

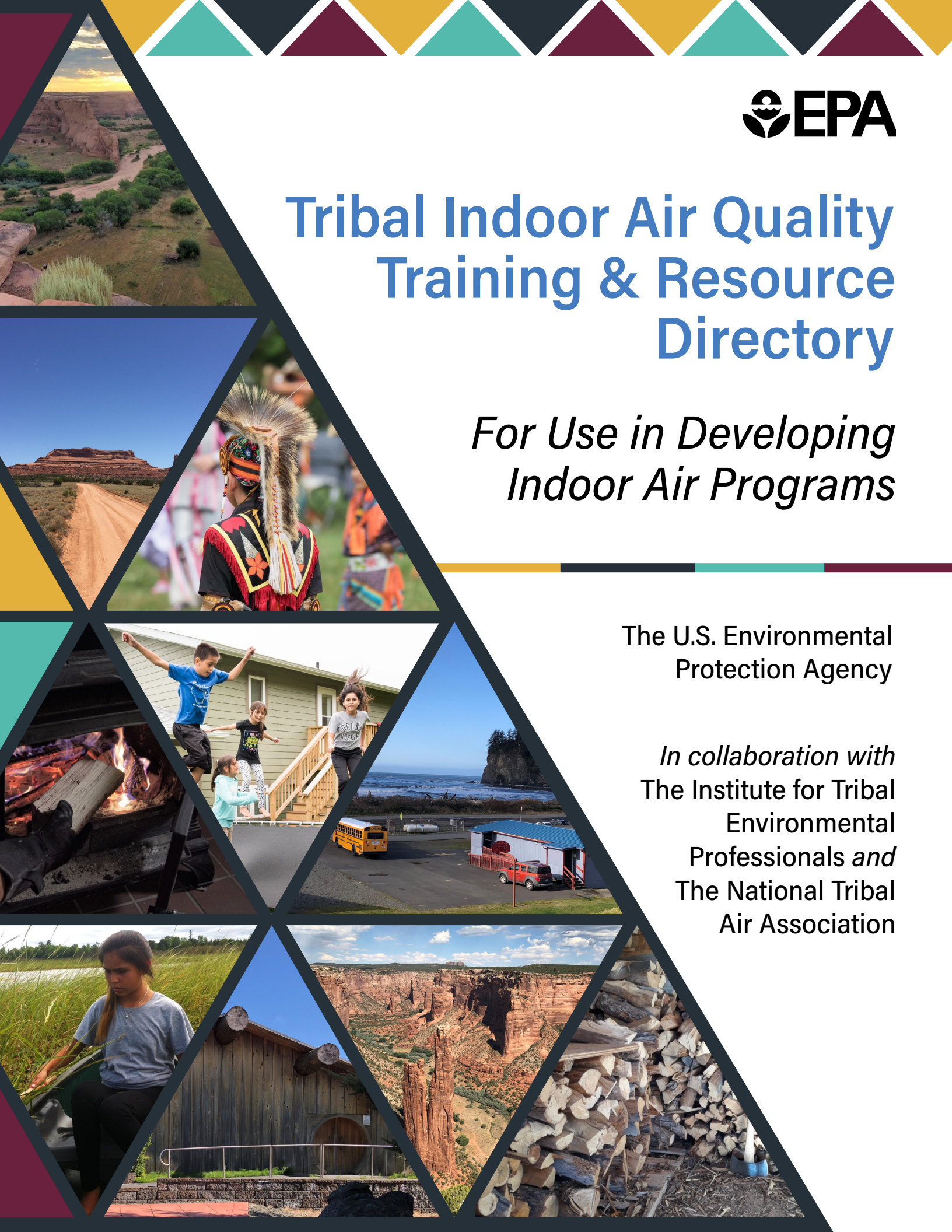



# Tribal Indoor Air Quality Training & Resource Directory

*For Use in Developing  
Indoor Air Programs*

The U.S. Environmental  
Protection Agency

*In collaboration with  
The Institute for Tribal  
Environmental  
Professionals and  
The National Tribal  
Air Association*





We strive to keep this resource relevant and up-to-date. If you have any comments or concerns, or notice any outdated links or content, please email [indoorair@epa.gov](mailto:indoorair@epa.gov).

Images used on cover include photos from Navajo Nation, Bad River Tribe, Quileute Tribe, and Coquille Tribe.




# Purpose

This directory was created to consolidate helpful resources for tribes who are interested in starting or expanding indoor air quality (IAQ) programs in their communities. Look for the mouse icon next to all the clickable links in this resource to learn more about each topic and explore resources that aid in the development of IAQ programs.

## Indoor Air Quality Overview

Most Americans spend around 90% of their time indoors, whether that's in their home, school, or work building. Since being indoors is a huge part of our lives, it's important to consider how indoor air quality may impact our health and the health of our communities. Fortunately, there are many opportunities for tribal governments to develop safer indoor environments on their lands. This directory offers relevant resources to help tribal governments promote the health and safety of their members through IAQ programs. This directory is intended to direct the user to technical resources. It is not intended to provide technical direction itself.



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# Healthy Homes, Schools, and Buildings



## Follow these 8 principles:

1. Keep it dry
2. Keep it clean
3. Keep it safe
4. Keep it well-ventilated
5. Keep it pest-free
6. Keep it contaminant-free
7. Keep it maintained
8. Keep it thermally controlled

Americans spend around **90%** of their time indoors, where pollutants can be **2-5 times the** outdoor concentration. 1

Investing in healthy indoor environments yields **health benefits** and **economic benefits**. 2

There were **13.8 million missed school days** due to asthma in 2013. Healthy homes and schools can help to keep kids learning! 3

Recent innovations have enabled **virtual assessments** to identify home health risks and improvement actions. 4

1. [Environmental Protection Agency](#) 2. [forhealth.org](#) 3. [Centers for Disease Control and Prevention](#) 4. [Green and Healthy Homes](#)

People spend the majority of their time inside buildings. Other sections in this document highlight specific indoor air quality concerns such as mold and radon, and list resources where the reader can learn more about those particular topics. This section addresses healthy buildings more holistically. The resources listed here help the reader learn how to comprehensively create and maintain healthy indoor environments. There is a little information about a lot of different topics. These topics include ventilation, source control, filtration, vapor intrusion, pesticides, volatile organic compounds, mold, tobacco smoke, radon, drinking water contaminants and green cleaning, among others.

## Healthy Homes Resources

### ➤ [Tribal Healthy Homes Calendar Checklist](#)

Although this was originally designed for 2017-2018, this tribal resource presents an organized checklist of action items that homeowners and renters can complete on an annual basis to ensure a safe and healthy home.

### ➤ [Green & Healthy Homes Virtual Assessment Toolkit](#)

A toolkit of free documents to support virtual healthy homes assessments, including intake forms, assessment documents, and guidance resources. (More home assessment resources can be found in the [asthma section](#)).



# Healthy Homes Resources Continued

## ➤ [EPA's Healthy Homes Action Brochure](#)

A homeowner's or renter's guide to creating a healthy home environment for themselves and their family.

## ➤ [Healthy Homes Resource Guide](#)

An interactive guide from Tribal Healthy Homes Network that provides examples of free healthy home resources, many of which are customized materials specifically for tribes.

## ➤ [EPA Information on Volatile Organic Compounds](#)

EPA's website on volatile organic compounds' (VOCs) impact on indoor air quality describes sources of VOCs, health effects, and steps to reduce exposure.

## ➤ [National Pesticide Information Center Infographic](#)

An infographic describing how to properly use disinfecting wipes at home and in schools.

### IAQ Tip:

There are three basic strategies to [improve indoor air quality](#).

1. **Source Control:** eliminate individual sources of pollution or to reduce their emissions.
2. **Improved Ventilation:** increase the amount of outdoor air coming indoors.
3. **Air cleaners:** filtration can be an effective supplement to source control and ventilation.

## ➤ [Healthy Homes Partnership](#)

Offers tools for both families and educators about healthy homes. These tools include tips and guidance for families as well as lesson plans for educators.

