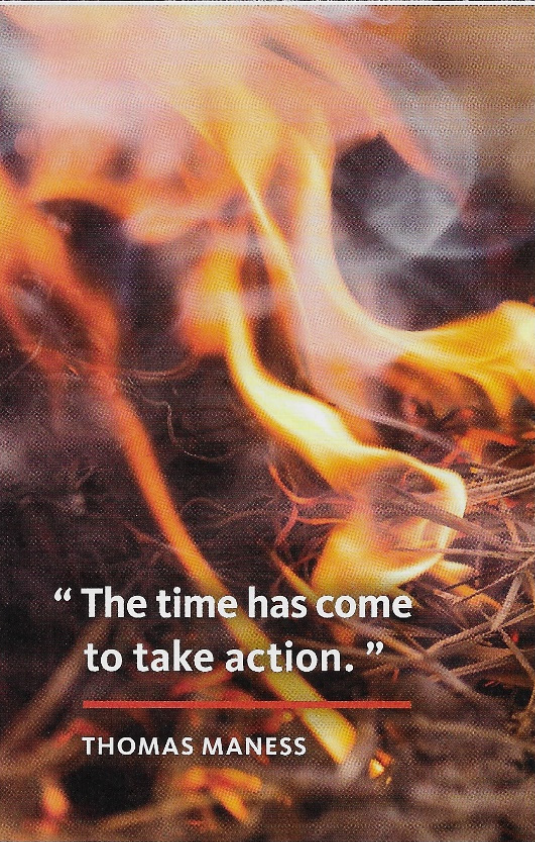




Assistant professor Kevin Bladon conducts his research in the field.



“The time has come to take action.”

THOMAS MANESS

WILDFIRE AFFECTS WATER

Large wildfires can devastate the landscape, destroy structures and threaten communities. Once they're extinguished and the direct threats are gone, the general public often moves on and breathes a little easier. However, Kevin Bladon, assistant professor of forest hydrology at Oregon State, says the effects of large wildfires on water quantity and quality can last for decades.

“Smaller, low severity fires can actually have positive outcomes for aquatic ecosystems,”



Bladon says. “However, the larger fires, which we've seen more of in recent years, are the ones that cause us the most problems in terms of impacts on water,” Bladon says. “Fires used to be more frequent and less severe, but because of fire suppression and current forest management approaches, there are a lot more contiguous fuels in our forests. When combined with a warmer, drier climate this has increased the occurrence of large wildfires in many parts of the western U.S.”

Bladon says high-severity fire can increase annual streamflow, peak flows and shift the timing of

snowmelt to streams to earlier in the year. Additionally, large fires can increase temperatures, sediment and nutrients in streams, which can negatively impact aquatic ecosystems and recreational value.

The sediment and nutrients in headwater streams can also travel downstream and into community drinking water sources.

“While our drinking water treatment plants can, and do, remove sediment, nutrients and other contaminants from our water after wildfires, the question is, ‘How much are we willing to pay for this?’ These are expensive costs that get passed to taxpayers for many years after a fire,” Bladon says.

So far, Bladon's studies have been conducted in Oregon, California, Colorado, Tennessee and Canada. As large wildfires continue to occur in the West, he plans to keep his eyes and research on the west side of the Cascades.

“Historically, there haven't been a lot of fires on the west side of the Cascades compared to east side forests,” he says. “But they are appearing more and more, and the potential impacts on our water supply is something researchers need to continue to investigate.”

Bladon says it's an exciting time to be studying hydrology as it relates to wildfire because the scientific community and the public are striving to understand how large wildfires impact our water supplies.

“Oregonians tend to be very proud of our water, healthy rivers, recreational opportunities and our many breweries, to name a few things,” Bladon says. “Given that two-thirds of our water supply originates in forests, it's critical to protect those things that make our state such a great place.” ●