# Co-designing AI-Driven Fire Preparedness Assessment Tools to Meet Community Needs in the Wildland-Urban Interface

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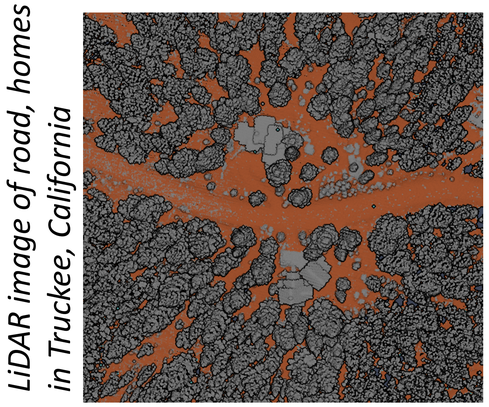
•***Wildland fires have increased in number and area across the western US as a result of hotter, drier climates and higher fuel loads. In addition to the environmental factors contributing to increased wildfire risk, rapid growth in the US wildland-urban interface (WUI) has raised the risk of loss of lives and homes. A community needs assessment indicated big concerns around evacuation capacity and planning.***

•**Intellectual Merit**: Research and development of remote sensing tools to measure high-resolution fire hazard has focused almost exclusively on wildland settings. We are prototyping development of WUI-specific fire hazard metrics using cutting edge, high-resolution, remotely sensed data and tools (e.g., LiDAR, digital aerial photogrammetry, AI image processing and analysis).

We also aim to advance existing theory and practice of wildfire management by exploring how co-development of a fire preparedness assessment tool might influence wildfire adaptation among socially diverse communities. Specifically, we explore how trust in and use of fire preparedness tools are influenced by characteristics of communities and iterative interactions between researchers and end users.

**Project Activities to Date**:

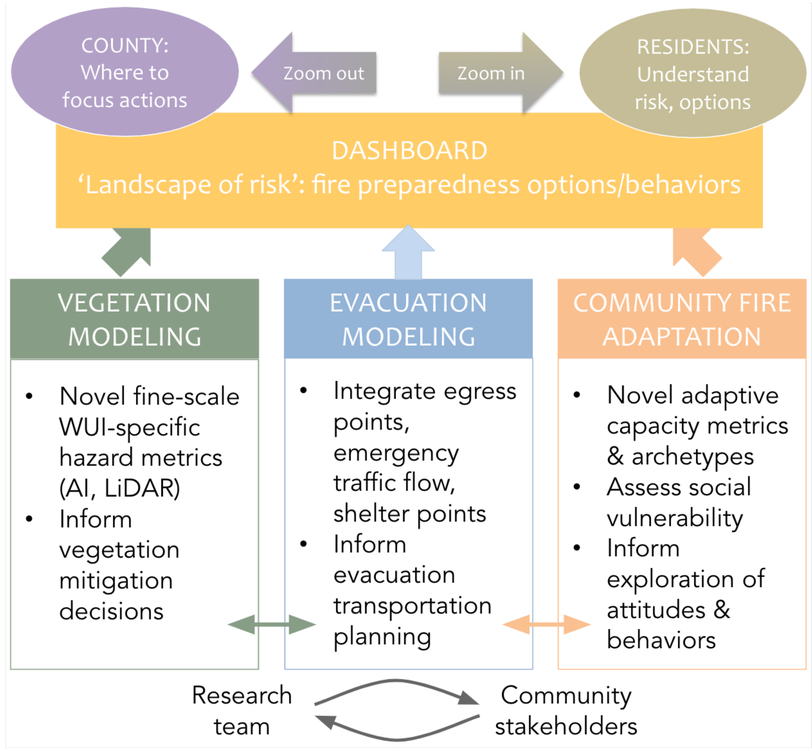
- Scoped existing research, data, and tools to identify gaps and opportunities
- Conducted preliminary needs assessment via stakeholder phone interviews
- Held project team creative workshop to connect technical approaches and data with expressed community needs



*LiDAR image of road, homes in Truckee, California*

•**Broader Impact**:

- Individuals benefit from AI-derived information to improve their fire preparedness
- Local governments, councils, and organizations better inform and support vulnerable communities in fire preparedness
- Future loss of life and property in fire-prone communities is reduced




*Evacuation planning connects technical advances in WUI fire hazard modeling and community needs around fire adaptation.*

**Next Steps**:

- Solicit iterative feedback from community stakeholders
- Prototype technical workflow elements
- Hold community workshop to share and solicit further input on product mock-ups



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