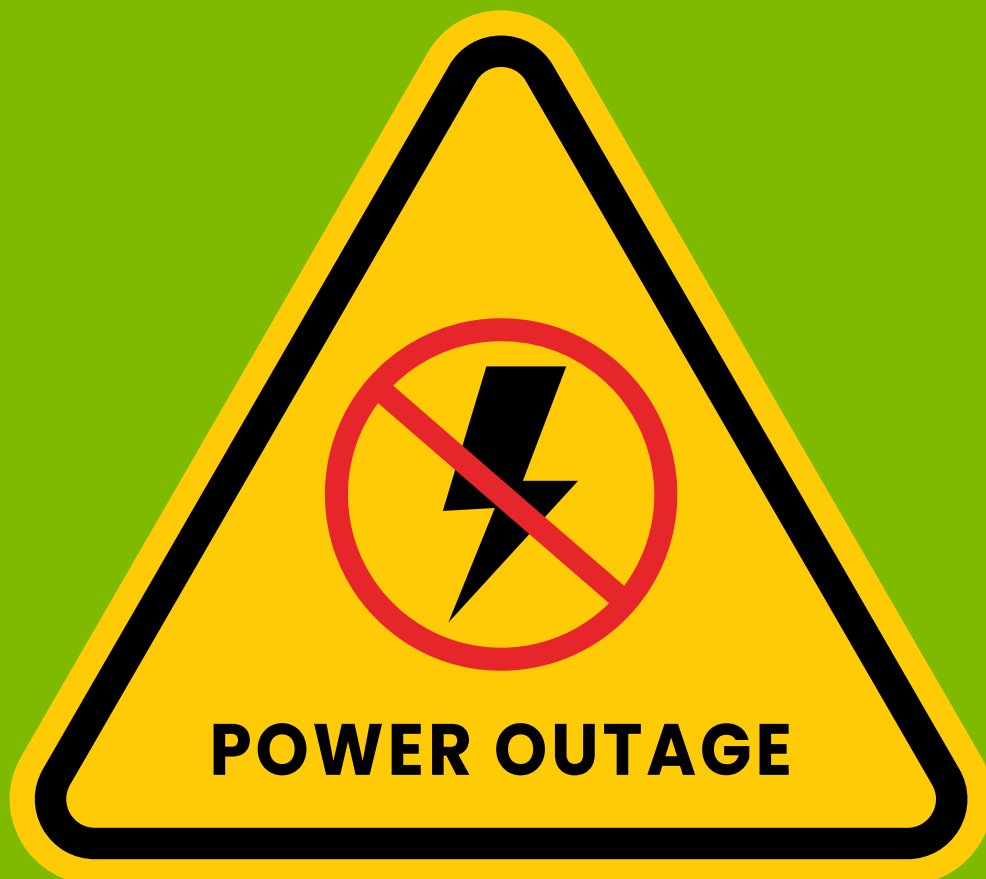


May 2025

Making a Business Case for Outage Maps



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Anyone who has experienced a power outage will know how valuable outage maps can be in keeping customers and stakeholders informed during storms and service interruptions. These maps provide a wealth of crucial information, such as estimated restoration time, crew status, number of affected customers, and the cause of the outage. By proactively delivering this information, utility companies can enhance customer satisfaction and provide a five-star customer experience, even during outages. This should not be news to anyone. What is less known is that outage maps actually benefit utility companies through lower operational costs.

In this white paper, we will explore the growing potential of outage maps, their role in reducing the number of outage-related calls to an organization's contact center, and how outage maps can be an excellent self-service tool, providing customers

