



# UTILITY SOLUTIONS FOR SEVERE STORM AND LIGHTNING

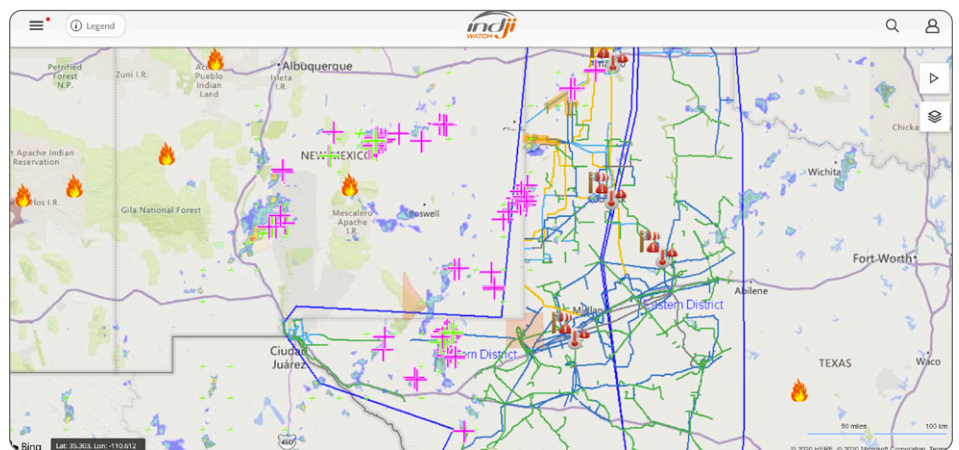
## INDJI WATCH EMPOWERS UTILITY USERS TO:

**PLAN** with the advanced Forecast Radar and Forecast Lightning animation tools for assessing the potential weather approaching the grid, plus Point Forecasts allowing you to select alert thresholds for extreme winds and temperatures for the next 48 hours.

**RESPOND** using the Asset Threat Window which shows a live view of all current threats directly impacting the utility's own transmission lines and other assets.

**INVESTIGATE** with the Lightning Fault Analyst for early lightning fault correlation and outage location response.

Statistics show that global temperatures have been rising over the past 50 years creating increased air and ocean temperatures. Warmer ocean temperatures are creating record storms, with eight of the ten costliest hurricanes happening in the past 15 years<sup>1</sup>. Scientists at NASA have also confirmed that the global air temperature is rising at the rate of 0.15-0.20°C per decade<sup>2</sup>. With warmer air and ocean temperatures producing catastrophic storms and hurricanes as well as increased lightning strikes, the damage to utility assets could be in the millions of dollars. The increase in severe storms also poses significant risk for power outages and field crew injuries, so greater preparation for storms and alerting for threats directly impacting the grid are essential.



Indji Watch real-time view of lightning affecting utility lines

Indji Watch is an innovative cloud-based monitoring tool that will enable users to increase their level of preparedness and react more proactively to all natural hazards that threaten utility operations.

Having accurate forecasting data from a reliable source allows transmission operators the ability to **PLAN** ahead for severe weather threats and their potential impact to the grid. With the Indji Watch advanced forecast radar and forecast

