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Smoke data Knowledge Exchange (SmoKE)

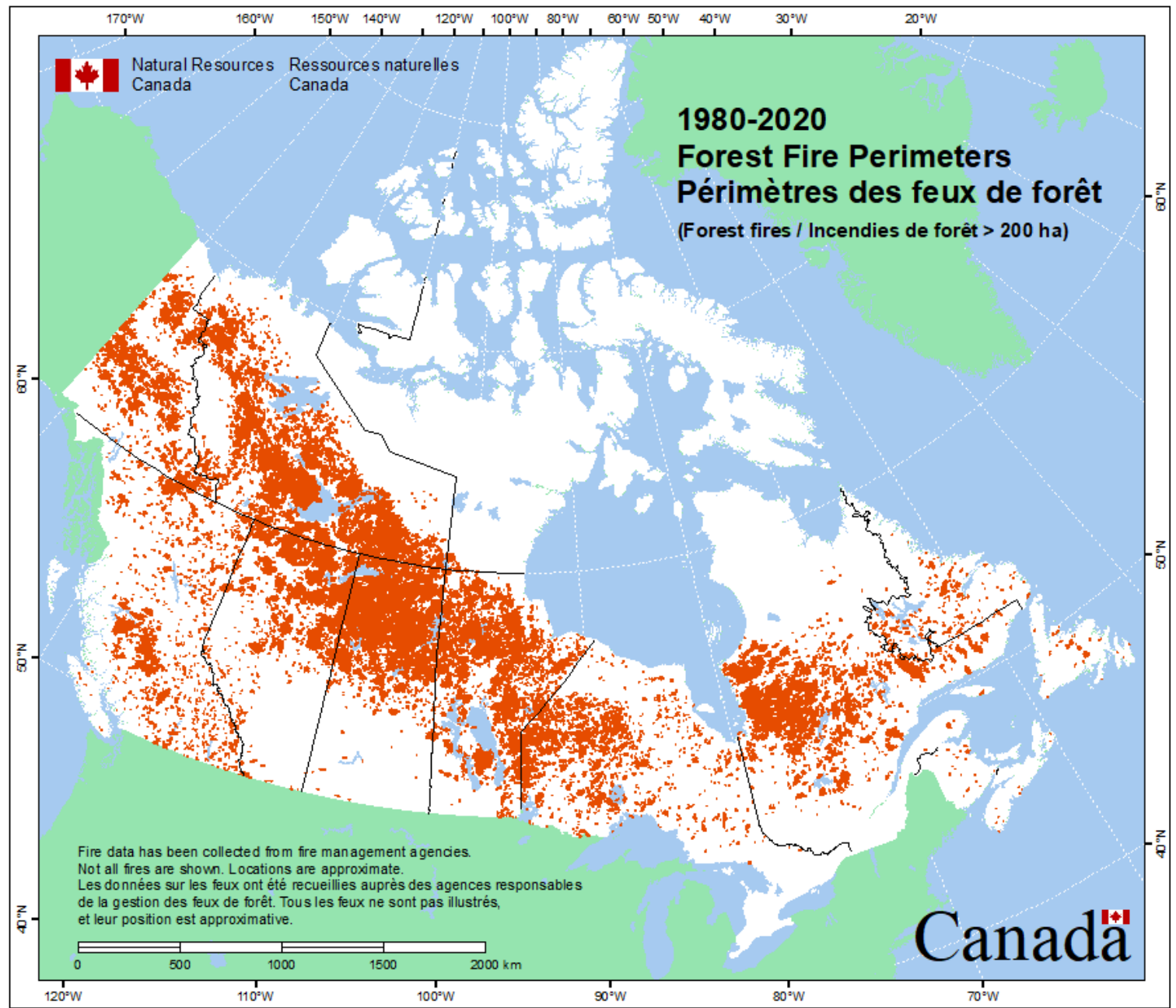
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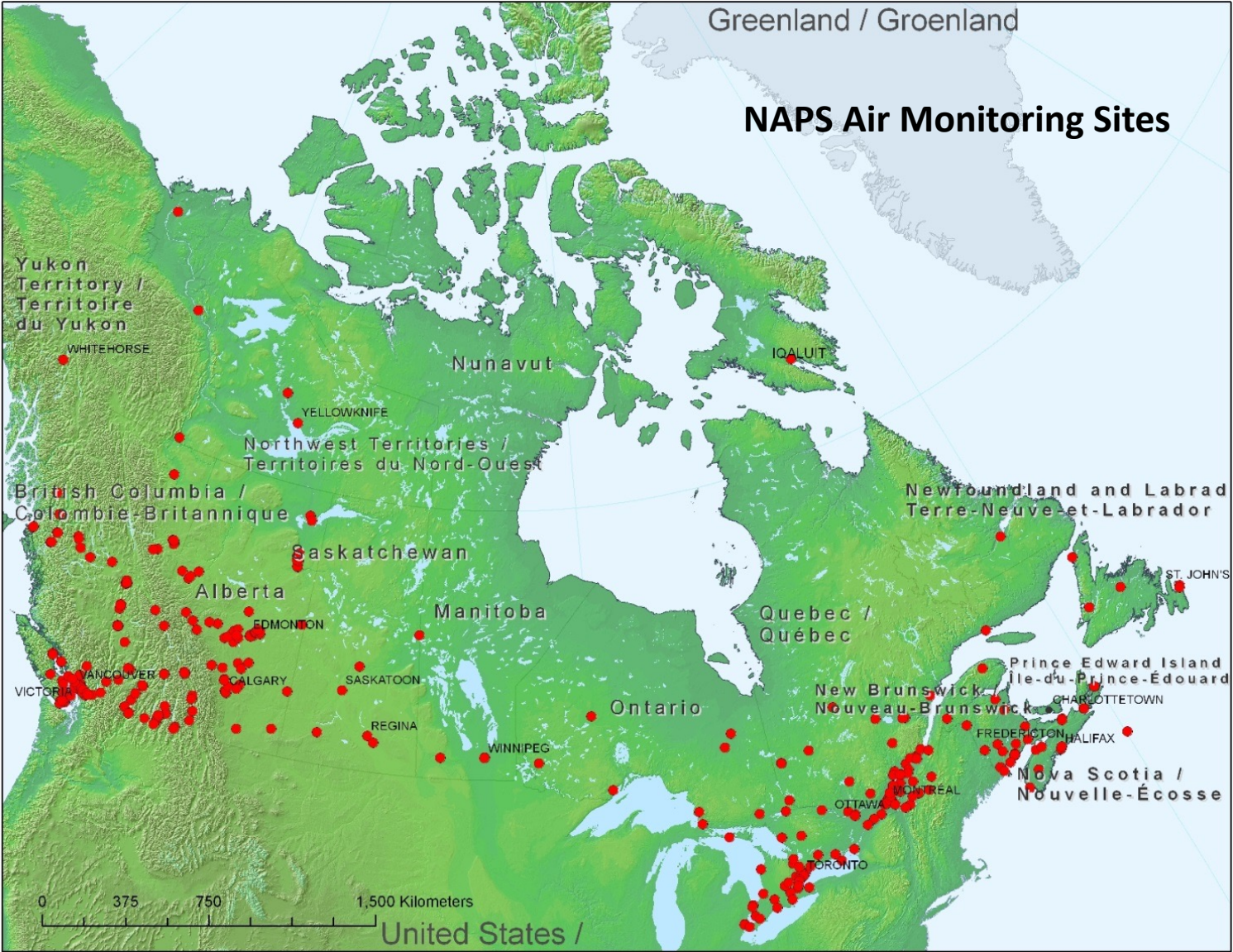