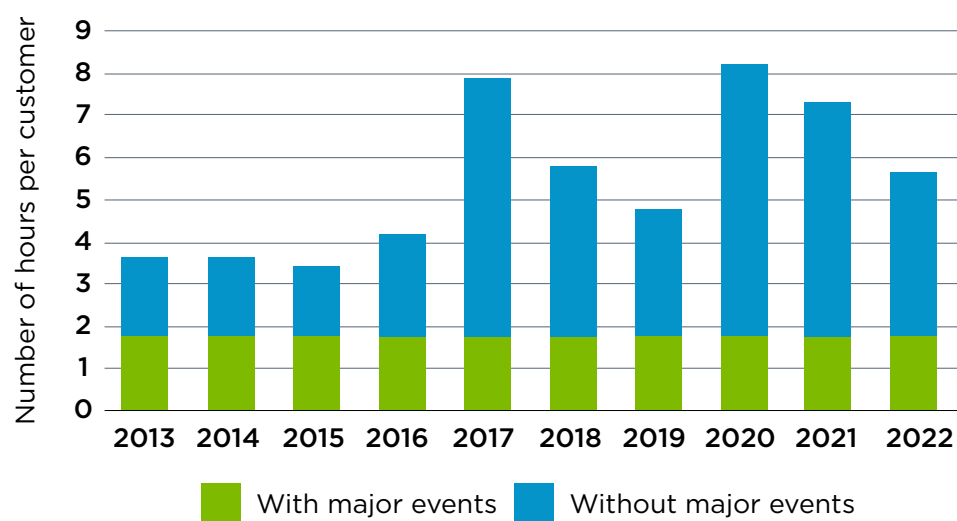
with real-time information on outages affecting them without having to call their service provider's call center.

The Rise of Weather-Related Outages

In 2022, U.S. electricity customers experienced an average of five and a half hours of power interruptions, a significant drop compared to eight hours in 2020 and seven hours in 2021. According to the U.S. Energy Information Administration (EIA), the decrease in 2022 was primarily due to fewer significant events, such as hurricanes.¹

However, a broader analysis of historical data tells a different story. From 2013 to 2016, the average American electricity customer experienced approximately three and a half hours of power interruptions. This average shot up to six and a half hours between 2017 and 2022.

Average annual total of electric power interruptions (2013-2022)



Source: U.S. Energy Information Administration (EIA), data through 2022 (latest available)

While no new EIA reports have been published since 2022, the National Centers for Environmental Information (NCEI) report confirmed that the number of severe weather events has dropped from its high point in 2020.² However, 2024 experienced the highest number of billion-dollar weather events on record. Last year, the U.S. was hit with 17 severe storms, two winter storms, and five tropical cyclones, culminating in 24 severe billion-dollar weather events.

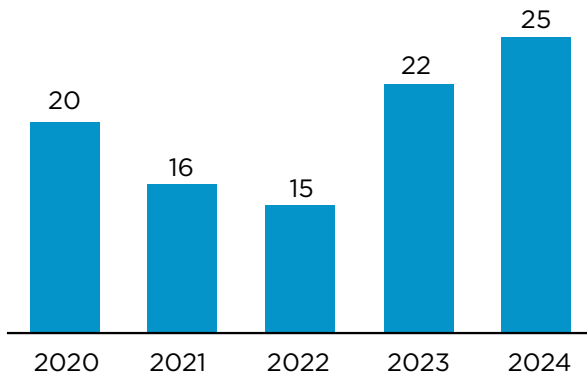
Despite severe weather events trending down in the past few years, the probability of fewer power interruptions doing the same is unlikely. The U.S. Department of Energy reported in 2023 that much of the U.S. electric grid was built in the 1960s and 1970s, with 70% of transmission lines over 25 years old.³ Until the grid is modernized to handle these billion-dollar weather events, Americans will continue to experience power outages in the future.

The Impact on Utilities

Increase in Call Volumes

When the power goes out, customers want to know why and when it will come back on. In the absence of self-service options, where customers could check restoration times themselves, they have to resort to calling utility call centers. A surge in calls to report outages or get up-to-date information on restoration times puts significant pressure on utilities, potentially impacting their ability to focus on other serious issues like damaged infrastructure. When Hurricane Beryl hit Houston in July 2024, a local utility urged customers not to contact its call center so that it could keep lines open for emergencies like downed lines and other hazards.⁴

Number of Billion Dollar Disaster Events (2020-2024)



Managing increases in call volumes can lead to significant costs for utilities. McKinsey reported that a typical utility with two million customers receives two to three million calls annually, costing anywhere from US\$20-40 million.⁵ When a utility call center gets a high volume of calls, the staff and resources quickly become overwhelmed, complicating the allocation of resources for restoration efforts.

