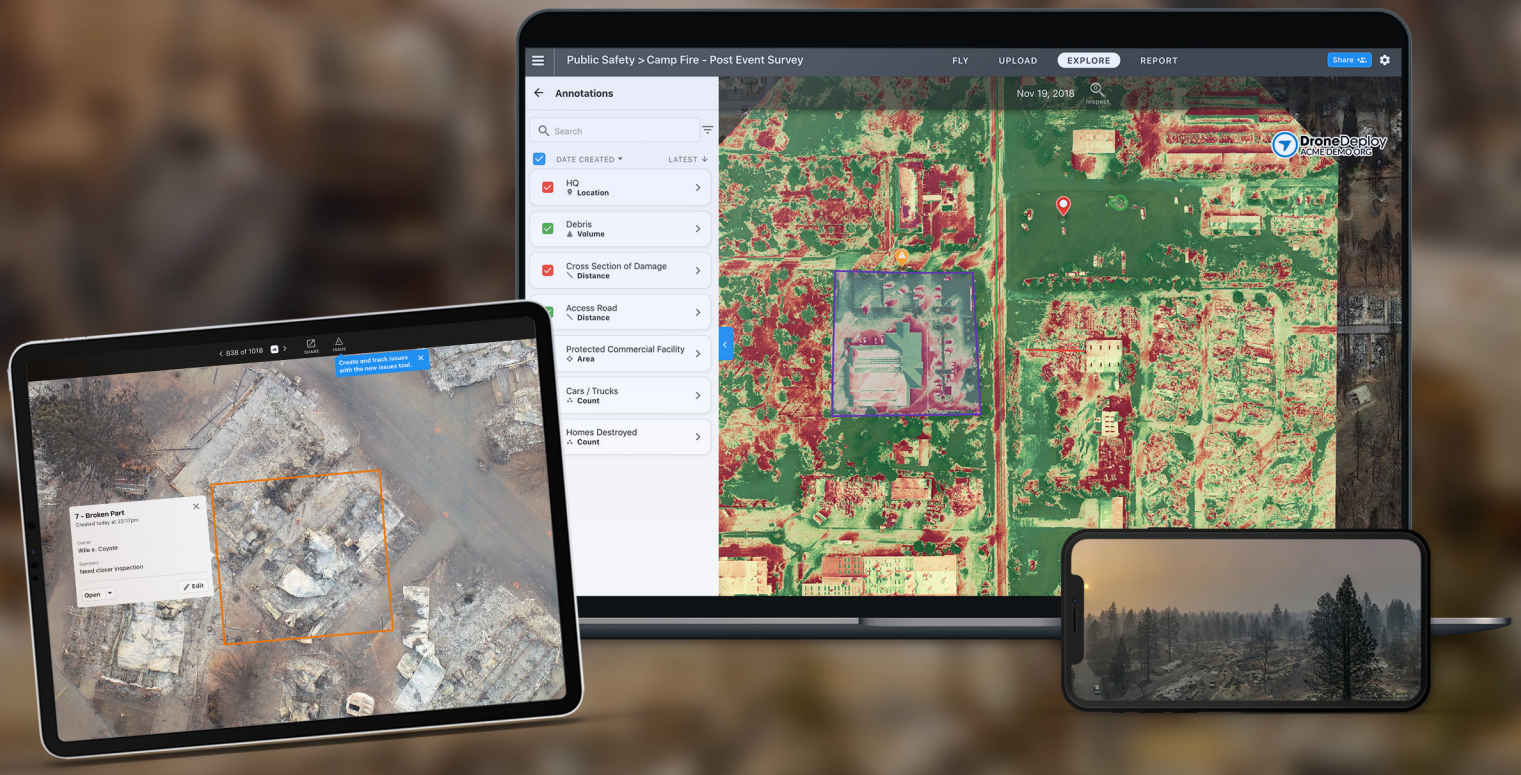
DroneDeploy

Optimizing Emergency Preparedness in Utilities

Quickly and Efficiently Plan Recovery with Drone Insights



As we embark on a new decade, those in the utility industry will stare down their greatest challenge yet. While the workforce is aging and critical infrastructure remains in disarray, the largest and most genuine threat pertains to the effects of climate change. Between 1995 and 2015, the United States, India, and China suffered the highest number of global natural disasters, per the **United Nations' monitoring system**. Unfortunately, these trends show no sign of slowing down – in fact, since 1970, the number of weather-related disasters has quadrupled. And with these comes the increased amount of dollars spent (think: **billions**) combating and treating these issues.

