ALERTCalifornia | UC San Diego

MAKING STRIDES IN EARLY DETECTION:

CAL FIRE and the University of California San Diego's ALERTCalifornia Program's Evolving Partnership in Wildlife Response

In July 2023, CAL FIRE and UC San Diego's ALERTCalifornia program announced an ongoing cutting-edge partnership aimed at revolutionizing firefighting through AI. The collaboration involved a trial of the AI system executed by several CAL FIRE units, including San Bernardino (BDU) and Sonoma-Lake-Napa (LNU), and utilizing ALERTCalifornia's then 1,032 high-definition, pan-tilt-zoom cameras. These cameras, with 208 funded by CAL FIRE, offer 24-hour surveillance and can sweep 360 degrees every two minutes, providing high resolution imagery. This new AI tool was rolled out to all units in the late summer of 2023 and now analyzes camera feeds across California for anomalies, alerting Emergency Command Centers and first responders to potential fires, sometimes even before 911 is notified.

Since the rollout, the network has seen significant growth and innovation. The ALERTCalifornia program, designed to enhance wildfire monitoring and management, has expanded its reach and capabilities, providing invaluable support to CAL FIRE and the broader community. Here's a look at the remarkable progress made over the last year:

Expanding the Network

As of now, the ALERTCalifornia network boasts 1,087 cameras, a notable increase from the 1,000 cameras recorded in May 2023. This growth represents the installation of over 80 new cameras across California, each strategically placed to improve coverage and situational awareness. The ALERTCalifornia field team is continually on the move to expand this critical network further. The launch of the AI system last summer was a major milestone, which has significantly enhanced the network's ability to help CAL FIRE detect and monitor fires in real-time.

Strategic Site Selection

Selecting and evaluating new camera sites is critical to ALERTCalifornia's operations. Working closely with CAL FIRE, the California Governor's Office of Emergency Services, and local government partners, the team performs a viewshed analysis. They pinpoint locations that will close gaps and increase vigilance. Each potential site undergoes a thorough evaluation to ensure its strategic value and usefulness, ultimately contributing to a more robust wildfire and natural hazard monitoring system.

Enhancing Public Awareness

In addition to expanding and improving the network, ALERTCalifornia worked with CAL FIRE to integrate camera feeds into the fire.ca.gov/Incidents page. This integration allows the public to view real-time footage of active incidents, fostering greater transparency and understanding of wildfire situations as they unfold.

Beyond Cameras: Comprehensive Data Collection

ALERTCalifornia's efforts extend beyond camera installations. The program is also heavily involved in compiling crucial data to enhance scientific understanding of fire-prone environments. Technologies like LiDAR are employed for data collection, providing detailed information on biomass and carbon estimation. This comprehensive approach not only aids immediate fire management efforts but also contributes to long-term environmental research and planning.

Looking Ahead

A particularly new and innovative initiative is the Pilot Pine Cone Project. In this project, ALERTCalifornia is aiding CAL FIRE by using the camera network to monitor the cones of coniferous trees. If successful, this project could save CAL FIRE staff significant time and resources, providing a more efficient method of monitoring forest health.

The ALERTCalifornia network is a dynamic and continually evolving system. With each new camera and project, the program's capabilities continues to grow, offering better tools and data to combat wildfires. Stay updated with the latest advancements and projects by visiting the ALERTCalifornia website and following @ALERTCalifornia. The future of wildfire management looks promising with the ongoing efforts and developments made by ALERTCalifornia scientists.