

LONGER-TERM PROCESSES OF MITIGATION AND ADAPTATION TO FIRE RISK IN CALIFORNIA

WP5 explores longer term processes of mitigation and adaptation to fire risk in California. During the three-year project, our team will investigate mechanisms that enable or limit wildfire mitigation in Alameda and Marin counties and highlight emerging patterns of climate adaptation. Our findings will inform the design of games that address choices relating to land use and fire risk reduction.

In the first half of 2023, the WP5 team engaged in a range of research activities: collaborating on the design and conduct of interviews; reviewing past fires to gather insights on the role of the built environment and critical systems in the fires and their aftermaths; and compiling literature on systems that wildfire risk in the Wildland- Urban Interface (WUI). Based on these preliminary activities, the WP5 team identified three major areas that are critical to processes of adaptation to wildfire risk and that will be the focus of deeper study:

- (1) **Insurance** is an essential component of community disaster resilience, as it provides rapid access to financial resources to recover and rebuild. Insurance also potentially affects the incentives of households and communities to mitigate fire risk. Today in California, however, the insurance industry has been responding to increased fire loss by raising prices and drastically reducing insurance availability in high-risk zones. To date, this reduction in coverage – and its implications for household budgets, community resilience, and housing markets – is among the most important impacts of fire risk in California.
- (2) **Housing and land use** – Land use policies—and in particular restrictions on housing construction—have been a major driver of housing development in the WUI in California, and, therefore, of increased fire risk. Today, the State government is making a major push to supersede local zoning authority in order to force local jurisdictions to allow infill housing, even as it is issuing guidance on reducing housing construction in high-risk areas. As a result, local governments in counties like Marin and Alameda are currently on the front lines of managing these conflicting imperatives of fire safety and housing production.
- (3) **Home hardening** refers to actions to reduce fire risk such as vegetation management, the maintenance of “defensible space,” and structure enhancements (e.g. to roofs, eaves, and porches). Homeowners’ decisions about home mitigation are influenced by various factors, including financial resources, local regulations, community pressure, aesthetic preferences, and information about the risk reduction value of such mitigation measures. Home hardening programs have significant collective action characteristics: it is much more valuable for an entire community to engage in home hardening, and individual measures, in the absence of community action, may not contribute much to risk reduction. Local governments therefore play a critical role in providing information and in some cases financial support and enforcement of home hardening measures.

The WP5 team has begun to consolidate the preliminary interview and documentary research findings in more formal analysis, including stakeholder mapping and causal process modeling. An example—from the insurance case—is given in the figure below.

