American Lung Association.

State of the Air

2023 Report

Table of Contents

Acknowledgments

The American Lung Association "State of the Air" 2023 is the result of the hard work of many.

We would like to thank: Allen S. Lefohn of A.S.L. and Associates, who compiled the data; John Balmes, M.D., who served as expert volunteer reviewer for the health impacts section; Randy Tibbott of Our Designs, Inc., who designed the print version; Doug Manners, a volunteer writer/editor in Denver, CO, who helped with story collection, and storytellers Martha Coello, Lynn de Freitas, Joanne Kilgour and Jenny Wynn.

Great appreciation goes to the National Association of Clean Air Agencies, who strove to make this report better through comments, review and concerns. Many of its members reviewed and commented on the individual state data presented and the methodology to make this report more accurate. We also appreciate the assistance of members of the Association of Air Pollution Control Agencies, who also reviewed data from their states. We appreciate them all as our partners in the fight against air pollution. This report should in no way be construed as a comment on the work any of these agencies do.

"State of the Air" 2023 would not have been possible but for the twenty years of inspiration, dedication and hard work of the late Janice E. Nolen. We still miss her every day.

The American Lung Association assumes sole responsibility for the content of "State of the Air" 2023.

American Lung Association
55 W. Wacker Drive, Suite 1150
Chicago, IL 60601

Advocacy Office
1331 Pennsylvania Avenue, NW, Suite 1425 North
Washington, DC 20004
(800) 586-4872

Lung.org/sota

Why "State of the Air"?

The Clean Air Act requires the U.S. Environmental Protection Agency (EPA) to set health-based limits, called National Ambient Air Quality Standards (NAAQS), for six dangerous outdoor air pollutants: particulate matter, ozone, nitrogen oxides, sulfur dioxide, carbon monoxide and lead. "State of the Air" looks at two of the most widespread and dangerous pollutants from this group, fine particulate matter and ozone.

The NAAQS identify what is considered a safe level of each pollutant to breathe, based on the most recent health and medical science, including an adequate margin of safety for those most at risk. These standards alert the public when pollution levels place Americans' health at risk and require states and local governments to take steps to reduce emissions to attain the standards. The standards are also used to inform families with children, seniors, people with lung or heart disease and others when air pollution levels are dangerous through color-coded air quality alerts, so they can take steps to limit their exposure. Under the Clean Air Act, the standards must be based solely on what is needed to protect health, and must be periodically updated as the science evolves. EPA is currently reviewing both the particulate matter and ozone standards; future editions of "State of the Air" will reflect any revisions to the standards.

Setting national health-based standards and requiring states that violate the standards to enact plans to clean up their air pollution problems have been a great benefit to the public health of the nation. Since the Clean Air Act was passed in 1970, emissions of these outdoor air pollutants, including ozone and particle pollution, have fallen by 78%, according to EPA. But as "State of the Air" 2023 shows, millions of Americans are still breathing unhealthy air.

Purpose and history of "State of the Air"

In the year 2000, the American Lung Association launched its annual "State of the Air" report to provide the public with easy-to-understand information about the quality of the air in their local communities based on the credible data and sound science that EPA is required to use to set the air quality standards.

For the first several years, "State of the Air" focused solely on ozone pollution and included data for five populations at increased risk—children, older adults, children with asthma, adults with asthma and people with emphysema. In 2004, changes to the air quality standards and the deployment of air pollution monitoring enabled the addition of short-term and year-round fine particle pollution to the report. Over time, accumulating scientific evidence has shown significant health harms from both ozone and particle pollution among other groups of vulnerable individuals. "State of the Air" has accommodated this new information by gradually adding populations-at-risk categories to its reporting. "State of the Air" 2023 now includes data for 10 vulnerable groups.

Since its inception, "State of the Air" has been tremendously successful in raising awareness about particle pollution and ozone, two of the most dangerous and pervasive air pollutants nationwide. The American Lung Association is proud and grateful that the public, the media, clean air advocates and decision-makers have used this report every day, year after year, to call attention to the work that remains to be done to protect the health of all Americans from the threat of air pollution.

How "State of the Air" can be used

We write and release "State of the Air" every year to make information on air quality and health clear and accessible to everyone. We show the progress each community has made and how much more needs to be done to achieve healthy air. In this report, you'll find information on local air quality nationwide. You'll also find the latest roundup of the research on how air pollution affects health. With these tools, you can help keep your lungs and your family's lungs safer from unhealthy air.

This report also includes ideas for how you can become a champion for clean air. First, we have suggestions for concrete actions you can take to reduce your own contributions to air pollution and climate change. And second, we invite you to take advocacy action with the American Lung Association. Our report includes policy recommendations for every level of government. Your voice is powerful, and when you tell your leaders that your lungs depend on stronger limits on air pollution, you make a compelling case. Please share your story and add your name to our petition—and then, take the next step. Reach out to your representatives at every level of government, share the "State of the Air" results for your community, and call on them to take action to protect public health.

State of the Air 2023 Methodology

Statistical Methodology: The Air Quality Data

Data Sources

Ozone and short-term particle pollution. The data on air quality throughout the United States were obtained from the U.S. Environmental Protection Agency's Air Quality System (AQS). The American Lung Association contracted with Dr. Allen S. Lefohn, A.S.L. & Associates, Montana, to characterize the hourly averaged ozone concentration information and the 24-hour averaged $PM_{2.5}$ concentration information for the three-year period for 2019-2021 for each monitoring site.

Year-round particle pollution. Design values for the annual $PM_{2.5}$ concentrations by county for the period 2019-2021 were retrieved November 21, 2022 from data posted on May 24, 2022, at the U.S. Environmental Protection Agency's website at https://www.epa.gov/air-trends/air-quality-design-values.

The Lung Association received critical assistance from members of the National Association of Clean Air Agencies and the Association of Air Pollution Control Agencies. With their assistance, all state and local agencies were provided the opportunity to review and comment on the data in draft tabular form. The Lung Association reviewed all discrepancies with the agencies and, if needed, with Dr. Lefohn at A.S.L. & Associates. The Lung Association wishes to express its continued appreciation to the state and local air directors for their willingness to assist in ensuring that the characterized data used in this report are correct.

Ozone Data Analysis

The 2019, 2020 and 2021 AQS hourly ozone data were used to calculate the daily 8-hour maximum concentration for each ozone-monitoring site. The hourly averaged ozone data were downloaded on June 22, 2022, following the close of the authorized period for quality review and assurance certification of data. Only the hourly average ozone concentrations derived from FRM and FEM monitors were used in the analysis. The data were considered for a three-year period for the same reason that EPA uses three years of data to determine compliance with the ozone standard: to prevent a situation in any single year, where anomalies of weather or other factors create air pollution levels, which inaccurately reflect the normal conditions. The highest 8-hour daily maximum concentration in each county for 2019, 2020 and 2021, based on EPA-defined ozone season, was identified.

The current national ambient air quality standard for ozone is 70 parts per billion (ppb) measured over eight hours. The EPA's Air Quality Index reflects the 70 ppb standard. A.S.L. & Associates prepared a table by county that summarized, for each of the three years, the number of days the ozone level was within the ranges identified by EPA based on the EPA Air Quality Index:

8-hour Ozone Concentration	Air Quality Index Levels
0-54 ppb	Good (Green)
55-70 ppb	Moderate (Yellow)
71-85 ppb	Unhealthy for Sensitive Groups (Orange)
86-105 ppb	Unhealthy (Red)
106-200 ppb	Very Unhealthy (Purple)
>200 ppb	Hazardous (Maroon)

The goal of this report was to identify the number of days that 8-hour daily maximum concentrations in each county occurred within the defined ranges. This approach provided an indication of the level of pollution for all monitored days, not just those days that fell under the requirements for attaining the national ambient air quality standards. Therefore, no data capture criteria were applied to eliminate monitoring sites or to require a number of valid days for the ozone season.

The daily maximum 8-hour average concentration for a given day is derived from the highest of the 17 consecutive 8-hour averages beginning with the 8-hour period from 7:00 a.m. to 3:00 p.m. and ending with the 8-hour period from 11:00 p.m. to 7:00 a.m. the following day. This follows the process EPA uses for the current ozone standard adopted in 2015 but differs from the form used under the previous 0.075 ppm 8-hour average ozone standard that was established in 2008. All valid days of data within the ozone season were used in the analysis. However, for computing an 8-hour average, at least 75 percent of the hourly concentrations (i.e., 6-8 hours) had to be available for the 8-hour period. In addition, an 8-hour daily maximum average was identified if valid 8-hour averages were available for at least 75 percent of possible hours in the day (i.e., at least 13 of the possible 17 8-hour averages). Because EPA includes days with inadequate data (i.e., not 75 percent complete) if the standard value is exceeded, our data capture methodology also included the site's 8-hour value if at least one valid 8-hour period were available, and it was 71 ppb or higher.

As instructed by the Lung Association, A.S.L. & Associates included the exceptional (e.g., wildfires) and natural events (e.g., stratospheric intrusions) that were identified in the database and identified for the Lung Association the dates and monitoring sites that experienced such events. Some data have been flagged by the state or local air pollution control agency to indicate that they had raised issues with EPA about those data. For each day across all sites within a specific county, the highest daily maximum 8-hour average ozone concentration was recorded and then the results were summarized by county for the number of days the ozone levels were within the ranges identified above.

Following receipt of the above information, the American Lung Association identified the number of days each county, with at least one ozone monitor, experienced air quality designated as orange (Unhealthy for Sensitive Groups), red (Unhealthy) or purple (Very Unhealthy). When insufficient data were available in any year, an "incomplete" was identified for the 3-year period. Insufficient data exist for various reasons. For example, when a specific monitor was used for a special study and the monitor was then discontinued in other years, an "incomplete" is assigned.

Short-Term Particle Pollution Data Analysis

A.S.L. & Associates identified the maximum daily 24-hour AQS $PM_{2.5}$ concentration for each county in 2019, 2020 and 2021 with monitoring information. The 24-hour $PM_{2.5}$ data were downloaded on August 4, 2022, following the close of the authorized period for quality review and assurance certification of data. In addition, on August 4, 2022, hourly averaged $PM_{2.5}$ concentration data were characterized into 24-hour average $PM_{2.5}$ values by EPA and provided to A.S.L. & Associates. Using these results, A.S.L. & Associates prepared a table by county that summarized, for each of the three years, the number of days the maximum of the daily $PM_{2.5}$ concentration was within the ranges identified by EPA based on the EPA Air Quality Index, as adopted by the EPA on December 14, 2012:

24-hour $PM_{2.5}$ Concentration	Air Quality Index Levels
0.0 µg/m³ to 12.0 µg/m³	Good (Green)
12.1 µg/m³ to 35.4 µg/m³	Moderate (Yellow)
35.5 µg/m³ to 55.4 µg/m³	Unhealthy for Sensitive Groups (Orange)
55.5 µg/m³ to 150.4 µg/m³	Unhealthy (Red)
150.5 µg/m³ to 250.4 µg/m³	Very Unhealthy (Purple)
greater than or equal to 250.5 µg/m³	Hazardous (Maroon)

All previous data collected for 24-hour average $PM_{2.5}$ were characterized using the AQI thresholds listed above.

The goal of this report was to identify the number of days that the maximum in each county of the daily $PM_{2.5}$ concentration occurred within the defined ranges. This approach provided an indication of the level of pollution for all monitored days, not just those days that fell under the requirements for attaining the national ambient air quality standards. Therefore, no data capture criteria were used to eliminate monitoring sites. Both 24-hour averaged PM data, as well as hourly averaged PM data averaged over 24 hours were used. Included in the analysis are data collected using only FRM and FEM methods, which reported hourly and 24-hour averaged data. As instructed by the Lung Association, A.S.L. & Associates included the exceptional and natural events that were identified in the database and identified for the Lung Association the dates and monitoring sites that experienced such events. Some data have been flagged by the state or local air pollution control agency to indicate that they had raised issues with EPA about those data. For each day across all sites within a specific county, the highest daily maximum 24-h $PM_{2.5}$ concentration was recorded and then the results were summarized by county for the number of days the concentration levels were within the ranges identified above.

Following receipt of the above information, the American Lung Association identified the number of days each county, with at least one $PM_{2.5}$ monitor, experienced air quality designated as orange (Unhealthy for Sensitive Groups), red (Unhealthy), purple (Very Unhealthy) or maroon (Hazardous).

Description of County Grading System.

Ozone and Short-Term Particle Pollution (24-hour $PM_{2.5}$)

The grades for ozone and short-term particle pollution (24-hour $PM_{2.5}$) were based on a weighted average calculation. To determine weighted averages, the Lung Association followed these four steps separately for each pollutant in each county:

1. Assigned weighting factors to each category of the Air Quality Index. Days of poor air quality were given the following weighting factors:

   Orange days 1.0
   Red days 1.5
   Purple days 2.0
   Maroon days 2.5

   This ensured that days when the air pollution levels were worse received appropriately greater weight.

2. Multiplied the total number of days within each AQI category by their assigned factor, and added all the categories to calculate a total:

   Total = [Orange days x 1] + [Red days x 1.5] + [Purple days x 2] + [Maroon days x 2.5]

3. Divided the total by three to determine the weighted average, since the monitoring data were collected over a three-year period:

Weighted Average = Total ÷ 3

Weighted average was then used to determine each county's grades for ozone and 24-hour PM2 5 according to the following table:

Weighted Average	Grade
0.0	A
0.3 to 0.9	B
1.0 to 2.0	C
2.1 to 3.2	D
3.3 or higher	F

All counties with a weighted average of zero (corresponding to no exceedances of the standard over the three-year period) were given a grade of "A."

For ozone, an "F" grade was set to generally correlate with the number of unhealthy air days that would place a county in nonattainment for the ozone standard.

For short-term particle pollution, fewer unhealthy air days are required for an F than for nonattainment under the $PM_{2.5}$ standard. The national air quality standard is set to allow two percent of the days during the three years to exceed 35 micrograms per cubic meter (μg/m^3) (called a "98th percentile" form) before violating the standard. That would be roughly 21 unhealthy days in three years. The grading used in this report would allow only about one percent of the days to be over 35 μg/m^3 (called a "99th percentile" form) of the $PM_{2.5}$. The American Lung Association supports using the tighter limits in a 99th percentile form as a more appropriate standard that is intended to protect the public from short-term episodes or spikes in pollution.

Weighted averages allow comparisons to be drawn based on severity of air pollution. For example, if one county had nine orange days and no red days, it would earn a weighted average of 3.0 and a D grade. However, another county that had only eight orange days but also two red days, which signify days with more serious air pollution, would receive an F. That second county would have a weighted average of 3.7.

Note that this system differs significantly from the methodology EPA uses to determine violations of both the ozone and the 24-hour $PM_{2.5}$ standards. EPA determines whether a county violates the standard based on the fourth maximum daily 8-hour ozone reading each year averaged over three years. Multiple days of unhealthy air beyond the highest four in each year are not considered. By contrast, the system used in this report recognizes when a community's air quality repeatedly results in unhealthy air throughout the three years. Consequently, some counties will receive grades of "F" in this report, showing repeated instances of unhealthy air, while still meeting the EPA's 2015 ozone standard. The American Lung Association's position is that the evidence shows that the 2015 ozone standard, although stronger than the 2008 standard, still fails to adequately protect public health.

Counties were ranked by weighted average. Metropolitan areas were ranked by the highest weighted average among the counties within a given Metropolitan Statistical Area as of 2020 as defined by the White House Office of Management and Budget (OMB).

Year-Round Particle Pollution (Annual $PM_{2.5}$)

Since no comparable Air Quality Index exists for year-round particle pollution (annual $PM_{2.5}$), the grading was based on the 2012 National Ambient Air Quality Standard for annual $PM_{2.5}$ of 12 µg/m^3. Counties that EPA listed as being at or below 12 µg/m^3 were given grades of "Pass." Counties that EPA listed as being at or above 12.1 µg/m^3 were given grades of "Fail." Where insufficient data existed for EPA to determine a design value, those counties received a grade of "Incomplete."

A design value is the calculated concentration of a pollutant based on the form of the national ambient air quality standard and is used by EPA to determine whether the air quality in a county meets the standard. Counties were ranked by design value. Metropolitan areas were ranked by the highest design value among the counties within a given Metropolitan Statistical Area as of 2020 as defined by the OMB.

Statistical Methodology: Population Data

The Lung Association calculates the county population at risk from these pollutants based on the population from the entire county where the monitor is located. The Lung Association then calculates the metropolitan population at risk based upon the largest metropolitan area that contains that county. Not only do people from that county or metropolitan area circulate within the county and the metropolitan area, but the air pollution also circulates to that monitor from throughout the county and metropolitan area.

Details about how the populations-at-risk numbers are derived can be found in Understanding Grades and Tables.

Key Findings

More than **1 in 3** Americans live in places with unhealthy levels of air pollution.

Climate change is making the job of cleaning up the air more difficult.

People of color were 3.7 times as likely as white people to live in a county with 3 failing grades.

The "State of the Air" 2023 report finds that after decades of progress on cleaning up sources of air pollution, nearly 36% of Americans—119.6 million people—still live in places with failing grades for unhealthy levels of ozone or particle pollution. Overall, this is 17.6 million fewer people breathing unhealthy air compared to last year's report. The improvement was seen in falling levels of ozone in many places around the country, the continuation of a positive trend that reflects the success of the Clean Air Act. However, the number of people living in counties with failing grades for daily spikes in deadly particle pollution was 63.7 million, the most reported in the last ten years.

The "State of the Air" report looks at two of the most widespread and dangerous air pollutants, fine particles and ozone. The air quality data used in the report are collected at official monitoring sites across the United States by the federal, state, local and Tribal governments. The Lung Association calculates values reflecting the air pollution problem and assigns grades for daily and long-term measures of particle pollution and daily measures of ozone. Those values are also used to rank cities (metropolitan areas) and counties. This year's report presents data from 2019, 2020 and 2021, the most recent quality-assured nationwide air pollution data publicly available. See ***About This Report*** for more detail about the methodology for data collection and analysis.

"State of the Air" 2023 is the 24th edition of this annual report, which was first published in 2000. From the beginning, the findings in "State of the Air" have reflected the successes of the Clean Air Act, as emissions from transportation, power plants and manufacturing have been reduced. In recent years, however, the findings of the report have added to the evidence that a changing climate is making it harder to protect human health. The three years covered by "State of the Air" 2023 ranked among the seven hottest years on record globally. High ozone days and spikes in particle pollution related to heat, drought and wildfires are putting millions of people at risk and adding challenges to the work that states and cities are doing across the nation to clean up air pollution.

The combination of policy-driven reductions in emissions on the one hand and climate change-fueled increases in pollution on the other hand is driving a widening disparity between air quality in eastern and western states, especially for particle pollution. When particle pollution was first added to the "State of the Air" report in 2004, 106 counties in 30 states got failing grades for daily spikes in particle pollution. Forty-four of those counties—fewer than half—were in 8 states west of the Rocky Mountains. In this year's report, 111 counties in 19 states got Fs for this measure. All but 8 counties in Indiana, Michigan, Minnesota and Pennsylvania are in the West. A number of historically urban, industrialized eastern and midwestern states such as New Jersey, New York and Ohio, which dominated the list in the early years, are now getting all passing grades. A similar story can be told for annual particle pollution. In 2004, 20 of the 22 states with counties that got a failing grade were east of the Rockies. In 2023, all of the 17 failing counties were in 6 western states.

Again this year, "State of the Air" finds that the burden of living with unhealthy air is not shared equally. Although people of color are 41% of the overall population of the U.S., they are 54% of the nearly 120 million people living in counties with at least one failing grade. And in the counties with the worst air quality that get failing grades for all three pollution measures, 72% of the 18 million residents affected are people of color, compared to the 28% who are white.

In "State of the Air" 2023, Bakersfield, California displaced Fresno, California as the metropolitan area with the worst short-term particle pollution while Bakersfield continued in the most-polluted slot for year-round particle pollution, tied this year with Visalia, California. Los Angeles remains the city with the worst ozone pollution in the nation, as it has for all but one of the 24 years tracked by the "State of the Air" report.

Nearly 64 million Americans live in counties with **F grades** for daily particle pollution.

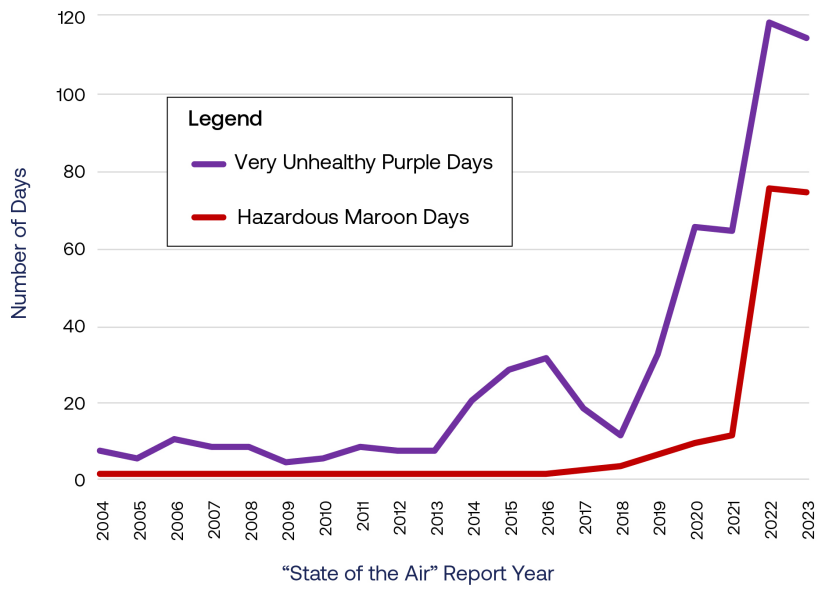
Short-term Particle Pollution Trends

In the years 2019, 2020 and 2021, some 63.7 million people lived in the 111 counties that earned an F for unhealthy spikes in particulate matter air pollution. This represents close to half a million more people than in last year's "State of the Air" report, and more people in total than in any of the last ten reports.

Even compared with the past three years of "State of the Air" reports—in which many cities and counties experienced their highest weighted average number of days ever reported for fine particle pollution—results this year were again worse throughout much of the western U.S. Among those cities ranked the worst 25, the average number of days residents were exposed to high levels of fine particle pollution increased by almost two days, to a weighted average of 18.3 days, up from 16.5 days in last year's report.

Wildfires in the western U.S. are a major contributing factor to the increasing number of days and places with unhealthy levels of particle pollution. They are also increasing the severity of pollution, resulting in a sharp rise in the number of days designated as either purple or maroon. These are the levels on the Air Quality Index that carry the strongest health warnings. On purple very unhealthy days, "the risk of health effects is increased for everyone." On maroon hazardous days, a health warning of emergency conditions is issued, saying, "Everyone is more likely to be affected."

Worst Levels of Daily Particle Pollution Remain High



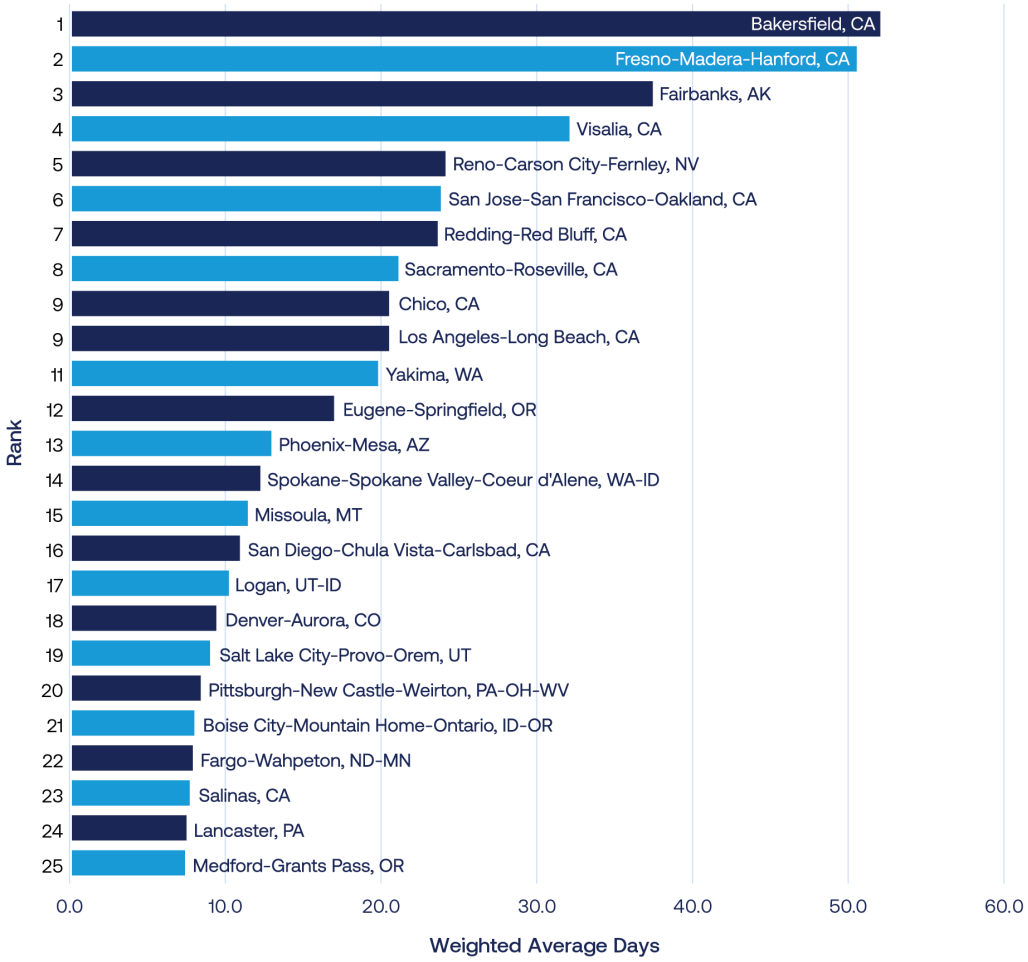
All but two of the 25 worst cities for short-term particle pollution are in the western U.S.

In the years 2019, 2020 and 2021, the health of nearly 32 million people across 56 counties in ten states was put at risk on "purple" or "maroon" days for fine particle pollution. This is very similar to the findings in last year's "State of the Air" and a worrisome sign of a trend that is likely to continue as climate change worsens.

Seven of the 25 most polluted cities for this measure posted their highest-ever weighted average number of days with unhealthy levels of particle pollution. Two of those, Denver, Colorado and Fargo, North Dakota, are new on the list. The remaining five are Visalia, California; Reno, Nevada; Yakima and Spokane, Washington; and Boise, Idaho.

Twenty-one of last year's worst 25 cities remained listed among the worst 25 in this year's report, though their relative ranks often shifted by several places. Missoula, Montana and Lancaster, Pennsylvania both rejoined the ranks of the worst 25 cities after a short hiatus in 2022. San Luis Obispo, California; Portland, Oregon; and Seattle and Bellingham, Washington all moved off the list of worst 25 cities.

25 Cities Most Polluted by Daily PM



In "State of the Air" 2023, only two cities among the 25 worst for short-term particle pollution were not in the western U.S. Both of the eastern cities, Pittsburgh and Lancaster, Pennsylvania, posted more days high in fine particle pollution in this year's report, and remained the two worst metro areas in the country east of the Mississippi River for this pollutant measure.

Year-round Particle Pollution Trends

Nearly 18.8 million people live in the 17 counties where year-round particle pollution levels do not meet the national air quality standard, and that receive a failing grade in "State of the Air" 2023. This is 1.5 million fewer people living in counties with unhealthy levels of year-round particle pollution compared to last year's report, continuing a slight downward trend over the past four years.

By its nature, the year-round measure of average particle pollution is not as volatile as the daily measure. Changes over time may look smaller, but because they represent recurring exposures over many days and weeks, seemingly minor differences can have a big impact on public health. The 25 most polluted cities for year-round particle pollution continued the worsening trend of recent years, but only slightly, by an average of less than 0.1 micrograms per cubic meter (from 12.2 to 12.3 $\mu g/m^3$).

Fourteen cities suffered worse year-round levels during 2019-2021 than in last year's report, with two reporting their worst ever: Sacramento, California and Yakima, Washington for its second consecutive year. In contrast, nine of the 25 most polluted cities had lower year-round levels this year. Although none of the cities with improved levels achieved their best ever in "State of the Air" 2023, Fresno and San Jose-San Francisco-Oakland, California did post their second-best results.

New on the worst 25 list this year were Birmingham, Alabama; Louisville, Kentucky; and Laredo, Texas. Philadelphia, Pennsylvania; Redding-Red Bluff, California; Shreveport, Louisiana; and St. Louis, Missouri all improved enough to leave the list.

When Rev. Jenny Wynn wakes up in the morning, she checks two things—the weather and the air quality. As someone with asthma, high air pollution days force her to limit the time she spends outdoors.

Wynn says she often has to consider whether eating a meal outside or running errands on a day with poor air quality might trigger an asthma attack.

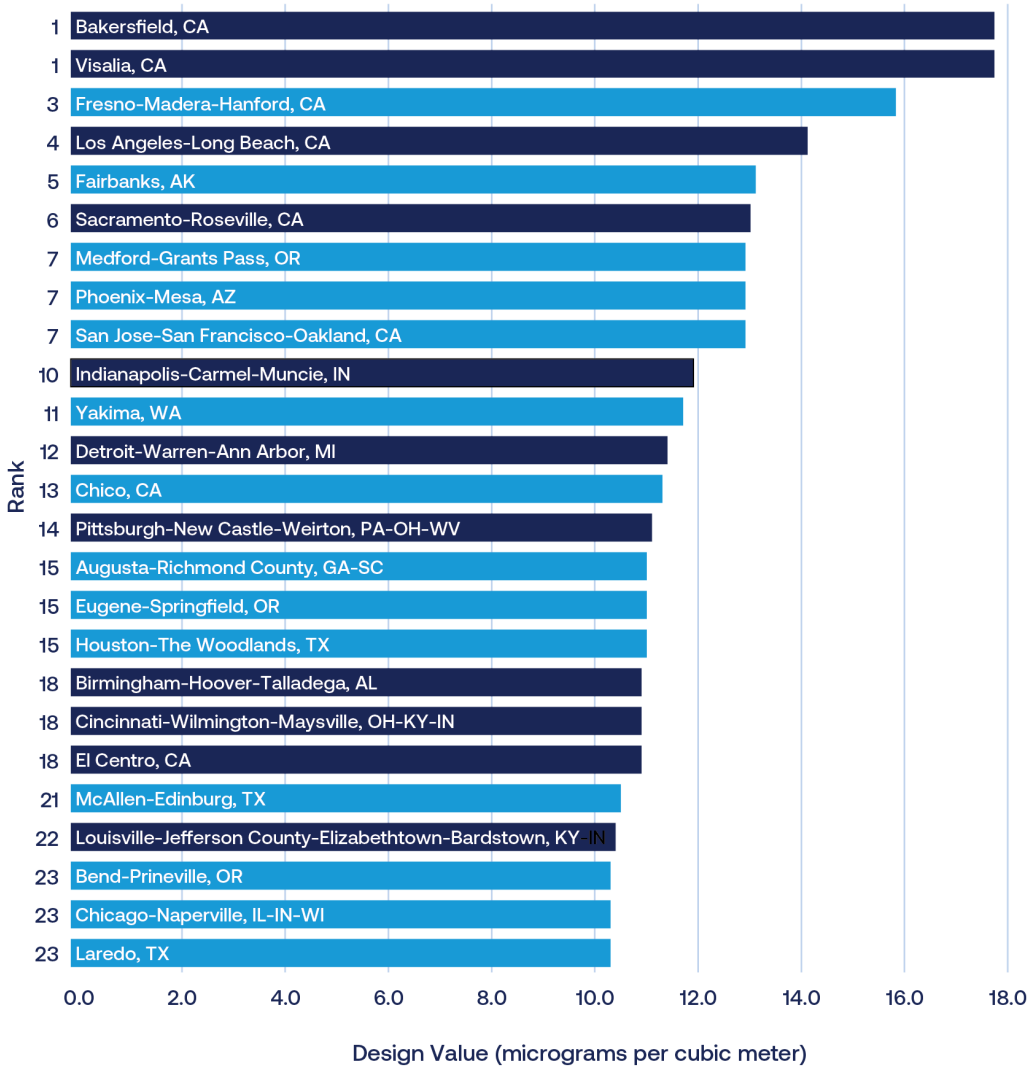
"In Phoenix, it seems there are more days than not with bad air quality," said Wynn, Senior Minister at First Christian Church in Scottsdale, Arizona.

To help improve air quality in the community over the long term, she would like to see greater investments in public transportation and green-energy vehicles.

"As a preacher," Wynn says, "I'm always preaching to people that when you're voting or making decisions, you shouldn't be doing it for your immediate future but thinking generationally, thinking 50+ years out."

Rev. Jenny Wynn
First Christian Church Scottsdale

25 Cities Most Polluted by Annual PM



Unlike the worst 25 cities for the daily measure of particle pollution, the worst 25 cities for annual particle pollution were more distributed around the country. Although cities most affected by western drought and wildfires, including eight in California, three in Oregon, and three others in Alaska, Arizona, and Washington, still represented the largest share, cities with high power plant emissions as well as local industrial and mobile sources of year-round particle pollution continued to show up on this list. These included Indianapolis, Detroit, Pittsburgh, Augusta, Houston, Cincinnati, Birmingham, McAllen, Louisville, Chicago and Laredo.

For the year-round average levels of fine particles, all but nine of the cities on the worst 25 list met the current national air quality standard and got a passing grade in “State of the Air.” However, evidence shows that no threshold exists for harmful effects from particle pollution, even below the official standard. Until the standard is strengthened, a passing grade does not mean that the air is safe to breathe. See ***Recommendations for Action.***

National Air Quality Standards and the Air Quality Index: Sending the Wrong Message

The Air Quality Index, or AQI, is a well-designed, easy-to-understand resource to communicate air quality information to the public. Since its inception in 1999, the AQI has become embedded in weather and air quality forecasting. It is used every day to help people plan their outdoor activities and make decisions about when they need to take measures to protect themselves from air pollution that could put their health at risk. It is also the basis of the methodology for grading used in "State of the Air."

The AQI's familiar color categories are set according to the levels of air pollution regulated by the National Ambient Air Quality Standards. The breakpoint between the Moderate (code yellow) and Unhealthy for Sensitive Groups (code orange) levels of concern is tied to the national standard. Air quality at levels above the standard is considered unhealthy and triggers increasingly strong health warnings in the AQI. Anything below the standard is considered moderate or good, and the corresponding AQI messages say that the air quality is acceptable.

The AQI only works as the public health tool it is intended to be if the standards accurately reflect what is known about the health harm of ozone and particle pollution. Regrettably, both of these standards are currently inadequate, and the AQI is therefore presenting a misleading picture of health risks. Research has shown that on code yellow days, when all but "unusually sensitive individuals" are told it's a good day to be active outside, millions of people, including children and the elderly, are at risk of a range of health harms from air pollution, including death.

Setting more protective national standards for ozone and fine particles will not only drive pollution cleanup, but also result in an updated air quality index that will provide more accurate information so families, teachers, coaches and others can make decisions to reduce or prevent exposures to pollution levels that threaten health. See *Recommendations for Action* for more information.

