



# Why You Should be Leveraging Real-time Intelligence During Widespread Outage Events



June 14, 2023



# Introduction

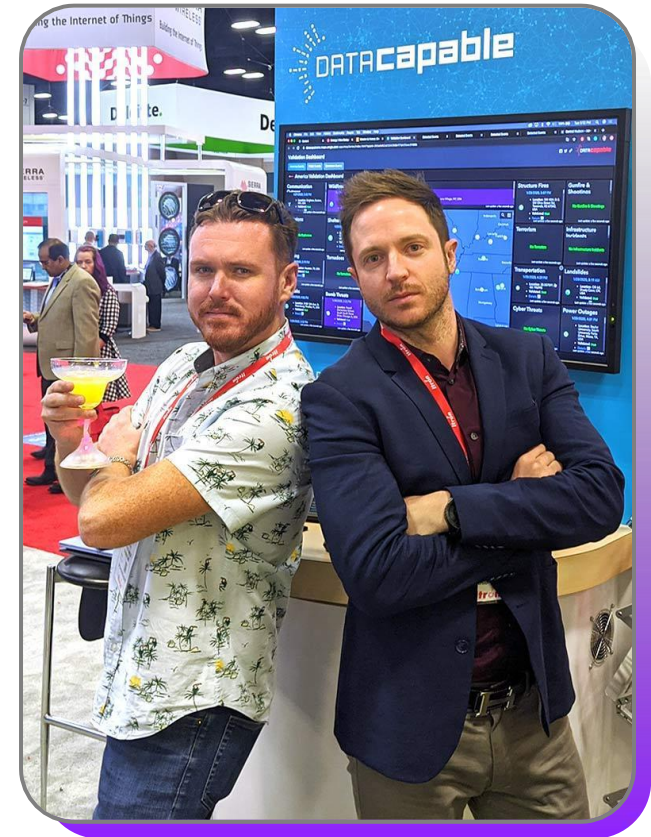
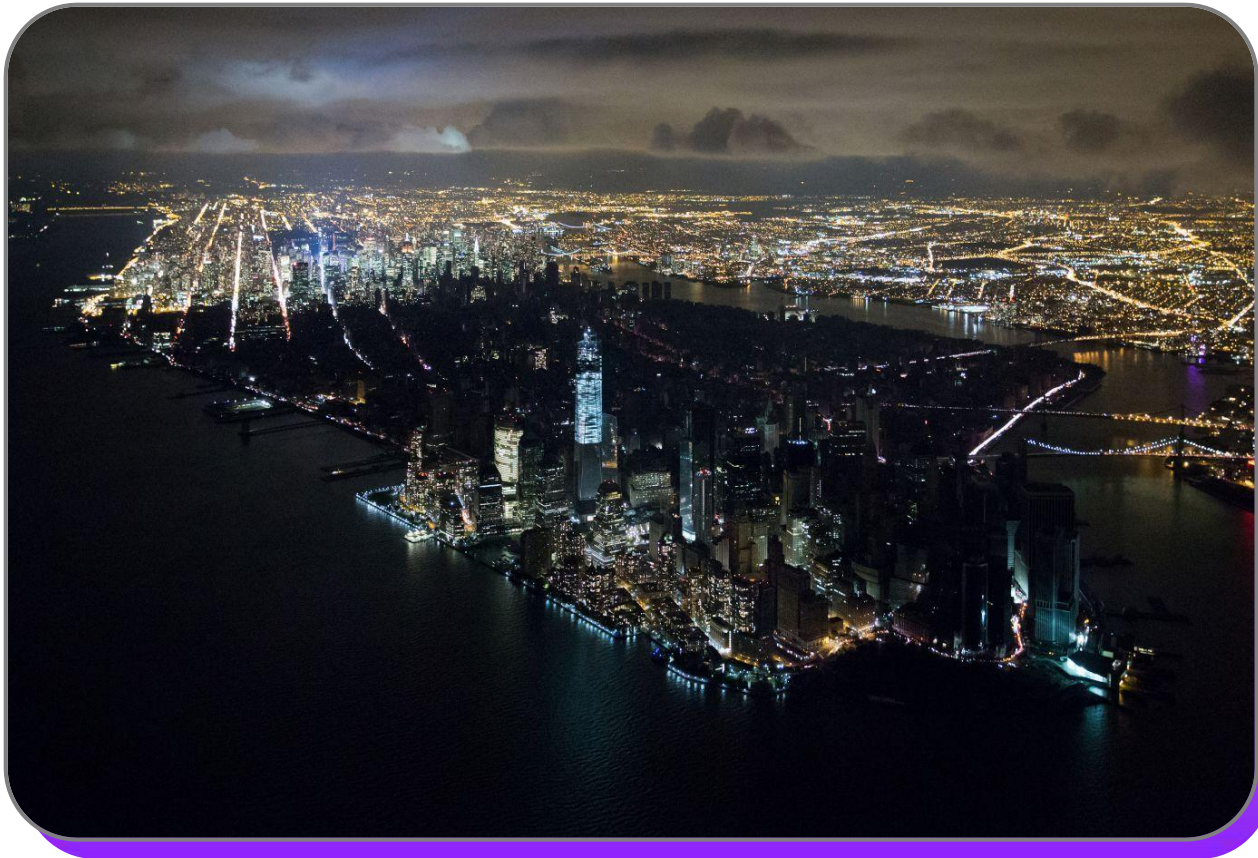


**Pete DiSalvo**  
CEO & Co-Founder



**Zac Canders**  
Co-Founder

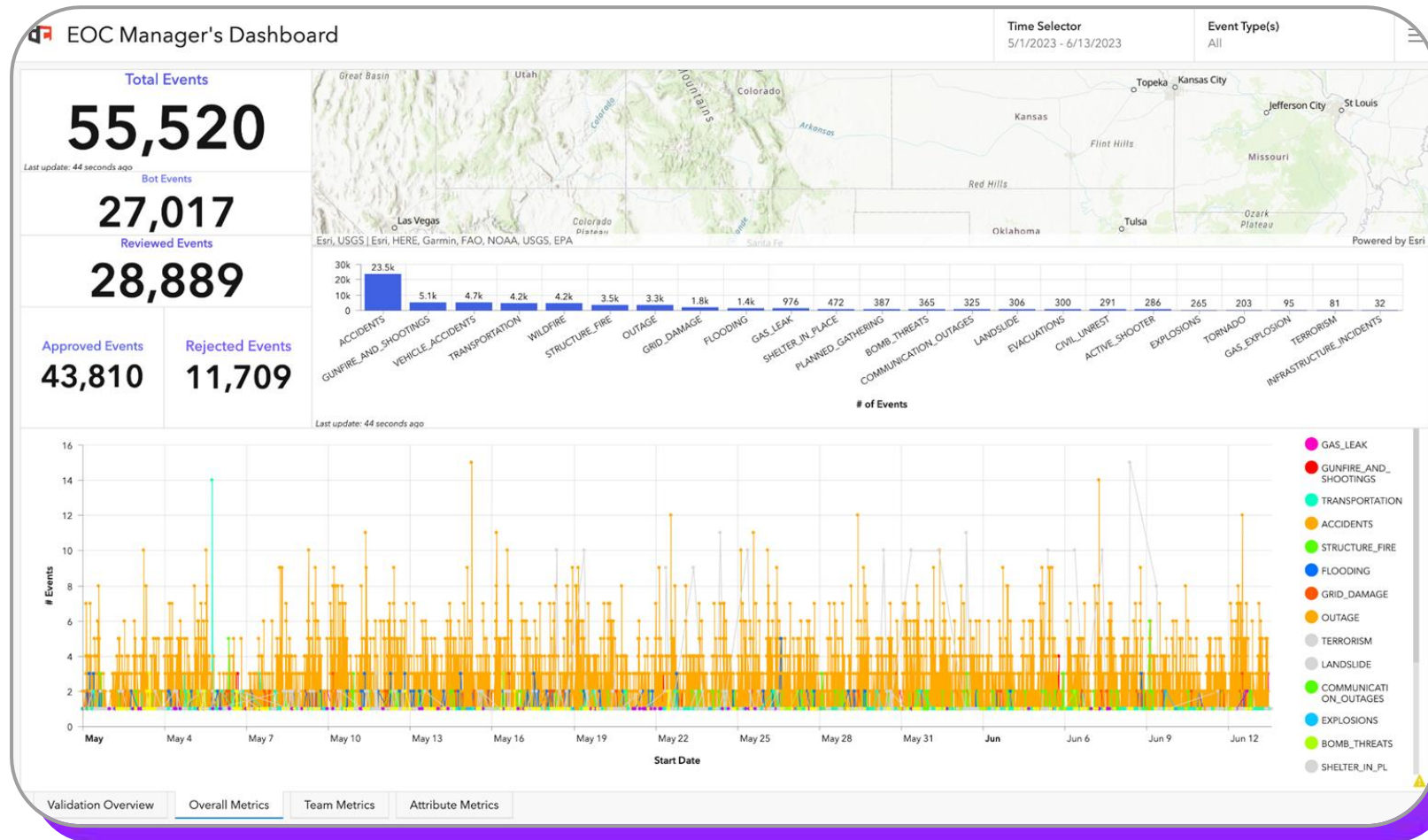
# Founding Story





**Delivering Situational Awareness When it Matters Most**

# Incidents Monitored



# The Impact of Natural Disasters

Flooding has caused

**\$155 billion**

in property damage  
over the  
last decade.



According to FEMA

Climate and weather  
disasters cost

**\$145 billion**

in total damages  
in 2021.



