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Outage Insights Help Utilities Prepare Before the Storm

Hurricane Ian Insights

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When it comes to hurricanes, the adage, "it only takes one" to be catastrophic has proven true time and again. Halfway through a below average 2022 Atlantic Tropical Storm Season, Hurricane Ian made landfall in southern Florida on September 28 and by the time it dissipated four days later, it became the third costliest weather disaster in U.S. history.

Hurricane Ian

156 fatalities

Estimated damage **$113** billion
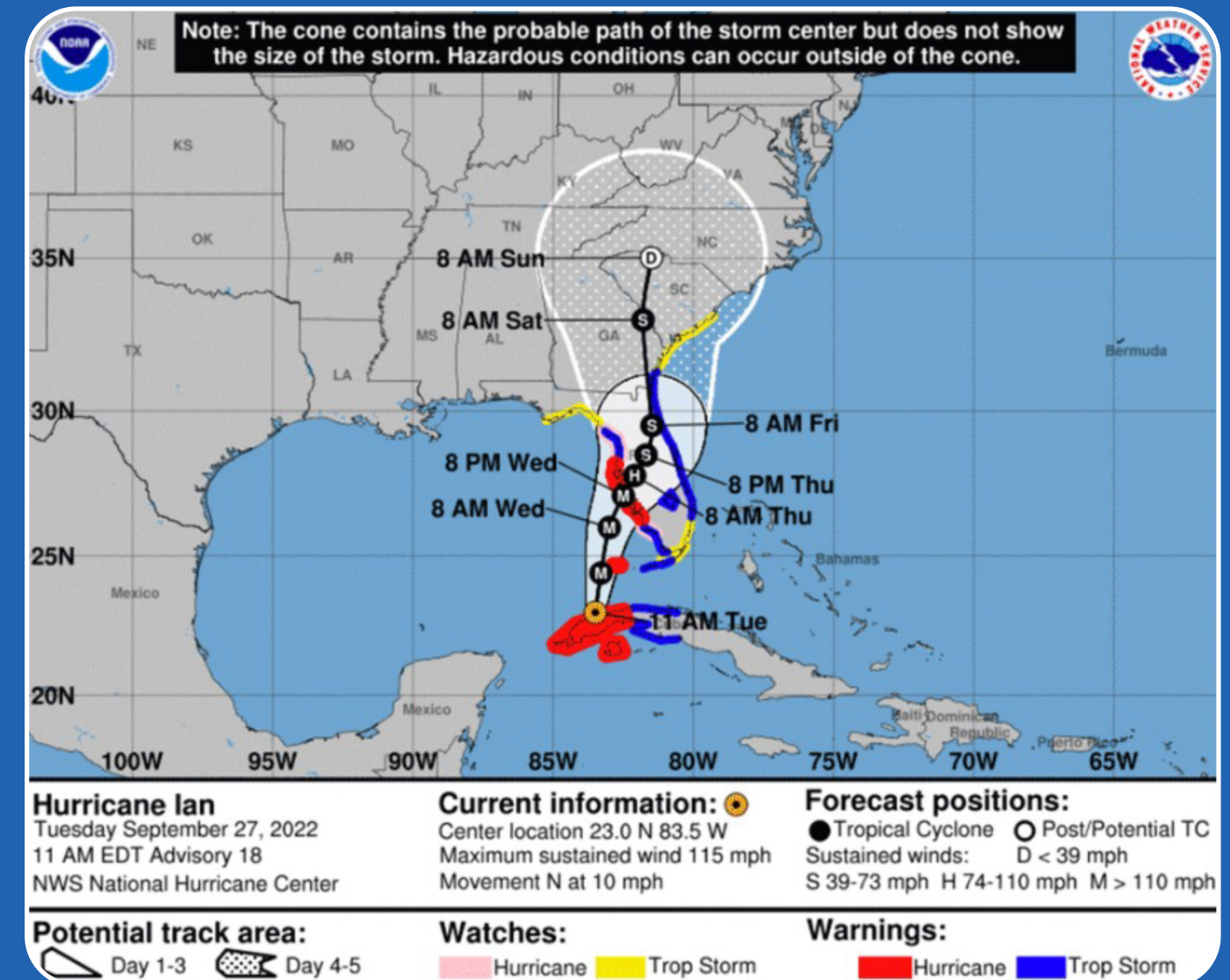
Costliest hurricane in Florida's history

National Oceanic and Atmospheric Administration
National Hurricane Center
Tropical Cyclone Report – Hurricane Ian

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The Path of Destruction

Hurricane Ian's predicted track fluctuated by hundreds of miles as it developed, making it challenging for businesses, emergency crews, service providers, and residents to prepare. It finally landed in southern Florida on September 28, 2022, as a category 4 hurricane. After briefly moving offshore in northeastern Florida and downgrading to a tropical storm, Hurricane Ian quickly regained power and made a second landfall in South Carolina. It fully dissipated in North Carolina on October 1.