Ozone Pollution Trends

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

Exposure to unhealthy levels of ozone air pollution makes breathing difficult for more Americans all across the country than any other single pollutant. In the years 2019, 2020 and 2021, some 103 million people lived in the 124 counties that earned an F for ozone. More than 30% of the nation's population, including 23.6 million children, 15.4 million people age 65 or older, and millions in other groups at high risk of health harm, are exposed to high levels of ozone on enough days to earn the air they breathe a failing grade.

Although ozone air pollution remains a serious threat to public health, the trend in this year's "State of the Air" report is continuing in a positive direction. The number of people living in counties with a failing grade for ozone declined by more than 19 million this year. Thirty-nine counties in 23 states dropped off the "F" list, including 8 states that left the list completely, some for the first time in the history of the report. At the same time, the number of counties that got an "A" increased by 26%.

Ambient ozone levels are influenced by a complex interaction of factors that can vary from year to year. Some fluctuation is to be expected and does not necessarily represent lasting change. However, at least some of the significant improvement in ozone levels in this year's report can be attributed to the fact that the Clean Air Act has been working. Controls placed on emissions have increasingly resulted in the replacement of more polluting engines, fuels, and processes nationwide. The transition of the economy away from the coal, the dirtiest fossil fuel, has unquestionably had an impact, especially in parts of the eastern United States. It is also possible that

124 counties — fewer than ever in the history of State of the Air — **got an F for ozone smog.**

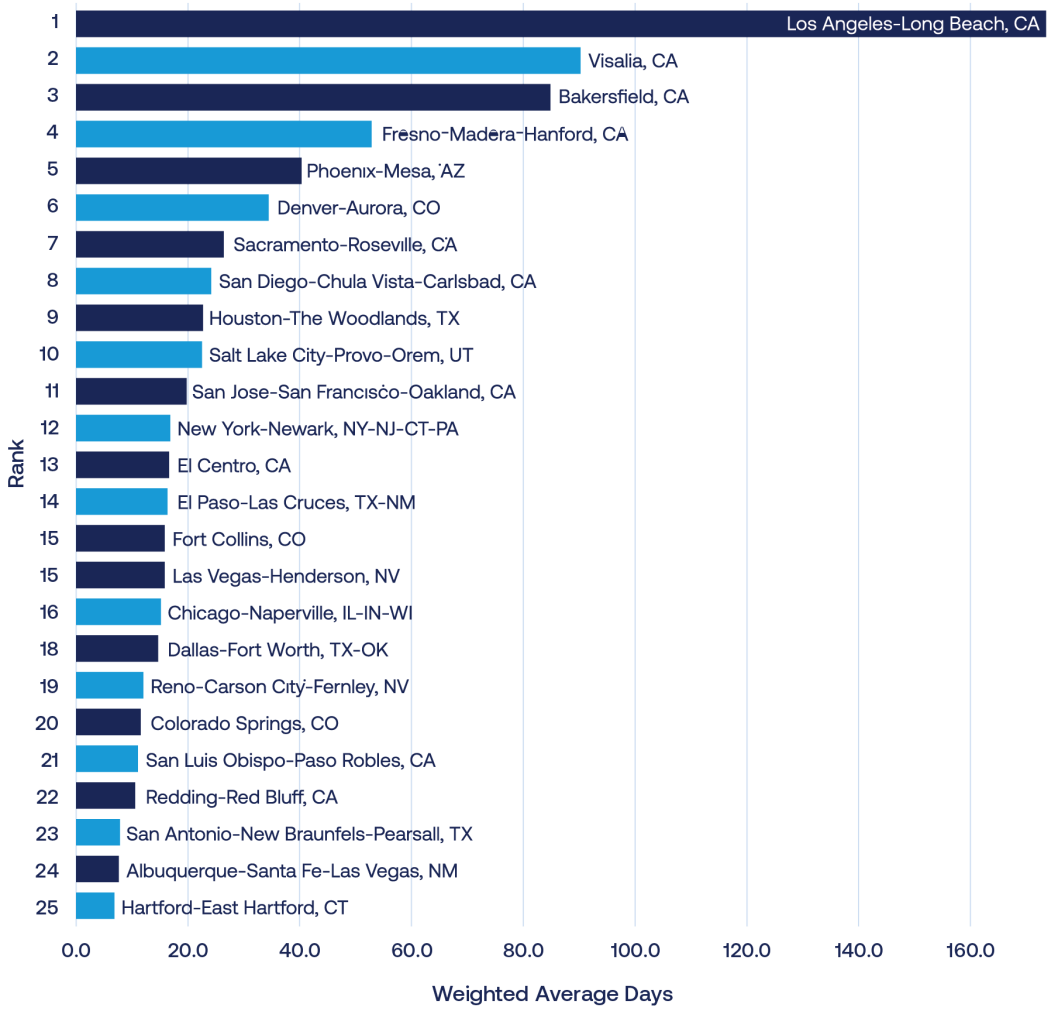
pandemic-related changes in activity patterns in 2020 and 2021, such as increased telework, have made a difference, but that is still being studied and characterized.

The list of 25 cities with the worst ozone pollution in "State of the Air" 2023 and their order of ranking remained relatively stable compared with last year's report. Only two cities improved enough to move off the list: Chico, California and Detroit, Michigan. They were replaced by Colorado Springs, Colorado and Hartford, Connecticut.

Cities in the West and the Southwest continue to dominate the list of most ozone-polluted. California retains its historic record of being the state with the most places on the list, with 10 of the 25 most-polluted cities. Cities in the Southwest fill most of the remaining slots, with twelve cities spread across six states in this year's report. New York, Chicago and Hartford were the only three of the worst 25 cities for ozone east of the Mississippi River.

Of the cities on the worst 25 list, 13 saw an increase in the weighted average number of high ozone days and 12 had a decrease compared with last year's report. Bakersfield, Fresno, San Diego and El Centro, California, along with Las Vegas and New York, all recorded their fewest days of high ozone in the report's 24-year history. New York did so for the third year in a row.

25 Cities Most Polluted by Ozone



The geographical distribution of cities with the worst ozone problems confirms a pattern seen over the past seven reports: nearly all are western cities and only a few lie in the East. Although cleanup of ozone precursor pollutants has been working to reduce ozone concentrations, the impact of climate change in the West has meant higher temperatures, dry, sunny skies and more frequent stagnation events that are contributing to the number of unhealthy ozone days being higher than it would otherwise be. Simply, climate change is undercutting the progress we would have made.

Monitoring the State of the Air in Indian Country

EPA's National Ambient Air Quality Monitoring System is a network of more than 4,300 sites in over 900 counties across the country measuring air pollutants such as ozone and fine particle pollution. The information these monitors gather is essential for the functioning of the Clean Air Act and protecting public health and welfare. Many of these monitors are maintained and operated by state and local governments with funding and direction from EPA. Tribes across the U.S. also act as partners, conducting programs to monitor and improve air quality on Tribal lands.

As sovereign nations, Tribes have express authority under the Clean Air Act and the Tribal Authority Rule to manage air quality in Indian country. Unlike requirements applying to state agencies, there are no mandates for Tribes to conduct air quality monitoring. However, many Tribes recognize the value in doing so and for decades have been active participants in the nationwide monitoring program, following EPA's specific requirements to assure the quality of the data gathered.

In the years 2019-2021, 38 Tribes collected and submitted air quality data to EPA from monitors in 37 counties across 14 states. In most of those counties, state and local governments also contributed data from their monitoring networks. However, in some cases the Tribal monitors were the sole source of air quality information available to the residents of that county.

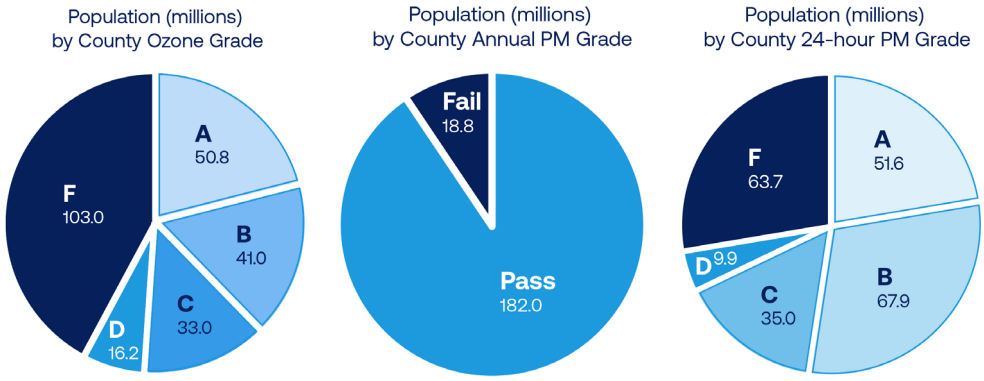
Indian Country covers a wide diversity of environments, from frontier (which is less population-dense than rural) to semi-urban. In many places, the air quality on Tribal lands suffers from the same threats as elsewhere in the U.S. Of the 37 counties with data from Tribal monitors in this year's "State of the Air" report, 15 of them, covering a population of more than 12 million people, received at least one failing grade. They included some of the most polluted counties in the country, including Riverside (ranked 2nd worst for ozone), Fresno (2nd worst for short-term particle pollution), and Kings (5th worst for annual particle pollution), all in California.

At least 46 tribes that had been active in monitoring ozone and fine particle pollution at some time in the past were not identified as having collected data during the 2019-2021 period. Resources are often spread very thin in Indian country, and that can have a negative impact on the sustainability of air quality and other environmental programs. Considering how important these programs are to protecting the health and well-being of people living on Tribal lands and in the surrounding communities, expanding and sustaining adequate investment needs to be a priority for the nation. In particular, Congress should increase funding for Tribes' air quality work.

For more information about Tribal air quality programs, see the Status of Tribal Air report published annually by the National Tribal Air Association.

Populations at Risk

Nearly 264 million people live in the 922 counties for which there is monitored data for at least one pollutant in this year's report. The proportion of the population in those counties varies by pollutant. The majority of U.S. counties actually don't have monitors—which means that many communities, especially rural ones, don't have official monitored information on their air quality. It is important to note that the population numbers included in this section are only for those places that collect air pollution data, and do not reflect the entire population of these groups in the U.S.



All of the 119.6 million Americans living in places with failing grades for unhealthy levels of ozone or particle pollution are at risk of harm to their health. But some groups of people are especially vulnerable to illness and death from their exposure. *See **People at Risk** for more detail about the factors that contribute to increased risk.*

The number of people in these high-risk groups in "State of the Air" 2023 are as follows:

- **People of color**—Some 64 million people of color live in counties that received at least one failing grade for ozone and/or particle pollution. Over 13 million people of color live in counties that received failing grades on all three measures, including over 9 million Hispanics.
- **People experiencing poverty**—More than 14.6 million people with incomes meeting the federal poverty definition live in counties that received an F for at least one pollutant. Nearly 2.6 million people in poverty live in counties failing all three measures.
- **Children and older adults**—More than 27 million children under age 18 and some 18 million adults age 65 and over live in counties that received an F for at least one pollutant. Almost 4.3 million children and 2.6 million seniors live in counties failing all three measures.
- People with underlying health conditions
  - **Asthma**—1.7 million children and nearly 8.7 million adults with asthma live in counties that received an F for at least one pollutant. More than 217,000 children and 1.2 million adults with asthma live in counties failing all three measures.
  - **Chronic Obstructive Pulmonary Disease (COPD)**—Over 5 million people with COPD live in counties that received an F for at least one pollutant. Almost 630,000 people with COPD live in counties failing all three measures.
  - **Lung Cancer**—More than 55,000 people diagnosed with lung cancer in 2019 live in counties that received an F for at least one pollutant. And nearly 6,900 people diagnosed with lung cancer live in counties failing all three measures.

- **Cardiovascular Disease**—More than 6.6 million people with cardiovascular disease live in counties that received an F for at least one pollutant. Some 864,000 people live in counties failing all three measures.
- **Pregnancy**—Adverse impacts from air pollution have been shown both for those who are pregnant as well as for the developing fetus. More than 1.3 million pregnancies were recorded in 2021 in counties that received at least one F for particle pollution. Of those, nearly 198,000 are in counties that received failing grades for all three measures.

*For more detail about the number of people at risk by grade and by pollutant, see **Data Table 1**. The populations at risk are also included by county in the **State Data Tables**.*

Most Polluted Places to Live

In addition to the 25 worst cities for each pollutant listed above, the 25 most polluted counties for ozone and particle pollution are ranked in the tables below:

Daily PM Ranking	State	County
1	CA	Kern
2	CA	Fresno
3	CA	Mono
4	CA	Kings
4	OR	Klamath
6	CA	Inyo
7	AK	Fairbanks North Star
8	CA	Tulare
9	CA	Siskiyou
10	NV	Douglas
11	CA	Stanislaus
12	CA	Tehama
13	CA	Plumas
14	NV	Washoe
15	CA	Carson City
15	CA	Madera
17	CA	Nevada
18	CA	Butte
18	CA	Los Angeles
20	CA	Colusa
20	WA	Yakima
22	CA	Sutter
23	CA	Scramento
24	CA	Placer
25	CA	San Joaquin

Annual PM Ranking	State	County
1	CA	Kern
2	CA	Tulare
3	CA	Plumas
4	0R	Klamath
5	CA	Kings
6	CA	Fresno
7	CA	San Barnadino
8	CA	Riverside
9	MT	Lincoln
10	AK	Fairbanks Norh Star
11	CA	Sutter
12	OR	Jackson
12	CA	Los Angeles
12	CA	Madera
12	AZ	Pinal
16	CA	Stanislaus
17	WA	Okanogan
18	IN	Marion
19	CA	Merced
20	CA	San Joaguin
21	WA	Yakima
22	MI	Wayne
23	CA	Butte
24	OR	Josephine
25	PA	Allegheny

Ozone Ranking	State	County
1	CA	San Bernadino
2	CA	Riverside
3	CA	Los Angeles
4	CA	Tulare
5	CA	Kern
6	CA	Fresno
7	AZ	Maricopa
8	CO	Jefferson
9	CA	Placer
10	CA	San Diego
11	CO	Douglas
12	TX	Harris
13	UT	Salt Lake
14	CA	Madera
15	CA	Nevada
16	CA	Stanislaus
17	CA	Orange
18	CA	Kings
18	NM	Eddy
20	CO	Arapahoe
21	CA	Mariposa
22	AZ	Pinal
23	CA	Sacramento
24	CT	Fairfield
25	CA	Imperial

Eleven counties received failing grades for all 3 measures of pollution: Fresno, Kern, Kings, Los Angeles, Madera, Riverside, San Bernardino, Stanislaus, Sutter, and Tulare in California and Pinal in Arizona.

Cleanest Places to Live

Many cities in the U.S. enjoy air that is considered clean for one or more of the pollution measures tracked in "State of the Air." In this year's report, 59 of the cities for which there is monitoring data had zero high short-term particle days and 80 cities had zero ozone days. Because year-round particle pollution is scored differently, the cleanest cities for this measure can be ranked, and the best 25 are considered cleanest. *See **Data Tables 3a-c**.*

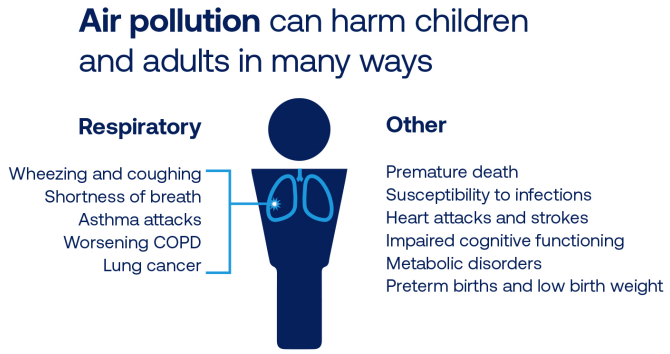
Seven cities rank on all three cleanest cities lists for particle pollution and ozone. They had zero days high in particle pollution or ozone and are among the 25 cities with the lowest year-round particle levels. Added to the list this year are Asheville and Greenville, NC and Rochester NY. The other four repeat their appearance on the list this year. Elmira NY, Burlington VT and Charlottesville, Harrisonburg, Roanoke and Virginia Beach, VA all lost their place on this year's cleanest list because of increases in either short-term or annual particle pollution.

Listed alphabetically, the cleanest cities are:

- Asheville-Marion-Brevard, NC
- Bangor, ME
- Greenville-Kinston-Washington, NC
- Lincoln-Beatrice, NE
- Rochester-Batavia-Seneca Falls, NY
- Urban Honolulu, HI
- Wilmington, NC

Health Effects of Air Pollution

Years of scientific research have clearly established that particle pollution and ozone are a threat to human health at every stage of life, increasing the risk of premature birth, causing or worsening lung and heart disease, and shortening lives. Some groups of people are more at risk of illness and death than others, because they are more likely to be exposed, or are more vulnerable to health harm, or often both.



Health Effects of Particle Pollution

Particle pollution—also known as particulate matter—is a deadly and growing threat to public health in communities around the country. The more researchers learn about the health effects of particle pollution, the more dangerous it is recognized to be.

What is particle pollution?

Particle pollution refers to a mixture of tiny bits of solids and liquids in the air we breathe. Particle pollution comes from many sources. Factories, power plants, and diesel- and gasoline-powered motor vehicles (cars, trucks and buses) and equipment either directly emit fine particles or generate other pollutants such as nitrogen oxides (NOx), known as precursors because they can then form into fine particles in the atmosphere. Other sources of particle pollution include wildfires, burning wood in wood stoves or residential fireplaces and burning biomass for electricity.

Individual particles may be too small as to be visible, but when pollution levels are high, they can make the air appear thick and hazy. Researchers and regulators categorize particles according to size, grouping them as coarse, fine and ultrafine. Coarse particles, called PM10, can include wind-blown dust, ash, pollen and smoke. Fine particles, $PM_{2.5}$, are most often a by-product of burning wood or fossil fuels. The tiniest are called ultrafine particles, or PM0.1, which are also produced by combustion.

The differences in size make a big difference in how particles affect our health. Our bodies' natural defenses help us to keep the coarse particles we inhale out of the deepest parts of our lungs, although these particles do deposit in the larger airways. However, those defenses do not keep smaller fine or ultrafine particles from penetrating all the way into the air sacs of the lungs. Many of these particles get trapped in the air sacs, while the smallest are so tiny that they can pass from the air sacs into the bloodstream and disperse to other organs of the body.

What can particles do to your health?

Particle pollution can be very dangerous to breathe, especially at higher concentrations. It can trigger illness, hospitalization and premature death. Researchers estimate that $PM_{2.5}$ is responsible for nearly 48,000 premature deaths in the United States every year.[1]

Short-Term Exposure

Short-term spikes in particle pollution that last from a few hours to a few days can kill. Premature deaths from breathing these particles can occur on the very day that particle levels are high, or up to a month or two afterward. Most premature deaths are from respiratory and cardiovascular causes. Particle pollution does not just make people die a few days earlier than they might otherwise—in many cases these deaths would not have occurred for years if the air were cleaner.[2]

Studies linking short-term exposure to $PM_{2.5}$ to death from all causes have been accumulating for a number of years. Taken together, this body of research provides consistent evidence of positive associations between particle pollution and mortality across diverse geographic locations and in populations with a wide range of demographic characteristics. In 2019, an international study in 499 cities across the globe reinforced these consistent findings.[3]

Even low daily levels of fine particles can be deadly. Looking nationwide in a 2017 study, researchers found that older adults faced a higher risk of premature death even when levels of short-term particle pollution remained well within the current national standards. This was consistent whether the older adults lived in cities, suburbs or rural areas.[4] Another study published in 2018 analyzed mortality data from 135 U.S. cities and found a causal relationship with exposure to $PM_{2.5}$ at concentrations below the federal standard.[5]

Particle pollution also has many other harmful effects, ranging from decreased lung function to heart attacks. Extensive research has linked short-term increases in particle pollution to:

- increased mortality in infants;[6]
- increased hospital admissions for cardiovascular disease, including heart attacks and strokes;[7]
- increased hospital admissions and emergency department visits for chronic obstructive pulmonary disease (COPD);[8]
- increased severity of asthma attacks and hospitalization for asthma among children.[9,10]

Year-Round Exposure

Decades of research have firmly established that breathing particle pollution day in and day out can also be deadly. Across numerous seminal studies that looked at different groups of people living in different parts of the country, the results consistently showed a clear relationship between long-term exposure to particulate matter and mortality.[11]

Recent research using publicly available data on a cohort of more than million adults in the U.S. reconfirmed that long-term exposure to $PM_{2.5}$ was associated with elevated risks of early death. The increased risk was primarily associated with death from cardiovascular and respiratory causes, including heart disease, stroke, influenza and pneumonia. Researchers also found a similar association between exposure to fine particle pollution and an increased risk of death from lung cancer among never-smokers.[12] Another study of 68.5 million Medicare-enrolled adults in the United States between 2000 and 2016 found a 6-8% increase in risk of all-cause mortality for every 10µg/m3 increase in $PM_{2.5}$.[13]

Research has also linked year-round exposure to particle pollution to a wide array of serious health effects at every stage of life, from conception through old age. Among pregnant people, fetuses and children, long-term particle pollution exposure is linked to:

- Increased risk of preterm birth and low birth weight;[14]
- Increased fetal and infant mortality;[15]
- Impaired neurological development and cognition;[16]
- Reduced lung development and impaired lung function in children;[17]
- Higher likelihood of children developing asthma.[18]

In adults, long-term particle pollution exposure is linked to:

- Increased risk from existing cardiovascular and respiratory disease, including a worsening of heart disease, atherosclerosis and COPD;[19,20]
- Higher likelihood of developing diabetes and subsequent complications;[21,22]
- Higher likelihood of getting lung cancer and of dying from it;[23]
- Impaired cognitive functioning and an increased risk of Parkinson's disease, Alzheimer's disease and other dementias later in life.[24,25]

The good news is, cleaning up particle pollution makes a difference. Research has shown a consistent relationship between decreasing $PM_{2.5}$ concentrations and improving respiratory health in children and adults in communities that have reduced their levels of year-round particle pollution.[26]

Who is most at risk from particle pollution?

Anyone who lives where particle pollution levels are high is at risk. Some people face greater risk, however, based on their underlying health and other characteristics. [See the ***People at Risk*** section for more information about vulnerable groups] Research has shown that the groups at the greatest risk from particle pollution include:

- Pregnant people and fetuses;[27]
- Infants, children and older people (>65 years of age);[28]
- People with lung disease, especially asthma, but also people with COPD;[29]
- People with cardiovascular disease;[30]
- People with lung cancer;[31]
- People of color;[32]
- Current or former smokers;[33]
- People with low incomes;[34] and
- People who are obese or have diabetes.[35]

Health Effects of Ozone Pollution

Ozone air pollution, sometimes known as smog, is one of the most widespread pollutants in the United States. It is also one of the most dangerous. Scientists have studied the effects of ozone on human health for decades. Hundreds of studies have confirmed that ozone harms people at levels currently found in many parts of the United States.

What is Ozone?

Ozone is a gas composed of molecules with three oxygen atoms. (The oxygen we need for life is made up of molecules with two oxygen atoms). Ozone forms in the lower atmosphere when a combination of other pollutants, usually nitrogen oxides (NOx) and volatile organic compounds (VOCs), "cook" together in sunlight through a series of chemical reactions. NOx and VOCs are produced primarily when fossil fuels such as gasoline, diesel, oil, natural gas or coal are burned or when solvents and some other chemicals evaporate. NOx is emitted from power plants, motor vehicles and other sources of high-heat combustion. VOCs are emitted from motor vehicles, oil and gas operations, chemical plants, refineries, factories, gas stations, paint, consumer products and other sources.

If these ingredients are present under the right conditions, they react to form ozone. Sunlight is key, with higher temperatures increasing ozone production. Because the reactions take place in the atmosphere, ozone often shows up downwind of the sources of the original emissions, sometimes many miles from where it formed.

Ozone air pollution is sometimes called ground-level ozone, to distinguish it from the much higher-altitude stratospheric ozone layer that protects the Earth from damaging ultraviolet rays from the sun.

What Can Ozone Pollution Do to Your Health?

Ozone gas is a powerful lung irritant. When it is inhaled into the lungs, it reacts with the delicate lining of the airways, causing inflammation and other damage that can impact multiple body systems. Ozone exposure can also shorten lives.

Ozone has a serious effect on the respiratory system, both in the short term and over the course of years of exposure. When ozone levels are high, many people experience breathing problems such as chest tightness, coughing and shortness of breath, often within hours of exposure. Even healthy young adults may experience respiratory symptoms and decreased lung function.[36]

Other breathing problems that have been tied to short-term exposure to ozone include:

- Worsening of symptoms, increased medication use, and increased emergency department visits and hospital admissions for people with asthma and COPD;[37]
- Susceptibility to respiratory infections such as pneumonia, resulting in an increased likelihood of emergency department visits and hospitalizations.[38]

Living with ozone pollution long term may cause lasting damage to respiratory health, including:

- Development of new cases of asthma in children;[39]
- Damage to the airways, leading to development of COPD;[40]
- Increased allergic response.[41]

The inflammation and systemic stress caused by short- and long-term exposure to ozone can also do damage to tissues, DNA and proteins throughout the body, which can cause or worsen other disease conditions over time. These include:

- Increased risk of metabolic disorders, including glucose intolerance, hyperglycemia and diabetes;[42]
- Impact on the central nervous system, including brain inflammation, structural changes and increased risk of cognitive decline;[43,44]
- Increased likelihood of reproductive and developmental harm, including reduced fertility, preterm birth, stillbirth and low birth weight;[45,46]
- Possible cardiovascular effects.[47]

The damage ozone does to the body can be deadly. Recent research has affirmed earlier findings that short-term exposure to ozone, even at levels below the current standard, likely increases the risk of premature death, particularly for older adults.[48] There is also a growing body of evidence that long-term exposures to ambient ozone may be associated with an increased risk of cardiovascular and respiratory disease mortality.[49]

Who is Most at Risk from Ozone Pollution?

Anyone who spends time outdoors where ozone pollution levels are high may be at risk. Some people face a higher-than-average risk, however, because of their underlying health and other characteristics. [See the ***People at Risk*** section for more information about vulnerable groups.] Research has shown that the groups at greatest risk from ozone pollution include:

- Pregnant people and fetuses;[50]
- Children;
- Anyone 65 and older;
- People with existing lung disease such as asthma and COPD;
- People who work or exercise outdoors.[51]

Air Pollution and COVID-19

Both ozone and particle pollution can impact the functioning of the immune system and increase susceptibility to respiratory infections. Air pollution also increases the risk of chronic lung and cardiovascular diseases that put people at higher risk of poor outcomes from COVID-19. It should come as no surprise then, that since the pandemic began, a growing body of research has found an association between exposure to air pollution and an increased risk of severe illness and death from COVID-19. Short-term exposure to both ozone and $PM_{2.5}$ has been shown to increase the risk of death among infected individuals.[52] Long-term exposure to air pollution also appears to leave people more vulnerable to severe disease outcomes. A 2022 study in California found that people living in the most polluted areas of the state had a 20% higher risk of infection and a 51% higher risk of death than residents in the least polluted areas.[53]

People at Risk

The health burden of air pollution is not evenly shared. Some people are more at risk of illness and death from air pollution than others. Several key factors affect an individual's level of risk:

- Exposure—Where someone lives, where they go to school and where they work make a big difference in how much air pollution they breathe. In general, the higher the exposure, the greater the risk of harm.
- Susceptibility—Pregnant people and their fetuses, children, older adults and people living with chronic conditions, especially heart and lung disease, may be physically more susceptible to the health impacts of air pollution than other adults.
- Access to healthcare—Whether or not a person has health coverage, a healthcare provider, and access to linguistically and culturally appropriate health information may influence their overall health status and how they are impacted by environmental stressors like air pollution.
- Psychosocial stress—There is increasing evidence that non-physical stressors such as poverty, racial/ethnic discrimination and fear of deportation can amplify the harmful effects of air pollution.

These risk factors are not mutually exclusive and often interact in ways that lead to significant health inequities among subgroups of the population. Taken all together, these high risk categories account for a large proportion of the U.S. population.

People of color

Research has shown that people of color are more likely to be exposed to air pollution and more likely to suffer harm to their health from air pollution than white people.[54,55] Much of this inequity can be traced to the long history of systemic racism in the United States. Practices such as redlining, the discriminatory outlining of so-called "riskier" neighborhoods by mortgage lenders, institutionalized residential segregation in the 20th century, impairing the ability of many people of color to build wealth and limiting their mobility and political power. Over the years, decision-makers have found it easier to place sources of pollution, such as power plants, industrial facilities, landfills and highways, in economically disadvantaged communities of color than in more affluent, predominantly white neighborhoods. The resulting disproportionate exposure to air pollution has contributed to high rates of emergency department visits for asthma and other diseases.[56,57]

People of color are also more likely than white people to be living with one or more chronic conditions that make them more susceptible to the health impact of air pollution, including asthma, diabetes and heart disease.[58]

People experiencing poverty

There is evidence that having low income or living in lower income areas puts people at increased risk from air pollution, although the correlation is not as strong as with race and ethnicity.[59,60] People living in poverty are more likely to live in close proximity to sources of pollution and have fewer resources to relocate than people with more financial security.[61] Poverty itself, along with the problems that beset many low-income communities, such as lack of safety, green space, and high-quality food access, have been associated with increased psychosocial distress and chronic stress, which in turn make people more vulnerable to pollution-related health effects.[62] People with low income also have lower rates of health coverage and less access to quality and affordable health care to provide relief to them when they get sick.

Children

Children are both more susceptible to harm from air pollution and more likely to be exposed than adults. The growth and development of a child's lungs and breathing ability start in utero and continue into early adulthood. Long-term exposure to particle pollution during pregnancy and early childhood has been linked to reduced lung growth and long-term exposure to ozone has been linked to increased potential for the development of asthma. The developing brain and heart may also be affected, with life-long consequences.[63] In addition, the body's defenses that help adults fight off infections are still developing in children. Children have more respiratory infections than adults, which also seems to increase their susceptibility to air pollution.[64]

Children breathe more rapidly and inhale more air relative to their size than do adults. They are more likely to spend time outdoors, running around, being active and breathing hard. Consequently, they are more exposed to polluted outdoor air than adults typically are.

Older adults

Much of the illness and premature death caused by air pollution occurs in older adults, who are at increased risk of harm for several reasons. As a person ages, the normal process of thinning and weakening of the lung tissue and the supporting muscle and bones of the ribcage results in diminishing lung function over time. The impairment that results from exposure to air pollutants then has an add-on effect, putting stress on the lungs and heart. Older people are also more likely to be living with chronic diseases, and there is evidence that co-existing chronic lung, heart or circulatory conditions may worsen following exposure to environmental pollutants.[65]

The strength of the immune system also declines with age, leaving older people at greater risk of contracting infections and less able to get them under control before they become serious. Because exposure to air pollution increases susceptibility to respiratory infections, it also increases the risk of severe illness and death in older adults.

People with underlying health conditions

For the millions of people in the U.S. living with illnesses such as asthma, COPD, diabetes, heart disease and lung cancer, exposure to air pollution places them at greater risk of harm to their health than those without disease. The cellular injury and systemic inflammation triggered by breathing ozone and particle pollution put additional stress on people's lungs, heart and other organs already compromised by disease. This can result in a worsening of symptoms, increased medication use, more frequent emergency department visits and hospitalizations, an overall reduced quality of life and far too often premature death.

Pregnant people and fetuses

Pregnancy is always a susceptible time for both the mother and the developing fetus. The pregnant body undergoes dramatic physiological changes in hormone levels, metabolism and circulation throughout months of gestation. The rapid and complex development of the fetus is a precisely timed and sequenced process. The inflammation and oxidative stress resulting from exposure to air pollution during pregnancy can increase the risk of hypertensive disorders, including preeclampsia, in the mother and lead to intrauterine inflammation and damage to the placenta that can disrupt the growth and development of the fetus. Fetal health may also be impacted in a number of ways by environmental contaminants that have been shown to cross the placenta.[66]

Exposure to both ozone and particle pollution during pregnancy is strongly associated with premature birth, low birth weight and stillbirth. These risks are amplified in pregnancies where the mother is already at higher risk, such as people of color and those chronic conditions, especially asthma.[67]

People with a smoking history

There is some recent evidence suggesting that current and former smokers are at greater risk of health harm from exposure to fine particle pollution compared with never-smokers. They are more likely to develop lung cancer and to die prematurely.[68] Smoking damages the lungs, heart, blood vessels and other organs.[69] This impairment leaves the person with a smoking history more vulnerable to the health impact of air pollution than a never-smoker.