According to NOAA's National Centers  
for Environmental Information (NCEI)

Fighting wildfires cost

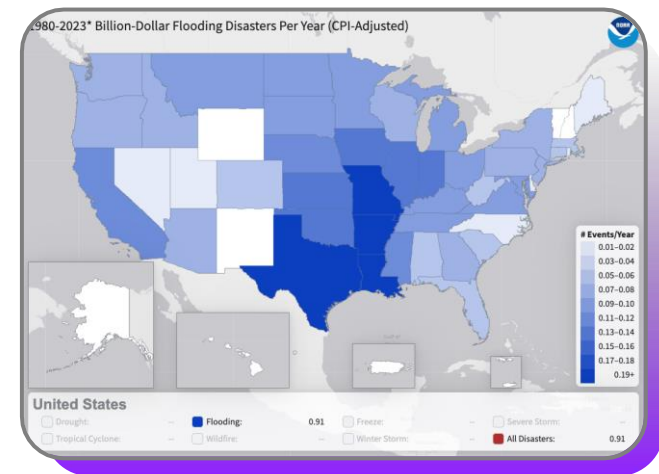
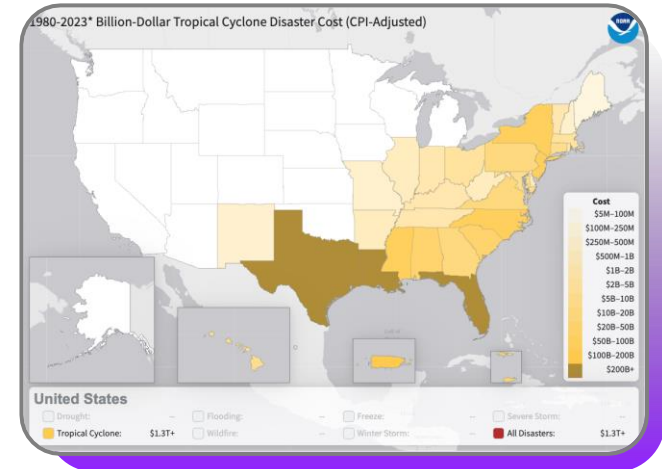
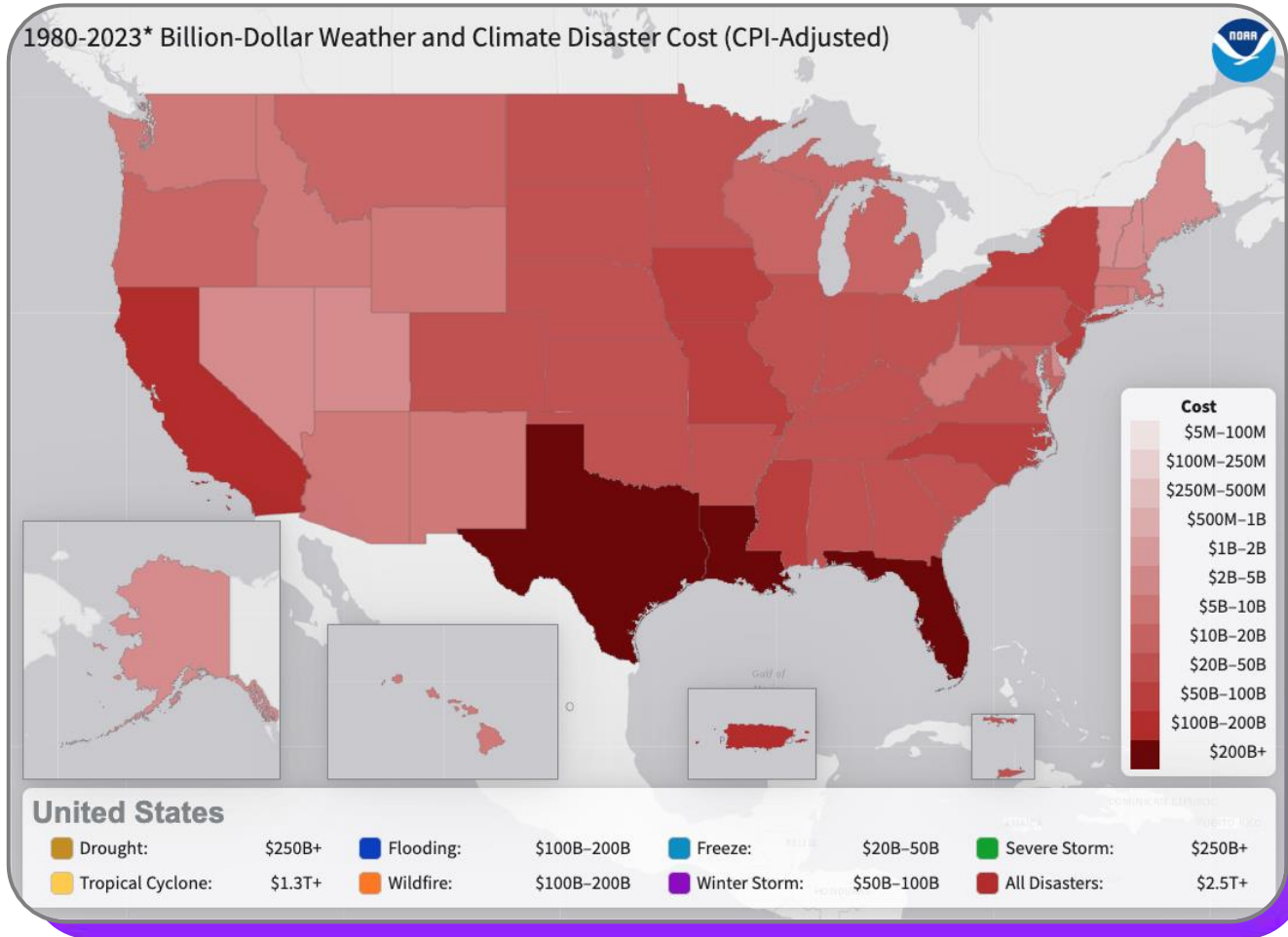
**\$66.9 billion**

in the last five years  
(2018–2022).



According to FEMA

# Severe Weather



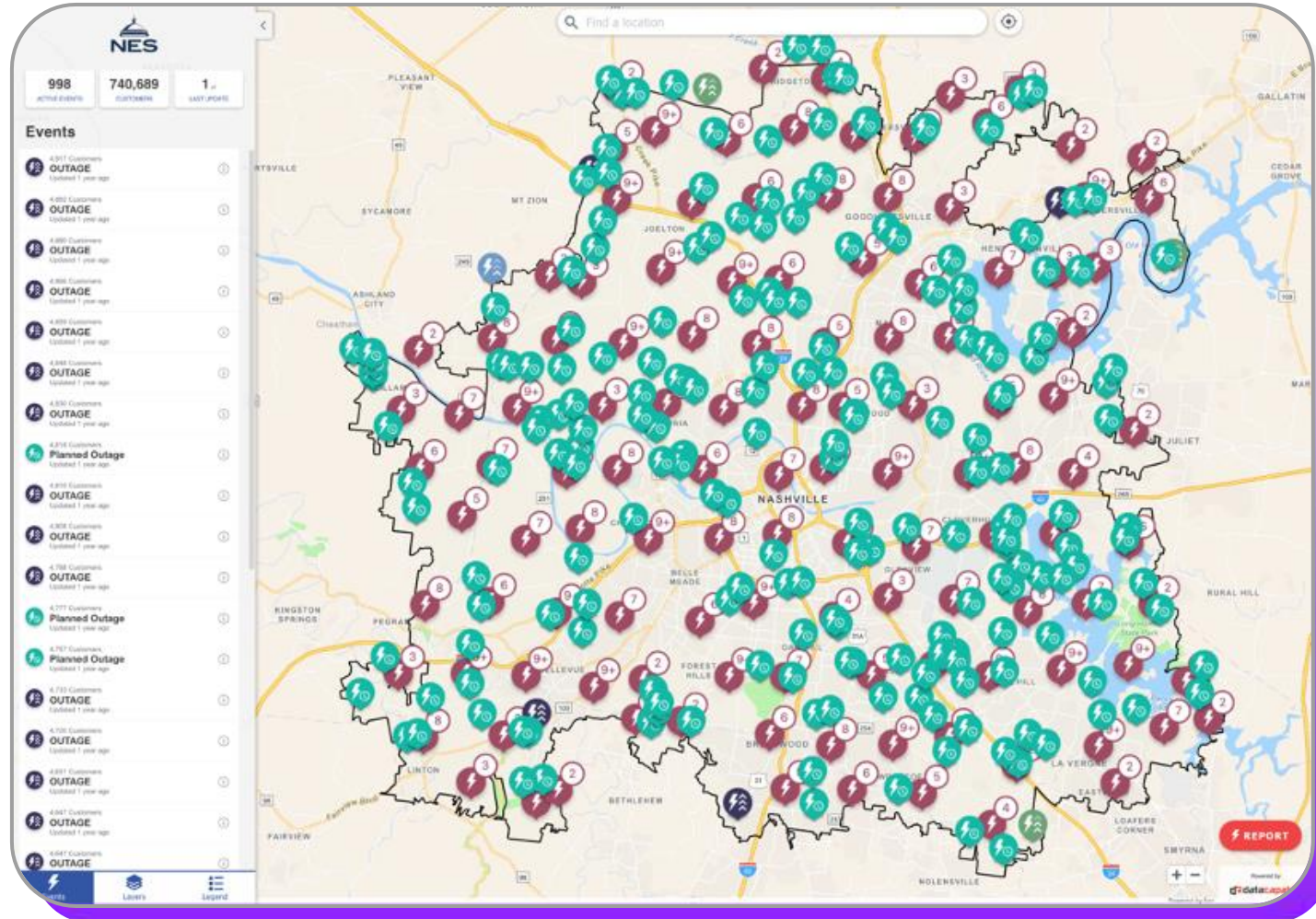
# Evolving Customer Expectations

- Impact of technology
- Impact of social media
- Establishing new communications channels to modernize existing workflows.
- Obtaining deeper insight of impacts and responses from and for key stakeholders.
- Meeting evolving customer and regulatory expectations.
- Rapid pace of change at the intersection between utility and technology industries.
- Dependency on legacy systems that stifle innovation in utilities.
- Intensity and Frequency of Weather Events

