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Disparate Impacts of Wildfire on Undocumented Migrants: Lessons from Sonoma County

When disasters like wildfires strike, it is often assumed they do not discriminate on the basis of race or social class of their victims. While disasters themselves may not discriminate, they are a product of human decision-making that often disproportionately impacts low-income communities of color due to existing structural inequalities in society (Bobo, 2006; Bradley, 2017). Every part of a disaster – including vulnerabilities, preparedness, response, and rebuilding – is to some extent a social calculus. Therefore, the question of whose lives get priority before, during, and after a disaster is critically important (Smith, 2006; Kelman, 2020).

In the United States, as governments confront the challenges of climate change and extreme wildfire events*, they often fail to embrace and engage undocumented Latino/a and Indigenous migrants, who are especially vulnerable and stigmatized in society (Chavez, 2008; Tierney, 2019). They are disproportionately affected by racial discrimination, exploitation, economic hardships, less English proficiency, and fear of deportation in their everyday lives — their pre-disaster marginalized status (Mollenkoph and Pastor, 2016). Yet, few studies examine the consequences of disaster for undocumented migrants. There is a strong need to better analyze the socio-cultural context and processes that produce structural inequality for undocumented Latino/a and Indigenous migrants, and how disasters can intensify existing inequities (Stough et al., 2010).

Our research on extreme wildfire events in Sonoma County show that emergency response and recovery efforts often ignored the needs of undocumented Latino/a and Indigenous migrants. Resources were directed toward privileged individuals, leaving local migrant rights and environmental justice groups to provide essential services such as language access to emergency information in Spanish and Indigenous dialects, labor protections for farmworkers endangered in the fields, and a private disaster relief fund for undocumented migrants ineligible for federal aid. Because undocumented migrants (particularly Indigenous individuals) usually experience socioeconomic precarity, the wildfire intensified their already difficult situation.

Table 1
Most Deadliest and Destructive Wildfires in California:
Sonoma County 2015 - 2020

Fire	Rank	County	Acres	Start Date	Structures	Deaths
Tubbs	4 th (deadliest) 5 th (destructive)	Napa, Sonoma	36,807	October 2017	5,643	22
Valley	6 th (destructive)	Lake, Napa, Sonoma	76,067	September 2015	1,955	4
Glass	10 th (destructive)	Napa, Sonoma	67,484	September 2020	1,520	0
LNU Complex	11 th (destructive)	Napa, Sonoma, Solano, Yolo	363,220	August 2020	1,491	5
Nuns	13 th (destructive)	Sonoma	54,382	October 2017	1,355	3
Kincade	unranked	Sonoma	77,758	October 2019	374	0



Key Findings:

Disaster Relief Aid

- A permanent statewide fund is needed to assist undocumented individuals who have lost their homes, wages, and/or employment due to disasters. Currently, the federal government prohibits disaster assistance to undocumented residents. Private disaster relief funds such as the UndocuFund are underresourced and have long waiting lists.

Ensure Migrant Worker Safety and Health

- In 2019, the California Occupational Safety & Health Standards Board adopted an emergency regulation to protect migrant workers from smoke during extreme wildfire events. The regulation requires employers to provide N95 respirator masks. To further safeguard migrant worker safety and health, these regulations should be codified into law.
- The state should enact additional safety protocols for farmworkers laboring in mandatory evacuation zones, including: when and how an employer can allow workers into a site; real-time air monitoring during wildfires; employer emergency plans; adequate field sanitation; and worker post-exposure healthcare monitoring.
- State and local governments should collaborate with migrant community-based organizations in disaster planning, response, and recovery. This includes collaboration in the enforcement & monitoring of worker health & safety during disasters.
- State and local governments should consider providing 'hazard pay' for workers laboring in mandatory evacuation zones.

Cultural and Linguistic Competency

- State and local governments should be required to integrate the diverse cultural and linguistic needs of their residents for emergency communications, and disaster planning and implementation.

Limits of Wildfire Vulnerability Mapping

- Social vulnerability to wildfire models based solely on US Census data can have serious limitations. Immigrants often avoid interaction with government representatives for fear of deportation, causing undocumented immigrants to be under counted. This renders some migrant communities invisible in social vulnerability mapping models.

Implications for Policy

Our research shows that undocumented Latino/a and Indigenous migrants are further harmed in the context of climate change and extreme wildfire events in Sonoma County. This region has suffered from multiple years (2015-2020) of extreme wildfire events that have been ranked in the top 5 and top 20 for the most destructive and deadly wildfires in California's history, respectively (see Table 1). In California, while many of the fire-prone regions are largely populated by higher-income groups (such as Sonoma County), they also include hundreds of thousands of low-income individuals who lack the resources to prepare or recover from fire (Davies et al. 2019; Mendez et al. 2020).

These numbers will likely surge according to the California Fourth Climate Assessment report, which projects that the state's wildfire burn area may increase by 77 percent by the end of the century (Bedsworth et al., 2018). The frequency and severity of wildfires in California, moreover, is causing increases in hospitalizations for respiratory emergencies and concerns about the longer-term health of outdoor workers, in particular, farmworkers (Rott, 2021).

Fine particulate matter (PM2.5) from wildfire smoke can be several times more harmful to human respiratory health than PM2.5 from other sources, such as car exhaust (Aguilera et al., 2021). The harm due to wildfire smoke may be greater than previously thought, bolstering the argument for additional research and policies to help safeguard the most vulnerable and stigmatized populations.

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*According to the National Wildfire Coordinating Group (2020), an **extreme wildfire event** is “a level of fire behavior characteristics that ordinarily precludes methods of direct control action. One or more of the following is usually involved: high rate of spread, prolific crowning and/or spotting, presence of fire whirls, strong convection column. Predictability is difficult because such fires often exercise some degree of influence on their environment and behave erratically, sometimes dangerously.”

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