In its path, Hurricane Ian produced catastrophic storm surge, damaging winds, and historic freshwater flooding leaving many people stranded and more than four million homes without power.
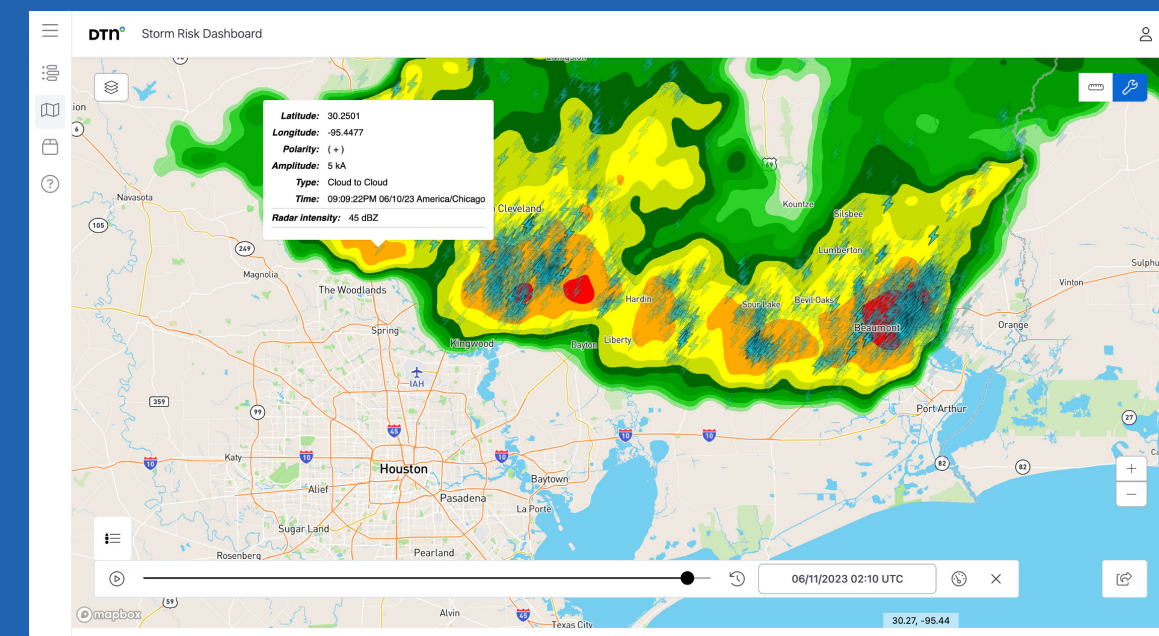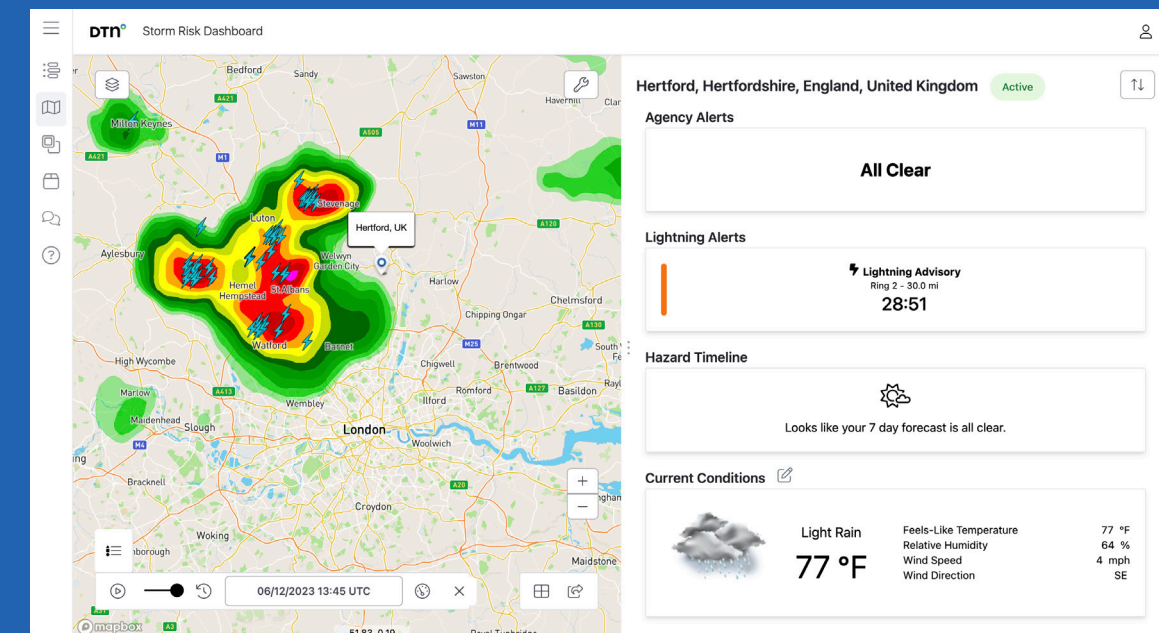

