ATI DISASTER RECOVERY SERVICES

Leveraging Technology for Disaster Recovery

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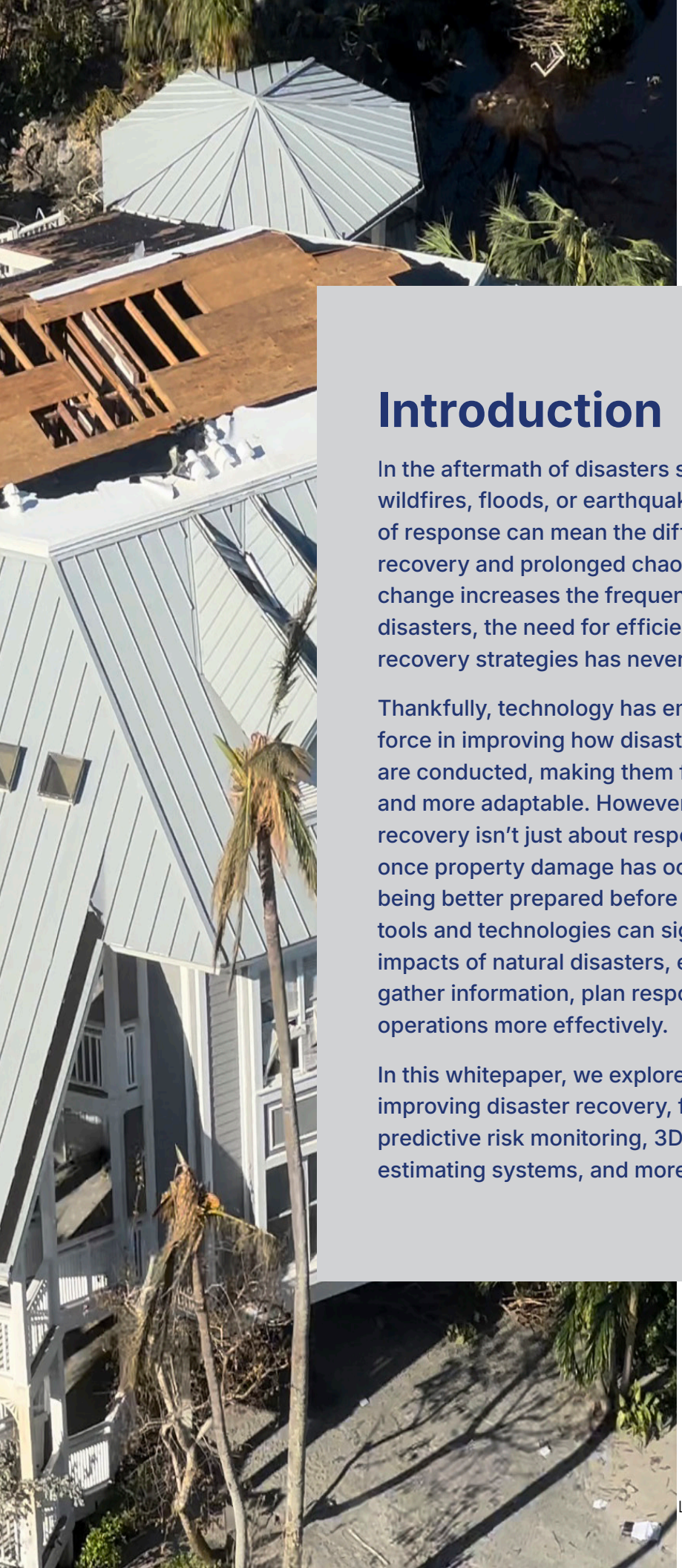
Table of Contents



Introduction

In the aftermath of disasters such as hurricanes, wildfires, floods, or earthquakes, the speed and accuracy of response can mean the difference between timely recovery and prolonged chaos (and costs). As climate change increases the frequency and intensity of natural disasters, the need for efficient, proactive disaster recovery strategies has never been more critical.

Thankfully, technology has emerged as a transformative force in improving how disaster recovery operations are conducted, making them faster, more accurate, and more adaptable. However, technology in disaster recovery isn't just about responding more efficiently once property damage has occurred—it's also about being better prepared before disaster strikes. Advanced tools and technologies can significantly mitigate the impacts of natural disasters, enabling recovery teams to gather information, plan response strategies, and execute operations more effectively.

In this whitepaper, we explore how technology is improving disaster recovery, focusing on tools such as predictive risk monitoring, 3D site mapping, centralized estimating systems, and more.

