



ALASKA NATIVE
TRIBAL HEALTH
CONSORTIUM

ANTHC Air Quality Program and Resources

Mary Mullan

Tribal Air Quality Program

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Tribal Air Quality Program

Statewide program funded through an EPA Clean Air Act 103 Grant



- NTAA AK Tribal Air Workgroup
- AQ consultations & technical assistance
- Education / Outreach
- AQ training webinars
- Air monitoring support
- Community Projects

NTAA AK Tribal Air Workgroup

SAVE THE DATE!

National Tribal Air Association

Alaskan Tribal Air Summit

September 25-26, 2019
 APU Atwood Center's Rasmuson Hall
 4101 University Drive Anchorage, Alaska

The National Tribal Air Association (NTAA) invites all Alaska Tribes and Native Villages to an Alaska Tribal Air Summit to share air quality, climate change, and air program development policies/positions. **There is no cost to attend.** Attendance is limited to the first 100 participants and an agenda will be announced.

For more information, email or call:
 ANTRC's Mary Mullan
 907-739-3430
mmullan@antrc.org
 or
 NTAA's Andy Bessler
 928-523-0526
andy.bessler@naaa.edu

NTAA's Executive Committee will be attending/facilitating the Summit
 Go to www.naatribalair.org to learn more about NTAA

Tribal DERA Generator Replacement Project:
 RAMPART VILLAGE, AK

WILDFIRE INFORMATIONAL RESOURCES

Alaska Interagency Coordination Center: <https://blm-egis.maps.arcgis.com/apps/MapSeries/index.html?appid=32ec4f34fb234ces8df6b222a202efa>
https://fire.ak.blm.gov/imf_fire/imf.jsp?site=fire

Alaska Department of Environmental Conservation: <https://dec.alaska.gov/air/anpms/wildfire-smoke/>

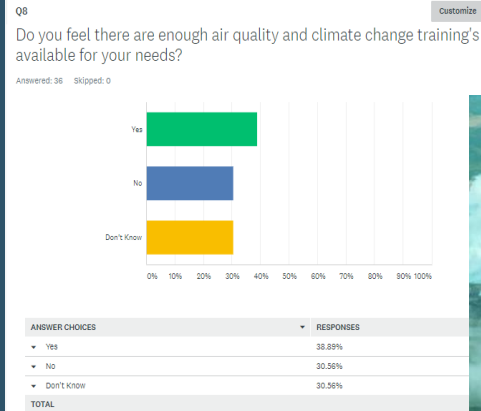
Alaska Department of Environmental Conservation AQ Index: <http://dec.alaska.gov/Applications/Air/airtoolsweb/Aqi/>

Alaska Department of Environmental Conservation Air Quality Advisory Page: <http://dec.alaska.gov/Applications/Air/airtoolsweb/Advisories>

Alaska Department of Environmental Conservation PM 2.5 AQI MAP: <http://dec.alaska.gov/air/air-monitoring/fairbanks-pm25-aqi-map>

Purple Air Sensor Map: <https://www.purpleair.com/map#1.66/64.361-145.67>

- Agency updates
- Presentations
- Funding announcements
- Training announcements
- Annual survey
- Resources and contacts



PurpleAir Project in Rural Alaska

Julia Hnilicka, UAF Rural Development Graduate Program
 Dr. Jingqiu Mao, UAF Geophysical Institute and Department of Chemistry and Biochemistry
 Mansel Nelson, Tribal Environmental Education Program and Institute for Tribal Environmental Professionals

Consultations / Technical Assistance

- QAPP Development
- Project Development
- Education / Outreach
- Trainings, Funding, Resources, and Tools
- GAP Work Plan AQ templates
- Monitoring Support

Quality Assurance Project Plan

Radon Testing

Finalized:

Performed By



Under

The Environmental Protection Agency

IGAP Grant #: 01J00301

ANTHC Contract #: ANTHC 16-U-67763

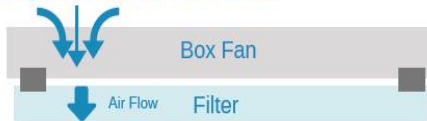
Education & Outreach

Make your own air purifier

Why have an air purifier? The air inside our homes is two to five times more polluted than outdoor air. Air quality can be improved using an air purifier in homes using woodstoves or homes that are located in wildfire-prone areas. The better the air, the better it is for our lungs. Making your own air purifier like the one below is cheap and effective. https://www.youtube.com/watch?v=kH5APw_SLUU



1. Purchase a 20 inch box fan, and 20 inch high-efficiency particulate air (HEPA) grade furnace filter. Minimum efficiency reporting value (MERV) 11 filters will also work and can be purchased online.
2. Attach filter to fan with duct tape. Make sure arrow on fan is pointed away from the fan (Image below is from the top of the fan and filter).



