

PROTECT SOLAR ASSETS WITH INCIDENT RESPONSE

Minimize the impact of hail, hurricanes, tornadoes, fires and other force majeure events on solar power plants with Incident Response, a new service from PV Evolution Labs (PVEL) and Heliolytics.

Managing Extreme Weather

Extreme weather events can damage a solar power plant and its various components in serious ways. **PV asset owners and operators must be able to quantify the full extent of damage** to a project in order to:

- 1 Efficiently return sites to operation
- 2 Receive insurance compensation

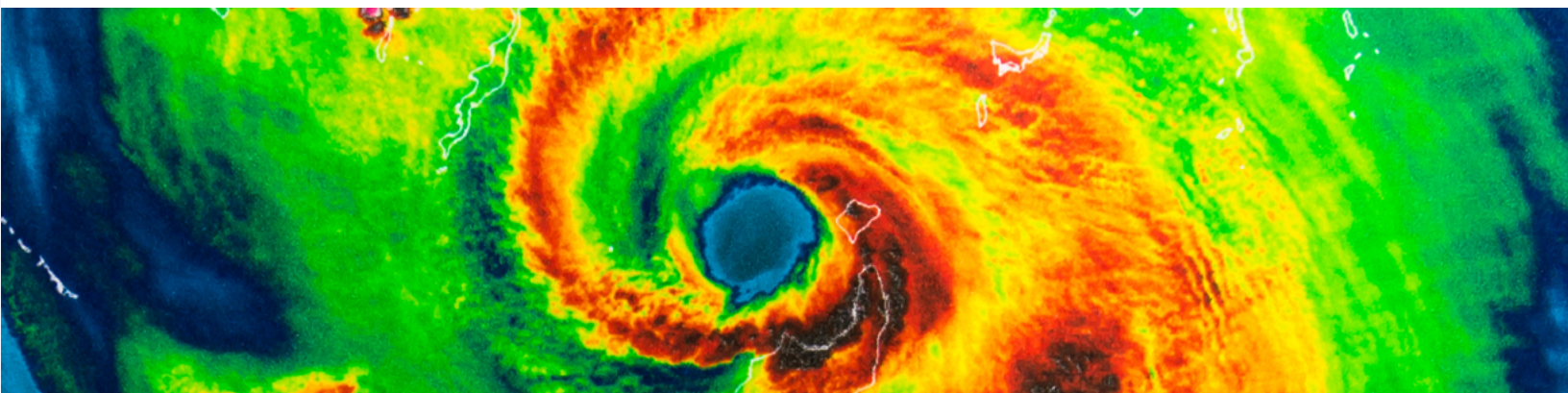
All types of natural disasters can be problematic for solar power plants, and they occur all over the U.S.

With Incident Response, you can leverage aerial imaging and field testing for data-driven preparation before events and rapid repairs afterwards to protect your bottom line when damage occurs.

“ Natural disasters are on the rise as our climate changes – and so are claims for adversely affected solar projects. To empirically assess the real impact of storms on operating assets and process claims, insurance providers need new tools like **Incident Response**.

George Schulz

Vice President, Clean Energy for Argo Group US, a major insurance provider



“ Physical damage that’s quick to fix is also the easiest to imagine—a handful of damaged modules or a power line that is down. But when modules are exposed to extreme conditions, the scale of **repairs can skyrocket.**

