



Introduction to Climate Change *Effects on Air Quality*

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Alaska Native Tribal Health Consortium

Introduction

The Alaska Native Tribal Health Consortium (ANTHC)



Who We Are...

- Largest tribally managed health organization in the US

- **Vision:** Alaska Native people are the healthiest people in the world

- **Mission:** Providing the highest quality health services in partnership with our people and the Alaska Tribal Health System

To Accomplish Our Vision And Mission...

Our continued work in the Department of Community Environment & Health, helps better understand between our environment, climate, and health

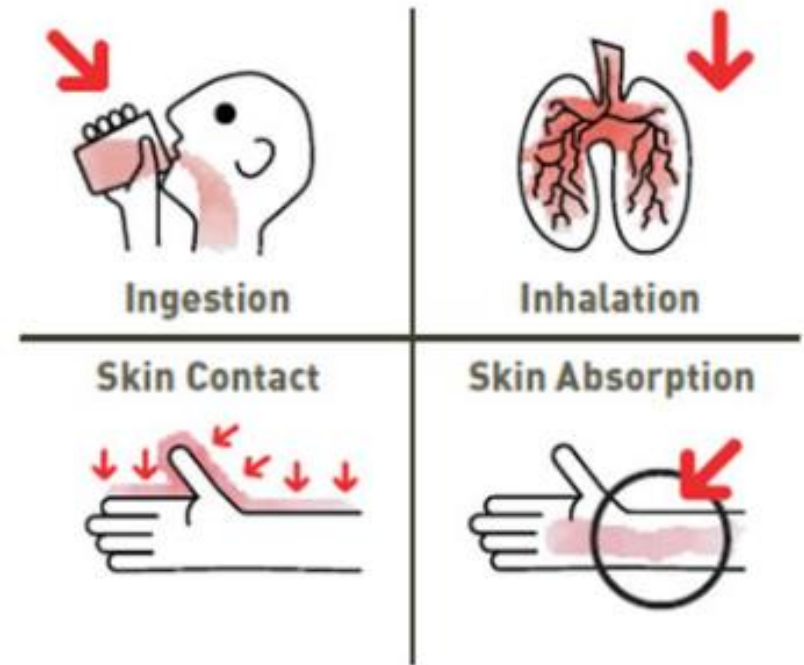


- Air & Healthy Homes
- Contaminated Sites
- Local Environmental Observer Network (LEO)
- Food Security
- Emergency Preparedness
- Environmental Health Field Services
- Capacity & Training

A healthy environment is necessary for healthy people

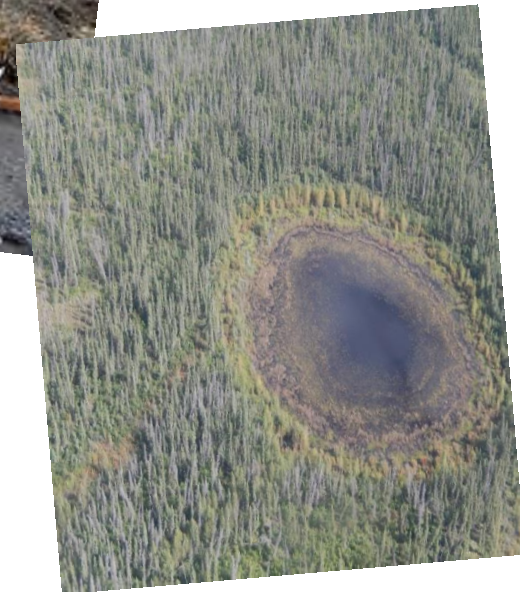
How The Environment Plays A Role

- Environmental Exposures and Risk
- Routes of Exposures
 - Inhalation
 - Ingestion
 - Contact
 - Absorption



Climate Change

Climate change is a long-term change in the earth's climate and can change the environment in which we live.



