps (Figure 2a) indicated that hurricane-force winds extended outward up to 50 miles (85 km) from the centre, while tropical-storm-force winds extended outward up to 205 mi (335 km). From this point, tropical-storm-force winds began affecting the Turks and Caicos Islands (Figure 2a). At this time, Erin was a Category 3 hurricane and showed signs that a re-intensification was imminent. Indeed, within the next three hours, it re-intensified into a Category 4 hurricane, with maximum sustained winds near 130 mph (215 km/h). Satellite imagery at 0300 UTC (Figure 3) showed a well-organized hurricane, featuring a single eyewall approximately 23

mi (37 km) in diameter, surrounded by a broad area of deep convection, mainly northeast of the centre.

Throughout the remainder of August 18, Erin continued moving west-north-westward at a gradually slower forward speed and maintained a generally steady intensity. Its wind field expanded further, with hurricane-force winds extending outward up to 80 mi (130 km) and tropical-storm-force winds up to 230 mi (370 km) (Figure 2b). Tropical-storm-force winds persisted over the Turks and Caicos Islands throughout the day, intensifying around 1800 UTC when the hurricane's centre reached its closest approach to the territory, about 120 mi (195 km) from North Caicos (Figure 2c).

At 0600 UTC on August 19, the hurricane's centre was located at latitude 24.5° North, longitude 71.8° West, approximately 160 mi (256 km) northeast of Mayaguana Island in The Bahamas. From this point, it gradually turned north-north-westward and increased its forward speed, moving away from the Turks and Caicos Islands. By 1200 UTC, Erin had weakened to a Category 2 hurricane due to the inhibiting effects of environmental wind shear present in the region east of The Bahamas. Despite this reduction in intensity, Erin remained a large hurricane, with the areal extent of its wind field largely unchanged. Consequently, tropical-storm-force winds over the Turks and Caicos Islands only ceased at this time (Figure 2d).

In the following hours, Hurricane Erin continued progressing north-westward, passing east of The Bahamas. At the time of writing this report, it is expected to curve over the western Atlantic, between the east coast of the United States and Bermuda.

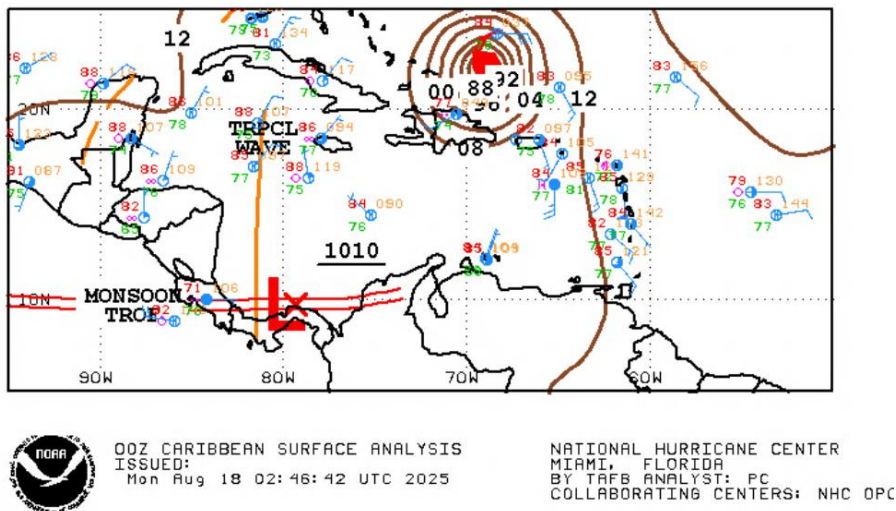


Figure 1 Surface analysis over the Caribbean area on 18 August at 0000UTC. Source: US National Hurricane centre¹

¹ National Oceanic and Atmospheric Administration - FTP, National Hurricane centre, review date: 18 August 2025, available at: https://www.nhc.noaa.gov/tafb/CAR_00Z.gif

