

Strike Damage Potential for Wind Energy

Protect key energy assets by identifying and addressing dangerous strikes



Key benefits

Fast, confident decision-making

Strike Damage Potential simplifies lightning data into strike points and shows the precise location of the strikes — both near-real-time and historical — most likely to have started a fire or caused damage to a wind farm.

Improved cost efficiency

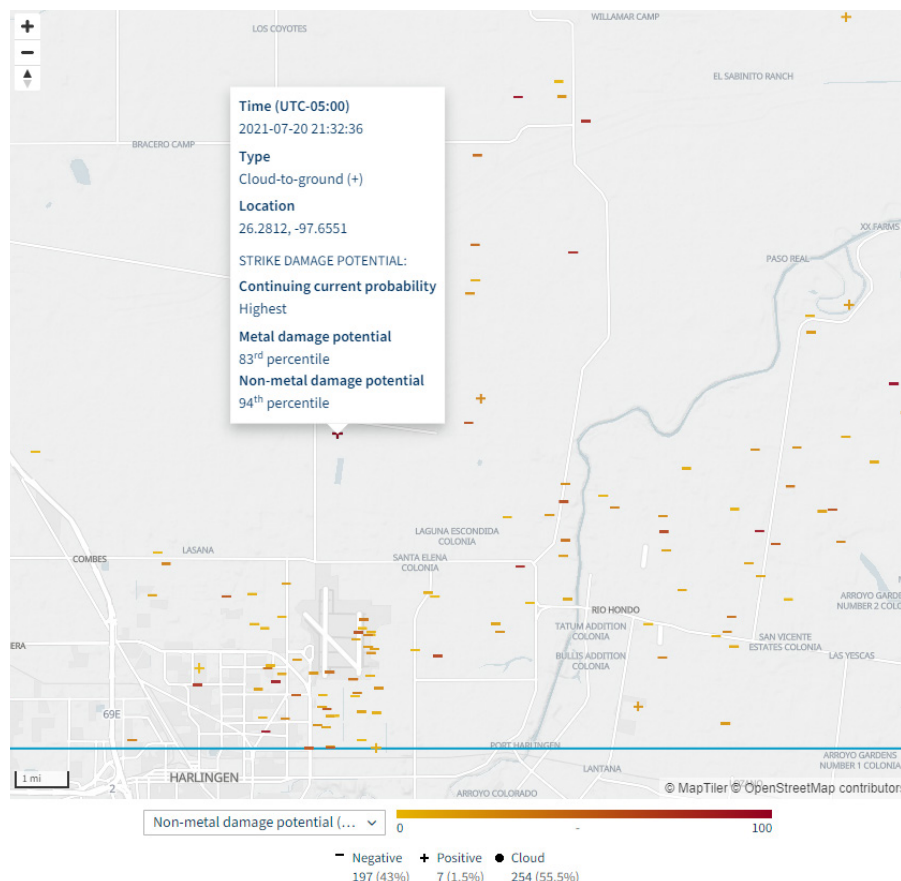
The system enables early, correct interventions so you spend less time and money on repairs, and can focus on the areas that really need attention.

Easy to use and integrate

The data subscription model provides quick insights through an easy-to-use interface or an API integrated with your own application.

The world's best lightning data

Built on GLD360 and NLDN — two of the world's most accurate and dependable lightning detection networks — Strike Damage Potential provides reliable insights anywhere in the world, onshore and offshore.



Not all cloud-to-ground lightning strikes are the same. Most have little impact, while others can cause extreme heating damage or set fires to key energy assets and local environments. Vaisala Strike Damage Potential's precise storm analyses enable users to identify which strikes were most likely to cause damage and take informed, decisive action when it matters most.

Strike Damage Potential, part of our Xweather family of subscription based products, is the world's first solution to group

lightning strikes into lightning strike points, and the first to provide accurate data on the potential for damage from each lightning strike. This includes compound lightning strikes that follow the same channel and strike the same point more than once. It also identifies the damaging strikes with higher probability of continuing current and lasting longer than 40 milliseconds, which can cause extreme heating.

Strike Damage Potential also delivers near-real-time notification and prioritization, which decision

makers can use to intervene before a problem escalates to the point of endangering property, or threatening power generation and delivery.

Part of the Vaisala Lightning Damage Insights suite of solutions, Strike Damage Potential builds on data from the Vaisala Global Lightning Dataset (GLD360) and National Lightning Detection Network (NLDN). The data is available with a subscription from either network, accessible through an easy-to-use interface or API.

Applications

Supports notification and analysis of:

- Wind turbine damage
- Property insurance claim validation
- Overhead power line damage
- Wildfire starts

Application	Primary field to monitor	Secondary field to monitor
Wind turbine damage investigation	Non-metal damage potential	Continuing current probability

Strike damage potential output data fields

Metal damage potential	0 to 100th, percentile
Non-metal damage potential	0 to 100th, percentile
Continuing current probability	Highest, Higher, Medium, Lower, Lowest
Strokes in strike (number)	1 to 20, integer
Impulse charge (metals)	0 to 75 Coulombs
Impulse specific energy (non-metals)	0 to 2000000 J/Ohm
Ground strike point id	0 to 99999999999
Strike point start	True or false
Strike point location	Lat, Lon

Other relevant fields from stroke data

Peak current (stroke)	-9999 to 9999 kA
Maximum rate of rise (stroke)	0 to 999.9 kA/μs

Why Vaisala for renewable energy?

We are innovators, scientists, and discoverers who are helping fundamentally change how the world is powered. Vaisala elevates wind and solar customers around the globe so they can meet the greatest energy challenges of our time.

Our weather and environmental monitoring solutions for renewable energy are guided by several key priorities:

- Thoughtful evolution in a time of change
- Making renewable energy smarter at every stage
- Extending our legacy of leadership

Vaisala is the only company to offer 360-degree renewable energy solutions — from sensors and systems to digital services and actionable intelligence — nearly anywhere on the planet (and even on Mars). Every Vaisala solution benefits from our 85+ years of experience, pioneering deployments in 170+ countries, and unrivaled thought leadership.

Our innovation story, like the renewable energy story, continues.

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