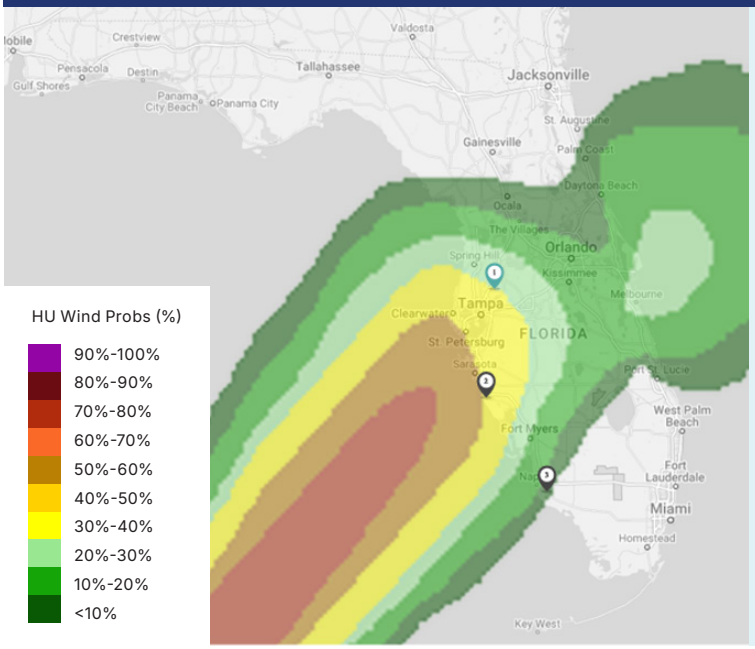
Predictive Risk Monitoring

Predictive risk assessment technology monitors weather patterns, geographical vulnerabilities, and structural risks, enabling businesses to identify potential hazards before they evolve into full-blown crises. Platforms such as ATI's RealRisk Monitor™ provide detailed, real-time insights into emerging risks, allowing organizations to proactively prepare for disasters.

With RealRisk Monitor, organizations can track the likelihood of various natural disasters, from wildfires to hurricanes, in real-time. Early alerts allow teams to pre-position assets and resources, ensuring that they are ready to respond the moment a disaster strikes. They also enable data-driven decisions about the safest locations for personnel and equipment, further mitigating risk.

Below are some examples of information and reports a RealRisk Monitor can provide:

Impacted Assets Based on 5-day Hurricane Force Wind Probabilities by Wind Hurricane Mapping

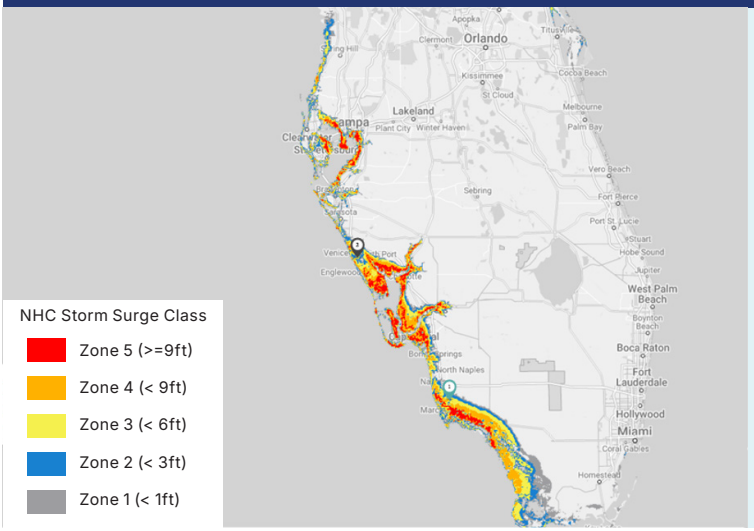


Hurricane-Force Wind Probabilities

Tracked for 120 Hours From October 8th- 10th 2024

Shows the probability that winds will exceed hurricane strength (>64 knots) at any location over the next 120-hr period, incorporating the uncertainty in the storm track and strength. The probability bands are "tightest" close to the current location of the storm, and "fan out" further forward as the uncertainty increases over the 5-day time horizon. These probabilities are useful when assessing the relative risk of tropical storm force winds between locations.

Impacted Assets Based on Hurricane Milton Storm Surge Potential by NOAA



Hurricane Milton Storm Surge Potential

NHC Potential Storm Surge Flooding Map shows the surge height classification chance of being exceeded.

