

CASE STUDY

Petrojam Helps Keep Jamaica Fueled Through Hurricane Melissa

How Jamaica's only petroleum refinery used DTN weather intelligence to prepare for a Category 5 hurricane, adapt as its path changed, and restore fuel distribution within 48 hours.

ABOUT PETROJAM LIMITED

Petrojam Limited is Jamaica's only petroleum refinery and a government-owned entity responsible for the country's energy security. The company operates a 35,000-barrel-per-day hydro-skimming refinery on the shore of Kingston Harbour, producing gasoline, diesel, jet fuel, kerosene, heavy fuel oil, liquid petroleum gas, and asphalt. Petrojam also imports finished products to supplement market demand and distributes fuel through terminals in Kingston and Montego Bay.

Oniel Blair, Manager of Safety, Environment and Quality at Petrojam, leads its hurricane tracking, planning, and incident-response efforts. He works closely with safety officer Renee Coke, who oversees hurricane preparedness, weather monitoring, and response coordination.

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PREPARING FOR HURRICANE SEASON

Protecting Jamaica's energy security before a storm arrives

Preparing for hurricane season is a year-round effort at Petrojam. Every May, the company brings together leaders from across the organization to activate its hurricane response plan, review departmental responsibilities, assess readiness, and identify improvements from the previous season. Departments complete preparedness checklists, review emergency procedures, and ensure employees understand their responsibilities throughout the six-month hurricane season.

As Jamaica's strategic fuel reserve holder and primary fuel distributor, Petrojam is responsible for helping ensure fuel remains available to support emergency services, healthcare facilities, defense operations, shelters, and recovery efforts following major storms.

Petrojam has developed a detailed hurricane response plan that incorporates weather monitoring, preparedness activities, operational decision-making, and recovery procedures. Weather intelligence is embedded throughout that process, helping the company anticipate threats, allocate resources, and prepare facilities before a storm arrives.

"Our response plan makes explicit and significant references to the support, information, and tools provided by DTN," Blair said. "Not only is the information accurate, but it's comprehensive."

That preparation was put to the test in October 2025. What would eventually become Hurricane Melissa was still an unnamed tropical system when Petrojam's team first identified it using DTN.

"Petrojam plays a primary role in Jamaica's energy security and fuel distribution across the island. As part of the national disaster and emergency response framework, we are responsible for ensuring critical services have the fuel they need during and after an emergency."

THE STORM

Preparing a nation's fuel supply for an unpredictable storm

Coke flagged the developing tropical system to Blair, and together they began analyzing forecasts, projected storm tracks, and development models to determine what actions Petrojam should take.

"Renee identified the system before it was even named and brought it to my attention," Blair recalled. "We analyzed DTN information to understand how it was likely to develop, the path it was likely to take, and then used that information to activate our hurricane plan."

That early warning proved critical. Melissa rapidly intensified into a Category 5 hurricane before making landfall in Jamaica on Oct. 28, 2025.

The storm's constantly shifting forecast track presented one of Petrojam's greatest challenges.

Forecasts repeatedly moved between eastern, central, and western portions of the island before the storm ultimately impacted western Jamaica, directly affecting Petrojam's Montego Bay terminal.

Each forecast adjustment required the company to reevaluate its preparedness strategy.

Initially, Petrojam anticipated Kingston could experience the greatest disruption and planned to lean on Montego Bay for fuel distribution. As forecasts evolved and the threat to Montego Bay increased, the company shifted its strategy and hardened Kingston to serve as the primary distribution hub for the entire island.

Those decisions would ultimately help determine how quickly Petrojam could restore fuel distribution after one of the most destructive hurricanes in Jamaica's history.

DTN WEATHER INTELLIGENCE IN ACTION

Reliable intelligence when the stakes are highest

As Hurricane Melissa approached Jamaica, Petrojam relied on DTN forecasts to assess projected storm tracks, rainfall amounts, storm surge potential, and wind intensity. Those forecasts informed major decisions across the organization, including ride-out crew staffing, facility shutdown timing, fuel positioning, infrastructure protection, and recovery planning.

As the forecast evolved, Petrojam used the steady flow of DTN weather intelligence to continually adjust its plans.

"The constant flow of reliable information from DTN gave us early indications of changes in the likely path of the storm," Blair said. "That allowed us to make decisions about which facilities would likely be impacted and how we needed to adjust our posture."

For Petrojam, those decisions had implications far beyond refinery operations.

"Petrojam plays a primary role in Jamaica's energy security and fuel distribution across the island," Blair said. "As part of the national disaster and emergency response framework, we are responsible for ensuring critical services have the fuel they need during and after an emergency."

The company uses that intelligence to determine how best to protect fuel storage infrastructure, loading racks, generators, piping systems, distribution assets, and personnel, while helping position resources where they will be needed most after a storm.

THE AFTERMATH

Back online within 48 hours

Once conditions were safe following Hurricane Melissa, Petrojam turned its attention to restoring fuel distribution as quickly as possible.

In Kingston, fuel distribution operations resumed within approximately 48 hours. While Montego Bay required additional recovery time, the Kingston terminal was back online within Petrojam's business continuity objectives.

"Getting our loading rack back up and running on auxiliary power as quickly as possible was critical so service stations and haulage contractors across the island could come to Petrojam and collect fuel," Blair said.

Fueling the island's recovery

Restoring operations quickly was about more than getting Petrojam back online. As Jamaica's primary fuel distributor, the company needed to make fuel available to the critical services and recovery operations responding across the island.

Petrojam had staged and secured emergency fuel supplies before the storm, allowing those reserves to be put to use once conditions were safe.

"It was important that immediately after the storm, Petrojam was in a position to provide access to the emergency fuel supplies that we had positioned and ready to go," Blair said.

Fuel supported aviation operations conducting reconnaissance, damage assessments, supply distribution, medical evacuations, and rescue missions. It also helped power hospitals, emergency services, businesses, pharmacies, supermarkets, shelters, and generators while portions of the island remained without electricity.

"Gasoline and diesel were essential to keeping critical services operating and providing life-saving support to communities across the island," Blair said.

By restoring distribution capabilities quickly and executing its emergency response plans, Petrojam helped support essential services and recovery efforts across Jamaica during one of the most challenging periods in the country's recent history.

"There's a term called anti-fragile. It allows us to come out of an event in a better position than we were before. We test our systems, identify the gaps, and close them. Thanks to lessons learned from the previous seasons, every hurricane season we are in a better place — and DTN is no small part of that."

LOOKING AHEAD

From resilient to anti-fragile

Hurricane Melissa reinforced a lesson that continues to influence Petrojam's planning today: Forecast tracks can change dramatically, and every facility must be prepared to respond.

"The lesson from Hurricane Melissa is how much the predicted path can vary," Blair said. "We want to ensure that all our facilities are sufficiently hardened and prepared, with contingencies in place so they can weather the storm and return to operation as quickly as possible."

For Blair, the experience also validated Petrojam's commitment to continuous improvement. Rather than simply recovering from storms, Petrojam uses each hurricane season to strengthen its preparedness, response capabilities, and operational resilience.

"There's a term called anti-fragile," he said. "It allows us to come out of an event in a better position than we were before. We test our systems, identify the gaps, and close them. Thanks to lessons learned from the previous seasons, every hurricane season we are in a better place — and DTN is no small part of that."

With DTN weather intelligence integrated into its planning, response, and continuous improvement processes, Petrojam continues to strengthen its ability to protect Jamaica's energy security and support recovery operations when severe weather strikes.

