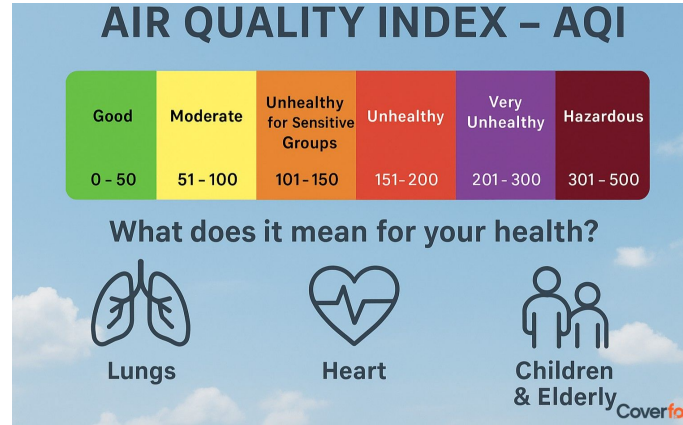


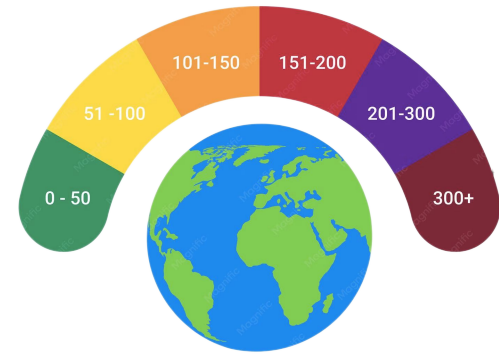


The Downfall of Air Quality

By: Sean Kim | YCB Civics Fair

So what is Air Quality?

- Air quality is a measure of how clean or polluted the air is in a specific location.
- It is measured by the Air Quality Index (AQI) - EPA.
 - 0 - 50: Good
 - 50 - 100: Moderate
 - 100 - 150: Unhealthy for sensitive groups
 - 150 - 200: Unhealthy
 - 200 - 300: Very unhealthy
 - 300+: Hazardous
- Air quality in our state has tumbled in recent times.
 - Eastern Washington has had some of the worst air quality recordings.
 - Western Washington is relatively good, but it's still important to talk about.



Why is Air Quality Important?

- Air quality is important because wildfires are spreading in Washington.
- AQI is very important to our state, country, and even the world! There are many ways that bad air quality can happen, and people can be exposed.
- Many people live in areas that are affected and that there can be great consequences.
- I want to research it because air pollution can affect the human race terribly and I want our world to be safe from the things that air pollution can do.

The History of Air Quality

1970

Clean Air Act

The Clean Air Act's goal was to control air pollution from creators, such as factories, power plants, cars, and trucks. Its main goal was to reduce harmful pollutants that contribute to smog, acid rain, and respiratory diseases.

1990

Major Amendments

Expanded authority to talk more about acid rain and toxic pollutants as well as establishing the national operating permit program.

1997

New Standards

Revised ozone standards are introduced, establishing the first ever standards specifically targeting fine particulate matter (PM_{2.5}).

Present

Modern Focus

Addressing localized wildfire smoke events, adapting climate policies, and deploying advanced, regional monitoring networks.

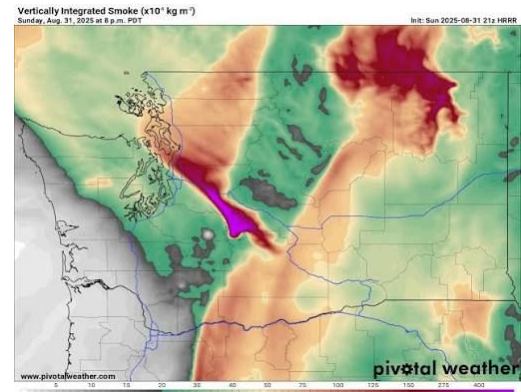
Why do issues on Air Quality happen?

- People start **wildfires** and it burns through **cities**, creating **worse air quality**.
- Power plants, factories, cars, and trucks create **smoke**, which results in it ruining the town's (and others) **air quality**.
- **Ozone** is created when sunlight hits **volatile organic compounds**. This can cause **respiratory irritation** and worsen **asthma**.
- **Agricultural burning**, dust from construction, and **disrupted soil** release **PM** and other **pollutants** into the air



What does the data say?