Photos: Alaska LEO Observers

Carbon Dioxide

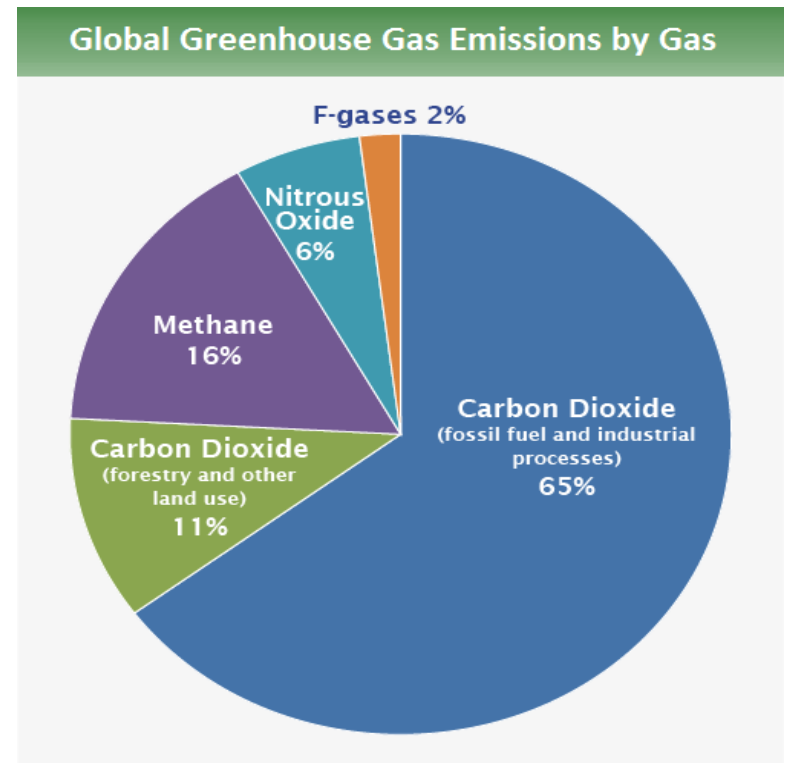
The primary greenhouse gas contributing to climate change is carbon dioxide.

CO₂ Absorbed and emitted naturally by:

- plant and animal respiration
- volcanic eruptions
- ocean-atmosphere exchange

CO₂ From Human Activities:

- fossil fuel burning
- changes in land use



Over 30 billion tons of CO₂ are released into the atmosphere every year by human activities

Air Quality And Climate Change, What We Know...



- Extended Warmer Temperatures
- Increased Dust From Dryer Seasons
- Longer Wildfire Seasons

Who Is At Risk??

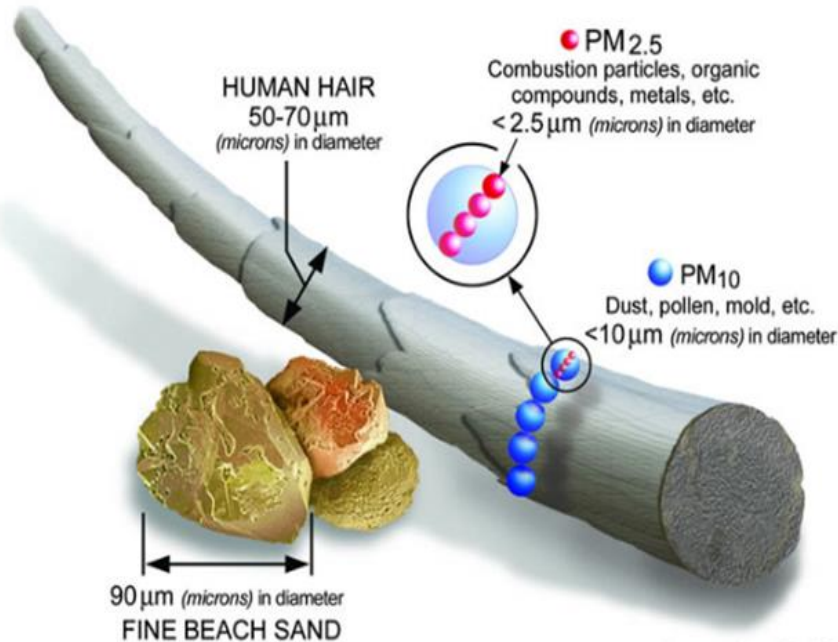


Image courtesy of the U.S. EPA

Wildfires and road dust have different size particulates.

Regardless of the source, these tiny particulates are approximately 2.5 - 10 micrometers in diameter and can cause increased health risks.

Especially those with heart or lung disease, elders, and children



Wildfires

According to the Alaska Wildland Fire Information:

- In 2015, 768 fires in Alaska burned more than 5.1 million acres



- In 2016, 558 fires in Alaska burned more than 500k acres

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

Road Dust

Sources of dust in rural Alaska

Dirt/gravel roads

Unpaved airport runways

Exposed riverbeds/shorelines

Un-vegetated lots

Gravel pits and stockpiles



Longer and Dryer Summers Increase the Duration of Dry Conditions



What's In The Dust??

- Chemicals
- Bacteria
- Fungi
- Heavy metals



Contamination from oils, fuel, waste spillage,
toxins from landfill, etc.

What We Can Do....

Provide steps to protect those at risk from longer dust seasons by:

- Education
- Slowing down
- Reducing number of vehicles on road
- Improve road surface
- Spread water or dust palliatives
- Clean indoor air



Conclusion



- Begin planning for and implementing innovative adaptation strategies.
- Involve many people in a shared and active dialogue. This includes community members; clinical, public health and environmental health providers; local environmental coordinators; and local, regional and state Tribal organizations.
- Integrate traditional knowledge and science to better understand impacts.

Questions??

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