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THE EFFECT OF LARGE WILDFIRES ON LOCAL LABOR MARKETS

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Large wildfires can have diverse socioeconomic impacts on nearby communities. Fires may have negative economic impacts on some sectors, but fire suppression efforts may positively affect employment and wages during the fire. However, there is little understanding of these effects and their implications for communities. This study examines the effects of large wildfires on local employment and wages in the western United States.

Approach

We created nine statistical models to examine fire incident, suppression spending, and county-level labor market data for the 346 wildfires that cost the Forest Service more than \$1 million in total suppression spending from 2004-2008. For the model that includes local suppression spending, we used a sample of 135 large fires with each transaction coded to the receiving vendor's county. We analyzed how local labor market impacts varied by the economic specialization of a county, total amount of suppression spending, and amount spent locally.

Results

The Forest Service spent \$2.4 billion on 346 large wildfires in 124 counties across the West from 2004-2008 (Figure 1). The average fire cost \$7.0 million.

In counties that experienced at least one wildfire, employment increased 1.5 percent, and the average wage rate increased 0.9 percent over statewide average trends during the quarter that the wildfire was burning. Counties that were adjacent to those with large wildfires also experienced an increase

in the average wage rate of 0.4 percent, but had no statistically significant change in employment during the quarter of the wildfire.

Recreation-based counties, counties where large wildfires commonly occur, and counties where government is a dominant employer saw even larger increases in employment. These government-based counties also saw greater increases in the average wage rate. Analysis of metropolitan/rural status and service-based counties did not show significant change from statewide trends in affected counties.

Where the Forest Service spent suppression funds also impacted local labor markets. The total amount of money spent had little or no impact on local employment or wages. Local suppression spending, however, had a substantial impact. For every million dollars that the Forest Service spent on wildfire suppression in the county of the wildfire, the employment rate in the county increased 0.9 percent. This new employment may have paid less than the average wage rate in the county or been of limited duration, because with every million dollars spent locally, the average wage rate in the county decreased by 0.5 percent.



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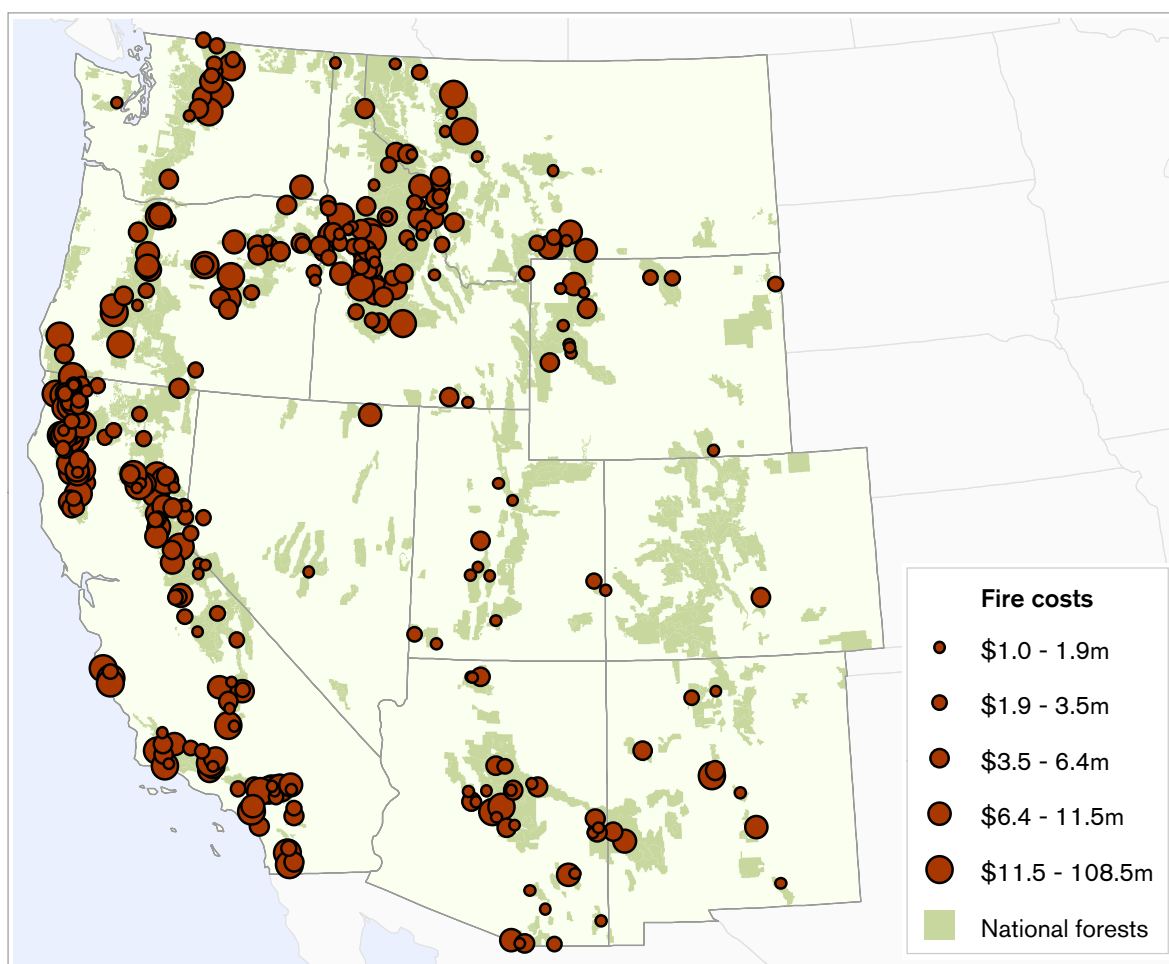
Conclusion

Although the overall impacts of wildfires are likely dynamic over time, this research found that fire suppression spending created short-term employment boosts during large wildfires. This suggests that large wildfires may have some positive local economic effects. Further, evidence that local suppression spending increased local employment indicates that how and where the Forest Service spends suppression resources matters for local economies.

More information

The complete report can be found in the EWP Working Paper #42, “The Effect of Large Wildfires on Local Labor Markets,” which is available at ewp.uoregon.edu/publications/working.

Figure 1 Large wildfires, 2004-2008



This briefing paper was made possible with funding from the Joint Fire Service Program, USDA Forest Service Northern Research Station, and the University of Oregon. Photo credit: Oregon BLM. Map credit: Branden Rishel.

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