Endnotes

1 Health Effects Institute. State of Global Air. Boston, MA. 2020.
2 U.S. EPA. Integrated Science Assessment for Particulate Matter. December 2019 EPA/600/R-19/188. Section 11.1.
3 Liu C, Chen R, Sera RF, Vicedo-Cabrera AM, Guo Y, Tong S, Coelho MSZS, Saldiva PHN, Lavigne E, Matus P, Valdes Ortega PN, Osorio Garcia S, Pascal M, Stafoggia M, Scortichini M, Hashizume M, Honda Y, Hurtado-Diaz M, Cruz J, Nunes B, Teixeira JP, Kim H, Tobias A, Íñiguez C, Forsberg B, Åström C, Ragettli MS, Guo Y-L, Chen B-Y, Bell ML, Wright CY, Scovronick N, Garland RM, Milojevic A, Kyselý J, Urban A, Orru H, Indermitte E, Jaakkola JJK, Ryti NRI, Katsouyanni K, Analitis A, Zanobetti A, Schwartz J, Chen J, Wu T, Cohen A, Gasparrini A, and Kan H. Ambient Particulate Air Pollution and Daily Mortality in 652 Cities. N Engl J Med. 2019; 381(8):705-15.
4 Di Q, Dai L, Wang Y, Zanobetti A, Choirat C, Schwartz JD, Dominici F. Association of Short-Term Exposure to Air Pollution with Mortality in Older Adults. JAMA. 2017; 318:2446-2456.
5 Schwartz J, Fong K and Zanobetti A. A national multicity analysis of the causal effect of local pollution, NO2, and $PM_{2.5}$ on mortality. Environ Health Perspect. 2018; 126(8): 087004-1- 087004-10.
6 U.S. EPA. 2019, Section 9.1.2.6.
7 U.S. EPA. 2019, Section 6.1.2.
8 U.S. EPA. 2019, Section 5.1.2.1.1.
9 U.S. EPA. 2019, Section 5.1.2.1.
10 U.S. EPA. 2019, Section 5.1.2.2.1.
11 U.S. EPA. 2019, Section 11.2.
12 Pope CA, Lefler JS, Ezzati M, Higbee JD, Marshall JD, Kim S, Bechle M, Gilliat KS, Vernon SE, Robinson AL, Burnett RT. Mortality risk and fine particulate pollution in a large, representative cohort of U.S. Adults. Environ Health Perspect. 2019; 127(7):077007-1-077007-9.
13 Dominici F, Zanobetti A, Schwartz J, Braun D, Sabath B, Wu X. Assessing Adverse Health Effects of Long-Term Exposure to Low Levels of Ambient Air Pollution: Implementation of Causal Inference Methods. Health Effects Institute. 2022; Research Report 211.
14 Bekkar B Pacheco S, Basu R, DeNicola N_Association of air pollution and heat exposure with preterm birth, low birth weight and stillbirth in the U.S.: A systemic review. JAMA Network Open. 2020; 3(6):e208243.
15 Bekkar B et al. 2020.
16 Ni Y, Loftus CT, Szpiro AA, Young MT, Hazlehurst MF, Murphy LE, Tylavsky FA, Mason WA, LeWinn KZ, Sathyanarayana S, Barrett ES, Bush NR, Karr CJ. Associations of pre- and postnatal air pollution exposures with child behavioral problems and cognitive performance: A U.S. multi-cohort study. Environ Health Perspect. 2022; 130(6).
17 U.S. EPA. 2019, Section 5.2.2.2.1.
18 U.S. EPA. 2019, Section 5.2.3.1.
19 U.S. EPA. 2019, Section 6.2.2.
20 U.S. EPA. 2019, Section 5.2.5.
21 Bowe B, Xie Y, Li T, Yan Y, Xian H, Al-Aly Z. The 2016 global and national burden of diabetes mellitus attributable to PM2.5 air pollution. Lancet Planet Health. 2018; 2:e301-12.
22 Wu Y, Zhang S, Qian SE, Cai M, Li H, Wang C, Zou H, Chen H, Vaughn MG, McMillin SE and Lin H. Ambient air pollution associated with incidence and dynamic progression of type 2 diabetes: a trajectory analysis of a population-based cohort. BMC Med. 2022; 20:375.
23 U.S. EPA, 2019. Section 10.2.5.1.
24 Kilian J and Kitazawa M. The emerging risk of exposure to air pollution on cognitive decline and Alzheimer's disease -- evidence from epidemiological and animal studies. Biomed J. 2018; 41:141-162.
25 Shi L, Wu X, Danesh Yazdi M, Braun D, Abu Awad Y, Wei Y, Liu P, Di Q, Wand Y, Schwartz J, Dominici F, Kioumourtzoglou M-A, Zanobetti A. Long-term effects of $PM_{2.5}$ on neurological disorders in the American Medicare population: a longitudinal cohort study. Lancet Planet Health. 2020; 4:e557-65.
26 U.S. EPA. 2019, Section 5.2.11.
27 Bekkar B et al. 2020.
28 U.S. EPA. 2019, Section 12.5.1.1.
29 U.S. EPA. 2019, Section 12.3.5.
30 U.S. EPA. 2019, Section 12.3.1.
31 U.S. EPA. 2019, Section 10.2.5.1.
32 U.S. EPA. 2019, Section 12.5.4.
33 U.S. EPA. 2019, Section 12.6.1.
34 U.S. EPA. 2019, Section 12.5.3.
35 U.S. EPA. 2019, Section 12.3.3.
36 U.S.EPA. Integrated Science Assessment for Ozone and Related Photochemical Oxidants. April 2020. EPA/600/R-20/012. Section 3.1.4.1.
37 U.S. EPA. 2020, Sections 3.1.5 and 3.1.6.
38 U.S. EPA. 2020, Section 3.1.7.
39 U.S. EPA. 2020, Section 3.2.4.1.
40 U.S. EPA. 2020, Section 3.2.4.3.
41 U.S. EPA. 2020, Section 3.2.4.6.
42 U.S. EPA. 2020, Section 5.1.3.
43 U.S. EPA. 2020, Sections 7.2.1 and 7.2.2.
44 Gao Q, Zang E, Bi J, Dubrow R, Lowe SR, Chen H, Zeng Y, Shi L, Chen K. Long-term ozone exposure and cognitive impairment among Chinese older adults: A cohort study. J Env Int. 2022; 160:107072.
45 U.S. EPA. 2020, Section 7.1.3.

46 Mendola P, Ha S, Pollack AZ, Zhu Y, Seeni I, Kim SS, Sherman S, Liu D. Chronic and acute ozone exposure in the week prior to delivery is associated with risk of stillbirth. Int J Environ Res Pub Health. 2017; 14:731.
47 U.S. EPA. 2020, Sections 4.1 and 4.2.
48 Di et al. 2017.
49 Lim CC, Hayes RB. Ahn J, Shao Y, Silverman DT, Jones RR, Garcia C, Bell ML, Thurston GD. Long-term exposure to ozone and cause-specific mortality risk in the United States. Am J Respir Crit Care Med. 2019; 200(8):1022–1031.
50 Bekkar B et al. 2020.
51 U.S. EPA. 2020, Section IS.4.4.
52 Kim H, Samet, JM, Bell ML. Association between short-term exposure to air pollution and COVID-19 mortality: A population-based case-crossover study using individual-level mortality registry confirmed by medical examiners. Environ Health Perspect. 2022; 130(1).
53 English PB, Von Behren J, Balmes JR, Boscardin J, Carpenter C, Goldberg DE, Horiuchi S, Richardson M, Solomon G, Valle J, Reynolds P. Association between long-term exposure to particulate air pollution with SARS-CoV-2 infections and COVID_19 deaths in California, U.S.A. Environ Advances. 2022; 9:100270.
54 U.S. EPA. 2019, Section 12.5.4.
55 Liu J, Clark LP, Bechle MJ, Hajat A, Kim S-Y, Robinson AL, Sheppard L, Szpiro AA, Marshall JD. Disparities in air pollution exposure in the United States by race/ethnicity and income, 1990–2010. Environ Health Perspect. 2021; 129(12).
56 Nardone A, Casey JA, Morello-Frosch R, Mujahid M, Balmes JR, Thakur N. Associations Between Historical Residential Redlining and Current Age-Adjusted Rates of Emergency Department Visits Due to Asthma Across Eight Cities in California: An Ecological Study. Lancet Planet Health. 2020:4(1):e24-e31.
57 Erqou S, Clougherty JE, Olafiranye O, Magnani JW, Aiyer A, Tripathy S, Kinnee E, Kip KE, Reis SE. Particulate Matter Air Pollution and Racial Differences in Cardiovascular Disease Risk. Arterioscler Thromb Vasc Biol. 2018; 38:00-00.
58 Centers for Disease Control and Prevention. National Center for Health Statistics. National Health Interview Survey, 2019. Analysis performed by the American Lung Association Epidemiology and Statistics Unit using SPSS software.
59 U.S. EPA. 2019, Section 12.5.3.
60 Liu et al. 2021.
61 Mikati I, Benson AF, Luben TJ, Sacks JD, Richmond-Bryant J. Disparities in Distribution of Particulate Matter Emission Sources by Race and Poverty Status. Am J Public Health. 2018; 108(4):480–485.
62 Kioumourtzoglou M-A, Schwartz J, James P, Dominici F, Zanobetti A. PM2.5 and mortality in 207 US cities: modification by temperature and city characteristics. Epidemiology. 2016; 27(2):221-7.
63 U.S. EPA. 2019, Section 9.1.3.
64 Johnson NM, Hoffmann AR, Behlen JC, Lau C, Pendleton D, Harvey N, Shore R, Li Y, Chen J, Tian Y, Zhang R. Air pollution and children's health—a review of adverse effects associated with prenatal exposure from fine to ultrafine particulate matter. Environ Health Prev Med. 2021; 26:72.
65 Simoni M, Baldacci S, Maio S, Cerrai S, Sarno G, Viegi G. Adverse Effects of Outdoor Pollution in the Elderly. J Thorac Dis. 2015; 7(1):34-45.
66 Klepak P, Locatelli I, Korošec S, Künzli N, Kukec A. Ambient air pollution and pregnancy outcomes: a comprehensive review. Environ Research. 2018; 167:144-159. and identification of environmental public health challenges
67 Bekkar B et al. 2020.
68 U.S. EPA. 2019, Section 12.6.1.
69 U.S. Department of Health and Human Services. The Health Consequences of Smoking - 50 Years of Progress: A Report of the Surgeon General. 2014.

Recommendations for Action

We need action at every level to clean up air pollution and address climate change.

Individuals

You can take action to protect yourself and your family from the dangers of air pollution. Regardless of its grade or ranking in this report, any community can experience days with unhealthy levels of air pollution. Some simple precautions will reduce your risk:

- **Check daily air pollution forecasts in your area at airnow.gov.** The color-coded forecasts let you know when the air is unhealthy in your community. When the air is bad, move your exercise plans and other activities indoors. If you live in a fire-prone area, learn more about using N-95 masks and creating a clean room inside your home with our wildfire resources at Lung.org/wildfire.
- **Reduce your own contributions to air pollution.** Prioritize walking, biking and public transit over diesel or gasoline-powered vehicles. Conserve electricity and purchase your power from clean, non-combustion sources if you can. Don't burn leaves or trash and avoid burning wood whenever possible.
- **Consider taking advantage of tax incentives to reduce emissions from your home and vehicle.** One of the best ways to reduce pollution is to switch from vehicles and appliances that burn fuel—like gasoline-powered cars and natural gas stoves and furnaces—to zero-emission versions that run on electricity. Under the Inflation Reduction Act passed in 2022, you may be able to get tax credits for buying a new or used electric vehicle or for upgrading your home with efficient, zero-emissions appliances like induction stoves or heat pumps.

Poor air quality is often associated with public health impacts, such as asthma and heart disease. Joanne Kilgour says while protecting people's health must be a priority, it's important to not overlook the economic effects of air pollution.

"It's hard to attract new industry to a place where you can't promise employees their children will be free of asthma or enjoy the outdoors without the threat of an air quality action day," says Kilgour, executive director of the Ohio River Valley Institute, a nonprofit focused on the greater Ohio Valley and Western Pennsylvania.

Her region has some of the country's worst air quality year after year, she says. That limits the time people spend outdoors in an area where recreation can be a powerful economic driver, she adds.

Kilgour says decarbonization is key to reducing emissions and air pollution, with opportunities to leverage investments in fossil-free steel production as an example of strategies that can make a difference.

"There's a broad understanding that the status quo isn't serving families and residents in the community," she says.

Joanne Kilgour
Executive Director, Ohio River Valley Institute

Local Governments

Local governments have the power to help ensure that city and county operations are zero-emission and that residents have the ability to choose zero-emission forms of transportation and electricity. These actions must benefit the communities most impacted by unhealthy air.

- **Adopt a climate action plan.** Reduce city- and county-wide emissions by supporting walking, biking and transit and zero-emission-vehicle infrastructure and ensuring that building and parking policies support these goals. Include measures to address the impacts of climate change on residents, including health impacts. Under the Inflation Reduction Act, municipalities can opt in to get planning grant funding to reduce climate pollution.
- **Purchase zero-emission fleet vehicles.** Commit to purchasing zero-emission garbage and recycling trucks, transit buses, school buses and other vehicles.
- **Establish purchasing goals for renewable, non-combustion electricity.** Power city and county operations with truly clean sources of electricity like wind, solar, geothermal or tidal.

Providing more options for transit can help reduce traffic and air pollution. As part of the Metro's Silver Line extension in Virginia last year, Fairfax County added about 4,000 parking spaces in two garages to make the rapid transit line more convenient.

Martha Coello, Special Projects Division Chief at the Fairfax County Department of Transportation, says Park and Rides are a convenient way for people to use public transportation for more than just commuting to work.

"People are looking at these facilities to make transit more accessible and allow them to avoid driving to downtown D.C. for a show or a nice dinner on a Friday," Coello says. "There's a good, interconnected impact in that it does take cars off the road which helps air quality."

The Silver Line extension included three new stations, enhanced bus service, and pedestrian and bicycle improvements. Coello says having infrastructure that makes it comfortable for people to access different modes is key to encouraging public transportation use.

"It's all about giving people options," she says.

Martha Coello
Special Projects Division Chief, Fairfax County Department of Transportation

State, Territorial and Tribal Governments

- **Set a clean or renewable electricity standard or clean peak standard** that phases out the use of coal, oil, methane gas (often called natural gas) and other combustion energy sources and replaces it with wind, solar, geothermal and tidal and other non-combustion forms of electricity. Do not allow for the increased use of biomass or municipal solid waste for electricity because of their contributions to particle pollution.
- **Leverage Inflation Reduction Act funding** available to state, territorial and Tribal governments to reduce emissions, including reducing air pollution at ports, investing in zero-emission heavy-duty vehicles and infrastructure and improving air quality monitoring. Ensure that environmental justice communities that have long borne the brunt of pollution impacts are prioritized.
- **States: Use Clean Air Act authority to adopt the California zero-emissions standards for cars and trucks.** These include California's Low-Emission Vehicle criteria pollutant and greenhouse gas regulations; Zero-Emission Vehicle regulations; and Advanced Clean Trucks regulations.

Federal Government

The passage of the 2022 Inflation Reduction Act was a major victory, providing major investments to reduce air pollution and address climate change that federal agencies are now dolling out. However, these investments are only half the battle. Federal agencies must also finalize strong limits on air pollution to truly protect public health and advance environmental justice.

The Biden administration is behind on its clean air to-do list and must urgently pick up the pace by moving on key clean air regulatory priorities. Go to Lung.org/sota to ***take action now.*** Key priorities include:

- EPA must finalize strong new emissions standards that transition the nation's cars and trucks to zero-emission vehicles. EPA has already strengthened emissions standards for the next few years of new cars and trucks. Now, EPA must finalize stronger standards for emissions for light-duty and medium-duty vehicles beginning in Model Year 2027. EPA must also finalize a proposed rule to limit pollution from heavy-duty vehicles beginning in Model Year 2027.
- EPA must set stronger national standards for particulate matter and ozone. For particulate matter, the research shows that the new standard should be set at 8 micrograms per cubic meter annually, and 25 micrograms per cubic meter daily, to protect those at greatest risk of harm. For ozone, the research shows that a standard of no higher than 60 parts per billion would protect health. Not only will stronger standards drive cleanup of polluting sources nationwide, they will also mean that families across the country are better informed about when their local air quality may put their health at risk.

- EPA must clean up power plant pollution. EPA has proposed tighter limits on mercury and air toxics from power plants and must see them across the finish line. This action is critical for communities with a coal- or oil-fired plant nearby that emit dangerous pollutants, harming health. EPA must also propose and finalize rules to limit carbon emissions from the power sector, including for coal, oil and natural gas-fired power plants.
- Federal agencies must further limit pollution from the oil and gas industry. EPA must finalize strong rules that dramatically limit emissions of methane and other harmful air pollutants from the oil and gas industry. Additionally, burning methane gas in appliances in homes contributes to outdoor air pollution and has harmful health impacts indoors, especially for kids with asthma. EPA, the Consumer Product Safety Commission and the Department of Energy must set standards improving the efficiency of these appliances and continue to foster a transition to zero-emission, electric appliances wherever possible.
- The U.S. Congress must pass funding bills that adequately invest in clean air protections, including increased funding for EPA to set and enforce these lifesaving rules and to pass along to state, local and Tribal air agencies to monitor and clean up harmful air pollution.

Understanding Grades and Tables

*See **Methodology** for a full explanation of data sources and calculations made for state grades.*

Notes for state grades tables

1. Not all counties have monitors for either ozone or particle pollution. If a county does not have any monitors for either pollutant, that county's name is not on the list in these tables. The decision about monitors in the county is made by the state and the U.S. Environmental Protection Agency, not by the American Lung Association.
2. **INC** (Incomplete) indicates that monitoring data is available for at least one year in that county, but not all three years.
3. **DNC** (Data Not Collected) indicates that data on that particular pollutant is not collected in that county.
4. The **Weighted Average (Wgt. Avg)** was derived by adding the three years of individual level data (2019-2021), multiplying the sums of each level by the assigned standard weights (i.e. 1=orange, 1.5=red, 2.0=purple and 2.5=maroon) and calculating the average. Grades are assigned based on the weighted averages as follows: A=0.0, B=0.3-0.9, C=1.0-2.0, D=2.1-3.2, F=3.3+.
5. The **Design Value** is the calculated concentration of a pollutant based on the National Ambient Air Quality Standard for $PM_{2.5}$, which is 12 µg/m^3. Counties with design values of 12 or lower received a grade of "Pass" for Annual $PM_{2.5}$. Counties with design values of 12.1 or higher received a grade of "Fail."

Notes for at-risk groups tables

1. **Total Population** is based on 2021 U.S. Census and represents the at-risk populations in counties with ozone or $PM_{2.5}$ pollution monitors; it does not represent the entire state's sensitive populations.
2. Those **18 & under** and **65 & over** are vulnerable to ozone and $PM_{2.5}$. Do not use them as population denominators for disease estimates—that will lead to incorrect estimates.
3. **Pediatric asthma** estimates are for those under 18 years of age and represent the estimated number of people who had asthma in 2021 based on the state rates when available or national rates when not (Behavioral Risk Factor Surveillance System, or BRFSS), applied to county population estimates (U.S. Census).
4. **Adult asthma** estimates are for those 18 years and older and represent the estimated number of people who had asthma during 2021 based on state rates (BRFSS) applied to county population estimates (U.S. Census).
5. **COPD** estimates are for adults 18 and over who had ever been diagnosed with chronic obstructive pulmonary disease, which includes chronic bronchitis and emphysema, based on state rates (BRFSS) applied to county population estimates (U.S. Census).
6. **Lung cancer** estimates are for all ages and represent the estimated number of people diagnosed with lung cancer in 2019 based on state rates (StateCancerProfiles.gov) applied to county population estimates (U.S. Census).
7. **Cardiovascular disease** estimates are for adults 18 and over who have been diagnosed within their lifetime, based on state rates (BRFSS) applied to county population estimates (U.S. Census). CV disease includes coronary heart disease, stroke and heart attack.
8. **Pregnancy** estimates are for females 18-49 and based on state rates of pregnancies resulting in live births applied to population estimates (U.S. Census).
9. **Poverty** estimates include all ages and come from the U.S. Census Bureau's Small Area Income and Poverty Estimates program. The estimates are derived from a model using estimates of income or poverty from the Annual Social and Economic Supplement and the Current Population Survey, 2021. Puerto Rico poverty estimates come from the U.S. Census Bureau's American Community Survey, 2017-2021.
10. **People of color** are defined as anyone Hispanic or non-Hispanic black, Asian, American Indian/Alaska Native, Native Hawaiian and Other Pacific Islander, or two or more races and are based on 2021 county population estimates (U.S. Census).
11. Adding across rows does not produce valid estimates. Adding the at-risk categories (asthma, COPD, poverty, etc.) will double-count people who fall into more than one category.

Table 1 Populations at Risk by Grade and by Pollutant

People at Risk from Short-Term Particle Pollution (Daily $PM_{2.5}$)

	Chronic Diseases					Age Groups						
In Counties Where the Grades Were:	Adult Asthma	Pediatric Asthma	COPD	Lung Cancer	CV Disease	Under 18	65 and Over	Pregnancies	Poverty	People of Color	Total Population	Number of Counties
Grade A (0.0)	3,894,015	792,057	2,807,694	29,095	3,628,440	10,837,393	9,154,039	565,400	6,646,761	20,912,987	51,591,902	201
Grade B (0.3-0.9)	5,116,583	1,078,252	3,419,289	37,373	4,272,816	15,139,596	10,708,528	767,317	8,606,513	31,296,133	67,897,198	181
Grade C (1.0-2.0)	2,585,150	564,739	1,728,708	19,539	2,209,878	7,926,089	5,307,917	408,543	4,658,924	16,617,212	35,012,717	87
Grade D (2.1-3.2)	729,612	157,009	445,360	4,931	588,034	2,337,256	1,529,864	112,989	1,340,205	4,488,927	9,866,872	33
Grade F (3.3+)	4,619,925	841,181	2,473,889	26,117	3,309,609	14,383,225	9,700,045	700,286	7,570,747	34,646,678	63,737,389	111
National Population in Counties with $PM_{2.5}$ Monitors	17,228,739	3,496,135	11,063,041	119,108	14,245,688	51,507,725	37,004,318	2,596,848	29,278,409	109,299,287	231,900,896	641

People at Risk from Year-Round Particle Pollution (Annual $PM_{2.5}$)

	Chronic Diseases					Age Groups						
In Counties Where the Grades Were:	Adult Asthma	Pediatric Asthma	COPD	Lung Cancer	CV Disease	Under 18	65 and Over	Pregnancies	Poverty	People of Color	Total Population	Number of Counties
Pass	13,629,195	2,803,936	8,917,431	95,471	11,389,424	40,222,940	29,281,942	2,047,656	22,652,092	82,843,833	182,014,307	500
Fail	1,280,081	224,268	652,230	7,115	895,089	4,398,997	2,678,240	202,060	2,635,394	13,301,972	18,777,994	17
National Population in Counties with $PM_{2.5}$ Monitors	17,228,739	3,496,135	11,063,041	119,108	14,245,688	51,507,725	37,004,318	2,596,848	29,278,409	109,299,287	231,900,896	641

People at Risk from Ozone

	Chronic Diseases				Age Groups						
In Counties Where the Grades Were:	Adult Asthma	Pediatric Asthma	COPD	CV Disease	Under 18	65 and Over	Pregnancies	Poverty	People of Color	Total Population	Number of Counties
Grade A (0.0)	3,724,203	792,445	2,845,405	3,672,420	10,712,467	9,381,259	540,232	6,327,648	17,412,682	50,782,442	302
Grade B (0.3-0.9)	3,124,597	639,568	2,159,751	2,730,778	8,927,874	6,907,495	452,681	4,949,087	15,649,867	41,003,492	170
Grade C (1.0-2.0)	2,624,418	508,597	1,628,445	2,101,592	7,271,049	5,474,479	361,246	3,617,690	12,040,309	33,049,011	117
Grade D (2.1-3.2)	1,251,042	255,556	842,334	1,070,194	3,498,280	2,579,481	186,076	2,008,450	7,710,616	16,189,161	40
Grade F (3.3+)	7,409,618	1,477,630	4,369,962	5,685,100	23,640,266	15,377,344	1,158,834	12,847,236	57,655,731	103,024,220	124
National Population in Counties with Ozone Monitors	18,265,858	3,702,154	11,937,305	15,378,430	54,420,489	40,027,698	2,717,094	29,973,254	110,838,705	245,723,508	782

Table 2a People at Risk in 25 U.S. Cities Most Polluted by Short-Term Particle Pollution (Daily $PM_{2.5}$)

2023 Rank	Metropolitan Statistical Areas	Total Population	Under 18	65 and Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	People of Color	Poverty
1	Bakersfield, CA	917,673	263,402	104,638	13,139	57,795	27,903	346	37,178	9,412	632,525	164,169
2	Fresno-Madera-Hanford, CA	1,326,434	370,656	166,947	18,488	84,458	41,730	499	56,129	13,906	954,184	248,788
3	Fairbanks, AK	95,593	22,506	11,366	1,485	6,595	3,866	49	4,450	1,261	29,724	7,247
4	Visalia, CA	477,054	144,196	55,572	7,193	29,409	14,362	179	19,237	4,989	351,235	88,367
5	Reno-Carson City-Fernley, NV	667,301	137,452	127,206	10,813	48,769	37,703	330	44,392	6,657	241,209	69,983
6	San Jose-San Francisco-Oakland, CA	9,545,921	2,028,372	1,520,400	101,177	665,484	346,398	3,589	482,268	101,021	6,071,450	909,294
7	Redding-Red Bluff, CA	247,637	55,298	51,533	2,759	17,057	9,749	93	14,037	2,248	62,837	35,248
8	Sacramento-Roseville, CA	2,697,399	608,540	445,410	30,355	184,931	97,656	1,013	136,361	28,177	1,325,731	317,925
9	Chico, CA	208,309	42,437	37,992	2,117	14,671	7,834	78	10,807	2,243	64,260	33,874
9	Los Angeles-Long Beach, CA	18,490,242	4,112,015	2,705,866	205,110	1,272,354	648,442	6,949	895,585	200,022	13,071,213	2,316,720
11	Yakima, WA	256,035	75,344	36,193	5,508	19,003	9,052	124	12,015	2,605	151,594	37,078
12	Eugene-Springfield, OR	383,189	68,642	78,561	4,771	35,390	19,103	180	25,578	3,785	74,138	53,989
13	Phoenix-Mesa, AZ	4,999,734	1,145,926	819,746	92,379	366,150	211,696	1,970	305,529	54,708	2,317,167	556,754
14	Spokane-Spokane Valley-Coeur d'Alene, WA-ID	773,255	169,457	138,509	12,097	62,288	32,986	367	44,834	8,216	117,315	83,167
15	Missoula, MT	119,533	21,817	19,996	1,095	9,688	5,096	56	6,475	1,479	13,804	15,043
16	San Diego-Chula Vista-Carlsbad, CA	3,286,069	698,371	489,101	34,835	228,821	115,946	1,237	158,242	35,582	1,848,397	340,522
17	Logan, UT-ID	152,083	45,387	15,795	2,542	10,555	4,465	43	5,738	2,254	24,513	15,911
18	Denver-Aurora, CO	3,642,145	785,279	504,471	51,802	299,680	139,933	1,383	154,061	40,646	1,297,572	316,593
19	Salt Lake City-Provo-Orem, UT	2,746,164	785,045	292,153	43,095	192,994	82,907	732	107,164	38,839	659,527	220,391
20	Pittsburgh-New Castle-Weirton, PA-OH-WV	2,637,506	499,377	554,715	32,720	221,020	153,253	1,559	216,368	26,029	386,787	293,775
21	Boise City-Mountain Home-Ontario, ID-OR	882,138	212,229	137,555	14,028	65,772	38,024	393	51,454	10,529	192,123	86,651
22	Fargo-Wahpeton, ND-MN	275,091	63,863	37,384	4,048	18,275	9,322	144	14,154	3,965	42,472	29,475
23	Salinas, CA	437,325	113,236	63,337	5,648	28,668	14,691	165	20,181	4,378	313,287	50,725
24	Lancaster, PA	553,652	129,256	104,237	8,421	44,025	28,838	325	40,807	5,542	108,092	47,460
25	Medford-Grants Pass, OR	312,080	63,156	74,256	4,389	27,924	16,607	146	22,984	2,601	59,577	44,396

Notes:

Cities are ranked using the highest weighted average for any county within that Combined Metropolitan Statistical Area or Metropolitan Statistical Area.

Adding across rows does not produce valid estimates. Adding the disease categories (asthma, COPD, etc.) will double-count people who fall into more than one category.

Table 2b People at Risk in 25 U.S. Cities Most Polluted by Year-Round Particle Pollution (Annual $PM_{2.5}$)

2023 Rank	Metropolitan Statistical Areas	Total Population	Under 18	65 and Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	People of Color	Poverty
1	Bakersfield, CA	917,673	263,402	104,638	13,139	57,795	27,903	346	37,178	9,412	632,525	164,169
1	Visalia, CA	477,054	144,196	55,572	7,193	29,409	14,362	179	19,237	4,989	351,235	88,367
3	Fresno-Madera-Hanford, CA	1,326,434	370,656	166,947	18,488	84,458	41,730	499	56,129	13,906	954,184	248,788
4	Los Angeles-Long Beach, CA	18,490,242	4,112,015	2,705,866	205,110	1,272,354	648,442	6,949	895,585	200,022	13,071,213	2,316,720
5	Fairbanks, AK	95,593	22,506	11,366	1,485	6,595	3,866	49	4,450	1,261	29,724	7,247
6	Sacramento-Roseville, CA	2,697,399	608,540	445,410	30,355	184,931	97,656	1,013	136,361	28,177	1,325,731	317,925
7	San Jose-San Francisco-Oakland, CA	9,545,921	2,028,372	1,520,400	101,177	665,484	346,398	3,589	482,268	101,021	6,071,450	909,294
7	Phoenix-Mesa, AZ	4,999,734	1,145,926	819,746	92,379	366,150	211,696	1,970	305,529	54,708	2,317,167	556,754
7	Medford-Grants Pass, OR	312,080	63,156	74,256	4,389	27,924	16,607	146	22,984	2,601	59,577	44,396
10	Indianapolis-Carmel-Muncie, IN	2,507,944	600,785	371,608	42,254	197,689	157,460	1,556	163,232	30,309	680,691	272,410
11	Yakima, WA	256,035	75,344	36,193	5,508	19,003	9,052	124	12,015	2,605	151,594	37,078
12	Detroit-Warren-Ann Arbor, MI	5,393,033	1,164,730	935,955	81,511	493,567	329,752	3,195	400,142	56,884	1,764,417	713,268
13	Chico, CA	208,309	42,437	37,992	2,117	14,671	7,834	78	10,807	2,243	64,260	33,874
14	Pittsburgh-New Castle-Weirton, PA-OH-WV	2,637,506	499,377	554,715	32,720	221,020	153,253	1,559	216,368	26,029	386,787	293,775
15	Eugene-Springfield, OR	383,189	68,642	78,561	4,771	35,390	19,103	180	25,578	3,785	74,138	53,989
15	Augusta-Richmond County, GA-SC	615,933	140,717	104,050	12,390	44,319	33,368	351	43,817	6,694	289,250	93,326
15	Houston-The Woodlands, TX	7,398,774	1,927,208	894,440	122,452	460,317	325,709	3,366	385,518	93,373	4,839,676	1,036,292
18	El Centro, CA	179,851	51,197	24,033	2,554	11,371	5,719	68	7,739	1,715	163,246	29,738
18	Cincinnati-Wilmington-Maysville, OH-KY-IN	2,318,870	538,113	373,954	30,908	192,950	158,476	1,591	182,639	26,076	496,399	273,458
18	Birmingham-Hoover-Talladega, AL	1,350,100	306,036	232,702	29,496	105,400	98,489	819	121,624	15,467	479,199	196,969
21	McAllen-Edinburg, TX	946,405	299,852	107,413	19,052	53,940	37,526	430	44,585	11,595	894,220	271,830
22	Louisville-Jefferson County--Elizabethtown--Bardstown, KY-IN	1,512,785	339,875	251,417	18,500	134,917	122,682	1,209	131,898	17,569	371,818	184,842
23	Bend-Prineville, OR	230,540	44,762	48,596	3,111	20,980	11,841	108	15,935	2,053	31,515	20,737
23	Laredo, TX	267,945	85,427	26,695	5,428	15,224	10,370	122	12,044	3,287	258,388	59,771
23	Chicago-Naperville, IL-IN-WI	9,876,339	2,202,143	1,552,155	154,670	680,535	440,098	5,694	620,403	105,565	4,679,774	1,117,401

Notes:

Cities are ranked using the highest design value for any county within that Combined Metropolitan Statistical Area or Metropolitan Statistical Area.

Adding across rows does not produce valid estimates. Adding the disease categories (asthma, COPD, etc.) will double-count people who have been diagnosed with more than one disease.

Table 2c People at Risk in 25 Most Ozone-Polluted Cities

2023 Rank	Metropolitan Statistical Areas	Total Population	Under 18	65 and Over	Pediatric Asthma	Adult Asthma	COPD	CV Disease	Pregnancies	People of Color	Poverty
1	Los Angeles-Long Beach, CA	18,490,242	4,112,015	2,705,866	205,110	1,272,354	648,442	895,585	200,022	13,071,213	2,316,720
2	Visalia, CA	477,054	144,196	55,572	7,193	29,409	14,362	19,237	4,989	351,235	88,367
3	Bakersfield, CA	917,673	263,402	104,638	13,139	57,795	27,903	37,178	9,412	632,525	164,169
4	Fresno-Madera-Hanford, CA	1,326,434	370,656	166,947	18,488	84,458	41,730	56,129	13,906	954,184	248,788
5	Phoenix-Mesa, AZ	4,999,734	1,145,926	819,746	92,379	366,150	211,696	305,529	54,708	2,317,167	556,754
6	Denver-Aurora, CO	3,642,145	785,279	504,471	51,802	299,680	139,933	154,061	40,646	1,297,572	316,593
7	Sacramento-Roseville, CA	2,697,399	608,540	445,410	30,355	184,931	97,656	136,361	28,177	1,325,731	317,925
8	San Diego-Chula Vista-Carlsbad, CA	3,286,069	698,371	489,101	34,835	228,821	115,946	158,242	35,582	1,848,397	340,522
9	Houston-The Woodlands, TX	7,398,774	1,927,208	894,440	122,452	460,317	325,709	385,518	93,373	4,839,676	1,036,292
10	Salt Lake City-Provo-Orem, UT	2,746,164	785,045	292,153	43,095	192,994	82,907	107,164	38,839	659,527	220,391
11	San Jose-San Francisco-Oakland, CA	9,545,921	2,028,372	1,520,400	101,177	665,484	346,398	482,268	101,021	6,071,450	909,294
12	New York-Newark, NY-NJ-CT-PA	23,216,685	4,946,442	3,913,804	314,901	1,788,239	1,000,958	1,337,984	250,084	12,213,038	2,870,717
13	El Centro, CA	179,851	51,197	24,033	2,554	11,371	5,719	7,739	1,715	163,246	29,738
14	El Paso-Las Cruces, TX-NM	1,092,742	283,266	147,908	17,962	71,440	46,479	56,620	13,159	935,784	214,015
15	Las Vegas-Henderson, NV	2,345,926	529,254	370,191	41,638	168,013	121,877	141,494	25,489	1,395,591	349,176
15	Fort Collins, CO	362,533	68,005	61,379	4,486	30,662	14,940	16,910	4,105	67,328	39,476
17	Chicago-Naperville, IL-IN-WI	9,876,339	2,202,143	1,552,155	154,670	680,535	440,098	620,403	105,565	4,679,774	1,117,401
18	Dallas-Fort Worth, TX-OK	8,255,035	2,083,340	1,018,460	132,756	521,173	370,988	440,083	105,121	4,500,196	906,907
19	Reno-Carson City-Fernley, NV	667,301	137,452	127,206	10,813	48,769	37,703	44,392	6,657	241,209	69,983
20	Colorado Springs, CO	762,793	176,921	105,976	11,671	61,320	28,699	31,692	8,086	242,008	70,686
21	San Luis Obispo-Paso Robles, CA	283,159	49,467	60,618	2,467	20,693	11,570	16,302	2,799	92,156	35,120
22	Redding-Red Bluff, CA	247,637	55,298	51,533	2,759	17,057	9,749	14,037	2,248	62,837	35,248
23	San Antonio-New Braunfels-Pearsall, TX	2,620,224	646,677	354,220	41,090	165,851	118,941	143,217	32,782	1,774,924	349,662
24	Albuquerque-Santa Fe-Las Vegas, NM	1,164,315	240,933	224,610	15,143	97,051	51,622	68,194	11,668	727,810	166,601
25	Hartford-East Hartford, CT	1,480,711	291,345	271,448	25,974	126,841	62,083	85,370	14,582	496,015	141,220

Notes:

Cities are ranked using the highest weighted average for any county within that Combined Metropolitan Statistical Area or Metropolitan Statistical Area.

Adding across rows does not produce valid estimates. Adding the disease categories (asthma, COPD, etc.) will double-count people who have been diagnosed with more than one disease.

