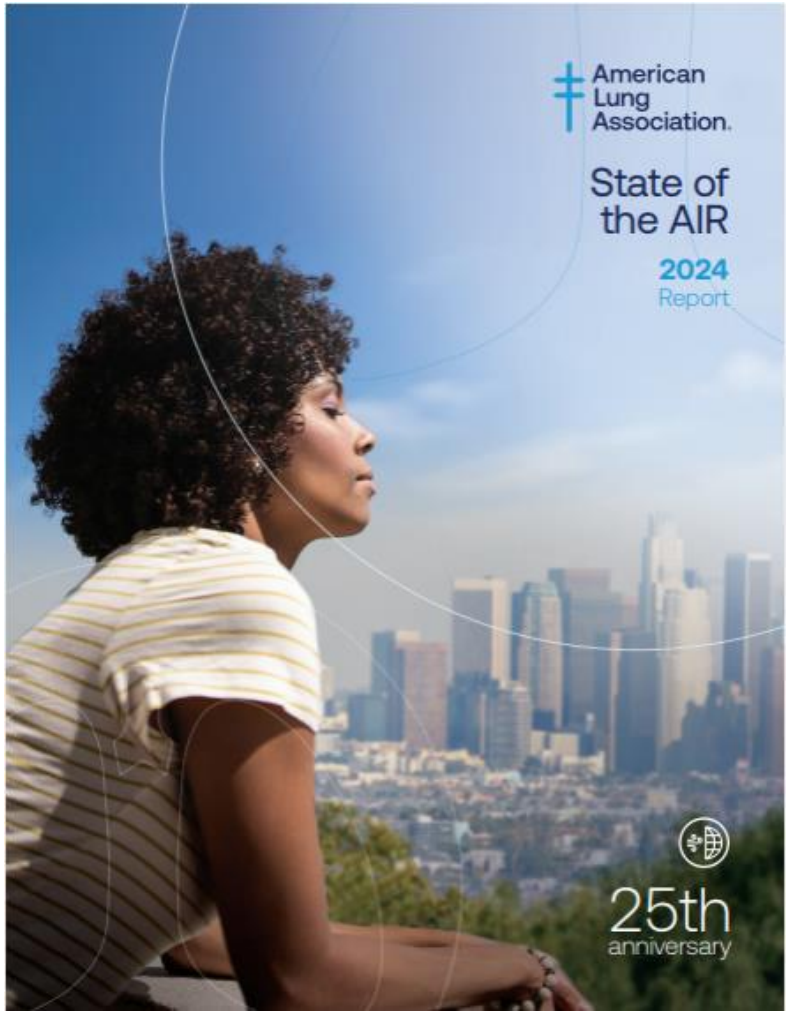
American Lung Association.

April 25, 2024

State of the Air 2024

Houston-The Woodlands Metro Area

Our 25th annual report



- Puts air pollution into everyday language
- Gives the public local information
- Focuses attention on particle pollution and ozone
- Gives grades to 885 of the 911 counties with monitors (out of 3,221 counties)
- Ranks 25 metro areas with worst pollution (& cleanest) for 3 pollutants.

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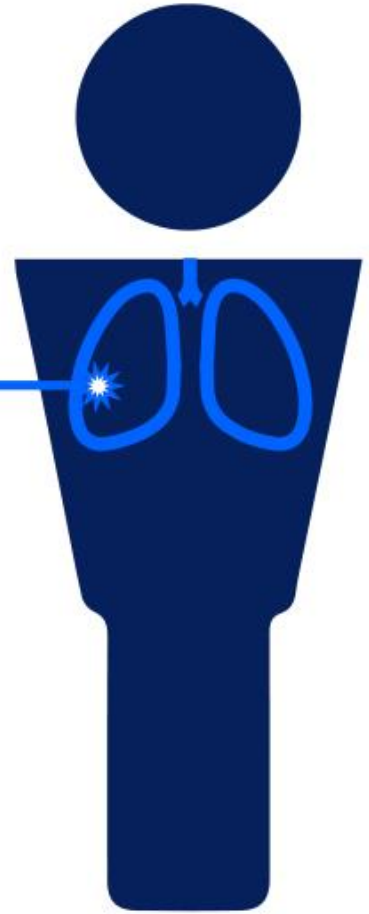
Air pollution can harm children and adults in many ways

Respiratory

Wheezing and coughing
Shortness of breath
Asthma attacks
Worsening COPD
Lung cancer



Other

Premature death
Susceptibility to infections
Heart attacks and strokes
Impaired cognitive functioning
Metabolic disorders
Preterm births and low birth weight

2024 Key Findings

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Key messages for “State of the Air” 2024

- Some 131 million people live with unhealthy levels of air pollution.
- 11.7 million more people than last year.
- Almost 44 million people live in areas failing all three measurements, over 25 million more than in 2023's report.
- Deadly particle pollution continues to rise.
- Major differences in exposure to unhealthy levels of air pollution between eastern and western states and between people of color and white people.

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The Clean Air Act is working, but…

- Over its history, this bipartisan landmark public health law has saved millions of lives and trillions of dollars
- Pollution controls on industry and power plants and retirement of old, dirty fleets have significantly reduced emissions of particle and ozone precursors pollutants
- *But* climate change-driven wildfires and droughts are outpacing progress

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Nearly **4 in 10** people live in places with unhealthy levels of air pollution

People of color were 2.3 times as likely as white people to live in a county with 3 failing grades.

