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Wildfire Risk and Mitigation Across Western Utilities

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1. Background on catastrophic utility-ignited wildfires

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Utility-ignited wildfires

Factors that drive both utility ignitions and catastrophic fire:

- High winds
- Drought and high temperatures
- Dead vegetation
- Development into high fire-risk areas

California Says PG&E Power Lines Caused Camp Fire That Killed 85

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PG&E power lines caused the Camp Fire, California fire officials concluded. Justin Sullivan/Getty Images

New York Times, 2019

California utility-ignited fires

- 2007 Witch / Rice / Guejito fires – San Diego Gas & Electric (SDG&E) distribution infrastructure
- 2017 Napa-Sonoma fires – Multiple sources including Pacific Gas & Electric (PG&E) distribution infrastructure and privately owned power lines
- 2017 Thomas fire – Southern California Edison (SCE) distribution infrastructure
- 2018 Camp fire – PG&E transmission infrastructure
- 2018 Woolsey fire – SCE distribution infrastructure
- 2019 Zogg fire – PG&E distribution infrastructure
- 2019 Kincadee fire – PG&E transmission infrastructure
- 2021 Dixie fire – Likely PG&E distribution infrastructure
- 2025 Los Angeles fires – Possibly LADWP/SCE infrastructure?

Utility-ignited wildfires outside of California

- Oregon – 2020 Labor Day fires (PacifiCorp)
- Colorado – 2021 Marshall Fire (Xcel Energy)
- Hawaii – 2023 Lahaina Fire (linked to Hawaiian Electric)
- Texas – 2024 Smokehouse Creek Fire (Xcel Energy)
- Exposure to wildfire risk growing

Utility-Caused Wildfires Are Becoming a National Problem

Climate change is raising the risk of blazes that are started by power lines and other utility equipment in many parts of the U.S. besides California.

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Workers replaced power lines that the Smokehouse Creek Fire damaged last month in Fritch, Texas. Desiree Rios for The New York Times

New York Times, 2024

2. Utility mitigation of wildfire risk

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Risk mitigation: California approach

- State government creates Office of Energy Infrastructure Safety (**Energy Safety**).
- Energy Safety regulates **Investor-Owned Utilities (IOUs)**, which draft **Wildfire Mitigation Plans (WMPs)** and **Public Safety Power Shutoff (PSPS)** plans.
- California Wildfire Fund reimburses participating IOUs for covered fire damages.

Results in California so far

- Controversial 2019 shutoffs
- Quiet 2022-24
- 2025 Los Angeles area fires
- How to choose between mitigation measures?

Our project

- Build on experience of utilities and regulators
- Identify key mitigation steps
- Collect information on utility wildfire mitigation plan development
- Create framework for quantitative assessment