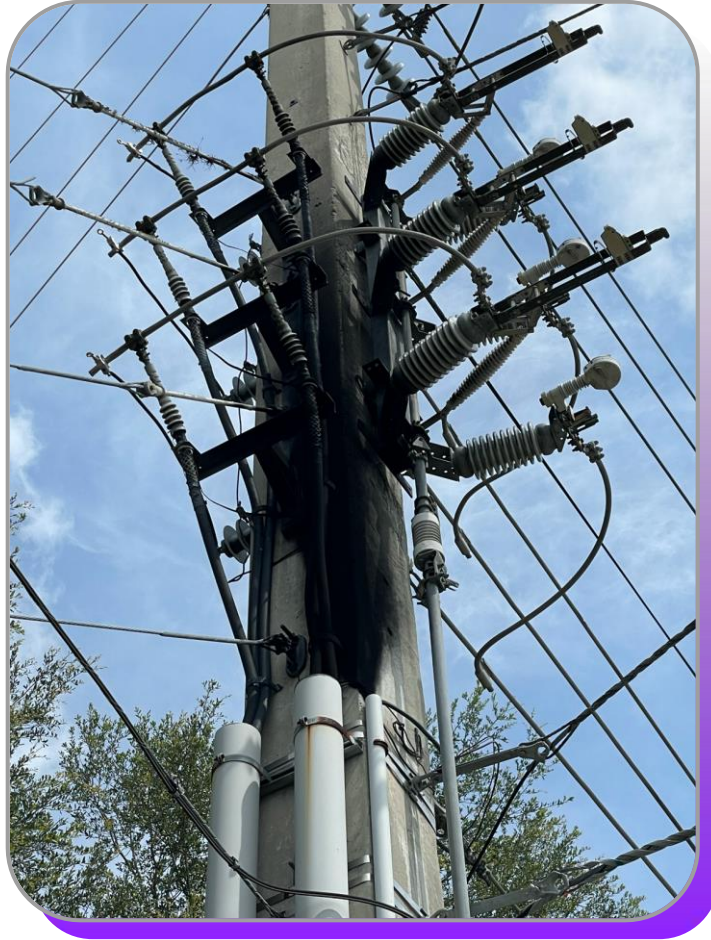




# Customer Expectations



# Customer Expectations



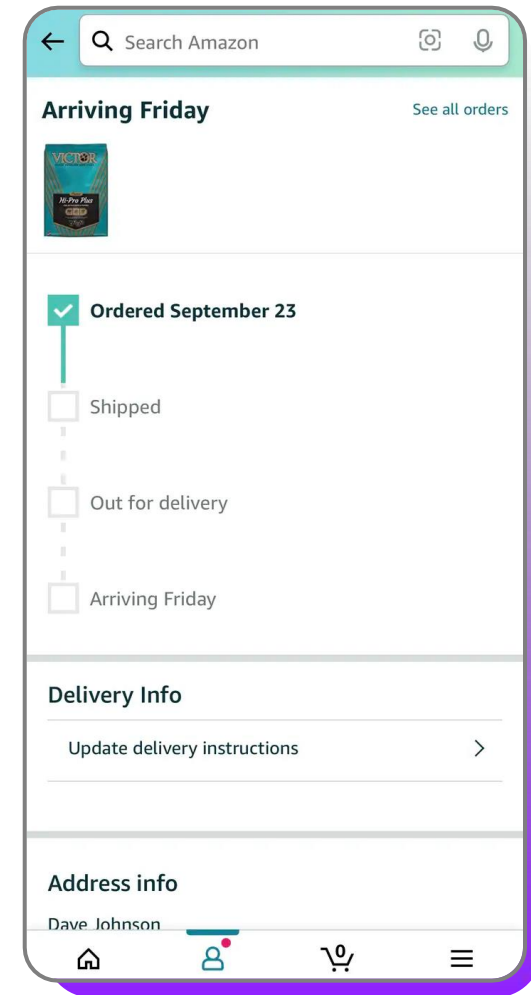
# Customer Expectations

IEEE 1782 Category	Sub Category
<i>Wildlife</i>	Mammal
	Bird
	Reptile/Amphibian
	Other



# Customer Expectations

- 61% of customers expect an estimate on restoration within 15 minutes of making a report
- Customers expect those estimates to be accurate within +/- 10 minutes



# CSAT

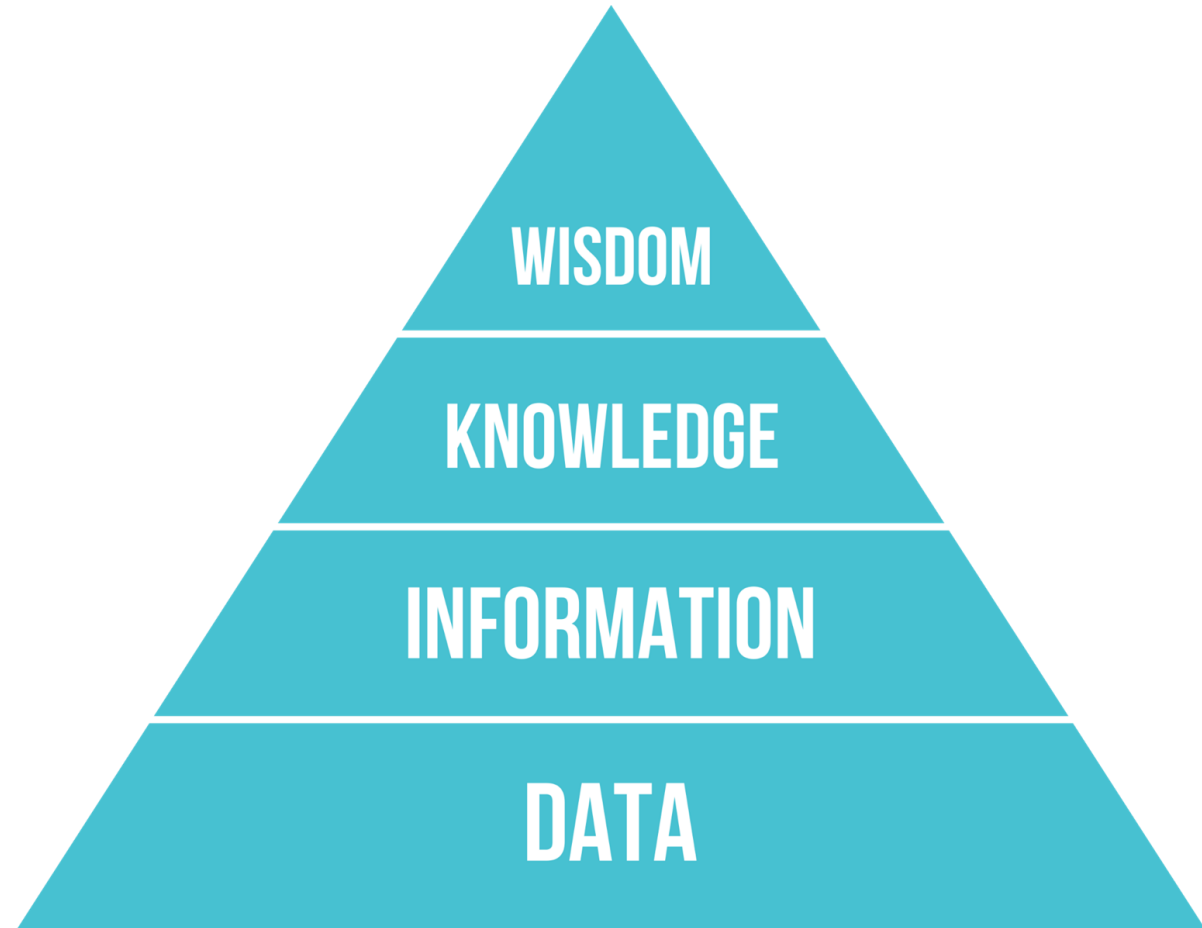
1. Breweries – 84%
2. Personal Care and Cleaning Products – 83%
3. Televisions and Video Players – 82%
4. Food Manufacturing – 82%
5. Soft Drinks – 82%
6. Internet Investment Services – 81%
7. Full-Service Restaurants – 81%
8. Household Appliances – 81%
9. Banks – 80%
10. Life Insurance – 80%
11. Credit Unions – 79%
12. Athletic Shoes – 79%
13. Automobiles and Light Vehicles – 79%
14. Property and Casualty Insurance – 79%
15. Limited-Service Restaurants- 79%
16. Internet Travel Services – 79%
17. Financial Advisors – 79%
18. Cellular Telephones – 79%
19. Personal Computers – 78%
20. Consumer Shipping – 78%



1. Computer Software – 78%
2. Apparel – 77%
3. Internet News and Opinion – 77%
4. Internet Search Engines and Information – 77%
5. Ambulatory Care – 77%
6. Video Streaming Service – 76%
- 7. Cooperative Energy Utilities – 75%**
8. Wireless Telephone Service – 75%
9. Hotels – 75%
10. Airlines – 74%
11. Health Insurance – 74%
- 12. Investor-Owned Energy Utilities – 73%**
- 13. Municipal Energy Utilities – 73%**
14. Internet Social Media – 72%
15. Hospitals – 72%
16. Fixed-Line Telephone Service – 71%
17. U.S. Postal Service – 70%
18. Video-on-Demand Service – 67%
19. Internet Service Providers – 62%
20. Subscription Television Service – 62%

# Real-Time Intelligence

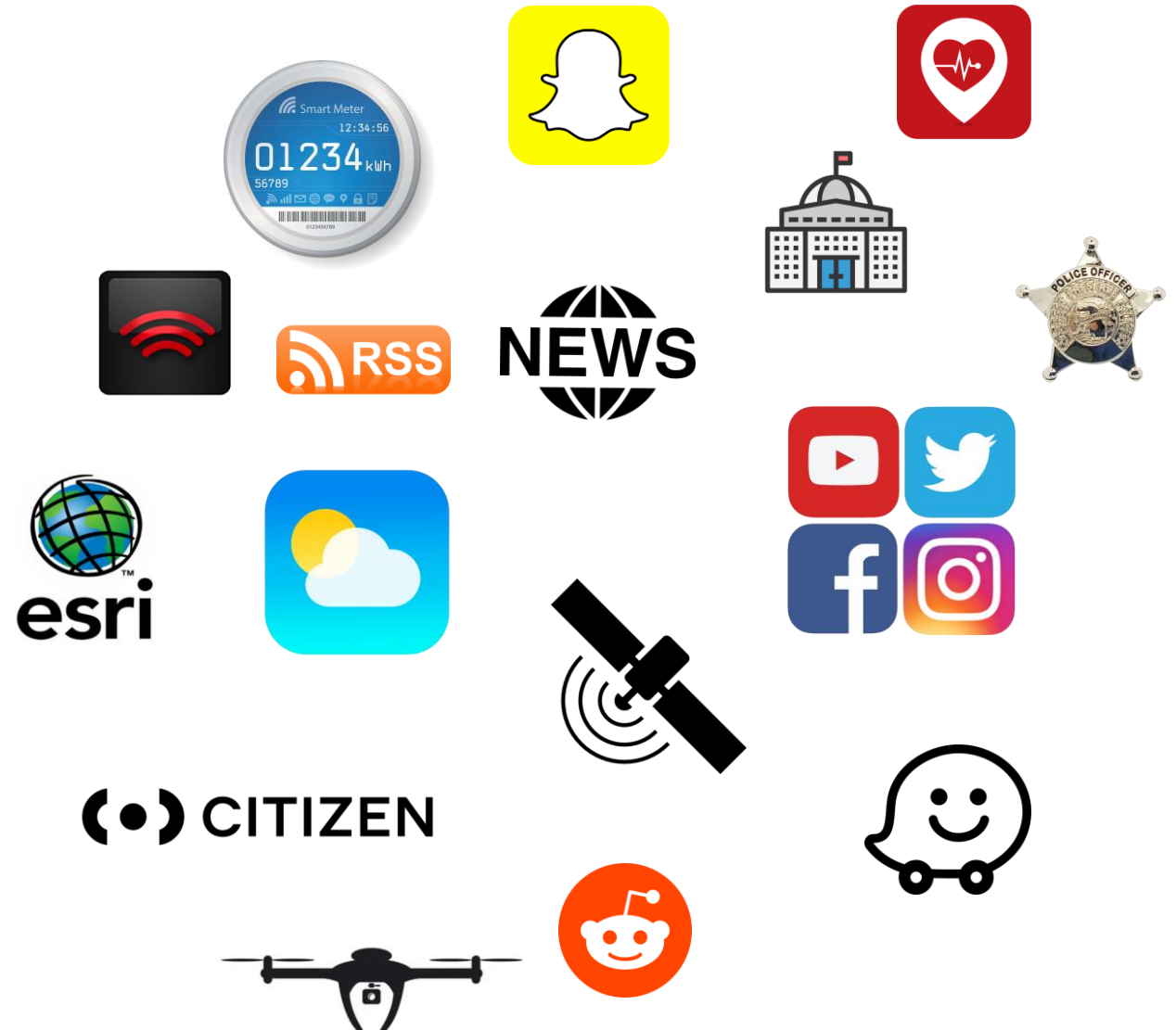
- Data
- Information
- Intelligence (Knowledge)
- Situational Awareness (Wisdom)





# Data Sources

- Power Grid Monitoring Systems (SCADA)
- Smart Meters
- OSINT (news, government reports)
- Social Media (Twitter, Facebook, Reddit, Youtube, Tiktok)
- Weather Data
- Traffic Data
- Satellite and Aerial Imagery
- Internet Connectivity Data
- Community Reporting Platforms
- Emergency Services (police, fire)





# Real-Time Information

Data that has been processed and interpreted.

