

Technology has growing role in corralling wildfires

By DON THOMPSON
Associated Press

SACRAMENTO, Calif. — As drought- and wind-driven wildfires have become more dangerous across the American West in recent years, firefighters have tried to become smarter in how they prepare.

They're using new technology and better positioning of resources in a bid to keep small blazes from erupting into mega-fires like the ones that torched a record 4% of California last year, or the nation's biggest wildfire this year that has charred a section of Oregon, half the size of Rhode Island.

There have been 730 more wildfires in California so far this year than last, an increase of about 16%. But nearly triple the area has burned — 470 square miles.

Catching fires more quickly gives firefighters a better chance of keeping them small.

That includes using new fire behavior computer modeling that can help assess risks before fires start, then project their path and growth.

When "critical weather" is predicted — hot, dry winds or lightning storms — the technology, on top of hard-earned experience, allows California planners to pre-position fire engines, bulldozers, aircraft and hand crews armed with shovels and chain saws in areas where they can respond more quickly.

With the computer modeling, "they can do a daily risk forecast across the state, so they use that for planning," said Lynne Tolmachoff, spokeswoman for Cal Fire, California's firefighting agency.

That's helped Cal Fire hold an average 95% of blazes to 10 acres or less even in poor conditions driven by drought or climate change, she said. So far this year it's held 96.5% of fires below 10 acres.



A sign damaged by the Bootleg fire stands among the haze on Thursday near Paisley.

Nathan Howard/AP Photo

Federal firefighters similarly track how dry vegetation has become in certain areas, then station crews and equipment ahead of lightning storms or in areas where people gather during holidays, said Stanton Florea, a U.S. Forest Service spokesman at the National Interagency Fire Center in Boise, Idaho.

In another effort to catch fires quickly, what once were fire lookout towers staffed by humans have largely been replaced with cameras in remote areas, many of them in high-definition and armed with artificial intelligence to discern a smoke plume from morning fog. There are 800 such cameras scattered across California, Nevada and Oregon, and even casual viewers can remotely watch wildfires in real time.

Fire managers can then "start making tactical decisions based on what they can see," even before firefighters reach the scene, Tolmachoff said.

Fire managers also routinely summon military

drones from the National Guard or U.S. Air Force to fly over fires at night, using heat imaging to map their boundaries and hot spots. They can use satellite imagery to plot the course of smoke and ash.

"Your job is to manage the fire, and these are tools that will help you do so" with a degree of accuracy unheard of even five years ago, said Char Miller, a professor at Pomona College in California and a widely recognized wildfire policy expert.

In California, fire managers can overlay all that information on high-quality Light Detection and Ranging topography maps that can aid decisions on forest management, infrastructure planning and preparation for wildfires, floods, tsunamis and landslides. Then they add the fire behavior computer simulation based on weather and other variables.

Other mapping software can show active fires, fuel breaks designed to slow their spread, prescribed burns, defensible space cleared

around homes, destroyed homes and other wildfire damage.

"It's all still new, but we can see where it's going to take us in the future when it comes to planning for people building homes on the wildland area, but also wildland firefighting," Tolmachoff said.

Cal Fire and other fire agencies have been early adopters of remote imaging and other technologies that can be key in early wildfire detection, said John Bailey, a former firefighter and now professor at Oregon State University.

Some experts argue it's a losing battle against wildfires worsened by global warming, a century of reflexive wildfire suppression and overgrown forests, and communities creeping into what once were sparsely populated areas. Climate change has made the West hotter and drier in the past 30 years, and scientists have long warned the weather will get more extreme as the world warms.

Yet, firefighters' goal is to replicate the outcome of a fire that started Monday in the canyon community of Topanga, between Los Angeles and Malibu.

It had the potential to swiftly spread through dry brush but was held to about 7 acres after water-dropping aircraft were scrambled within minutes from LA and neighboring Ventura County.

What firefighters don't want is another wildfire like the one that ravaged the Malibu area in 2018. It destroyed more than 1,600 structures, killed three people and forced thousands to flee.

In another bid to gain an early advantage, California is buying a dozen new Sikorsky Firehawk helicopters — at \$24 million each — that can operate at night, fly faster, drop more water and carry more firefighters than the Vietnam War-era Bell UH-1H "Hueys" they will eventually replace.

It will also soon receive seven military surplus C-130 transport aircraft retrofitted

to carry 4,000 gallons of fire retardant, more than three times as much as Cal Fire's workhorse S-2 airtankers.

For all that, firefighters' efforts to outsmart and suppress wildfires is counterproductive if all it does is postpone fires in areas that will eventually burn, argued Richard Minnich, a professor in Riverside who studies fire ecology.

"No matter how sophisticated the technology may be, the areas they can manage or physically impact things is small," he said. "We're in over our heads. You can have all the technology in the world — fire control is impossible."

