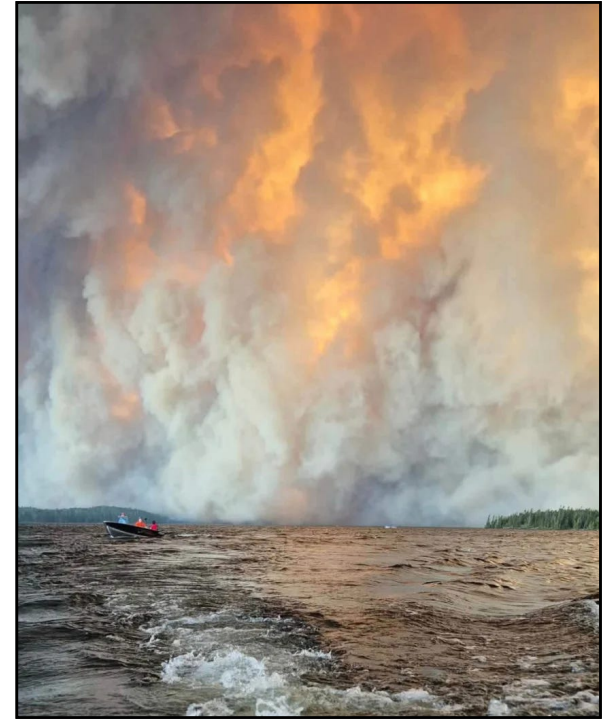


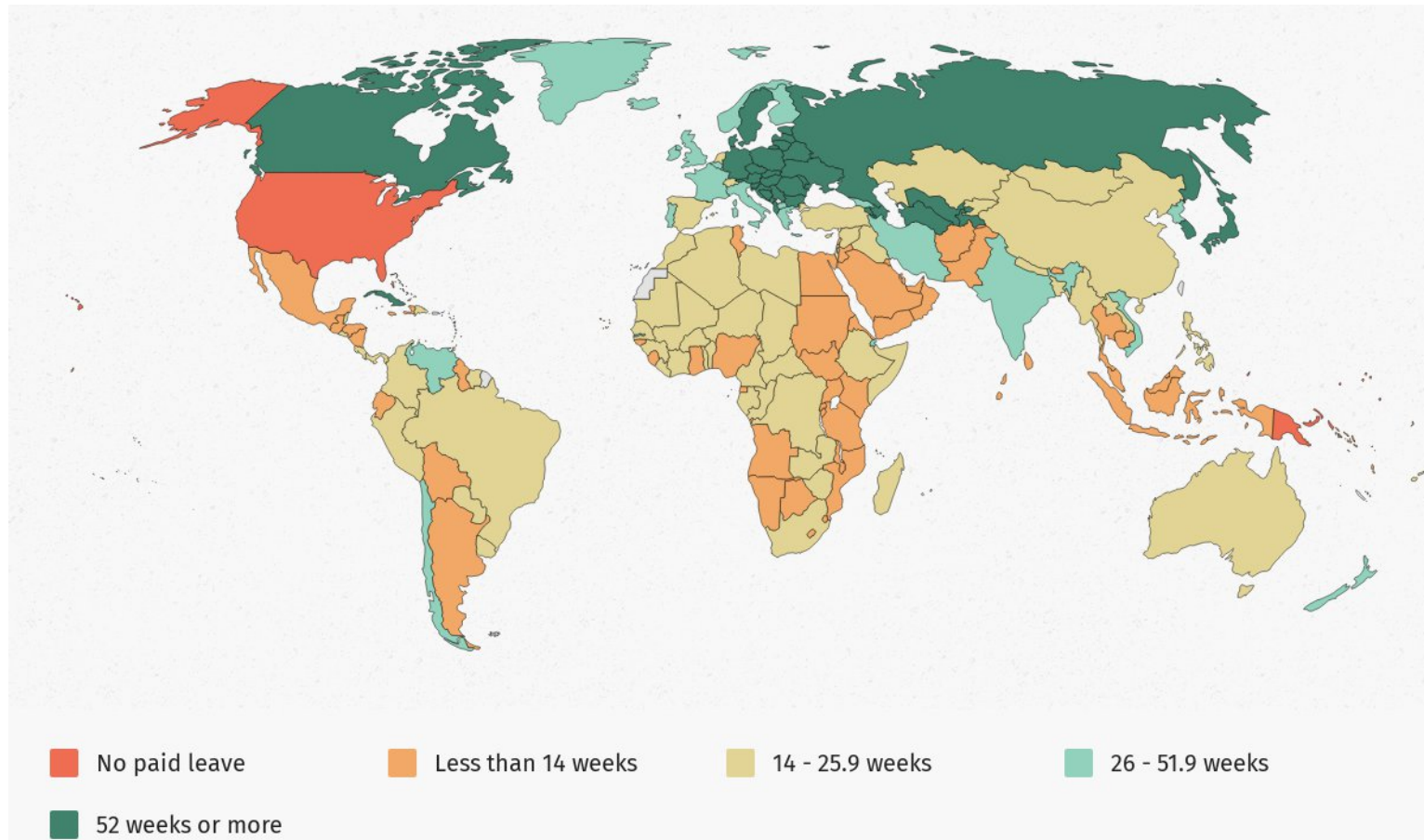
Promising practices, lessons, and policy gaps: Advancing responses to air quality from wildfires at the community level



