

# CAL FIRE'S REMOTE SENSING REVOLUTION: The Eyes in the Sky Over Fires



In a state where wildfire season is year-round, every minute counts. Enter CAL FIRE's Incident Awareness and Assessment (IAA) aircraft, a high-tech marvel that's redefining firefighting from the skies. Launched last summer, the IAA program is swiftly proving to be indispensable, providing critical real-time intelligence to firefighters and civilians alike.

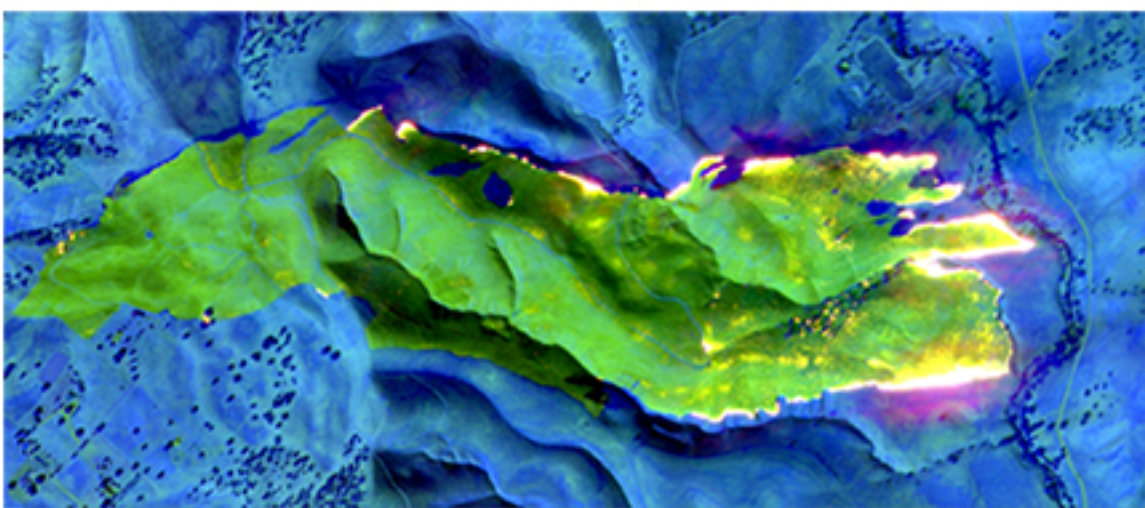
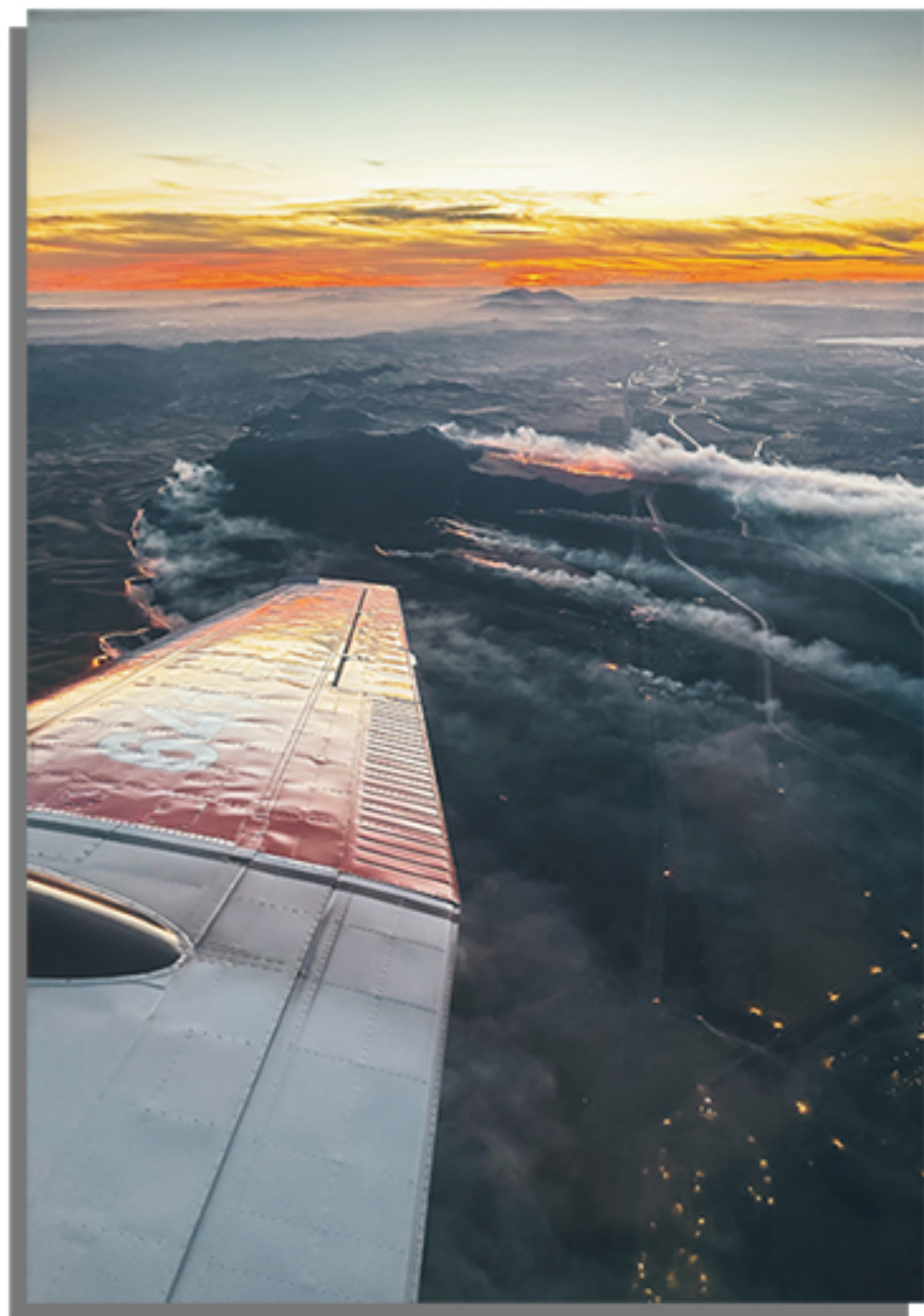
CAL FIRE's IAA program isn't new; it has been around since 2013. However, it relied on data from federal and state agencies, in addition to private contractors. But the new aircraft, CAL FIRE Intel 641, based at McClellan Airfield in Sacramento, represents a major leap forward for the department. Equipped with sophisticated high-resolution color and infrared (IR) cameras, this aircraft swiftly maps fires with precision.