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Rationale

- Indigenous, rural and remote communities are more likely to experience elevated fine particle air pollution (PM_{2.5}) concentrations from biomass smoke due to both summer wildfires and wood combustion for home heating
- Residents of these communities are likely to be more susceptible to adverse health effects
- Data on PM_{2.5} exposures are often unavailable, owing to the lack of routine monitoring.

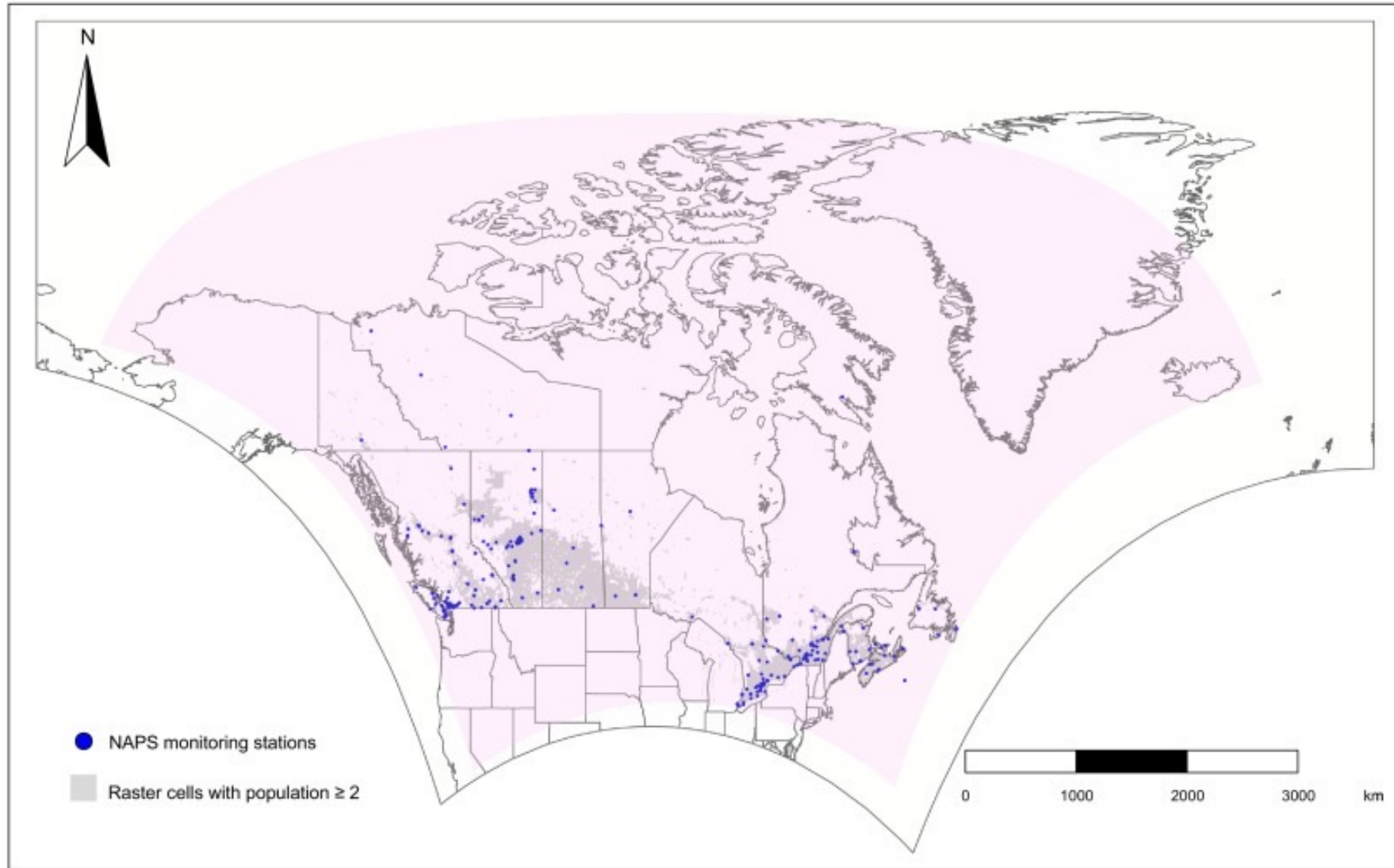




The Canadian Optimized Statistical Smoke Exposure Model (CanOSSEM): A machine learning approach to estimate national daily fine particulate matter (PM_{2.5}) exposure