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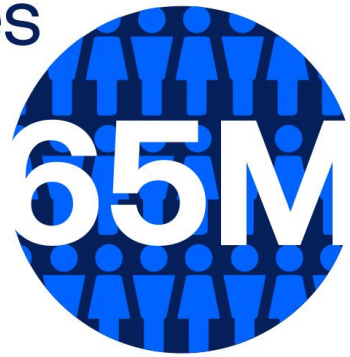
Deadly particle pollution continues to rise

- 65 million people are living with dangerous spikes in short-term particle pollution.
- 19 of the 25 cities most polluted by short-term levels had more high particle days than in 2019-2021
- 7 cities hit their highest number on record.

65 million people live in counties with **F grades** for daily particle pollution.



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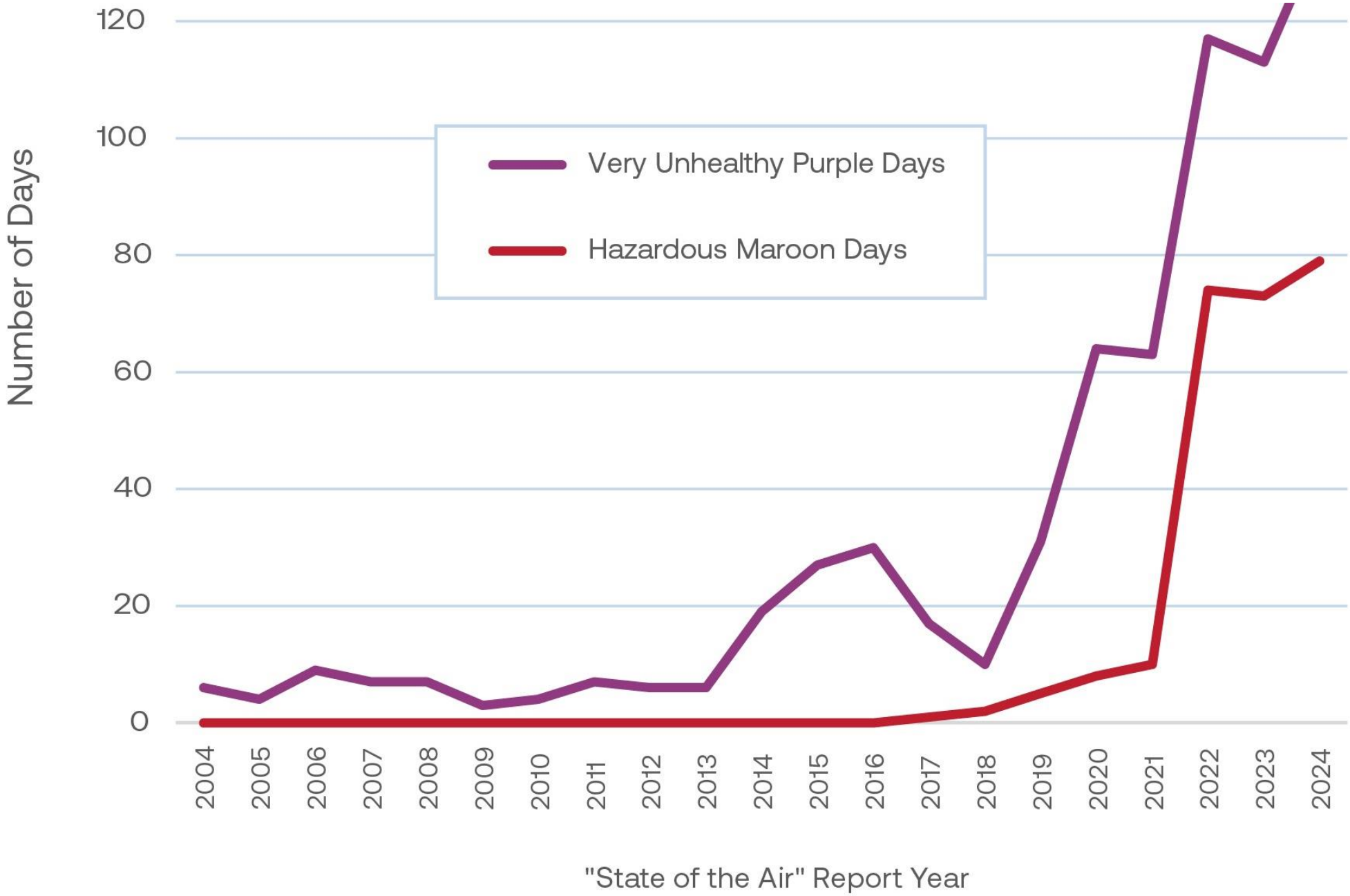
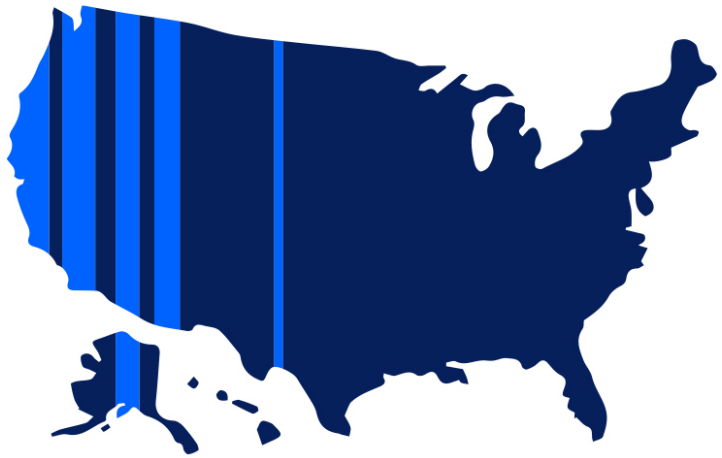