Decrease in Customer Satisfaction

While the financial and operational impact on utilities is reasonably straightforward, the intangible impact of increased call center volumes cannot be overstated. As more calls come in, customers experience longer wait times, leading to frustration. This, in turn, contributes to high Call Abandonment Rates, as customers get fed up waiting to have a simple query answered. On the other end of the phone are overwhelmed customer service representatives (CSRs) struggling to provide a high level of service quality, potentially affecting First Call Resolution (FCR). This can increase unnecessary escalations and longer Average Handle Times, impacting customer satisfaction. A Chartwell report stated that satisfied customers originate with satisfied

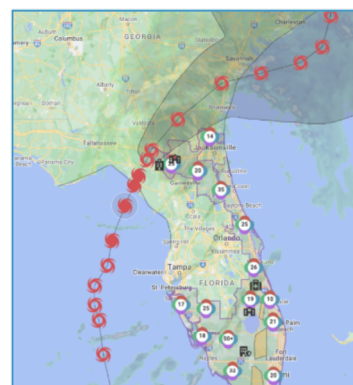
employees.⁶ An overwhelmed and overworked workforce caused by higher-than-usual call volumes can also lead to employee dissatisfaction, which may indirectly affect customer satisfaction.

The Solution: Outage Maps

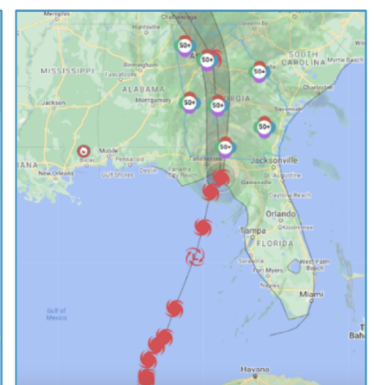
Many self-service tools are available to help customers get the most up-to-date outage information, but outage maps remain one of the most popular. Customers appreciate being able to conveniently get updates on disruptions specifically impacting their neighborhoods. Location-based tools like outage maps can deliver crucial information such as estimated restoration times, crew status, and the number of customers affected. Some solutions offer utilities highly customizable features to improve user experience, extending beyond outage updates to include information on hazardous events like hurricane paths, wildfires, hazards, and critical facilities.

2024 Hurricane Paths as Shown on Storm Center™ Maps

Hurricane Debby* (Aug)

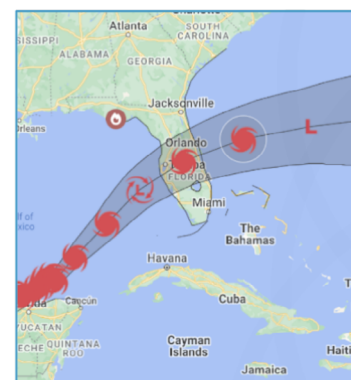


Hurricane Helene (Sept)



*Outages shown were generated using test data. Storm path data is actual.

Hurricane Milton (Oct)



Millions of customers depend on their utility outage maps during major outage events. In 2024, KUBRA's utility partners impacted by Hurricanes Debby, Helene, and Milton saw 26 million users view their outage maps over 15 days.

Potential Cost Savings From Outage Maps

The following example illustrates how a utility can reduce costs associated with outage-related calls to call centers. This example depicts a real-world scenario using specific metrics from a KUBRA utility partner.

Key Data Points

Here are the key data points to consider when calculating the potential cost savings from using outage maps to reduce call center volume.

Row 1	Utility customers*	1,339,000
Row 2	Annual outage calls*	357,038
Row 3	Customer Service Rep (CSR) Call %	49%
Row 4	Interactive Voice Response (IVR) Call %	51%
Row 5	Average CSR-handled call cost**	\$8.02
Row 6	Average IVR-handled call cost**	\$0.57
Row 7	Annual active utility map users*	505,000
Row 8	Call deflection rate***	60%

* Annual number of customers, outage calls, and active map users is based on real-world data from a KUBRA utility partner.

** The average CSR and IVR handled costs are based on a 2021 Chartwell survey.

*** The % of map users deflecting calls is based on KUBRA's benchmark analysis of client call center data from customers seeking outage information after opting in to receive outage alerts. See imitations below for details.



