

Wildfire: Tracking the locations of trucks, engines, equipment helps managers

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“We’re using technology for forecasting,” she said. “Then you have fire behavior analysts that will go out basically working with the situation unit to help prepare them for what is expected. They look at fire behavior and potential.”

For example, she said, “Maybe they need to put in a fire line farther down the road. That kind of involved forecasting helps them plan.”

Nauslar, the meteorologist, said though keeping up with technology is a challenge, he enjoys it. He pointed to the National Oceanic and Atmospheric Administration’s Geostationary Operational Environmental Satellite. Images have gotten better and updates have come faster in the past 5-6 years.

“You can see a cloud turn into a thunderstorm in real time. ... You can see a fire start and grow in real time,” he said.

Space force

At the U.S. Forest Service’s multi-location Rocky Mountain Research Station, Jeffrey Morisette, Frank McCormick and Sara Brown are among the many scientists who work with the latest technology for tracking and understanding the nature of wildfires.

“A theme is more integration of these geospatial tools,” said Morisette,



Jeffrey Morisette

the human dimensions program manager. Higher image resolution, more frequent data and enhanced capability to link new and historical data and models are examples.

The same sensors farmers use in precision agriculture can help scientists like him figure out what the fuel loads are, he said.

“We are still learning the best possible ways to utilize that information and are making gains there,” Morisette said.

McCormick, who is the air, water and aquatics program manager, said tools that analyze fire and ground conditions are important, “and access to high-speed communications means people on the ground can run them from (computer) tablets.”

McCormick said the Water Erosion Prediction Project has been used to identify areas prone to erosion in forests in the U.S. and internationally, “and you can do model runs anywhere in the world if you have computer access.”

Drought, the number of consecutive days between rain storms and the condition of wildfire fuel are among the aspects that technology can help monitor, he said.

Keeping fire crews on the ground safe is especially



A Fire Boss single-engine air tanker.

Idaho Department of Lands



Drone with infrared camera helps Idaho Department of Lands crews monitor fire behavior.

Idaho Department of Lands



A Tactical Fire Suppression Forwarder in action in Central Oregon.

Courtesy of Loren Kellogg

important. In a system called WildfireSAFE, remote sensors provide information on weather, hazards and fire behavior. It is used to increase firefighters’ situational awareness and help them avoid risk.

Brown, who is the fire, fuel and smoke science program manager, said scientists are integrating years of fundamental research and long-term data sets



Sara Brown

“into useful tools that land managers and others can use. WildfireSAFE is a great example.”

The tool can link fire-danger forecasts to various data such as vegetation conditions and

terrain.

Airplanes and drones

Satellites and sensors are not the only tools in the toolbox of 21st century wildfire fighters. Airplanes and drones help them track and extinguish blazes.

In Idaho, for example, the state Department of Lands contracts for a Fire Boss single-engine air tanker for fire suppression and uses drones for tracking fires. The plane is a cousin of the Air Tractor used by many aerial applicators in agriculture.

The department often deals with smaller fires near communities.

“When you have a four-tenths-acre fire that can burn down two or three homes, it won’t pop up” on satellite imagery, Deputy Chief of



Washington State University Professor Mark Swanson at a prescribed burn in Idaho.

WSU



Loren Kellogg

Plans Scott Hayes said. IDL often cooperates with local fire departments.

Drones offer a solution to that satellite blind spot.

“The best imagery typically is taken early in the morning. You’re trying to find hot spots, so you want the least amount of ambient temperature,” Hayes said, referring to a drone-mounted infrared camera that “sees” heat.



Scott Hayes

He “flew” a fire in northern Idaho on May 6, “and it showed a hot spot outside the fire line,” a concern.

“We could direct people and resources accordingly.”

Within a few minutes, “that image does you some

good on the ground,” Hayes said. Using it in conjunction with a mapping application “gives us the ability to create near-real-time aerial imagery” complete with exact locations.

Drone-based sensors are also important where wildland and urban landscapes intertwine, said Mark Swanson, Washington State University associate professor and forestry program leader.

“What academic institutions need to do is increase educational offerings in drone-based and aircraft-based sensors,” he said.

On the ground

Tracking the locations of trucks, engines and other equipment also helps fire managers know what resources they have, and

where.

Brian Williams is support services manager for the U.S. Bureau of Land Management’s National Fire Equipment Program. He said BLM Location Based Services aims to combine GPS technology with dispatch and suppression programs “to enhance safety, situational awareness and operational efficiency.”

Eighteen types of equipment, from engines, dozers and command vehicles to semi-trucks and crew carriers, comprise the firefighting fleet.

“We currently have 773 satellite terminals installed, and that covers our whole fleet,” Williams said. “Our program is currently focused on tracking the equipment that the firefighters use, and not specifically tracking the individual. In the future, our system could expand into tracking individuals.”