...om. Make sure it does not overheat.

DO-IT-YOURSELF BED BUG CONTROL GUIDE



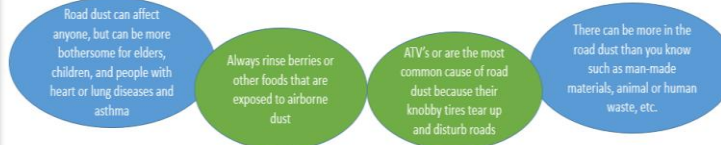
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...up to the home owner to make their air quality for more information on creating a healthy

Information from: CDC and EPA

Air Quality Awareness Week Road Dust



Road dust contains particulate matter (PM) 10 that gets into our lungs and can cause respiratory flare-ups and illnesses. So remember to help your community reduce the dust this season!



Walk!



Bike!



What's the rush?? Slow down

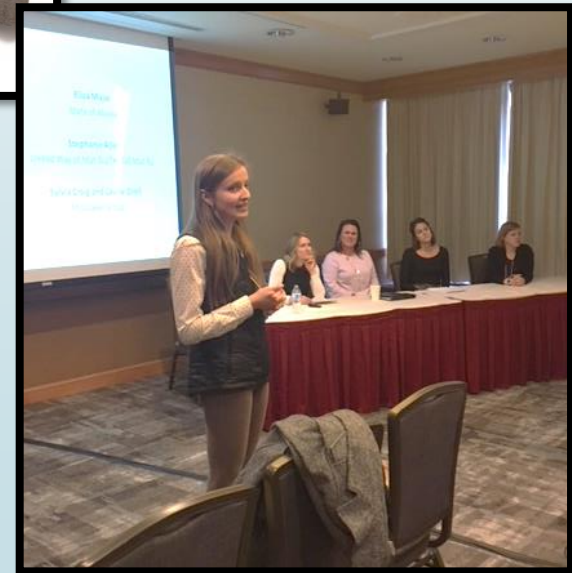


EPA Image

SAVE THE DATE

The Alaska Native Tribal Health Consortium invites you to the **Alaska Tribal Conference on Environmental Management (ATCEM)** on **November 19-22, 2019**

ALASKA NATIVE TRIBAL HEALTH CONSORTIUM



improving indoor air quality and reducing indoor air pollutants. In collaboration with local environmental departments, the Healthy Homes program also provides technical support, education and training and air monitoring equipment.

[Resources](#)
[Past Awards](#)
[Tribal Alaska Air Quality Workgroup](#)
[Tribal Air Monitoring Support](#)

Resources

- Phase I Air Assessment Tool
- Phase II Air Assessment Tool
- ANTHC Healthy Homes Checklist
- ANTHC Air Monitoring Decision Tree
- AQ Fact Sheet
- Do-It-Yourself Bed Bug Control Guide
- Do-It-Yourself Pitfall Trap Handout
- Environmental Assessment Checklist for Healthy Schools (Alaska edition)
- Green Cleaning tip sheet
- Air Quality: Mold and Moisture
- Air Quality: Solid Waste Burning
- Air Quality: Road Dust
- Air Quality: Green Cleaning
- Air Quality: Wood and Steam Burning

Other Resources

- DEC Burnwise Activity Book
- DEC Dust Activity Book
- DEC Reducing Dust in Rural Alaska
- EPA Wood Burning Booklet

Presentations

- Bed Bugs 101
- Introduction to Climate Air Quality Issues
- Radon
- Road Dust
- The Effects of Burning on IAQ and Your Health
- Value of Source Control-Keeping Pollutants Out Of Your Home

<https://anthc.org/what-we-do/community-environment-and-health/healthy-homes/>

AQ Training Webinars

Conducting Home Assessments

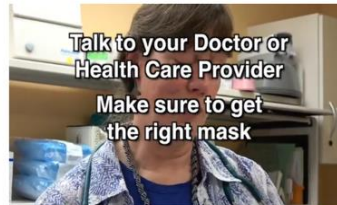
NTC Air Quality Training

Mary Mullan, Tribal Outreach Coordinator

What We Can Do...