Table 3a Cleanest U.S. Cities for Short-Term Particle Pollution (Daily $PM_{2.5}$)

Metropolitan Statistical Area	Population
Amarillo-Pampa-Borger, TX	312,025
Asheville-Marion-Brevard, NC	550,223
Bangor, ME	152,765
Baton Rouge, LA	871,905
Bloomington-Bedford, IN	206,391
Brunswick, GA	113,963
Burlington-Fort Madison-Keokuk, IA-IL-MO	102,154
Cape Coral-Fort Myers-Naples, FL	1,214,269
Cedar Rapids-Iowa City, IA	452,674
Champaign-Urbana, IL	222,696
Charlottesville, VA	222,688
Cleveland-Indianola, MS	55,710
Dayton-Springfield-Kettering, OH	1,087,422
Erie-Meadville, PA	352,362
Fayetteville-Springdale-Rogers, AR	560,709
Florence, SC	199,259
Gadsden, AL	103,162
Greenville-Kinston-Washington, NC	271,343
Gulfport-Biloxi, MS	418,082
Harrisonburg-Staunton, VA	261,598
Hattiesburg-Laurel, MS	256,113
Hickory-Lenoir-Morganton, NC	366,441
Hot Springs-Malvern, AR	133,478
Houma-Thibodaux, LA	206,212
Huntsville-Decatur, AL	659,486
Johnson City-Kingsport-Bristol, TN-VA	516,729
Kokomo-Peru, IN	119,768
Lafayette-West Lafayette-Frankfort, IN	257,774
Lake Charles-Jennings, LA	242,707
Lansing-East Lansing, MI	540,281
Lexington-Fayette--Richmond--Frankfort, KY	749,512
Lima-Van Wert-Celina, OH	218,852
Lincoln-Beatrice, NE	363,733
Lynchburg, VA	262,258
Midland-Odessa, TX	334,271
Mobile-Daphne-Fairhope, AL	667,514
Montgomery-Selma-Alexander City, AL	474,890
Morgantown-Fairmont, WV	196,746
New Orleans-Metairie-Hammond, LA-MS	1,498,579
North Port-Sarasota, FL	1,089,011
Orlando-Lakeland-Deltona, FL	4,291,852
Owensboro, KY	121,227
Palm Bay-Melbourne-Titusville, FL	616,628
Parkersburg-Marietta-Vienna, WV-OH	148,110
Pensacola-Ferry Pass, FL-AL	553,087
Ponce-Yauco-Coamo, PR	361,201
Portland-Lewiston-South Portland, ME	667,927
Rochester-Batavia-Seneca Falls, NY	1,176,514
Rocky Mount-Wilson-Roanoke Rapids, NC	287,305
Saginaw-Midland-Bay City, MI	376,033
Salisbury-Cambridge, MD-DE	461,712
San Juan-Bayamón, PR	2,344,305
Scottsboro-Fort Payne, AL	124,586
Springfield-Jacksonville-Lincoln, IL	305,994
Tuscaloosa, AL	268,191
Urban Honolulu, HI	1,000,890
Virginia Beach-Norfolk, VA-NC	1,895,105
Waterloo-Cedar Falls, IA	167,796
Wilmington, NC	291,833

Note:
Monitors in these cities reported no days when $PM_{2.5}$ levels reached the unhealthful range using the Air Quality Index based on the 2012 NAAQS.

Table 3b Top 25 Cleanest U.S. Cities for Year-Round Particle Pollution (Annual $PM_{2.5}$)

2023 Rank	Design Value	Metropolitan Statistical Area	Population
1	3.7	Urban Honolulu, HI	1,000,890
1	3.7	Kahului-Wailuku-Lahaina, HI	164,221
3	4.1	Cheyenne, WY	100,863
3	4.1	Wilmington, NC	291,833
5	4.4	Bangor, ME	152,765
6	4.7	Bellingham, WA	228,831
7	5.3	St. George, UT	191,226
8	5.4	Duluth, MN-WI	290,780
9	5.6	Amarillo-Pampa-Borger, TX	312,025
9	5.6	Colorado Springs, CO	762,793
9	5.6	Salisbury-Cambridge, MD-DE	461,712
12	5.8	Grand Junction, CO	157,335
12	5.8	Elmira-Corning, NY	175,993
14	5.9	Asheville-Marion-Brevard, NC	550,223
14	5.9	Saginaw-Midland-Bay City, MI	376,033
16	6.0	Lubbock-Plainview-Levelland, TX	378,828
17	6.1	Lynchburg, VA	262,258
18	6.2	Syracuse-Auburn, NY	734,161
19	6.3	Greenville-Kinston-Washington, NC	271,343
19	6.3	Rochester-Austin, MN	267,309
21	6.5	Bismarck, ND	134,417
22	6.6	Johnson City-Kingsport-Bristol, TN-VA	516,729
22	6.6	Lima-Van Wert-Celina, OH	218,852
22	6.6	Lincoln-Beatrice, NE	363,733
22	6.6	Rochester-Batavia-Seneca Falls, NY	1,176,514

Notes:
Cities are ranked by using the highest design value for any county within that metropolitan area.

Table 3c Cleanest U.S. Cities for Ozone Air Pollution

Metropolitan Statistical Area	Population
Albany-Schenectady, NY	1,190,312
Asheville-Marion-Brevard, NC	550,223
Bangor, ME	152,765
Bellingham, WA	228,831
Blacksburg-Christiansburg, VA	165,293
Bowling Green-Glasgow, KY	237,487
Brownsville-Harlingen-Raymondville, TX	443,345
Brunswick, GA	113,963
Burlington-South Burlington-Barre, VT	286,580
Charleston-Huntington-Ashland, WV-OH-KY	771,171
Charlottesville, VA	222,688
Clarksville, TN-KY	328,304
Cleveland-Indianola, MS	55,710
Columbia-Moberly-Mexico, MO	262,865
Columbus-Auburn-Opelika, GA-AL	504,754
Crestview-Fort Walton Beach-Destin, FL	293,324
Decatur, IL	102,432
Des Moines-Ames-West Des Moines, IA	900,705
Duluth, MN-WI	290,780
Eau Claire-Menomonie, WI	218,864
Elmira-Corning, NY	175,993
Erie-Meadville, PA	352,362
Fairbanks, AK	95,593
Fayetteville-Sanford-Lumberton, NC	842,044
Flagstaff, AZ	145,052
Florence, SC	199,259
Gadsden, AL	103,162
Gainesville-Lake City, FL	412,141
Greensboro--Winston-Salem--High Point, NC	1,705,315
Greenville-Kinston-Washington, NC	271,343
Harrisonburg-Staunton, VA	261,598
Hickory-Lenoir-Morganton, NC	366,441
Jackson-Vicksburg-Brookhaven, MS	665,724
Jacksonville-St. Marys-Palatka, FL-GA	1,767,497
Jefferson City, MO	150,706
Johnstown-Somerset, PA	205,794
La Crosse-Onalaska, WI-MN	139,211
Lafayette-Opelousas-Morgan City, LA	609,515
Lansing-East Lansing, MI	540,281
Laredo, TX	267,945
Lawton, OK	127,543
Lincoln-Beatrice, NE	363,733
Mayagüez-San Germán, PR	220,914
Mobile-Daphne-Fairhope, AL	667,514
Monroe-Ruston, LA	253,036
Morgantown-Fairmont, WV	196,746
Myrtle Beach-Conway, SC-NC	573,715
New Bern-Morehead City, NC	190,814
Palm Bay-Melbourne-Titusville, FL	616,628
Panama City, FL	179,168
Pittsfield, MA	128,657
Quincy-Hannibal, IL-MO	113,833
Raleigh-Durham-Cary, NC	2,144,608
Roanoke, VA	314,496
Rochester-Austin, MN	267,309
Rochester-Batavia-Seneca Falls, NY	1,176,514
Rocky Mount-Wilson-Roanoke Rapids, NC	287,305
Salinas, CA	437,325
San Juan-Bayamón, PR	2,344,305
Savannah-Hinesville-Statesboro, GA	605,693
Scottsboro-Fort Payne, AL	124,586
Scranton--Wilkes-Barre, PA	567,750
Sebring-Avon Park, FL	103,296
Shreveport-Bossier City-Minden, LA	425,339
Springfield, MO	481,483
Springfield-Jacksonville-Lincoln, IL	305,994
State College-DuBois, PA	237,609
Syracuse-Auburn, NY	734,161
Terre Haute, IN	184,910
Tupelo-Corinth, MS	197,511
Tuscaloosa, AL	268,191
Urban Honolulu, HI	1,000,890
Victoria-Port Lavaca, TX	117,854
Virginia Beach-Norfolk, VA-NC	1,895,105
Waco, TX	280,428
Waterloo-Cedar Falls, IA	167,796
Watertown-Fort Drum, NY	116,295
Wausau-Stevens Point-Wisconsin Rapids, WI	310,727
Williamsport-Lock Haven, PA	151,070
Wilmington, NC	291,833

Notes:
This list represents cities with no monitored ozone air pollution in unhealthful ranges using the Air Quality Index based on 2015 NAAQS.

Table 4a Cleanest Counties for Short-Term Particle Pollution (Daily $PM_{2.5}$)

County	State	Metropolitan Statistical Area
Baldwin	AL	Mobile-Daphne-Fairhope, AL
Clay	AL	
DeKalb	AL	Scottsboro-Fort Payne, AL
Etowah	AL	Gadsden, AL
Madison	AL	Huntsville-Decatur, AL
Mobile	AL	Mobile-Daphne-Fairhope, AL
Montgomery	AL	Montgomery-Selma-Alexander City, AL
Morgan	AL	Huntsville-Decatur, AL
Tuscaloosa	AL	Tuscaloosa, AL
Arkansas	AR	
Ashley	AR	
Crittenden	AR	Memphis-Forrest City, TN-MS-AR
Garland	AR	Hot Springs-Malvern, AR
Jackson	AR	
Polk	AR	
Union	AR	
Washington	AR	Fayetteville-Springdale-Rogers, AR
Apache	AZ	
Pima	AZ	Tucson-Nogales, AZ
Kent	DE	Philadelphia-Reading-Camden, PA-NJ-DE-MD
Sussex	DE	Salisbury-Cambridge, MD-DE
Brevard	FL	Palm Bay-Melbourne-Titusville, FL
Escambia	FL	Pensacola-Ferry Pass, FL-AL
Lee	FL	Cape Coral-Fort Myers-Naples, FL
Orange	FL	Orlando-Lakeland-Deltona, FL
Palm Beach	FL	Miami-Port St. Lucie-Fort Lauderdale, FL
Pinellas	FL	Tampa-St. Petersburg-Clearwater, FL
Polk	FL	Orlando-Lakeland-Deltona, FL
Sarasota	FL	North Port-Sarasota, FL
Seminole	FL	Orlando-Lakeland-Deltona, FL
Volusia	FL	Orlando-Lakeland-Deltona, FL
Clayton	GA	Atlanta--Athens-Clarke County--Sandy Springs, GA-AL
Cobb	GA	Atlanta--Athens-Clarke County--Sandy Springs, GA-AL
Fulton	GA	Atlanta--Athens-Clarke County--Sandy Springs, GA-AL
Glynn	GA	Brunswick, GA
Hall	GA	Atlanta--Athens-Clarke County--Sandy Springs, GA-AL
Hawaii	HI	
Honolulu	HI	Urban Honolulu, HI
Kauai	HI	
Black Hawk	IA	Waterloo-Cedar Falls, IA
Clinton	IA	Davenport-Moline, IA-IL
Johnson	IA	Cedar Rapids-Iowa City, IA
Lee	IA	Burlington-Fort Madison-Keokuk, IA-IL-MO
Linn	IA	Cedar Rapids-Iowa City, IA
Montgomery	IA	
Van Buren	IA	
Champaign	IL	Champaign-Urbana, IL
DuPage	IL	Chicago-Naperville, IL-IN-WI
Jersey	IL	St. Louis-St. Charles-Farmington, MO-IL
Madison	IL	St. Louis-St. Charles-Farmington, MO-IL
McHenry	IL	Chicago-Naperville, IL-IN-WI
Sangamon	IL	Springfield-Jacksonville-Lincoln, IL
St. Clair	IL	St. Louis-St. Charles-Farmington, MO-IL
Bartholomew	IN	Indianapolis-Carmel-Muncie, IN
Clark	IN	Louisville-Jefferson County--Elizabethtown--Bardstown, KY-IN
Delaware	IN	Indianapolis-Carmel-Muncie, IN
Dubois	IN	
Greene	IN	
Hamilton	IN	Indianapolis-Carmel-Muncie, IN
Henry	IN	Indianapolis-Carmel-Muncie, IN
Howard	IN	Kokomo-Peru, IN
Madison	IN	Indianapolis-Carmel-Muncie, IN
Monroe	IN	Bloomington-Bedford, IN
Spencer	IN	
Tippecanoe	IN	Lafayette-West Lafayette-Frankfort, IN
Whitley	IN	Fort Wayne-Huntington-Auburn, IN
Campbell	KY	Cincinnati-Wilmington-Maysville, OH-KY-IN
Carter	KY	Charleston-Huntington-Ashland, WV-OH-KY
Christian	KY	Clarksville, TN-KY
Daviess	KY	Owensboro, KY
Fayette	KY	Lexington-Fayette--Richmond--Frankfort, KY
Hardin	KY	Louisville-Jefferson County--Elizabethtown--Bardstown, KY-IN
Perry	KY	
Calcasieu Parish	LA	Lake Charles-Jennings, LA
East Baton Rouge Parish	LA	Baton Rouge, LA
Iberville Parish	LA	Baton Rouge, LA
Jefferson Parish	LA	New Orleans-Metairie-Hammond, LA-MS
Orleans Parish	LA	New Orleans-Metairie-Hammond, LA-MS
St. Bernard Parish	LA	New Orleans-Metairie-Hammond, LA-MS
Tangipahoa Parish	LA	New Orleans-Metairie-Hammond, LA-MS
Terrebonne Parish	LA	Houma-Thibodaux, LA
West Baton Rouge Parish	LA	Baton Rouge, LA
Bristol	MA	Boston-Worcester-Providence, MA-RI-NH-CT
Franklin	MA	Springfield, MA
Hampshire	MA	Springfield, MA
Dorchester	MD	Salisbury-Cambridge, MD-DE
Garrett	MD	
Harford	MD	Washington-Baltimore-Arlington, DC-MD-VA-WV-PA
Howard	MD	Washington-Baltimore-Arlington, DC-MD-VA-WV-PA
Kent	MD	

Notes:

Monitors in these counties reported no days when $PM_{2.5}$ levels reached the unhealthful range using the Air Quality Index based on the 2012 NAAQS.

Table 4a Cleanest Counties for Short-Term Particle Pollution (24-hour $PM_{2.5}$) (cont.)

County	State	Metropolitan Statistical Area
Montgomery	MD	Washington-Baltimore-Arlington, DC-MD-VA-WV-PA
Prince George's	MD	Washington-Baltimore-Arlington, DC-MD-VA-WV-PA
Washington	MD	Washington-Baltimore-Arlington, DC-MD-VA-WV-PA
Androscoggin	ME	Portland-Lewiston-South Portland, ME
Cumberland	ME	Portland-Lewiston-South Portland, ME
Hancock	ME	
Kennebec	ME	
Penobscot	ME	Bangor, ME
Allegan	MI	Grand Rapids-Kentwood-Muskegon, MI
Bay	MI	Saginaw-Midland-Bay City, MI
Genesee	MI	Detroit-Warren-Ann Arbor, MI
Ingham	MI	Lansing-East Lansing, MI
Lenawee	MI	Detroit-Warren-Ann Arbor, MI
Macomb	MI	Detroit-Warren-Ann Arbor, MI
Manistee	MI	
Missaukee	MI	
Oakland	MI	Detroit-Warren-Ann Arbor, MI
Cedar	MO	
Clay	MO	Kansas City-Overland Park-Kansas City, MO-KS
Bolivar	MS	Cleveland-Indianola, MS
DeSoto	MS	Memphis-Forrest City, TN-MS-AR
Forrest	MS	Hattiesburg-Laurel, MS
Hancock	MS	Gulfport-Biloxi, MS
Harrison	MS	Gulfport-Biloxi, MS
Jackson	MS	Gulfport-Biloxi, MS
Buncombe	NC	Asheville-Marion-Brevard, NC
Catawba	NC	Hickory-Lenoir-Morganton, NC
Davidson	NC	Greensboro--Winston-Salem--High Point, NC
Durham	NC	Raleigh-Durham-Cary, NC
Guilford	NC	Greensboro--Winston-Salem--High Point, NC
Jackson	NC	
Johnston	NC	Raleigh-Durham-Cary, NC
New Hanover	NC	Wilmington, NC
Northampton	NC	Rocky Mount-Wilson-Roanoke Rapids, NC
Pitt	NC	Greenville-Kinston-Washington, NC
Rowan	NC	Charlotte-Concord, NC-SC
Lancaster	NE	Lincoln-Beatrice, NE
Atlantic	NJ	Philadelphia-Reading-Camden, PA-NJ-DE-MD
Cumberland	NJ	Philadelphia-Reading-Camden, PA-NJ-DE-MD
Gloucester	NJ	Philadelphia-Reading-Camden, PA-NJ-DE-MD
Hudson	NJ	New York-Newark, NY-NJ-CT-PA
Hunterdon	NJ	New York-Newark, NY-NJ-CT-PA
Morris	NJ	New York-Newark, NY-NJ-CT-PA
Chautauqua	NY	
Essex	NY	
Kings	NY	New York-Newark, NY-NJ-CT-PA
Monroe	NY	Rochester-Batavia-Seneca Falls, NY
New York	NY	New York-Newark, NY-NJ-CT-PA
Orange	NY	New York-Newark, NY-NJ-CT-PA
Richmond	NY	New York-Newark, NY-NJ-CT-PA
Suffolk	NY	New York-Newark, NY-NJ-CT-PA
Allen	OH	Lima-Van Wert-Celina, OH
Athens	OH	
Belmont	OH	Wheeling, WV-OH
Clark	OH	Dayton-Springfield-Kettering, OH
Harrison	OH	
Lake	OH	Cleveland-Akron-Canton, OH
Lawrence	OH	Charleston-Huntington-Ashland, WV-OH-KY
Medina	OH	Cleveland-Akron-Canton, OH
Montgomery	OH	Dayton-Springfield-Kettering, OH
Portage	OH	Cleveland-Akron-Canton, OH
Preble	OH	
Scioto	OH	Charleston-Huntington-Ashland, WV-OH-KY
Erie	PA	Erie-Meadville, PA
Adjuntas	PR	Ponce-Yauco-Coamo, PR
Bayamón	PR	San Juan-Bayamón, PR
Caguas	PR	San Juan-Bayamón, PR
Fajardo	PR	San Juan-Bayamón, PR
Guaynabo	PR	San Juan-Bayamón, PR
Ponce	PR	Ponce-Yauco-Coamo, PR
Washington	RI	Boston-Worcester-Providence, MA-RI-NH-CT
Chesterfield	SC	
Edgefield	SC	Augusta-Richmond County, GA-SC
Florence	SC	Florence, SC
Richland	SC	Columbia-Orangeburg-Newberry, SC
Spartanburg	SC	Greenville-Spartanburg-Anderson, SC
York	SC	Charlotte-Concord, NC-SC
Lawrence	TN	Nashville-Davidson--Murfreesboro, TN
Loudon	TN	Knoxville-Morristown-Sevierville, TN
McMinn	TN	Chattanooga-Cleveland-Dalton, TN-GA
Roane	TN	Knoxville-Morristown-Sevierville, TN
Sullivan	TN	Johnson City-Kingsport-Bristol, TN-VA
Ector	TX	Midland-Odessa, TX
Ellis	TX	Dallas-Fort Worth, TX-OK
Potter	TX	Amarillo-Pampa-Borger, TX
Albemarle	VA	Charlottesville, VA
Arlington	VA	Washington-Baltimore-Arlington, DC-MD-VA-WV-PA
Bristol City	VA	Johnson City-Kingsport-Bristol, TN-VA
Charles City	VA	Richmond, VA
Chesterfield	VA	Richmond, VA
Frederick	VA	Washington-Baltimore-Arlington, DC-MD-VA-WV-PA
Hampton City	VA	Virginia Beach-Norfolk, VA-NC
Loudoun	VA	Washington-Baltimore-Arlington, DC-MD-VA-WV-PA
Lynchburg City	VA	Lynchburg, VA

Notes:

Monitors in these counties reported no days when $PM_{2.5}$ levels reached the unhealthful range using the Air Quality Index based on the 2012 NAAQS.

Table 4a Cleanest Counties for Short-Term Particle Pollution (24-hour $PM_{2.5}$) (cont.)

County	State	Metropolitan Statistical Area
Norfolk City	VA	Virginia Beach-Norfolk, VA-NC
Rockingham	VA	Harrisonburg-Staunton, VA
Salem City	VA	Roanoke, VA
Virginia Beach City	VA	Virginia Beach-Norfolk, VA-NC
Skagit	WA	Seattle-Tacoma, WA
Dane	WI	Madison-Janesville-Beloit, WI
Dodge	WI	Milwaukee-Racine-Waukesha, WI
Ozaukee	WI	Milwaukee-Racine-Waukesha, WI
Cabell	WV	Charleston-Huntington-Ashland, WV-OH-KY
Hancock	WV	Pittsburgh-New Castle-Weirton, PA-OH-WV
Harrison	WV	
Kanawha	WV	Charleston-Huntington-Ashland, WV-OH-KY
Marion	WV	Morgantown-Fairmont, WV
Monongalia	WV	Morgantown-Fairmont, WV
Ohio	WV	Wheeling, WV-OH
Wood	WV	Parkersburg-Marietta-Vienna, WV-OH
Sheridan	WY	

Notes:
Monitors in these counties reported no days when $PM_{2.5}$ levels reached the unhealthful range using the Air Quality Index based on the 2012 NAAQS.

Table 4b Top 25 Cleanest Counties for Year-Round Particle Pollution (Annual $PM_{2.5}$)

2023 Rank	County	State	Design Value	Metropolitan Statistical Area
1	Fremont	WY	2.4	
2	Hawaii	HI	2.7	
3	Carlton	MN	2.8	Duluth, MN-WI
4	Gallatin	MT	3.0	
5	Kauai	HI	3.1	
6	Hancock	ME	3.2	
6	Essex	NY	3.2	
8	Cook	MN	3.3	
9	Sublette	WY	3.5	
9	Hillsborough	NH	3.5	Boston-Worcester-Providence, MA-RI-NH-CT
11	Custer	SD	3.6	
12	Honolulu	HI	3.7	Urban Honolulu, HI
12	Maui	HI	3.7	Kahului-Wailuku-Lahaina, HI
12	Hughes	SD	3.7	
15	La Paz	AZ	3.8	
16	New Hanover	NC	4.1	Wilmington, NC
16	Laramie	WY	4.1	Cheyenne, WY
18	Billings	ND	4.2	
18	Belknap	NH	4.2	Boston-Worcester-Providence, MA-RI-NH-CT
20	Park	WY	4.3	
20	Santa Fe	NM	4.3	Albuquerque-Santa Fe-Las Vegas, NM
22	Penobscot	ME	4.4	Bangor, ME
22	Teton	WY	4.4	
22	Aroostook	ME	4.4	
25	Washington	RI	4.5	Boston-Worcester-Providence, MA-RI-NH-CT

Notes:
Counties are ranked by Design Value.

Table 4c Cleanest Counties for Ozone Air Pollution

County	State	Metropolitan Statistical Area
Denali Borough	AK	
Fairbanks North Star Borough	AK	Fairbanks, AK
Baldwin	AL	Mobile-Daphne-Fairhope, AL
DeKalb	AL	Scottsboro-Fort Payne, AL
Elmore	AL	Montgomery-Selma-Alexander City, AL
Etowah	AL	Gadsden, AL
Mobile	AL	Mobile-Daphne-Fairhope, AL
Morgan	AL	Huntsville-Decatur, AL
Russell	AL	Columbus-Auburn-Opelika, GA-AL
Sumter	AL	
Tuscaloosa	AL	Tuscaloosa, AL
Clark	AR	
Newton	AR	
Coconino	AZ	Flagstaff, AZ
Colusa	CA	
Glenn	CA	
Humboldt	CA	
Lake	CA	
Mendocino	CA	
Monterey	CA	Salinas, CA
Santa Cruz	CA	San Jose-San Francisco-Oakland, CA
Siskiyou	CA	
Sonoma	CA	San Jose-San Francisco-Oakland, CA
Archuleta	CO	
Delta	CO	
Sussex	DE	Salisbury-Cambridge, MD-DE
Alachua	FL	Gainesville-Lake City, FL
Baker	FL	Jacksonville-St. Marys-Palatka, FL-GA
Bay	FL	Panama City, FL
Brevard	FL	Palm Bay-Melbourne-Titusville, FL
Broward	FL	Miami-Port St. Lucie-Fort Lauderdale, FL
Collier	FL	Cape Coral-Fort Myers-Naples, FL
Columbia	FL	Gainesville-Lake City, FL
Duval	FL	Jacksonville-St. Marys-Palatka, FL-GA
Flagler	FL	Orlando-Lakeland-Deltona, FL
Highlands	FL	Sebring-Avon Park, FL
Holmes	FL	
Indian River	FL	Miami-Port St. Lucie-Fort Lauderdale, FL
Liberty	FL	
Martin	FL	Miami-Port St. Lucie-Fort Lauderdale, FL
Okaloosa	FL	Crestview-Fort Walton Beach-Destin, FL
Orange	FL	Orlando-Lakeland-Deltona, FL
Palm Beach	FL	Miami-Port St. Lucie-Fort Lauderdale, FL
Pasco	FL	Tampa-St. Petersburg-Clearwater, FL
Pinellas	FL	Tampa-St. Petersburg-Clearwater, FL
Polk	FL	Orlando-Lakeland-Deltona, FL
Santa Rosa	FL	Pensacola-Ferry Pass, FL-AL
Sarasota	FL	North Port-Sarasota, FL
Seminole	FL	Orlando-Lakeland-Deltona, FL
St. Lucie	FL	Miami-Port St. Lucie-Fort Lauderdale, FL
Volusia	FL	Orlando-Lakeland-Deltona, FL
Wakulla	FL	Tallahassee, FL
Chatham	GA	Savannah-Hinesville-Statesboro, GA
Chattooga	GA	Chattanooga-Cleveland-Dalton, TN-GA
Clarke	GA	Atlanta--Athens-Clarke County--Sandy Springs, GA-AL
Columbia	GA	Augusta-Richmond County, GA-SC
Glynn	GA	Brunswick, GA
Murray	GA	Chattanooga-Cleveland-Dalton, TN-GA
Muscogee	GA	Columbus-Auburn-Opelika, GA-AL
Sumter	GA	
Honolulu	HI	Urban Honolulu, HI
Bremer	IA	Waterloo-Cedar Falls, IA
Clinton	IA	Davenport-Moline, IA-IL
Harrison	IA	Omaha-Council Bluffs-Fremont, NE-IA
Montgomery	IA	
Palo Alto	IA	
Polk	IA	Des Moines-Ames-West Des Moines, IA
Van Buren	IA	
Adams	IL	Quincy-Hannibal, IL-MO
Clark	IL	
Effingham	IL	
Jo Daviess	IL	
Macon	IL	Decatur, IL
Macoupin	IL	St. Louis-St. Charles-Farmington, MO-IL
Sangamon	IL	Springfield-Jacksonville-Lincoln, IL
Bartholomew	IN	Indianapolis-Carmel-Muncie, IN
Brown	IN	Indianapolis-Carmel-Muncie, IN
Delaware	IN	Indianapolis-Carmel-Muncie, IN
Elkhart	IN	South Bend-Elkhart-Mishawaka, IN-MI
Greene	IN	
Hendricks	IN	Indianapolis-Carmel-Muncie, IN
Vigo	IN	Terre Haute, IN
Sumner	KS	Wichita-Winfield, KS
Trego	KS	
Bell	KY	
Boone	KY	Cincinnati-Wilmington-Maysville, OH-KY-IN
Boyd	KY	Charleston-Huntington-Ashland, WV-OH-KY
Carter	KY	Charleston-Huntington-Ashland, WV-OH-KY
Christian	KY	Clarksville, TN-KY
Edmonson	KY	Bowling Green-Glasgow, KY

Note:
This list represents counties with no monitored ozone air pollution in unhealthful ranges using the Air Quality Index based on 2015 NAAQS.

Table 4c Cleanest Counties for Ozone Air Pollution (cont.)

County	State	Metropolitan Statistical Area
Fayette	KY	Lexington-Fayette--Richmond--Frankfort, KY
Greenup	KY	Charleston-Huntington-Ashland, WV-OH-KY
Hancock	KY	Owensboro, KY
Morgan	KY	
Perry	KY	
Pike	KY	
Pulaski	KY	
Simpson	KY	
Trigg	KY	Clarksville, TN-KY
Warren	KY	Bowling Green-Glasgow, KY
Washington	KY	
Bossier Parish	LA	Shreveport-Bossier City-Minden, LA
Caddo Parish	LA	Shreveport-Bossier City-Minden, LA
Lafayette Parish	LA	Lafayette-Opelousas-Morgan City, LA
Ouachita Parish	LA	Monroe-Ruston, LA
St. Bernard Parish	LA	New Orleans-Metairie-Hammond, LA-MS
St. James Parish	LA	New Orleans-Metairie-Hammond, LA-MS
St. Martin Parish	LA	Lafayette-Opelousas-Morgan City, LA
St. Tammany Parish	LA	New Orleans-Metairie-Hammond, LA-MS
Berkshire	MA	Pittsfield, MA
Franklin	MA	Springfield, MA
Hampshire	MA	Springfield, MA
Middlesex	MA	Boston-Worcester-Providence, MA-RI-NH-CT
Garrett	MD	
Androscoggin	ME	Portland-Lewiston-South Portland, ME
Aroostook	ME	
Kennebec	ME	
Oxford	ME	
Penobscot	ME	Bangor, ME
Washington	ME	
Clinton	MI	Lansing-East Lansing, MI
Ingham	MI	Lansing-East Lansing, MI
Carlton	MN	Duluth, MN-WI
Goodhue	MN	Minneapolis-St. Paul, MN-WI
Hennepin	MN	Minneapolis-St. Paul, MN-WI
Lake	MN	Duluth, MN-WI
Lyon	MN	
Mille Lacs	MN	Minneapolis-St. Paul, MN-WI
Olmsted	MN	Rochester-Austin, MN
Scott	MN	Minneapolis-St. Paul, MN-WI
St. Louis	MN	Duluth, MN-WI
Stearns	MN	Minneapolis-St. Paul, MN-WI
Andrew	MO	Kansas City-Overland Park-Kansas City, MO-KS
Boone	MO	Columbia-Moberly-Mexico, MO
Callaway	MO	Jefferson City, MO
Cedar	MO	
Clinton	MO	Kansas City-Overland Park-Kansas City, MO-KS
Greene	MO	Springfield, MO
Monroe	MO	
Ste. Genevieve	MO	
Bolivar	MS	Cleveland-Indianola, MS
Hancock	MS	Gulfport-Biloxi, MS
Hinds	MS	Jackson-Vicksburg-Brookhaven, MS
Lauderdale	MS	
Lee	MS	Tupelo-Corinth, MS
Yalobusha	MS	
Flathead	MT	
Rosebud	MT	
Alexander	NC	Hickory-Lenoir-Morganton, NC
Avery	NC	
Buncombe	NC	Asheville-Marion-Brevard, NC
Caldwell	NC	Hickory-Lenoir-Morganton, NC
Carteret	NC	New Bern-Morehead City, NC
Caswell	NC	
Cumberland	NC	Fayetteville-Sanford-Lumberton, NC
Durham	NC	Raleigh-Durham-Cary, NC
Edgecombe	NC	Rocky Mount-Wilson-Roanoke Rapids, NC
Forsyth	NC	Greensboro--Winston-Salem--High Point, NC
Graham	NC	
Granville	NC	Raleigh-Durham-Cary, NC
Guilford	NC	Greensboro--Winston-Salem--High Point, NC
Haywood	NC	Asheville-Marion-Brevard, NC
Johnston	NC	Raleigh-Durham-Cary, NC
Lenoir	NC	Greenville-Kinston-Washington, NC
Lincoln	NC	Charlotte-Concord, NC-SC
Macon	NC	
Martin	NC	
Montgomery	NC	
New Hanover	NC	Wilmington, NC
Person	NC	Raleigh-Durham-Cary, NC
Pitt	NC	Greenville-Kinston-Washington, NC
Rockingham	NC	Greensboro--Winston-Salem--High Point, NC
Rowan	NC	Charlotte-Concord, NC-SC
Swain	NC	
Wake	NC	Raleigh-Durham-Cary, NC
Yancey	NC	
Burke	ND	
Burleigh	ND	Bismarck, ND
McKenzie	ND	
Ward	ND	
Lancaster	NE	Lincoln-Beatrice, NE
Belknap	NH	Boston-Worcester-Providence, MA-RI-NH-CT

Note:
This list represents counties with no monitored ozone air pollution in unhealthful ranges using the Air Quality Index based on 2015 NAAQS.

Table 4c Cleanest Counties for Ozone Air Pollution (cont.)