120
100
80
60
40
20
0
Number of Days
Very Unhealthy Purple Days
Hazardous Maroon Days
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
"State of the Air" Report Year

Most polluted cities for short-term $PM_{2.5}$

1. Bakersfield, CA
2. Fresno-Madera-Hanford, CA
3. Fairbanks, AK
4. Eugene-Springfield, OR
5. Visalia, CA
6. Reno-Carson City, NV
7. San Jose-San Francisco-Oakland, CA
8. Redding-Red Bluff, CA
9. Sacramento-Roseville, CA
10. Chico, CA

All the 25 worst cities for short-term particle pollution are in the western U.S.



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Year-round particle pollution

- More than 90.7 million people live in the 119 counties with a failing grade
- 16 of the 26 cities most polluted by particles year-round had increased year-round levels
- 5 of them (in CA, NV, OR and WA) saw their worst levels ever
- 7 cities improved, of which two (Cincinnati and Los Angeles) matched their best ever, and only one (Pittsburgh) had a new best.

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Most polluted cities for year-round $PM_{2.5}$

1. Bakersfield, CA
2. Visalia, CA
3. Fresno-Madera-Hanford, CA
4. Eugene-Springfield, OR
5. San Jose-San Francisco-Oakland, CA
6. Los Angeles-Long Beach, CA
7. Sacramento-Roseville, CA
8. Medford-Grants Pass, OR
9. Phoenix-Mesa, AZ
10. Fairbanks, AK
11. Indianapolis-Carmel, IN
12. Yakima, WA
13. Detroit-Ann Arbor, MI
14. Chico, CA
14. Spokane, WA
16. Houston-The Woodlands, TX
17. El Centro, CA
18. Reno-Carson City, NV
19. Pittsburgh, PA
20. Las Vegas, NV
20. Kansas City, MO-KS
22. Cincinnati, OH
23. Chicago, IL
24. Augusta-Richmond, GA
25. Corpus Christi-Kingsville-Alice, TX
25. Oklahoma City, OK

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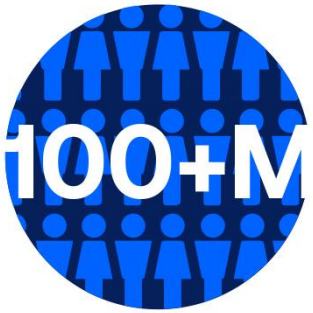
Ozone showed mixed results

- 100.6 million people live in counties with unhealthy levels of ozone smog
- There were 2.4 million **fewer** people living with failing grades
- But the 25 most ozone-polluted cities experienced **more** bad air days on average
- Just 6 of the 25 worst cities for ozone improved, and only 2 (Fresno and El Centro, CA) saw their lowest levels ever

More than 100 million people live in counties with **F grades** for ozone smog.



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Most polluted cities for ozone

1. Los Angeles-Long Beach, CA
2. Visalia, CA
3. Bakersfield, CA
4. Fresno-Madera-Hanford, CA
5. Phoenix-Mesa, AZ
6. Denver-Aurora, CO
7. Sacramento-Roseville, CA
8. San Diego-Chula Vista-Carlsbad, CA
9. Salt Lake City-Provo-Orem, UT
10. Houston-The Woodlands, TX
11. Las Vegas, NV
12. San Jose-San Francisco, CA
13. Dallas-Fort Worth, TX
13. New York-Newark, NY-NJ
15. El Paso-Las Cruces, TX-NM
16. Fort Collins, CO
17. Chicago, IL
18. El Centro, CA
19. Reno-Carson City, NV
20. Colorado Springs, CO
21. Albuquerque-Santa Fe, NM
22. Redding-Red Bluff, CA
23. San Luis Obispo-Paso Robles, CA
24. San Antonio-New Braunfels, TX
25. Grand Rapids, MI

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Cleanest cities (alphabetical order)

- Bangor, ME
- Lincoln-Beatrice, NE
- Johnson City-Kingsport-Bristol, TN-VA
- Urban Honolulu, HI
- Wilmington, NC

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What about COVID-19?

- All three years of data used in “State of the Air” 2024 are from years of the COVID pandemic.
- Improvements, if any, due to behavior changes in response to the pandemic appear to have been small and brief.
- Research has found an association between exposure to even low levels of air pollution and an increased risk of severe illness and death from COVID-19.