Adele Cassola, Nicholas Perry
WORLD Policy Analysis Center, July 2026



Our Typical Approach to Building Comparative Data: Mapping Policy Action Globally



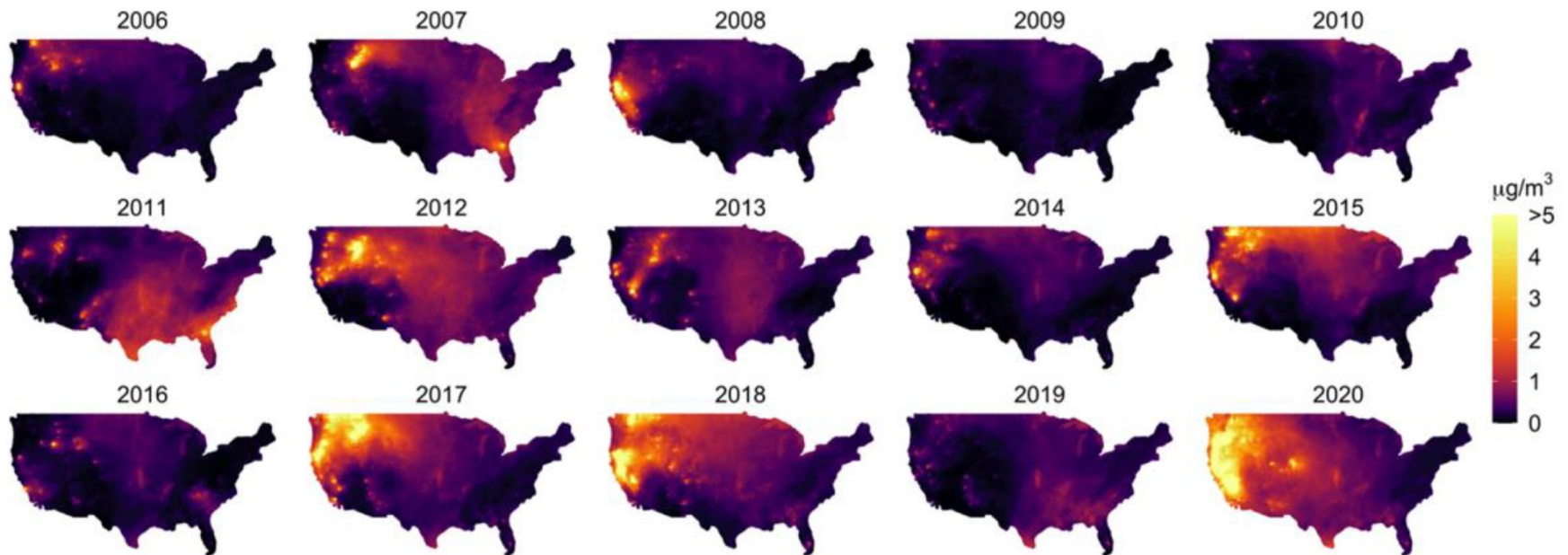
Source: WORLD Policy Analysis Center US Paid Family and Medical Leave Policy Database, 2022

A Comparative Policy Approach When You Can't Map

- In some policy areas:
 - ways to achieve goals haven't been agreed upon
 - good feasible approaches aren't clear
 - the policy landscape is rapidly evolving, changing, and/or still emerging
- In these circumstances, identifying successful innovations to accelerate learning is an invaluable first step



Wildfire Smoke: Daily average PM_{2.5} from smoke by year



Each panel shows average daily smoke PM_{2.5} in each location and each year, computed as the average over all days in each grid cell in each year
(Childs et al, 2022)



The worsening smoke landscape

- The scale and intensity of North American wildfires is increasing year after year, with significant consequences for ecosystems and human health
- Dangerous smoke events now occur in rural communities, in dense cities, and across the wildland–urban interface
- Smoke travels: a community may be blanketed by fires in a neighboring forest or by fires hundreds of miles across a border
- Year-by-year data show smoke events expanding into new parts of the continent, even as annual burn totals fluctuate