Peril: Windstorm

Sub-Peril: Storm Surge

Source: NOAA

Event Type: Real Time

Event: Tropical Cyclone Forecast: Storm Surge Flooding Potential

Damage Assessment: 3D Scanning

The days of manual damage assessment are fading as 3D scanning technologies revolutionize how recovery teams evaluate affected areas. Two key tools in this area are Docusketch and Matterport, which use advanced scanning technology to create detailed, 360-degree renderings of disaster-stricken areas.

Docusketch

Docusketch enables recovery teams to capture panoramic, 3D images of disaster sites quickly and accurately. Its ability to document damage in real-time with high-definition visuals makes it a powerful tool for insurance assessments and claims processing. This technology speeds up the damage assessment process and improves the accuracy of documentation, reducing the likelihood of disputes or delays in recovery efforts.

With Docusketch, recovery teams can produce detailed floor plans, scope notes, and photo documentation that can be seamlessly integrated into centralized estimating systems. This data can be used to create precise repair and restoration plans, allowing recovery teams to focus on execution rather than getting bogged down in the initial assessment phase.

Docusketch 3D Digital Floor Plan

Matterport

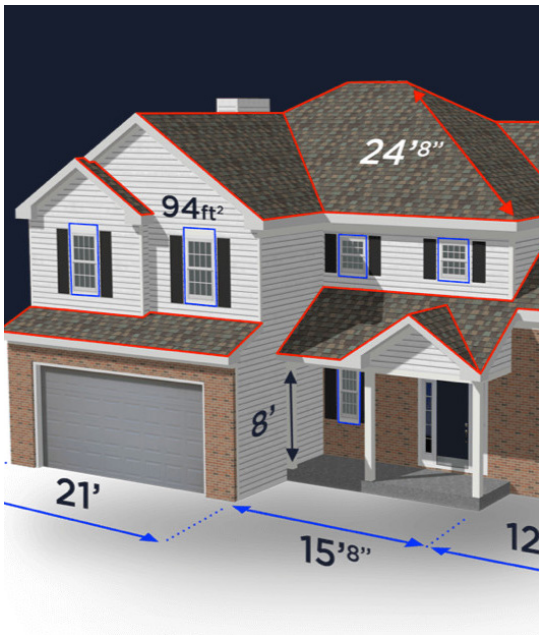
Matterport is widely used to create immersive 3D models of damaged properties for disaster recovery. Matterport's interactive models provide an accurate and measurable digital representation of a disaster site, allowing project managers, insurers, and clients to virtually "walk through" the affected areas from anywhere in the world.

This virtual accessibility speeds up the approval process for restoration projects and reduces the need for multiple on-site visits, which can be costly and time-consuming. Matterport's ability to overlay measurement data and export detailed 3D models enables more precise estimates and planning, further streamlining the disaster recovery process.

The EDGE

The EDGE is a powerful, all-in-one estimation solution designed for construction and restoration professionals. It allows users to perform takeoffs directly from digital blueprints with precise measurements. The software also integrates material and labor costs, which are updated in real-time through in-depth manufacturer databases, ensuring accurate estimates.

The EDGE's Smart Labor technology adapts to changing conditions during a project. For example, it automatically adjusts labor estimates when circumstances, such as the height of walls, vary from the initial plan. This level of detail ensures that bids remain accurate and avoids costly errors.



Hover

Hover is a powerful 3D scanning and estimating tool. With just a few photos taken from a mobile device, Hover generates accurate 3D models of a property's exterior, including detailed measurements of walls, windows, doors, and rooflines. Contractors can use these models to quickly develop precise estimates without manual measurements or on-site visits.

Hover can convert 3D models into useful data for applications such as creating floor plans, generating material lists, and developing insurance claims. It's especially useful in roofing projects, where users can obtain precise measurements for complex angles and structures, reducing human error and speeding up project timelines. Hover integrates with other estimating tools so users can easily import data into their workflow, making it a versatile solution for project planning and execution.

3D Scanning Case Study

We conducted a study to prove the efficiency of 3D scanning. Our team used a 373.95 SF model with three rooms: the average SF for water loss from a plumbing leak in the United States.

There are two estimates on average for any disaster: one focused on loss and mitigation, and the other focused on rebuilding costs. This process could lead to multiple trips by different individuals.

As part of the study, we evaluated the impact of hard and soft costs. We sketched and scoped a room and captured all estimating activities to replicate the above loss.