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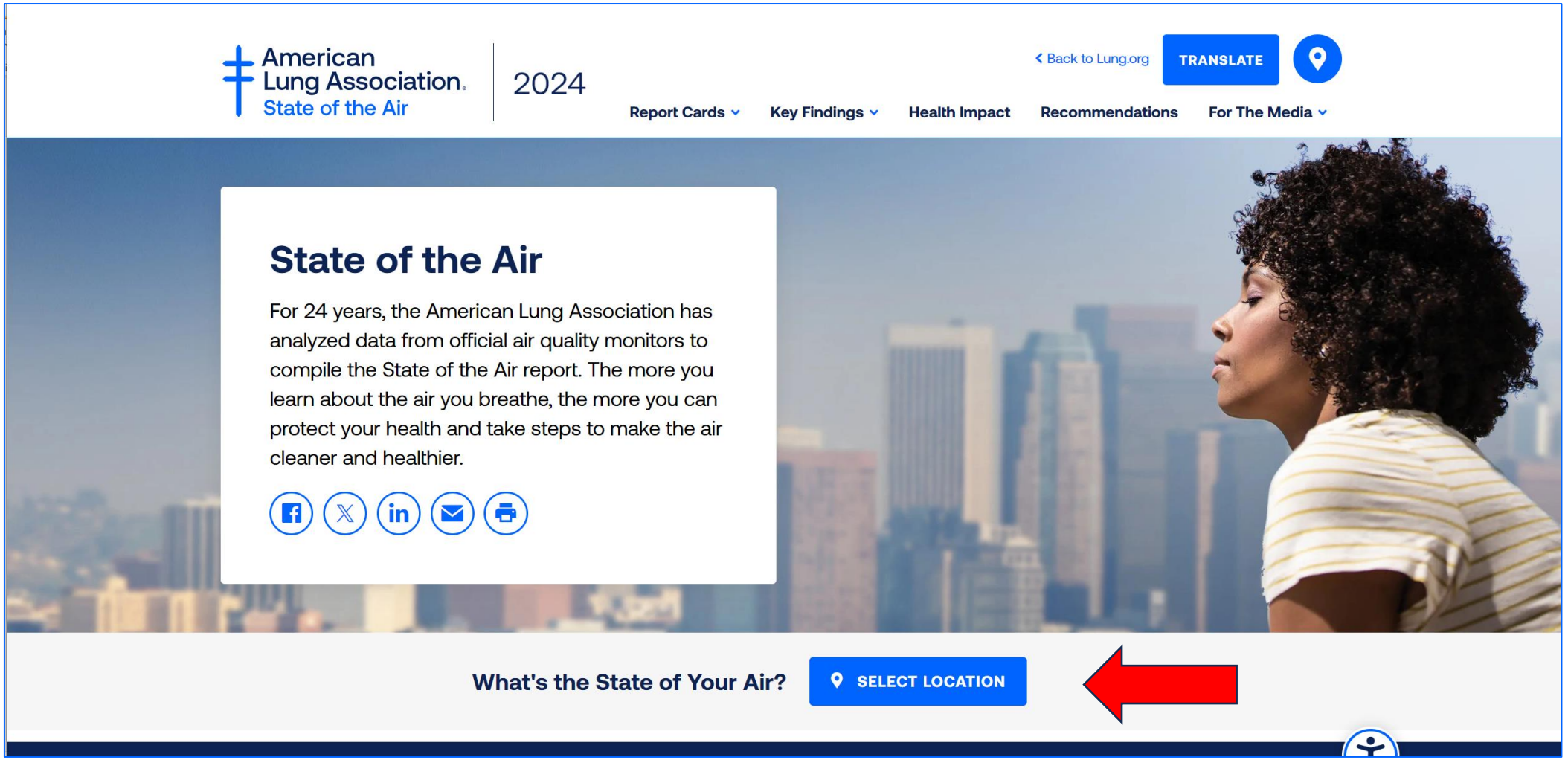
Navigating Lung.org/sota



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Finding the data you want

Report Cards

Find grades and rankings for cleanest and most polluted places to live.

Cleanest Cities

See the cleanest cities and learn more about how your city ranks.

READ MORE

Most Polluted Cities

See the 25 most polluted cities and counties for ozone and particle pollution ranked.

READ MORE

States and Counties

Get the report card for your state's air quality, and the number of people in groups at risk.

READ MORE

Compare Your Air

Find out how your city measures up when it comes to air pollution.

READ MORE

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State Pages

High Ozone Days | Particle Pollution | Populations at Risk

Texas reports data on 35 out of 254 counties. Counties with no ozone data are not shown.