## ➤ [EPA's IAQ Demo House](#)

Outlines some of the most important ways to protect the air in your home by touring the virtual IAQ House. Room-by-room, you'll learn about the key pollutants and how to address them.

### IAQ Tip:

Some air cleaners emit [high levels of ozone](#) by design or as a byproduct. Breathing in ozone can cause respiratory tract irritation and inflammation, serious breathing difficulty including asthma, permanent lung damage, and cardiovascular effects.

## ➤ [StopPests.org](#)

Contains [training materials and webinars](#) for Integrated Pest Management (IPM) in homes and public housing. IPM focuses on pest prevention and least-toxic control methods, making IPM a cost-effective, practical approach to pest management.

## ➤ [HUD's Tribal Healthy Homes Guides and App](#)

This webpage includes tribal healthy homes guides for four different audiences: families, tribal leaders, housing professionals, and health professionals. HUD has also developed the ["Your Tribal Healthy Home" app](#) that includes examples of what makes a home healthier, a room-by-room checklist, and information for medical professionals and educators.

## Healthy Homes Resources Continued

### ➤ [Air Cleaner Information for Consumers](#)

A resource from California Air Resource Board to help consumers identify safe and effective air cleaners.

### ➤ [EPA's Air Cleaners and Air Filters in the Home](#)

Includes a consumer's guide and a technical guide to ventilation systems and air filtration in the home.

### ➤ [ELI report: Reducing Exposure to Cooking Pollutants](#)

A report from the Environmental Law Institute about the benefits of ventilation while cooking.

#### IAQ Tip:

Have a trained professional inspect, clean and tune-up central heating system (furnaces, flues and chimneys) annually and repair any leaks promptly. Ensure filters are changed out regularly.

### ➤ [EPA's Abandoned Mobile Home Toolkit](#)

Abandoned mobile homes create numerous safety, economic and environmental concerns. This toolkit provides case studies and a step-by-step guide outlining how to deconstruct a mobile home.

## Schools and Buildings Resources

### ➤ [EPA's IAQ Tools for Schools](#)

The [IAQ Tools for Schools Action Kit](#) can be used to plan and implement an IAQ management plan in schools to promote a healthy learning environment. The [Framework for Effective IAQ Management](#) is a starting point for finding technical solutions to common IAQ issues and identifying key drivers for effective IAQ management.

### ➤ [EPA's Integrated Pest Management Tools](#)

IPM offers holistic approaches to controlling pests, posing fewer health risks to people and the environment. This webpage has many IPM resources, including [Pest Control in the School Environment](#) and [IPM Webinars](#).

### ➤ [Green Clean Video Series](#)

A video series to help schools start green cleaning programs to promote a safer learning environment.



Quileute Senior Center, photo courtesy of the Quileute Tribe

# Schools and Buildings Resources Continued

## ➤ [EPA's Tribal Green Building Toolkit](#)

Assists tribes in creating a sustainable design for communities to reduce the impact of construction on the environment while protecting the health, livelihood and culture of tribal residents.

## ➤ [EPA's Safer Choice Program](#)

Helps consumers, businesses, and purchasers find products containing safer ingredients. Safer Choice restricts volatile organic compound (VOC) content to minimize indoor air pollution and associated respiratory concerns. There's even a [community page](#) to identify safer choice products for different types of community buildings.

## ➤ [Harvard's forhealth.org](#)

Offers information and guides based on the latest research on healthy buildings.

### Policy Highlight

[Montana health regulations](#) require schools to conduct annual inspections using EPA's IAQ Tools for Schools checklist. The [Environmental Law Institute](#) offers many more examples of IAQ policies.

## ➤ [EPA's Information on Asbestos](#)

Elevated concentrations of airborne asbestos can occur after asbestos-containing materials are disturbed by cutting, sanding or other remodeling activities, endangering inhabitants. This site describes common asbestos-containing materials and links to more information, including [federal regulatory requirements](#) to protect school children and school employees from asbestos exposure.

## ➤ [EPA's Air Sensor Toolbox](#)

Air sensors can be used in projects to better understand IAQ contaminants and measure remediation efficacy. This toolbox provides information and guides about air sensors.



*Quileute Tribal school, photo courtesy of the Quileute Tribe*

## ➤ [Indoor Air Quality Scientific Findings Resource Bank](#)

This resource bank provides extensive scientific research on the impacts of indoor air quality on performance and health outcomes, such as how building ventilation effects academic performance, work performance, school and work absences, and rates of respiratory illness.

## ➤ [EPA's Information on Lead](#)

Lead from paint, dust and soil in and around homes can be dangerous if not managed properly, especially to children. This site provides a comprehensive overview of the dangers of lead, how to reduce exposure, and laws and regulations related to lead. It also includes a [Tribal Lead Curriculum](#).

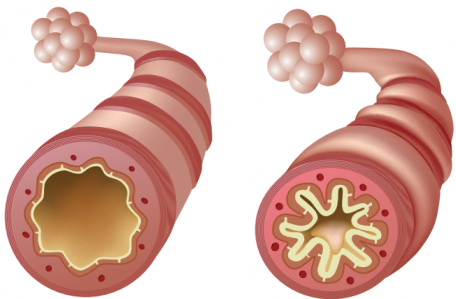
# Asthma



American Indian/Alaska Native children are almost **twice as likely** to ever have had asthma as non-Hispanic white children. 1

Tribes with **targeted asthma programs** enjoy measurable **health and community benefits**. 2

Asthma is affected by outdoor air quality, and can also be triggered indoors by wood smoke, tobacco smoke, mold, cleaners, pests, [and more](#). 3



Normal airway

Airway during asthma attack

## Asthma can be managed!

1. Avoid or reduce triggers
2. Have an [Asthma Action Plan](#)
3. Check in with your healthcare providers

1. [US Department of Health and Human Services](#) 2. [Asthma Community Network](#) 3. [lung.org](#)

Asthma is a serious, sometimes life-threatening chronic respiratory disease that affects the quality of life for more than 25 million people living in the United States, including almost 4 million children. Although there is no cure for asthma yet, asthma can be controlled through medical treatment and management of environmental triggers. Several factors found in both indoor and outdoor environments can cause or trigger an asthma episode or make asthma symptoms worse. The resources below explain more about asthma basics and triggers, and highlight successful community-based asthma initiatives.

## Resources

**Did you know** that school environments can play a huge role in promoting the health of children with asthma? Resources for schools can be found in the [Healthy Homes, Schools and Buildings](#) section. That section also includes Integrated Pest Management resources. IPM reduces allergens, which can trigger asthma symptoms or contribute to the onset of asthma.

**Did you know** that General Assistance Program (GAP) funding can be used for asthma programs? Clean Air Act 103 and 105 grants may also be used for asthma work. See the [Funding](#) section for more information.



# Asthma Resources Continued

## [Asthma Community Network](#)

An online network designed for community-based asthma programs and organizations that sponsor them—including representatives of health plans and providers, government health and environmental agencies, nonprofits, coalitions, schools and more.

## [CDC’s Public Health Professionals](#)

Provides asthma resources for Public Health Professionals. See also CDC’s information to help people develop individualized [Asthma Action Plans](#) alongside their healthcare providers.

## [In-Home Asthma Care Tribal Pilot Project](#)

A webinar about how a multidisciplinary team was formed in EPA Region 10 to fund and implement tribal in-home care programs for asthma. Covers the opportunities and barriers to expanding in-home asthma care in Native communities.

## [Tribal Healthy Homes Network Asthma Resources](#)

A resource page curated specifically for tribal audiences. Includes links to deliverables and a webinar about taking asthma triggers into account during home inspections.

## [American Academy of Allergy, Asthma and Immunology](#)

Information regarding asthma advocacy, conditions and treatments, and training tools, including information on COVID-19 and asthma. There are also up-to-date [allergy forecasts](#) for your area.

## [The Institute for Tribal Environmental Professionals](#)

A series of webinars from Northern Arizona University discussing asthma basics, environmental triggers, asthma educational resources, and research on asthma home and school visits in tribes.