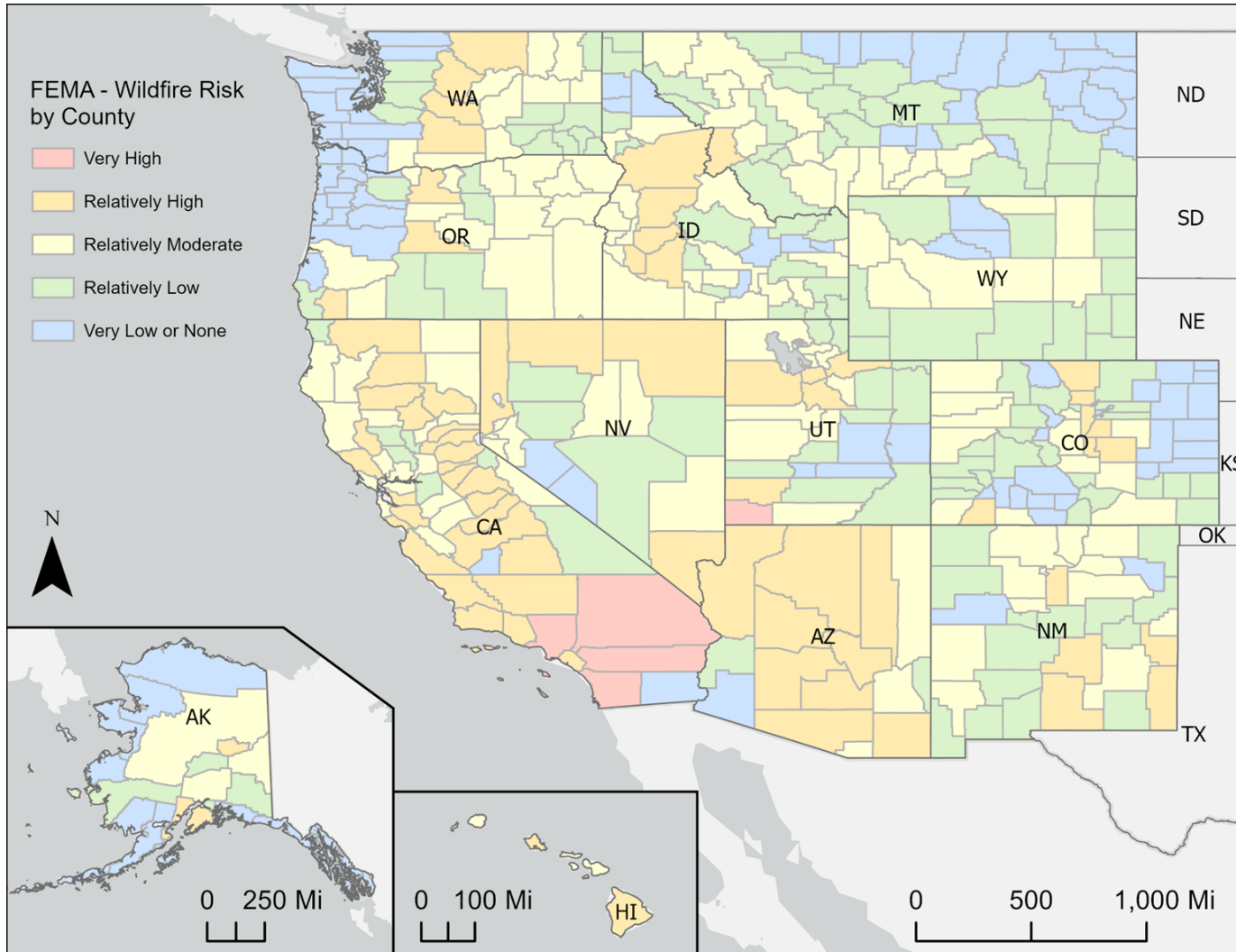
Mitigation development criteria

1. Wildfire Mitigation Plan (**WMP**) created and released?
2. **Weather stations** / other independent meteorological resources?
3. **Fast-Trip** / protective equipment and device settings (PEDS)?
4. Operational **PSPS plan**?
5. Shutoff **impact mitigation**?

Mitigation maturity tiers

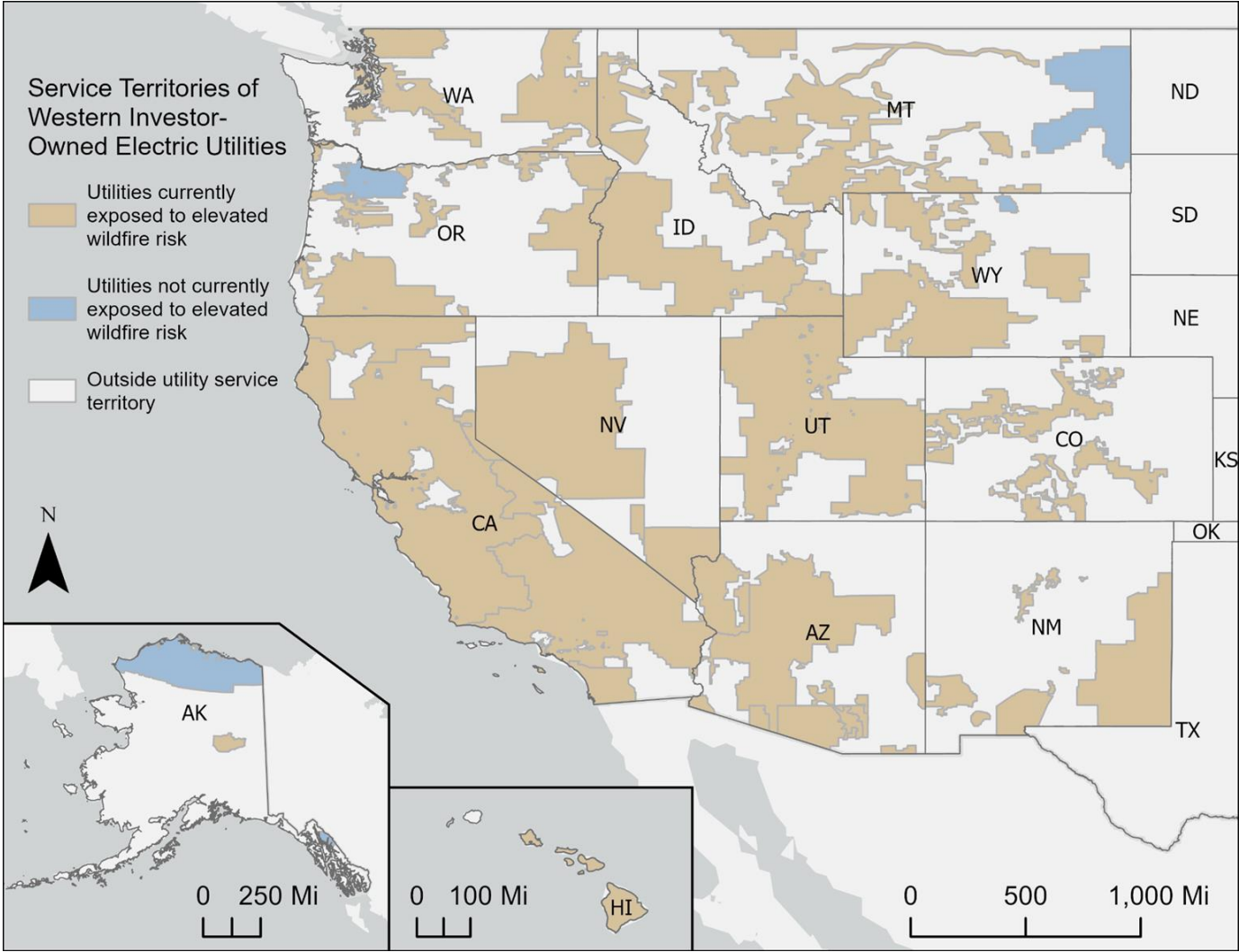
- **Low** – No WMP and/or no PSPS plan
- **Intermediate** – WMP and PSPS plan but fast-trip and/or shutoff mitigation incomplete
- **High** – WMP and PSPS plan, fast-trip and shutoff mitigation in place