Provide steps to protect those at risk from wildfire smoke by:

- Education
- Wildfire prevention
- Reducing outdoor activities
- Watch for symptoms such as coughing or shortness of breath
- Keep indoor air clean



Let's Clear the Air: Protect Yourself from Wildfire Smoke

Protect Yourself from Wildfire Smoke-SD (1).mp4

- One on One Training to Fit Your AQ Project Need

Let's Get Started!

WORKPLAN I: Assessment of Air Pollution Concerns & Sources

GENERAL ASSISTANCE PROGRAM FY16
WORK PLAN TEMPLATE

TRIBE/TRIBAL CONSORTIA: EPA Region 10		Work Plan Project/Budget Period:		
WORK PLAN COMPONENT 1:	Assess Air Pollution Sources and Concerns: Assess the sources of air pollution that may be impacting the tribal community to determine which (e.g. road dust, wood smoke, solid waste burning, indoor air quality, diesel emissions) are of greatest concern to tribal members and leaders and which are most likely to be able to be impacted through community action.			
Capacity Indicator Developed (see GAP Guidebook to select one or more that apply): C.3.4, C.3.9, C.3.10, C.3.19 and/or C.3.32				
Personnel: ENVIRONMENTAL COORDINATOR AND/OR ASSISTANT				
ENVIRONMENTAL OUTCOME(S):	Protect or improve air quality and public health in the community.			
INTERMEDIATE OUTCOME(S): (this work plan period)	Increased awareness by community residents and tribal leaders about the local sources of air pollution and their health impacts, so that informed decisions can be made on whether to develop strategies to be implemented to help address them.			
ESTIMATED COMPONENT COST:		ESTIMATED COMPONENT WORK YEARS:		
	COMMITMENTS	ESTIMATED COMMITMENT COST (optional)	END DATE	OUTPUTS AND DELIVERABLES
1.1	Attend basic air quality training with ITEP or other training provider.		November 30	Copy of training/trip report shared with EPA and Tribal Council
1.2	Read and collect information on the common sources of air pollution in rural Alaska and relevant outreach materials available for educating others in the community, such as the Alaska Tribal Air Toolkit , "Clean Air, Healthy Villages" videos, and ANV Air Fact Sheets, and information on the ADEC Air Program's website .		November 30	Progress summarized in quarterly reports to EPA
1.3	Use community questionnaires or talk to community members to identify their air pollution concerns.		February 28	Summary of issues identified or copies of surveys shared with EPA

ANTHC Monitoring Equipment Loan

ANTHC Air Program staff will assist Alaska tribes in equipment training and technical assistance. Please note that if a Tribe is utilizing EPA IGAP funding to support an air monitoring project, a Quality Assurance Project Plan (QAPP) is required.

For more information, contact the Air & Healthy Homes Program staff.

Indoor / Outdoor

- **TSI DustTrak II Model 8530:** Indoor or outdoor monitor that measures particulate matter (PM) one size fraction at a time such as dust, smoke, fumes and mists (Enclosure and stand included for outdoor use).
- **TSI DustTrak DRX Model 8533:** Indoor or outdoor monitor that measures multiple particulate matter (PM) size fractions simultaneously such as dust, smoke, fumes and mists (Enclosure and stand included for outdoor use).
 - [TSI DustTrak II / DRX Instrument Set-up](#)
 - [TSI DustTrak II / DRX Using the Survey, Manual Log, and Program Log Modes](#)
 - [TSI DustTrak II / DRX User Interface Screen Set-Up](#)
 - [TSI DustTrak II / DRX How to Manually Zero Instrument](#)
 - [TSI DustTrak II Using the Size Selective Inlet Conditioners](#)