- Wildfire smoke is the clear driver of Washington's worst PM2.5 days. Normal air is usually good; extreme pollution arrives in short, intense episodes.
- Fire proximity alone doesn't determine air quality. Wind direction, plume height, terrain, and overnight inversions decide where smoke settles. That's why one community can have unhealthy air while another, even closer to a fire, is only moderate.
- Spokane also had about 2.5× the share of monitor-days above AQI 100 compared with Seattle core: 1.0% vs. 0.4%. Those are the days when wildfire smoke starts becoming a bigger health concern, especially for sensitive groups.



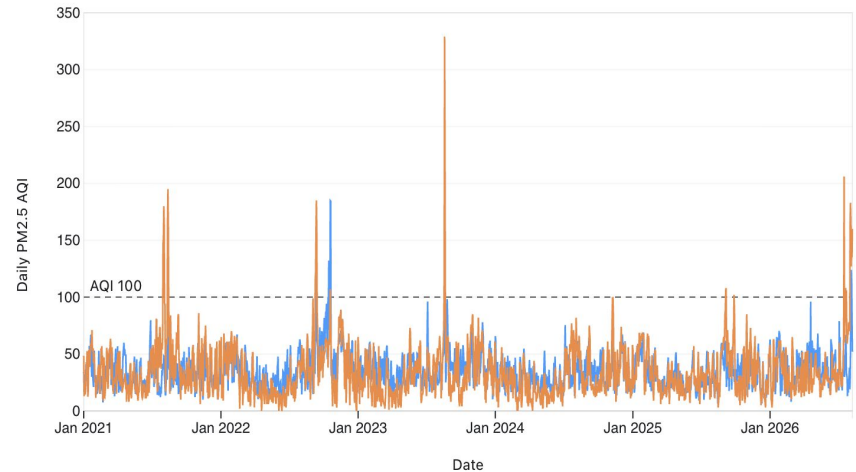
Data - Spokane vs. Seattle

- July/August of 2021
 - **Ford Corkscrew Fire**, very close to Spokane & led to poor AQI in Spokane
- August/Sept 2022
 - **Bolt Creek Fire** near Skykomish county which is why it was bad in Western Washington
- September/November 2022
 - Fires in Western Washington, North Idaho, West Montana → reasons why Spokane was bad.
- July/August 2023 → Spokane
 - **Gray Fire** (which came from British Columbia)
 - **Oregon Road Fire** - Washington (North of Spokane)
 - **Ridge Creek Fire** - North Idaho - Coeur d'Alene
- No bad air quality from 2024-2025
 - There were weak winds.
- August 1st 2026
 - Wildfires started in Eastern Washington
 - Fires in Canada went South into Western Washington → even King county had bad AQI.

Daily PM2.5 AQI: Seattle vs. Spokane

Every available day from Jan. 1, 2021 to Aug. 8, 2026. Historical values are county monitor averages; Mar.-Aug. 2026 uses AirNow reporting-area AQI.

■ Seattle / King County ■ Spokane County Dashed line: AQI 100 (Unhealthy for Sensitive Groups)



What is being done now?

- Managing burn bans and permits to control wildfire and agricultural smoke.
- Distributing bus passes, bikes, and portable air cleaners to reduce reliance on polluting vehicles.
- State agencies like the Northwest Clean Air Agency and the Department of Health provide real-time air quality data, burn ban updates, and health guidance to help residents take protective actions
- Tailoring strategies to local needs, such as Spokane Valley's roadwork and South King County's mobility and air quality programs



Steps for the future

- Be conscious about what's happening to the air around us.
- Use more EV cars,
- Be careful with fire.
- Try not to go camping without a parent advisor or use matches without a parent supervisor.
- Always be careful when outside, because anything could happen.
- Be mindful about the news about the air, it will decrease your chances of getting sick.
- Try to help decrease the amount of companies that emit pollutants.
- Work to get rid of different fertilizers and chemicals farmers add to their crops
- Be careful to use fireplaces and stoves that emit smoke.
- Most importantly, try to help in any easy you can to prevent bad air quality from happening in Washington.



Thank you!