The evolution of fire mapping is stark. Decades ago, maps were painstakingly hand-drawn and physically dropped to ground crews. IR imagery has been used since the late 1960s, but the process of delivering this vital information to those fighting the fires on the ground was slow and cumbersome. Today, Intel 641 sends real-time and near real-time maps, images, and videos directly to incident commanders' tablets and phones, ensuring they have up-to-the-minute information at their fingertips.

"This year, we'll have full motion video that can be sent down to our firefighters on the ground," explains Geoff Marshall, Division Chief of CAL FIRE'S Remote Sensing Program, a collaborative state program that provides comprehensive aerial imagery and modeling intelligence across various incidents, enhancing situational awareness and response times.

The aircraft's cameras, operated by skilled sensor operators like Jordan Wilson, are the heart of the operation. "The technology we have on 641 allows us to accurately locate fires as small as a basketball and communicate what we see directly to the people on the fire line." Wilson notes. "We hope the intel we produce can be used to increase the safety and efficacy of firefighting operations throughout the state."

Such technological advancements are not just about efficiency—they save lives and resources. "It allows for better decision-making and resource allocation for our ground teams," says Marshall. "It enables more efficient evacuations because decisions can be made rapidly."



With these innovations, CAL FIRE is not only battling blazes more effectively but also safeguarding communities. Having the right tools can mean the difference between disaster and containment. Intel 641 and its state-of-the-art technology represent a new era in firefighting where aerial remote sensing provides a critical edge in the fight against wildfire.

Stay up-to-date with wildfire information across California [HERE](#).