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Drone Fights Wild Fires

 Posted by [Catherine MacRae Hockmuth](#) 3:39 PM on Oct 24, 2007

NASA's Ikhana unmanned aerial vehicle and its thermal sensors are collecting data about the Southern California wild fires and passing it on to firefighters on the ground. Ikhana is actually a Predator B. It's capabilities against wild fires were just demonstrated last summer.

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NASA Dryden Flight Research Center Photo Collection
<http://www.dfrc.nasa.gov/Gallery/Photo/index.html>
 NASA Photo: ED07-0139-05 Date: June 23, 2007 Photo By: Lori Losey
 NASA's Ikhana unmanned science demonstration aircraft over the U.S. Boron mine, Boron, California, near the Dryden/Edwards Air Force Base complex.

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NPR reports:

The drone is called the Ikhana, which means "intelligent" in the Native-American Choctaw language. It's 36 feet long and will be controlled by technicians at Edwards Air Force Base in the Mojave Desert.

Thermal imaging isn't new — the technology has been around for some 30 years — but mounting the sensors on drones is a much more recent development. It was first used last year in California. This will be the drone's most important assignment to date.

The advantage of the drones is that they can stay airborne much longer than conventional aircraft — up to 20 hours, says Everett Hinkley, program leader with the U.S. Forest Service's Remote Sensing Applications Center in Salt Lake City. The Ikhana drone is a version of the Predator drones used by the U.S. military overseas, he says.

High-Tech Fire Fighting

The infrared sensors can penetrate smoke and relay crucial data about the fire — size, intensity and the direction it's moving — to firefighting crews on the ground. "They produce daily maps for the battle plan," says Everett.

"It's extremely useful information, and you can do this through the smoke, which is a big advantage," adds Compton Tucker, a senior Earth scientist with NASA.

Those involved in the fire sciences, as the field is known, distinguish between strategic and tactical information. Satellites provide broad-brush strategic information about the fires in a given area. But the satellites pass overhead only twice a day. That makes them of little value to firefighters battling fast-moving blazes, like those currently burning in Southern California. Airplanes, and now drones, provide much more useful, real-time information.

Other technological advances also help crews contain wild fires: C-130s, the military cargo plane,

have been refitted with side-mounted water-cannons that shoot precise streams of flame retardant. A newly designed intake hose for helicopters can douse fires with 2,000 gallons of water slurped in 30 seconds from ponds, rivers and the ocean.

Photo Credit: NASA

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