Our Approach

Elevating **promising practices across geographies:**

- Vancouver, British Columbia
- Kamloops, British Columbia
- Missoula, Montana
- Denver, Colorado
- Central Washington (primarily Chelan/Douglas Counties)
- Puget Sound, Washington (primarily King and Tacoma/Pierce Counties)
- Northern Oregon (primary Hood River and Multnomah Counties)
- Central Oregon (primarily Deschutes County)
- Victoria, Australia
- Paid climate leave across geographies

Consultations and conversations with **more than 150 stakeholders**



Stakeholders interviewed

- Provincial, regional, and local **air quality improvement practitioners**
- County, community, state, and provincial level **public health and fire officials**
- County, regional, and statewide **air quality and forecasting experts**
- **Community-based organizations** representing a range of at-risk, sensitive, and vulnerable populations
- **Community groups and collaboratives**
- **Academics and researchers** working across a range of disciplines



Interviews in British Columbia (provincial level)

Senior team members with expertise in air quality, climate adaptation, emergency management, environmental health, public health, and wildfire response, at:

- **BC Center for Disease Control**
- **First Nations Health Authority (x2)**
- **BC Ministry of the Environment**
- **Health Emergency Management BC**
- **BC Lung Foundation**
- **Simon Fraser University**
- **University of British Columbia**
- **FP Innovations**



Interviews in Vancouver (municipal and regional levels)

Senior team members with expertise in air quality, climate adaptation, community services, disaster risk reduction, emergency communications, emergency management, environmental health, and public health, at:

- **Vancouver Coastal Health (x2)**
- **Metro Vancouver (x2)**
- **City of Vancouver (x4)**
- **PHS Community Services Society**



Interviews in Kamloops (municipal and regional levels)

Senior team members with expertise in climate adaptation, community preparedness and resilience, emergency management, environmental services, sustainability, and wildfire preparedness, at:

- **City of Kamloops (x4)**
- **Thompson-Nicola Regional District**
- **United Way British Columbia**



Orientation to what is working for vulnerable and sensitive groups

POPULATION

WHY THE RISK IS ELEVATED

Asthma & lung disease

Smoke exposure can trigger severe breathing responses

Cardiovascular disease

Smoke can trigger severe cardiovascular events

Children

Growing lungs; more time outdoors; higher air intake per pound

Older adults (65+)

More chronic disease; the body's resilience declines with age

Pregnant women

Elevated breathing rates; heightened fetal sensitivity

Lower incomes

Less access to care and filtration; poorer-quality housing

Outdoor workers

Prolonged exposure to high smoke concentrations



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🏠 / Increasing Resilience to Wildfires: Advancing Responses to Air Quality Risks

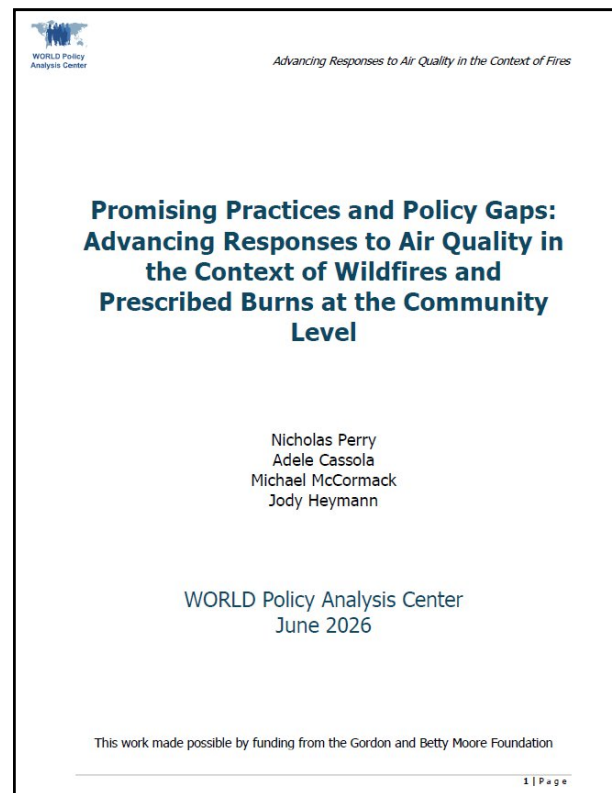
Increasing Resilience to Wildfires: Advancing Responses to Air Quality Risks

Increasing Resilience to Wildfires: Advancing Responses to Air Quality Risks

The scale and intensity of wildfires in North America is increasing, endangering human health and well-being and with significant consequences for ecosystems. Yet too often, preparations for prescribed fires, wildfires, and smoke events are falling short or have gaps.