## [EPA’s Asthma Home-Visit Program Resources](#)

A webpage that includes a [guide for implementing home-visit programs](#) and a [home environment checklist](#) that can help facilitate visits to assess possible asthma triggers in the home.

## [EPA’s Asthma Website](#)

A central hub for information about asthma. Includes publications about asthma, deliverables and factsheets, and lists of various organizations dedicated to asthma and health.

## [American Lung Association Asthma Webpage](#)

A high quality source of asthma information for a variety of audiences. The ALA has many ongoing asthma programs and initiatives.

## [Tribal Healthy Homes Network Green Cleaning](#)

A resource page curated specifically for tribal audiences with green cleaning recipes.

## [Lung.org Asthma Triggers](#)

Resources to identify environmental asthma triggers and address many of them in the home environment.

# Mold and Moisture



## IAQ Tip:

Major mold events, or mold areas larger than 10 square feet may require professional remediation.

## First, address moisture problems...

Promptly **fix the source** of any water problems or leaks.

**Keep indoor humidity low.** If possible, maintain indoor humidity below 60% (ideally between 30-50%) relative humidity.

## Then, address the mold...

**Clean mold** off of hard surfaces with water and detergent, and dry completely.

If you are experiencing health symptoms that you think are caused by mold in your home, consult a healthcare professional.

The key to mold control is moisture control. To prevent mold from growing, it is important to find the water source and fix the problem. Dry the area quickly, within 24-48 hours if possible. Remove bulk water, and use fans and dehumidifiers to speed drying, and/or open doors and windows if outdoor conditions allow. Keep the humidity levels below 60% to prevent the mold from growing. Once the area is dry, it is important to clean and remove the mold. Clean the mold off hard surfaces using a mild detergent and water. **It is not recommended to use biocides (e.g. bleach) to remove mold.** Absorbent or porous materials, such as ceiling tiles and carpet, may have to be thrown away if they can't be cleaned and dried. When cleaning mold, it is important to use personal protective equipment including gloves, an N-95 respirator, and goggles.

## Resources

### ➤ [Tribal Healthy Homes Network Mold Page](#)

A resource page curated specifically for tribal audiences. It features extensive resources for policymakers, community leaders, and the general public, including a webinar on [“Mold in Tribal Housing – A Dialogue about Prevention, Funding and Cold Climate Issues.”](#)

### ➤ [Tribal Healthy Homes Network Mold Policy Guide](#)

A resource guide from the Tribal Healthy Homes Network that gives a basis of policy approaches for mold prevention, assessment, and abatement to prevent mold in tribal buildings.

# Mold Resources Continued

## [Tribal Mold Webinars](#)

The Institute for Tribal Environmental Professionals presents a few webinars that discuss the basics of mold and moisture and how to craft prevention and remediation plans.

## [EPA's Mold Page](#)

The hub for all of EPA's mold and moisture resources.

## [EPA's Brief Guide to Mold, Moisture, and Your Home](#)

A distributable resource for homeowners and renters on how to clean up mold growth and prevent future mold problems in the home.

### **Policy Highlight**

[Tulalip Tribes Housing Department Mold and Mildew Policy](#) Tribal policy example with tenant obligations and guidelines to prevent and quickly remediate any mold or mildew problems.

## [CDC's Mold Page](#)

Information on the health effects of mold exposure and how to prevent, safely clean up, and control mold. This webpage also includes [information about mold for clinicians](#).

## [HUD's Mold & Moisture Prevention: A Guide for Residents in Indian Country](#)

A detailed resource guide written for tribal homeowners and renters about how to recognize and mitigate mold problems and prevent future mold growth.

## [EPA's Mold Remediation in Schools and Commercial Buildings](#)

A detailed resource for leaders and managers of public buildings to help promote and maintain mold-free environments.

## [EPA's Moisture Control Guidance for Building Design, Construction and Maintenance](#)

A detailed resource for anyone who designs, builds, operates or maintains buildings and heating, ventilating and air conditioning (HVAC) equipment. It provides practical guidance on how to control moisture in buildings.

For resources specific to the response, recovery, and mitigation of flood emergencies, see the [Disaster Preparedness and Mitigation](#) and [Disaster Response and Recovery](#) sections on pages 21 and 23.

# Radon



Radon is a **naturally occurring radioactive gas** that enters buildings from the ground and threatens the health of occupants. 1

Every house in the country has the potential for high levels of radon. 1

Radon is the **#1 cause** of lung cancer for non-smokers. 2

Radon is responsible for an estimated **21,000** lung cancer deaths in the US every year. 2

1. [Environmental Protection Agency](#) 2. [Environmental Protection Agency](#)

## Test. Fix. Save a life.

Radon comes from the natural (radioactive) breakdown of uranium in soil, rock, and water and gets into the air you breathe. When inhaled, the radioactive particles can cause lung cancer. The only way to know if radon is in your home is to test. EPA recommends that every home is tested for radon. You can either obtain a do-it-yourself radon test kit or hire a certified radon professional to assess your home for radon gas concentrations. EPA recommends that every home is tested at least every 5 years or, to verify continued effectiveness of radon mitigation systems or efforts, at least every 2 years. If your home has high radon levels, a mitigation system can significantly reduce radon concentrations, and generally takes a day or less to install. For more information about how to interpret your test results, consult the [EPA Citizen's Guide](#) or a certified radon professional.

## Resources

### ➤ [EPA's Radon Website](#)

Provides general information about radon, as well as links to EPA resources developed for individuals and families, homeowners, tenants, builders, and contractors. This website also includes [Frequently Asked Questions](#).

### ➤ [Planning Radon Mitigation in Tribal Communities Webinar](#)

Webinar recording from the Spokane Tribe focusing on the importance of radon as a tribal indoor air quality concern and some basics of establishing a tribal radon program.



# Radon Resources Continued

## ➤ [EPA's Regional and State Radon Contacts](#)

Map of radon potential including state radon contacts and EPA regional radon contacts. (The zone map may help governments and organizations target risk reduction activities and resources. Please note that homes with high radon exist in all parts of the country.)

## ➤ [National Radon Action Plan](#)

The American Lung Association is leading a national network of federal agencies, private sector, nongovernmental organizations (NGOs), states and tribes to eliminate avoidable radon-induced lung cancer through the strategies outlined in the NRAP. Visit [RadonLeaders.org](http://RadonLeaders.org) to see the progress on each strategy outlined in the Plan.

## ➤ [ITEP's Radon Fundamentals Course](#)

From the Institute for Tribal Environmental Professionals (ITEP), this 8-hour course has been developed to provide tribes with an introduction to the mechanics of radon, examples of how tribes are addressing radon, and possible funding opportunities.

## ➤ [State and Tribal Indoor Radon Grant \(SIRG\) Program](#)

States and tribes may apply to receive grant funds from EPA to help support a radon risk reduction program. By law, these funds are not available to individuals or homeowners. More funding opportunities can be found in the [Funding section](#) of this directory.

## ➤ [EPA's Consumer's Guide to Radon](#)

Provides relevant information for homeowners that are looking to mitigate radon. Although designed for homeowners, this resource provides useful information for the mitigation of radon in any building.

## ➤ [EPA's "Learning about Radon - A Part of Nature"](#)

A brief storybook and tribal outreach material that illustrates how we can protect ourselves and our families from naturally occurring radon gas.

## ➤ [CDC's Radon Resources](#)

Includes quick links to information about radon and drinking water, resources for healthcare providers, and radon testing data. CDC developed a database to track radon test results that can produce various [maps showing recent trends in radon testing across the country](#).

# Radon Resources for Testing and Mitigation

Many states, tribes, and other organizations offer free radon test kits, particularly during the month of January, which is National Radon Action Month. Search online for existing programs in your area and share these opportunities with your tribal members where applicable. Otherwise, the following resources may help support tribal radon testing and mitigation programs.

## ➤ [National Radon Program Services](#)

From Kansas State University, National Radon Program Services sells DIY test kits with the price of shipping and lab analysis included.

## ➤ [Tribal Air Monitoring Support \(TAMS\) Center](#)

Offers a loaning program for radon testing equipment. The TAMS center also provides technical training and other air monitoring equipment to help tribal air programs.