Sorted by County

County	Grade	Wgt. Avg.	Orange Days	Red Days	Purple Days
Bell	C	2.0	6	0	0
Bexar	F	10.0	30	0	0
Brazoria	F	8.0	21	2	0
Brewster	A	0.0	0	0	0
Cameron	A	0.0	0	0	0
Collin	F	6.3	16	2	0
Culberson	F	5.0	15	0	0
Dallas	F	8.8	25	1	0
Denton	F	16.3	43	4	0
El Paso	F	16.8	49	1	0
Ellis	B	0.3	1	0	0
Galveston	F	3.8	10	1	0
Gregg	B	0.3	1	0	0
Harris	F	23.2	50	13	0

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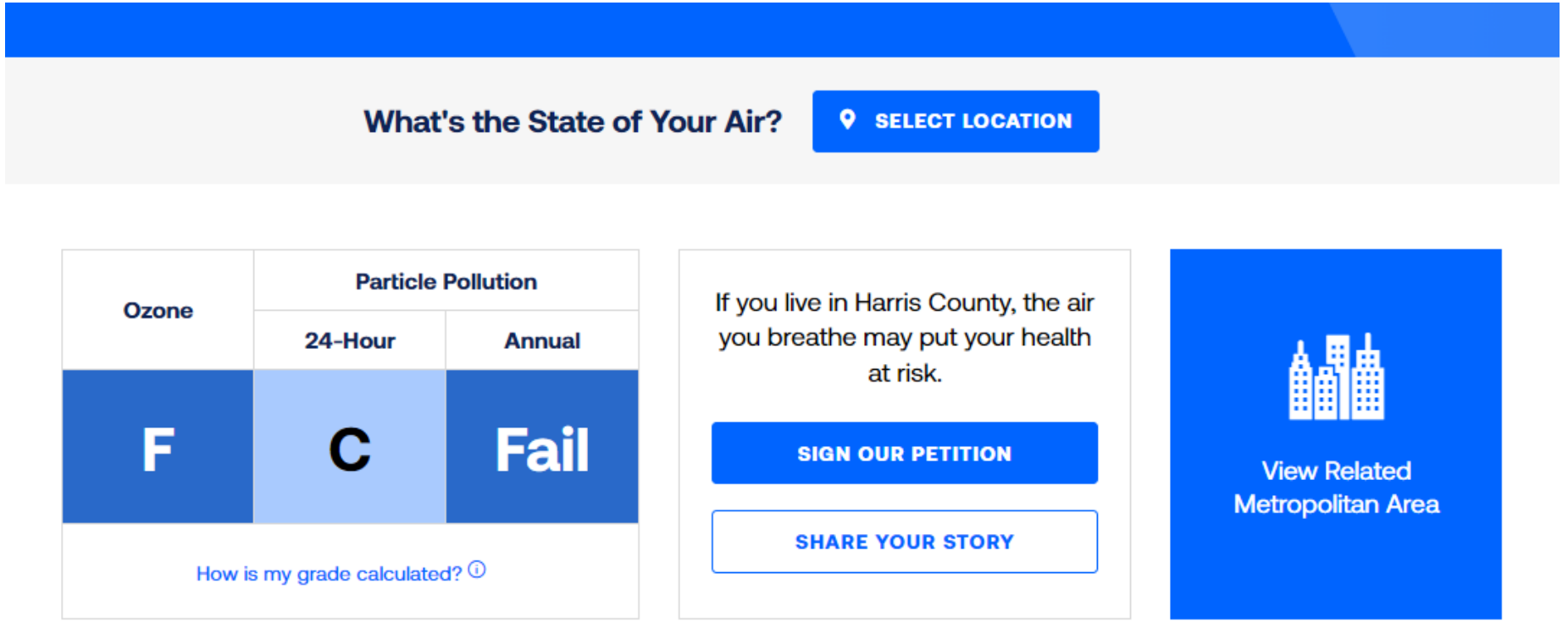
County & Metro Pages

On the county page you'll find grades, trend charts, population data and a link to any related metro area



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Rankings and Populations at Risk

Houston-The Woodlands Metro area

Populations At Risk	Learn More
Total Population:	**7,533,096**
Children Under 18:	1,927,437
Adults 65 & Over:	938,248
Pediatric Asthma:	122,470
Adult Asthma:	437,898
COPD:	309,097
Lung Cancer:	3,062
Cardiovascular Disease:	487,995
Pregnancy:	97,505
Poverty Estimate:	1,054,038
People of Color:	4,977,039

Ranking

- Ranked **10** worst for high ozone days out of **228** metropolitan areas
- Ranked **60** worst for 24-hour particle pollution out of **223** metropolitan areas
- Ranked **16** worst for annual particle pollution out of **204** metropolitan areas

Select another metro area to compare:

State

Metro Area

COMPARE

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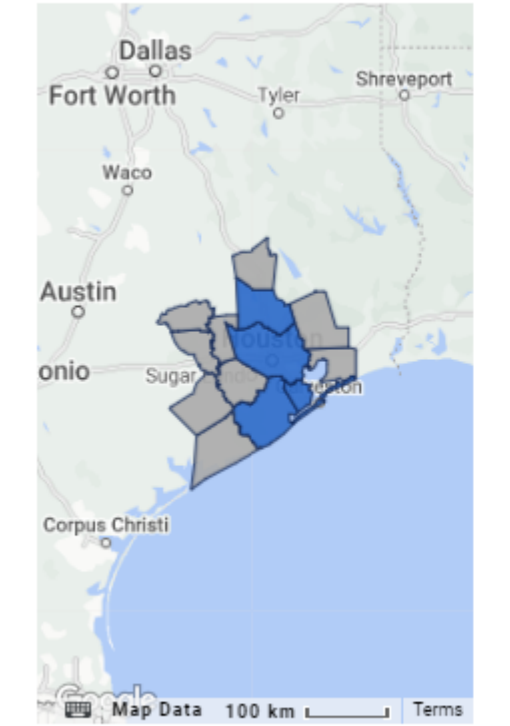
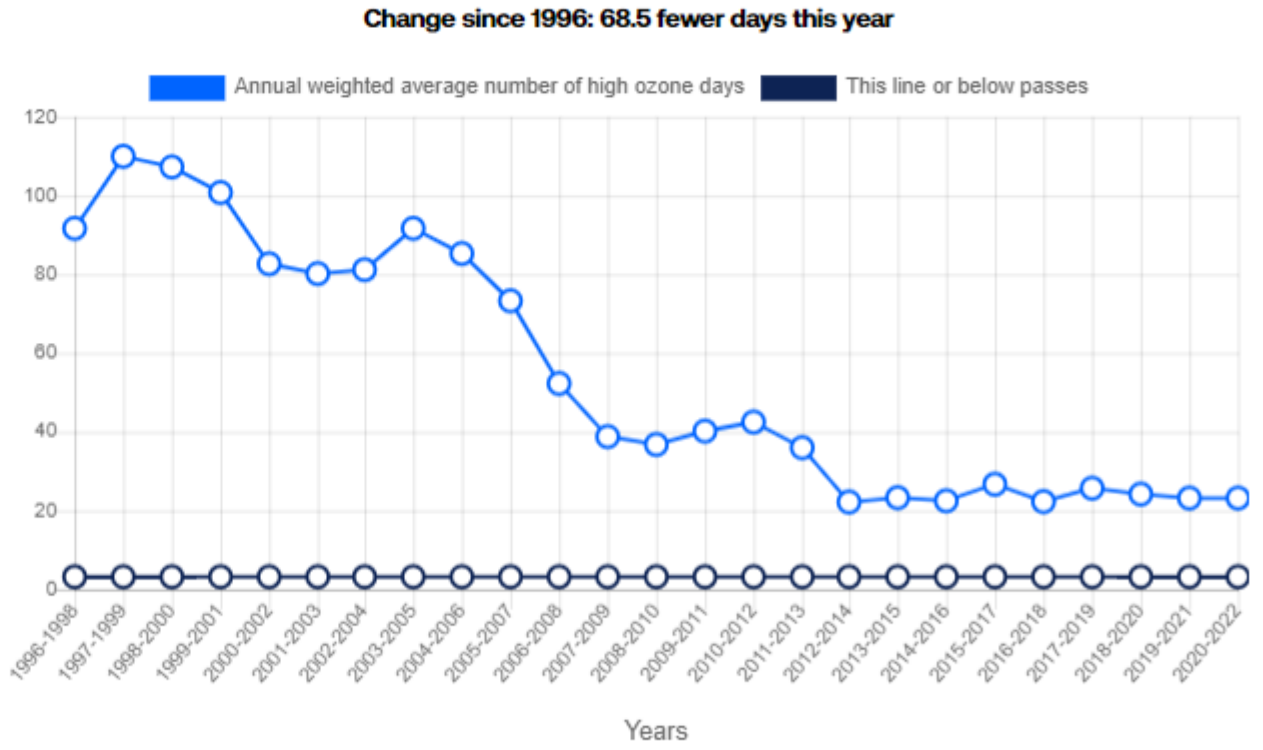
Trend Charts show progress - Ozone