## Provides

Increased specificity and usefulness.

## Example

Identifying a district with a power outage.



# Real-Time Intelligence

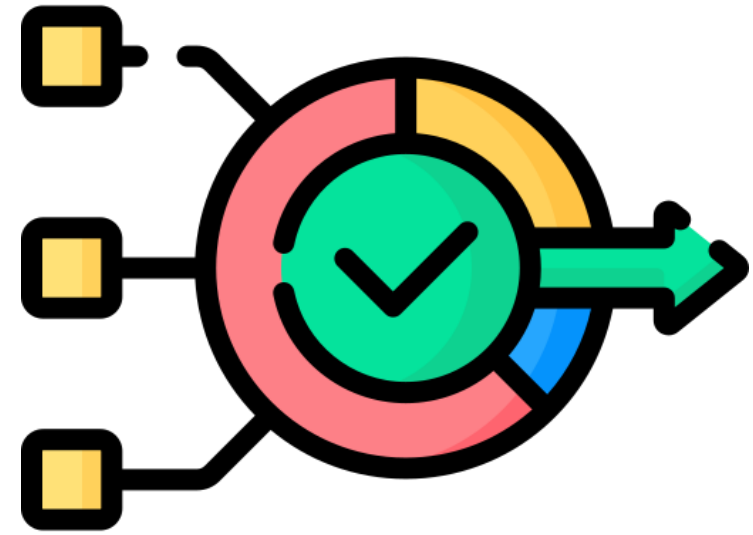
Applies context and actionability to information. Combining with other data.

## Provides

Ability to make predictions and guide decisions.

## Example

Understanding the impact of an outage on important facilities and what to do about it.



# Real-Time Situational Awareness

Paints a picture of intelligence across the network

## Provides

A comprehensive understanding

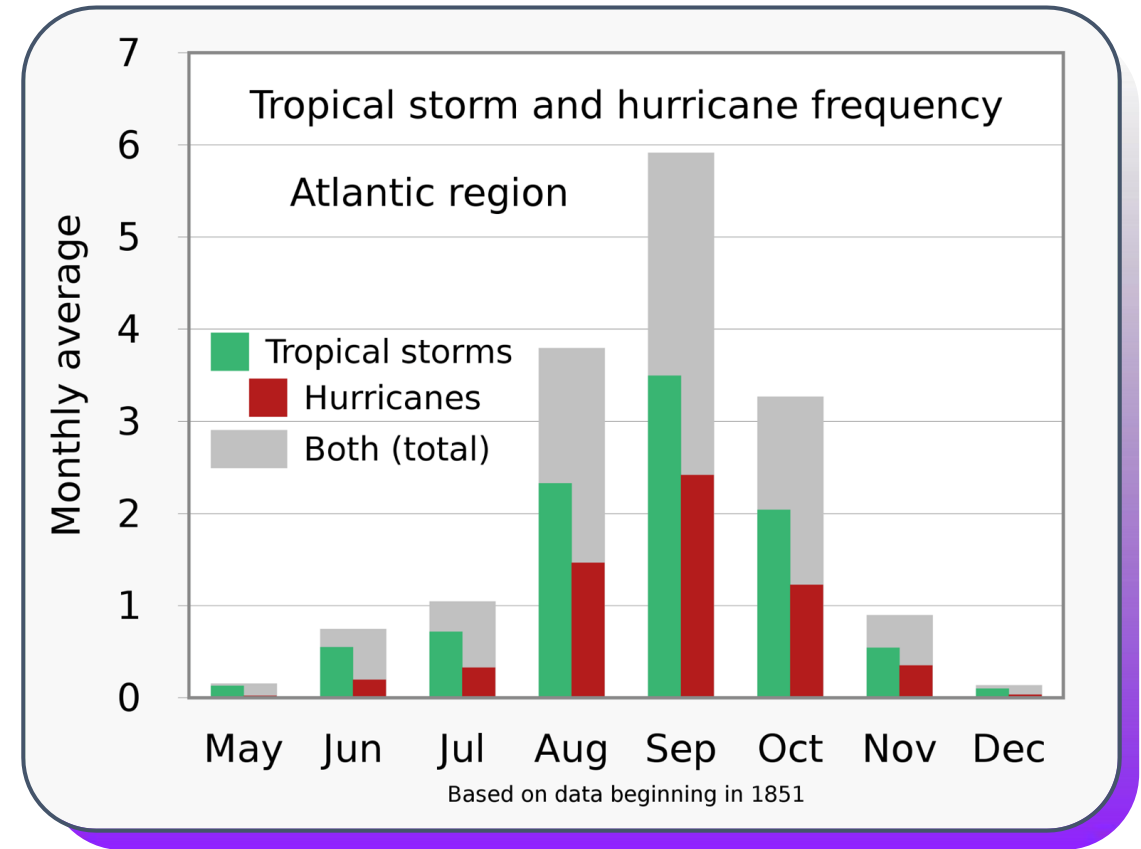
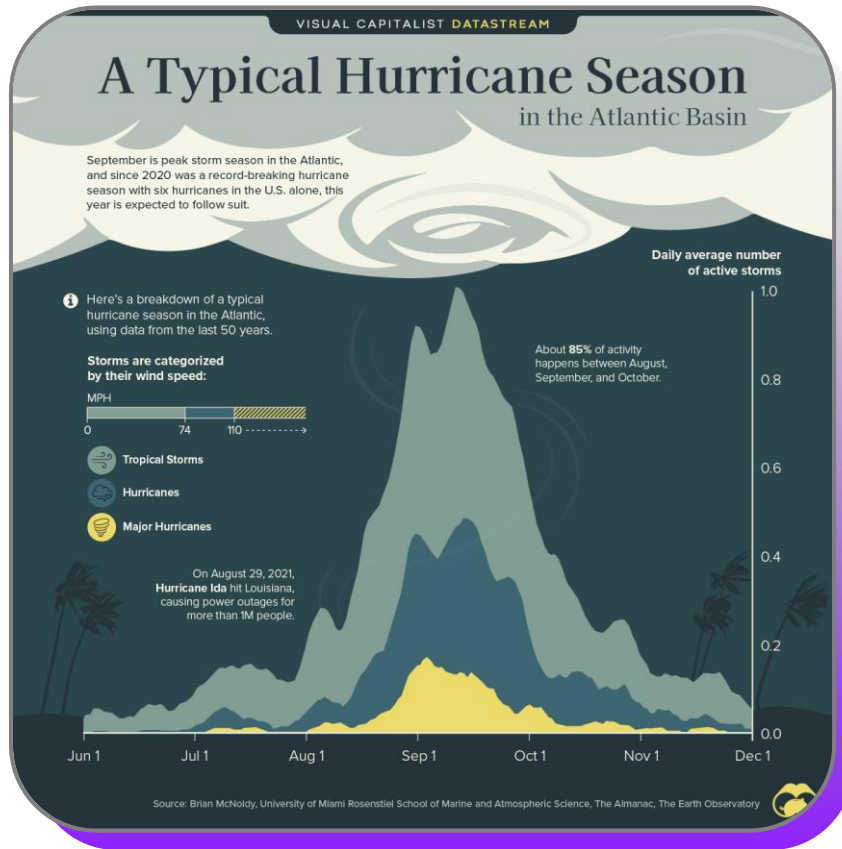
## Example

Predicting overall impact and coordinating restoration efforts.

