

HOUSING AND MORTGAGE MARKETS WITH CLIMATE CHANGE RISK

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CLIMATE CHANGE COMPOUNDS EXISTING WILDFIRE CHALLENGES

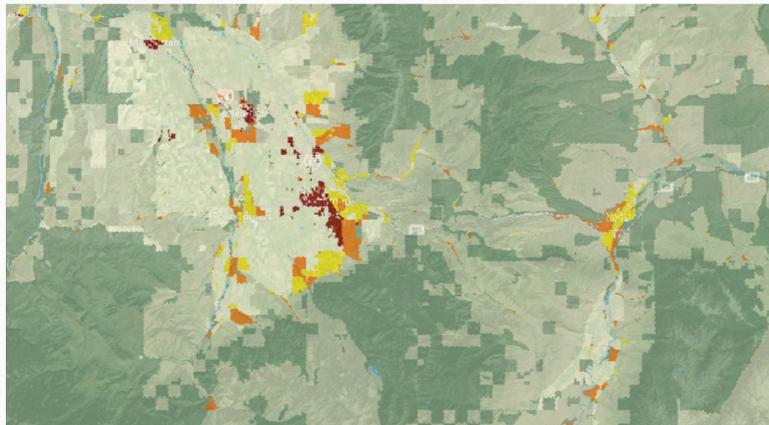
Table 4: Wildfire Risk in the United States

Risk	Total Residences	Total Estimated RCV in Billions
Low	28,716,516	\$7,888.00
Moderate	326,838	\$108.95
High	924,623	\$318.38
Extreme	775,654	\$220.20

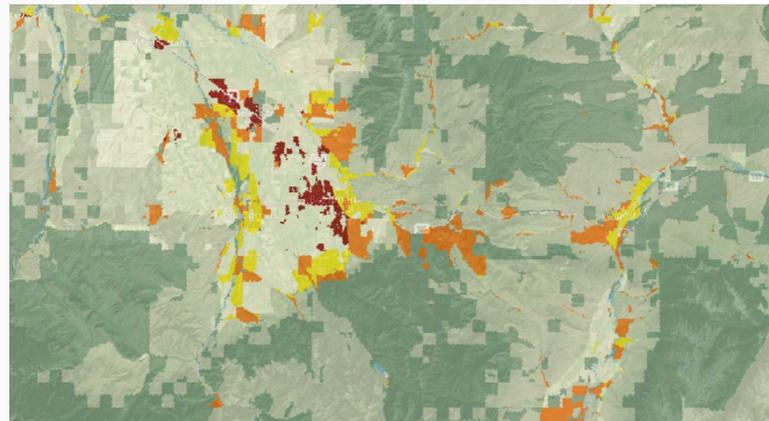


AN INCREASING NUMBER OF HOMES ARE LOCATED IN HARM'S WAY

Bozeman in 1990



Bozeman in 2010



WHAT DOES THIS GROWING RISK MEAN FOR HOUSING MARKETS?

- This study uses rich microdata to explore several related questions:
 - What is the relationship between weather and damaging wildfires?
 - How do houses and neighborhoods change after wildfires?
 - What happens to mortgage delinquency and default?



THIS STUDY ADDS IMPORTANTLY TO OUR UNDERSTANDING

- Rich data on housing, income, and loan performance
- Explicit empirical design comparing exposed and almost-exposed homes
- Closely related to pressing policy discussions around homeowner's insurance and wildfire management