Working with wildfires is more realistic, he said, by taking advantage of patches that previously burned to channel the spread of new blazes.

Timothy Ingalsbee, a former federal firefighter who now heads Firefighters United for Safety, Ethics and Ecology, also said firefighters need to adopt a new approach when confronting the most dangerous wind-driven wildfires that leapfrog containment lines by showering flaming embers a mile or more ahead of the main inferno.

It's better to build more fire-resistant homes and devote scarce resources to protecting threatened communities while letting the fires burn around them, he said.

"We have these amazing tools that allow us to map fire spread in real time and model it better than weather predictions," Ingalsbee said. "Using that technology, we can start being more strategic and working with fire to keep people safe, keep homes safe, but let fire do the work it needs to do — which is recycle all the dead stuff into soil."

Associated Press writers Keith Ridler and Christopher Weber contributed to this report.

Olympic sports you won't see in Tokyo

Croquet, tug of war were once events

By MAKENZIE WHITTLE
The Bulletin

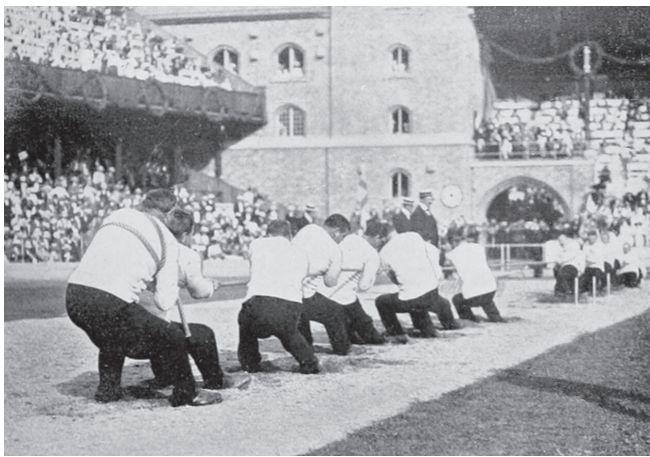
The Olympics have gone through many changes over the centuries. They've evolved from ancient games, which are believed to have started in approximately 776 B.C., into the modern iteration, which began in 1896. Throughout that time, the world changed, and so too did the games themselves. Competitions were added, changed and even removed completely over the course of its history.

So, when you plop in front of the TV for the next two weeks to take in the events of the XXXII Olympiad, feel lucky that you can watch the 100-meter freestyle swim event instead of croquet.

Yes, that is one of the discontinued Olympic events that has been lost to history.

Lasting only one year, the 1900 games in Paris included this favorite low-intensity competition of backyard barbecues. Croquet was one of six official sports in that year — which also included a number of unofficial ones including pigeon racing — and it was the first event to feature women athletes.

That same year also saw the debut of a tug of war event. Even more surprising than its existence as an Olympic sport may be the fact that it lasted five more games until it was discontinued after 1920. The event took a lot of strength to pull off, and therefore it's more sporting than say an art competition. But the thought of something you played while at family reunions as a medaled event still seems like a stretch. Tug of war was part



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Great Britain competes against Sweden during the tug of war competition of the 1912 Summer Olympics held in Stockholm.

of the track and field events and the teams consisted of "clubs," like a city athletic club or a trade or employee team, that was chosen by the countries to compete.

But it's not all backyard games that got the boot. Popular sports like cricket (though that is planned to make a comeback in the 2028 games), lacrosse, Basque pelota and polo have also gone the way of the dodo, but are occasionally played as demonstrations during certain Olympic games.

Some games even stretch the boundaries of two-week Olympics themselves like alpinism, AKA, mountain climbing. Awarded to the country or group that achieved the most difficult ascent since the last Olympics, the 1924 medal was awarded to an unsuccessful 1922 British expedition to Mount Everest.

The team of over 160 made their attempts to climb the mountain a full 31 years before Sir Edmund Hillary and Tenzing Norgay successfully summited and seven of the Nepalese and Indian porters never made it down. For their own efforts, the sherpas were eventually given medals too, albeit later than the Brits who they climbed with.

One of the longer-last-

ing and stranger competitions for an event centered around sports was an art competition. Introduced in 1912 and lasting seven games until 1948, the works on display were inspired by sports and were divided into five categories of architecture, literature, music, painting and sculpture. The events were eventually discontinued when the International Olympic Committee discovered that nearly everyone competing was a professional, going against the restriction that only amateur athletes could compete (a rule that has been relaxed). Still, art and Olympics do complement each other well, from the performances of the opening and closing ceremonies to the overall designs of the new venues created for each event.

While these events will probably never come back to the Olympics fold, a few are making their debut this year and some are making a comeback. New this year is sport climbing, which includes lead climbing, bouldering and speed climbing; skateboarding, which includes both park and street events; BMX racing and freestyle; surfing; 3x3 basketball; and karate. Coming back this year is baseball, softball and golf.

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