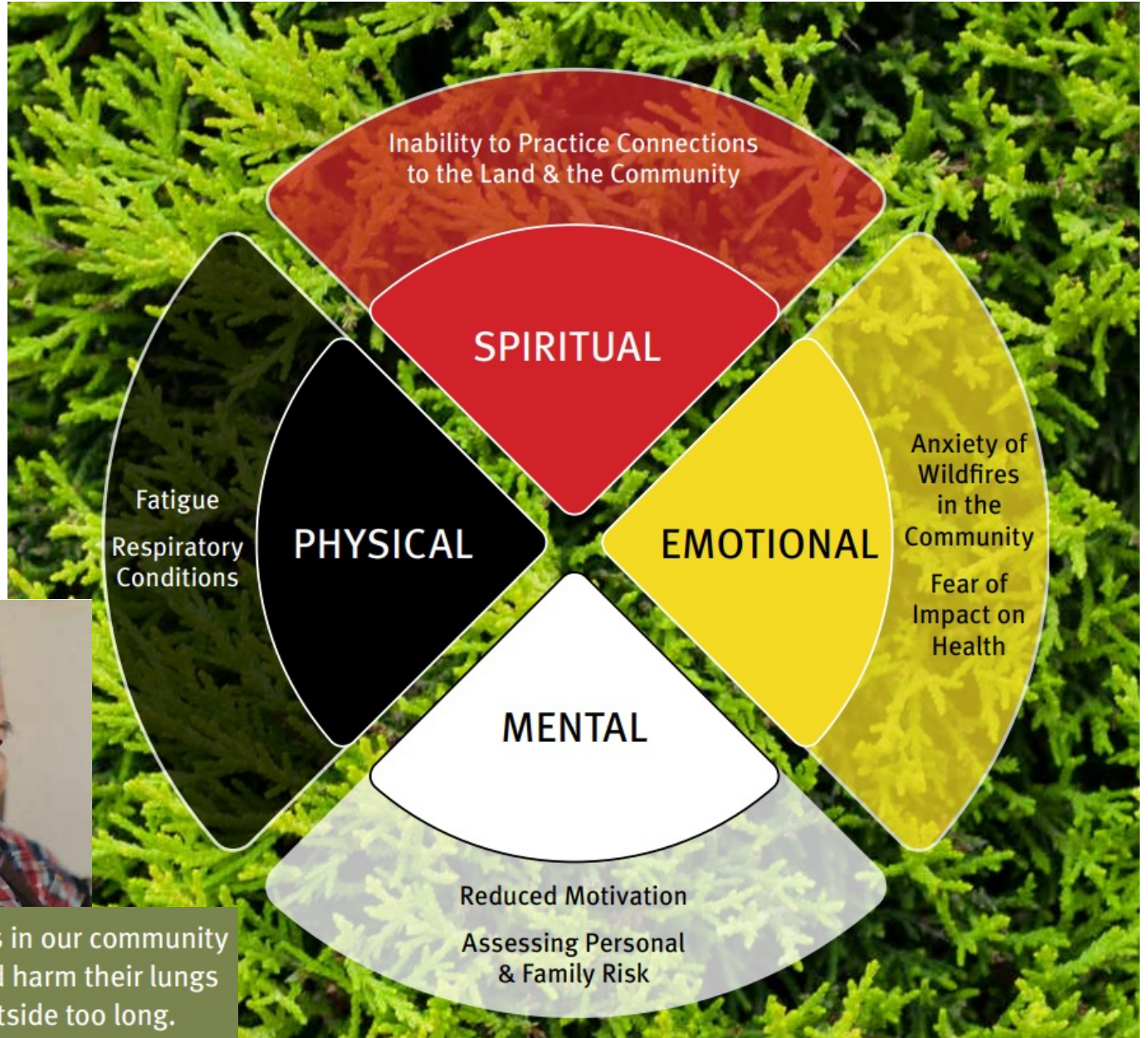
BC Centre for Disease Control



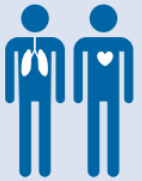


INDIGENOUS EDUCATIONAL TOOLKIT

for Understanding Air Quality
& the Impacts on Health and Well-Being



THOSE MOST AFFECTED



PEOPLE WITH CHRONIC LUNG/HEART DISEASE



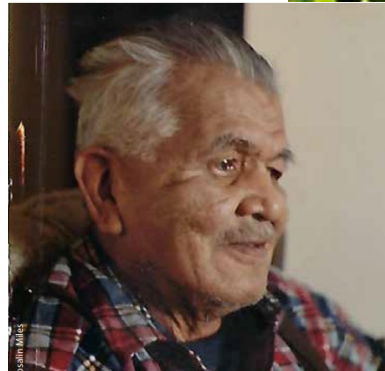
PREGNANT WOMEN



INFANTS, YOUNG CHILDREN



OLDER ADULTS



I worry about the Elders in our community and I know that it would harm their lungs and heart if they are outside too long.



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Components

- Indigenous knowledge engagement sessions
- Air quality modelling
- Citizen science portal

Aim: Communities can leverage data to support their own risk assessment, communication and management activities to improve resiliency and emergency preparedness.

How can communities leverage data?



- Evaluate exposure level compared to other communities
- Communicate with community members about health risks
- Conduct own health research
- Increase resiliency and emergency preparedness
- Promote effective interventions