The terminals provide location information viewable on mobile phones and laptop computers. Users can see vehicles and current fire details.

Williams said seeing equipment locations helps managers pre-position resources “and can aid in dispatching the closest resources to a new fire.” Officials hope to integrate the information into dispatching software.

Satellites, drones and planes give wildfire fighters an airborne advantage, but Loren Kellogg knows much of the battle is often fought on the ground.

Enter the Tactical Fire Suppression Forwarder.

The Forwarder combines a state-of-the-art vehicle used in logging with fire suppression equipment and has the potential to work where helicopters once were the only option.

“The system can be used in firefighting or forest treatment,” said Kellogg, an Oregon State University forest engineering professor emeritus. In light of the need for forest restoration and fuel thinning, “in North America in the last 10-15 years, we are starting to see the advantages of this system in our forests.”

Its mountain goat-like abilities to travel across rugged terrain, cut trees and move them out of the way and spray water on hot spots allow it to fight wildfires deep in the backcountry.

“There is not any other equipment now with that ability to get onto steep terrain,” Kellogg said. “These catastrophic wildfires can be just so difficult to contain and control, especially on steep terrain.”

But even with all of the high-tech tools there are still other variables, said Nauslar, the meteorologist. People still have to effectively put those tools to work to control a wildfire, often relying on crews on the ground.

“You can’t model everything, especially when you add the human element,” he said.

Wine: Companies invested in direct shipping to survive

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“There are no limits when you go down to the store,” said Rep. Marty Wilde, D-Eugene.

It’s unlikely that people struggling with alcoholism will spend \$40 or more per bottle of wine when there are cheaper alternatives, said Leif. “I think they will go down to the grocery store and pick up whatever they can.”

The current monthly two-case cap has hindered sales at a time that coronavirus restrictions have already reduced tasting room revenues by as much as 80%, said Dyson Demara, owner of HillCrest Winery in Roseburg.

“During the pandemic it’s been absolutely golden, it’s been a lifeline, but we have found ourselves cutting orders short or losing



Sierra Dawn McClain/Capital Press
Wine bottles at Hyland Estates Winery. The Oregon Legislature has increased the direct-to-consumer shipping limit from two cases per month to five cases.

orders because of this limit,” Demara said during a recent legislative hearing.

The median Oregon winery sells only about 750 cases per year, so they must rely on some form of direct-to-consumer sales rather than the wholesale market, said Mike McNally, owner of Fairsing Vineyards near Yamhill, Ore.

“Most of these wineries can’t attract the large national distributors to sell our wine,” he said.

About half of the revenues at Fairsing Vineyards come from wine club members, many of whom want to order additional cases for holidays or weddings, McNally said. “Under the current rules, they’re not able to do that.”

The average price of direct-to-consumer wines is more than \$40 per bottle, compared to \$16.50 for those sold at retail stores, said Dionne Irvine, co-founder of Irvine & Roberts Vineyards in Ashland, Ore.

Wineries have invested in direct shipping to survive because restaurant sales have dried up along with tasting room visits, she said. “These typical direct-to-consumer wine shipments are some of

our most premium products sought out by our loyal wine customers.”

Oregon’s two-case limit has been the law since 1989 while California and Washington — neighboring states with even larger wine industries — don’t currently have any caps on such shipments.

However, stakeholders in the Oregon wine industry negotiated increasing the cap to five cases and didn’t seek limitless direct-to-consumer shipping.

Under an “emergency” provision of SB 406, the bill will become effective as soon as it’s signed by Gov. Kate Brown.

In 2019, Oregon had nearly 1,300 vineyards that produced about \$238 million worth of grapes on 37,400 acres, while its 900 wineries sold more than 4.6 million cases valued at about \$674 million.

Hemp: Prices have fallen due to overproduction

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“If allowed to stand, DEA’s intrusion will undermine a lynchpin of the new hemp economy that has created tens of thousands of new jobs and provided a lucrative new crop for America’s struggling farmers,” according to the complaint.

The hemp industry argued the crop and its extracts are shielded from Controlled Substances Act enforcement by the 2018 Farm Bill, which nationally legalized hemp in 2018, so the DEA lacks authority for its regulations.

Boasberg has now ruled the “exclusive pathway” for this argument is before the U.S. Court of Appeals for the D.C. Circuit, not in his U.S. District Court.

“Interesting as this question may be, the Court ultimately concludes that it is powerless to entertain the merits of Plaintiffs’ entreaty,” the judge said.

The Hemp Industries Association has filed a parallel legal action in the federal appeals court, but it’s been on hold while the lawsuit before Boasberg remained active.

Regulatory uncertainty at the federal level has been blamed for discouraging major consumer brands from investing in CBD products, limiting the hemp industry’s growth.

Prices for raw hemp have fallen due to overproduction, prompting farmers in early-adopting states such as Oregon to scale back their acreage of the crop.