High Ozone Days Learn More



A B C D F DNC/INC



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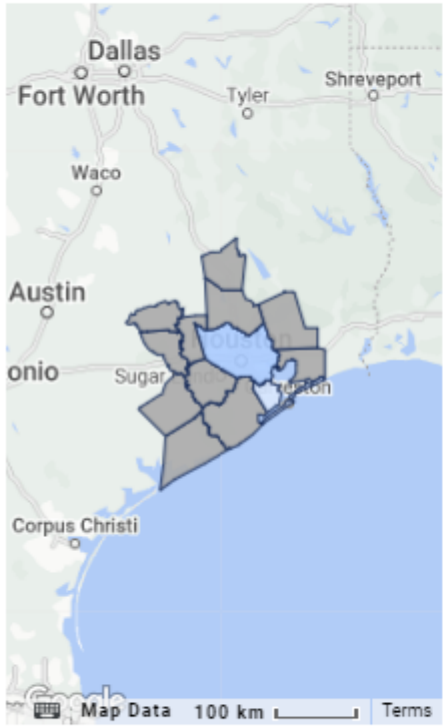
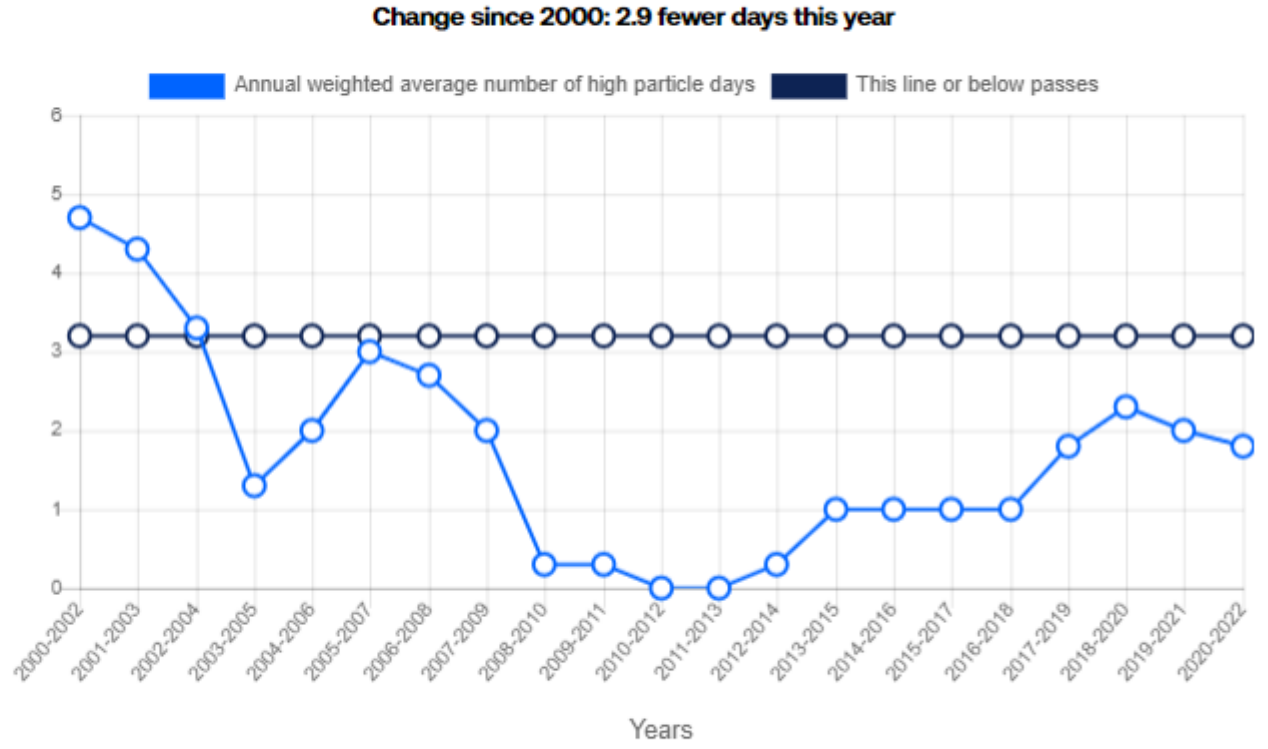
Trend Charts show progress – particle pollution 24-Hour

Particle Pollution - 24 Hour Learn More



A | B | C | D | F | DNC/INC



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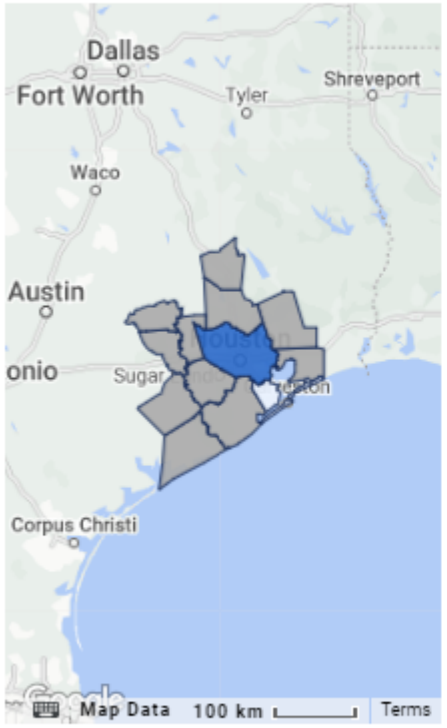
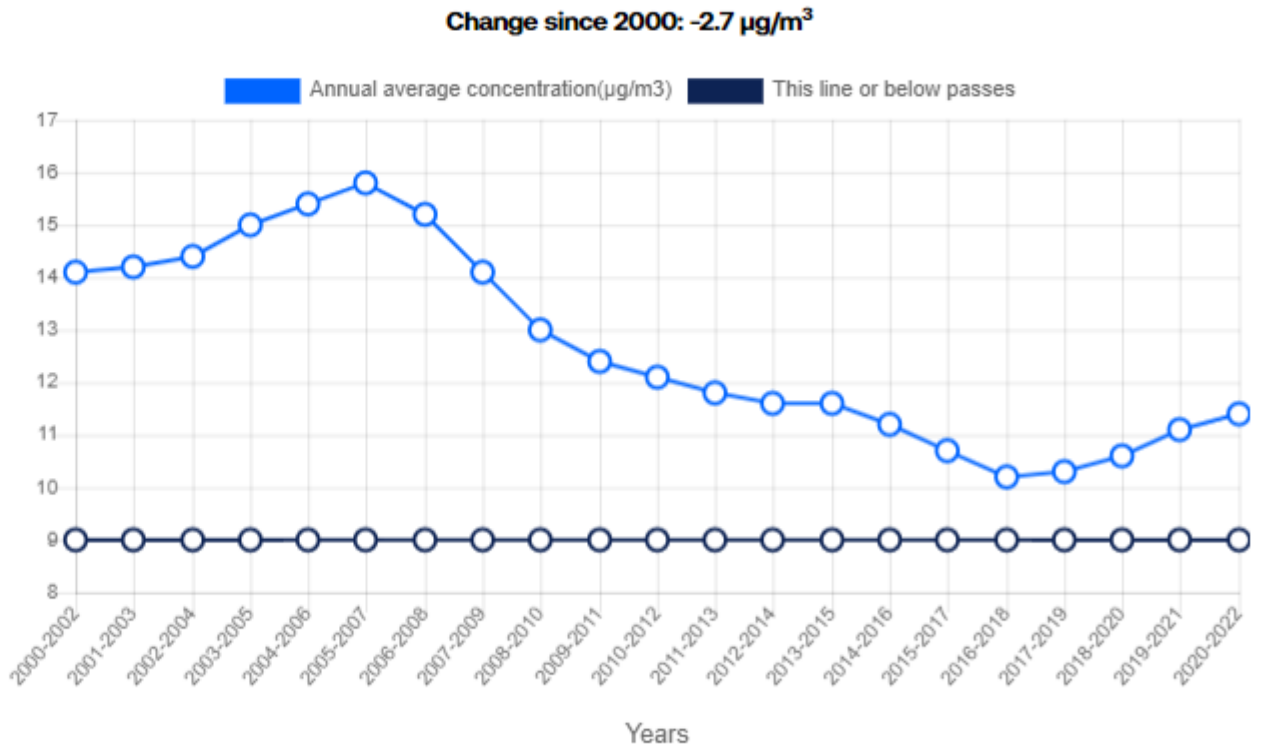
Trend Charts show progress – particle pollution annual