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Effective interventions



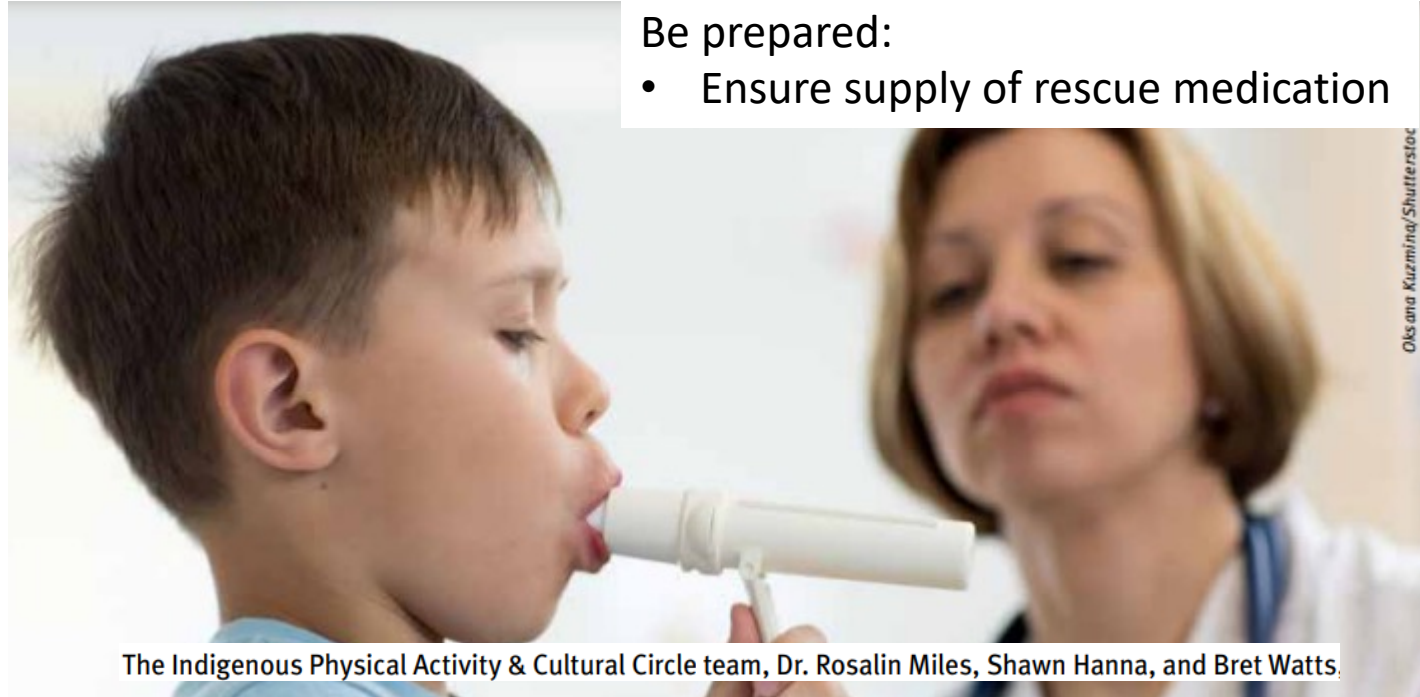
Indigenous Fire Stewardship

Fire Keeper Pierre Krueger, Penticton Indian Band, conducting a cultural burn in the Nicola Valley, British Columbia.”
(Photo credit: A.C. Christianson, CFS)



Be prepared:

- Ensure supply of rescue medication

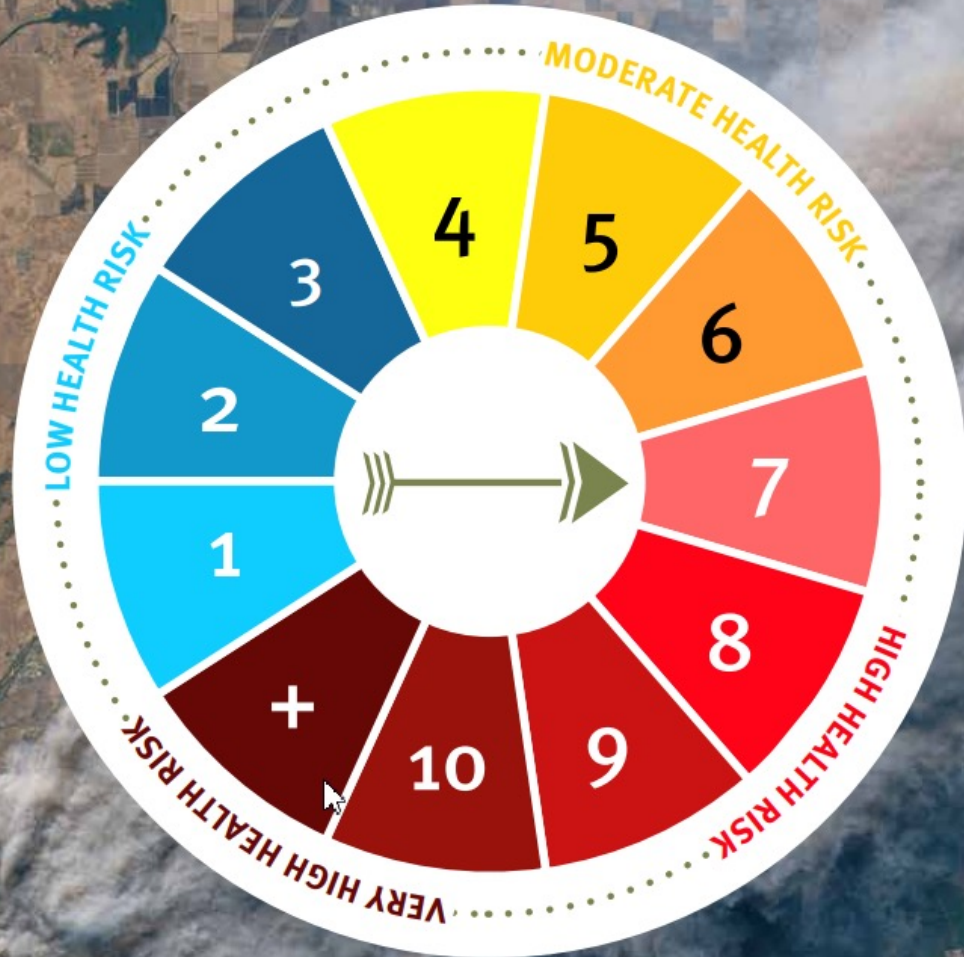


Oksana Kuzmina/Shutterstock

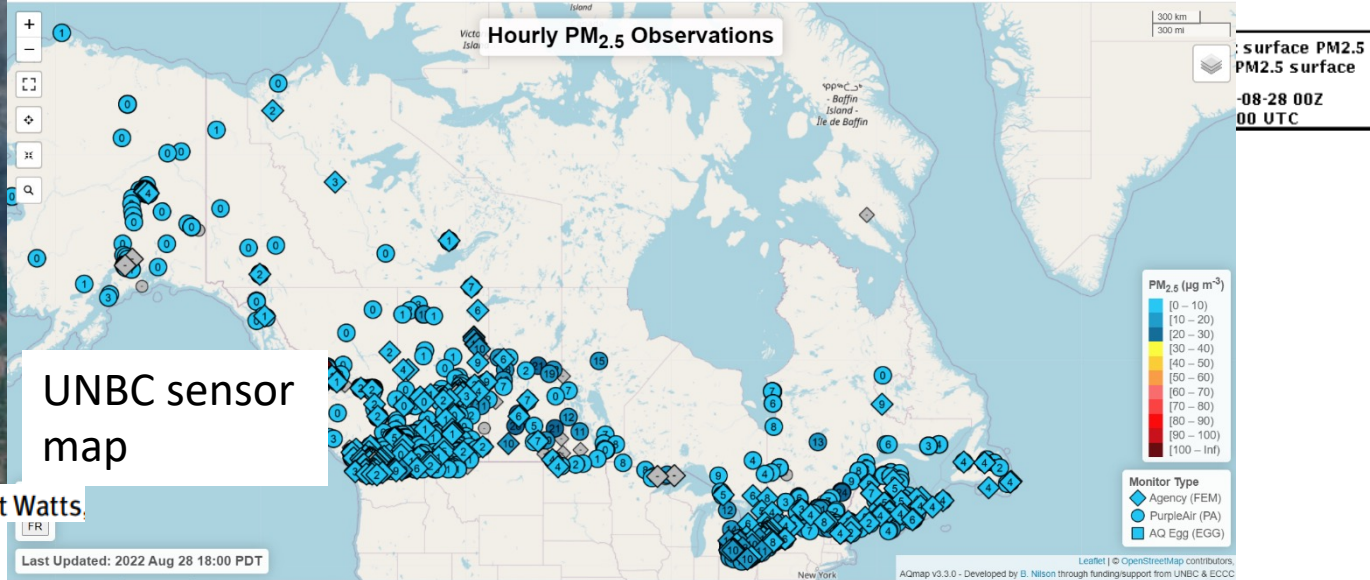