Indoor Air

- **TSI Q-Trak Model 7575:** An indoor air quality monitor using certain probes that measures low concentration volatile organic compounds (VOCs), temperature, carbon dioxide (CO₂), and humidity OR carbon monoxide (CO), carbon monoxide (CO₂), temperature and humidity.
 - [TEchRentals How to Use the TSI Q-Trak IAQ Monitor CO₂, CO, Temperature and Humidity Logger](#)
- **Fluke VT04A Visual Infrared (IR) Visual Thermometer:** This device can identify hot and cold markers all while taking accurate temperature readings. This IR Thermometer can store images on a micro SD card.
 - [Lennox Learning Solutions How To Use the Fluke VT04A Visual IR Thermometer](#)
- **Carbon Monoxide Lascar Data Loggers:** This data logger is a professional measuring device that is designed to record carbon monoxide (CO) gas levels for analysis (not an alarm / warning device).
 - [Lascar Electronics Easy Log Data Logger Setup](#)
 - [DATAQ Introducing the EL-USB-CO Carbon Monoxide Level Data Logger](#)

Other Resources:

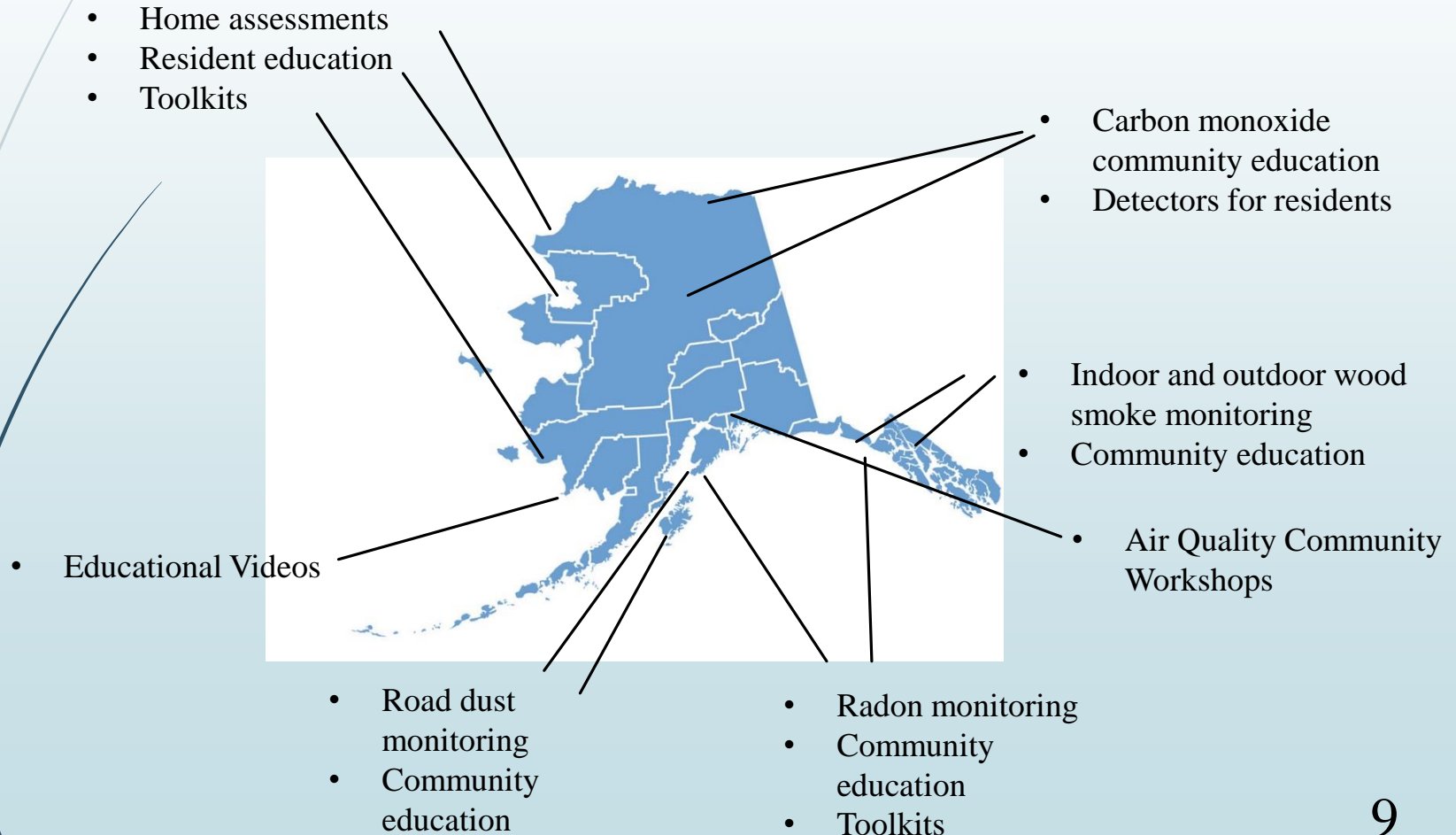
[Tribal Air Monitoring Support \(TAMS\) Center](#) : The TAMS Center also has a variety of equipment loans and trainings related to air quality monitoring for tribes in the US.