Luckily, the utility industry is uniquely positioned to remain ahead of these phenomena. Widespread enthusiasm surrounding the increased adoption of technology, such as the utilization of remote sensors and drone imagery, keeps teams ahead of natural disasters and empowers them to expedite their response times, therefore minimizing damage. Both private and public utility companies benefit from the increased awareness and accessibility of real-time asset information in affected areas. With a referenceable baseline of equipment and site layouts, workers can quickly and efficiently detail recovery efforts and optimize their emergency preparedness plans.

DroneDeploy not only captures drone data but also enables utility companies to interpret it and take action. Whether in a detailed map, **3D model**, or aerial image, utility professionals receive accurate, precise, and shareable insights into approaching and unfolding situations. Hundreds of utility organizations like yours are already using DroneDeploy to identify and retrofit at-risk areas, conduct site inspections, and track assets. In an emergency situation, this robust documentation and accompanying quick response can make the difference in saving lives. Regardless if you already have a drone program in place or if you're simply starting to research drone technology, this eBook will inform you of the best use cases for the utility industry.

In this ebook, we'll examine:

- **Total Cost of Emergencies in Utilities**
  - **Traditional Methods of Emergency Preparedness**
  - **The Cost of Not Preparing**
- **Drone Tools for Quick Response Times**
  - **Restoring Power Efficiently**
- **Shareable Documentation Pre- and Post-Disaster**
  - **Mitigating Disputes**
- **How to Get Started with DroneDeploy**

Let's dive in.

The Total Cost of Emergencies in Utilities

According to the **Office for Coastal Management**, billion-dollar losses are the new normal when it comes to the aftermath of a natural disaster. The increased number of hurricanes, tropical storms, and wildfires catapulted the 2017 season to the costliest in modern history, amounting to $306.2 billion for 16 separate weather events. Between 1980 and 2019, the United States spent an estimated $1.75 trillion in damages. These issues are multifaceted, to be sure, but one can't help but think what would've happened if the proper authorities were equipped with detailed aerial maps and emergency documentation. This is what drone data can provide – clear evacuation routes, site plans, and more.

"Between 1980 and 2019, the United States spent an estimated $1.75 trillion in damages"

Traditional Methods of Emergency Preparedness

We've seen that traditional relief methods are unsustainable given the rising number of disasters and their accompanying costs. Helicopters are both dangerous and expensive, and it is nearly impossible to have repeatable flights. Solely relying on ground crews to climb assets and manually inspect them is neither reliable nor consistently accurate. And the combination of the two requires more time to grant authorizations and service requests, which may not be possible when responding to an unfolding situation.

Drone data allows users to safely assess equipment from the ground and determine which assets need maintenance. This lowers the cost of bucket lifts and human resources while simultaneously offering more support to workers and emergency response teams. Engaging in periodic preventative maintenance is essential to organizations' emergency preparedness plans, and if this is not possible - companies need to be able to respond to a disaster quickly. Having the proper documentation and authorizations in place for such events is imperative for operational success.

The Cost of Not Preparing

A prime example of the failure to engage in preventative maintenance is in the case of the recent California wildfires. In 2018, the Paradise Camp Fire burned over **150,000+ acres** of land and resulted in 85 deaths. After an investigation, Cal Fire determined that the cause of the initial spark was PG&E's unkempt electrical transmission lines, which ignited the heavy dry vegetation surrounding them. Today, PG&E is responsible for **$11 billion** in insurance settlements to affected residents and businesses.

