ABOUT ALERTWILDFIRE

ALERTWildfire is an expansion of the first network, ALERTTahoe, which was a pilot program deploying PTZ cameras and microwave networks in the Lake Tahoe region. This initial project was funded through the Nevada Seismological Laboratory (NSL) at UNR, the Tahoe Prosperity Center, the Eldorado National Forest, and the USFS Lake Tahoe Basin Management Unit. Soon thereafter, through a contract with the Nevada Bureau of Land Management, the network grew eastward into northern Nevada where the BLM Wildland Fire Camera Project was born. With growing impact in the summers of 2014-16, new contracts with the Oregon-Washington and Idaho Bureaus of Land Management and San Diego Gas and Electric (SDGE) provided further expansion of new fire cameras and microwave locations, and core university participation as UC San Diego and UO came aboard. Sonoma Water, Southern California Edison, Pacific Gas and Electric, and many counties, including Marin, Sonoma, Napa, Lake and Mendocino, have joined ALERTWildfire to make a statewide network in California a reality. Construction continues rapidly to expand throughout California and many other locations in four nearby states.

ALERTWildfire will have over 300 cameras deployed in California by the end of 2019

Image: Camp Fire (North), Hill and Woolsey Fires (South) captured by NASA

ALERTWILDFIRE PARTICIPANTS

ALERTWildfire is a consortium of University of Nevada, Reno (UNR), University of California, San Diego (UC San Diego), and University of Oregon (UO) that provides access to state-of-the-art Pan-Tilt-Zoom (PTZ) fire cameras and associated tools to help firefighters and first responders:

- Discover/locate/confirm fire ignition
- Quickly scale fire resources up or down appropriately
- Monitor fire behavior through containment
- During firestorms, help evacuations through enhanced situational awareness
- Ensure contained fires are monitored appropriately through their demise.

Regional ALERTWildfire contacts include:

Idaho, Nevada: *Dr. Graham Kent, UNR, gkent@unr.edu*
California: *Dr. Neal Driscoll, UC San Diego, ndriscoll@ucsd.edu*
Oregon: *Dr. Doug Toomey, UO, drt@uoregon.edu*

ALERTWildfire collaborators include: California and Nevada utilities; California, Nevada, Oregon, and Idaho land management bureaus and parks departments; regional fire authorities, conservancies, and water agencies; local governments, planning agencies and sheriffs; telecommunications providers; ski resorts as well as many others. For a full list, visit: www.alertwildfire.org/partners.html.

ALERTWildfire

NEW TECHNOLOGIES TO

SAVE LIVES,

PROTECT ENVIRONMENTS,

& MITIGATE THE LOSS OF INFRASTRUCTURE

www.alertwildfire.org

UC San Diego | Scripps Institution of Oceanography | University of Nevada, Reno

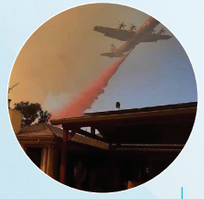
ALERTWildfire

...has provided critical information for over 600 fires. In late 2017, the North Bay Complex and Thomas fires brought into sharp focus the need to quickly expand coverage across the western US. The Camp, Woolsey and Hill fires in late 2018 reinforced the need to implement a comprehensive network throughout the western US. While the partner universities had been building their own networks, it became obvious deploying new infrastructure to cover large areas quickly was unrealistic. A strategy was adopted in early 2018 to install cameras on existing third-party microwave networks, to build larger virtual networks, produce regional coverage, and do so quickly! In this model, "towers of opportunity"—utilities, state and county services, and other private point-to-point communications infrastructure—are outfitted with fire cameras and associated equipment to potentially allow three hundred or more fire cameras to be installed in a single season. The data from these networks are seamlessly incorporated into NSL's back-end acquisition systems and presented on our cloud-based website. To firefighters and first responders, it means "more cameras more quickly," which equals better decision making capabilities.

The network provides unparalleled ability to confirm 911 calls, improve situational awareness, and help sequence evacuations

ALERTWildfire employs high definition HD PTZ Axis cameras with near-infrared fire detection paired with microwave communications network for increased resilience.

2018 CALIFORNIA WILDFIRE STATISTICS
VIA THE INSURANCE INFORMATION INSTITUTE



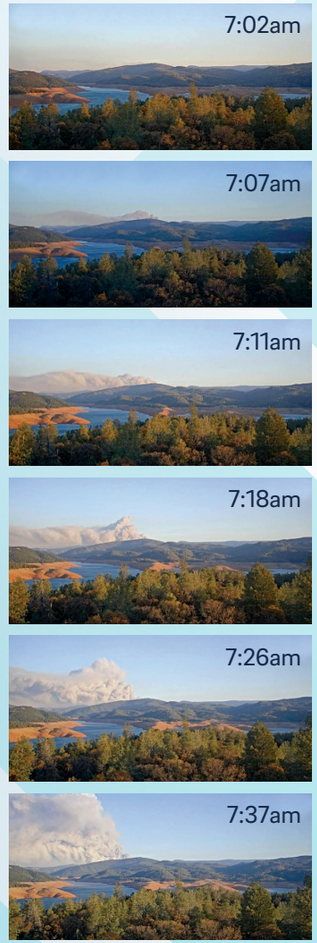
In 2018 there were **58,083 WILDFIRES**, compared with 71,499 wildfires in the same period in 2017, according to the *NIFC*. About **8.8 MILLION ACRES WERE BURNED** in the 2018 period, compared with 10 million in 2017.

The **MENDOCINO COMPLEX FIRE** broke out July 27 in Northern California and grew to be the largest fire in state history with 459,123 acres burned. The **CARR FIRE**, which broke out July 23 in Northern California was the 8th most destructive fire in the state's history. Eight fatalities were attributed to the fire and 1,614 structures were destroyed. The *Insurance Information Institute (III: www.iii.org)* estimates insured losses from the Carr Fire between $1 and $1.5 billion. The two fires resulted in 8,900 homes, 329 businesses, and 800 private autos, commercial vehicles, and other types of property damaged or destroyed.

The **CAMP FIRE** broke out in Butte County, Northern California November 8 and became the deadliest, most destructive fire recorded in the state. At least 88 people perished, ~153,000 acres were burned and 18,800 structures were destroyed, according to Cal Fire statistics.

Farther south, two other major fires, the **HILL AND WOOLSEY FIRES**, also caused considerable damage. Both fires started November 8. The Woolsey Fire burned ~97,000 acres according to Cal Fire. It destroyed about 1,600 structures and killed three people. The III estimates insured losses from the Woolsey Fire between $3 and $5 billion. The Hill Fire burned ~4,500 acres and destroyed four structures. As of April 2019 insurance claims from the Camp, Hill and Woolsey fires were already over $12 billion.

CAMP FIRE TIME LAPSE
INCIPIENT FIRE PHASE



Images: (left) Woolsey Fire—courtesy of Forest Service Photography; (middle) Checking the installation of an AlertWildfire camera; (top circle) C-130 Hercules plane modified for fire-fighting efforts, releases fire retardant during the Carr Fire—courtesy of the National Guard