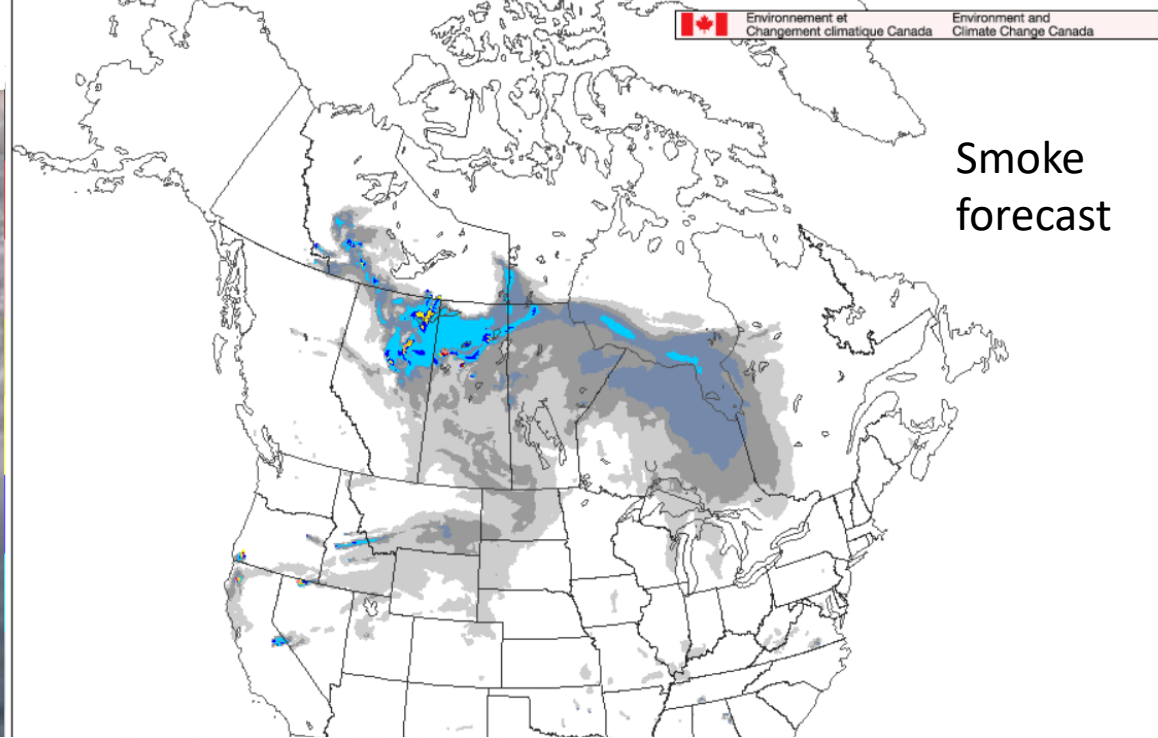
The Indigenous Physical Activity & Cultural Circle team, Dr. Rosalin Miles, Shawn Hanna, and Bret Watts.