FEMA Wildfire Risk Ratings by County



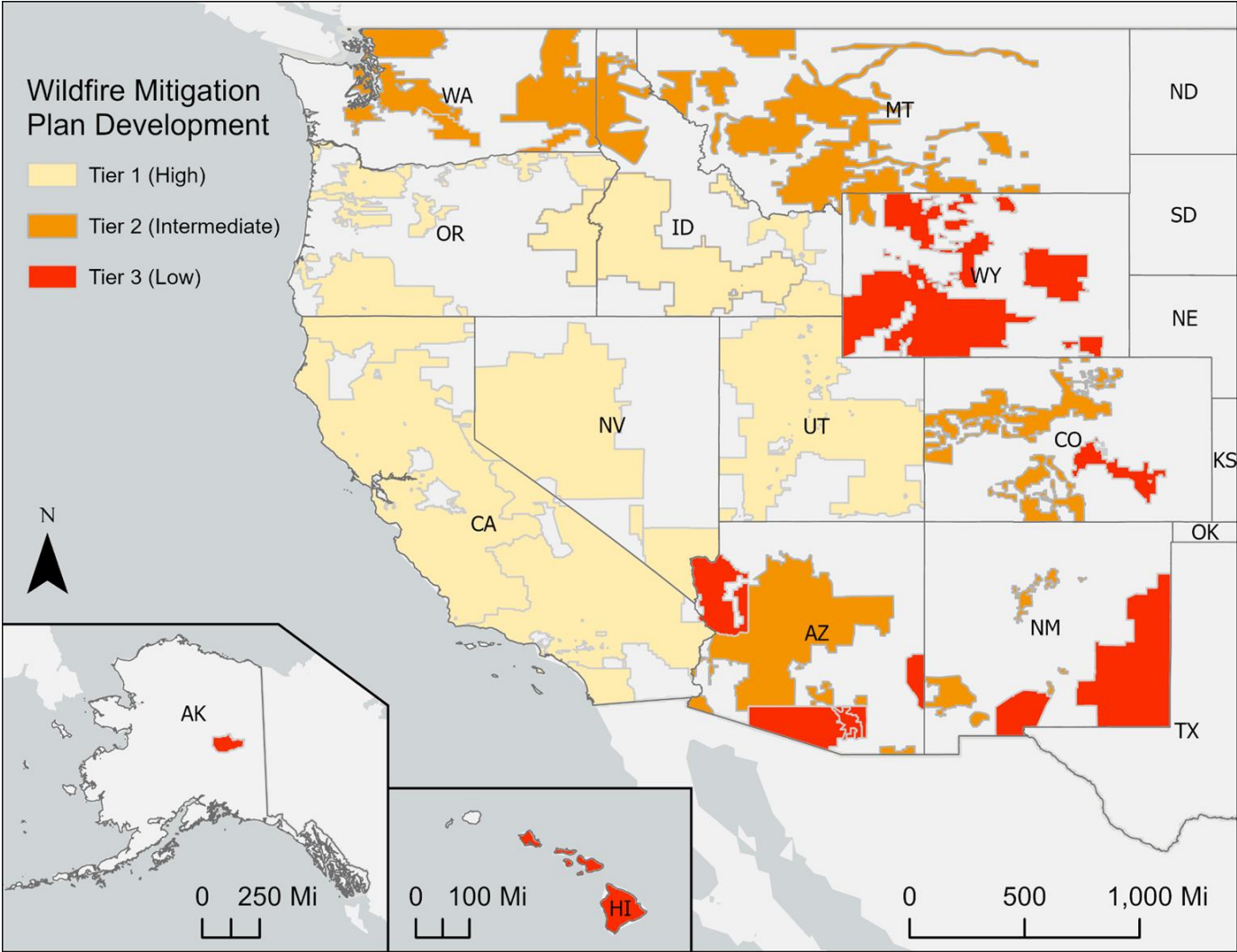
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Service Territories of Western IOUs exposed to elevated wildfire risk



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Wildfire Mitigation Plan Development (as of May 2024)



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Lessons learned

- What are our takeaways?
- What are our next steps?