Air Monitoring Support

- Equipment Loans
- Training
- Monitoring Assistance

Community Projects

**Community projects are capacity building projects.
ANTHC encourages Tribal communities to develop new creative ways to
address air quality concerns.**



Past Projects

Describe activities completed during this reporting period that have helped you achieve your goals and objectives.

- A grand total of 98 homes participated on the Healthy Home Assessments throughout the duration of the first 3 quarters of this grant. That is 38 more homes than the original target of 60 homes. The assessment data results are in the included attachment of this report. As well as a summary of rankings from the top indoor air quality issue to the least issue.
- 14 Air Matter's Toolkits were used as an outreach tool. They were used as door prize to 14 households that participated on the Healthy Home Assessments. Each household that received an Air Matters Toolkit were thoroughly instructed on what is in the package and how to use each item to help improve their indoor air quality issues. A picture is shared in the attachment. Other prizes that were donated from the local corporation store and Grant Air were also drawn out to lucky winners that participated in our Healthy Home Assessments.
- Article related to bed bug/foggers were shared in the IGAP Quarterly Newsletter. Newsletters are sent out to every household in Toksook Bay.
- YKHC Toksook Bay Sub-regional clinic was contacted with a letter and phone to notify them on being part of educating residents who have respiratory problems. We haven't received a response yet. But the Indoor Air Quality Pamphlets that were created by the IAQT were brought over to the clinic to be posted on their pamphlet section in the waiting area. The pamphlet is included in the attachment.
- Poster on bed bug issues was created by the youth following the Spring Green Up Clean Up event. This was following a powerpoint presentation that our department presented to the youth. The

presentation included indoor air quality topics. We had the youth choose what kind of poster they wanted to create using what was in the presentation. A picture is included in the attachment.

- More information we compiled from the assessments are included in the attachment.
- Educational information on Indoor Air Quality issues were posted in the Nunakauyak Traditional Council IGAP facebook page.
- The Tribal Member's Gathering meeting was never rescheduled. This was due to a lot of turnover in the administration, accounting department and council seats. There is a chance this meeting will take place in the next fiscal year. But we will have the powerpoint presentation on indoor air quality issues all ready to go.

What challenges do you face in achieving your goals and objectives for this project, and how will you address these challenges?

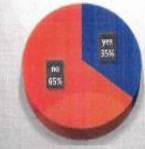
The tasks were completed without any issues with all households. All households that participated were very cooperative. The only issue was the Tribal Member's Gathering was never given a rescheduled date. Most likely the tribe will host one in the next fiscal year.

2. Mold and Moisture

Mold growth in homes

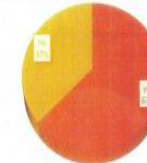


Leaks or places where moisture is entering?

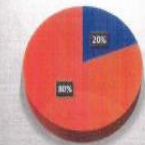


3. Wood Stove

DO YOU HAVE A WOOD STOVE?



Does trash, cardboard, plastic ever get burned in your wood stove?



Our Goal

Is to educate the community about hazardous indoor air pollutants and to help improve the awareness of indoor air quality with the usage of wood stoves, mold, mildew, and other air contaminants.