Monitor air quality conditions

AQHI



Indigenous Studies in Kinesiology, 2018



UNBC sensor map

The Indigenous Physical Activity & Cultural Circle team, Dr. Rosalin Miles, Shawn Hanna, and Bret Watts.



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Portable Air Cleaners for Wildfire Smoke

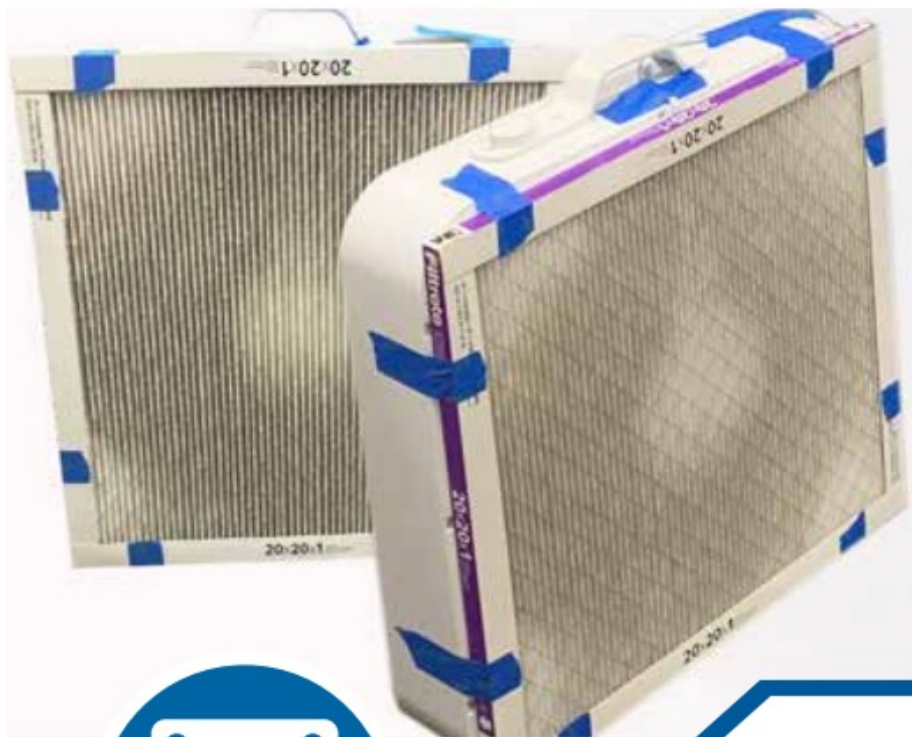
Wildfire smoke is a complex mixture of air pollutants, including small particles that can cause irritation and inflammation when inhaled. Smoke can come into buildings through windows, doors, vents, air intakes, and other openings.