Note: The cone contains the probable path of the storm center but does not show the size of the storm. Hazardous conditions can occur outside of the cone.

Hurricane Ian
Tuesday September 27, 2022
11 AM EDT Advisory 18
NWS National Hurricane Center

Current information: ⊙
Center location 23.0 N 83.5 W
Maximum sustained wind 115 mph
Movement N at 10 mph

Forecast positions:
● Tropical Cyclone ○ Post/Potential TC
Sustained winds: D < 39 mph
S 39-73 mph H 74-110 mph M > 110 mph

Potential track area:
◁ Day 1-3   ▨ Day 4-5

Watches:
▨ Hurricane ▨ Trop Storm

Warnings:
▨ Hurricane ▨ Trop Storm

Restoring Power Quickly

Keeping the power on for their customers is a top priority for utilities. When large-scale weather events like Hurricane Ian occur, preplanning and positioning response crews is critical to reduce outage duration. The challenge is to determine how many outages for specific service areas and the severity of the storm impact to right size response teams several days before landfall. This becomes even more difficult when multiple states may be affected and numerous requests for mutual assistance initiate days ahead of the storm as a proactive measure.

DTN Storm Risk at a glance

To help incident commanders make more informed and confident decisions about outage planning and response, DTN developed Storm Risk Analytics. The new utility solution was tested during Hurricane Ian with outstanding results, demonstrating the value of data-driven intelligence before the storm.

Hurricane Ian Outage Prediction

On September 26, nearly two days before landfall, DTN Storm Risk Analytics predicted 4.59 million customers would experience outages during the time window of September 27 – October 4. The forecast was within 7% of the actual outage count of 4.29 million customers.
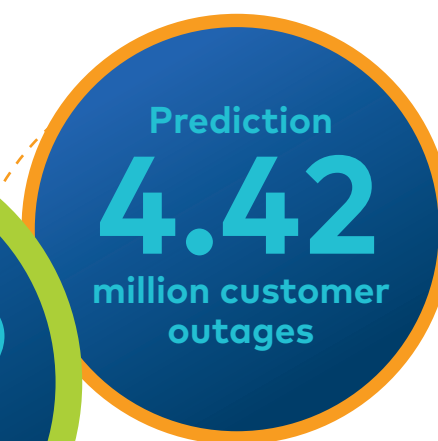
As the hurricane intensity and track evolved, new real-time information was modeled with updated predictions delivered every six hours. The revised DTN Storm Risk Analytics prediction, made one day before landfall, estimated 4.42 million customers out, within 3% of actual outages.
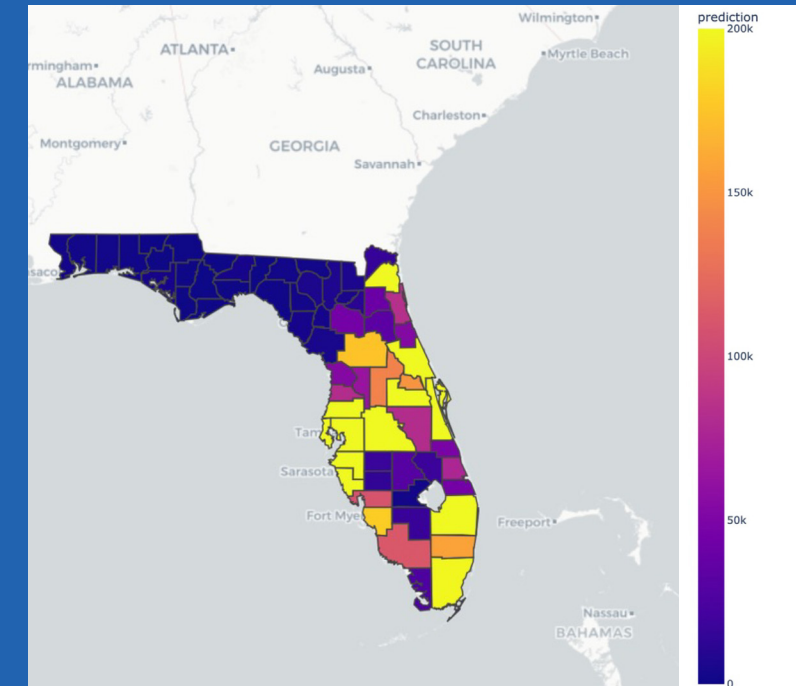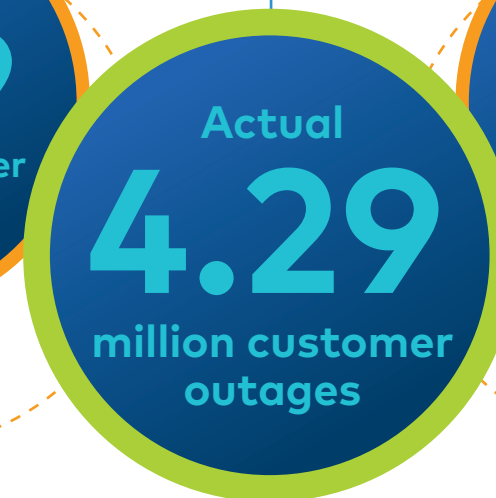
2 days before landfall