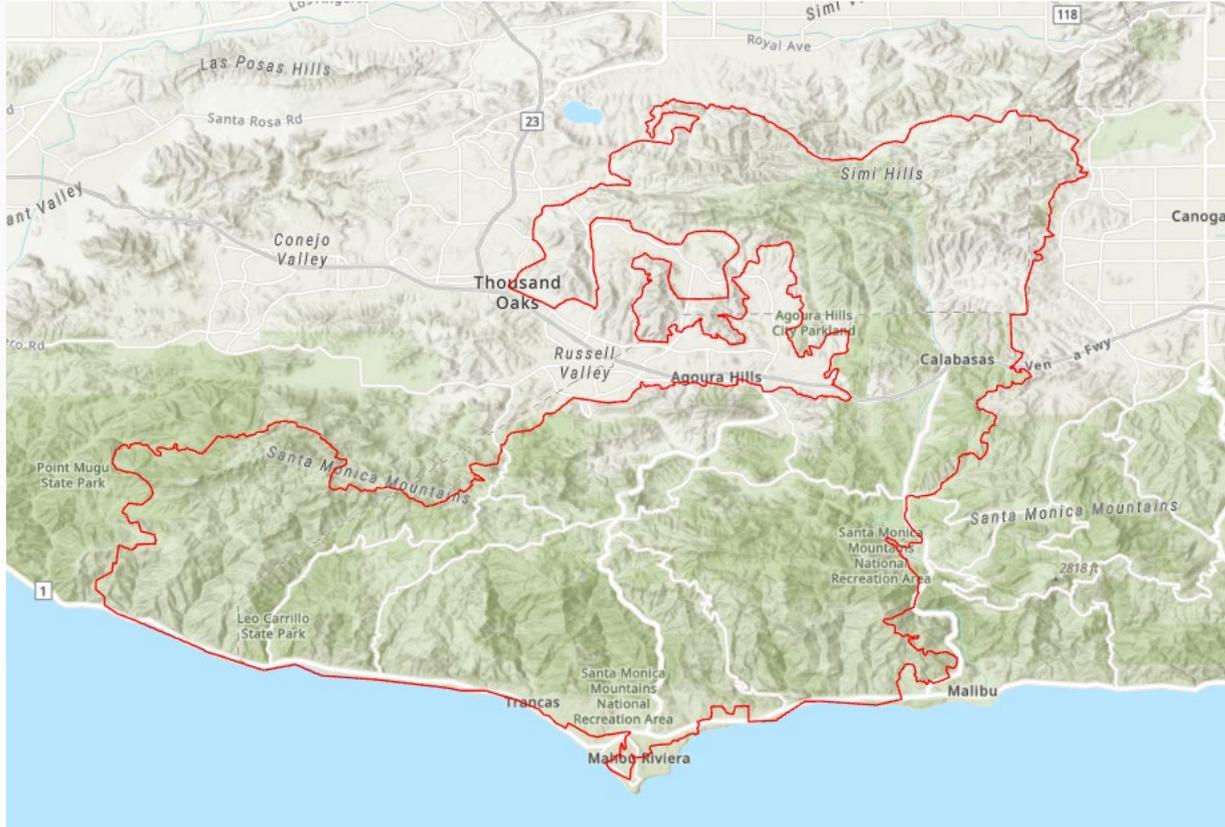


POINT 1: HOMES INSIDE VS. OUTSIDE WILDFIRE PERIMETERS

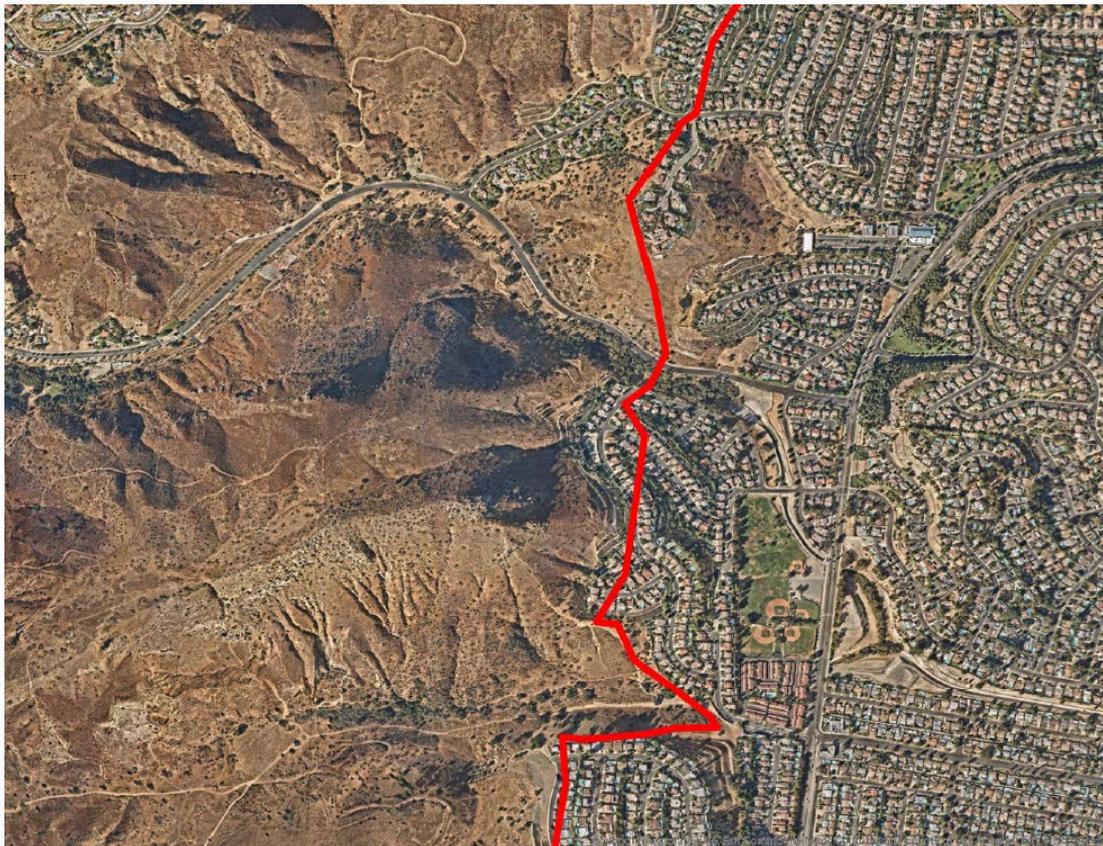
- Wildfires are random natural events, but final perimeters may still reflect management decisions
- Fires more likely to be extinguished at edges of densely populated areas (Plantinga, Walsh, and Wibbenmeyer, 2020 WP)