To identify and assess what's working to prepare for wildfire smoke events, ensure protection from smoke amidst wildfires and prescribed burns, and reliably measure and address air quality during and after wildfires, we spoke with more 150 stakeholders across the Western United States, British Columbia, Canada, and Victoria, Australia.

Our report, *Promising Practices and Policy Gaps: Advancing Responses to Air Quality in the Context of Wildfires and Prescribed Burns at the Community Level*, outlines what communities can and should learn from what is working elsewhere, and the key gaps we need to fill to protect communities.



 *Advancing Responses to Air Quality in the Context of Fires*

Promising Practices and Policy Gaps: Advancing Responses to Air Quality in the Context of Wildfires and Prescribed Burns at the Community Level

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WORLD Policy Analysis Center
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Promising Practices: Air Quality Monitoring

- ❖ **Moving beyond PM_{2.5}** to more comprehensive models of monitoring
- ❖ **Comparing indoor/outdoor** air quality to ensure buildings are protecting people
- ❖ **Forecasting the health impacts** of air quality degradation to inform health response
- ❖ Using **small air sensors** to monitor air quality at a more localized level
- ❖ Reaching **rural areas** and other **historically data-poor** populations
- ❖ **Expansion of monitoring networks** to gather additional data for target populations



Promising Practices: Air Filtration, Clean Air Spaces and Clean Air Shelters

- ❖ Supporting the creation of a **clean air sanctuary at home**
- ❖ Reducing the **costs of at-home air filtration** at the population scale
- ❖ **DIY Air Filters** workshops and distribution programs
- ❖ Collectively **re-imagining community clean air spaces**
- ❖ Subsidizing **retrofits** and **building clean air** into building codes



Promising Practices: Advice and Communications, Outreach, and Education

- ❖ **Language translation, accessibility, and culturally relevant messaging**
- ❖ **Investing in emerging communities of practice and knowledge sharing networks**
- ❖ **Reframing some public health messaging** to show “at-risk” groups are not a small minority of the population
- ❖ **Using trusted messengers** while seeking input from and giving ownership to stakeholders from affected communities



Promising Practices: Advice and Communications, Outreach, and Education cont....

- ❖ **Utilizing centralized websites**, digital hubs, and other forms of **streamlining** public information sharing
- ❖ **Integrating smoke and air quality advisories** into existing weather and information systems
- ❖ **Mock evacuations, simulations, and training drills**
- ❖ **Advocating for readiness and preparedness** in advance of the smoke season and proactively working with communities to effectively host evacuees and others fleeing smoke and fire



Promising Practices: Prescribed Burns and Public Health

- ❖ Recognition that **community smoke readiness is the key pathway to acceptance of beneficial fire**
- ❖ Public license is a **continually evolving, iterative relationship, not a one-time threshold**
- ❖ **Forest collaboratives** are a promising model for multi-stakeholder engagement
- ❖ Bringing together the **expertise of on-the-ground firefighters and technical forecasting experts** to evaluate large-scale prescribed burn opportunities
- ❖ Framing and leveraging **prescribed fires as drills and opportunities to prepare communities**



Policy Spotlight: Paid Climate Leave

- ❖ In 2024, Spain was first country to pass a specific national level leave paid policy explicitly tied to climate related weather events (including smoke and fire)
- ❖ This new leave law protects the right of workers not to go to work in the event of catastrophes or climate-related weather alerts that could put them in danger
- ❖ Workers movements in Ireland and policymakers in Pennsylvania, among others, have advocated for similar policies



Policy Gaps and Next Frontiers

We have key knowledge gaps related to air quality and beyond. Among the gaps essential both for resilience to wildfires and acceptance of prescribed burns are:

- ❖ Protecting the **youngest children** during smoke events
- ❖ Addressing the needs of individuals who are **caregiving** for others
- ❖ Successfully addressing **mental health** and holistic health



Additional Challenge Gaps and New Directions

- ❖ Ensuring **clear thresholds and dedicated funding** for activating smoke response measures
- ❖ Increasing clean air shelter and community spaces **uptake**
- ❖ **Indoor** air quality verification
- ❖ Smoke readiness **timing** challenges
- ❖ **Sustainably funding** air filtration
- ❖ Reaching **outdoor workers**
- ❖ Protective **material reserves and stores**



Where we have answers: Communities can and should learn from what is working elsewhere, and we urgently need to scale promising practices

Where we don't have answers: Key gaps can be filled, must be filled, and can have transformative potential for people and planet

Next Steps: We need to systematically map whether essential policies are in place



Increasing Resilience to Wildfires: Advancing Responses to Air Quality Risks

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**We welcome discussing questions, reflections,
and next steps with you!**

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