## ➤ [EPA's Find a Radon Professional](#)

These links can help identify certified radon professionals to assist with radon testing and/or mitigation.



*Photo courtesy of Daniel Wiggins, Bad River Tribe Radon Program*

For funding resources, see the [Funding](#) section of this directory on page 30.

# Commercial Tobacco and Secondhand Smoke



**1 in 3** Native American adults use commercial tobacco, often impacting indoor air quality for non-smokers. <sup>1</sup>

Secondhand smoke exposure poses serious health threats to children and adults, and **there is no safe level of exposure.** <sup>2</sup>

Tribal governments can implement **smoke-free policies** to protect their people from second-hand smoke. <sup>3</sup>

Thirdhand smoke is residue from tobacco smoke that adheres to dust and surfaces. It has the potential to present **health hazards, especially to children.** <sup>4</sup>



1. [Centers for Disease Control and Prevention \(CDC\)](#) 2. [CDC](#) 3. [Mitchell Hamline School of Law](#) 4. [Northrup, Thomas F et al.](#)

Secondhand smoke, classified by EPA as a Group A carcinogen, contains more than 7,000 substances. Secondhand smoke exposure commonly occurs indoors, particularly in homes and cars. Secondhand smoke can move between rooms of a home and between apartment units. Secondhand exposure to cigarettes, e-cigarettes, cannabis, and meth can cause serious health problems. Opening a window or increasing ventilation in a home or car is not protective from secondhand smoke.

## Resources

### ➤ [The American Indian Commercial Tobacco Program](#)

A free program to help American Indians quit smoking which includes coaching and other resources upon enrollment.

### ➤ [Thirdhandsmoke.org](#)

Presents research, fact sheets, FAQs, and webinars about thirdhand smoke.

### ➤ [National Native Network's "Keep it Sacred"](#)

Offers technical assistance and culturally relevant resources. Notably, their [Tribal Policy Toolkit](#) contains many assessment documents, policy examples, media resources, and more.

# Commercial Tobacco and Secondhand Smoke Resources Continued

## [Smoke-Free Tribal Housing Policies](#)

This Public Health Law Center resource details how to implement smoke-free policies effectively while honoring traditional and sacred uses of tobacco.

## [Keep Tobacco Use Sacred](#)

An e-guide by AASTEC that offers specific policies and actions that address the community health risks of tobacco use and secondhand smoke.

## [CDC Smoke-Free Buildings](#)

Offers statistics in support of creating smoke-free environments in homes and establishments, including a webpage dedicated to creating smoke-free [casinos](#).

## [CDC's American Indian Adult Tobacco Survey Manual](#)

Enables tribes and tribal organizations to assess the knowledge, beliefs, and attitudes of tribal members with regard to commercial tobacco use.

## [CDC's Protect our Children and Traditions Brochure](#)

A tribal resource developed to spread information and awareness to tribal communities about the threats of secondhand smoke.

## [Native Tobacco Project](#)

From the United Indian Health Services, this website is a good source of information on secondhand smoke, thirdhand smoke, and smoke-free buildings.

## [The Campaign for Tobacco-Free Kids](#)

An advocacy organization that works to reduce tobacco use around the world. Their website includes strategies and factsheets

## [EPA's Secondhand Smoke and Smoke-Free Home](#)

Offers information about secondhand smoke, including health effects, reducing exposure, and a look at national progress on secondhand smoke reduction.

## [Financial Benefits of Smoke-Free Casinos](#)

An easily distributable video that outlines the economic incentives to convert casinos to smoke-free facilities.

## [HUD's Smoke-Free Public Housing Resources](#)

Although not specifically developed for tribes, these resources may be useful when converting multi-family buildings into smoke-free housing.

## [CDC's Ventilation and Secondhand Smoke](#)

This resource clarifies that ventilation, HVAC systems, and air cleaners do not protect non-smokers from secondhand smoke.



# Additional Resources for E-Cigarettes, Cannabis and Meth

## [Policy Tools to Address Vaping in Tribal Communities](#)

A webinar that includes basic information about e-cigarettes (vapes), policy examples, and additional tools for tribes to address e-cigarette use in their community.

## [E-Cigarette Use Among Youth and Young Adults](#)

A fact page from the Surgeon General about the health risks and usage trends in youth and young adults.

### **Policy Highlight**

[Confederated Salish and Kootenai Tribes of the Flathead Reservation Meth Cleanup Policy](#). This tribal policy details specific cleanup standards for meth-contaminated properties owned by the tribe.

## [Meth and Indoor Air Quality](#)

From the National Tribal Air Association, this webinar presents information about how residual meth impacts health and indoor air quality in tribal homes, followed remediation strategies and a presentation about national meth trends in Tribal lands.

## [Keep it Sacred E-Cigarette Page](#)

Information from the National Native Network about e-cigarettes, including fact sheets and information about usage among Native American youth.

## [American Lung Association Marijuana Smoke Page](#)

Information about cannabis (marijuana) smoke and how to protect non-smokers from the potential health effects of secondhand cannabis smoke.

## [Tribal Meth Use and Implications for Child Abuse](#)

The Tribal Law and Policy Institute presents a publication titled: Perceptions of Methamphetamine Use in Three Western Tribal Communities: Implications for Child Abuse in Indian Country. This publication explores the intersection of the meth epidemic affecting many tribal communities and child abuse.

# Home Heating, Cooking, and Energy



**Carbon monoxide (CO)** from certain heating, cooking, and energy appliances is a serious health threat. 1

**Wood smoke** contains fine particles that can harm your heart and lungs.

1. [Environmental Protection Agency](#)

Some appliances used for home energy, heating and cooking, such as wood stoves, gas stoves, gas furnaces, and portable generators can generate indoor air pollutants. Generally, appliances that burn fuel (e.g. wood, gas) can produce fine particle pollution and gases such as carbon monoxide (CO) and nitrogen dioxide (NO<sub>2</sub>). Cooking itself can also produce indoor air pollutants.

## Carbon Monoxide



Carbon monoxide (CO) is an odorless, colorless, and toxic gas. The effects of CO exposure can vary greatly from person to person depending on age, overall health and the concentration and length of exposure. At low concentrations, CO exposure can cause fatigue in healthy people and chest pain in people with heart disease. At higher concentrations, CO exposure can cause impaired vision and coordination, headaches, dizziness, confusion and nausea. It can also cause flu-like symptoms that clear up after leaving home. At moderate concentrations, CO exposure can cause angina, impaired vision, and reduced brain function. At higher concentrations, CO exposure can be fatal.

To protect your health and reduce CO exposure, it is important to be sure combustion equipment is maintained and properly adjusted. Sources of CO include unvented kerosene and gas heaters, leaking chimneys and furnaces, wood or gas stoves, generators, automobile exhaust, etc. Additional ventilation can be used as a temporary measure when high levels of CO are expected for short periods of time.

### IAQ Tip:

All homes and buildings should have CO alarms - they save lives. Install battery-operated CO detectors near every sleeping area in your home and check them regularly to be sure they are functioning properly.

## Carbon Monoxide Resources

### ➤ [EPA's Carbon Monoxide Page](#)

Covers a variety of information including an overview of carbon monoxide, sources of CO, health effects at both low and high concentrations, steps to reduce exposure and measurement methods.

#### IAQ Tip:

Beware of carbon monoxide poisoning during a power outage! **Do not** use gas stoves, charcoal stoves, or ovens for home heating. Portable generators should be used outside and 20ft away from buildings. Find more information about safety during power outages in the [Disaster Response and Recovery](#) section.

### ➤ [Johns Hopkins Carbon Monoxide Poisoning Page](#)

Straight-forward question and answers about CO poisoning including understanding what causes carbon monoxide poisoning, its symptoms, and how it's treated.

### ➤ [CDC's Carbon Monoxide Page](#)

Has several videos and learning tools regarding carbon monoxide. The CDC also has tools and links to CO factsheets, FAQ's and information about CO and boating.

