Vaisala National Lightning Detection Network (NLDN)
Most accurate and dependable lightning detection across the continental U.S.

A powerful force of nature, lightning can cause serious harm or damage in an instant. Vaisala National Lightning Detection Network (NLDN) prepares organizations before lightning strikes near them by delivering scientifically accurate total lightning data from across the United States in real time. Equipped with best-in-class information about the location, time, and type of lightning, organizations can make better decisions to safeguard personnel, protect assets, deploy resources, and minimize downtime.

Unique in its superior ability to differentiate between cloud-to-ground and in-cloud events, Vaisala NLDN thunderstorm detection efficiency rate is near 100%, with an event location accuracy better than 150m and timing down to the microsecond. This high level of precision and accuracy gives organizations the information they need to quickly assess risk, issue hazardous weather warnings, prepare for potential power outages, or investigate the cause of fire damage — all without maintaining a detection system or hardware of their own.

Key benefits

Available today at no capital costs
Providing real-time data for you, without the need to purchase, install, or maintain any sensor equipment or processing systems, and available to you almost immediately.
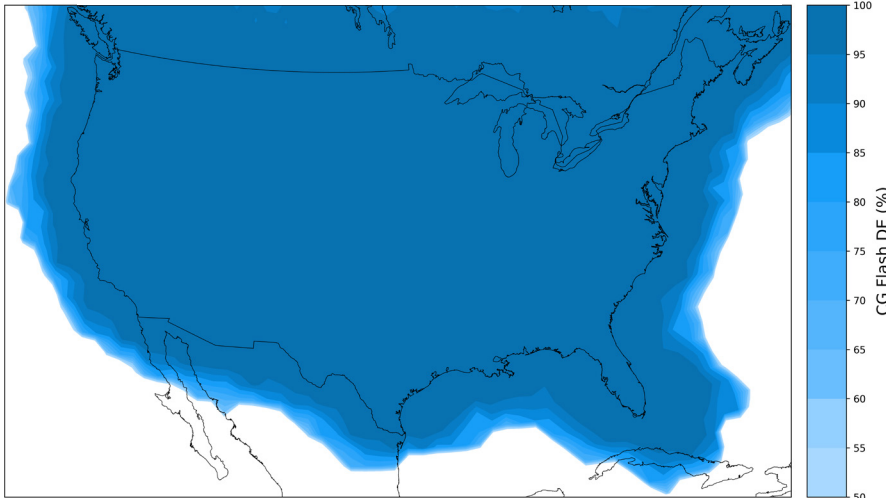
Data you can count on
Delivers the precision necessary for the most efficient safety operations, premier meteorological applications, and transmission line reliability, trusted by federal agencies, the biggest power utilities, and the world's largest airlines.

Quick, easy access
With better than 99.99% uptime, Vaisala NLDN data has about 12-second latency and is delivered over a variety of real-time feed methods, file types, and APIs. Historical data can also be easily accessed and analyzed.

Robust and comprehensive
Unlike other available solutions, NLDN offers uniform detection and accuracy across the entire continental U.S. thanks to superior technology and network design. The NLDN detects more lightning events over the continental U.S. than any other network.

NLDN at a glance

Applications

- Earlier and more accurate detection of hazardous weather conditions to inform decisions regarding airport and other outside personnel to maximize safety while minimizing costly downtime.

- Support meteorological agencies and organizations by providing critical input data for models and severe weather forecasting.

- Better prepare for storm-related power outages by rerouting power transmission earlier or preemptively deploy personnel to strategic locations.

- Aid reliability of the power grid by providing utilities with precision lightning information to ensure networks are sufficiently robust and comply with regulatory standards.

- Create lightning alerts to inform people about severe weather and lightning risks.

- Enable investigation of lightning as the cause of property damage or fire.

Key features

Around the clock detection with superior accuracy, NLDN detection efficiency for cloud-to-ground flashes is greater than 95%, with overall classification accuracy of 95% and median location accuracy of better than 100m.

Comprehensive data without installing or maintaining a single sensor, decreasing real estate and operational costs.

A 30-year history of the highest quality lighting detection, creating a historical record or lightning data for meteorological or operational purposes.
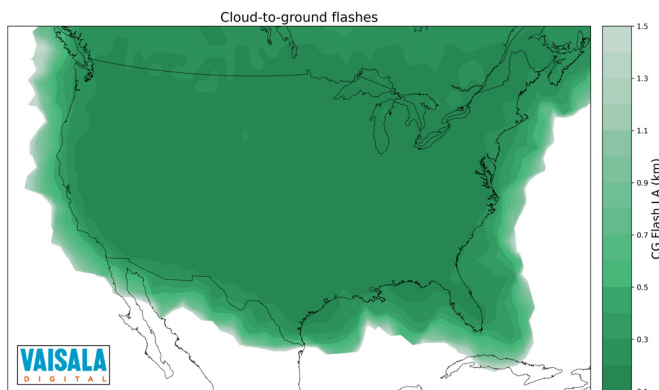
Why Vaisala?

The industry's leading lightning detection network

For the past 30 years, Vaisala has been trusted by government agencies and private business to provide the highest-quality lightning detection information. By eliminating inconsistencies in detection and analysis, Vaisala NLDN gives organizations the best information available to drive critical decisions about safety, compliance, and other operational concerns.

Support and services you can count on

Look to Vaisala for dependable support, project capabilities, and training so you can get the most from your system. With decades of experience providing the best technologies and the finest support, Vaisala's philosophy of partnership is unmatched in the industry.

NLDN Location Accuracy over CONUS

Cloud-to-ground flashes

CG Flash LA (km)

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D I G I T A L

www.vaisala.com/lightning