But a disaster does not need to be this catastrophic to be costly. For a smaller, local utility company, missing out on insurance claims can also be hurtful to a business. Without before-and-after data to support damage claims, utility organizations are at the mercy of insurance companies post-storm. That's why it's essential to create the first source of truth, a baseline of all of your assets, in order to compare the two. Creating site maps from aerial or ground-level surveys and tying them into **Esri** (or another geospatial system) serves as a detailed record for documenting any damage later.

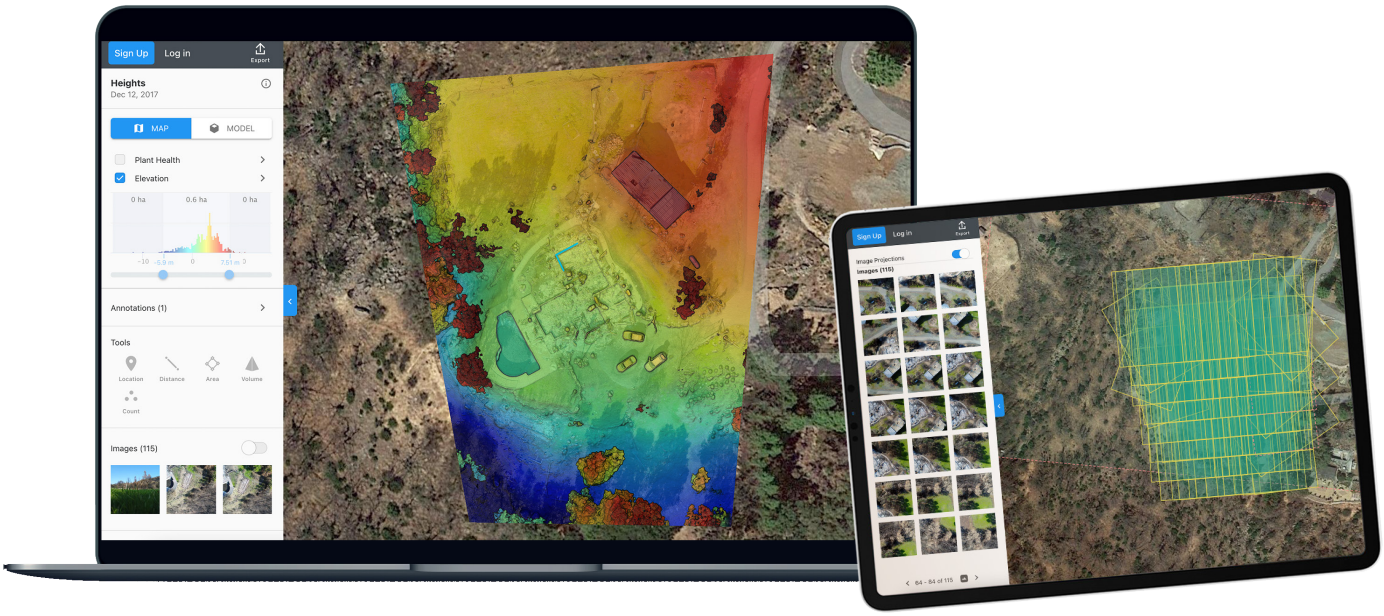
Photo of Camp Fire damages (left). Greg Crutsinger of Scholar Farms gathers drone imagery from the front lines. Photo credit: Casey Tholburn (right).

Drone Tools for Quick Response Times

Not only does drone technology aid in preventative emergency planning, but it also helps workers responding to current disasters. With referenceable documentation of the affected area, teams can quickly understand terrain conditions and how it has been affected by a storm. **Digital surface and terrain models** display the up-to-date environment with subsequent **elevation** layers discovering the best access points and service roads. **Live Map**, a DroneDeploy feature, gives users unparalleled access to land that is difficult to reach on the ground, such as roads that have been affected by a landslide. By inspecting infrastructure without having to shut an entire site down, companies see quicker turnaround times.