### ➤ [Tribal Air Monitoring Support \(TAMS\) Center](#)

Contact the TAMS Center staff who can help you choose the best equipment option(s) for your specific needs and answer CO monitoring questions.

### ➤ [EPA's Generator Safety Information](#)

Information and a helpful [graphic](#) to help people use generators safely and avoid carbon monoxide poisoning and other possible hazards.

## Residential Woodsmoke



Wood smoke may smell good, but it's not good for you. The biggest health threat from wood smoke is from fine particles. These microscopic particles can get into your eyes and respiratory system, where they may cause burning eyes, runny nose, and illnesses, such as bronchitis. Fine particles can make asthma symptoms worse, trigger heart attacks, stroke and other conditions, especially in people who are already at risk for these conditions. To reduce risk, it is important to **burn the right wood, the right way, and in the right appliance.**

# Residential Woodsmoke Resources

## [EPA's Best Wood-Burning Practices](#)

Includes information on the benefits of burning dry, seasoned wood, how to store wood, and links to best burn practices [videos](#).

## [EPA's Wood Burning Resources for Air Programs](#)

Resources for state, local and tribal air agency partners to facilitate the wiser use of burning wood, including guides, sample regulations, and tribal case studies.

## [Tribal Healthy Homes Network Woodsmoke Page](#)

Includes presentations, webinars, public service announcements, and other resources about wood smoke and creating healthy communities.

## [Navajo Nation Wood Stove Changeout Program](#)

A PowerPoint presentation that outlines the Navajo Nation's Wood Stove Changeout Program that details the challenges, implementation strategies, and benefits of their program. They also created an outreach video to teach proper use and maintenance of wood stoves.

## [EPA's Installation and Maintenance Page](#)

Facts about the importance of properly sizing and venting wood-burning appliances, and inspection by a certified professional chimney/stove inspector.

## [EPA's Burn Wise Program Education Tools](#)

Includes links to free educational tools (e.g., [Tribal Wet Wood is a Waste](#) brochure) to help tribal members burn wood more efficiently and safely.

## [NTAA Wood Smoke Webpage](#)

Includes a 3-part webinar series on wood stove health impacts and changeout programs in tribal communities. There is also a wood smoke workgroup that anyone can join.

## [Nez Perce Wood Stove Changeout Program Report](#)

A report of the Nez Perce Reservation's wood stove changeout program that highlights how the program was conducted, the challenges of implementation, and lessons learned. They also published a [paper in Science of the Total Environment](#).

For more healthy homes resources, see the [Healthy Homes, Schools, and Buildings](#) section of this directory on page 4.



# Disaster Preparedness & Mitigation



Bedrock Fire on Nez Perce Reservation. Photo courtesy of the Nez Perce Tribe

Since the year 2000, **286 disasters** have been declared by tribal nations.

1

As of 2015, only **117 out of 566** federally recognized tribes had a FEMA-approved disaster mitigation plan in effect.

2

Good preparations today can decrease fear, reduce losses and speed recovery in a time of disaster or emergency.

3

Is your Tribe Ready?  
**Prepare For Emergencies in Tribal Nations.**

1. [Federal Emergency Management Agency](#) 2. [Lucy Carter](#) 3. [Ready.gov](#)

Preparation and response to weather-related and man-made emergencies is particularly important when it comes to indoor environments, since humans spend most of their time indoors, and rely on indoor spaces for shelter.

## Resources

### ➤ [Emergency Preparedness Handbook for Tribes](#)

A resource to help tribes develop and implement an emergency preparedness plan for responding to natural and man-made disasters if and when they occur.

### ➤ [Tribal Climate Change Guide](#)

From the University of Oregon, this guide hosts tribal funding opportunities, resources, and examples of climate adaptation plans.

### ➤ [FEMA Tribal Affairs](#)

FEMA's tribal website that includes more information and links to FEMA tribal [consultation information](#), and [policies, disaster declarations](#) and [guidance](#) and mitigation information.

### ➤ [EPA's Emergencies and IAQ](#)

Learn about how to prepare indoor environments for emergencies and disasters to protect healthy IAQ. This page includes information on power outages and portable generators, flood cleanup, and how to create a clean room indoors during wildfires.

# Disaster Preparedness & Mitigation Resources Continued

## ➤ [National Tribal Emergency Management Council](#)

The NTEMC website has a variety of resources, including real examples of emergency plans and assistance requests.

## ➤ [Barriers to Tribal Mitigation Planning](#)

An article about the impact of natural disasters and vulnerabilities unique to tribes.

## ➤ [Are You Ready? Guide](#)

A guide for a general audience with information about how to prepare and plan for different disasters. There is also general information about recovery.

AQI Range	Nimiipuutimtki
0-50	ta'c hées'n'es xéxus
51-100	náako' ta'c maqsmáqs
101-150	ayyi'c kóomayni's'ayn mímqas
151-200	wéet'u ta'c 'ilp'íl'p
201-300	q'o' wéet'u ta'c cícyele
301-500	ayyi'snix 'oykaloo'ayn lucélucl

**QÍITINKIN'IX 'IMÁAHINAQ'I**  
GET YOURSELF READY FOR THE SMOKE

LEARN MORE AT [airnow.gov](http://airnow.gov)

*Air Quality Index translated to nimiipuutimtki. Image courtesy of the Nez Perce Tribe.*

## ➤ [EPA's Tribal Resilience Webinar](#)

Introduces the Tribal Climate Adaptation Guidebook and highlights the experiences of two practitioners advancing climate adaptation and resilience within their tribes.

## ➤ [EPA's Air Quality Flag Program](#)

This program raises public awareness about outdoor air quality. AQFP partners 'raise a flag' (a color matching EPA's Air Quality Index) to inform their communities about current air quality. The program includes readily available outreach, activities, and lesson plans.

## ➤ [FEMA's Mitigation for Homeowners Fact Sheet](#)

Mitigation reduces a property's risk to future events and allows residents to return home more quickly, with less damage, after an event. This fact sheet contains useful mitigation information for homeowners.

## ➤ [ITEP Tribes and Climate Change Program](#)

From the Institute for Tribal Environmental Professionals, the Climate Change Program has videos, webinars, and information about ongoing projects. They also have a dedicated [Adaptation Planning Toolkit](#) for tribal use.

**Did you know** EPA's [AirNow website](#) and the [AirNow Mobile App](#) provide an easy way to check for current and forecast air quality information in your area? Check it out to plan your daily activities and protect your health.

# Disaster Response & Recovery



20% of Native Americans live in areas **prone** to wildfires.

1

Floods are the **#1** natural disaster in the U.S.

2

58% of power outages are caused by severe weather.

3

As climate change continues, weather disasters will become more **frequent**, more **severe**, and more **costly**.

4

1. [Davies IP, Haugo RD, Robertson JC, Levin PS \(2018\)](#)
2. [FEMA](#)
3. [DOE](#)
4. [Climate.gov](#)

## Wildfire Resources

During a wildfire, smoke can make the outdoor air unhealthy to breathe. Local officials may advise the local area to stay indoors during a smoke event. Smoke from outdoors can enter homes and other buildings and make it unhealthy to breathe indoor air, too. Smoke is made up of a complex mixture of gases and fine particles produced when wood and other organic materials burn. The biggest health threat from smoke is from fine particles. These microscopic particles can get into eyes and respiratory systems – whether outdoors or indoors – where they can cause health problems such as burning eyes, runny nose, and illnesses such as bronchitis. Fine particles also can aggravate chronic heart and lung diseases - and even are linked to premature deaths in people with these conditions.

### ➤ [Wildfire Smoke: A Guide for Public Health Officials](#)

[Guidance document](#) and accompanying factsheets from AirNow designed to help local public health officials prepare for smoke events, protect the public when smoke is present, and communicate with the public about wildfire smoke and health. See the [post-publication updates](#) for information about wildfire smoke and COVID-19.

### ➤ [ASHRAE Framework for Buildings and Smoke Events](#)

Provides recommended HVAC and building measures to minimize occupant exposures to smoke during smoke events, with an emphasis on commercial, school, multi-unit residential, and similar buildings. Includes considerations for reducing transmission of SARS-CoV-2.