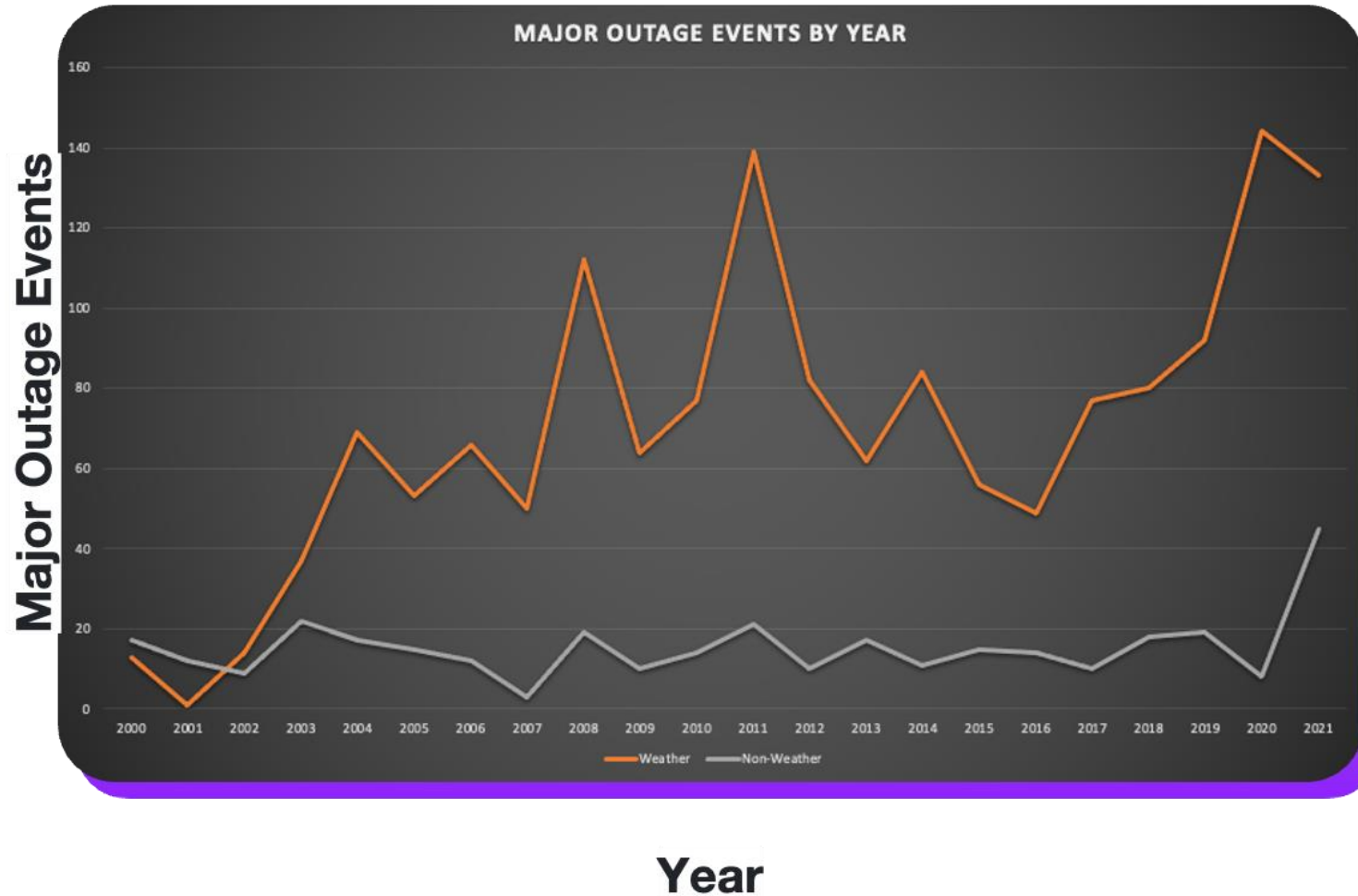


# Hurricane Season 2023

June 1 - Nov 30

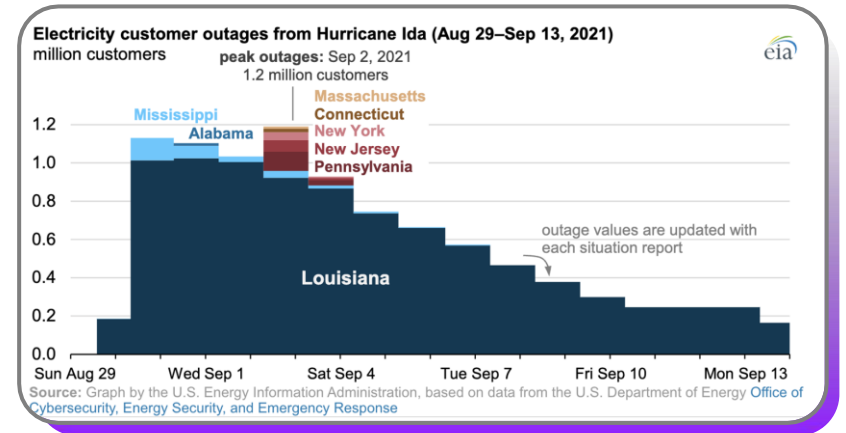
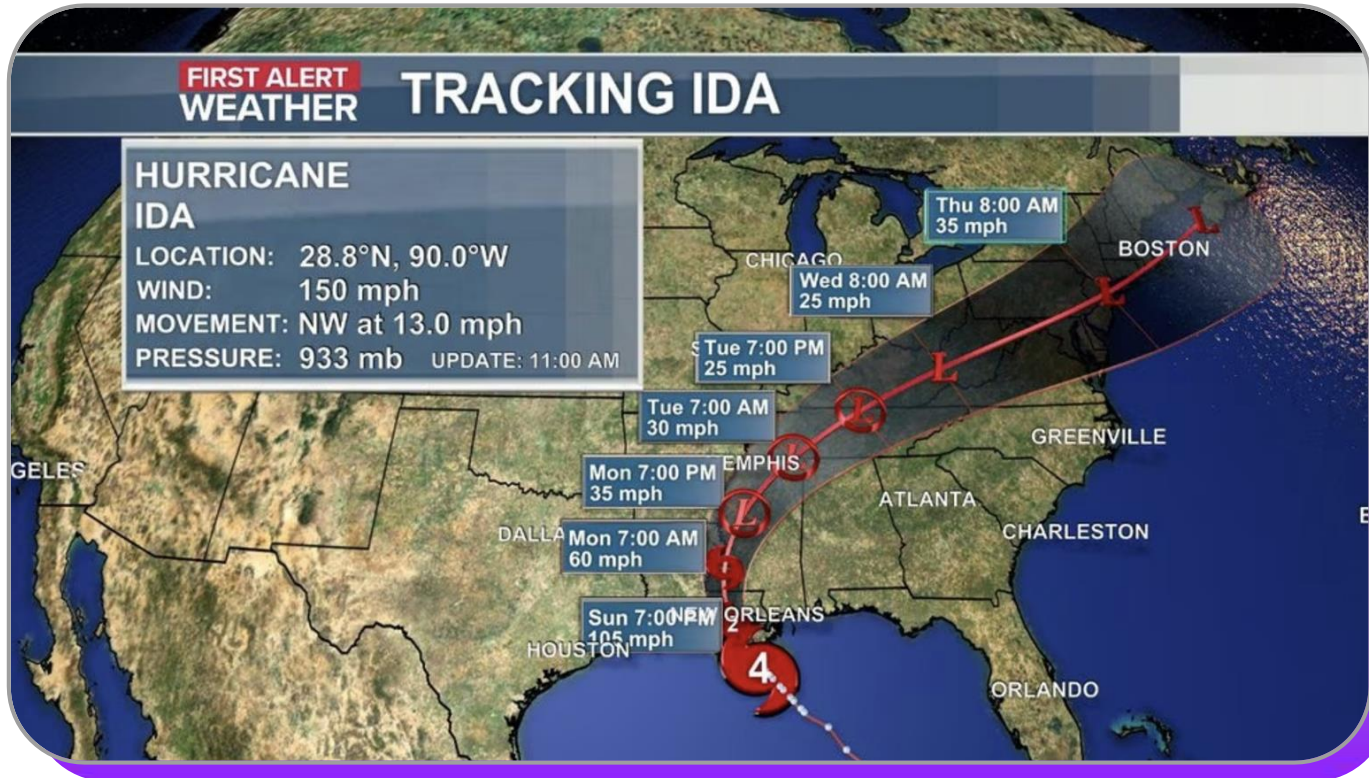


# Hurricane Season 2023



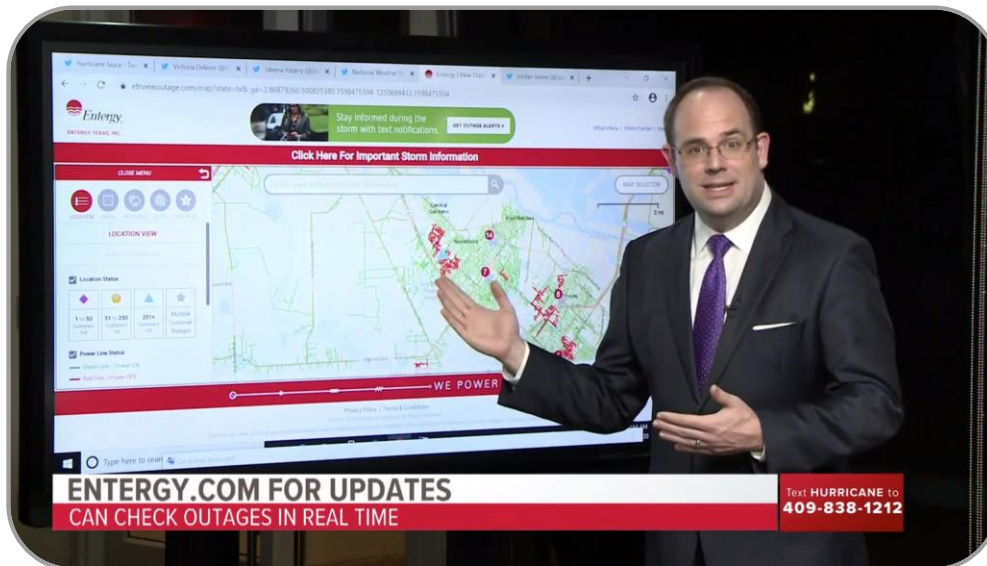
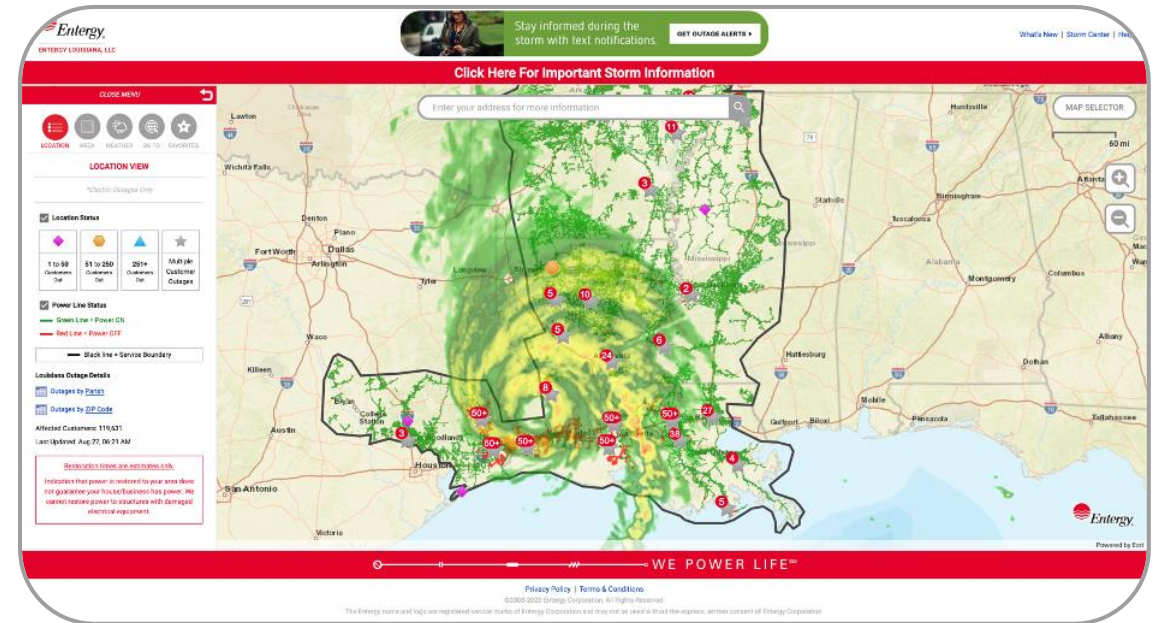
# Hurricane Ida

