

Wildfires, Externalities, and Spatial Heterogeneity

An Economic Analysis of California

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Wildfires and Respiratory Health

- ▶ Background

1. Climate change has dramatically increased wildfire risk
2. Wildfire smoke is especially damaging to health

- ▶ My Question: What is the health impact of firefighting expenditures?

1. What is the impact of wildfire prevention on wildfire frequency and severity?
2. What is the impact of wildfire frequency and severity on respiratory health?

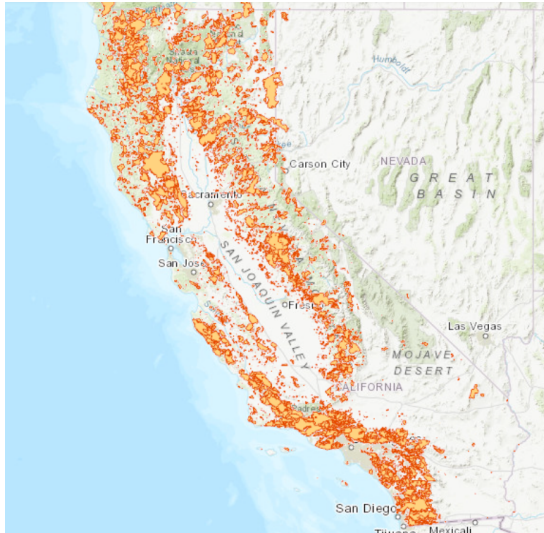
Interesting Economics

- ▶ Mismatched spatial heterogeneity
 1. Wildfire risk is higher in forested areas than in urban areas
 2. Respiratory health risk is higher in urban areas than in rural areas
- ▶ Poor wildfire prevention and response creates an externality
 1. Wildfire risk is not contained by private borders
 2. Wind can blow smoke from uncontained fires into neighboring areas

Questions?

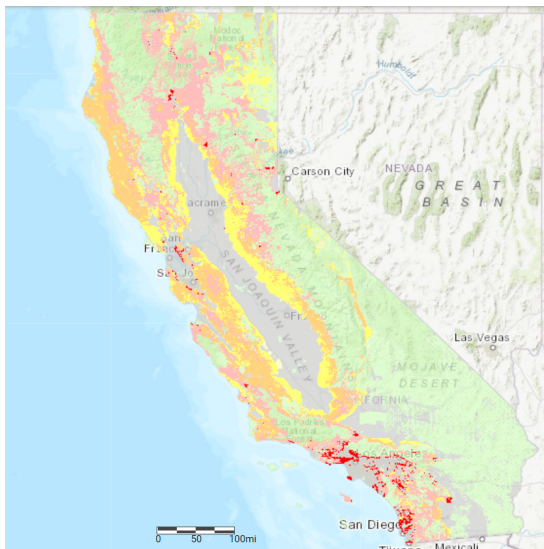
► Thank you!

Appendix 1. Map of Wildfires through 2019



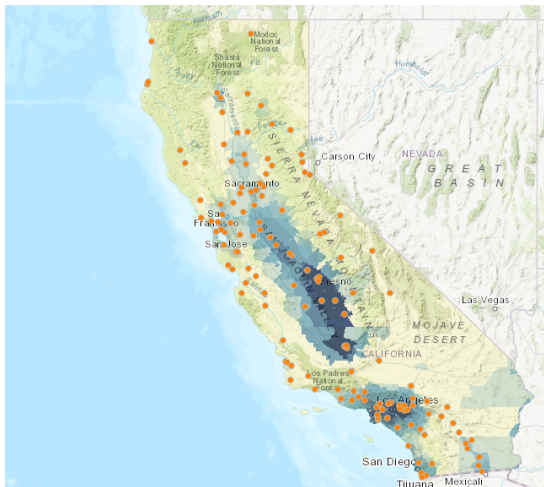
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Appendix 2. Map of Wildfire Risk



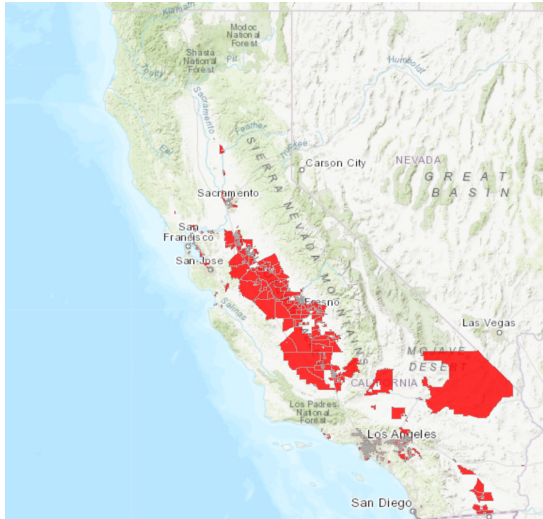
<https://egis.fire.ca.gov/FHSZ/>

Appendix 3. Map of PM_{2.5} Exposure



<https://experience.arcgis.com/experience/ed5953d89038431dbf4f22ab9abfe40d/page/>

Appendix 4. Map of Pollution Risk



<https://oehha.maps.arcgis.com/apps/View/index.html?appid=c3e4e4e1d115468390cf61d9db83efc4>