County	State	Metropolitan Statistical Area
Cheshire	NH	
Grafton	NH	
Hillsborough	NH	Boston-Worcester-Providence, MA-RI-NH-CT
Morris	NJ	New York-Newark, NY-NJ-CT-PA
Warren	NJ	Allentown-Bethlehem-Easton, PA-NJ
Albany	NY	Albany-Schenectady, NY
Hamilton	NY	
Jefferson	NY	Watertown-Fort Drum, NY
Monroe	NY	Rochester-Batavia-Seneca Falls, NY
Onondaga	NY	Syracuse-Auburn, NY
Orange	NY	New York-Newark, NY-NJ-CT-PA
Oswego	NY	Syracuse-Auburn, NY
Saratoga	NY	Albany-Schenectady, NY
Steuben	NY	Elmira-Corning, NY
Wayne	NY	Rochester-Batavia-Seneca Falls, NY
Clinton	OH	Cincinnati-Wilmington-Maysville, OH-KY-IN
Fayette	OH	Columbus-Marion-Zanesville, OH
Greene	OH	Dayton-Springfield-Kettering, OH
Knox	OH	Columbus-Marion-Zanesville, OH
Lawrence	OH	Charleston-Huntington-Ashland, WV-OH-KY
Licking	OH	Columbus-Marion-Zanesville, OH
Lorain	OH	Cleveland-Akron-Canton, OH
Madison	OH	Columbus-Marion-Zanesville, OH
Mahoning	OH	Youngstown-Warren, OH-PA
Medina	OH	Cleveland-Akron-Canton, OH
Miami	OH	Dayton-Springfield-Kettering, OH
Noble	OH	
Wood	OH	Toledo-Findlay-Tiffin, OH
Adair	OK	
Cleveland	OK	Oklahoma City-Shawnee, OK
Comanche	OK	Lawton, OK
Dewey	OK	
Mayes	OK	
Osage	OK	Tulsa-Muskogee-Bartlesville, OK
Columbia	OR	Portland-Vancouver-Salem, OR-WA
Marion	OR	Portland-Vancouver-Salem, OR-WA
Bradford	PA	
Cambria	PA	Johnstown-Somerset, PA
Centre	PA	State College-DuBois, PA
Clearfield	PA	State College-DuBois, PA
Dauphin	PA	Harrisburg-York-Lebanon, PA
Elk	PA	
Erie	PA	Erie-Meadville, PA
Fayette	PA	Pittsburgh-New Castle-Weirton, PA-OH-WV
Franklin	PA	Washington-Baltimore-Arlington, DC-MD-VA-WV-PA
Lackawanna	PA	Scranton--Wilkes-Barre, PA
Lawrence	PA	Pittsburgh-New Castle-Weirton, PA-OH-WV
Lehigh	PA	Allentown-Bethlehem-Easton, PA-NJ
Luzerne	PA	Scranton--Wilkes-Barre, PA
Lycoming	PA	Williamsport-Lock Haven, PA
Monroe	PA	New York-Newark, NY-NJ-CT-PA
Somerset	PA	Johnstown-Somerset, PA
Tioga	PA	
Washington	PA	Pittsburgh-New Castle-Weirton, PA-OH-WV
Westmoreland	PA	Pittsburgh-New Castle-Weirton, PA-OH-WV
York	PA	Harrisburg-York-Lebanon, PA
Bayamón	PR	San Juan-Bayamón, PR
Cataño	PR	San Juan-Bayamón, PR
Mayagüez	PR	Mayagüez-San Germán, PR
Aiken	SC	Augusta-Richmond County, GA-SC
Berkeley	SC	Charleston-North Charleston, SC
Chesterfield	SC	
Darlington	SC	Florence, SC
Edgefield	SC	Augusta-Richmond County, GA-SC
Horry	SC	Myrtle Beach-Conway, SC-NC
Jackson	SD	
Claiborne	TN	
DeKalb	TN	
Jefferson	TN	Knoxville-Morristown-Sevierville, TN
Knox	TN	Knoxville-Morristown-Sevierville, TN
Loudon	TN	Knoxville-Morristown-Sevierville, TN
Sevier	TN	Knoxville-Morristown-Sevierville, TN
Williamson	TN	Nashville-Davidson--Murfreesboro, TN
Wilson	TN	Nashville-Davidson--Murfreesboro, TN
Brewster	TX	
Cameron	TX	Brownsville-Harlingen-Raymondville, TX
Harrison	TX	Longview, TX
Hunt	TX	Dallas-Fort Worth, TX-OK
Kaufman	TX	Dallas-Fort Worth, TX-OK
McLennan	TX	Waco, TX
Navarro	TX	Dallas-Fort Worth, TX-OK
Polk	TX	
Victoria	TX	Victoria-Port Lavaca, TX
Webb	TX	Laredo, TX
Albemarle	VA	Charlottesville, VA
Charles City	VA	Richmond, VA
Fauquier	VA	Washington-Baltimore-Arlington, DC-MD-VA-WV-PA
Frederick	VA	Washington-Baltimore-Arlington, DC-MD-VA-WV-PA
Giles	VA	Blacksburg-Christiansburg, VA
Hampton City	VA	Virginia Beach-Norfolk, VA-NC
Hanover	VA	Richmond, VA
Henrico	VA	Richmond, VA

Note:
This list represents counties with no monitored ozone air pollution in unhealthful ranges using the Air Quality Index based on 2015 NAAQS.

Table 4c Cleanest Counties for Ozone Air Pollution (cont.)

County	State	Metropolitan Statistical Area
Madison	VA	Washington-Baltimore-Arlington, DC-MD-VA-WV-PA
Prince Edward	VA	
Roanoke	VA	Roanoke, VA
Rockbridge	VA	
Rockingham	VA	Harrisonburg-Staunton, VA
Suffolk City	VA	Virginia Beach-Norfolk, VA-NC
Wythe	VA	
Bennington	VT	
Chittenden	VT	Burlington-South Burlington-Barre, VT
Rutland	VT	
Clallam	WA	
Clark	WA	Portland-Vancouver-Salem, OR-WA
Skagit	WA	Seattle-Tacoma, WA
Whatcom	WA	Bellingham, WA
Eau Claire	WI	Eau Claire-Menomonie, WI
Forest	WI	
La Crosse	WI	La Crosse-Onalaska, WI-MN
Marathon	WI	Wausau-Stevens Point-Wisconsin Rapids, WI
Taylor	WI	
Vilas	WI	
Berkeley	WV	Washington-Baltimore-Arlington, DC-MD-VA-WV-PA
Cabell	WV	Charleston-Huntington-Ashland, WV-OH-KY
Gilmer	WV	
Greenbrier	WV	
Kanawha	WV	Charleston-Huntington-Ashland, WV-OH-KY
Monongalia	WV	Morgantown-Fairmont, WV
Tucker	WV	
Wood	WV	Parkersburg-Marietta-Vienna, WV-OH

Note:
This list represents counties with no monitored ozone air pollution in unhealthful ranges using the Air Quality Index based on 2015 NAAQS.

ALABAMA

American Lung Association in Alabama

	HIGH OZONE DAYS 2019–2021					HIGH PARTICLE POLLUTION DAYS 2019–2021							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Baldwin	0	0	0	0.0	A	0	0	0	0	0.0	A	7.6	Pass
Clay	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	7.0	Pass
Colbert	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC
DeKalb	0	0	0	0.0	A	0	0	0	0	0.0	A	7.5	Pass
Elmore	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Etowah	0	0	0	0.0	A	0	0	0	0	0.0	A	8.2	Pass
Houston	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC
Jefferson	13	0	0	4.3	F	1	0	0	0	0.3	B	11.0	Pass
Madison	2	0	0	0.7	B	0	0	0	0	0.0	A	7.3	Pass
Mobile	0	0	0	0.0	A	0	0	0	0	0.0	A	8.0	Pass
Montgomery	1	0	0	0.3	B	0	0	0	0	0.0	A	8.2	Pass
Morgan	0	0	0	0.0	A	0	0	0	0	0.0	A	7.3	Pass
Russell	0	0	0	0.0	A	3	0	0	0	1.0	C	9.3	Pass
Shelby	3	0	0	1.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Sumter	0	0	0	0.0	A	INC	INC	INC	INC	INC	INC	INC	INC
Tuscaloosa	0	0	0	0.0	A	0	0	0	0	0.0	A	7.7	Pass

ALABAMA

American Lung Association in Alabama

				AT-RISK GROUPS							
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Baldwin	239,294	50,774	51,376	4,893	19,042	19,008	145	24,205	2,430	25,526	40,324
Clay	14,190	2,908	3,012	280	1,143	1,142	9	1,455	144	2,560	2,780
Colbert	57,474	12,211	11,641	1,177	4,568	4,461	35	5,626	610	9,396	13,055
DeKalb	71,813	17,290	12,694	1,666	5,519	5,268	44	6,567	749	13,783	15,079
Elmore	89,304	19,665	14,554	1,895	7,051	6,528	54	8,016	1,048	10,138	24,278
Etowah	103,162	22,336	19,957	2,153	8,169	7,905	63	9,923	1,117	17,605	23,831
Houston	107,458	24,532	19,938	2,364	8,368	7,993	65	9,978	1,199	20,210	37,262
Jefferson	667,820	153,073	111,386	14,752	51,824	47,597	403	58,326	8,040	110,131	341,184
Madison	395,211	85,610	61,262	8,250	31,350	28,593	241	34,850	4,563	39,316	141,436
Mobile	413,073	96,569	70,330	9,307	31,905	29,652	250	36,537	4,809	74,061	181,944
Montgomery	227,434	54,005	36,348	5,205	17,461	15,889	137	19,380	2,757	47,309	156,663
Morgan	123,668	28,618	22,348	2,758	9,620	9,209	75	11,496	1,284	16,459	31,662
Russell	58,722	14,264	8,889	1,375	4,497	4,099	36	4,996	697	12,620	32,398
Shelby	226,902	51,805	37,385	4,993	17,746	16,577	138	20,442	2,610	17,306	54,330
Sumter	12,164	2,369	2,415	228	978	914	7	1,132	153	4,005	9,085
Tuscaloosa	227,007	47,984	32,306	4,624	17,936	15,403	138	18,247	3,092	31,735	90,707

ALASKA

American Lung Association in Alaska

	HIGH OZONE DAYS 2019–2021					HIGH PARTICLE POLLUTION DAYS 2019–2021							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Anchorage Municipality	DNC	DNC	DNC	DNC	DNC	6	4	0	0	4.0	F	6.7	Pass
Denali Borough	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Fairbanks North Star Borough	0	0	0	0.0	A	43	39	1	3	37.0	F	13.2	Fail
Juneau City and Borough	DNC	DNC	DNC	DNC	DNC	4	0	0	0	1.3	C	5.4	Pass
Matanuska-Susitna Borough	DNC	DNC	DNC	DNC	DNC	4	1	0	0	1.8	C	5.2	Pass

ALASKA

American Lung Association in Alaska

		AT-RISK GROUPS									
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Anchorage Municipality	288,121	68,780	35,974	4,537	19,890	12,277	149	14,192	3,919	26,920	126,653
Denali Borough	1,593	279	204	18	120	76	1	88	21	115	383
Fairbanks North Star Borough	95,593	22,506	11,366	1,485	6,595	3,866	49	4,450	1,261	7,247	29,724
Juneau City and Borough	31,973	6,596	4,863	435	2,306	1,545	17	1,810	421	2,378	11,587
Matanuska-Susitna Borough	110,686	405	175	27	92	60	1	70	17	11,453	24,585

ARIZONA

American Lung Association in Arizona

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
Apache	DNC	DNC	DNC	DNC	DNC
Cochise	3	0	0	1.0	C
Coconino	0	0	0	0.0	A
Gila	30	4	0	12.0	F
La Paz	1	0	0	0.3	B
Maricopa	111	7	1	41.2	F
Navajo	3	0	0	1.0	C
Pima	11	0	0	3.7	F
Pinal	52	1	0	17.8	F
Santa Cruz	DNC	DNC	DNC	DNC	DNC
Yavapai	1	0	0	0.3	B
Yuma	3	0	0	1.0	C

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Apache	0	0	0	0	0.0	A	INC	INC
Cochise	INC	INC	INC	INC	INC	INC	INC	INC
Coconino	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Gila	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
La Paz	1	0	0	0	0.3	B	3.8	Pass
Maricopa	12	3	1	0	6.2	F	9.8	Pass
Navajo	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Pima	0	0	0	0	0.0	A	5.0	Pass
Pinal	35	2	0	0	12.7	F	13.0	Fail
Santa Cruz	7	2	0	0	3.3	F	10.0	Pass
Yavapai	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Yuma	2	0	0	0	0.7	B	8.8	Pass

ARIZONA

American Lung Association in Arizona

		AT-RISK GROUPS									
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Apache	65,623	17,469	10,706	1,408	4,568	2,710	26	3,947	640	18,422	53,761
Cochise	126,050	26,564	29,889	2,141	9,305	6,244	50	9,468	1,105	20,618	57,472
Coconino	145,052	28,909	20,390	2,331	11,101	5,790	57	8,027	1,927	22,677	67,427
Gila	53,589	10,389	16,017	838	3,991	3,034	21	4,763	406	8,900	20,718
La Paz	16,408	2,664	6,697	215	1,242	1,089	6	1,768	110	3,303	7,303
Maricopa	4,496,588	1,036,370	709,277	83,547	329,205	187,686	1,771	269,474	50,129	502,224	2,094,356
Navajo	108,147	27,876	20,899	2,247	7,564	4,802	43	7,157	974	26,324	62,696
Pima	1,052,030	213,306	217,441	17,196	79,018	49,196	414	72,863	11,223	151,169	523,375
Pinal	449,557	99,167	94,452	7,994	32,954	20,976	178	31,292	4,173	45,630	202,093
Santa Cruz	47,883	12,566	9,175	1,013	3,328	2,101	19	3,126	478	9,723	40,473
Yavapai	242,253	38,015	81,576	3,065	18,772	14,905	95	23,653	1,756	29,766	50,105
Yuma	206,990	51,894	40,569	4,183	14,601	8,993	82	13,272	1,983	34,270	146,493

ARKANSAS

American Lung Association in Arkansas

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
Arkansas	DNC	DNC	DNC	DNC	DNC
Ashley	DNC	DNC	DNC	DNC	DNC
Benton	DNC	DNC	DNC	DNC	DNC
Clark	0	0	0	0.0	A
Craighead	DNC	DNC	DNC	DNC	DNC
Crittenden	7	0	0	2.3	D
Garland	DNC	DNC	DNC	DNC	DNC
Jackson	DNC	DNC	DNC	DNC	DNC
Newton	0	0	0	0.0	A
Polk	1	0	0	0.3	B
Pulaski	3	0	0	1.0	C
Union	DNC	DNC	DNC	DNC	DNC
Washington	1	0	0	0.3	B

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Arkansas	0	0	0	0	0.0	A	7.6	Pass
Ashley	0	0	0	0	0.0	A	INC	INC
Benton	INC	INC	INC	INC	INC	INC	INC	INC
Clark	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Craighead	INC	INC	INC	INC	INC	INC	INC	INC
Crittenden	0	0	0	0	0.0	A	8.0	Pass
Garland	0	0	0	0	0.0	A	INC	INC
Jackson	0	0	0	0	0.0	A	INC	INC
Newton	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Polk	0	0	0	0	0.0	A	8.1	Pass
Pulaski	1	0	0	0	0.3	B	9.0	Pass
Union	0	0	0	0	0.0	A	INC	INC
Washington	0	0	0	0	0.0	A	7.7	Pass

ARKANSAS

American Lung Association in Arkansas

				AT-RISK GROUPS							
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Arkansas	16,722	3,925	3,382	259	1,164	1,340	12	1,585	181	2,923	5,310
Ashley	18,674	4,236	3,961	279	1,311	1,535	14	1,829	196	3,950	5,998
Benton	293,692	75,519	39,888	4,982	20,124	19,800	218	21,975	3,649	22,890	84,247
Clark	21,321	4,176	3,567	275	1,567	1,534	16	1,769	302	3,699	6,776
Craighead	112,218	28,057	15,690	1,851	7,747	7,544	83	8,440	1,472	19,674	29,464
Crittenden	47,525	12,873	6,942	849	3,192	3,313	35	3,718	576	10,706	28,727
Garland	100,330	20,002	24,475	1,319	7,233	8,684	74	10,635	1,032	14,319	18,990
Jackson	16,811	3,451	3,084	228	1,221	1,309	12	1,517	193	3,316	4,010
Newton	7,204	1,389	1,972	92	520	660	5	824	63	1,366	541
Polk	19,353	4,390	4,449	290	1,351	1,624	14	1,971	188	3,697	2,445
Pulaski	397,821	92,461	65,692	6,099	27,998	29,236	293	33,421	4,985	68,564	196,104
Union	38,340	9,180	7,230	606	2,660	2,970	28	3,476	418	6,726	15,206
Washington	250,057	59,699	30,796	3,938	17,587	16,167	186	17,677	3,415	30,035	75,674

CALIFORNIA

American Lung Association in California

	HIGH OZONE DAYS 2019–2021					HIGH PARTICLE POLLUTION DAYS 2019–2021							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Alameda	21	2	0	8.0	F	9	10	1	0	8.7	F	8.8	Pass
Amador	8	1	0	3.2	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Butte	17	2	0	6.7	F	21	22	2	1	20.2	F	11.4	Pass
Calaveras	9	1	0	3.5	F	14	16	0	0	12.7	F	8.9	Pass
Colusa	0	0	0	0.0	A	18	27	0	0	19.5	F	10.4	Pass
Contra Costa	13	0	0	4.3	F	9	11	0	0	8.5	F	9.3	Pass
El Dorado	41	6	0	16.7	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Fresno	136	16	1	54.0	F	77	42	5	0	50.0	F	15.3	Fail
Glenn	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Humboldt	0	0	0	0.0	A	2	0	0	0	0.7	B	7.4	Pass
Imperial	45	4	0	17.0	F	8	1	0	0	3.2	D	11.0	Pass
Inyo	19	0	0	6.3	F	32	34	8	6	38.0	F	8.4	Pass
Kern	201	38	1	86.7	F	107	29	2	0	51.5	F	17.8	Fail
Kings	54	3	0	19.5	F	85	23	0	0	39.8	F	15.9	Fail
Lake	0	0	0	0.0	A	1	4	0	0	2.3	D	6.3	Pass
Los Angeles	175	86	16	112.0	F	39	13	1	0	20.2	F	13.0	Fail
Madera	59	6	0	22.7	F	30	21	1	0	21.2	F	13.0	Fail
Marin	1	0	0	0.3	B	4	4	1	0	4.0	F	7.3	Pass
Mariposa	45	7	0	18.5	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Mendocino	0	0	0	0.0	A	15	12	1	2	13.3	F	9.2	Pass
Merced	44	3	0	16.2	F	24	16	0	0	16.0	F	11.9	Pass
Mono	DNC	DNC	DNC	DNC	DNC	23	27	10	18	42.8	F	INC	INC
Monterey	0	0	0	0.0	A	5	9	2	0	7.5	F	7.0	Pass
Napa	3	0	0	1.0	C	6	8	0	0	6.0	F	INC	INC
Nevada	51	7	1	21.2	F	14	27	4	0	20.8	F	9.7	Pass
Orange	42	9	2	19.8	F	24	2	0	0	9.0	F	11.1	Pass
Placer	69	8	0	27.0	F	19	23	0	0	17.8	F	10.4	Pass
Plumas	DNC	DNC	DNC	DNC	DNC	22	28	1	1	22.8	F	16.5	Fail
Riverside	232	89	10	128.5	F	36	7	0	0	15.5	F	13.9	Fail
Sacramento	48	3	0	17.5	F	22	21	0	1	18.7	F	11.1	Pass
San Benito	3	0	0	1.0	C	6	8	0	0	6.0	F	6.5	Pass
San Bernardino	194	176	37	177.3	F	36	9	0	0	16.5	F	14.2	Fail
San Diego	65	6	0	24.7	F	17	10	0	0	10.7	F	9.6	Pass
San Francisco	1	0	0	0.3	B	3	5	0	0	3.5	F	8.5	Pass
San Joaquin	11	0	0	3.7	F	29	16	0	0	17.7	F	11.8	Pass
San Luis Obispo	32	0	1	11.3	F	5	8	2	0	7.0	F	7.7	Pass
San Mateo	3	0	0	1.0	C	4	5	0	0	3.8	F	7.6	Pass
Santa Barbara	7	1	0	2.8	D	7	3	0	0	3.8	F	7.6	Pass
Santa Clara	15	1	0	5.5	F	12	8	0	0	8.0	F	10.3	Pass

CALIFORNIA (cont.)

American Lung Association in California

	HIGH OZONE DAYS 2019–2021					HIGH PARTICLE POLLUTION DAYS 2019–2021							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Santa Cruz	0	0	0	0.0	A	6	10	2	2	10.0	F	7.1	Pass
Shasta	12	0	0	4.0	F	9	17	2	0	12.8	F	9.5	Pass
Siskiyou	0	0	0	0.0	A	19	35	2	1	26.0	F	10.5	Pass
Solano	7	0	0	2.3	D	6	5	1	0	5.2	F	9.7	Pass
Sonoma	0	0	0	0.0	A	1	6	0	0	3.3	F	INC	INC
Stanislaus	56	3	0	20.2	F	42	19	0	0	23.5	F	13.0	Fail
Sutter	19	3	0	7.8	F	24	19	1	1	19.0	F	13.1	Fail
Tehama	31	1	0	10.8	F	16	36	0	0	23.3	F	9.8	Pass
Tulare	220	35	2	92.2	F	59	21	1	1	31.7	F	17.8	Fail
Tuolumne	9	0	0	3.0	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Ventura	35	3	0	13.2	F	5	2	0	0	2.7	D	7.9	Pass
Yolo	5	0	0	1.7	C	3	1	0	0	1.5	C	INC	INC

CALIFORNIA

American Lung Association in California

		AT-RISK GROUPS									
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Alameda	1,648,556	331,885	246,049	16,555	116,489	59,149	619	81,390	18,725	152,654	1,166,367
Amador	41,259	6,274	11,315	313	3,109	1,920	16	2,850	275	4,104	9,918
Butte	208,309	42,437	37,992	2,117	14,671	7,834	78	10,807	2,243	33,874	64,260
Calaveras	46,221	8,019	13,189	400	3,398	2,160	17	3,243	340	6,198	9,996
Colusa	21,917	5,843	3,375	291	1,423	746	8	1,037	216	2,466	14,676
Contra Costa	1,161,413	257,360	193,929	12,837	80,121	42,768	436	60,672	11,808	100,948	687,016
El Dorado	193,221	37,909	43,677	1,891	13,797	8,114	73	11,958	1,637	16,839	46,513
Fresno	1,013,581	285,552	127,785	14,243	64,336	31,839	381	42,872	10,688	193,449	737,794
Glenn	28,805	7,721	4,806	385	1,867	1,006	11	1,413	268	4,397	14,659
Humboldt	136,310	25,812	26,105	1,288	9,779	5,295	51	7,379	1,470	25,781	37,374
Imperial	179,851	51,197	24,033	2,554	11,371	5,719	68	7,739	1,715	29,738	163,246
Inyo	18,970	3,959	4,567	197	1,333	800	7	1,173	158	2,382	7,678
Kern	917,673	263,402	104,638	13,139	57,795	27,903	346	37,178	9,412	164,169	632,525
Kings	153,443	41,404	16,422	2,065	9,887	4,641	58	6,050	1,471	24,295	107,456
Lake	68,766	15,010	15,864	749	4,773	2,839	26	4,162	567	11,196	22,911
Los Angeles	9,829,544	2,071,174	1,436,518	103,311	686,458	348,045	3,693	479,386	109,039	1,365,808	7,341,491
Madera	159,410	43,700	22,740	2,180	10,235	5,250	60	7,207	1,747	31,044	108,934
Marin	260,206	49,948	61,011	2,491	18,693	11,172	98	16,638	2,139	19,734	77,769
Mariposa	17,147	2,926	4,937	146	1,264	803	6	1,199	129	2,387	3,863
Mendocino	91,305	19,251	21,599	960	6,395	3,812	34	5,561	796	14,539	33,860
Merced	286,461	83,121	32,980	4,146	17,962	8,697	108	11,590	3,025	61,359	215,404
Mono	13,247	2,291	2,340	114	971	517	5	731	132	1,278	4,581
Monterey	437,325	113,236	63,337	5,648	28,668	14,691	165	20,181	4,378	50,725	313,287
Napa	136,207	26,875	27,529	1,341	9,695	5,436	51	7,806	1,309	11,814	67,511
Nevada	103,487	17,560	29,469	876	7,639	4,824	39	7,195	826	12,141	16,609
Orange	3,167,809	679,361	498,753	33,887	220,403	115,006	1,190	161,384	33,179	309,402	1,947,681
Placer	412,300	90,599	82,552	4,519	28,538	16,143	155	23,318	3,858	26,816	125,701
Plumas	19,915	3,446	6,029	172	1,465	951	7	1,428	149	2,545	3,557
Riverside	2,458,395	604,518	364,844	30,154	164,045	84,491	925	116,774	25,573	282,068	1,670,925
Sacramento	1,588,921	369,843	234,117	18,448	107,853	55,118	597	75,886	17,210	203,413	920,382
San Benito	66,677	17,076	8,818	852	4,388	2,201	25	3,020	680	5,899	46,310
San Bernardino	2,194,710	570,561	265,519	28,460	143,564	70,097	825	94,581	23,805	285,474	1,637,602
San Diego	3,286,069	698,371	489,101	34,835	228,821	115,946	1,237	158,242	35,582	340,522	1,848,397
San Francisco	815,201	114,402	142,810	5,706	61,981	32,058	307	44,000	9,597	90,898	503,920
San Joaquin	789,410	210,579	103,226	10,504	51,190	25,611	297	34,953	8,246	95,382	566,055
San Luis Obispo	283,159	49,467	60,618	2,467	20,693	11,570	107	16,302	2,799	35,120	92,156
San Mateo	737,888	146,863	128,911	7,326	52,366	28,013	277	39,608	7,561	49,900	461,621
Santa Barbara	446,475	99,487	71,397	4,962	30,669	15,811	168	21,484	4,867	65,029	256,024
Santa Clara	1,885,508	399,419	272,913	19,923	131,500	66,599	710	91,842	20,111	128,955	1,340,823

CALIFORNIA (CONT.)

American Lung Association in California

		AT-RISK GROUPS									
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Santa Cruz	267,792	49,800	48,935	2,484	19,296	10,318	101	14,397	2,915	27,132	117,215
Shasta	182,139	39,609	38,317	1,976	12,639	7,227	68	10,396	1,672	25,141	40,316
Siskiyou	44,118	8,941	11,872	446	3,126	1,957	17	2,904	341	7,301	11,403
Solano	451,716	99,168	76,314	4,947	31,219	16,588	170	23,259	4,505	44,037	292,229
Sonoma	485,887	92,864	102,618	4,632	34,856	19,779	182	28,486	4,664	43,661	187,104
Stanislaus	552,999	149,012	74,357	7,433	35,728	18,009	208	24,607	5,736	76,921	342,106
Sutter	99,063	25,360	15,896	1,265	6,525	3,454	37	4,821	983	15,224	56,125
Tehama	65,498	15,689	13,216	783	4,418	2,522	25	3,641	576	10,107	22,521
Tulare	477,054	144,196	55,572	7,193	29,409	14,362	179	19,237	4,989	88,367	351,235
Tuolumne	55,810	9,479	15,200	473	4,114	2,538	21	3,735	412	6,848	12,113
Ventura	839,784	186,401	140,232	9,298	57,884	30,803	316	43,460	8,426	73,968	473,514
Yolo	216,986	44,343	28,690	2,212	15,233	7,334	81	9,582	2,801	30,708	120,110

COLORADO

American Lung Association in Colorado

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
Adams	31	1	0	10.8	F
Arapahoe	49	5	0	18.8	F
Archuleta	0	0	0	0.0	A
Boulder	42	2	0	15.0	F
Clear Creek	16	0	0	5.3	F
Delta	0	0	0	0.0	A
Denver	38	2	0	13.7	F
Douglas	55	10	0	23.3	F
El Paso	34	1	0	11.8	F
Garfield	3	0	0	1.0	C
Gilpin	28	1	0	9.8	F
Gunnison	3	0	0	1.0	C
Jefferson	83	15	0	35.2	F
La Plata	3	0	0	1.0	C
Larimer	44	3	0	16.2	F
Mesa	3	0	0	1.0	C
Montezuma	4	0	0	1.3	C
Pueblo	DNC	DNC	DNC	DNC	DNC
Rio Blanco	5	0	0	1.7	C
Weld	37	1	0	12.8	F

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Adams	5	1	0	0	2.2	D	INC	INC
Arapahoe	1	0	0	0	0.3	B	6.4	Pass
Archuleta	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Boulder	23	3	0	0	9.2	F	9.0	Pass
Clear Creek	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Delta	2	0	0	0	0.7	B	INC	INC
Denver	19	3	0	0	7.8	F	10.2	Pass
Douglas	8	2	0	0	3.7	F	7.0	Pass
El Paso	1	0	0	0	0.3	B	5.6	Pass
Garfield	2	1	0	0	1.2	C	INC	INC
Gilpin	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Gunnison	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Jefferson	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
La Plata	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Larimer	15	1	0	0	5.5	F	7.5	Pass
Mesa	2	0	0	0	0.7	B	5.8	Pass
Montezuma	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Pueblo	1	0	0	0	0.3	B	INC	INC
Rio Blanco	4	1	0	0	1.8	C	8.6	Pass
Weld	17	0	0	0	5.7	F	9.5	Pass

COLORADO

American Lung Association in Colorado

		AT-RISK GROUPS									
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Adams	522,140	131,824	57,667	8,696	41,033	18,148	198	19,350	5,838	51,680	272,817
Arapahoe	654,900	149,417	91,930	9,856	53,064	25,102	249	27,810	7,126	56,744	274,381
Archuleta	13,790	2,411	3,768	159	1,186	721	5	894	104	1,556	3,289
Boulder	329,543	59,649	52,488	3,935	28,249	13,591	125	15,224	3,685	34,103	74,923
Clear Creek	9,446	1,316	2,077	87	857	470	4	556	82	712	1,184
Delta	31,661	6,175	8,628	407	2,642	1,606	12	1,999	241	4,325	6,107
Denver	711,463	132,461	86,480	8,738	60,368	26,094	270	27,648	9,286	82,086	320,102
Douglas	368,990	88,461	48,765	5,835	29,721	14,205	140	15,710	3,770	10,490	73,629
El Paso	737,867	172,817	99,824	11,400	59,131	27,420	280	30,135	7,894	68,718	238,652
Garfield	62,161	15,298	8,980	1,009	4,929	2,391	24	2,679	612	5,667	20,798
Gilpin	5,873	828	1,144	55	537	287	2	335	52	406	833
Gunnison	17,281	2,791	2,470	184	1,516	693	7	756	197	2,016	2,371
Jefferson	579,581	109,740	100,613	7,239	49,233	24,695	220	28,212	5,989	41,422	132,397
La Plata	56,250	10,116	11,179	667	4,826	2,540	21	2,970	560	5,521	12,248
Larimer	362,533	68,005	61,379	4,486	30,662	14,940	138	16,910	4,105	39,476	67,328
Mesa	157,335	32,844	32,236	2,167	12,958	6,945	60	8,213	1,517	16,238	30,760
Montezuma	26,175	5,526	6,270	365	2,148	1,242	10	1,516	221	3,957	7,395
Pueblo	169,622	37,569	32,384	2,478	13,776	7,242	64	8,479	1,649	26,839	83,171
Rio Blanco	6,476	1,518	1,183	100	518	270	2	315	59	632	1,060
Weld	340,036	87,313	42,986	5,760	26,516	12,224	129	13,364	3,641	32,543	122,743

CONNECTICUT

American Lung Association in Connecticut

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
Fairfield	38	9	0	17.2	F
Hartford	6	0	0	2.0	C
Litchfield	1	0	0	0.3	B
Middlesex	18	2	0	7.0	F
New Haven	32	5	0	13.2	F
New London	16	1	0	5.8	F
Tolland	6	0	0	2.0	C
Windham	2	0	0	0.7	B

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Fairfield	6	0	0	0	2.0	C	8.1	Pass
Hartford	2	0	0	0	0.7	B	7.5	Pass
Litchfield	2	0	0	0	0.7	B	5.1	Pass
Middlesex	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
New Haven	4	0	0	0	1.3	C	8.2	Pass
New London	1	0	0	0	0.3	B	6.9	Pass
Tolland	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Windham	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC

CONNECTICUT

American Lung Association in Connecticut

		AT-RISK GROUPS									
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Fairfield	959,768	210,680	158,603	18,782	80,138	38,463	533	52,573	9,356	85,452	386,212
Hartford	896,854	186,592	158,512	16,635	75,878	36,692	498	50,405	8,927	92,542	371,285
Litchfield	185,000	32,664	42,169	2,912	15,915	8,942	103	12,359	1,542	15,713	25,753
Middlesex	164,759	27,712	35,695	2,471	14,418	7,744	91	10,686	1,509	10,537	29,067
New Haven	863,700	172,492	156,201	15,378	73,777	35,898	479	49,344	8,832	100,433	345,820
New London	268,805	51,417	51,843	4,584	23,099	11,596	149	15,974	2,497	23,102	69,656
Tolland	150,293	25,624	25,398	2,284	13,446	6,051	84	8,305	1,649	15,039	26,007
Windham	116,418	22,529	20,814	2,008	10,020	4,886	65	6,700	1,132	13,043	21,471

DELAWARE

American Lung Association in Delaware

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
Kent	2	0	0	0.7	B
New Castle	7	0	0	2.3	D
Sussex	0	0	0	0.0	A

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Kent	0	0	0	0	0.0	A	INC	INC
New Castle	2	0	0	0	0.7	B	INC	INC
Sussex	0	0	0	0	0.0	A	INC	INC

DELAWARE

American Lung Association in Delaware

		AT-RISK GROUPS									
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Kent	184,149	42,116	33,033	2,778	14,216	8,563	98	13,358	2,027	21,961	75,860
New Castle	571,708	121,570	94,971	8,019	45,331	26,572	304	41,232	6,410	63,059	258,618
Sussex	247,527	44,608	73,642	2,943	19,557	15,165	132	24,267	1,954	28,006	60,853

DISTRICT OF COLUMBIA

American Lung Association in the District of Columbia

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
District of Columbia	10	0	0	3.3	F

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
District of Columbia	1	3	0	0	1.8	C	8.8	Pass

DISTRICT OF COLUMBIA

American Lung Association in the District of Columbia

		AT-RISK GROUPS									
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
District of Columbia	670,050	125,835	85,838	12,162	62,995	25,184	302	29,575	8,591	107,307	420,299

FLORIDA

American Lung Association in Florida

	HIGH OZONE DAYS 2019–2021					HIGH PARTICLE POLLUTION DAYS 2019–2021							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Alachua	0	0	0	0.0	A	1	0	0	0	0.3	B	7.2	Pass
Baker	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Bay	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Brevard	0	0	0	0.0	A	0	0	0	0	0.0	A	7.5	Pass
Broward	0	0	0	0.0	A	3	0	0	0	1.0	C	9.2	Pass
Collier	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Columbia	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Duval	0	0	0	0.0	A	1	0	0	0	0.3	B	8.6	Pass
Escambia	1	0	0	0.3	B	0	0	0	0	0.0	A	9.2	Pass
Flagler	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Highlands	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hillsborough	8	0	0	2.7	D	1	0	0	0	0.3	B	INC	INC
Holmes	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Indian River	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lake	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lee	1	0	0	0.3	B	0	0	0	0	0.0	A	7.4	Pass
Leon	1	0	0	0.3	B	1	0	0	0	0.3	B	7.4	Pass
Liberty	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Manatee	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Marion	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Martin	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Miami-Dade	1	0	0	0.3	B	1	0	0	0	0.3	B	7.1	Pass
Okaloosa	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Orange	0	0	0	0.0	A	0	0	0	0	0.0	A	INC	INC
Osceola	4	0	0	1.3	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Palm Beach	0	0	0	0.0	A	0	0	0	0	0.0	A	6.8	Pass
Pasco	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Pinellas	0	0	0	0.0	A	0	0	0	0	0.0	A	7.8	Pass
Polk	0	0	0	0.0	A	0	0	0	0	0.0	A	8.2	Pass
St. Lucie	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Santa Rosa	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Sarasota	0	0	0	0.0	A	0	0	0	0	0.0	A	7.6	Pass
Seminole	0	0	0	0.0	A	0	0	0	0	0.0	A	7.3	Pass
Volusia	0	0	0	0.0	A	0	0	0	0	0.0	A	8.1	Pass
Wakulla	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC

FLORIDA

American Lung Association in Florida

				AT-RISK GROUPS							
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Alachua	279,238	50,734	42,493	3,382	16,695	13,655	148	17,790	3,722	50,668	111,555
Baker	28,715	6,822	4,179	455	1,615	1,445	15	1,857	270	4,187	5,975
Bay	179,168	37,257	33,098	2,483	10,465	10,232	95	13,367	1,741	24,383	43,941
Brevard	616,628	112,182	149,343	7,478	37,097	40,242	328	53,770	5,364	68,879	167,351
Broward	1,930,983	404,724	338,380	26,978	112,602	107,885	1,025	140,272	20,030	244,519	1,283,111
Collier	385,980	63,943	127,681	4,262	23,483	28,874	205	39,894	2,879	39,843	147,665
Columbia	70,385	15,292	13,850	1,019	4,049	4,009	38	5,296	610	10,722	20,147
Duval	999,935	225,827	149,041	15,053	56,983	50,379	531	65,001	11,179	146,090	491,477
Escambia	322,390	67,752	56,000	4,516	18,705	17,291	171	22,617	3,360	56,350	117,082
Flagler	120,932	19,834	37,642	1,322	7,405	8,968	64	12,257	934	12,373	31,372
Highlands	103,296	17,538	36,883	1,169	6,228	7,912	55	11,055	744	15,428	36,333
Hillsborough	1,478,194	325,550	219,177	21,700	84,933	75,284	785	96,889	16,716	208,765	790,956
Holmes	19,784	4,104	3,951	274	1,154	1,158	11	1,526	161	3,613	2,866
Indian River	163,662	25,084	56,134	1,672	10,112	12,657	87	17,495	1,186	18,938	41,911
Lake	395,804	76,020	104,866	5,067	23,417	26,219	210	35,526	3,491	39,022	132,091
Lee	787,976	136,094	228,930	9,072	47,668	55,147	419	75,252	6,631	95,012	277,671
Leon	292,817	54,936	42,438	3,662	17,397	14,088	155	18,263	4,028	45,137	131,225
Liberty	7,900	1,345	1,260	90	483	427	4	551	56	1,391	2,343
Manatee	412,703	72,883	117,219	4,858	24,895	28,802	219	39,144	3,426	40,642	122,748
Marion	385,915	72,422	110,887	4,827	22,904	26,484	205	36,203	3,284	50,984	123,301
Martin	159,942	25,753	51,121	1,717	9,817	11,981	85	16,430	1,130	17,768	36,345
Miami-Dade	2,662,777	537,115	448,951	35,803	156,874	147,358	1,414	190,773	28,191	398,855	2,301,562
Okaloosa	213,255	47,896	34,873	3,193	12,153	11,052	114	14,398	2,131	20,091	59,200
Orange	1,422,746	307,342	182,193	20,487	82,184	68,405	756	87,009	17,215	208,064	870,854
Osceola	403,282	97,524	53,935	6,501	22,536	19,397	214	24,807	4,574	53,195	286,609
Palm Beach	1,497,987	284,075	367,614	18,936	89,021	96,065	795	129,121	13,765	171,280	709,479
Pasco	584,067	119,378	128,954	7,957	34,160	35,693	310	47,485	5,573	67,129	174,217
Pinellas	956,615	150,259	247,356	10,016	59,258	65,267	507	87,533	8,660	115,468	257,365
Polk	753,520	166,777	149,543	11,117	43,042	42,396	400	56,215	7,651	115,547	347,066
St. Lucie	343,579	67,814	83,980	4,520	20,229	21,944	182	29,492	3,088	38,819	158,382
Santa Rosa	193,998	42,530	31,824	2,835	11,177	10,467	103	13,547	1,864	16,609	36,643
Sarasota	447,057	62,639	166,393	4,175	28,009	36,345	237	50,564	3,105	37,895	80,356
Seminole	470,093	97,789	77,037	6,518	27,435	25,248	249	32,707	5,173	43,726	200,067
Volusia	564,412	99,330	141,305	6,621	34,136	37,109	300	49,824	5,045	75,803	173,318
Wakulla	34,690	7,182	5,586	479	2,033	1,897	19	2,444	309	3,164	7,416

GEORGIA

American Lung Association in Georgia

	HIGH OZONE DAYS 2019–2021					HIGH PARTICLE POLLUTION DAYS 2019–2021							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Bibb	2	0	0	0.7	B	3	0	0	0	1.0	C	9.0	Pass
Chatham	0	0	0	0.0	A	1	0	0	0	0.3	B	9.3	Pass
Chattooga	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Clarke	0	0	0	0.0	A	1	0	0	0	0.3	B	9.4	Pass
Clayton	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	8.6	Pass
Cobb	1	0	0	0.3	B	0	0	0	0	0.0	A	8.6	Pass
Coffee	DNC	DNC	DNC	DNC	DNC	1	0	0	0	0.3	B	6.9	Pass
Columbia	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Dawson	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
DeKalb	5	1	0	2.2	D	1	0	0	0	0.3	B	8.8	Pass
Dougherty	DNC	DNC	DNC	DNC	DNC	8	0	0	0	2.7	D	9.5	Pass
Douglas	7	0	0	2.3	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Fulton	8	1	0	3.2	D	0	0	0	0	0.0	A	9.6	Pass
Glynn	0	0	0	0.0	A	0	0	0	0	0.0	A	7.7	Pass
Gwinnett	3	0	0	1.0	C	2	0	0	0	0.7	B	INC	INC
Hall	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	9.0	Pass
Henry	8	0	0	2.7	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Houston	DNC	DNC	DNC	DNC	DNC	6	1	0	0	2.5	D	9.4	Pass
Lowndes	DNC	DNC	DNC	DNC	DNC	1	0	0	0	0.3	B	8.0	Pass
Murray	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Muscogee	0	0	0	0.0	A	0	1	0	0	0.5	B	8.6	Pass
Pike	3	0	0	1.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Richmond	2	0	0	0.7	B	8	0	0	0	2.7	D	11.1	Pass
Rockdale	5	0	0	1.7	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Sumter	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Walker	DNC	DNC	DNC	DNC	DNC	1	0	0	0	0.3	B	INC	INC
Washington	DNC	DNC	DNC	DNC	DNC	6	0	0	0	2.0	C	9.2	Pass

GEORGIA

American Lung Association in Georgia

				AT-RISK GROUPS							
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Bibb	156,762	37,774	25,410	3,669	11,096	8,046	88	11,191	1,804	36,780	100,015
Chatham	296,329	61,197	48,992	5,944	22,071	15,583	168	21,604	3,542	43,618	156,167
Chattooga	24,932	5,517	4,600	536	1,779	1,382	14	1,951	229	4,768	4,456
Clarke	128,711	21,671	15,512	2,105	10,517	6,061	73	7,968	2,020	25,418	57,574
Clayton	297,100	80,878	30,968	7,855	20,612	13,636	167	17,924	3,721	55,143	272,109
Cobb	766,802	173,944	102,037	16,894	55,740	39,095	434	52,658	9,038	72,765	381,797
Coffee	43,386	10,516	6,126	1,021	3,088	2,172	25	2,959	441	10,440	18,766
Columbia	159,639	39,977	23,038	3,883	11,202	7,998	91	10,947	1,775	11,580	55,183
Dawson	28,497	5,750	5,787	558	2,065	1,663	16	2,373	276	2,556	2,973
DeKalb	757,718	171,248	102,893	16,632	55,413	38,071	428	51,429	9,393	108,081	534,270
Dougherty	84,844	20,156	14,263	1,958	6,032	4,376	48	6,119	1,004	21,155	64,969
Douglas	145,814	37,128	17,814	3,606	10,194	7,221	82	9,660	1,708	18,540	95,967
Fulton	1,065,334	223,838	131,928	21,739	80,097	53,333	603	70,935	13,702	142,028	650,233
Glynn	84,739	17,781	18,144	1,727	6,065	4,923	48	7,102	862	13,760	30,811
Gwinnett	964,546	253,649	106,230	24,635	67,109	46,283	547	61,183	11,138	102,953	644,227
Hall	207,369	50,165	32,873	4,872	14,585	10,796	118	14,956	2,179	24,666	84,380
Henry	245,235	61,677	30,050	5,990	17,192	12,250	138	16,386	2,890	23,188	157,996
Houston	166,829	42,832	22,191	4,160	11,678	8,132	94	11,015	1,914	19,058	77,190
Lowndes	119,276	29,193	15,320	2,835	8,653	5,536	67	7,449	1,506	27,652	57,043
Murray	39,951	9,532	6,168	926	2,813	2,108	23	2,906	422	6,208	7,555
Muscogee	205,617	51,098	29,153	4,963	14,612	10,003	116	13,661	2,369	40,496	125,582
Pike	19,477	4,582	3,127	445	1,370	1,050	11	1,454	207	1,859	2,509
Richmond	205,673	46,802	30,764	4,545	14,998	10,341	116	14,178	2,382	41,249	138,402
Rockdale	94,082	22,564	14,447	2,191	6,594	5,001	53	6,887	1,029	12,697	69,794
Sumter	29,283	6,668	5,124	648	2,103	1,542	17	2,165	331	7,727	17,899
Walker	68,510	14,789	13,068	1,436	4,911	3,850	39	5,457	686	9,524	6,878
Washington	19,785	4,297	3,538	417	1,424	1,093	11	1,534	177	4,057	11,430

HAWAII

American Lung Association in Hawaii

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
Hawaii	DNC	DNC	DNC	DNC	DNC
Honolulu	0	0	0	0.0	A
Kauai	DNC	DNC	DNC	DNC	DNC
Maui	DNC	DNC	DNC	DNC	DNC

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Hawaii	0	0	0	0	0.0	A	2.7	Pass
Honolulu	0	0	0	0	0.0	A	3.7	Pass
Kauai	0	0	0	0	0.0	A	3.1	Pass
Maui	2	1	0	0	1.2	C	3.7	Pass

HAWAII

American Lung Association in Hawaii

		AT-RISK GROUPS									
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Hawaii	202,906	43,074	46,047	2,204	13,063	6,075	83	11,583	2,050	29,361	141,490
Honolulu	1,000,890	210,112	187,935	10,753	64,603	26,936	411	50,829	10,998	96,646	824,798
Kauai	73,454	15,866	15,755	812	4,706	2,140	30	4,067	748	8,101	51,891
Maui	164,221	35,347	32,525	1,809	10,532	4,662	67	8,811	1,730	18,548	115,119

IDAHO

American Lung Association in Idaho

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
Ada	12	0	0	4.0	F
Bannock	INC	INC	INC	INC	INC
Benewah	DNC	DNC	DNC	DNC	DNC
Butte	2	0	0	0.7	B
Canyon	DNC	DNC	DNC	DNC	DNC
Franklin	DNC	DNC	DNC	DNC	DNC
Idaho	3	0	0	1.0	C
Jerome	DNC	DNC	DNC	DNC	DNC
Lemhi	DNC	DNC	DNC	DNC	DNC
Shoshone	DNC	DNC	DNC	DNC	DNC

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Ada	5	1	0	0	2.2	D	7.3	Pass
Bannock	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Benewah	13	12	0	1	11.2	F	10.2	Pass
Butte	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Canyon	13	7	0	0	7.8	F	INC	INC
Franklin	11	1	0	0	4.2	F	6.5	Pass
Idaho	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Jerome	INC	INC	INC	INC	INC	INC	INC	INC
Lemhi	9	0	0	0	3.0	D	9.8	Pass
Shoshone	11	9	3	1	11.0	F	10.6	Pass

IDAHO

American Lung Association in Idaho

				AT-RISK GROUPS							
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Ada	511,931	115,384	79,691	7,611	38,743	22,435	227	30,293	6,308	43,285	84,020
Bannock	88,263	22,550	13,344	1,488	6,390	3,609	39	4,904	1,102	11,121	15,423
Benewah	9,931	2,218	2,317	146	756	520	4	745	92	1,348	1,599
Butte	2,654	608	667	40	200	140	1	204	24	417	255
Canyon	243,115	65,926	34,527	4,349	17,276	9,774	108	13,162	2,970	26,280	73,878
Franklin	14,666	4,532	2,144	299	990	582	6	792	159	1,192	1,398
Idaho	17,040	3,341	4,920	220	1,336	976	8	1,447	135	2,232	1,667
Jerome	24,662	7,309	3,287	482	1,694	959	11	1,283	273	3,088	10,074
Lemhi	8,162	1,467	2,564	97	652	488	4	731	69	974	555
Shoshone	13,612	2,862	3,159	189	1,052	714	6	1,020	130	2,404	1,248

ILLINOIS

American Lung Association in Illinois

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
Adams	0	0	0	0.0	A
Champaign	2	0	0	0.7	B
Clark	0	0	0	0.0	A
Cook	39	5	0	15.5	F
DuPage	7	2	0	3.3	F
Effingham	0	0	0	0.0	A
Hamilton	2	0	0	0.7	B
Jersey	5	0	0	1.7	C
Jo Daviess	0	0	0	0.0	A
Kane	10	1	0	3.8	F
Lake	21	1	0	7.5	F
McHenry	12	0	0	4.0	F
McLean	3	0	0	1.0	C
Macon	0	0	0	0.0	A
Macoupin	0	0	0	0.0	A
Madison	10	2	0	4.3	F
Peoria	4	0	0	1.3	C
Randolph	1	0	0	0.3	B
Rock Island	4	0	0	1.3	C
St. Clair	2	1	0	1.2	C
Sangamon	0	0	0	0.0	A
Will	4	0	0	1.3	C
Winnebago	1	0	0	0.3	B

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Adams	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Champaign	0	0	0	0	0.0	A	7.8	Pass
Clark	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Cook	4	0	0	0	1.3	C	10.4	Pass
DuPage	0	0	0	0	0.0	A	INC	INC
Effingham	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hamilton	2	0	0	0	0.7	B	8.8	Pass
Jersey	0	0	0	0	0.0	A	8.0	Pass
Jo Daviess	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Kane	1	0	0	0	0.3	B	8.9	Pass
Lake	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
McHenry	0	0	0	0	0.0	A	8.4	Pass
McLean	1	0	0	0	0.3	B	9.0	Pass
Macon	3	0	0	0	1.0	C	9.4	Pass
Macoupin	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Madison	0	0	0	0	0.0	A	10.2	Pass
Peoria	1	0	0	0	0.3	B	8.7	Pass
Randolph	2	0	0	0	0.7	B	INC	INC
Rock Island	2	0	0	0	0.7	B	8.7	Pass
St. Clair	0	0	0	0	0.0	A	9.7	Pass
Sangamon	0	0	0	0	0.0	A	8.2	Pass
Will	1	1	0	0	0.8	B	9.9	Pass
Winnebago	1	0	0	0	0.3	B	INC	INC

ILLINOIS

American Lung Association in Illinois

		AT-RISK GROUPS									
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Adams	64,954	14,712	13,463	1,035	4,316	3,137	37	4,711	590	7,424	5,877
Champaign	205,943	39,315	28,273	2,767	14,910	7,918	118	11,011	2,641	28,582	70,591
Clark	15,300	3,475	3,077	245	1,010	740	9	1,115	135	1,533	586
Cook	5,173,146	1,111,446	807,186	78,216	354,509	218,829	2,959	318,460	57,451	703,874	3,027,779
DuPage	924,885	206,835	155,352	14,556	61,984	40,994	530	60,688	9,197	62,952	323,625
Effingham	34,430	8,255	6,396	581	2,253	1,571	20	2,344	307	3,158	1,606
Hamilton	7,911	1,743	1,753	123	527	400	5	605	69	1,032	394
Jersey	21,333	4,319	4,280	304	1,456	1,046	12	1,572	197	1,914	1,005
Jo Daviess	21,939	4,020	6,417	283	1,508	1,317	13	2,034	159	1,877	1,289
Kane	515,588	125,987	76,629	8,866	33,686	21,462	295	31,585	5,141	43,982	226,500
Lake	711,239	167,217	109,313	11,768	46,972	30,287	408	44,687	6,926	58,626	289,459
McHenry	311,122	71,178	49,322	5,009	20,607	13,645	178	20,274	2,963	18,456	65,299
McLean	170,889	36,154	24,260	2,544	11,903	6,790	98	9,669	2,070	21,514	36,526
Macon	102,432	23,011	21,285	1,619	6,833	4,940	59	7,406	1,003	16,893	25,821
Macoupin	44,406	9,252	9,422	651	3,001	2,227	25	3,363	403	6,702	1,889
Madison	264,490	57,401	47,890	4,040	17,853	12,139	151	18,048	2,639	29,596	42,541
Peoria	179,432	42,902	32,182	3,019	11,838	7,942	103	11,743	1,813	28,357	56,304
Randolph	30,142	5,779	5,816	407	2,103	1,441	17	2,142	227	3,909	5,065
Rock Island	142,909	32,070	28,843	2,257	9,559	6,778	82	10,124	1,341	22,803	43,467
St. Clair	254,796	59,630	43,039	4,196	16,858	11,197	146	16,578	2,572	33,300	99,924
Sangamon	194,734	42,966	36,600	3,024	13,067	9,061	111	13,514	1,931	27,610	40,620
Will	697,252	167,087	97,936	11,759	45,832	28,649	399	42,060	7,120	54,149	271,606
Winnebago	283,119	66,417	51,801	4,674	18,675	12,867	162	19,164	2,749	39,659	95,369

INDIANA

American Lung Association in Indiana

	HIGH OZONE DAYS 2019–2021					HIGH PARTICLE POLLUTION DAYS 2019–2021							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Allen	1	0	0	0.3	B	2	0	0	0	0.7	B	INC	INC
Bartholomew	0	0	0	0.0	A	0	0	0	0	0.0	A	7.1	Pass
Boone	3	0	0	1.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Brown	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Carroll	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Clark	1	0	0	0.3	B	0	0	0	0	0.0	A	7.5	Pass
Delaware	0	0	0	0.0	A	0	0	0	0	0.0	A	8.4	Pass
Dubois	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	8.8	Pass
Elkhart	0	0	0	0.0	A	0	2	0	0	1.0	C	8.3	Pass
Floyd	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Greene	0	0	0	0.0	A	0	0	0	0	0.0	A	7.9	Pass
Hamilton	2	0	0	0.7	B	0	0	0	0	0.0	A	9.8	Pass
Hendricks	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Henry	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	7.7	Pass
Howard	4	0	0	1.3	C	0	0	0	0	0.0	A	7.3	Pass
Huntington	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Jackson	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Knox	3	0	0	1.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lake	10	0	0	3.3	F	2	1	0	0	1.2	C	9.7	Pass
LaPorte	14	1	0	5.2	F	1	0	0	0	0.3	B	8.1	Pass
Madison	1	0	0	0.3	B	0	0	0	0	0.0	A	8.8	Pass
Marion	4	0	0	1.3	C	12	0	0	0	4.0	F	12.0	Pass
Monroe	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	7.9	Pass
Morgan	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Perry	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Porter	13	1	0	4.8	F	1	0	0	0	0.3	B	8.2	Pass
Posey	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
St. Joseph	4	0	0	1.3	C	1	1	0	0	0.8	B	9.2	Pass
Shelby	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Spencer	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	8.2	Pass
Sullivan	DNC	DNC	DNC	DNC	DNC	INC	INC	INC	INC	INC	INC	INC	INC
Tippecanoe	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	8.9	Pass
Vanderburgh	1	0	0	0.3	B	2	0	0	0	0.7	B	9.1	Pass
Vigo	0	0	0	0.0	A	2	0	0	0	0.7	B	9.1	Pass
Wabash	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Warrick	3	0	0	1.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Whitley	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	8.0	Pass

INDIANA

American Lung Association in Indiana

				AT-RISK GROUPS							
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Allen	388,608	99,204	59,043	6,977	29,992	23,994	241	25,043	4,614	50,086	108,774
Bartholomew	82,475	19,928	13,666	1,402	6,460	5,337	51	5,642	913	6,624	16,599
Boone	73,052	18,850	10,392	1,326	5,605	4,551	45	4,718	841	3,980	8,597
Brown	15,552	2,673	4,005	188	1,300	1,304	10	1,471	137	1,670	757
Carroll	20,444	4,502	4,079	317	1,629	1,476	13	1,608	206	1,730	1,443
Clark	122,738	27,277	19,985	1,918	9,854	8,159	76	8,575	1,445	12,668	22,464
Delaware	111,871	20,266	19,288	1,425	9,521	7,438	69	7,779	1,527	19,056	15,460
Dubois	43,549	10,606	8,065	746	3,375	2,995	27	3,237	431	3,187	4,926
Elkhart	206,921	56,653	31,560	3,984	15,544	12,648	129	13,277	2,307	22,950	55,536
Floyd	80,454	18,316	13,589	1,288	6,401	5,404	50	5,725	920	7,237	10,721
Greene	30,786	6,665	6,167	469	2,465	2,237	19	2,438	311	4,349	1,276
Hamilton	356,650	91,973	47,301	6,469	27,422	21,843	221	22,392	4,292	13,447	65,880
Hendricks	179,355	43,719	26,056	3,075	14,042	11,296	112	11,701	2,075	9,294	35,093
Henry	48,935	9,924	9,454	698	4,002	3,511	31	3,786	471	6,831	3,431
Howard	83,687	19,222	16,501	1,352	6,609	5,849	52	6,364	905	9,771	13,611
Huntington	36,717	7,997	6,551	562	2,954	2,529	23	2,698	403	3,758	2,161
Jackson	46,067	11,308	7,800	795	3,575	3,061	29	3,258	487	6,443	6,366
Knox	35,956	7,734	6,673	544	2,910	2,449	22	2,623	383	5,092	3,005
Lake	498,558	116,192	86,040	8,172	39,384	33,327	309	35,456	5,707	68,461	234,549
LaPorte	112,390	23,966	21,047	1,686	9,091	7,831	70	8,412	1,109	12,934	24,698
Madison	130,782	27,875	24,339	1,960	10,582	9,101	81	9,765	1,417	19,464	20,939
Marion	971,102	240,146	127,538	16,890	76,236	57,218	601	58,033	12,711	143,143	459,565
Monroe	139,875	21,809	19,577	1,534	12,444	8,437	87	8,374	2,179	26,549	24,029
Morgan	72,206	16,148	12,862	1,136	5,745	5,064	45	5,420	761	7,344	3,429
Perry	19,316	4,042	3,667	284	1,571	1,351	12	1,453	176	2,271	1,300
Porter	174,243	37,647	30,441	2,648	14,071	11,890	108	12,631	2,003	16,533	32,562
Posey	25,116	5,603	5,077	394	1,994	1,813	16	1,981	249	2,268	1,132
St. Joseph	272,212	63,777	44,824	4,485	21,584	17,432	169	18,347	3,294	37,269	78,993
Shelby	45,039	10,140	8,125	713	3,580	3,138	28	3,364	474	4,382	3,992
Spencer	19,798	4,292	4,045	302	1,582	1,454	12	1,590	195	1,582	1,132
Sullivan	20,758	3,910	3,839	275	1,736	1,466	13	1,562	196	2,998	1,834
Tippecanoe	187,076	37,975	22,636	2,671	15,735	10,486	117	10,255	2,635	30,391	48,027
Vanderburgh	179,987	38,959	31,728	2,740	14,568	12,038	112	12,781	2,141	24,050	31,888
Vigo	105,994	21,684	17,752	1,525	8,756	6,889	66	7,210	1,263	19,709	15,974
Wabash	30,816	6,440	6,450	453	2,496	2,233	19	2,444	330	3,253	1,927
Warrick	64,514	15,076	11,578	1,060	5,076	4,414	40	4,734	699	4,311	5,693
Whitley	34,430	7,889	6,509	555	2,719	2,411	21	2,606	354	2,494	1,836

IOWA

American Lung Association in Iowa

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
Black Hawk	DNC	DNC	DNC	DNC	DNC
Bremer	0	0	0	0.0	A
Clinton	0	0	0	0.0	A
Harrison	0	0	0	0.0	A
Johnson	DNC	DNC	DNC	DNC	DNC
Lee	DNC	DNC	DNC	DNC	DNC
Linn	1	0	0	0.3	B
Montgomery	0	0	0	0.0	A
Muscatine	DNC	DNC	DNC	DNC	DNC
Palo Alto	0	0	0	0.0	A
Polk	0	0	0	0.0	A
Pottawattamie	DNC	DNC	DNC	DNC	DNC
Scott	1	0	0	0.3	B
Van Buren	0	0	0	0.0	A
Woodbury	DNC	DNC	DNC	DNC	DNC

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Black Hawk	0	0	0	0	0.0	A	8.1	Pass
Bremer	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Clinton	0	0	0	0	0.0	A	8.9	Pass
Harrison	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Johnson	0	0	0	0	0.0	A	7.9	Pass
Lee	0	0	0	0	0.0	A	8.3	Pass
Linn	0	0	0	0	0.0	A	8.3	Pass
Montgomery	0	0	0	0	0.0	A	6.9	Pass
Muscatine	1	0	0	0	0.3	B	8.3	Pass
Palo Alto	0	1	0	0	0.5	B	7.1	Pass
Polk	1	2	0	0	1.3	C	7.6	Pass
Pottawattamie	1	0	0	0	0.3	B	8.3	Pass
Scott	1	1	0	0	0.8	B	8.7	Pass
Van Buren	0	0	0	0	0.0	A	7.3	Pass
Woodbury	0	1	0	0	0.5	B	8.1	Pass

IOWA

American Lung Association in Iowa

		AT-RISK GROUPS									
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Black Hawk	130,368	28,669	22,667	1,650	9,411	6,375	80	7,291	1,659	17,005	26,534
Bremer	25,081	5,690	4,886	328	1,774	1,299	15	1,521	289	1,681	1,455
Clinton	46,463	10,640	9,367	612	3,258	2,527	29	2,977	485	5,261	4,545
Harrison	14,669	3,461	2,865	199	1,020	796	9	933	146	1,491	679
Johnson	154,748	30,510	19,936	1,756	11,764	6,725	95	7,191	2,361	21,477	35,587
Lee	33,215	7,094	7,101	408	2,368	1,860	21	2,209	330	4,511	3,256
Linn	228,939	52,191	38,163	3,004	16,348	11,414	141	12,964	2,742	21,754	36,027
Montgomery	10,322	2,355	2,274	136	719	580	6	696	102	1,179	734
Muscatine	42,688	10,386	7,549	598	2,968	2,165	26	2,497	464	4,666	10,297
Palo Alto	8,906	2,073	2,000	119	616	492	6	594	86	1,024	658
Polk	496,844	121,504	67,875	6,994	35,142	22,700	307	24,916	6,263	49,300	120,633
Pottawattamie	93,304	21,857	17,045	1,258	6,552	4,840	58	5,603	1,028	11,207	12,947
Scott	174,170	41,016	29,754	2,361	12,281	8,737	107	9,989	2,033	22,074	37,282
Van Buren	7,243	1,701	1,609	98	499	408	4	490	67	917	286
Woodbury	105,607	27,657	16,110	1,592	7,235	4,928	65	5,550	1,229	15,992	32,659

KANSAS

American Lung Association in Kansas

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
Johnson	1	0	0	0.3	B
Leavenworth	2	0	0	0.7	B
Neosho	1	0	0	0.3	B
Sedgwick	2	0	0	0.7	B
Shawnee	0	1	0	0.5	B
Sumner	0	0	0	0.0	A
Trego	0	0	0	0.0	A
Wyandotte	4	0	0	1.3	C

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Johnson	4	0	0	0	1.3	C	INC	INC
Leavenworth	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Neosho	4	0	0	0	1.3	C	9.3	Pass
Sedgwick	5	0	0	0	1.7	C	INC	INC
Shawnee	5	3	0	0	3.2	D	INC	INC
Sumner	5	0	0	0	1.7	C	9.2	Pass
Trego	3	0	0	0	1.0	C	INC	INC
Wyandotte	9	0	0	0	3.0	D	INC	INC

KANSAS

American Lung Association in Kansas

		AT-RISK GROUPS									
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Johnson	613,219	145,167	95,115	10,752	49,814	29,414	331	40,413	7,482	36,111	130,693
Leavenworth	82,184	19,346	12,673	1,433	6,690	3,936	45	5,404	861	6,637	17,886
Neosho	15,784	3,900	3,170	289	1,243	831	9	1,172	162	2,288	1,813
Sedgwick	523,828	132,197	80,926	9,792	41,601	24,401	283	33,584	6,326	68,690	173,524
Shawnee	178,264	41,503	34,100	3,074	14,371	9,246	96	12,953	2,028	25,426	48,389
Sumner	22,385	5,409	4,435	401	1,780	1,188	12	1,670	228	2,694	2,623
Trego	2,793	522	738	39	234	177	2	254	24	286	176
Wyandotte	167,046	46,014	21,918	3,408	12,949	7,240	90	9,842	2,027	27,959	100,928

KENTUCKY

American Lung Association in Kentucky

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
Bell	0	0	0	0.0	A
Boone	0	0	0	0.0	A
Boyd	0	0	0	0.0	A
Bullitt	2	0	0	0.7	B
Campbell	2	0	0	0.7	B
Carter	0	0	0	0.0	A
Christian	0	0	0	0.0	A
Daviess	2	0	0	0.7	B
Edmonson	0	0	0	0.0	A
Fayette	0	0	0	0.0	A
Greenup	0	0	0	0.0	A
Hancock	0	0	0	0.0	A
Hardin	1	0	0	0.3	B
Henderson	DNC	DNC	DNC	DNC	DNC
Jefferson	11	0	0	3.7	F
Jessamine	1	0	0	0.3	B
Livingston	1	0	0	0.3	B
McCracken	1	0	0	0.3	B
Morgan	0	0	0	0.0	A
Oldham	2	0	0	0.7	B
Perry	0	0	0	0.0	A
Pike	0	0	0	0.0	A
Pulaski	0	0	0	0.0	A
Simpson	0	0	0	0.0	A
Trigg	0	0	0	0.0	A
Warren	0	0	0	0.0	A
Washington	0	0	0	0.0	A

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Bell	2	0	0	0	0.7	B	8.5	Pass
Boone	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Boyd	1	0	0	0	0.3	B	7.9	Pass
Bullitt	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Campbell	0	0	0	0	0.0	A	7.8	Pass
Carter	0	0	0	0	0.0	A	5.9	Pass
Christian	0	0	0	0	0.0	A	8.9	Pass
Daviess	0	0	0	0	0.0	A	INC	INC
Edmonson	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Fayette	0	0	0	0	0.0	A	8.1	Pass
Greenup	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hancock	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hardin	0	0	0	0	0.0	A	7.7	Pass
Henderson	INC	INC	INC	INC	INC	INC	INC	INC
Jefferson	4	0	0	0	1.3	C	10.5	Pass
Jessamine	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Livingston	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
McCracken	2	0	0	0	0.7	B	9.2	Pass
Morgan	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Oldham	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Perry	0	0	0	0	0.0	A	7.2	Pass
Pike	0	1	0	0	0.5	B	6.9	Pass
Pulaski	1	0	0	0	0.3	B	7.8	Pass
Simpson	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Trigg	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Warren	2	0	0	0	0.7	B	8.3	Pass
Washington	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC

KENTUCKY

American Lung Association in Kentucky

		AT-RISK GROUPS									
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Bell	23,858	5,099	4,713	258	2,210	2,147	20	2,405	251	7,388	1,600
Boone	137,412	35,293	19,746	1,785	12,134	11,078	116	11,707	1,562	8,664	19,179
Boyd	47,899	10,369	9,772	525	4,417	4,332	40	4,893	483	9,672	3,379
Bullitt	82,918	17,624	13,968	892	7,761	7,306	70	7,896	941	9,146	5,646
Campbell	93,050	19,132	15,671	968	8,700	7,966	79	8,572	1,117	10,009	7,663
Carter	26,412	5,940	5,151	300	2,415	2,353	22	2,636	278	6,592	967
Christian	72,357	19,967	9,127	1,010	6,039	4,917	62	5,009	806	11,046	25,472
Daviess	103,063	25,200	18,018	1,275	9,162	8,622	87	9,470	1,137	13,621	13,324
Edmonson	12,291	2,220	2,583	112	1,188	1,164	10	1,310	134	2,237	725
Fayette	321,793	66,736	46,434	3,376	29,819	25,620	271	26,550	4,372	45,319	97,083
Greenup	35,649	7,676	7,745	388	3,289	3,291	30	3,771	363	5,124	1,447
Hancock	9,064	2,216	1,610	112	811	779	8	859	95	1,135	480
Hardin	111,607	27,549	16,414	1,394	9,934	8,969	94	9,483	1,264	12,683	27,241
Henderson	44,329	10,089	8,340	510	4,038	3,889	37	4,325	482	5,388	6,393
Jefferson	777,874	171,542	131,961	8,678	71,247	65,503	655	70,896	9,329	110,325	271,190
Jessamine	53,626	12,650	8,688	640	4,842	4,478	45	4,824	633	7,179	6,643
Livingston	8,959	1,865	1,992	94	839	855	8	983	87	1,283	490
McCracken	67,454	14,974	13,964	757	6,154	6,032	57	6,847	732	11,491	11,790
Morgan	13,820	2,486	2,391	126	1,341	1,243	12	1,338	124	3,138	1,105
Oldham	68,685	17,107	9,734	865	6,165	5,678	58	5,980	705	3,118	8,276
Perry	27,929	6,472	5,018	327	2,544	2,448	24	2,699	298	8,164	1,432
Pike	57,391	11,849	11,416	599	5,390	5,284	48	5,918	604	16,831	1,866
Pulaski	65,423	14,553	12,691	736	6,010	5,860	55	6,554	694	12,339	4,124
Simpson	19,718	4,662	3,320	236	1,783	1,679	17	1,826	217	2,638	2,933
Trigg	14,192	3,087	3,251	156	1,311	1,352	12	1,570	130	2,431	1,809
Warren	137,212	31,827	18,298	1,610	12,334	10,489	116	10,756	1,832	19,324	32,010
Washington	12,072	2,803	2,249	142	1,097	1,064	10	1,183	124	1,532	1,460

LOUISIANA

American Lung Association in Louisiana

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
Ascension Parish	2	1	0	1.2	C
Bossier Parish	0	0	0	0.0	A
Caddo Parish	0	0	0	0.0	A
Calcasieu Parish	0	1	0	0.5	B
East Baton Rouge Parish	7	1	0	2.8	D
Iberville Parish	10	0	0	3.3	F
Jefferson Parish	2	0	0	0.7	B
Lafayette Parish	0	0	0	0.0	A
Lafourche Parish	3	0	0	1.0	C
Livingston Parish	1	0	0	0.3	B
Orleans Parish	DNC	DNC	DNC	DNC	DNC
Ouachita Parish	0	0	0	0.0	A
Pointe Coupee Parish	3	0	0	1.0	C
Rapides Parish	DNC	DNC	DNC	DNC	DNC
St. Bernard Parish	0	0	0	0.0	A
St. James Parish	0	0	0	0.0	A
St. John the Baptist Parish	1	0	0	0.3	B
St. Martin Parish	0	0	0	0.0	A
St. Tammany Parish	0	0	0	0.0	A
Tangipahoa Parish	DNC	DNC	DNC	DNC	DNC
Terrebonne Parish	DNC	DNC	DNC	DNC	DNC
West Baton Rouge Parish	6	0	0	2.0	C