August 29, 2021

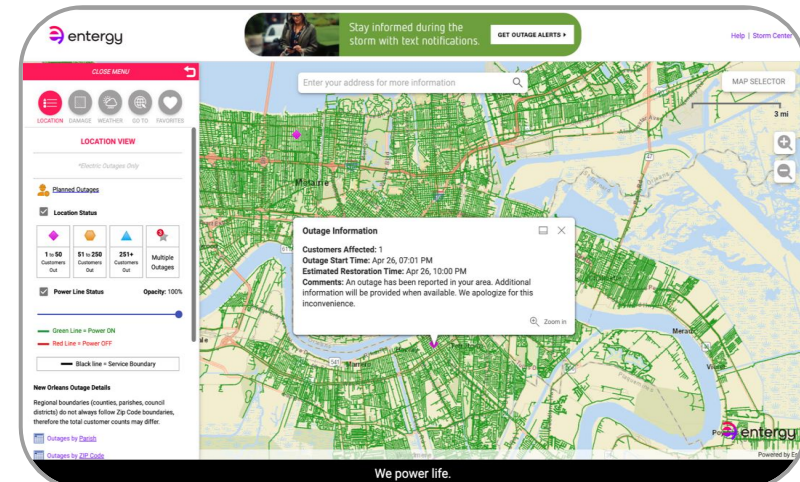
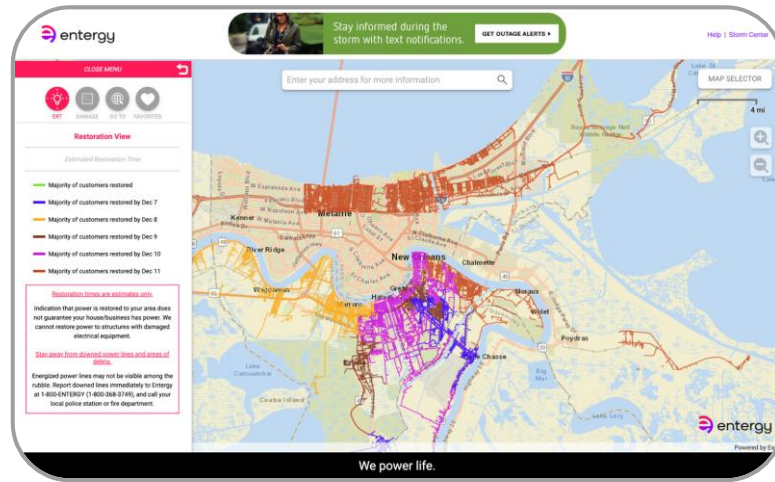
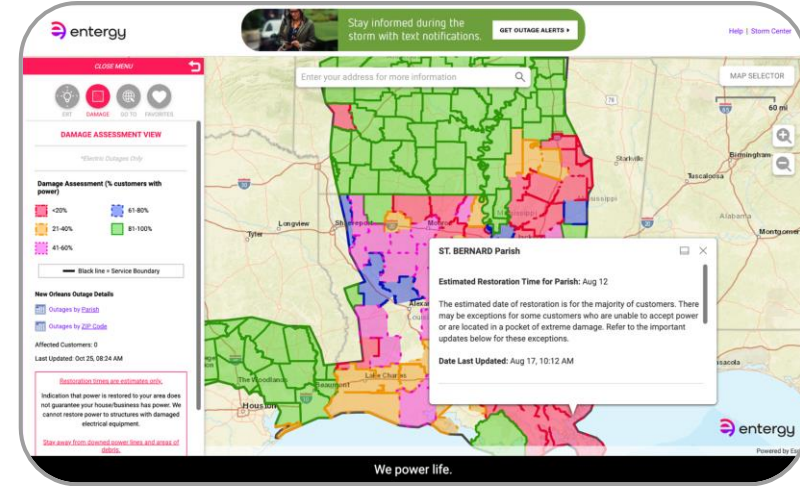
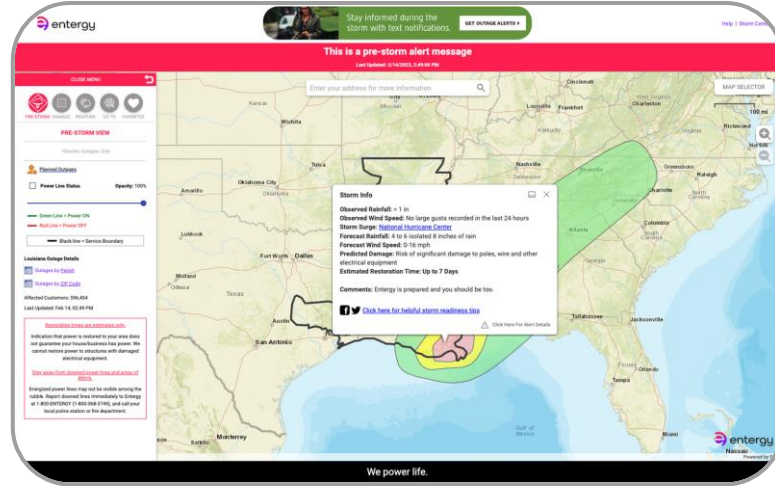


# Hurricane Ida

- Scalability
- Accountability
- Visibility



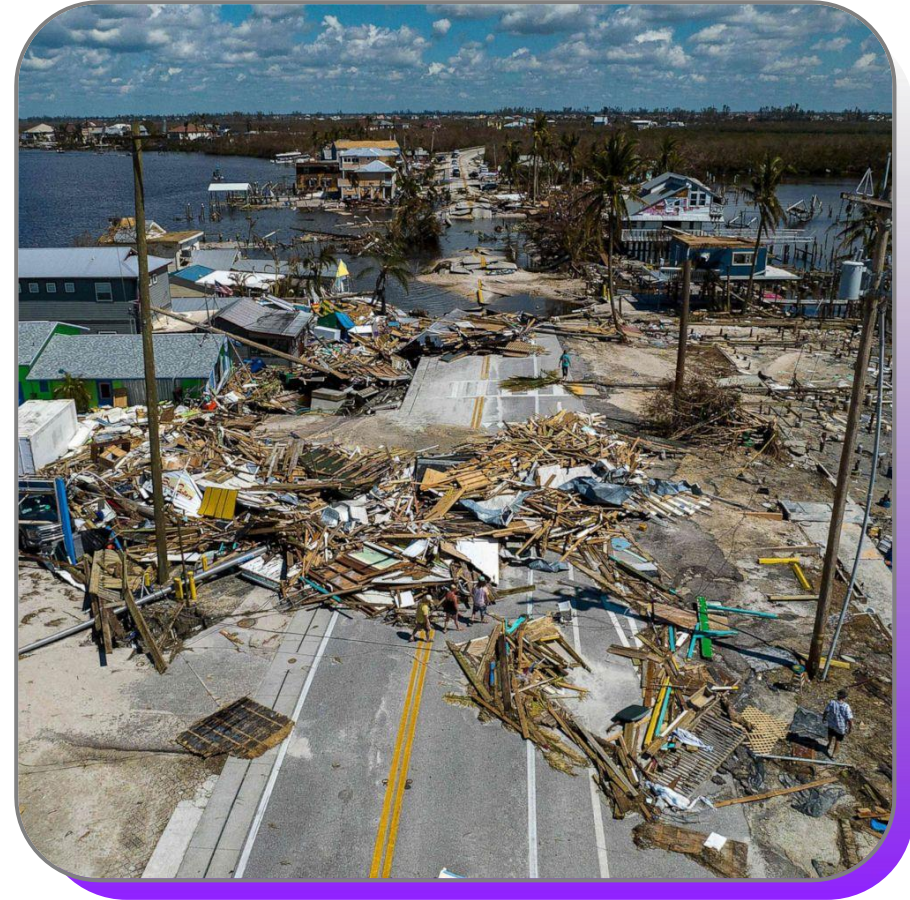
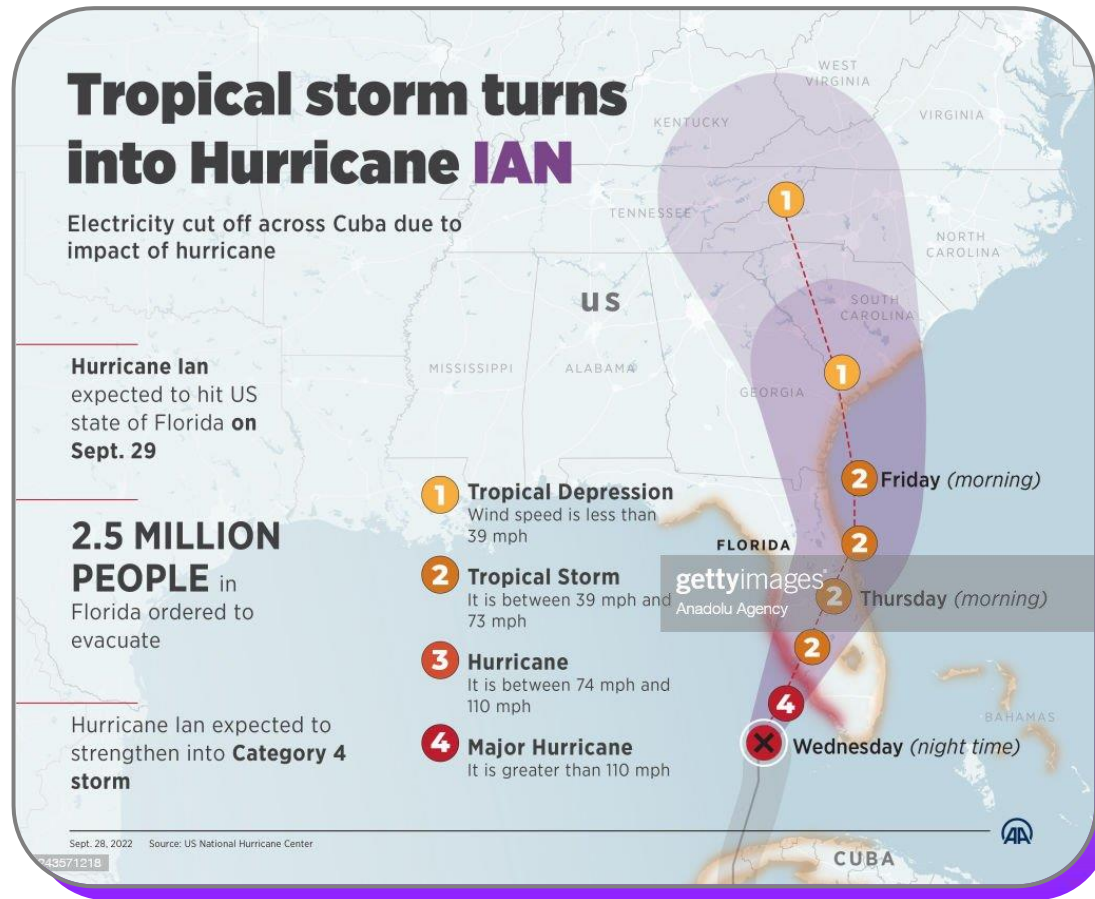
# Hurricane Ida



