DTN

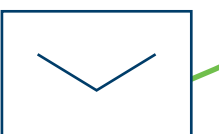# Before the storm. How data insights help utilities prepare for outages.

An outage prediction analysis of Hurricane Milton

CONTENTS

DTN

DTn

The Challenge:
Maintaining power after back-to-back hurricanes

What appeared to be a quieter 2024 Atlantic Tropical Storm Season than originally forecast quickly turned into back-to-back devastation across huge swaths of the Southeastern U.S. as Hurricanes Helene and Milton unleashed powerful winds, heavy rainfall, and widespread flooding across multiple states.

The combined impact disrupted infrastructure, displaced communities, and stressed emergency resources—highlighting the region's vulnerability to increasingly frequent, powerful storms.

While the formation of devastating storms cannot be prevented, utility companies can better brace for their impact with predictive weather intelligence and AI-based outage risk tools. These solutions and insights help utilities more confidently make incident command and storm impact decisions before, during, and after extreme weather events.

What follows is a look at Hurricane Milton and how outage prediction using AI and weather-based intelligence insights helped restoration crews respond to pending risks while continuing restoration efforts from Hurricane Helene.

Hurricanes Helene and Milton:
Twin storms leave a path of historic loss

Combined damages:
$35B+

Power outages:
6M+
customers

Sources:
- Moody's RMS Event Response Estimates U.S. Private Market Insured Losses for Hurricanes Helene and Milton Combined to Exceed US$35 Billion | Moody's RMS
- Hurricane Helene Update: Outage Map Shows Millions Left Without Power - Newsweek
- Milton by the numbers: At least 5 dead, at least 12 tornadoes, 3.4M without power | AP News

Hurricane Milton sets records on Florida path

Just two weeks after Hurricane Helene knocked out power for nearly 2 million households and businesses across Florida, Georgia and the Carolinas, Hurricane Milton came ashore to further pound Florida and Georgia. The storm rapidly intensified to a Category 5 hurricane in less than 48 hours, before making landfall near Siesta Key, Florida, as a Category 3 storm.

Milton caused significant damage with 120 mph winds, a storm surge up to 15 feet, and widespread flooding. As the second-most intense Atlantic hurricane ever recorded over the Gulf of Mexico, Milton was a beast. Compounding the devastation and recovery efforts of Hurricane Helene, Milton made it more challenging to restore power.

Emerging from the Gulf of Mexico, Hurricane Milton rapidly intensified over open waters, gathering strength on its journey toward Florida's shore.

Back-to-back hurricanes test outage response efforts

Hurricane Milton caused widespread power outages across Florida, leaving nearly 29% of the state without electricity the morning after landfall. Over 3.4 million customers lost power. Florida reported 30,000 linemen were in place prior to Milton's arrival—more than were in place ahead of Helene's landfall to respond to the compound disasters.

Critical decisions related to positioning response crews and requesting additional restoration resources must be made at least 3-5 days in advance of hurricanes. With resources already stretched thin due to Hurricane Helene's recovery efforts, having precise information was crucial as Milton was approaching.

The accuracy of **DTN Storm Risk Analytics** days before Hurricane Milton made landfall aided the utility's decisions in ongoing restoration efforts.

Five days before landfall

Prediction	Accuracy
3,963,657	**83%**

Three days before landfall

| Prediction	Accuracy
3,366,665	**98%**

Actual
3,300,000

Storm Risk Analytics:
Trusted outage insights

Storm Risk Analytics (SRA) is a key component of the DTN Storm Risk suite developed for electric power providers across the globe. Coupled with DTN Weather Sentry® Utility Edition, SRA is a scalable solution that combines advanced weather intelligence and machine learning outage prediction to help utilities more confidently make incident command and storm impact decisions before, during, and after extreme weather events.

The SRA solution combines seven years of verified, historical outage and weather data with advanced weather and machine learning models designed to be tailored to a utility's operating region and topography.

Relying on Storm Risk Analytics, utility companies can more accurately predict weather impacts on their service area up to seven days ahead of an expected weather event—allowing greater time to prepare restoration resources for outages.
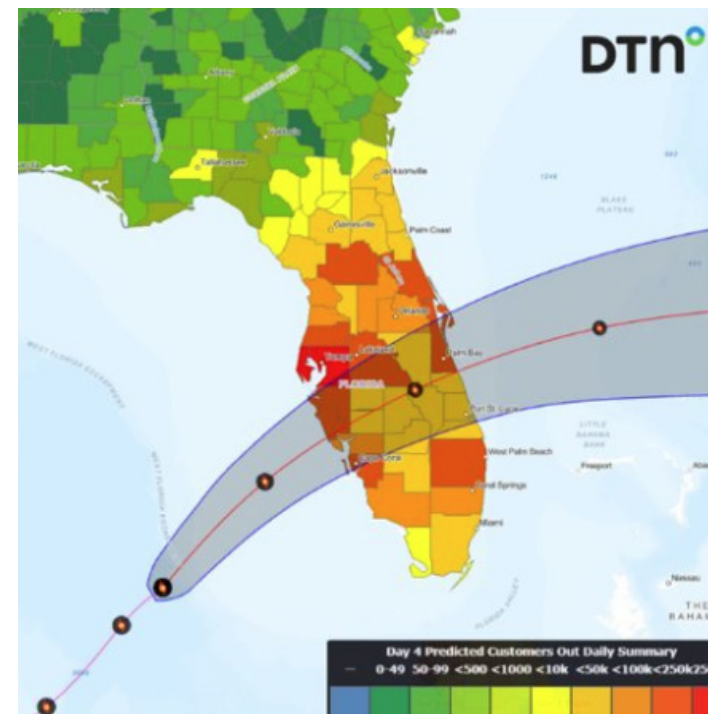
DTN Storm Analytics outage prediction five days before landfall.

50%

Using DTN Storm Risk Analytics, utilities can reduce outage duration time by as much as 50% by more effectively sizing and staging response crews.

DTN°

To learn more about
DTN solutions for
utilities of all sizes visit
our website:

dtn.com/storm-risk

f 𝕏 in