# Wildfire Resources Continued

## ➤ [EPA's Wildfires and IAQ Page](#)

Advice for the general public about preparing for smoke events and promoting healthy indoor environments during and after wildfires.

## ➤ [EPA's Clean Room Guidance](#)

Information on how to create a "clean room" at home to protect indoor air quality during a wildfire, including a [how-to video](#).

## ➤ [CDC's Wildfire Smoke and COVID-19](#)

CDC's webpage with compiled tips and resources about wildfire smoke and COVID-19, including actions you can take to prepare for wildfires, and how to tell the difference between symptoms of smoke exposure and COVID-19.

## ➤ [EPA's Air Sensor Toolbox](#)

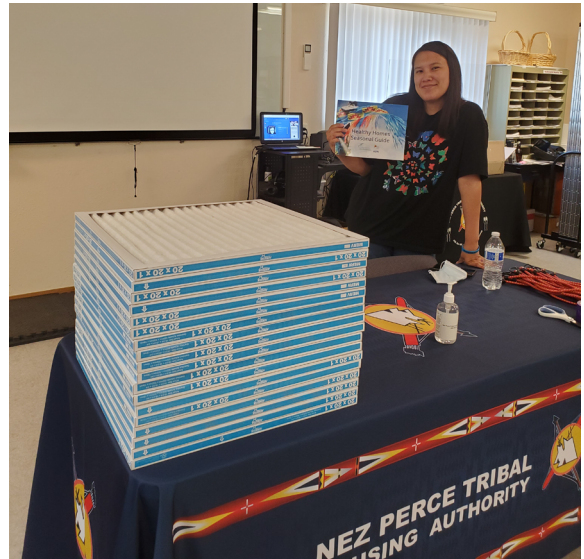
This toolbox provides information about air sensors, including sensor evaluation, performance and use, and answers to FAQs about air sensors. Check out the [Smoke Sense study and mobile app](#), and the [archive of webinars on low-cost air sensors](#). For information about the indoor use of sensors, see the [EPA's Wildfire ASPIRE study](#), which partnered with the Hoopa Valley Tribe.

## ➤ [Community Air Monitor Network Guidebook](#)

A guidebook from Tracking California for creating a community air monitor network to understand air quality and make sound decisions. Having a program like this would be particularly useful to monitor air quality during smoke events and make informed recommendations.

## ➤ [EPA's Smoke-Ready Toolbox for Wildfires](#)

Resources to help educate people about the risks of smoke exposure and actions they can take to protect their health.



*Tribal Housing Authority offers DIY air filter supplies. Photo courtesy of the Nez Perce Tribe.*

## ➤ [DIY Box Fan Filter](#)

The Colville Tribes Air Quality Program presents a low-cost method to create an air filtration system when commercial air cleaners are not available or accessible. See also their [instructional video](#). While DIY box fan filters are useful in a pinch, remember that [HEPA filtration and dedicated air cleaners](#) are a more reliable choice.

## ➤ [Air Quality Sensor Performance Evaluation](#)

A collection of evaluations about the actual performance of commercially available "low-cost" air quality sensors.



# Flood Resources

Flood water can make the air in flooded homes unhealthy. This is because when things remain wet for more than two days, they usually get moldy. Inhaling mold can cause adverse health effects, including allergic reactions. Mold also can damage materials in the home. In addition, flood water may contain microorganisms, such as bacteria, or chemicals which may affect human health.

## ➤ [EPA's Resources for Flood Cleanup and IAQ](#)

This page hosts a variety of general and technical guides and webinars for flood cleanup.

## ➤ [EPA's Flooded Homes Cleanup Guidance](#)

This website features short videos that provide steps and guidance on how to safely clean up your home and recover from a flood. You can also search for answers to many of your important questions about flooded homes using the webpage's search bar and frequently asked questions.

## ➤ [FEMA's Repairing Your Flooded Home](#)

Developed by FEMA and the American Red Cross, this guide gives step-by-step advice you can use to clean up, rebuild, and get help after a flood.

## ➤ [EPA's Flood Cleanup Picture Book Resource](#)

A story-book style flood cleanup information resource. This resource is filled with illustrations and makes great outreach material.

## ➤ [CDC's Flood Resources](#)

Resources for community members about preparing for flooding and staying safe during and after flood disasters.

## ➤ [Ready.gov Flood Page](#)

Advice for community members about how to prepare for flooding and what to do during and after flooding disasters take place.

## ➤ [A Field Guide for Flooded Home Cleanup](#)

The National Center For Healthy Housing presents a do-it-yourself guide on how to safely clean up your home after a flood.

## ➤ [FEMA's Initial Restoration for Flooded Buildings](#)

Written in response to Hurricane Katrina, FEMA presents a concise guide of actions to take following flood emergencies.

**Did you know** that cleaning up and drying out your home within 24-48 hours after a flood can prevent mold growth? Mold needs moisture to grow. See the [Mold and Moisture](#) section for more general resources related to mold and moisture.

# Power Outage Resources

Power outages that last longer than a few hours can have negative impacts on indoor environments. Carbon monoxide (CO) resulting from the improper use of portable generators is one of the most significant threats following a power outage. At elevated levels, CO can quickly cause significant harm and even death. Additionally, the lack of climate control and reduced ventilation and filtration of indoor air can also contribute to loss of thermal control, increased levels of indoor pollutants, and adverse indoor conditions and health impacts.

## ➤ [EPA's Power Outages and Indoor Air Quality](#)

Emergency information for power outages that includes information on carbon monoxide, and ways to maintain safe conditions indoors during power outages.

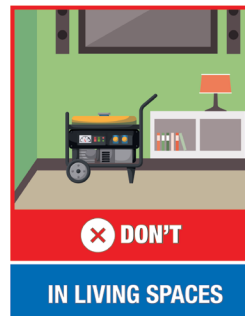
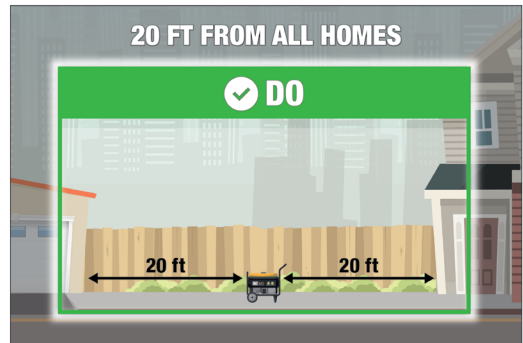
## ➤ [CDC's Power Outage Page](#)

Safety tips to help prepare for and cope with sudden loss of power. This page also includes power outage information for worker safety and healthcare facilities.

## ➤ [Ready.gov Power Outages](#)

Tips for how families can prepare for power outages and stay safe when they occur.

### Where to Safely Use a Fuel-Powered Portable Generator



During a power outage, the risk of carbon monoxide poisoning may increase as people turn to alternative sources of heat and energy. **Never** use a generator, camping stove, charcoal grill, or lantern inside your home or garage, even if doors and windows are open, and **never** leave an automobile running inside of a garage. More information about carbon monoxide risk reduction can be found in the [Home Heating, Cooking, and Energy](#) section.

## General Disaster Resources

### [HUD's Rebuild Healthy Homes](#)

This guide was developed to help homeowners, volunteers and other workers to restore damaged homes in a way that puts people first. It includes how-to methods, tips and improvement ideas for safe restoration that result in not just a livable dwelling, but a healthy home that offers even more than before.

### [FEMA's Disaster Rebuilding Tips for Less than \\$50](#)

A list of twelve inexpensive tips for disaster mitigation that make homes more resilient to future disasters.

### [EPA's Natural Disasters Pages](#)

These webpages include information about different kinds of natural disasters including information about how to prepare and respond.

### [CDC's Natural Disasters and Severe Weather Page](#)

Hosts information on a variety of disaster types as well as specialized information for various audiences, including coping resources for different age groups.