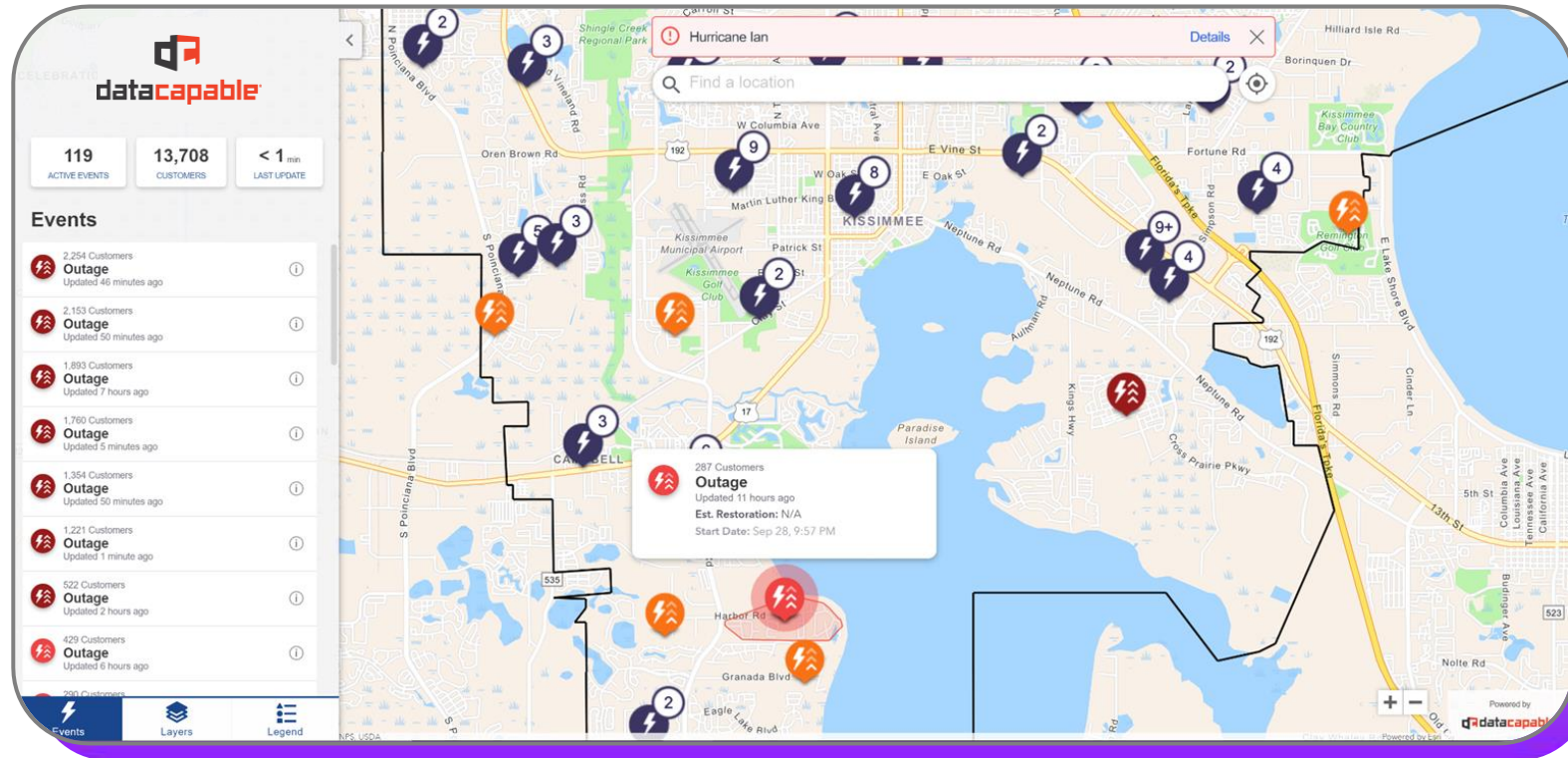


# Hurricane Ian

Sept 28, 2022



# Hurricane Ian



# Efficient Communication

Central Hudson  
MUNI-PORTAL ADMIN - OUTBOUND MESSAGING

- EVENT DASHBOARD
- USER DASHBOARD
- COORDINATOR DASHBOARD
- STORM MODE
- MAINTENANCE MODE
- ADD LAYERS
- OUTBOUND MESSAGING**
- INBOUND COMMS
- MAP VIEW

### COMPOSE MESSAGE

To (Municipalities):  
Ancram x

To (Custom Groups):  
Select...

CREATE NEW GROUP   EDIT EXISTING GROUP   DELETE GROUP(S)

Internal Title \*  
eg: PLANNED OUTAGE #12

Message Body \*  
eg: PLANNED OUTAGE ON XX/XX/XXXX

SEND   RESET

50 ACTIVE EVENTS   29,028 CUSTOMERS   21 hrs LAST UPDATE

Find a location   SEARCH

58 Customers  
**Planned Outage**  
Updated 21 hours ago  
Est. Restoration: Aug 26, 5:32 AM  
Start Date: Aug 18, 10:19 AM

Subscribe to Notifications  
PHONE NUMBER OR EMAIL  
SUBSCRIBE

Map   Events   Layers   Legend

# Damage Assessment

- Traditional
  - 12-24 Hour Lag
  - Dependant on Utility Resources
  - Driver of ETRs
- Expanded
  - New Data Sources
  - Leveraging the Community



REPORT INCIDENT

CALL 911 in the event of fire, sparking, motor vehicle accidents, gas odor, or other emergencies.

< DROP A PIN OR USE MY LOCATION

Or enter an address below:

GO TO LOCATION

Please select the best choice(s) below:

- IS A ROAD OR DRIVEWAY IMPACTED?
- IS A POLE AFFECTED?
- ARE THERE DOWN OR LOW WIRES?
  - BETWEEN TWO POLES?
  - BETWEEN A POLE AND BUILDING?
- IS THERE A TREE CONDITION?
  - LEANING ON WIRES?
  - DOWN WITH WIRES OR POLE?

Additional Notes

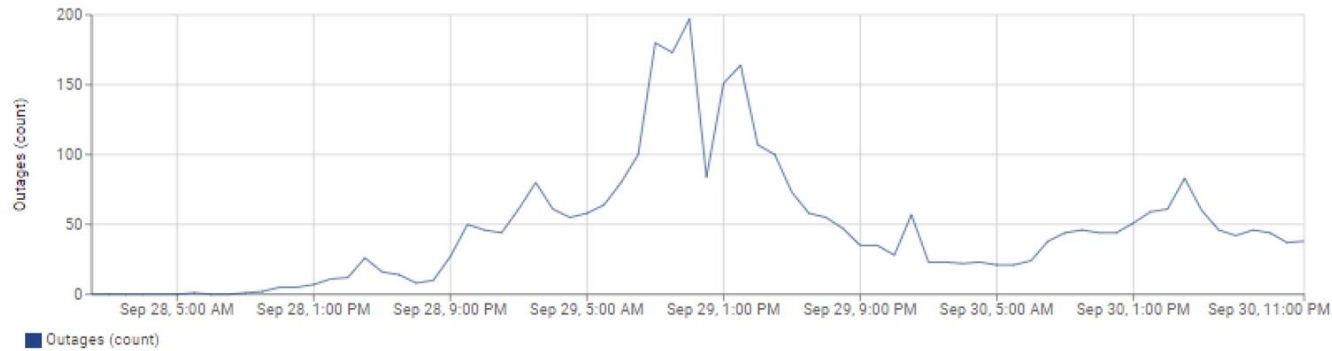
Add photos:

ADD PHOTOS SUBSCRIBE

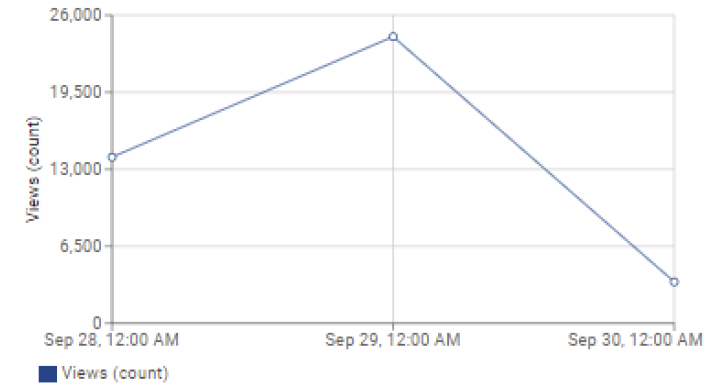
This image shows a screenshot of a mobile application interface for reporting incidents. At the top, it says 'REPORT INCIDENT' with a close button. Below that is a red warning text: 'CALL 911 in the event of fire, sparking, motor vehicle accidents, gas odor, or other emergencies.' There are two buttons: 'DROP A PIN' and 'USE MY LOCATION'. Below these is a text input field for an address, labeled 'Or enter an address below:' and 'GO TO LOCATION'. A section titled 'Please select the best choice(s) below:' contains several checkboxes and radio buttons for different types of incidents: 'IS A ROAD OR DRIVEWAY IMPACTED?', 'IS A POLE AFFECTED?', 'ARE THERE DOWN OR LOW WIRES?' (with sub-options 'BETWEEN TWO POLES?' and 'BETWEEN A POLE AND BUILDING?'), and 'IS THERE A TREE CONDITION?' (with sub-options 'LEANING ON WIRES?' and 'DOWN WITH WIRES OR POLE?'). Below the checkboxes is a text area for 'Additional Notes' and a section for 'Add photos:' with 'ADD PHOTOS' and 'SUBSCRIBE' buttons.