WOOLSEY FIRE (2018)



ONE SECTION OF THE WOOLSEY FIRE PERIMETER



SUGGESTIONS: PRE-FIRE BALANCE CHECKS, OTHER CONTROL GROUPS?

- A balance table comparing treatment and control housing & occupant characteristics before the fire.
- Depending on results of above, perhaps an additional specification comparing to further-away homes.

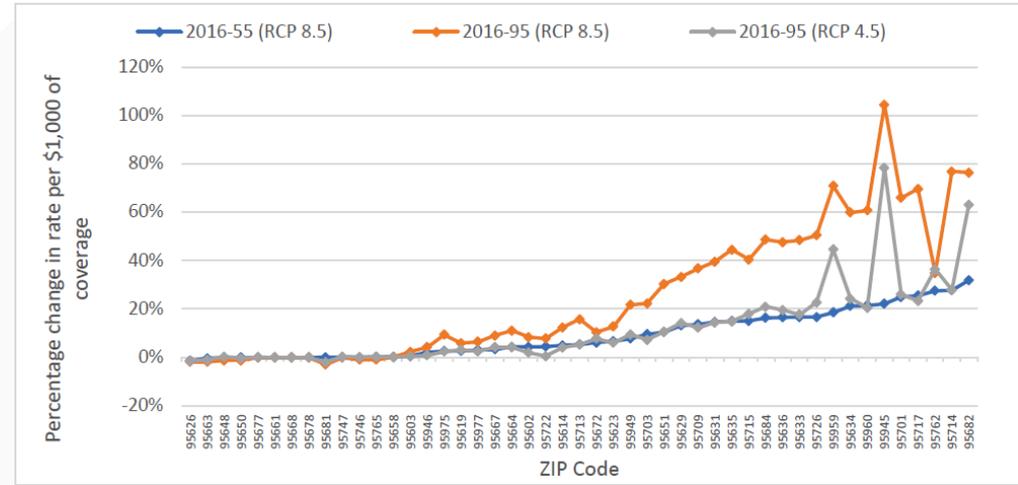
POINT 2: LARGE FIRES AND MORTGAGE DEFAULT

- Fascinating result: exposure to large fires decreases mortgage stress
- Why?
 - Coordination economies in damage inspection, claim filing, etc.?
 - Political pressure leads to insurance payouts exceeding contract terms?
 - Political pressure leads to insurance payouts equaling contract terms?

POINT 3: HOW WILL INSURANCE MARKET CHALLENGES AFFECT HOUSING MARKETS?

- What happens to existing homeowners if property insurance becomes unavailable or unaffordable?
- Solvency considerations for insurers?
- Merced Property & Casualty

Figure 5.1: Projected Percentage Change in Rate per \$1,000 of Coverage in the Admitted Market in the Sierra Foothills Study Area by ZIP Code



Source: RAND Corporation, "The Impact of Changing Wildfire Risk on California's Residential Insurance Market". 2018.

AN IMPORTANT CONTRIBUTION ON AN IMPORTANT TOPIC!