Here are the time savings generated by using 3D scanning:

Method of Measure	Time to Obtain Measurements	Time to Transfer Measurements to Sketch	Overall Time
Tape Measure	14 min, 1 sec	10 min, 43 sec	24 min, 44 sec
Laser Measure	10 min, 32 sec	10 min, 43 sec	21 min, 35 sec
3D Scan	5 min, 7 sec	N/A (TruePlan)	5 min, 7 sec

Centralized Estimating Systems and Tools

Centralized estimating systems have transformed the way recovery teams manage project scopes and costs. These systems allow teams to aggregate data from multiple sources—such as photos, floor plans, and 3D models—to create accurate, detailed project estimates.

A centralized estimating team can take information captured by tools such as Docusketch and Matterport, along with scope notes from field teams, and produce comprehensive scopes that project directors can use to execute restoration projects. By centralizing this process, recovery teams can free up valuable resources and ensure greater accuracy in their cost assessments.

Key Benefits

Strengthens Client Relationships
Centralized estimating technology improves service and communication, allowing project directors to focus on customer interactions and supporting their unique needs.

Streamlined Data Processing
Helps ensure that all data from tools like Docusketch and Matterport is processed accurately and efficiently, resulting in precise estimates.

Improved Project Monitoring
Centralized tools provide real-time, detailed tracking of job progress, allowing teams to stay organized and informed.

Budget and Timeline Control
These systems help ensure that projects are consistently on budget and meet deadlines, which delivers reliable results for clients.

Xactimate

Xactimate is the industry gold standard for disaster recovery estimation. This powerful cloud-based platform allows restoration teams to create precise, standardized estimates for residential and commercial structures. One of Xactimate's advantages is its ability to integrate real-time updates, ensuring that cost estimates for materials and labor reflect the current market.

Xactimate also helps ensure consistency across multiple locations and estimators. For example, ATI has over 70 locations and hundreds of estimators. Xactimate helps us maintain accuracy by generating standardized rules and codes, which eliminate duplications and ensure that the right line items are charged. This consistency across jobs and locations improves estimate quality and reliability.

T&M Pro

T&M Pro is a comprehensive billing and data management system designed specifically for the property loss and construction industries. It allows companies to handle time and material, rate and material, and cost plus billing methods. The software is widely used for managing complex projects and ensuring bills are accurate, consistent, and transparent.

T&M Pro enables users to capture detailed field data through tools like T&M Go, a field application that allows billable data to be uploaded directly into the main system, eliminating manual input and ensuring alignment between field reports and billing. This tool simplifies project billing, making it easier to handle large-scale projects by integrating all necessary billing elements into one platform.

Fleet and Resource Management: Geotracking

Efficient fleet and resource management is essential in disaster recovery. Geotracking technology has emerged as a key tool in optimizing these efforts. Advanced geotracking tools provide real-time data on vehicle usage, driver behavior, and safety metrics, allowing recovery teams to manage their fleets more effectively.

For example, ATI uses geotracking to monitor the location of our vehicles and assess how they are being driven. Data on speed, acceleration, and driving habits identifies potential safety risks before they result in accidents. This technology allows for more proactive management of fleet safety, helping reduce the risk of costly delays caused by vehicle breakdowns or accidents.

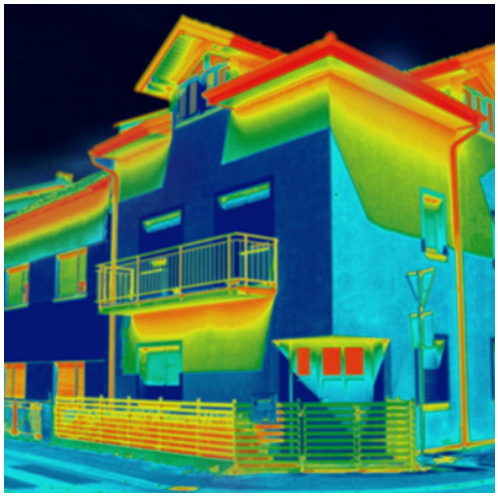
Aerial Imaging and Inspections: Drones

Drones are another technological tool that has greatly improved disaster recovery efforts, particularly in areas that are difficult or dangerous to access. Drones equipped with high-definition cameras and sensors can capture aerial images of impacted disaster zones as a result of wildfires, floods, and hurricanes.

Aerial imagery provides recovery teams with an overview of the extent of the damage, helping them prioritize their response efforts. Drones are also valuable for conducting structural inspections in the aftermath of a disaster, particularly when buildings may be too unstable to enter. This technology allows teams to assess damage from a safe distance, reducing the risk of injury to personnel.