Restoring Power Efficiently

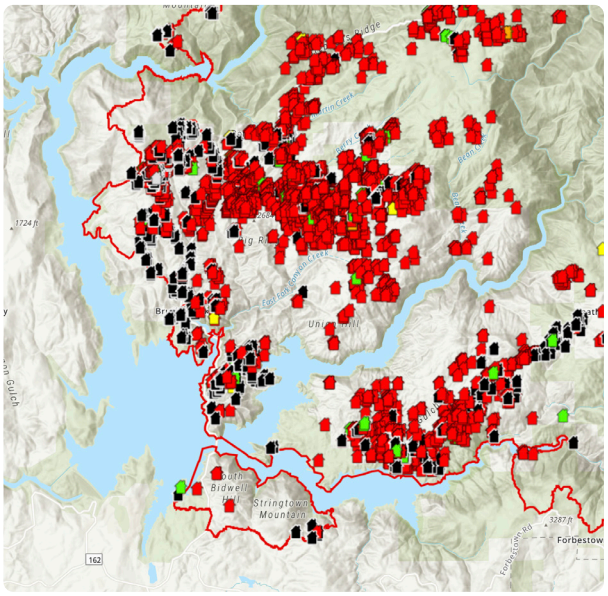
For utility companies, restoring power is often the first step in disaster relief, bringing with it a small sense of normalcy to those affected. Utilizing drone surveys equipped with **thermal cameras** pinpoint hot spots with colored heat signatures. Better data quality means a comprehensive understanding of malfunctioning equipment and a faster solution. For organizations with multiple teams, **Live Stream** brings the drone's perspective right to their fingertips. Viewable on a computer or iPhone, those with access to the stream link can see exactly what the drone's camera sees. This promotes effective cross-functional communication and situational awareness when it comes to decision making.



Shareable Documentation Pre- and Post- Disaster

While we've already detailed how drone documentation serves as a baseline for asset tracking and damage assessment, what makes DroneDeploy unique is the synchronization to your geospatial software. Pulling DroneDeploy maps into your **Esri ArcGIS** instance gives workers an in-depth look at which assets were affected by a storm and provides a historical record of this data for the years to come. Knowing which areas typically take the most damage better prepares individuals for the next season and, therefore, benefits their contingency plans. Plus, these high-resolution images are geo-tagged in the DroneDeploy mobile app to assist maintenance teams in the field.

And with **PDF reporting**, you can easily share and report issues to team members, executives, and contractors outside your organization.



Mitigating Disputes

This information is especially beneficial when mitigating disputes. Utility professionals can improve relationships with local or federal agencies and create a sense of transparency by sharing site reality maps packed with aerial images. Repeatedly flying drones over utility sites show these governing bodies the effect of natural disasters on these sites. With this data, the organizations can work together to prioritize or dispute issues, defining the levels of risk associated with each asset that needs service.

Keep in mind, even before a disaster strikes, drone technology helps utility companies create policies and procedures to prepare effectively.

How to Get Started with DroneDeploy

With our cloud-based software, DroneDeploy enables **utility organizations** to take their business to new heights. Through interactive digital maps and in-depth analysis, you gain the confidence to make high-quality decisions amid an emergency, cutting costs and saving time.

From designing a contingency plan to live streaming an unfolding event to coordinating relief, DroneDeploy knows how to assist your utility teams through every stage of the disaster relief process.

Our solution is an easy-to-use, one-stop-shop for monitoring, processing, analyzing, and acting on drone or ground data for your sites.

Want to learn more about how DroneDeploy can help your business?
Request a consultation with one of our industry-specific experts.

DroneDeploy

Trusted by brands globally, DroneDeploy captures every dimension of job sites, structures, and assets, and transforms it into meaningful insights for industries including construction, energy, and agriculture. Through ground, aerial, interior, and exterior data capture, DroneDeploy enables professional mapping, best-in-class processing and analytics, 3D modeling, and reporting on any device, anywhere in the world.