NUNAKAUYAK
TRADITIONAL COUNCIL

P.O. Box 37048
Toksook Bay, AK 99637
(907) 427-7715 Fax 427-7710

Past Projects

WCA IGAP AIR MONITORING PROJECT

Overall Project Goal: Help people burn wood cleanly and efficiently

This past April/May, Wrangell Cooperative Association (WCA) Indian General Assistance Program (IGAP) performed baseline air monitoring in Wrangell. We have monitored other mediums (Stikine River water, ocean plankton, 10 Mile pipe water), but it was the first time air monitoring had occurred. Dry wood, effective stoves and clean chimneys contribute to clean and efficient burning. Our objectives for this project were:

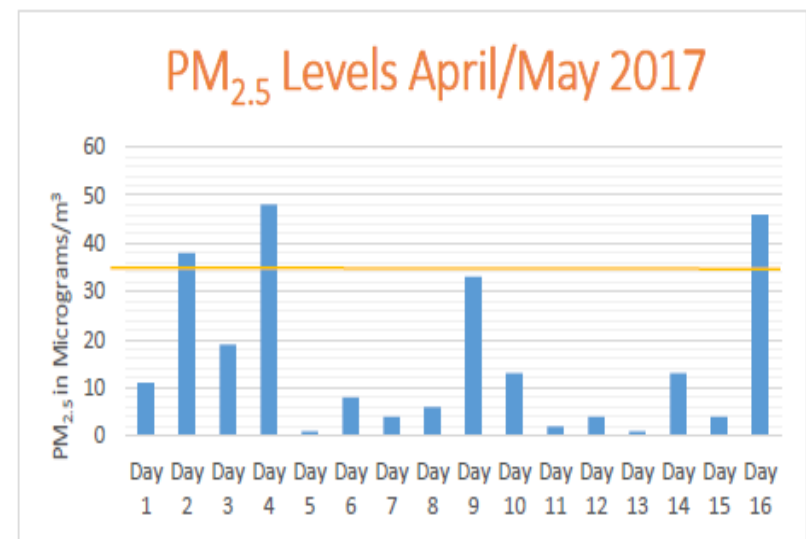
- To learn about the process and equipment involved with air monitoring
- Develop relationships with local community members
- Get a general idea about levels of PM_{2.5} – the tiny particles in wood smoke and vehicle emissions.

The Monitoring Process

For 16 days in April and early May, a DustTrak monitor recorded levels of PM_{2.5}. These particles were measured over periods of 24 hours, and the average tells us what the level was. We also recorded basic wind and weather conditions when we started the monitor on sample days. No technical problems occurred with the monitor nor batteries, and the data was recorded as intended.

Results

PM_{2.5} levels for each sampling day are listed on the graph below. These tiny dust particles are measured in micrograms/cubic meter ($\mu\text{g}/\text{m}^3$) over 24 hours. The PM_{2.5} levels were generally low with only three days registering on the low end of any cautionary statements.



Past Projects



Let's Clear the Air: simple steps to a healthier home

Alaska Native Tribal Health Consortium

Subscribe 294

312 views



aleknagik wild fire

Wildfires are increasing

In 2015, more than 5 million acres burned


Temperatures are higher

Let's Clear the Air: Protect Yourself from Wildfire Smoke

Alaska Native Tribal Health Consortium

Subscribe 294

269 views



aleknagik HRV

The environmental worker told us that we also need to check the outside vents.

Let's Clear the Air: how to take care of your HRV [Yupik]

Alaska Native Tribal Health Consortium

Subscribe 294

523 views

ANTHC Community Project

Other Project Possibilities:

- Air quality & climate change
- Air quality & subsistence
- Solid waste burning monitoring & outreach
- Green cleaning outreach and clinics
- Cultural videos for AQ issues for your region
- Indoor air quality monitoring (humidity, VOCs, CO, CO2, PM)
- Wildfire air quality education/outreach
 - Toolkits
 - How to create clean rooms
- Cultural videos for AQ issues for your region

ANTHC Community Project

Project will be funded on a first come, first serve basis and will continue until funding is gone.

Application Process:

- Email the Air Quality Program a description of your desired project at CEH@anthc.org or mjmullan@anthc.org.
- You will then be instructed to:
 - Provide Tribal organization name, your name, and phone number.
 - Provide your Tribal DUNS & Tax ID number.
 - Provide completed a Phase 1 Air Assessment



Community Project Requirements

If you are IGAP, verify your project is in your work plan.