Calculations

Based on the key data points above, we make the following calculations to assess the potential cost savings from outage maps.

Row 9	Average # of annual outage calls per customer	$357,038 \div 1,339,00$ (Row 2 $\div$ Row 1)	0.27
Row 10	# of outage calls from customers who viewed the outage map	$505,000 \times 0.27$ (Row 7 $\times$ Row 9)	134,656
Row 11	# of outage calls reduced due to information available on the outage map	$134,656 \times 60\%$ (Row 10 $\times$ Row 8)	80,794

Potential Savings From CSR Calls

Row 12	# of CSR calls reduced by information on the outage map	80,794 x 49% (Row 11 x Row 3)	39,589
Row 13	Dollars saved from reduced CSR calls	39,589 x \$8.02 (Row 12 x Row 5)	\$ 317,502

Potential Savings From IVR Calls

Row 14	# of IVR calls reduced by information on the outage map	80,794 x 51% (Row 12 x Row 4)	41,205
Row 15	Dollars saved from reduced IVR calls	41,205 x \$0.57 (Row 14 x Row 6)	\$ 23,487

Total Potential Savings

Potential savings from reduced CSR-handled calls (Row 13)	\$ 317,502
Potential savings from reduced IVR-handled calls (Row 15)	\$ 23,487
TOTAL POTENTIAL SAVINGS (Row 13 + Row 15)	\$ 340,989