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Ascension Parish	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Bossier Parish	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Caddo Parish	1	0	0	0	0.3	B	9.9	Pass
Calcasieu Parish	0	0	0	0	0.0	A	7.1	Pass
East Baton Rouge Parish	0	0	0	0	0.0	A	8.6	Pass
Iberville Parish	0	0	0	0	0.0	A	7.9	Pass
Jefferson Parish	0	0	0	0	0.0	A	7.6	Pass
Lafayette Parish	1	0	0	0	0.3	B	7.9	Pass
Lafourche Parish	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Livingston Parish	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Orleans Parish	0	0	0	0	0.0	A	7.7	Pass
Ouachita Parish	1	0	0	0	0.3	B	7.3	Pass
Pointe Coupee Parish	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Rapides Parish	1	0	0	0	0.3	B	7.4	Pass
St. Bernard Parish	0	0	0	0	0.0	A	7.7	Pass
St. James Parish	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
St. John the Baptist Parish	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
St. Martin Parish	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
St. Tammany Parish	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Tangipahoa Parish	0	0	0	0	0.0	A	7.5	Pass
Terrebonne Parish	0	0	0	0	0.0	A	7.2	Pass
West Baton Rouge Parish	0	0	0	0	0.0	A	8.8	Pass

LOUISIANA

American Lung Association in Louisiana

	AT-RISK GROUPS										
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Ascension Parish	128,369	33,918	16,504	2,968	9,286	8,044	81	8,710	1,621	14,512	43,036
Bossier Parish	129,144	31,916	19,689	2,793	9,499	8,322	82	9,284	1,607	19,266	45,683
Caddo Parish	233,092	54,738	42,920	4,790	17,256	16,060	146	18,781	2,814	53,728	131,442
Calcasieu Parish	205,282	50,853	32,862	4,450	15,044	13,551	130	15,358	2,446	36,850	67,257
East Baton Rouge Parish	453,301	102,982	69,434	9,011	34,271	29,378	285	32,476	6,212	84,936	256,138
Iberville Parish	29,824	5,945	5,066	520	2,326	2,109	19	2,392	352	5,927	15,631
Jefferson Parish	433,688	96,493	79,658	8,444	32,654	30,516	273	35,573	5,134	75,278	213,095
Lafayette Parish	244,205	58,104	35,003	5,084	18,244	15,770	154	17,294	3,181	42,273	86,806
Lafourche Parish	97,504	22,441	15,958	1,964	7,311	6,673	62	7,582	1,159	15,052	23,042
Livingston Parish	145,830	37,242	19,976	3,259	10,653	9,287	92	10,165	1,847	17,350	22,644
Orleans Parish	376,971	74,460	62,665	6,516	29,519	26,051	236	29,242	5,249	92,262	259,233
Ouachita Parish	158,768	39,073	25,015	3,419	11,673	10,411	100	11,733	2,011	38,985	67,729
Pointe Coupee Parish	20,356	4,391	4,465	384	1,529	1,519	13	1,853	213	3,817	8,025
Rapides Parish	128,654	31,891	21,811	2,791	9,396	8,630	81	9,933	1,499	24,885	50,843
St. Bernard Parish	44,258	11,617	5,586	1,017	3,213	2,743	28	2,948	580	9,531	17,892
St. James Parish	19,742	4,413	3,712	386	1,482	1,405	12	1,650	222	3,327	10,079
St. John the Baptist Parish	42,094	10,235	6,469	896	3,110	2,824	27	3,177	502	6,976	28,846
St. Martin Parish	51,540	12,310	8,535	1,077	3,816	3,513	33	4,016	593	9,377	18,382
St. Tammany Parish	269,388	63,859	48,491	5,588	19,900	18,811	170	21,967	3,077	34,095	63,377
Tangipahoa Parish	135,217	33,209	20,479	2,906	9,969	8,759	85	9,762	1,721	23,496	50,637
Terrebonne Parish	108,708	27,316	16,656	2,390	7,944	7,157	69	8,051	1,284	18,132	37,158
West Baton Rouge Parish	27,792	6,830	4,110	598	2,051	1,804	18	2,002	341	4,127	12,798

MAINE

American Lung Association in Maine

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
Androscoggin	0	0	0	0.0	A
Aroostook	0	0	0	0.0	A
Cumberland	3	0	0	1.0	C
Hancock	5	0	0	1.7	C
Kennebec	0	0	0	0.0	A
Knox	2	0	0	0.7	B
Oxford	0	0	0	0.0	A
Penobscot	0	0	0	0.0	A
Washington	0	0	0	0.0	A
York	4	0	0	1.3	C

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Androscoggin	0	0	0	0	0.0	A	5. 5	Pass
Aroostook	1	3	0	0	1.8	C	4.4	Pass
Cumberland	0	0	0	0	0.0	A	7.1	Pass
Hancock	0	0	0	0	0.0	A	3.2	Pass
Kennebec	0	0	0	0	0.0	A	INC	INC
Knox	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Oxford	1	0	0	0	0.3	B	5.1	Pass
Penobscot	0	0	0	0	0.0	A	4.4	Pass
Washington	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
York	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC

MAINE

American Lung Association in Maine

				AT-RISK GROUPS							
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Androscoggin	111,034	23,686	20,318	1,697	11,145	7,465	75	8,394	1,013	15,136	11,544
Aroostook	66,859	12,416	16,754	889	6,807	5,173	45	6,033	505	9,666	4,469
Cumberland	305,231	55,405	59,680	3,969	31,816	21,350	207	24,085	2,918	22,937	31,800
Hancock	56,192	9,331	14,693	668	5,849	4,462	38	5,217	448	6,077	3,308
Kennebec	124,486	23,630	25,774	1,693	12,790	8,931	85	10,166	1,096	13,702	7,471
Knox	41,084	7,083	11,100	507	4,228	3,271	28	3,845	304	4,171	2,159
Oxford	58,629	10,575	13,389	758	6,058	4,459	40	5,133	465	8,728	3,126
Penobscot	152,765	27,168	29,618	1,946	16,010	10,736	104	12,092	1,424	21,301	10,455
Washington	31,121	5,970	7,973	428	3,136	2,413	21	2,825	237	5,602	3,474
York	214,591	38,878	46,398	2,785	22,232	15,753	146	18,007	1,846	17,548	14,082

MARYLAND

American Lung Association in Maryland

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
Anne Arundel	10	0	0	3.3	F
Baltimore	20	0	0	6.7	F
Calvert	1	0	0	0.3	B
Carroll	2	0	0	0.7	B
Cecil	6	0	0	2.0	C
Charles	1	0	0	0.3	B
Dorchester	4	0	0	1.3	C
Frederick	2	0	0	0.7	B
Garrett	0	0	0	0.0	A
Harford	19	0	0	6.3	F
Howard	DNC	DNC	DNC	DNC	DNC
Kent	2	0	0	0.7	B
Montgomery	3	0	0	1.0	C
Prince George's	12	0	0	4.0	F
Washington	1	0	0	0.3	B
Baltimore City	5	0	0	1.7	C

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Anne Arundel	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Baltimore	2	0	0	0	0.7	B	7.9	Pass
Calvert	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Carroll	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Cecil	1	0	0	0	0.3	B	6.7	Pass
Charles	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Dorchester	0	0	0	0	0.0	A	5.6	Pass
Frederick	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Garrett	0	0	0	0	0.0	A	5.3	Pass
Harford	0	0	0	0	0.0	A	6.9	Pass
Howard	0	0	0	0	0.0	A	7.1	Pass
Kent	0	0	0	0	0.0	A	5.4	Pass
Montgomery	0	0	0	0	0.0	A	6.4	Pass
Prince George's	0	0	0	0	0.0	A	6.4	Pass
Washington	0	0	0	0	0.0	A	7.2	Pass
Baltimore City	1	0	0	0	0.3	B	7.5	Pass

MARYLAND

American Lung Association in Maryland

		AT-RISK GROUPS									
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Anne Arundel	590,336	131,557	91,036	8,941	43,411	21,859	303	32,832	6,412	35,719	206,129
Baltimore	849,316	185,454	151,951	12,603	62,549	33,085	434	50,676	9,416	81,334	389,215
Calvert	93,928	21,789	14,829	1,481	6,850	3,570	48	5,422	944	5,419	22,155
Carroll	173,873	38,015	30,464	2,583	12,866	6,904	89	10,603	1,703	9,212	22,087
Cecil	103,905	23,135	17,309	1,572	7,659	4,043	53	6,172	1,056	11,243	16,926
Charles	168,698	40,457	22,412	2,749	12,228	6,056	86	9,007	1,868	11,263	110,215
Dorchester	32,489	6,838	7,315	465	2,406	1,407	17	2,230	314	4,807	12,300
Frederick	279,835	65,091	42,173	4,424	20,361	10,309	143	15,501	3,016	18,065	85,996
Garrett	28,702	5,225	6,715	355	2,206	1,302	15	2,068	261	3,095	1,143
Harford	262,977	58,596	44,411	3,982	19,341	10,180	135	15,536	2,711	19,813	68,270
Howard	334,529	80,475	49,186	5,469	24,114	12,200	171	18,329	3,670	20,724	171,825
Kent	19,270	2,991	5,198	203	1,514	915	10	1,470	185	2,154	4,272
Montgomery	1,054,827	241,287	175,037	16,398	76,964	40,252	540	61,300	11,386	88,627	609,510
Prince George's	955,306	210,915	138,655	14,334	70,604	34,964	489	52,127	10,884	106,832	842,091
Washington	154,937	33,573	27,331	2,282	11,462	6,083	80	9,318	1,490	21,284	37,453
Baltimore City	576,498	117,030	86,276	7,953	43,312	20,826	294	30,787	7,403	126,488	417,615

MASSACHUSETTS

American Lung Association in Massachusetts

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
Barnstable	5	0	0	1.7	C
Berkshire	0	0	0	0.0	A
Bristol	5	0	0	1.7	C
Dukes	5	0	0	1.7	C
Essex	1	0	0	0.3	B
Franklin	0	0	0	0.0	A
Hampden	1	0	0	0.3	B
Hampshire	0	0	0	0.0	A
Middlesex	0	0	0	0.0	A
Norfolk	2	0	0	0.7	B
Plymouth	1	0	0	0.3	B
Suffolk	1	0	0	0.3	B
Worcester	1	0	0	0.3	B

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Barnstable	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Berkshire	1	0	0	0	0.3	B	7.6	Pass
Bristol	0	0	0	0	0.0	A	6.6	Pass
Dukes	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Essex	1	0	0	0	0.3	B	6.0	Pass
Franklin	0	0	0	0	0.0	A	7.6	Pass
Hampden	1	0	0	0	0.3	B	8.5	Pass
Hampshire	0	0	0	0	0.0	A	6.0	Pass
Middlesex	1	1	0	0	0.8	B	6.8	Pass
Norfolk	INC	INC	INC	INC	INC	INC	INC	INC
Plymouth	1	0	0	0	0.3	B	7.5	Pass
Suffolk	2	0	0	0	0.7	B	7.9	Pass
Worcester	2	0	0	0	0.7	B	8.4	Pass

MASSACHUSETTS

American Lung Association in Massachusetts

		AT-RISK GROUPS									
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Barnstable	232,411	33,438	73,864	3,243	23,296	14,224	135	19,479	1,537	18,293	25,500
Berkshire	128,657	20,956	31,686	2,033	12,698	6,964	75	9,175	1,068	13,454	16,681
Bristol	580,164	119,193	101,390	11,561	54,637	26,925	337	33,826	5,446	67,318	115,665
Dukes	21,097	3,701	5,391	359	2,044	1,157	12	1,537	161	1,601	2,870
Essex	807,074	168,869	144,299	16,379	75,644	37,543	469	47,372	7,494	75,743	261,263
Franklin	71,015	11,950	17,113	1,159	6,962	3,806	41	5,001	588	7,464	7,298
Hampden	462,718	97,909	81,804	9,496	43,362	21,171	269	26,667	4,436	76,268	184,521
Hampshire	161,572	22,958	30,300	2,227	16,621	7,706	94	9,651	1,936	16,221	27,785
Middlesex	1,614,742	316,295	257,427	30,678	154,771	72,218	938	89,158	16,422	120,205	487,544
Norfolk	724,505	149,057	125,480	14,457	68,253	33,445	421	41,955	6,938	48,469	203,314
Plymouth	533,003	111,004	101,907	10,767	49,825	25,644	309	32,714	4,614	39,035	105,743
Suffolk	771,245	125,596	99,444	12,182	78,054	31,818	448	37,579	9,899	133,563	427,452
Worcester	862,029	178,225	142,282	17,286	81,111	39,271	501	48,903	8,111	83,218	220,141

MICHIGAN

American Lung Association in Michigan

	HIGH OZONE DAYS 2019–2021					HIGH PARTICLE POLLUTION DAYS 2019–2021							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Allegan	19	0	0	6.3	F	0	0	0	0	0.0	A	6.7	Pass
Bay	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	5.9	Pass
Benzie	1	1	0	0.8	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Berrien	12	0	0	4.0	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Cass	6	0	0	2.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Chippewa	DNC	DNC	DNC	DNC	DNC	INC	INC	INC	INC	INC	INC	INC	INC
Clinton	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Genesee	4	0	0	1.3	C	0	0	0	0	0.0	A	6.8	Pass
Huron	9	0	0	3.0	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Ingham	0	0	0	0.0	A	0	0	0	0	0.0	A	8.0	Pass
Kalamazoo	5	0	0	1.7	C	1	0	0	0	0.3	B	8.5	Pass
Kent	9	0	0	3.0	D	1	0	0	0	0.3	B	8.7	Pass
Lenawee	2	0	0	0.7	B	0	0	0	0	0.0	A	8.4	Pass
Macomb	16	0	0	5.3	F	0	0	0	0	0.0	A	7.7	Pass
Manistee	4	0	0	1.3	C	0	0	0	0	0.0	A	INC	INC
Mason	4	1	0	1.8	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Missaukee	1	0	0	0.3	B	0	0	0	0	0.0	A	7.6	Pass
Muskegon	15	0	0	5.0	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Oakland	9	0	0	3.0	D	0	0	0	0	0.0	A	7.8	Pass
Ottawa	9	0	0	3.0	D	1	0	0	0	0.3	B	8.6	Pass
St. Clair	10	0	0	3.3	F	1	0	0	0	0.3	B	7.9	Pass
Schoolcraft	5	0	0	1.7	C	1	0	0	0	0.3	B	INC	INC
Tuscola	3	0	0	1.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Washtenaw	5	0	0	1.7	C	0	1	0	0	0.5	B	8.5	Pass
Wayne	11	0	0	3.7	F	11	1	0	0	4.2	F	11.5	Pass
Wexford	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC

MICHIGAN

American Lung Association in Michigan

				AT-RISK GROUPS							
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Allegan	120,950	28,566	21,313	1,999	10,741	7,353	72	8,992	1,164	11,306	14,910
Bay	102,985	20,247	22,094	1,417	9,512	6,805	61	8,579	986	12,865	11,021
Benzie	18,223	3,229	4,968	226	1,686	1,323	11	1,746	149	1,673	1,198
Berrien	153,101	32,994	31,806	2,309	13,820	9,840	91	12,385	1,461	24,171	38,764
Cass	51,483	10,583	11,389	741	4,677	3,458	31	4,391	457	5,849	7,245
Chippewa	36,816	6,646	6,959	465	3,519	2,321	22	2,844	325	5,697	11,606
Clinton	79,426	17,338	14,531	1,213	7,214	4,937	47	6,057	799	6,121	8,613
Genesee	404,208	90,299	73,750	6,319	36,467	24,957	239	30,642	4,156	65,045	113,792
Huron	31,252	5,938	8,272	416	2,849	2,238	19	2,942	246	3,655	1,621
Ingham	284,034	55,848	41,014	3,908	27,157	15,783	168	18,419	3,693	42,168	87,741
Kalamazoo	261,108	56,121	41,262	3,928	24,199	14,779	155	17,638	3,138	35,688	61,408
Kent	658,046	155,887	95,764	10,909	59,362	36,632	390	43,214	7,476	64,334	180,614
Lenawee	98,956	20,564	19,516	1,439	9,067	6,315	59	7,847	935	10,508	13,832
Macomb	876,792	182,263	156,609	12,755	80,904	54,846	519	66,771	9,109	100,776	205,454
Manistee	25,350	4,286	6,832	300	2,375	1,840	15	2,418	190	3,139	2,939
Mason	29,383	5,921	7,453	414	2,652	2,031	17	2,657	249	4,010	2,713
Missaukee	15,130	3,383	3,218	237	1,347	979	9	1,240	131	1,773	990
Muskegon	176,511	40,223	31,756	2,815	15,856	10,712	105	13,138	1,759	24,759	42,348
Oakland	1,270,017	259,750	226,572	18,178	117,751	79,521	753	96,716	13,146	98,665	369,309
Ottawa	299,157	70,266	47,583	4,917	26,916	16,986	177	20,388	3,338	21,846	50,744
St. Clair	160,053	32,843	31,756	2,298	14,677	10,501	95	13,032	1,490	17,579	14,778
Schoolcraft	8,030	1,406	2,271	98	740	606	5	803	59	1,103	1,183
Tuscola	52,917	10,680	11,386	747	4,844	3,538	31	4,463	473	6,758	3,884
Washtenaw	369,390	68,042	55,925	4,762	35,764	21,244	219	24,944	4,677	43,132	110,720
Wayne	1,774,816	420,338	287,907	29,417	158,651	103,913	1,050	125,121	19,261	344,903	901,944
Wexford	33,901	7,840	6,792	549	3,001	2,137	20	2,680	310	5,097	2,162

MINNESOTA

American Lung Association in Minnesota

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
Anoka	4	0	0	1.3	C
Becker	2	0	0	0.7	B
Beltrami	DNC	DNC	DNC	DNC	DNC
Carlton	0	0	0	0.0	A
Cass	DNC	DNC	DNC	DNC	DNC
Cook	DNC	DNC	DNC	DNC	DNC
Crow Wing	1	0	0	0.3	B
Dakota	DNC	DNC	DNC	DNC	DNC
Goodhue	0	0	0	0.0	A
Hennepin	0	0	0	0.0	A
Lake	0	0	0	0.0	A
Lyon	0	0	0	0.0	A
Mille Lacs	0	0	0	0.0	A
Olmsted	0	0	0	0.0	A
Ramsey	DNC	DNC	DNC	DNC	DNC
St. Louis	0	0	0	0.0	A
Scott	0	0	0	0.0	A
Stearns	0	0	0	0.0	A
Washington	1	0	0	0.3	B
Wright	2	0	0	0.7	B

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Anoka	2	2	0	0	1.7	C	6.8	Pass
Becker	6	5	0	0	4.5	F	7.1	Pass
Beltrami	6	4	1	0	4.7	F	6.6	Pass
Carlton	4	0	0	0	1.3	C	2.8	Pass
Cass	7	4	1	0	5.0	F	7.3	Pass
Cook	3	1	0	0	1.5	C	3.3	Pass
Crow Wing	2	2	1	0	2.3	D	5.1	Pass
Dakota	2	2	0	0	1.7	C	7.6	Pass
Goodhue	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hennepin	1	4	0	0	2.3	D	8.0	Pass
Lake	3	1	0	0	1.5	C	4.8	Pass
Lyon	3	2	0	0	2.0	C	6.2	Pass
Mille Lacs	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Olmsted	3	0	0	0	1.0	C	6.3	Pass
Ramsey	3	1	0	0	1.5	C	7.6	Pass
St. Louis	8	2	0	0	3.7	F	5.4	Pass
Scott	1	0	0	0	0.3	B	6.4	Pass
Stearns	3	2	1	0	2.7	D	6.8	Pass
Washington	INC	INC	INC	INC	INC	INC	INC	INC
Wright	2	2	0	0	1.7	C	6.8	Pass

MINNESOTA

American Lung Association in Minnesota

				AT-RISK GROUPS							
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Anoka	367,018	87,315	54,698	5,156	24,658	12,775	187	19,613	4,065	24,537	83,818
Becker	35,219	8,449	7,722	499	2,326	1,412	18	2,297	329	3,929	4,943
Beltrami	46,380	11,755	7,773	694	3,055	1,581	24	2,486	523	6,816	13,305
Carlton	36,409	8,107	6,547	479	2,480	1,375	19	2,163	348	3,605	4,426
Cass	30,639	6,355	8,165	375	2,089	1,393	16	2,314	249	3,566	5,310
Cook	5,617	831	1,678	49	411	278	3	466	49	540	869
Crow Wing	67,270	14,124	15,719	834	4,610	2,842	34	4,639	629	7,114	3,704
Dakota	442,038	106,797	67,549	6,307	29,548	15,362	224	23,697	4,963	22,043	107,949
Goodhue	47,968	10,602	9,840	626	3,257	1,910	24	3,063	474	3,771	4,170
Hennepin	1,267,416	276,004	190,925	16,299	87,793	43,397	644	66,614	15,617	124,666	409,588
Lake	10,986	2,119	2,964	125	764	504	6	837	95	953	559
Lyon	25,231	6,592	4,280	389	1,640	875	13	1,379	275	2,555	4,482
Mille Lacs	26,867	6,305	4,889	372	1,799	1,013	14	1,600	268	2,869	3,171
Olmsted	163,436	39,802	26,300	2,351	10,906	5,641	83	8,784	1,915	12,458	36,279
Ramsey	543,257	126,318	83,123	7,460	36,930	18,244	276	28,169	6,740	68,409	217,637
St. Louis	199,182	37,587	41,064	2,220	14,159	7,893	101	12,626	2,213	26,441	18,652
Scott	153,268	40,316	18,229	2,381	10,001	4,910	78	7,334	1,768	7,034	33,358
Stearns	158,947	37,474	25,124	2,213	10,741	5,409	81	8,396	1,841	20,682	27,390
Washington	272,256	65,874	43,297	3,890	18,143	9,699	138	15,038	2,931	13,900	55,247
Wright	144,845	39,728	19,335	2,346	9,284	4,707	74	7,164	1,583	7,005	13,545

MISSISSIPPI

American Lung Association in Mississippi

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
Bolivar	0	0	0	0.0	A
DeSoto	2	0	0	0.7	B
Forrest	DNC	DNC	DNC	DNC	DNC
Hancock	0	0	0	0.0	A
Harrison	1	0	0	0.3	B
Hinds	0	0	0	0.0	A
Jackson	1	0	0	0.3	B
Lauderdale	0	0	0	0.0	A
Lee	0	0	0	0.0	A
Yalobusha	0	0	0	0.0	A

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Bolivar	0	0	0	0	0.0	A	8.6	Pass
DeSoto	0	0	0	0	0.0	A	8.4	Pass
Forrest	0	0	0	0	0.0	A	9.4	Pass
Hancock	0	0	0	0	0.0	A	8.3	Pass
Harrison	0	0	0	0	0.0	A	9.2	Pass
Hinds	1	0	0	0	0.3	B	10.1	Pass
Jackson	0	0	0	0	0.0	A	8.4	Pass
Lauderdale	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lee	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Yalobusha	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC

MISSISSIPPI

American Lung Association in Mississippi

				AT-RISK GROUPS							
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Bolivar	30,308	7,530	5,171	761	2,302	2,086	21	2,847	359	9,905	20,591
DeSoto	188,633	47,463	25,312	4,796	14,504	12,396	131	16,550	2,378	20,337	77,492
Forrest	77,875	18,354	10,997	1,854	6,004	5,100	54	6,616	1,066	15,097	33,521
Hancock	46,055	9,016	9,838	911	3,775	3,633	32	5,209	476	7,913	7,366
Harrison	209,396	49,718	33,403	5,023	16,244	14,412	146	19,532	2,471	36,796	78,386
Hinds	222,679	52,918	34,980	5,347	17,208	15,156	154	20,339	2,843	54,213	170,357
Jackson	143,987	33,226	23,962	3,357	11,316	10,177	100	13,997	1,661	21,019	47,454
Lauderdale	72,088	16,840	13,057	1,701	5,592	5,144	50	7,107	795	15,632	35,429
Lee	82,883	20,779	12,726	2,099	6,345	5,611	58	7,626	981	12,446	30,296
Yalobusha	12,415	2,710	2,629	274	984	951	9	1,359	131	2,733	5,229

MISSOURI

American Lung Association in Missouri

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
Andrew	0	0	0	0.0	A
Boone	0	0	0	0.0	A
Buchanan	DNC	DNC	DNC	DNC	DNC
Callaway	0	0	0	0.0	A
Cass	2	0	0	0.7	B
Cedar	0	0	0	0.0	A
Clay	5	0	0	1.7	C
Clinton	0	0	0	0.0	A
Greene	0	0	0	0.0	A
Jackson	DNC	DNC	DNC	DNC	DNC
Jasper	1	0	0	0.3	B
Jefferson	7	0	0	2.3	D
Lincoln	1	0	0	0.3	B
Monroe	0	0	0	0.0	A
Perry	2	0	0	0.7	B
St. Charles	9	1	0	3.5	F
Ste. Genevieve	0	0	0	0.0	A
St. Louis	10	0	0	3.3	F
St. Louis City	6	1	0	2.5	D

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Andrew	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Boone	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Buchanan	3	0	0	0	1.0	C	8.2	Pass
Callaway	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Cass	1	0	0	0	0.3	B	6.5	Pass
Cedar	0	0	0	0	0.0	A	7.2	Pass
Clay	0	0	0	0	0.0	A	6.2	Pass
Clinton	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Greene	1	0	0	0	0.3	B	INC	INC
Jackson	7	1	0	0	2.8	D	7.9	Pass
Jasper	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Jefferson	1	1	0	0	0.8	B	7.4	Pass
Lincoln	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Monroe	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Perry	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
St. Charles	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Ste. Genevieve	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
St. Louis	2	0	0	0	0.7	B	7.9	Pass
St. Louis City	7	1	0	0	2.8	D	9.2	Pass

MISSOURI

American Lung Association in Missouri

				AT-RISK GROUPS							
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Andrew	18,002	4,133	3,576	294	1,302	1,261	12	1,449	179	1,543	1,197
Boone	185,840	38,206	24,910	2,722	14,477	10,924	125	11,607	2,662	29,264	40,951
Buchanan	83,853	18,858	14,417	1,343	6,203	5,513	57	6,167	882	14,831	14,975
Callaway	44,638	9,271	7,674	660	3,379	3,002	30	3,346	480	4,312	4,676
Cass	109,638	25,984	19,210	1,851	7,938	7,328	74	8,251	1,165	7,893	15,090
Cedar	14,496	3,562	3,284	254	1,011	1,039	10	1,228	127	2,598	887
Clay	255,518	60,831	38,021	4,333	18,763	15,965	172	17,470	3,011	20,470	53,140
Clinton	21,287	4,903	3,906	349	1,547	1,465	14	1,661	211	2,104	1,466
Greene	300,865	62,477	50,876	4,451	22,920	19,339	202	21,462	3,736	38,292	40,420
Jackson	716,862	167,396	112,332	11,925	52,830	45,242	481	49,879	8,512	92,796	273,390
Jasper	123,155	30,413	19,831	2,167	8,889	7,711	83	8,567	1,402	20,272	20,983
Jefferson	227,771	51,849	36,846	3,694	16,802	15,142	153	16,789	2,447	19,654	14,465
Lincoln	61,586	15,660	8,794	1,116	4,423	3,812	41	4,161	676	5,657	4,539
Monroe	8,712	1,923	2,087	137	625	655	6	777	75	1,288	662
Perry	18,922	4,330	3,695	308	1,373	1,314	13	1,506	190	1,890	1,072
St. Charles	409,981	93,314	66,775	6,647	30,293	26,860	276	29,798	4,561	21,239	58,393
Ste. Genevieve	18,588	4,085	3,887	291	1,354	1,346	13	1,558	172	1,885	790
St. Louis	997,187	220,665	187,634	15,720	73,507	67,980	668	77,219	11,079	102,288	352,013
St. Louis City	293,310	54,137	44,145	3,857	23,233	18,697	197	20,225	3,973	60,908	159,847

MONTANA

American Lung Association in Montana

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
Fergus	5	0	0	1.7	C
Flathead	0	0	0	0.0	A
Gallatin	DNC	DNC	DNC	DNC	DNC
Lewis and Clark	1	0	0	0.3	B
Lincoln	DNC	DNC	DNC	DNC	DNC
Missoula	INC	INC	INC	INC	INC
Phillips	1	0	0	0.3	B
Powder River	2	0	0	0.7	B
Ravalli	DNC	DNC	DNC	DNC	DNC
Richland	1	0	0	0.3	B
Rosebud	0	0	0	0.0	A
Silver Bow	DNC	DNC	DNC	DNC	DNC
Yellowstone	DNC	DNC	DNC	DNC	DNC

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Fergus	11	3	0	0	5.2	F	5.0	Pass
Flathead	12	6	0	0	7.0	F	7.1	Pass
Gallatin	12	0	0	0	4.0	F	3.0	Pass
Lewis and Clark	16	7	0	0	8.8	F	8.5	Pass
Lincoln	14	10	2	1	11.8	F	13.3	Fail
Missoula	20	9	0	0	11.2	F	9.3	Pass
Phillips	4	0	0	0	1.3	C	5.5	Pass
Powder River	13	3	0	0	5.8	F	7.5	Pass
Ravalli	21	10	0	0	12.0	F	6.5	Pass
Richland	3	0	0	0	1.0	C	5.0	Pass
Rosebud	14	4	0	0	6.7	F	INC	INC
Silver Bow	19	9	0	0	10.8	F	7.0	Pass
Yellowstone	11	3	0	0	5.2	F	INC	INC

MONTANA

American Lung Association in Montana

				AT-RISK GROUPS							
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Fergus	11,617	2,440	2,872	123	876	598	5	803	100	1,359	775
Flathead	108,454	23,532	22,209	1,182	8,211	5,150	51	6,721	1,051	10,183	8,572
Gallatin	122,713	23,646	16,318	1,187	9,946	4,733	57	5,830	1,527	10,517	11,514
Lewis and Clark	72,223	15,359	14,247	771	5,518	3,377	34	4,382	724	6,389	6,747
Lincoln	20,525	3,791	6,133	190	1,566	1,198	10	1,641	156	3,409	1,629
Missoula	119,533	21,817	19,996	1,095	9,688	5,096	56	6,475	1,479	15,043	13,804
Phillips	4,192	1,008	990	51	303	211	2	281	31	600	720
Powder River	1,702	285	512	14	133	101	1	138	12	184	132
Ravalli	45,959	8,560	12,257	430	3,543	2,524	21	3,405	377	4,323	3,694
Richland	11,283	2,840	1,851	143	826	479	5	609	109	1,022	1,298
Rosebud	8,124	2,400	1,372	121	557	336	4	432	74	1,419	3,806
Silver Bow	35,411	7,233	6,852	363	2,746	1,633	17	2,114	353	4,471	3,526
Yellowstone	167,146	38,877	29,349	1,952	12,549	7,265	78	9,317	1,757	18,523	24,740

NEBRASKA

American Lung Association in Nebraska

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
Douglas	2	0	0	0.7	B
Hall	DNC	DNC	DNC	DNC	DNC
Knox	5	0	0	1.7	C
Lancaster	0	0	0	0.0	A
Sarpy	DNC	DNC	DNC	DNC	DNC
Scotts Bluff	DNC	DNC	DNC	DNC	DNC
Washington	DNC	DNC	DNC	DNC	DNC

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Douglas	4	1	0	0	1.8	C	7.6	Pass
Hall	2	0	0	0	0.7	B	INC	INC
Knox	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lancaster	0	0	0	0	0.0	A	6.6	Pass
Sarpy	4	0	0	0	1.3	C	8.1	Pass
Scotts Bluff	1	0	0	0	0.3	B	INC	INC
Washington	1	0	0	0	0.3	B	6.9	Pass

NEBRASKA

American Lung Association in Nebraska

		AT-RISK GROUPS									
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Douglas	585,008	148,214	80,663	8,381	36,429	23,217	305	28,214	7,839	67,277	186,815
Hall	61,979	17,037	9,548	963	3,718	2,544	32	3,187	722	7,341	22,573
Knox	8,401	2,114	2,113	120	507	427	4	587	76	1,009	1,370
Lancaster	324,514	72,895	48,228	4,122	21,033	13,222	170	16,140	4,509	37,132	64,683
Sarpy	193,418	51,845	24,105	2,932	11,819	7,429	101	8,899	2,537	10,533	40,691
Scotts Bluff	35,745	8,872	7,035	502	2,203	1,637	19	2,138	408	4,773	10,517
Washington	20,969	5,015	3,883	284	1,306	971	11	1,252	230	1,303	1,236

NEVADA

American Lung Association in Nevada

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
Churchill	11	1	0	4.2	F
Clark	47	1	0	16.2	F
Douglas	DNC	DNC	DNC	DNC	DNC
Lyon	9	0	0	3.0	D
Washoe	34	2	0	12.3	F
White Pine	6	0	0	2.0	C
Carson City	13	0	0	4.3	F

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Churchill	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Clark	9	5	0	0	5.5	F	10.0	Pass
Douglas	13	31	6	0	23.8	F	8.8	Pass
Lyon	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Washoe	17	27	5	0	22.5	F	9.7	Pass
White Pine	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Carson City	20	21	6	0	21.2	F	8.3	Pass

NEVADA

American Lung Association in Nevada

		AT-RISK GROUPS									
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Churchill	25,723	5,897	4,916	464	1,821	1,422	13	1,678	242	2,636	7,370
Clark	2,292,476	520,341	353,819	40,937	163,964	117,991	1,131	136,741	25,109	341,367	1,381,272
Douglas	49,870	7,745	15,612	609	3,830	3,698	25	4,526	363	3,991	10,017
Lyon	60,903	12,728	13,026	1,001	4,422	3,615	30	4,302	551	5,682	17,070
Washoe	493,392	104,538	84,784	8,224	35,860	26,559	244	31,002	5,192	53,423	192,770
White Pine	9,182	1,842	1,746	145	676	519	5	611	71	1,042	2,726
Carson City	58,993	11,918	12,411	938	4,327	3,506	29	4,163	521	6,597	20,615

NEW HAMPSHIRE

American Lung Association in New Hampshire

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
Belknap	0	0	0	0.0	A
Cheshire	0	0	0	0.0	A
Coos	1	0	0	0.3	B
Grafton	0	0	0	0.0	A
Hillsborough	0	0	0	0.0	A
Merrimack	1	0	0	0.3	B
Rockingham	3	0	0	1.0	C

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Belknap	1	0	0	0	0.3	B	4.2	Pass
Cheshire	1	0	0	0	0.3	B	6.2	Pass
Coos	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Grafton	1	0	0	0	0.3	B	5.1	Pass
Hillsborough	2	0	0	0	0.7	B	3.5	Pass
Merrimack	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Rockingham	2	0	0	0	0.7	B	5.7	Pass

NEW HAMPSHIRE

American Lung Association in New Hampshire

				AT-RISK GROUPS							
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Belknap	64,460	11,494	14,942	857	6,400	4,076	40	4,579	510	4,840	3,537
Cheshire	77,329	13,769	16,545	1,027	7,754	4,637	47	5,102	706	7,283	5,047
Coos	31,289	5,079	7,764	379	3,157	2,047	19	2,322	222	3,650	1,800
Grafton	92,201	14,505	20,389	1,082	9,485	5,638	57	6,204	872	7,288	9,255
Hillsborough	424,079	84,196	70,614	6,281	41,944	23,427	260	24,715	3,990	30,217	73,147
Merrimack	155,238	28,784	29,979	2,147	15,494	9,047	95	9,790	1,402	12,908	12,893
Rockingham	316,947	59,511	60,938	4,439	31,462	18,749	194	20,360	2,728	14,449	26,591