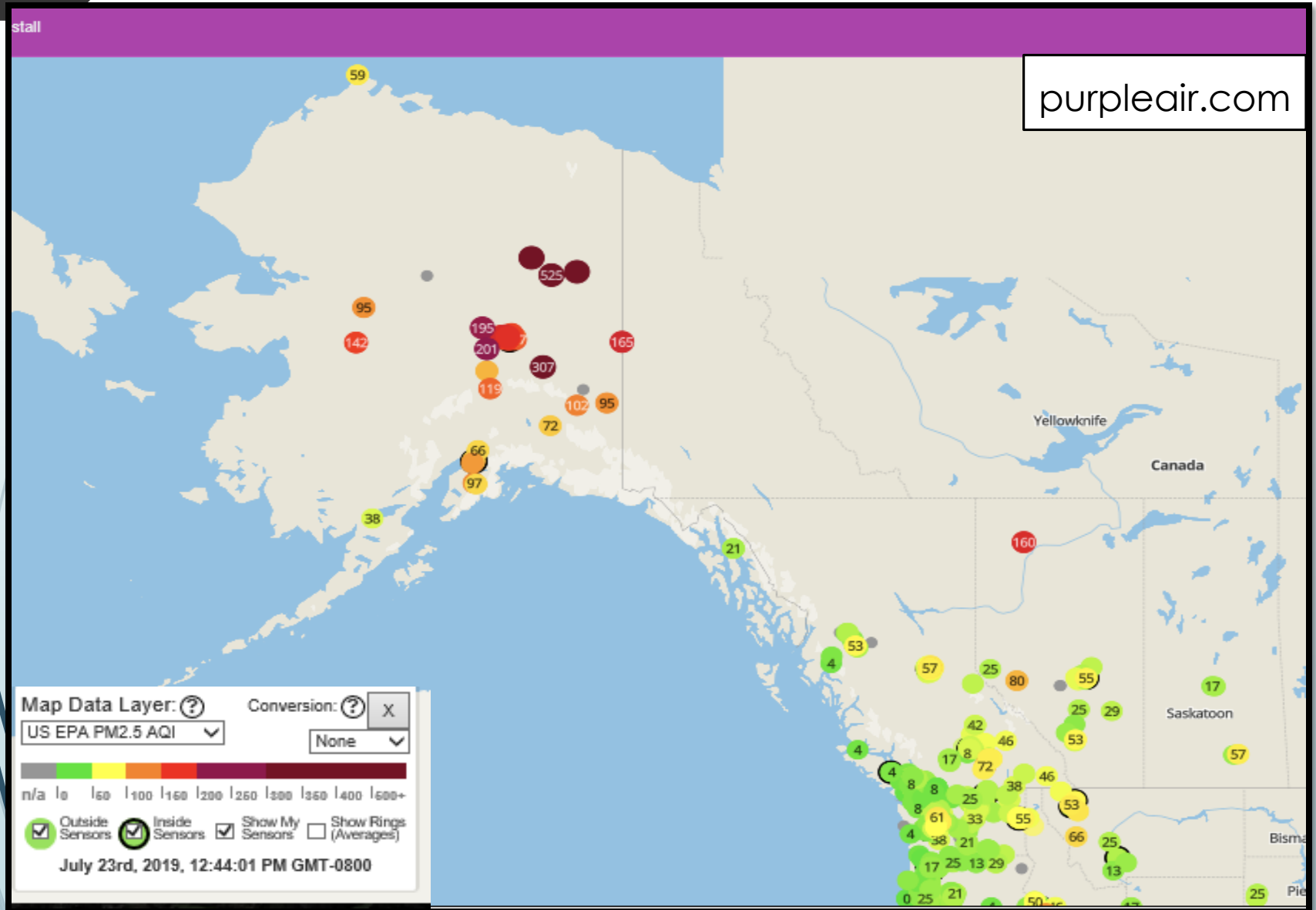
- Work with ANTHC staff on project details.
- Depending on your project, quarterly, final and budget reports may be required to ANTHC.
- Create a QAPP if needed.

Purple Air Monitoring



- AQ sensor to measure real time PM2.5
 - Needs Wi-Fi to connect sensors to the Purple Air map
 - Needs a power outlet
 - Sensors seem to last 1- 3 years depending on the environment
 - Not a federally approved monitoring device
 - Gives a general idea of a baseline, but has proven to read higher than approved devices
 - Can be a good education tool

Purple Air Monitoring



For More Information Contact:



Mary Mullan
Tribal Outreach Coordinator
ANTHC

mjmullan@anthc.org

907-729-3430