Most people spend up to 90% of their time indoors, where portable air cleaners can be used to reduce the impacts of wildfire smoke.



Most portable air cleaners use high efficiency HEPA filters to trap the very small particles in wildfire smoke.



Home-Made Box Fan Air Filters

One of the best ways to protect your health from wildfire smoke is to create and stay in a cleaner air space at home. Commercially available portable air cleaners with HEPA filters are ideal for removing small particles from the air, but they may not be easily accessible. A home-made box fan air filter can also help to reduce indoor concentrations of wildfire smoke in a small room.



If you choose to make and use a home-made box fan air filter, there are limitations and potential risks that should be acknowledged.



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Face Masks for Wildfire Smoke

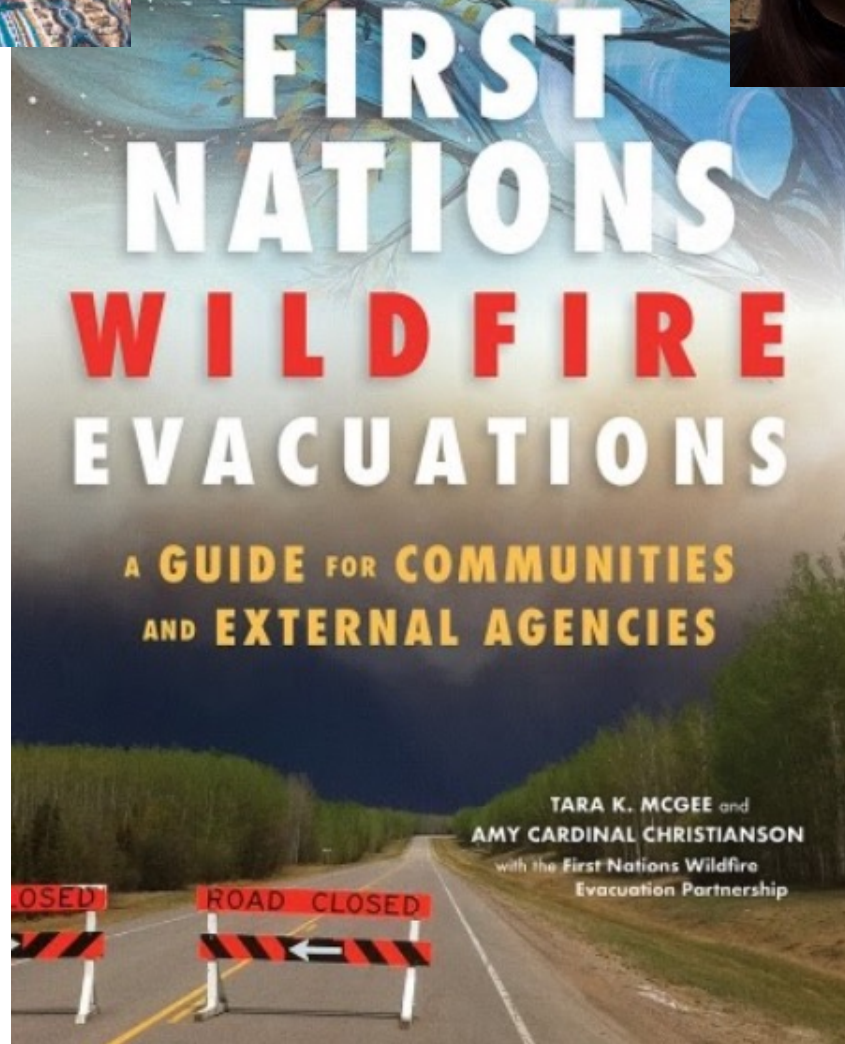
The best way to protect your health from wildfire smoke is to seek cleaner air. Use a portable air cleaner at home, find an indoor environment with filtered air, or relocate to an area with less smoke. If you cannot access cleaner air, some face masks can provide protection from wildfire smoke. However, it is important to be aware of the limitations and potential risks.



FIRST NATIONS WILDFIRE EVACUATIONS

A GUIDE FOR COMMUNITIES AND EXTERNAL AGENCIES

TARA K. MCGEE and AMY CARDINAL CHRISTIANSON
with the First Nations Wildfire Evacuation Partnership





- Good burning practices
- Low emission appliances
- HEPA air cleaners

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Questions or comments?