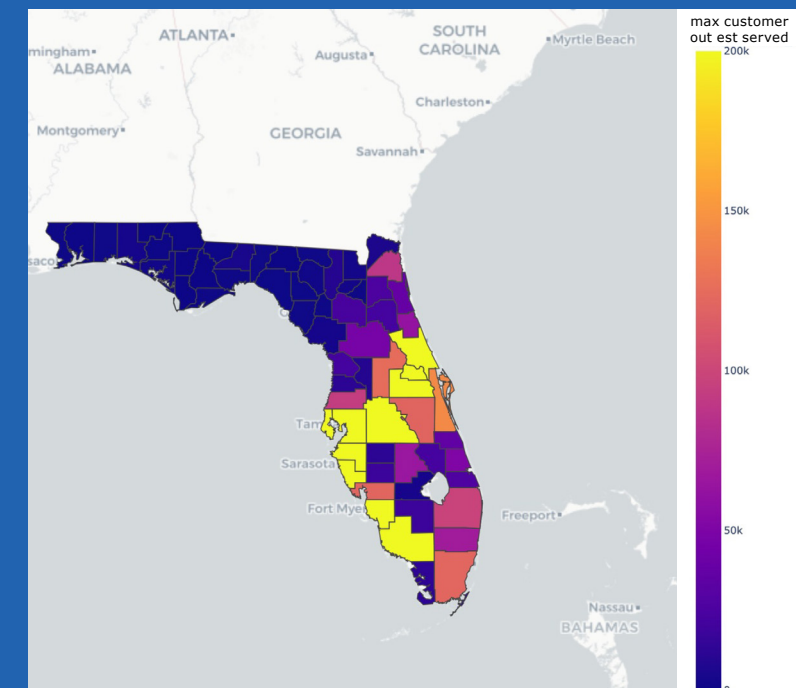**Prediction**
4.59
million customer outages

7% variance

Actual
4.29
million customer outages

1 day before landfall

Prediction
4.42
million customer outages

3% variance

DTN Storm Risk Analytics predicted the number of electricity customers in Florida to lose power by county for Sep. 28 – Oct. 4, 2022.

Actual number of electricity customers in Florida who lost power by county for Sep. 28 – Oct. 4, 2022.

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- Restoring Power Quickly
- Hurricane Ian Outage Prediction
- Storm Risk Analytics – Trusted Outage Insights

Storm Risk Analytics — Trusted Outage Insights

Storm Risk Analytics is part of the DTN Storm Risk suite developed for electric power providers across the globe. Coupled with DTN Weather Sentry® Utility Edition, it 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 solution combines seven years of verified, historical outage and weather data with advanced weather and machine learning models that can be tailored to a utility's operating region and topography. With Storm Risk Analytics, utilities are now able to predict weather impacts more accurately on their service area up to seven days ahead of an expected weather event.

To find out more about DTN solutions for utilities of all sizes, visit our Storm Risk page.

DTN Storm Risk

50%

Using DTN Storm Risk Analytics, utilities could reduce outage durations by as much as 50% and can more effectively size and stage response crews.