Moisture Mapping and Energy Loss: Thermal Imaging

Thermal imaging allows teams to detect issues invisible to the naked eye. This non-invasive technology offers a fast, precise way to evaluate a property's condition, providing early detection and allowing for prompt repairs while minimizing disruption to ongoing operations.



Using drones externally or handheld devices internally, cameras detect infrared radiation and produce thermograms, allowing teams to visualize temperature differences across the building. Thermal imaging reads the total radiated thermal energy from a surface and calculates the exact temperatures using sophisticated algorithms. This process enables recovery teams to spot even the slightest temperature changes that could signal:

- Water damage
- Structural inefficiencies
- Hidden leaks behind walls, ceilings, or roofing

Thermal imaging technology can also identify energy inefficiencies. It detects issues such as insufficient insulation, airflow around doors and windows, and plumbing leaks. Pinpointing these problems early on reduces energy waste, leading to lower utility bills and a more energy-efficient building.

Disinfection: Electrostatic Spraying

Electrostatic spraying is an effective method for combating infectious diseases in indoor environments. This state-of-the-art technology delivers rapid, thorough disinfection, targeting pathogenic microorganisms such as bacteria, viruses, and fungi.

The unique mechanism of electrostatic sprayers charges cleaning solutions with a positive electrical charge, allowing them to adhere evenly to surfaces—even in areas that traditional cleaning methods might miss. This 360-degree coverage ensures comprehensive decontamination of every surface, making it an ideal solution for environments where hygiene is critical.

Key Benefits to Electrostatic Spraying

This method is highly efficient and allows for rapid disinfection of large spaces.

It covers up to

54,000

square feet per hour

AND USES

approximately

50% less

cleaning solution than conventional methods

Electrostatic spraying saves time and labor costs, and is a precise and economical choice for infection control in high-traffic or essential service environments.

Non-thermal fogging, a powerful application proven to combat infectious diseases like influenza, Sars-CoV, H1N1, Ebola, and COVID-19, is especially effective in environments that require fast turnaround times, such as schools, healthcare facilities, and other essential services. By eliminating pathogens quickly and efficiently, non-thermal fogging provides an added layer of protection in settings where infection control is critical.

Sanitizing: Ultraviolet Germicidal Irradiation (UVGI)

UVGI is a state-of-the-art, environmentally friendly disinfection technology for sanitizing large industrial and commercial areas. As a green technology, UVGI minimizes waste, reduces carbon footprints, and offers an efficient, chemical-free method to ensure cleanliness, safeguarding occupant health while providing comprehensive sanitation. It is perfect for crowded or high-risk areas where the chance of infection is elevated or where air quality is compromised. Its effectiveness in isolating diseases and protecting vulnerable populations makes it ideal for biodefense in buildings and facilities.

Process of UVGI Technology

1. **UV-C Light Emission**
   UVGI technology emits short-wavelength ultraviolet light (UV-C) specifically designed to target harmful microorganisms.
2. **Microorganism Exposure**
   Microorganisms such as spores, viruses, bacteria, and fungi are exposed to UV-C light.
3. **DNA/RNA Damage**
   The UV-C light penetrates the cells of the microorganisms, damaging their DNA or RNA.
4. **Replication Inhibition**
   This damage prevents the microorganisms from replicating and functioning normally.
5. **Pathogen Neutralization**
   As a result, the exposed microorganisms are rendered harmless, effectively neutralizing potential threats.

UVGI Safety: UV-C light poses less of a threat to human health compared to harmful UV-A and UV-B rays from natural sunlight, making it a safe option for disinfection.

Compact, mobile, and easy to deploy, UVGI units are designed to decontaminate surfaces, air, and water with maximum efficiency. UVGI achieves a 3-log kill rate for viruses, bacteria, mold, and spores, depending on exposure time and UV radiation intensity. Repeated cycles through the air or water ensure thorough disinfection, making UVGI a highly effective pathogen control tool.

Conclusion

Technology has become an indispensable tool in disaster mitigation and recovery, helping teams respond to natural disasters more quickly, accurately, and safely. As the frequency and intensity of natural disasters continue to increase, the importance of adopting these technologies will only grow.

Companies that embrace technological innovation will be better prepared to respond to disasters and be able to improve the quality of their recovery efforts, helping communities rebuild faster and more efficiently.

Contact us to learn how ATI's technologies and tools can accelerate your next restoration project.

Contact Us

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With 70+ Locations Nationwide

ATI responds to major events and day-to-day emergencies across the U.S.

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