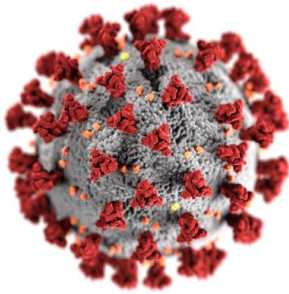
### [The Red Guide to Tribal Community Disaster Recovery](#)

Contains links to more tribal disaster resources, including outreach videos and relevant tribal organizations.

# COVID-19 and Other Pathogens



Compared to non-Hispanic whites, Native Americans and Alaska Natives are **1.8x more likely** to contract COVID-19 and **4x more likely** to be hospitalized. <sup>1</sup>



To help keep their communities **safe from disease spread**, many tribes offer:

- COVID-19 testing
- Contact tracing
- Virtual medical visits
- Educational resources
- COVID-19 care kits
- Financial assistance
- Vaccine distribution
- Distance learning tools

1. [Centers for Disease Control and Prevention](#)

Layered risk reduction is a strategy in which individuals and leaders take many simultaneous actions to reduce the risk of COVID-19 transmission. Actions that individuals can take include getting vaccinated, wearing masks, social distancing, washing their hands often, covering coughs and sneezes, ventilating and filtering indoor air, and cleaning and/or disinfecting frequently touched surfaces. These actions can also help reduce risk from other diseases such as the flu, which American Indians and Alaska Natives are at [higher risk](#) of developing serious complications from. People should monitor their health for symptoms of COVID-19 and stay home if showing signs of illness. Learn more at the CDC's COVID-19 site [How to Protect Yourself and Others](#).

## Resources

### ➤ [CDC COVID-19 Guidelines for Tribal Communities](#)

Features a variety of guides for tribal members to stay safe during this pandemic, including information for multi-generational housing, considerations for ceremonies and gatherings, mental health resources, and more. They also have [guidance](#) on how CDC can support or partner with tribes to combat COVID-19.

### ➤ [EPA's Indoor Air & Coronavirus Website](#)

Many topics are covered, such as:

- [Indoor Air in Homes and Coronavirus](#)
- [Ventilation and Coronavirus](#)
- [Air Cleaners, HVAC Filters and Coronavirus](#)
- [Additional Measures to Address COVID-19 in Public Indoor Spaces](#)

# COVID-19 Resources Continued

## [EPA/CDC Guidance for Cleaning and Disinfecting](#)

A 2-page decision making tool for when and how cleaning and/or disinfecting are needed in different spaces.

## [Navajo COVID-19 Webpage](#)

An example of a tribal health department website that offers an abundance of useful and accessible information to the public, including a [resource page](#) designed to help tribal members during this pandemic.

## [Indian Health Services COVID-19 Website](#)

A website dedicated to providing relevant information to tribes about COVID-19. Includes data about cases and mortality in Indian country, FAQs for federal response to tribes, vaccine information, and more.

## [Navajo Nation Reopening Plan](#)

Navajo Nation's Reopening Plan for non-governmental entities like businesses as well as a Safe Schools Framework to follow during the COVID-19 pandemic.

## [EPA's List N: Disinfectants for Coronavirus \(COVID-19\)](#)

A tool to help users identify disinfectants that EPA expects to kill coronaviruses with proper use. This page also links to [Six Steps for Safe and Effective Disinfectant Use](#).

## [Coronavirus.gov](#)

A central hub for coronavirus information, such as where to get tested, local data, and how to stay safe.

## [NTAA COVID-19 & IAQ Webinars](#)

Scroll to the bottom of this webpage to find a 3-part webinar series by the National Tribal Air Association and collaborators. These webinars contain a variety of presentations about COVID-19 for tribes.

## [ASHRAE's Coronavirus Resources Page](#)

The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) offers guidance for a variety of types of buildings and their specific equipment, from schools, to dining facilities, to laboratory and manufacturing settings, as well as a variety of residential facilities that can be directly applied by building managers and maintenance staff.



# Funding

## State and Tribal Indoor Radon Grants (SIRG) Program

### 10. Whom should I contact for indoor radon grant assistance in my region?

[Region 1, Boston](#): CT, MA, ME, NH, RI, VT

[Region 2, New York](#): NJ, NY, PR, USVI

[Region 3, Philadelphia](#): DC, DE, MD, PA, VA, WV

[Region 4, Atlanta](#): AL, FL, GA, KY, MS, NC, SC, TN

[Region 5, Chicago](#): IL, IN, MI, MN, OH, WI

[Region 6, Dallas](#): AR, LA, NM, OK, TX

[Region 7, Kansas City](#): IA, KS, MO, NE

[Region 8, Denver](#): CO, MT, ND, SD, UT, WY

[Region 9, San Francisco](#): AZ, CA, NV

[Region 10, Seattle](#): AK, ID, OR, WA, Tribal Nations

### Example of a S Project

#### Bad River Tribe

The Bad River Tribal funded primarily by included within the streamlines grant m have multiple EPA g workplan.

The Bad River Tribal SIRG funding to imp program that provid to the tribe. To main tribe employs an air education and certifi and mitigation serv

**Multiple funding sources** will likely be needed to meet indoor air needs.

**Collaboration** between departments is often necessary or advantageous when applying for or managing grant funds.

EPA's Tribal-Air-Specific Grants can be used for indoor air work, with about **\$12 million** available nationally through CAA 103/105.

Reach out to your [EPA Regional Tribal Air Coordinator](#) to get started.

Highlight from the [SIRG Factsheet](#).

## Resources



### [Tribal Indoor Air Funding Directory](#)



An interactive funding database hosted by the Tribal Healthy Homes Network that allows tribes to search for grants from a variety of different agencies. This resource is updated frequently to include new grant opportunities as they become available.



### [EPA's Grant Management Training](#)

An online training course designed to introduce EPA grant applicants and recipients to key aspects of the entire grant life cycle, from preparation of an application to grant closeout.



### [EPA Grants for Air Quality: GAP, CAA Sec.103 and 105](#)

Information about EPA grants for air quality improvement and/or maintenance of work are found here. Grant Eligible activities and activities not eligible, match requirements under the CAA.

# Funding Resources Continued

## ➤ [EPA Indian Environmental General Assistance Program](#)

Offers funding for federally recognized tribes and inter-tribal consortia seeking to address environmental issues, including air quality. EPA Region 10 developed work plan templates for [Air Quality-Related GAP Work](#), which applicants may find useful when developing their own work plans for GAP.

## ➤ [State and Tribal Indoor Radon Grant \(SIRG\) Program](#)

States and tribes may apply to receive grant funds from EPA to help support a radon risk reduction program. For more information, consult the [“State and Tribal Indoor Radon Grants \(SIRG\) Program Factsheet for Tribes.”](#)

## ➤ [EPA Grant Programs and Other Funding Opportunities](#)

EPA’s grant programs include multipurpose grants, fellowships for students, and grants for topics such as environmental education, brownfields, environmental justice, pollution prevention, and more.

## ➤ [Low-Income Home Energy Assistance Program \(LIHEAP\)](#)

The LIHEAP statute allows Indian tribes and tribal organizations that wish to assist low-income households in meeting the costs of home energy to apply for a LIHEAP block grant.

### **Air Funding Grants:**

**CAA 103** grants support short term projects aimed at investigating the causes, effects, extent, prevention, and control of air pollution.

**CAA 105** grants support programs for prevention and control of air pollution or implementation of national primary and secondary ambient air quality standards. The *Menu of Options* resource below gives examples of possible tribal air projects.

## ➤ [EPA’s Menu of Options: Ideas for Tribal Air Projects](#)

A menu of options for developing tribal air grant work plans and managing grants for environmental results. EPA Tribal Clean Air Act (CAA) grants can be used for a range of air quality work, including indoor air efforts such as providing IAQ training for various audiences, conducting indoor environment assessments, and incorporating indoor air improvements into construction and renovation planning.