# Monitoring Systems

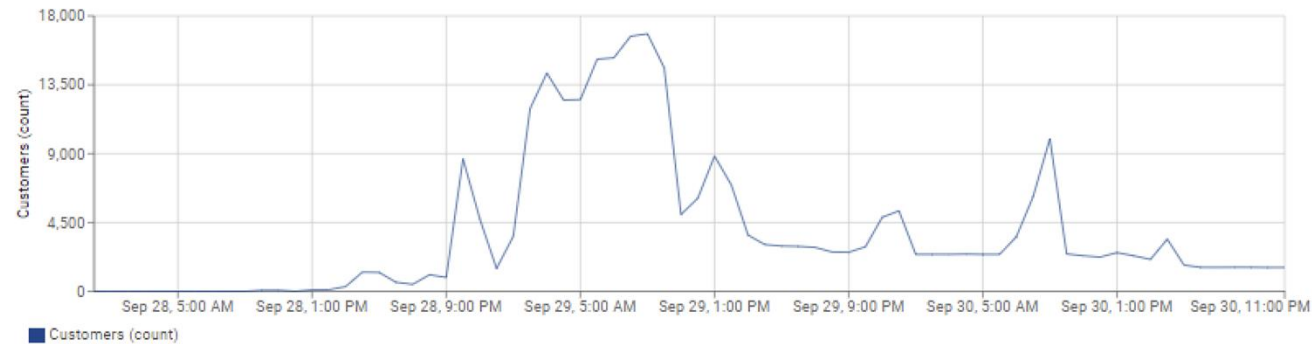
## Outages



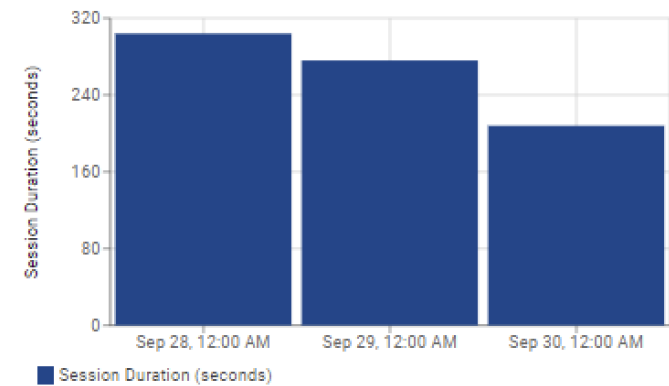
## Map Views



## Customers Out

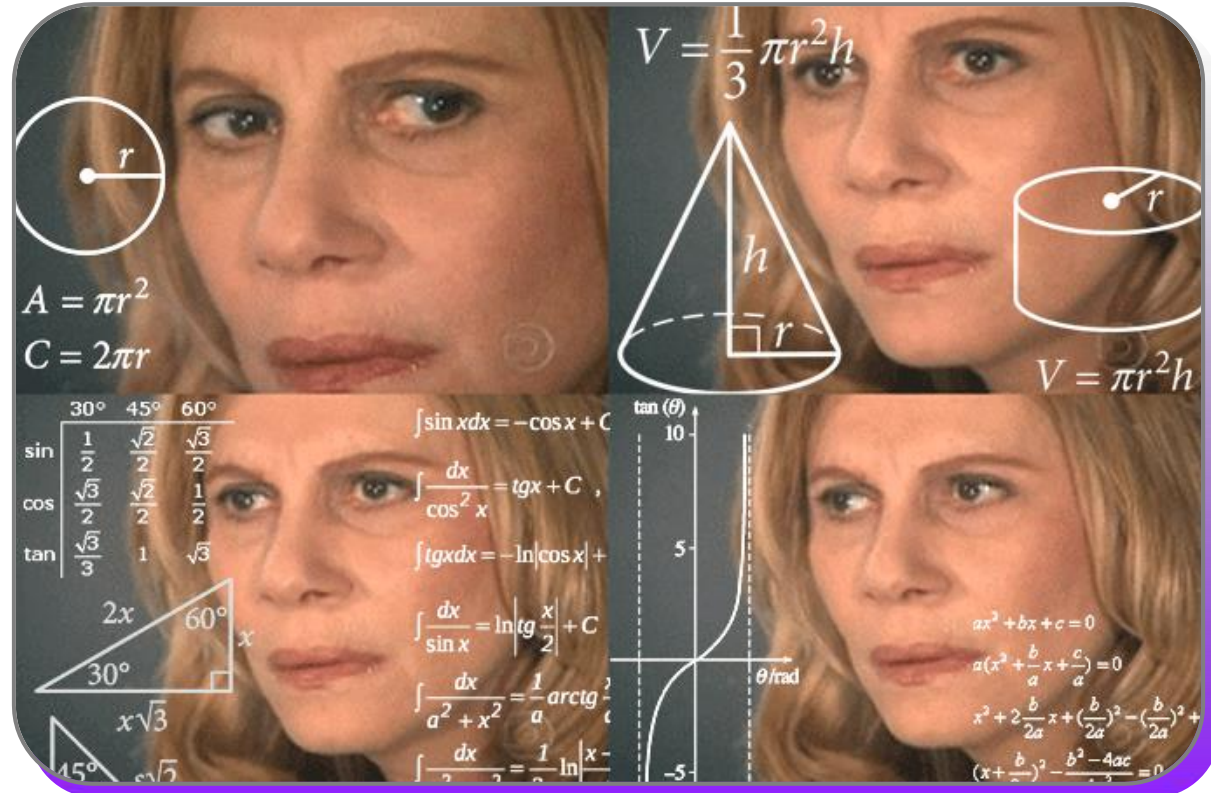


## Average Session Duration



# Key Considerations

- One size doesn't fit all
- Budget
- Team size
- Existing technology
- Data management



# The Future

- Emerging technologies
- Increasing customer expectations
- Impact on outage management



# The Future



The future of situational awareness is a dynamic connection with the customer, powered by investments in outage technologies

~ **Craig Spinale**

GM Belmont Light

**BELMONT LIGHT**

POWERING YOUR COMMUNITY SINCE 1898



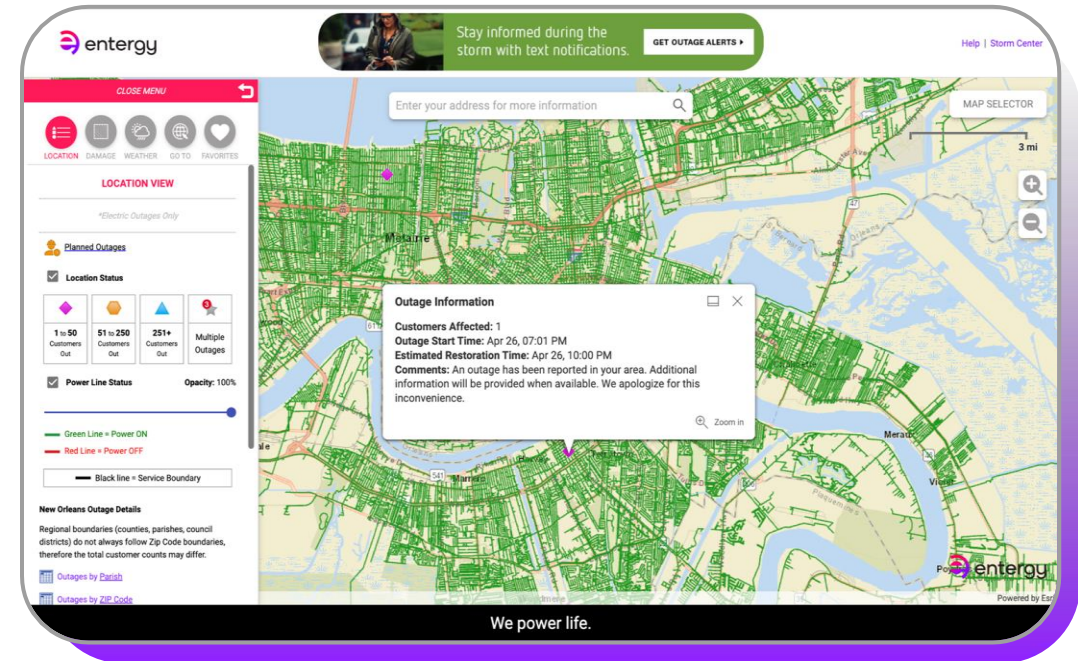
# Artificial Intelligence

- **Outage Prediction:** This includes the ability to leverage the situational awareness software, to track floods, power outages, severe weather, grid damage, etc.
- **ETR Intelligence:** This includes the ability to predict better ETOR's outside of the OMS. This emerging concept will empower utilities to display ETRs better than traditional OMS and ADMS technologies.

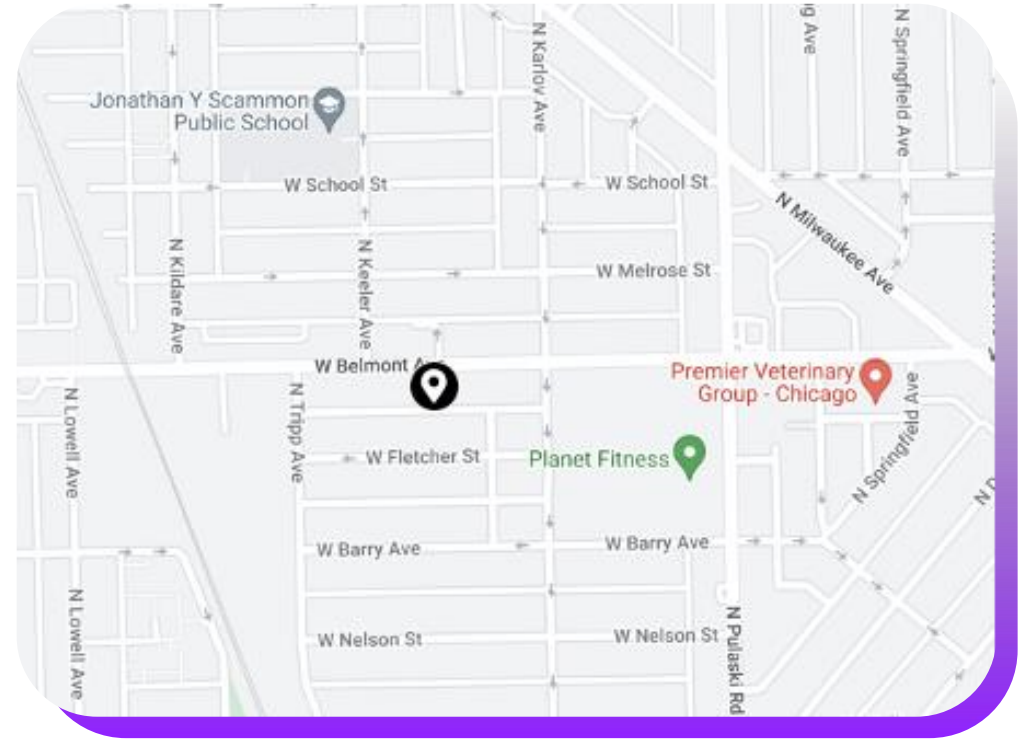
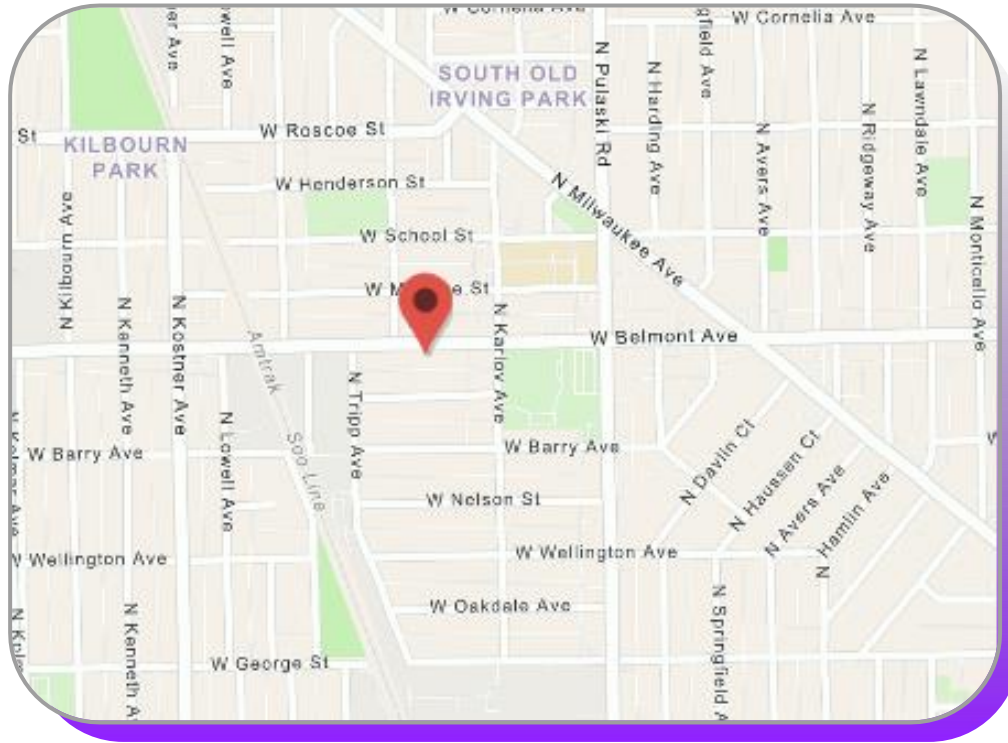


# Emerging Trends

- **Customer Engagement & Messaging:** This includes the use of chatbots for reporting outages via the map, and the ability to embed these tools in the map.
- **Network Model:** This includes the ability to showcase the network model on the Outage Map and/or internal applications.



# GIS Aligned



Comparison of Esri base maps vs. Google Maps. Take note of the additional pins.

# Conclusion

- Respond proactively
- Mitigate impact
- Satisfy customers
- Respond effectively
- Keep customers safe and informed



# The DataCapable Platform

**Our Mission:** Delivering Situational Awareness When It Matters Most



## Threat Detector

Understand impact to your operations and community in real-time



## Outage & Event Map

Real-time visualization and communication of outages and events.



## Community Portal

Keep crews, communities, and stakeholders safe and informed.



# Questions or Comments?

**We'd love your feedback!**