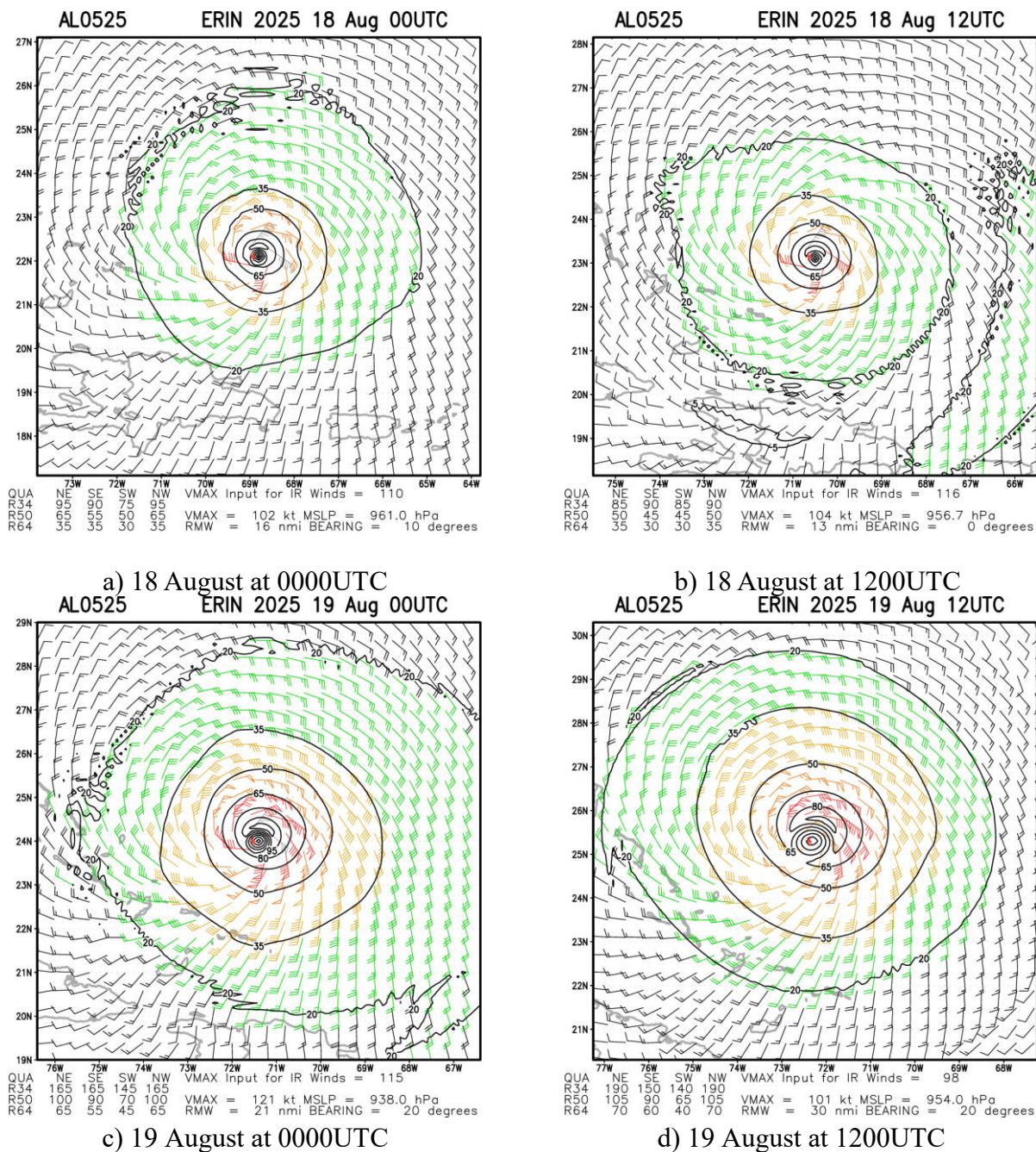


Figure 2 Multi-platform satellite based tropical cyclone surface wind analysis estimated on 18 and 19 August, 2025 at different times as indicated by the labels. Contouring indicates wind intensity at 20 kn (23 mph, 37 km/h), at 35 kn (40 mph, 65 km/h), 50 kn (57 mph, 93 km/h), 65 kn (74 mph, 120 km/h) and 80 kn (92 mph, 148 km/h). Source: NOAA, National Environmental Satellite, Data and Information Service²