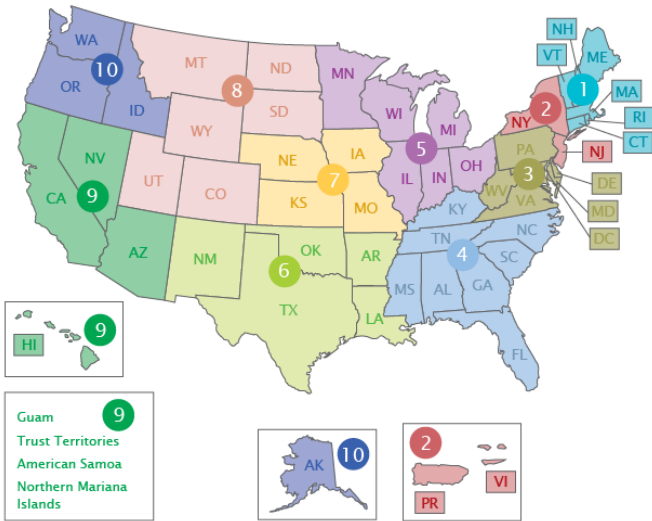
## ➤ [Grants.gov](#)

A simple and fast way to find open grants. Here, you can search for a grant, get technical assistance and writing tips, and apply for grants all in one place.

# Helpful IAQ Contacts

Tribal IAQ Programs can be strengthened and supported by the organizations listed in this sections. Click around and reach out to learn more!

## [EPA's Regional Tribal Air Coordinators](#)



Find your regional tribal air coordinator here. They can guide you through EPA funding processes and offer programmatic guidance.

## [EPA Tribal Air and Climate Resources](#)

The website provides tribal regulatory resources, policy and planning, climate and energy resources, and Tribal air quality analysis.

## [Tribal Healthy Homes Network](#)

The Tribal Healthy Homes Network promotes healthy tribal homes, families and communities, by bridging tribes with one another, and by serving as a clearinghouse for technical support, program guidance, resources, and funding.

## [EPA's Regional and State IAQ Contacts](#)

Find regional and state indoor air quality contacts on this regularly updated webpage. These contacts may be able to connect you to existing local programs and resources.

## [Institute for Tribal Environmental Professionals](#)

Based out of Northern Arizona University. ITEP provides information regarding environmental and natural resource management through culturally relevant education, research, partnerships and policy-based services.

## [EPA's Indoor Environments Division](#)

Provides resources and develops national programs and recommendations on indoor air quality.

## [Housing and Urban Development \(HUD\)](#)

The Office of Native American Programs provides COVID-19 recovery program, Indian Housing and Community Development Block Grants, Urban Development-Veterans Affairs Supportive Housing, Section 184 Home Loan Guarantee, etc. These programs benefit American Indian and Alaska Native tribal governments, Native Hawaiians, and other Native American organizations.



## Helpful IAQ Contacts Continued

### [Indian Health Service \(IHS\)](#)

IHS provides federal health services to American Indians and Alaska Natives. The provision of health services to members of federally-recognized tribes is based on the special government-to-government relationship between the federal government and Indian tribes.

### [Bureau of Indian Affairs \(BIA\)](#)

The BIA provides a wide range of services for American Indians and Alaska Natives. Services include website for COVID-19 information and updates, housing improvement, disaster relief, replacement and repair of schools, repair and maintenance of roads and bridges, etc.

### [Centers for Disease Control and Prevention \(CDC\)](#)

CDC has a dedicated website on working with federally recognized tribes and Indian organizations that focus on public health. The website also contains information on COVID-19 for the general public (i.e. vaccines, guidance, and updates).



# Alaska Resources Addendum



50% of houses in Alaska are relatively airtight and lack mechanical ventilation. <sup>1</sup>

Alaskan infants, in select regions, are hospitalized with lower respiratory tract infections at 10–15 times the rates for US infants. Medical transport is often required for treatment. <sup>3</sup>

Alaska Tribes are adapting to IAQ climate change impacts - navigating erosion, increased flooding, and wildfire smoke. Some villages are physically moving housing to safer locations. <sup>5</sup>

Construction in rural Alaska is challenging and costly due to extreme weather and remoteness - most villages are only accessible by boat or plane. <sup>2</sup>

56% of houses in Alaska have a moderately higher risk of moisture and indoor air quality issues, with some regions of Alaska reaching as high as 69% higher risk. <sup>4</sup>

Building designs are diverse in Alaska; homes in permafrost regions are typically built off the ground on pilings. <sup>6</sup>

1. [2018 Alaska Housing Assessment](#) 3. [Foote EM, Singleton RJ, Holman RC \(2015\)](#) 5. [EPA](#)

2. [USDA](#) 4. [2018 Alaska Housing Assessment](#) 6. [Alaska Public Lands Information Centers](#)



## Contacts and Programs in Alaska

### [NTAA Alaska Workgroup](#)

Get engaged with other Alaska Tribes working on air issues! Join the National Tribal Air Association's Alaska Workgroup by sending an email to [Andy Bessler](#). This group is officially hosted by the [National Tribal Air Association \(NTAA\)](#) and its elected Alaska representatives.

### [Alaska Housing Finance Corporation Weatherization Assistance Program](#)

Learn about resources for weatherization and indoor air quality in homes. Find resources on a range of IAQ topics.

### [Alaska Native Tribal Health](#)

#### [Consortium: Air Quality & Healthy Homes Programs](#)

Get direct technical assistance on air quality issues, borrow equipment, get help with workplans and QAPPs and learn about funding to carry out air quality projects in rural communities.

#### [Alaska Dept of Health and Social Services, Environmental Public Health Program](#)

Contact [staff](#) who have expertise in Alaska-specific toxicology and environmental health sciences.



# Contacts and Programs in Alaska Continued

## ➤ [Regional Tribal Health Organizations](#)

Regional tribal health organizations typically have trained environmental health professionals who can provide assistance on IAQ and healthy homes issues, among other environmental health needs. Reach out to the closest tribal health organization and ask for the environmental health program/staff.

## ➤ [Alaska Department of Environmental Conservation Air Program](#)

Connect with air quality staff on outdoor air topics that can impact indoor air - e.g. road dust, solid waste burning, [residential woodsmoke](#)

## ➤ [Cold Climate Housing Research Center \(CCHRC\)](#)

Connect with experts in all things building science, sustainability, [indoor air](#), ventilation, filtration, and home heating. CCHRC is often a partner on research or other community building projects and has resources specific to cold climates, including a [Healthy Homes Poster](#) that features Alaskan artwork and home design.



*View of the Native village of Ninilchik on Cook Inlet, Alaska.*

## ➤ [University of Alaska Fairbanks Cooperative Extension Program](#)

Connect with professional educators and experts in radon, healthy homes, and indoor air quality.

## ➤ [Zender Environmental Health and Research Group](#)

Find fact sheets on a range of topics, training for quality assurance work, and resources on conducting outreach and education, e.g. social media.

# Indoor Air Tools Specific to Alaska

## ➤ [EPA's Alaska Tribal Air Toolkit](#)

The Toolkit includes fact sheets and videos with information on rural diesel emissions, indoor air quality, road dust, solid waste burning, and wood smoke.

## ➤ [EPA's IGAP Workplan Templates](#)

Air Quality GAP Sample Workplan Templates include ideas for workplan activities that address air quality issues.

# Indoor Air Tools Specific to Alaska Continued



Child biking in the Native village of Old Harbor, Alaska.  
Image Courtesy of Erin McTigue

## ➤ [ITEP's Building Performance: Improving IAQ in Cold Climates Training](#)

A free cold climate focused Building Science Training from the Institute for Tribal Environmental Professionals.

## ➤ [Alaska Native Tribal Health Consortium \(ANTHC\) Resources](#)

ANTHC has a community health program with newsletter articles, fact sheets, flyers, and youth resources designed for Alaska communities. Their [Healthy Homes and Air Quality Program](#) includes community air assessment tools, checklists for [home](#) and [school assessments](#), tip sheets, and presentations.

## ➤ [Let's Clear the Air Video Series from Aleknagik Traditional Council and Partners](#)

Aleknagik Traditional Council worked with ANTHC and partners to create these educational videos on topics including:

- [How to Take Care of your Heat Recovery Ventilation \(HRV\)](#)
- [Protect Yourself from Wildfire Smoke](#)
- [Simple Steps to a Healthier Home](#)