

Reducing the Vulnerability of Disadvantaged Communities to the Impacts of Cascading Hazards under a Changing Climate

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Preparedness is commonly the largest aspect of community resilience, typically isolated to single events. However, the majority of disasters involve a chain of events occurring in a cascading manner. The importance of preparedness against cascading hazards has been demonstrated by recent events, such as Mendocino complex and Camp fires.

Target Problem: Reducing vulnerability of disadvantaged communities to the impacts of wildfire-related cascading hazards under a changing climate

Test Site: Lake County, CA

Intellectual Merit: a capacity-building opportunity to (a) examine how sequential hazards may drive one another and how the consequences of these cascading hazards may scale in both time and space, (b) advance crisis communication to improve decision-making and community engagement in remote and disconnected environments.

Main Activities to Date:

- Performed bi-weekly and monthly barnstorming meetings with the research team and our community partners
- Identified key research gaps and community needs that we can address related to the risk posed to disadvantaged communities by cascading hazards under a changing climate
- Strengthened our team by adding new members to the research team and community partners
- Formed and conducted focus group with emergency managers
- Submitted an IRG proposal in February 2021

Broader Impact: The work seeks to bridge the gap between the engineering, scientific, and social dimensions that have been striving to reduce consequences of cascading hazards, but are commonly evaluated in isolation of one another.

Broader Impact: As communication with emergency planners and the general public are both of paramount importance, but target different audiences, translation of real-time model outputs and a strategic crisis communication plan ensure that the community is smart and connected.

Next Steps:

- Continue investigating hazard drivers and their interactions
- Conduct more focus groups
- Synthesize results of the study
- Work on collaborative publication