

Rocky Mountain Research Station Science You Can Use *(in 5 minutes)*

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The Wildfire SAFE App: Delivering Real-Time Data to Improve Wildfire Management

In 2017, fire managers in the Northern Rockies region were invited to test a prototype of Wildfire SAFE, a new wildfire app. Within minutes of a reported wildfire, fire managers could open the app and zoom in on the wildfire's location. Tied into the location was real-time information on environmental conditions that could influence the wildfire's spread, such as the terrain, drought conditions, and the 7-day weather fire danger forecast. No longer a prototype, Wildfire SAFE is now available for the entire continental United States.

Real-Time Predictions of Wildfire Conditions

William (Matt) Jolly, a research ecologist with the Rocky Mountain Research Station's Fire Sciences Laboratory, led the team that developed Wildfire SAFE. The inspiration for the Wildfire SAFE app, he says, "It grew out of the need to deliver fire danger information to firefighters and decision makers in a more readily consumable fashion." Jolly says the app wouldn't be what it is without the partnership with Technosylva.

Powering the app are fire danger forecasts linked to datasets containing terrain information, drought conditions from the U.S. Drought Monitor, and satellite-derived vegetation conditions. It is essentially all the information a fire manager needs when deciding how to allocate resources, both equipment and personnel, as well as keeping personnel safe, to contain a wildfire.

The app integrates the relevant wildfire information into one easily navigable display and is available

on desktops, tablets, and mobile devices. For 2020's wildfire season, this level of integration will prove crucial in effectively managing wildfires.

"Because of COVID-19, fire managers expressed a need to have information available to prioritize incidents and prioritize allocation of limited firefighting resources, under the assumption if crews get sick or can't travel out of their area, a particular area may be faced with resource shortages," Jolly says.

Real-World Use on the Fireline

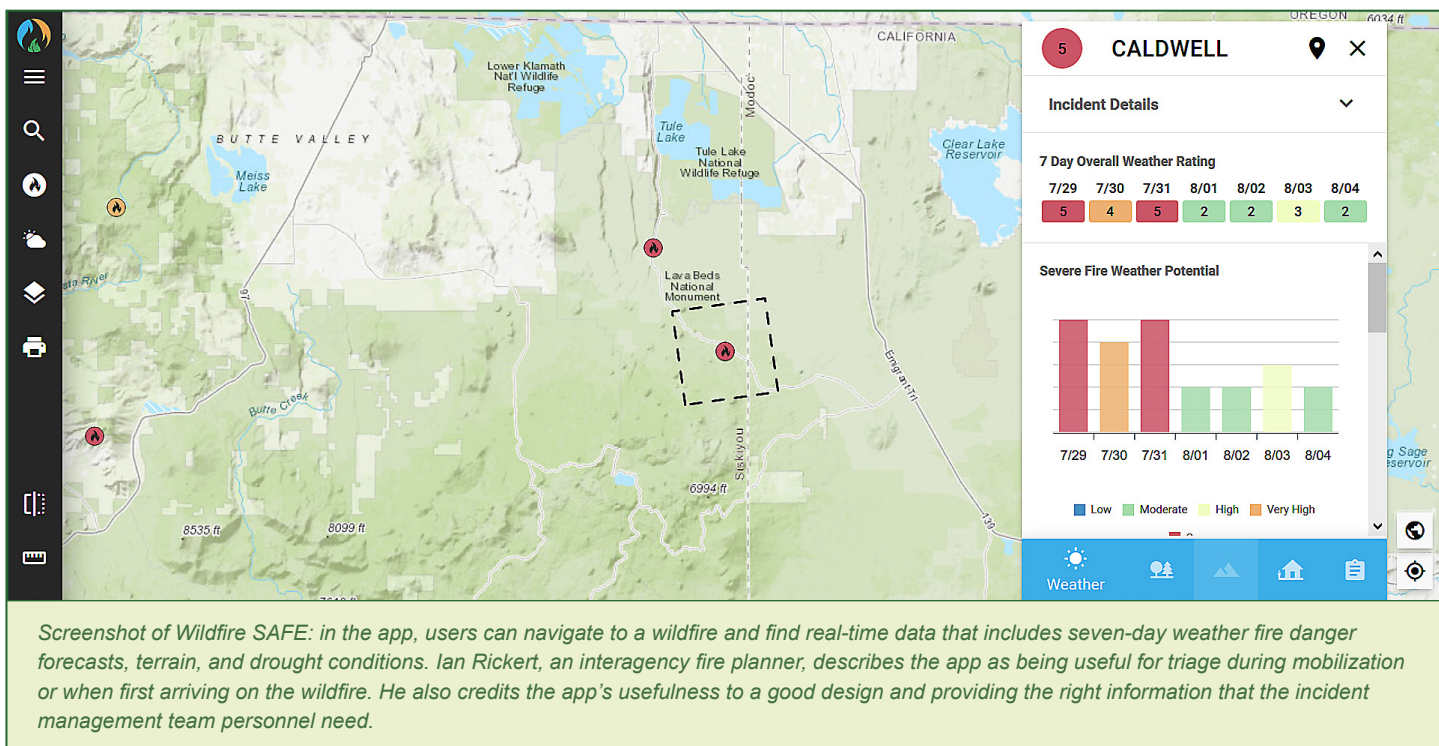
Since Wildfire SAFE's launch, Jolly has received nothing but positive responses. "Fire managers are really excited about it, because the one thing that the



The app is located at <https://wfsafe.technosylva.com/>.

The Wildfire SAFE supporting documentation and webinar is available at <https://www.fs.usda.gov/rmrs/tools/wildfiresafe>.

Photo: K. Greer, USDA Forest Service



app does is it's a great integrator," he explains. "Instead of having to go to five different websites or datasets to get information about a new start, they can get it right in front of them."

Ian Rickert, an interagency fire planner, has used Wildfire SAFE while working on incidents as a fire behavior analyst. "It's easy to use and it's a very efficient way of evaluating the fire environment on an emerging fire," he says.

For Rickert, what sets WildfireSAFE apart from other tools he uses as a fire planner is that the fire danger forecasts are for the next 7 days, rather than contrasting current conditions against prior years.

"Having a good solid foundation on what you can expect in the future is critical for any decisions, whether it's at the incident level or the strategic level," says Rickert. "This really sets the stage for us to use more objective metrics of fire potential in our decision making and it's a great way of summarizing the fire environment."

About the Wildfire SAFE App

- Wildfire SAFE incorporates real-time data from sources that include the U.S. National Fire Danger Rating System, U.S. Drought Monitor drought conditions, weather data, and vegetation conditions to provide targeted information on any wildfire in the continental United States.
- Wildfire SAFE was designed in consultation with fire managers to ensure that the data being provided will fulfill management needs and that the user interface is easy to use across all platforms—desktops, tablets, or mobile devices.
- Fire managers will find the app useful when determining how to prioritize incidents and deploy firefighting resources if fire crews in a given area are ill or have travel restrictions due to COVID-19.

LEAD SCIENTIST

William (Matt) Jolly is a research ecologist with the USDA Forest Service, Rocky Mountain Research Station. His research focuses on fire ecology and the effects of wildfire on the environment. Jolly can be contacted at matt.jolly@usda.gov, or connect with him at <https://www.fs.usda.gov/rmrs/people/mjolly>.

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