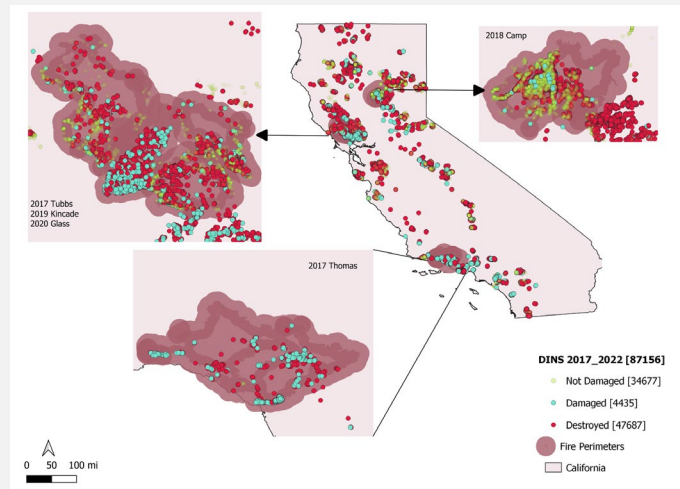


Forest Health Research Program Grantee Webinar:

Isolating the Primary Drivers of Fire Risk to Structures in WUI regions in California

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Wednesday, March 19, 2025

2:00 pm – 3:00 pm

[Register here](#)

Abstract: The destructive impacts of Wildland-Urban Interface (WUI) fires on people, property, and the environment have dramatically increased, particularly in California. We analyze 5 historical WUI fires with the DINS dataset to assess patterns of structure loss and the effectiveness of mitigation measures. We employ advanced machine learning models to predict structure survival probabilities based on a combination of exposure metrics and mitigation factors, including incorporation of new urban fire spread modeling. Our findings highlight that structure separation and exposure to flames and embers are among the most significant factors influencing the probability of structure loss and a hypothetical loss reduction analysis shows that enhancing home hardening and vegetation clearance could reduce structure losses by up to 52%.

Michael Gollner is an Associate Professor and Deb Faculty Fellow in the Department of Mechanical Engineering at the University of California, Berkeley where he directs the Berkeley Fire Research Lab. **Maryam Zamaniaeaei** is a geospatial data scientist and currently Postdoctoral Researcher at the University of California, Berkeley specializing in wildfire risk analysis, remote sensing, and machine learning. **Dwi M. J. Purnomo** is a fire scientist and Postdoctoral Researcher at the University of California, Berkeley specializing in wildfire modeling, risk analysis, and computational fire simulations.

The Forest Health Research Program is part of [California Climate Investments](#), a statewide initiative that puts billions of Cap-and-Trade dollars to work reducing greenhouse gas emissions, strengthening the economy, and improving public health and the environment — particularly in disadvantaged communities.