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

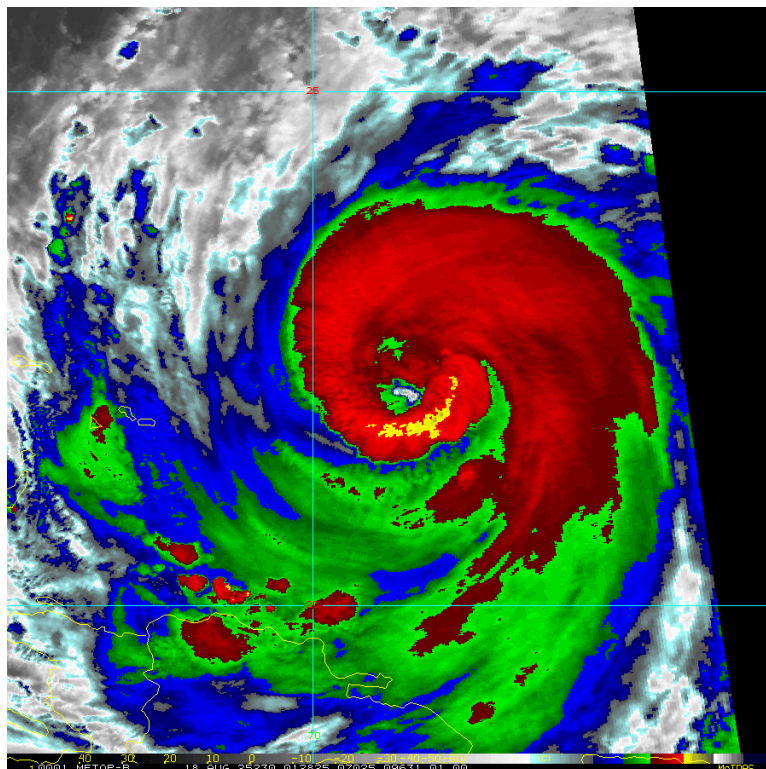


Figure 3 Satellite imagery on 18 August, 2025 at 0128 UTC from the thermal infrared channel enhanced with colour. Blue/green colours represent high altitude clouds (top cloud temperature between -50°C and -70°C), while the red/yellow colours represent very high altitude clouds (top cloud lower than -70°C). High altitude clouds indicate strong convection associated with intense precipitation. Source: NOAA, National Environmental Satellite, Data and Information Service³.

3 CCRIF SPC MODEL OUTPUTS

Under CCRIF's loss calculation protocol, a CCRIF System for Probabilistic Hazard Evaluation and Risk Assessment (SPHERA) report is required for any tropical cyclone affecting at least one member country with winds greater than 39 mph (62.7 km/h). A COAST report is required for any CCRIF member country that has a COAST policy, which meets this criterion.

Turks and Caicos Islands were affected by Tropical Cyclone Erin, which qualified as a Loss Event for the TC component of its COAST policy.

Figure 4 shows the wind footprint for the region around Turks and Caicos Islands affected by Tropical Cyclone Erin.

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

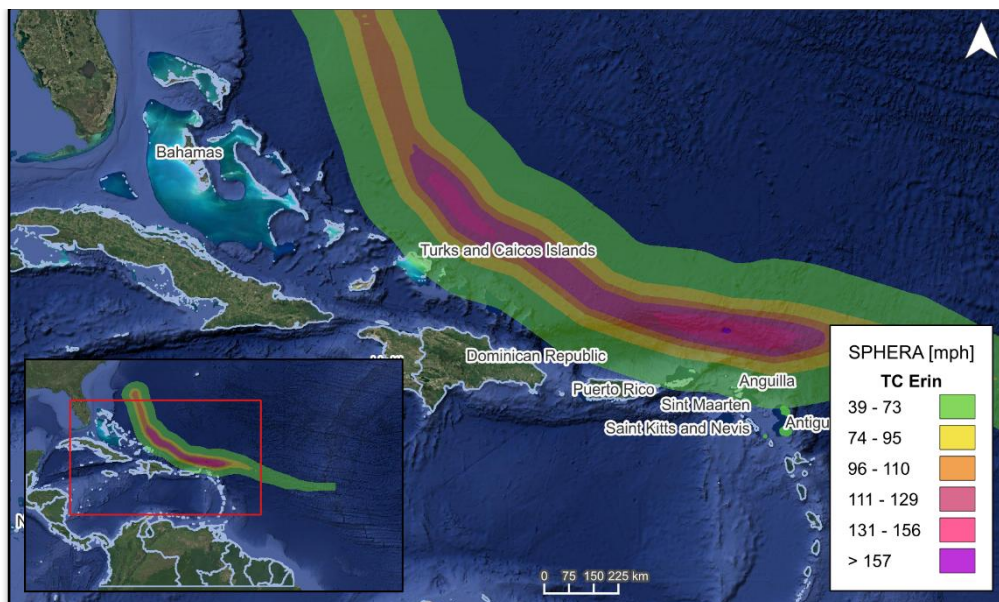


Figure 4 Map showing the wind field associated with Tropical Cyclone Erin around the Leeward Islands
Source: NHC & CCRIF/SPHERA

4 IMPACTS

According to the Department of Disaster Management and Emergencies (DDME) of Turks and Caicos Islands, a preliminary visual assessment indicated no structural damage to ports. However, rough marine conditions limited further inspection by boat. Also, large amounts of sargassum seaweed were washed ashore, particularly in South Caicos, where clearance operations are ongoing⁴.

5 TRIGGER POTENTIAL

The preliminary runs of CCRIF's COAST fisheries loss model for wind and storm surge produce government losses due to Tropical Cyclone Erin for Turks and Caicos Islands under the TC component of the country COAST policy. For this event, the losses in Turks and Caicos Islands were below the lower attachment point of the TC component (the Tier 2 attachment point). Therefore, no payout is due under the TC component of the COAST policy for Turks and Caicos Islands.

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

⁴ CDEMA Hurricane Erin SITUATION REPORT #1