Mike Loeser

Senior Director, Operations & Maintenance, Strata Solar

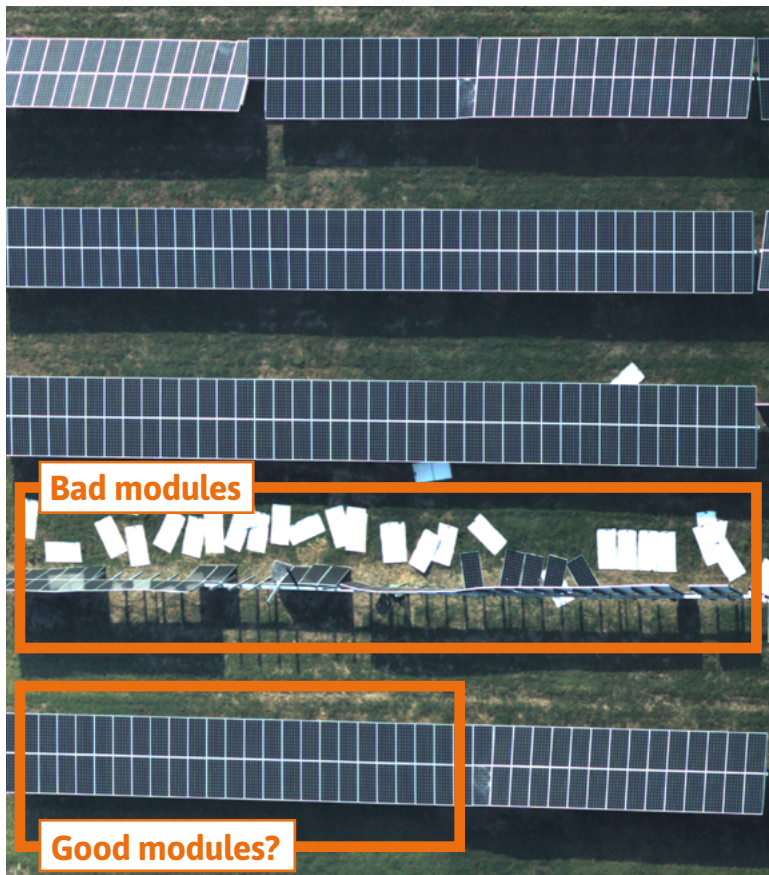
In 2018 Strata Solar had 81 plants taken offline by hurricane Florence, ultimately counting >\$1MM in damage from winds and floods across 23 plants.

(Source: “Solar Risk Assessment 2019: Quantitative Insights from Industry Experts”)

Hail, Wind and Invisible Damage

The amount of damage caused by a storm can vary greatly – and it is typically far beyond what is observable by eye.

For example, when less than 5% of modules in an array impacted by hail or strong winds have visibly broken glass, we’ve observed that up to 100% of modules present with micro-cracking from mechanical damage as seen through EL imaging.



The image above shows a PV array that was damaged by high winds. While some modules appear normal to the eye, high winds can cause invisible damage. (Source: Heliolytics)



Field EL shows serious damage from high winds in a module that appears normal to the eye. (Source: PVEL LLC)

INCIDENT RESPONSE: HOW IT WORKS



Pre-event baseline

Using a combination of aerial and in-field analysis, we provide a baseline snapshot of DC site health to facilitate incident preparation. The snapshot expedites post-event claims by confirming damage does not pre-date the weather event.



Immediate response status check

When events occur, site status checks are conducted by piloted aircraft that can efficiently access large geographic regions before roads are re-opened. Working in tandem with O&M providers and other on-the-ground partners to enable prioritization of rapid response efforts.



Post-event targeted analysis

When site access becomes available, in-field rapid response testing is conducted to quantify immediate impacts and long-term latent damage. Targeted measurements include EL, electrical evaluations, and visual assessment. Once the site is online, aerial thermography with 100% coverage quantifies all issues affecting module performance.



Consulting services for related claims

If your site suffers insured losses we support the subsequent claims process as needed, from data analysis and consulting advice through to full coordination of the claim and remediation process.

Key Benefits for Project Stakeholders

1 Prioritize Resources Efficiently

Evaluate the extent of damage across your fleet and to individual sites to plan repairs

2 Return to Operation Faster

Identify the areas of sites that can be reenergized rapidly and prioritize their repair

3 Reduce Revenue Risk

Quickly and accurately quantify visible and underlying damage for insurance claims



CONTACT US TO LEARN MORE



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About PVEL

PV Evolution Labs (PVEL) is the leading performance and reliability testing lab for downstream solar project developers, financiers, and asset owners and operators around the world. We provide in-depth field testing services to diagnose a broad range of system performance issues. In the lab, PVEL conducts performance and reliability testing that demonstrates solar technology bankability. The PVEL network connects all major PV and storage manufacturers with 300+ global downstream partners representing 30+ gigawatts of annual buying power.



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About Heliolytics

Heliolytics is the largest global provider of aerial thermal imaging and analysis for solar photovoltaic (PV) systems, with 25+ GW serviced across over 2,700 projects globally. Heliolytics leverages innovative imaging, analysis, and reporting services combined with deep sector experience to ensure maximum solar asset performance. As a trusted DC health partner, Heliolytics enables the industry to maximize solar energy production and profitability.