Particle Pollution - Annual Learn More



Pass | Fail | DNC/INC



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Other sections of the report

- Key Findings
  - Nationwide results
  - Trends for each pollutant
  - Worst 25 cities
  - Populations at risk
  - Most polluted and cleanest places to live
- Health Impact of Air Pollution
- Recommendations for Action

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Data, Grades and Ranking

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Where we got the data for 2024 report

States Collect Air Pollution Data in 2020, 2021 & 2022

↓

EPA Reviews & Posts Data Online

↓

Consultant Downloads the Data from EPA

↓

We Calculate Grades & Rankings

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How we grade

What do the *A* - *F* grades mean?

- *A* = 0 days with unhealthy levels over 3 years
- *B* = 1 to 2 unhealthy days
- *C* = 3 to 6 unhealthy days
- *D* = 7 to 9 unhealthy days
- *F* = 9 or more unhealthy days

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No Monitors = No Data = No Grades

- **No monitors = no grades**. Fewer than 1/3 of counties have monitors
  - 3,221 counties, but only about 911 with monitors
  - Not all counties with monitors have both ozone & particle monitors
- **EPA & states decide which counties get monitors—not us**
- **No data = no grades.** Some counties with monitors have problems reporting data

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How we rank cities

- We have **separate rankings** for short-term particles, year-round particles and ozone
- We rank cities by their most polluted county.
- Cities usually have more than one county.
- We rank them by weighted average or design value **of the most polluted county** in the metropolitan area
- We follow Office of Management and Budget definitions of cities
  - Metropolitan Statistical Area
  - Combined Statistical Area (may combine more than one “city”)

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Advancing Our Advocacy Priorities

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“State of the Air” 2024 Advocacy Message

The U.S. Environmental Protection Agency (EPA) recently finalized new air pollution rules that will help clean up particle pollution and address climate change. Now, the Lung Association is urging EPA to set long overdue stronger national limits on ozone pollution. Stronger limits would help people protect themselves and drive cleanup of polluting sources across the country.

Sign the petition at Lung.org/SOTA.

Note: Lung.org/sota-petition will go directly to the petition.

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“Recommendations for Action” Overview

- Federal government
  - DONE: Updated national particle pollution standards, rules to clean up methane from the oil and gas industry, stronger cleaner cars standards, stronger cleaner trucks standards
  - IN PROGRESS: Inflation Reduction Act investments rolling out, work to address wildfires
  - TO-DO:
    - Stronger national standards for ozone
    - Final measures to clean up mercury and carbon pollution from power plants
    - Congress: defend the Clean Air Act and fund EPA

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“Recommendations for Action” Overview

- State/Territorial/Tribal governments
  - Implement EPA’s new clean air protections
  - Set a clean or renewable electricity standard or clean peak standard
  - Prioritize deployment of clean energy production
  - Leverage Inflation Reduction Act funding
  - States: Adopt California’s stronger emissions standards for vehicles
- Local governments
  - Adopt a climate action plan
  - Purchase zero-emission fleet vehicles
  - Establish purchasing goals for renewable, non-combustion electricity

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“Recommendations for Action” Overview

- Individuals
  - Check daily air pollution forecasts in your area at airnow.gov
  - Reduce your own contributions to air pollution
  - Consider taking advantage of tax incentives to reduce emissions from your home and vehicle
  - Show up at the local level

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Using "State of the Air"

- Share results in your own advocacy activities
- Share petition
  - We can provide a printable version
- Share Recommendations for Action with leaders at every level
  - Highlight for Congressional staff and federal leaders
  - Pair “State of the Air” with state or local clean air priorities
- Highlight results in social media
  - We'll share sample social posts
- Share your feedback with us for future projects

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Questions?

Charlie.gagen@lung.org

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