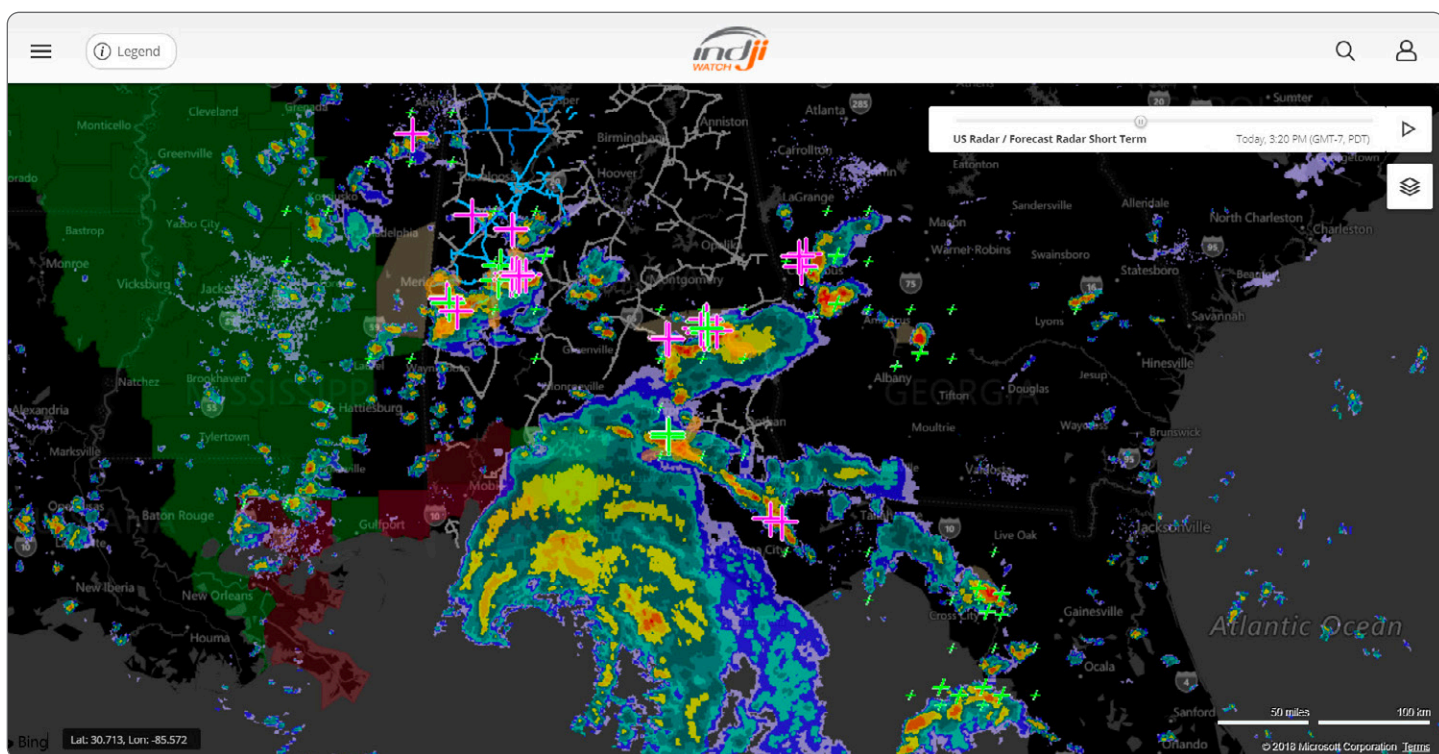


lightning animation tools, you can monitor storms and potential lightning predicted for the upcoming eight hours, in relation to each of your assets. The Forecast Summary, updated hourly, provides daily or hourly forecasts for multiple environmental conditions and powers forecast extreme temperature and high wind alerts for your selected forecast locations.

Indji Watch utilizes patented rules-based algorithms to alert on dynamic hazards directly impacting specific utility assets. This allows you to **RESPOND** to active threats against your assets so decisions can be made to allow lines to be re-energized, adjust loads when necessary and avoid outages. The Asset Threat Window provides a single, live view of each utility asset under threat, the type of threat

and distance to the asset. You can focus on specific assets under threat and choose the hazard warning you would like to see, such as high wind or lightning.

When it's time to **INVESTIGATE**, the Lightning Fault Analyst (LFA) makes it easy to quickly correlate if lightning occurred near a sub-station or line at the time a fault was identified. The LFA can also tell you the distance between where the strike occurred and your asset, so you can save time directing maintenance crews to a specific location, instead of manually searching for the strike location. The Lightning Fault Analyst will also give you the amplitude in kiloamps (kA) of the lightning strike and what time the strike occurred.



Indji Watch severe weather forecast radar

## References

<sup>1</sup><https://weather.com/storms/hurricane/news/2018-01-29-americas-costliest-hurricanes>

<sup>2</sup><https://earthobservatory.nasa.gov/world-of-change/global-temperatures>