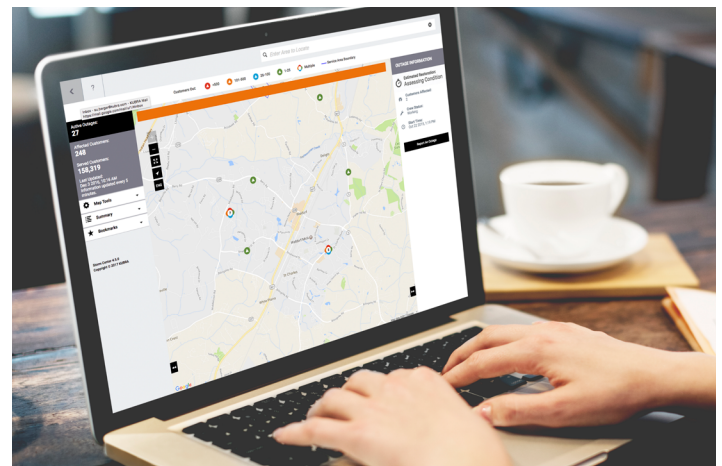
Assumptions and Limitations

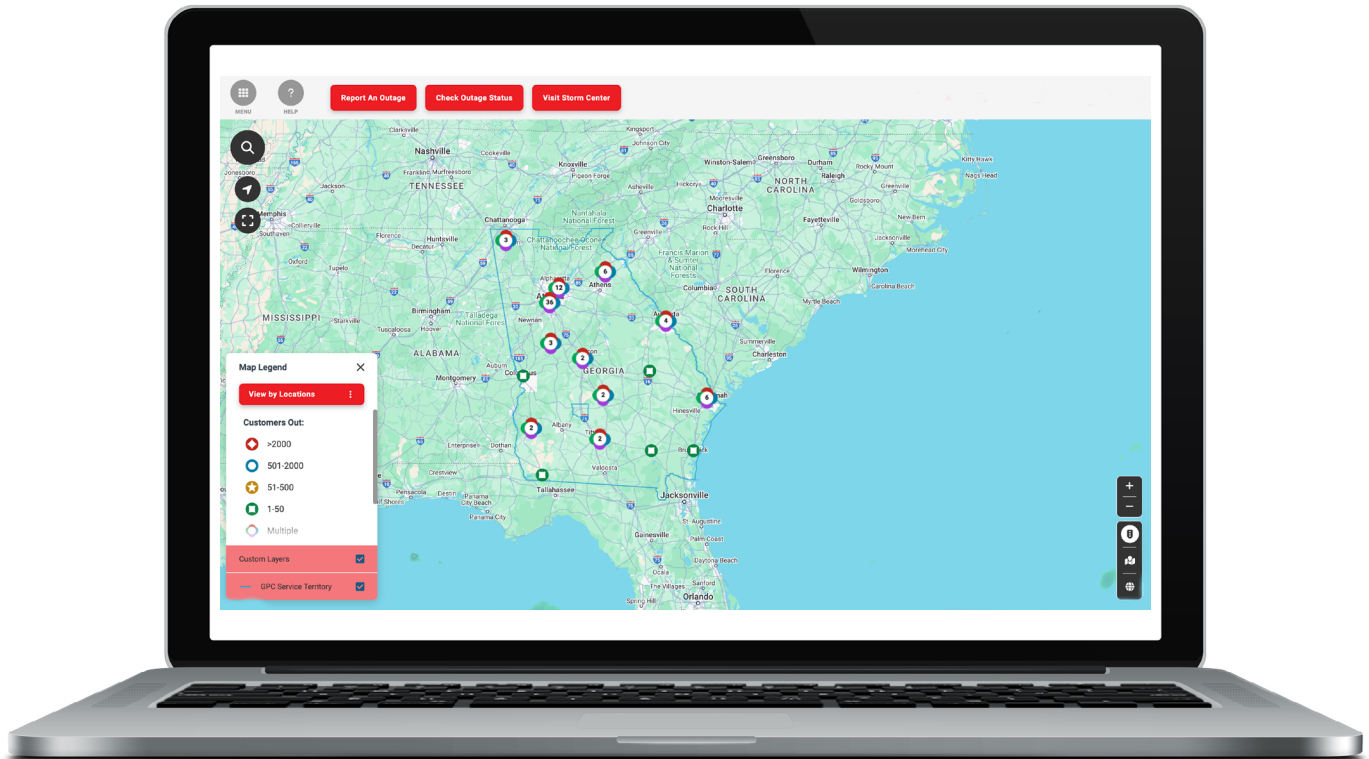
While the calculations above rely on real-world data, they involve certain assumptions. Additionally, the model does not account for specific limitations outlined below.

1. A CSR is assumed to handle 49% of calls, while an IVR handles 51%.
2. The model doesn't consider other self-service tools available to the customer, such as text messages, emails, chatbots, etc.
3. The number of active users shown in this example is based on a utility partner's outage map data; however, this metric highly depends on the utility's efforts to promote its outage map and get as many customers to use it as possible.
4. The percentage of customers relying on the outage map without calling the utility is set at 60% (see Row 8). According to KUBRA's internal data, the ideal rate is 98% among customers who receive outage notifications and subsequently don't call the call center. Achieving this ideal rate of 98% could save utilities approximately \$557,688. For the purpose of this research, we use the 60% rate to demonstrate the potential range of cost savings from outage maps.

Outage Maps: Driving Efficiency and Customer Satisfaction

Outage maps create a win-win scenario for utilities and their customers. For utilities, they provide the opportunity to significantly reduce call volumes during severe weather events, resulting in lower operational costs and more efficient resource allocation. At the same time, customers gain instant access to real-time outage information, offering clarity and reassurance during power disruptions. By proactively addressing customer concerns and enhancing transparency, outage maps not only streamline operations for utilities but also foster trust and satisfaction, turning challenging moments into opportunities to deliver exceptional customer experiences.





Sources

1. U.S. electricity customers averaged five and one-half hours of power interruptions in 2022, EIA, January 25, 2024.
2. Billion-Dollar Weather and Climate Disasters, National Centers for Environmental Information (NCEI).
3. What does it take to modernize the U.S. electric grid?, U.S. Department of Energy, October 19, 2023.
4. Houston's hottest question: When will my power be back on after Hurricane Beryl?, Houston Public Media, July 9, 2024.
5. Transforming interactive voice response systems in utilities, McKinsey & Company, September 25, 2020.
6. Customer Centricity Begins With Employee Engagement, Chartwell, December 6, 2024.



How can text messages deflect outage calls and save costs?

Chartwell reported that while 21% of customers get information from their utility outage map, 28% prefer text messages to receive outage alerts. The good news is that utilities can also significantly save from SMS texting.

[Access our white paper on Making a Business Case for Utility SMS Texting to learn more!](#)



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