NEW JERSEY

American Lung Association in New Jersey

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
Atlantic	1	0	0	0.3	B
Bergen	15	0	0	5.0	F
Camden	7	0	0	2.3	D
Cumberland	5	0	0	1.7	C
Essex	2	0	0	0.7	B
Gloucester	4	0	0	1.3	C
Hudson	3	0	0	1.0	C
Hunterdon	1	0	0	0.3	B
Mercer	10	0	0	3.3	F
Middlesex	7	0	0	2.3	D
Monmouth	3	1	0	1.5	C
Morris	0	0	0	0.0	A
Ocean	4	0	0	1.3	C
Passaic	1	0	0	0.3	B
Union	DNC	DNC	DNC	DNC	DNC
Warren	0	0	0	0.0	A

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Atlantic	0	0	0	0	0.0	A	6.5	Pass
Bergen	1	0	0	0	0.3	B	INC	INC
Camden	2	0	0	0	0.7	B	9.4	Pass
Cumberland	0	0	0	0	0.0	A	INC	INC
Essex	2	0	0	0	0.7	B	8.6	Pass
Gloucester	0	0	0	0	0.0	A	INC	INC
Hudson	0	0	0	0	0.0	A	INC	INC
Hunterdon	0	0	0	0	0.0	A	7.6	Pass
Mercer	2	0	0	0	0.7	B	7.8	Pass
Middlesex	2	0	0	0	0.7	B	7.9	Pass
Monmouth	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Morris	0	0	0	0	0.0	A	INC	INC
Ocean	2	0	0	0	0.7	B	6.7	Pass
Passaic	INC	INC	INC	INC	INC	INC	INC	INC
Union	2	0	0	0	0.7	B	9.0	Pass
Warren	2	0	0	0	0.7	B	7.5	Pass

NEW JERSEY

American Lung Association in New Jersey

		AT-RISK GROUPS									
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Atlantic	274,966	57,527	53,009	3,101	19,507	12,959	140	16,959	2,840	40,786	122,364
Bergen	953,819	200,450	170,005	10,804	67,811	43,732	484	56,603	10,241	70,847	442,450
Camden	523,771	118,921	85,226	6,410	36,704	22,438	266	28,879	5,903	62,053	238,062
Cumberland	153,627	37,252	24,356	2,008	10,562	6,408	78	8,247	1,552	20,814	85,614
Essex	854,917	202,467	121,017	10,913	59,442	34,690	434	43,884	10,070	126,387	600,349
Gloucester	304,477	65,563	50,933	3,534	21,585	13,511	155	17,371	3,337	23,243	71,616
Hudson	702,463	143,110	88,631	7,714	51,714	26,777	357	33,464	9,189	109,996	503,134
Hunterdon	129,924	24,433	26,126	1,317	9,399	6,514	66	8,496	1,236	5,115	21,931
Mercer	385,898	82,001	61,675	4,420	27,585	16,660	196	21,329	4,429	38,024	205,744
Middlesex	860,807	185,765	136,471	10,013	61,287	36,950	438	47,283	9,752	67,146	517,233
Monmouth	645,354	133,923	120,504	7,219	45,809	30,590	328	39,724	6,499	47,491	162,143
Morris	510,981	105,047	90,781	5,662	36,499	23,668	260	30,554	5,325	28,395	156,906
Ocean	648,998	160,695	145,271	8,662	43,459	31,077	329	41,942	5,820	73,139	105,968
Passaic	518,117	122,623	79,154	6,609	35,944	21,500	263	27,491	5,829	71,951	313,494
Union	572,114	134,052	85,188	7,226	39,754	23,930	291	30,406	6,360	52,354	352,959
Warren	110,731	21,226	21,266	1,144	8,015	5,365	56	6,976	1,114	10,140	24,240

NEW MEXICO

American Lung Association in New Mexico

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
Bernalillo	22	1	0	7.8	F
Doña Ana	41	6	0	16.7	F
Eddy	53	3	0	19.2	F
Lea	5	1	0	2.2	D
Rio Arriba	1	0	0	0.3	B
Sandoval	8	0	0	2.7	D
San Juan	12	0	0	4.0	F
Santa Fe	4	0	0	1.3	C
Taos	DNC	DNC	DNC	DNC	DNC
Valencia	4	0	0	1.3	C

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Bernalillo	4	2	0	0	2.3	D	9.1	Pass
Doña Ana	8	3	0	0	4.2	F	8.4	Pass
Eddy	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lea	1	0	0	0	0.3	B	6.5	Pass
Rio Arriba	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Sandoval	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
San Juan	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Santa Fe	1	0	0	0	0.3	B	4.3	Pass
Taos	1	0	0	0	0.3	B	5.6	Pass
Valencia	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC

NEW MEXICO

American Lung Association in New Mexico

		AT-RISK GROUPS									
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Bernalillo	674,393	141,116	117,181	8,870	56,103	28,308	211	37,323	7,178	100,775	423,025
Doña Ana	221,508	52,853	36,602	3,322	17,850	8,697	69	11,371	2,419	41,993	163,692
Eddy	60,911	16,182	9,016	1,017	4,708	2,280	19	3,002	599	8,329	34,403
Lea	73,004	21,885	8,320	1,376	5,382	2,380	23	3,127	738	13,332	49,608
Rio Arriba	40,179	9,168	8,381	576	3,251	1,843	13	2,443	361	8,138	35,064
Sandoval	151,369	33,858	28,924	2,128	12,330	6,648	47	8,801	1,468	14,144	88,921
San Juan	120,993	30,930	19,514	1,944	9,464	4,770	38	6,298	1,202	29,043	77,440
Santa Fe	155,201	26,175	41,328	1,645	13,557	8,334	49	11,035	1,351	18,790	88,049
Taos	34,623	5,825	9,930	366	3,025	1,941	11	2,573	277	6,387	22,184
Valencia	77,190	17,960	14,185	1,129	6,215	3,306	24	4,376	727	14,188	53,456

NEW YORK

American Lung Association in New York

	HIGH OZONE DAYS 2019–2021					HIGH PARTICLE POLLUTION DAYS 2019–2021							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Albany	0	0	0	0.0	A	5	0	0	0	1.7	C	7.4	Pass
Bronx	11	0	0	3.7	F	0	1	0	0	0.5	B	8.3	Pass
Chautauqua	2	0	0	0.7	B	0	0	0	0	0.0	A	6.0	Pass
Dutchess	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Erie	1	0	0	0.3	B	0	1	0	0	0.5	B	7.2	Pass
Essex	1	0	0	0.3	B	0	0	0	0	0.0	A	3.2	Pass
Hamilton	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Herkimer	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Jefferson	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Kings	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	INC	INC
Monroe	0	0	0	0.0	A	0	0	0	0	0.0	A	6.6	Pass
New York	9	0	0	3.0	D	0	0	0	0	0.0	A	INC	INC
Niagara	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Onondaga	0	0	0	0.0	A	1	0	0	0	0.3	B	6.2	Pass
Orange	0	0	0	0.0	A	0	0	0	0	0.0	A	INC	INC
Oswego	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Putnam	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Queens	15	0	0	5.0	F	0	1	0	0	0.5	B	7.0	Pass
Richmond	7	0	0	2.3	D	0	0	0	0	0.0	A	INC	INC
Rockland	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Saratoga	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Steuben	0	0	0	0.0	A	1	0	0	0	0.3	B	5.8	Pass
Suffolk	25	1	0	8.8	F	0	0	0	0	0.0	A	INC	INC
Tompkins	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Wayne	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Westchester	7	0	0	2.3	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC

NEW YORK

American Lung Association in New York

				AT-RISK GROUPS							
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Albany	313,743	56,968	56,130	3,724	25,691	13,712	175	18,612	3,604	35,631	91,250
Bronx	1,424,948	349,664	199,098	22,855	108,299	55,298	792	73,422	16,120	366,448	1,297,316
Chautauqua	126,807	25,769	26,810	1,684	10,073	5,955	71	8,360	1,173	20,925	17,001
Dutchess	297,112	54,596	55,005	3,569	24,342	13,642	166	18,736	2,968	27,106	90,129
Erie	950,683	191,836	178,176	12,539	75,925	42,445	529	58,438	9,716	126,486	243,431
Essex	37,268	5,887	9,263	385	3,118	1,947	21	2,781	299	4,022	3,046
Hamilton	5,119	676	1,695	44	437	312	3	463	35	491	290
Herkimer	59,937	12,231	12,887	799	4,757	2,852	33	4,019	538	7,806	3,788
Jefferson	116,295	28,010	16,962	1,831	8,851	4,435	65	5,883	1,140	13,592	21,753
Kings	2,641,052	599,746	400,082	39,201	204,903	105,060	1,468	140,229	31,101	501,895	1,663,807
Monroe	755,160	154,850	138,000	10,121	60,083	33,218	420	45,565	7,952	96,950	227,993
New York	1,576,876	231,694	288,916	15,144	134,490	70,557	876	95,319	20,124	264,938	854,444
Niagara	211,653	42,114	42,745	2,753	16,954	9,898	118	13,806	2,000	27,106	32,898
Onondaga	473,236	99,935	85,517	6,532	37,382	20,704	263	28,400	4,933	64,695	112,821
Orange	404,525	103,760	58,564	6,782	30,316	16,030	226	21,518	3,963	47,939	157,302
Oswego	117,387	24,557	20,566	1,605	9,328	5,195	65	7,113	1,140	17,710	7,641
Putnam	97,936	18,844	18,213	1,232	7,954	4,564	55	6,300	909	6,398	24,232
Queens	2,331,143	465,509	404,630	30,427	187,325	102,371	1,298	139,458	24,844	312,866	1,759,091
Richmond	493,494	107,326	83,869	7,015	38,817	21,413	275	29,222	5,027	57,909	206,019
Rockland	339,227	99,127	53,162	6,479	24,077	13,192	189	18,011	3,142	50,989	126,426
Saratoga	237,359	45,819	45,926	2,995	19,199	11,033	132	15,286	2,312	18,123	24,220
Steuben	92,948	20,047	18,850	1,310	7,284	4,298	52	6,018	839	12,570	6,272
Suffolk	1,526,344	316,216	269,092	20,669	121,698	68,368	850	93,778	14,801	95,569	522,831
Tompkins	105,162	15,127	16,554	989	9,011	4,336	59	5,679	1,434	14,936	23,787
Wayne	90,923	19,295	18,218	1,261	7,170	4,243	51	5,935	805	8,981	9,650
Westchester	997,895	213,838	177,508	13,977	78,728	44,198	555	60,708	10,050	91,529	475,252

NORTH CAROLINA

American Lung Association in North Carolina

	HIGH OZONE DAYS 2019–2021					HIGH PARTICLE POLLUTION DAYS 2019–2021							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Alexander	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Avery	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Buncombe	0	0	0	0.0	A	0	0	0	0	0.0	A	5.9	Pass
Caldwell	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Carteret	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Caswell	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Catawba	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	8.3	Pass
Cumberland	0	0	0	0.0	A	1	0	0	0	0.3	B	7.6	Pass
Davidson	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	8.7	Pass
Durham	0	0	0	0.0	A	0	0	0	0	0.0	A	7.6	Pass
Edgecombe	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Forsyth	0	0	0	0.0	A	3	0	0	0	1.0	C	8.8	Pass
Graham	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Granville	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Guilford	0	0	0	0.0	A	0	0	0	0	0.0	A	7.0	Pass
Haywood	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Jackson	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	INC	INC
Johnston	0	0	0	0.0	A	0	0	0	0	0.0	A	7.6	Pass
Lenoir	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lincoln	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Macon	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Martin	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Mecklenburg	11	0	0	3.7	F	3	0	0	0	1.0	C	9.1	Pass
Mitchell	DNC	DNC	DNC	DNC	DNC	1	0	0	0	0.3	B	5.7	Pass
Montgomery	0	0	0	0.0	A	1	0	0	0	0.3	B	7.8	Pass
New Hanover	0	0	0	0.0	A	0	0	0	0	0.0	A	4.1	Pass
Northampton	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	INC	INC
Person	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Pitt	0	0	0	0.0	A	0	0	0	0	0.0	A	6.3	Pass
Rockingham	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Rowan	0	0	0	0.0	A	0	0	0	0	0.0	A	INC	INC
Swain	0	0	0	0.0	A	2	0	0	0	0.7	B	6.5	Pass
Union	4	0	0	1.3	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Wake	0	0	0	0.0	A	1	0	0	0	0.3	B	8.1	Pass
Yancey	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC

NORTH CAROLINA

American Lung Association in North Carolina

				AT-RISK GROUPS							
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Alexander	36,644	7,269	7,562	835	2,589	2,430	23	3,199	339	4,443	5,178
Avery	17,864	2,632	4,036	302	1,336	1,256	11	1,663	154	2,630	2,166
Buncombe	271,534	48,562	57,129	5,581	19,485	17,862	168	23,501	3,076	30,954	46,312
Caldwell	80,463	16,076	16,727	1,847	5,683	5,377	50	7,090	777	11,804	11,414
Carteret	68,541	11,729	18,006	1,348	4,977	5,083	43	6,965	592	7,997	9,276
Caswell	22,714	4,184	5,277	481	1,628	1,588	14	2,132	193	4,463	8,886
Catawba	161,723	35,195	29,924	4,044	11,176	10,173	101	13,177	1,677	21,477	41,996
Cumberland	335,508	84,258	42,320	9,683	21,955	16,987	209	20,574	4,050	50,499	198,193
Davidson	170,637	36,955	32,013	4,247	11,829	10,872	106	14,116	1,749	22,945	37,228
Durham	326,126	64,873	46,762	7,455	22,893	18,265	202	22,402	4,398	41,987	184,435
Edgecombe	48,359	10,930	10,202	1,256	3,277	3,106	30	4,136	508	10,671	31,151
Forsyth	385,523	87,513	64,413	10,057	26,237	22,813	239	29,043	4,479	53,575	172,846
Graham	8,043	1,618	1,995	186	560	558	5	763	73	1,361	1,234
Granville	61,986	12,611	11,103	1,449	4,381	3,954	39	5,074	614	8,231	26,813
Guilford	542,410	120,161	86,256	13,808	37,181	31,627	336	39,830	6,613	70,898	282,433
Haywood	62,476	11,152	15,654	1,282	4,486	4,472	39	6,085	591	8,521	5,347
Jackson	43,410	7,136	8,890	820	3,148	2,776	27	3,621	524	7,364	8,672
Johnston	226,504	56,582	31,141	6,502	15,115	12,722	141	15,724	2,552	26,562	80,019
Lenoir	54,706	12,408	11,416	1,426	3,712	3,521	34	4,678	540	11,414	28,388
Lincoln	89,670	18,632	16,864	2,141	6,312	5,841	56	7,572	892	7,830	14,341
Macon	37,564	6,874	10,931	790	2,656	2,811	23	3,948	316	5,289	4,534
Martin	21,754	4,443	5,472	511	1,511	1,527	13	2,093	200	4,336	10,522
Mecklenburg	1,122,276	256,417	133,280	29,466	76,558	59,687	696	71,345	14,757	113,013	614,019
Mitchell	14,963	2,761	3,781	317	1,066	1,071	9	1,462	133	2,223	1,395
Montgomery	25,798	5,510	5,566	633	1,781	1,705	16	2,272	253	4,407	9,592
New Hanover	229,018	40,818	43,236	4,691	16,469	14,443	142	18,601	2,798	26,307	52,066
Northampton	17,129	3,011	4,845	346	1,230	1,292	11	1,800	139	3,962	10,450
Person	39,127	7,998	8,168	919	2,748	2,613	24	3,452	381	6,772	13,538
Pitt	172,169	36,620	24,602	4,208	11,836	9,387	106	11,535	2,382	35,969	80,800
Rockingham	91,266	18,404	19,308	2,115	6,430	6,133	57	8,117	896	16,319	26,070
Rowan	148,150	32,414	26,663	3,725	10,214	9,174	92	11,824	1,546	24,540	43,959
Swain	14,136	3,222	2,677	370	959	876	9	1,142	151	2,427	5,850
Union	243,648	63,171	32,148	7,259	16,161	13,731	152	16,908	2,663	18,556	73,677
Wake	1,150,204	266,436	144,469	30,618	78,373	62,881	714	76,065	14,409	105,694	473,760
Yancey	18,757	3,420	4,956	393	1,336	1,360	12	1,872	169	3,230	1,528

NORTH DAKOTA

American Lung Association in North Dakota

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
Billings	1	0	0	0.3	B
Burke	0	0	0	0.0	A
Burleigh	0	0	0	0.0	A
Cass	1	0	0	0.3	B
Dunn	1	0	0	0.3	B
McKenzie	0	0	0	0.0	A
Mercer	1	0	0	0.3	B
Oliver	2	0	0	0.7	B
Ward	0	0	0	0.0	A
Williams	INC	INC	INC	INC	INC

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Billings	3	1	0	0	1.5	C	4.2	Pass
Burke	7	2	0	0	3.3	F	5.4	Pass
Burleigh	11	5	0	0	6.2	F	6.5	Pass
Cass	8	10	0	0	7.7	F	7.9	Pass
Dunn	6	3	0	0	3.5	F	5.3	Pass
McKenzie	6	2	0	0	3.0	D	4.8	Pass
Mercer	5	4	0	0	3.7	F	5.7	Pass
Oliver	9	6	0	0	6.0	F	6.2	Pass
Ward	10	4	0	0	5.3	F	5.9	Pass
Williams	INC	INC	INC	INC	INC	INC	INC	INC

NORTH DAKOTA

American Lung Association in North Dakota

		AT-RISK GROUPS									
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Billings	955	198	233	13	62	43	1	74	9	103	84
Burke	2,158	535	467	35	133	91	1	153	21	191	188
Burleigh	98,933	23,395	16,993	1,522	6,340	3,767	52	6,045	1,268	7,923	12,428
Cass	186,562	42,265	23,926	2,750	12,398	6,368	99	9,554	2,855	19,208	30,356
Dunn	4,035	1,049	698	68	249	153	2	248	42	440	828
McKenzie	13,819	4,430	1,354	288	807	408	7	599	174	1,254	3,545
Mercer	8,323	1,942	1,816	126	522	357	4	602	81	655	678
Oliver	1,873	460	443	30	115	82	1	141	17	207	120
Ward	69,071	16,561	9,274	1,078	4,500	2,359	37	3,583	941	6,234	13,083
Williams	38,484	11,693	3,799	761	2,305	1,155	20	1,690	492	3,239	8,837

OHIO

American Lung Association in Ohio

	HIGH OZONE DAYS 2019–2021					HIGH PARTICLE POLLUTION DAYS 2019–2021							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Allen	1	0	0	0.3	B	0	0	0	0	0.0	A	6.6	Pass
Ashtabula	3	0	0	1.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Athens	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	6.2	Pass
Belmont	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	INC	INC
Butler	7	0	0	2.3	D	1	0	0	0	0.3	B	INC	INC
Clark	3	0	0	1.0	C	0	0	0	0	0.0	A	9.0	Pass
Clermont	4	0	0	1.3	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Clinton	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Cuyahoga	14	0	0	4.7	F	3	1	0	0	1.5	C	9.5	Pass
Delaware	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Fayette	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Franklin	2	0	0	0.7	B	1	0	0	0	0.3	B	9.1	Pass
Geauga	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Greene	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hamilton	15	0	0	5.0	F	3	0	0	0	1.0	C	11.0	Pass
Harrison	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	INC	INC
Jefferson	1	0	0	0.3	B	2	1	0	0	1.2	C	INC	INC
Knox	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lake	18	0	0	6.0	F	0	0	0	0	0.0	A	6.5	Pass
Lawrence	0	0	0	0.0	A	0	0	0	0	0.0	A	7.7	Pass
Licking	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lorain	0	0	0	0.0	A	0	1	0	0	0.5	B	INC	INC
Lucas	13	0	0	4.3	F	1	0	0	0	0.3	B	INC	INC
Madison	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Mahoning	0	0	0	0.0	A	1	0	0	0	0.3	B	INC	INC
Medina	0	0	0	0.0	A	0	0	0	0	0.0	A	7.1	Pass
Miami	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Montgomery	5	0	0	1.7	C	0	0	0	0	0.0	A	9.6	Pass
Noble	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Portage	2	0	0	0.7	B	0	0	0	0	0.0	A	INC	INC
Preble	1	0	0	0.3	B	0	0	0	0	0.0	A	8.2	Pass
Scioto	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	INC	INC
Stark	5	0	0	1.7	C	2	0	0	0	0.7	B	9.5	Pass
Summit	4	0	0	1.3	C	5	0	0	0	1.7	C	8.7	Pass
Trumbull	1	0	0	0.3	B	4	1	0	0	1.8	C	7.4	Pass
Warren	9	0	0	3.0	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Washington	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Wood	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC

OHIO

American Lung Association in Ohio

				AT-RISK GROUPS							
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Allen	101,670	23,580	18,538	1,385	8,206	6,737	66	8,179	1,030	14,686	20,537
Ashtabula	97,337	21,431	19,487	1,258	7,941	6,882	63	8,510	916	14,787	11,055
Athens	62,056	8,988	8,850	528	5,678	3,884	40	4,341	916	11,068	6,326
Belmont	65,849	12,579	14,258	739	5,552	4,857	43	6,051	599	9,903	5,104
Butler	390,234	91,164	60,391	5,353	31,771	24,687	253	29,044	4,483	43,595	84,692
Clark	135,633	30,506	26,868	1,791	10,993	9,382	88	11,573	1,408	21,066	22,653
Clermont	209,642	47,087	37,072	2,765	17,150	14,157	136	17,099	2,194	19,702	15,343
Clinton	42,004	9,547	7,550	561	3,419	2,829	27	3,427	444	4,908	3,062
Cuyahoga	1,249,387	257,093	237,540	15,096	104,219	85,945	807	104,522	14,044	197,374	524,714
Delaware	220,740	55,911	32,199	3,283	17,573	13,921	143	16,363	2,429	9,056	39,348
Fayette	28,906	6,851	5,272	402	2,319	1,951	19	2,378	298	4,622	2,433
Franklin	1,321,414	307,247	167,632	18,041	108,789	77,450	855	87,277	17,026	184,504	518,044
Geauga	95,565	21,467	20,522	1,260	7,709	6,961	62	8,747	849	5,915	4,645
Greene	168,412	34,830	30,239	2,045	14,077	11,245	109	13,503	1,910	16,474	28,402
Hamilton	826,139	189,950	132,980	11,153	67,402	52,440	534	61,999	9,626	126,383	295,187
Harrison	14,477	3,040	3,204	179	1,188	1,074	9	1,351	136	2,008	830
Jefferson	64,789	12,744	14,402	748	5,408	4,787	42	6,003	655	10,783	6,637
Knox	62,897	14,397	11,844	845	5,087	4,233	41	5,170	663	7,421	3,151
Lake	232,023	45,224	48,888	2,655	19,507	16,977	150	21,064	2,332	16,007	31,181
Lawrence	57,445	12,452	11,092	731	4,721	4,026	37	4,939	592	9,767	3,214
Licking	180,401	41,509	30,888	2,437	14,678	11,999	117	14,421	1,925	19,460	22,695
Lorain	315,595	68,738	60,747	4,036	25,900	21,967	204	26,922	3,227	39,308	72,161
Lucas	429,191	99,025	73,312	5,815	34,867	28,074	278	33,657	4,801	73,260	140,009
Madison	44,386	8,990	7,149	528	3,764	2,988	29	3,528	414	5,356	5,573
Mahoning	226,762	45,650	49,529	2,680	18,830	16,461	147	20,574	2,238	42,174	56,883
Medina	183,092	39,676	34,890	2,330	15,071	12,888	119	15,785	1,833	11,016	12,873
Miami	109,264	25,194	20,926	1,479	8,812	7,488	71	9,195	1,100	8,915	9,608
Montgomery	535,840	118,514	98,142	6,959	43,877	35,789	346	43,346	5,968	79,459	163,279
Noble	14,176	2,671	4,069	157	1,168	1,175	9	1,550	103	1,877	827
Portage	162,382	29,736	28,680	1,746	14,027	11,105	105	13,229	1,957	19,241	18,656
Preble	40,867	9,127	8,120	536	3,322	2,883	27	3,564	399	4,448	1,699
Scioto	73,346	15,995	13,770	939	6,025	5,019	48	6,115	759	16,807	5,278
Stark	373,834	80,334	75,216	4,717	30,684	26,235	242	32,381	3,869	46,583	53,862
Summit	537,633	112,034	101,679	6,578	44,733	37,248	348	45,344	5,799	65,938	132,425
Trumbull	201,335	41,532	44,519	2,439	16,597	14,741	130	18,509	1,955	30,583	27,466
Warren	246,553	59,025	37,492	3,466	19,965	15,918	160	18,786	2,572	14,184	39,325
Washington	59,423	11,769	12,998	691	4,958	4,362	38	5,454	595	7,871	3,132
Wood	132,472	26,902	21,289	1,580	11,199	8,449	86	9,886	1,647	13,773	16,782

OKLAHOMA

American Lung Association in Oklahoma

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
Adair	0	0	0	0.0	A
Canadian	4	0	0	1.3	C
Carter	INC	INC	INC	INC	INC
Choctaw	INC	INC	INC	INC	INC
Cleveland	0	0	0	0.0	A
Comanche	0	0	0	0.0	A
Creek	2	0	0	0.7	B
Dewey	0	0	0	0.0	A
Johnston	INC	INC	INC	INC	INC
Kay	INC	INC	INC	INC	INC
Kiowa	INC	INC	INC	INC	INC
Le Flore	DNC	DNC	DNC	DNC	DNC
Love	INC	INC	INC	INC	INC
McClain	INC	INC	INC	INC	INC
Mayes	0	0	0	0.0	A
Nowata	INC	INC	INC	INC	INC
Oklahoma	5	0	0	1.7	C
Osage	0	0	0	0.0	A
Ottawa	3	0	0	1.0	C
Pittsburg	2	0	0	0.7	B
Sequoyah	1	0	0	0.3	B
Tulsa	5	1	0	2.2	D
Washington	INC	INC	INC	INC	INC

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Adair	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Canadian	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Carter	2	0	0	0	0.7	B	8.7	Pass
Choctaw	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Cleveland	5	0	0	0	1.7	C	10.3	Pass
Comanche	3	0	0	0	1.0	C	8.1	Pass
Creek	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Dewey	1	0	0	0	0.3	B	7.7	Pass
Johnston	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Kay	10	1	0	0	3.8	F	9.7	Pass
Kiowa	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Le Flore	INC	INC	INC	INC	INC	INC	INC	INC
Love	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
McClain	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Mayes	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Nowata	INC	INC	INC	INC	INC	INC	INC	INC
Oklahoma	5	0	0	0	1.7	C	10.1	Pass
Osage	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Ottawa	13	3	0	0	5.8	F	INC	INC
Pittsburg	4	0	0	0	1.3	C	8.7	Pass
Sequoyah	1	0	0	0	0.3	B	7.9	Pass
Tulsa	5	1	0	0	2.2	D	9.1	Pass
Washington	INC	INC	INC	INC	INC	INC	INC	INC

OKLAHOMA

American Lung Association in Oklahoma

				AT-RISK GROUPS							
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Adair	19,414	5,278	3,052	517	1,550	1,139	13	1,538	215	4,015	11,936
Canadian	161,737	41,717	21,811	4,088	13,210	8,940	107	11,781	2,030	12,976	43,941
Carter	48,291	12,204	8,281	1,196	3,941	2,903	32	3,953	548	6,725	15,620
Choctaw	14,307	3,509	2,977	344	1,170	930	9	1,301	150	2,630	5,992
Cleveland	297,597	62,198	43,181	6,094	25,861	17,148	197	22,601	4,039	35,293	90,690
Comanche	122,063	29,367	16,082	2,877	10,199	6,630	81	8,669	1,481	21,533	54,784
Creek	72,029	16,776	13,210	1,644	6,029	4,559	48	6,245	792	10,191	18,545
Dewey	4,417	1,183	829	116	352	272	3	376	44	715	923
Johnston	10,301	2,491	1,992	244	849	650	7	898	110	2,108	3,410
Kay	43,732	10,981	8,479	1,076	3,555	2,704	29	3,747	465	6,745	12,269
Kiowa	8,410	2,038	1,672	200	693	543	6	754	83	1,701	2,328
Le Flore	48,476	11,842	8,673	1,160	3,996	2,985	32	4,083	520	11,053	14,732
Love	10,216	2,517	1,888	247	838	632	7	868	114	1,551	3,214
McClain	43,516	10,999	6,802	1,078	3,568	2,584	29	3,474	503	3,987	9,940
Mayes	39,159	9,169	7,304	898	3,270	2,485	26	3,413	429	5,656	14,525
Nowata	9,303	2,135	1,806	209	781	608	6	839	96	1,429	3,266
Oklahoma	798,575	202,515	114,342	19,843	65,462	44,761	527	59,408	10,129	127,511	363,617
Osage	45,772	9,756	9,626	956	3,910	3,083	30	4,292	457	5,441	17,075
Ottawa	30,340	7,687	5,479	753	2,467	1,841	20	2,526	338	6,023	11,215
Pittsburg	43,633	9,946	8,702	975	3,659	2,801	29	3,879	441	7,506	14,173
Sequoyah	39,508	9,457	7,292	927	3,278	2,500	26	3,431	434	7,656	15,603
Tulsa	672,858	169,015	101,361	16,561	55,266	38,603	444	51,586	8,314	97,613	269,714
Washington	52,772	12,766	10,368	1,251	4,343	3,317	35	4,598	582	8,693	15,368

OREGON

American Lung Association in Oregon

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
Clackamas	4	1	0	1.8	C
Columbia	0	0	0	0.0	A
Crook	DNC	DNC	DNC	DNC	DNC
Harney	DNC	DNC	DNC	DNC	DNC
Jackson	3	0	0	1.0	C
Josephine	DNC	DNC	DNC	DNC	DNC
Klamath	DNC	DNC	DNC	DNC	DNC
Lake	DNC	DNC	DNC	DNC	DNC
Lane	1	0	0	0.3	B
Marion	0	0	0	0.0	A
Multnomah	2	0	0	0.7	B
Umatilla	1	0	0	0.3	B
Washington	1	0	0	0.3	B

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Clackamas	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Columbia	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Crook	2	1	0	2	2.8	D	10.4	Pass
Harney	12	12	0	1	10.8	F	11.1	Pass
Jackson	5	8	1	1	7.2	F	13.0	Fail
Josephine	1	2	0	1	2.2	D	11.3	Pass
Klamath	45	45	1	2	39.8	F	16.2	Fail
Lake	8	3	0	0	4.2	F	INC	INC
Lane	16	10	2	6	16.7	F	11.1	Pass
Marion	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Multnomah	0	1	0	1	1.3	C	7.9	Pass
Umatilla	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Washington	1	0	1	1	1.8	C	7.8	Pass

OREGON

American Lung Association in Oregon

				AT-RISK GROUPS							
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Clackamas	422,537	89,411	80,783	6,214	37,768	20,777	198	27,510	3,800	35,044	84,966
Columbia	53,074	10,850	10,583	754	4,791	2,695	25	3,587	447	5,361	6,896
Crook	25,739	5,130	6,490	357	2,314	1,430	12	1,995	198	3,056	3,234
Harney	7,575	1,515	1,898	105	679	415	4	579	57	1,200	1,075
Jackson	223,734	46,008	50,848	3,197	19,960	11,615	105	15,947	1,930	29,803	46,828
Josephine	88,346	17,148	23,408	1,192	7,964	4,992	41	7,037	671	14,593	12,749
Klamath	70,164	15,409	15,399	1,071	6,155	3,557	33	4,865	581	13,193	16,635
Lake	8,276	1,603	2,193	111	747	470	4	662	56	1,232	1,422
Lane	383,189	68,642	78,561	4,771	35,390	19,103	180	25,578	3,785	53,989	74,138
Marion	347,119	83,212	56,436	5,783	29,916	15,351	163	19,875	3,230	44,959	127,030
Multnomah	803,377	144,371	115,272	10,034	74,998	35,540	377	44,234	9,167	97,458	255,966
Umatilla	79,988	19,882	12,871	1,382	6,813	3,497	38	4,528	681	9,968	28,731
Washington	600,811	131,757	85,870	9,157	53,434	26,015	282	32,636	6,196	51,019	221,258

PENNSYLVANIA

American Lung Association in Pennsylvania

	HIGH OZONE DAYS 2019–2021					HIGH PARTICLE POLLUTION DAYS 2019–2021							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Adams	1	0	0	0.3	B	2	0	0	0	0.7	B	INC	INC
Allegheny	6	0	0	2.0	C	17	5	0	0	8.2	F	11.2	Pass
Armstrong	3	0	0	1.0	C	1	0	0	0	0.3	B	8.3	Pass
Beaver	1	0	0	0.3	B	4	0	0	0	1.3	C	8.9	Pass
Berks	6	0	0	2.0	C	5	1	0	0	2.2	D	8.3	Pass
Blair	1	0	0	0.3	B	1	0	0	0	0.3	B	8.6	Pass
Bradford	0	0	0	0.0	A	1	0	0	0	0.3	B	7.3	Pass
Bucks	17	0	0	5.7	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Cambria	0	0	0	0.0	A	1	0	0	0	0.3	B	9.2	Pass
Centre	0	0	0	0.0	A	1	0	0	0	0.3	B	8.4	Pass
Chester	1	0	0	0.3	B	4	0	0	0	1.3	C	8.9	Pass
Clearfield	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Cumberland	DNC	DNC	DNC	DNC	DNC	8	0	0	0	2.7	D	8.0	Pass
Dauphin	0	0	0	0.0	A	8	1	0	0	3.2	D	9.5	Pass
Delaware	5	0	0	1.7	C	7	0	0	0	2.3	D	8.6	Pass
Elk	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Erie	0	0	0	0.0	A	0	0	0	0	0.0	A	INC	INC
Fayette	0	0	0	0.0	A	1	0	0	0	0.3	B	7.8	Pass
Franklin	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Greene	1	0	0	0.3	B	1	0	0	0	0.3	B	7.0	Pass
Indiana	2	0	0	0.7	B	INC	INC	INC	INC	INC	INC	INC	INC
Lackawanna	0	0	0	0.0	A	1	0	0	0	0.3	B	INC	INC
Lancaster	2	0	0	0.7	B	19	2	0	0	7.3	F	9.5	Pass
Lawrence	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lebanon	INC	INC	INC	INC	INC	6	0	0	0	2.0	C	INC	INC
Lehigh	0	0	0	0.0	A	3	1	0	0	1.5	C	8.8	Pass
Luzerne	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lycoming	0	0	0	0.0	A	2	0	0	0	0.7	B	INC	INC
Mercer	1	0	0	0.3	B	1	0	0	0	0.3	B	INC	INC
Monroe	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Montgomery	5	0	0	1.7	C	2	0	0	0	0.7	B	8.1	Pass
Northampton	4	0	0	1.3	C	4	0	0	0	1.3	C	7.9	Pass
Philadelphia	18	1	0	6.5	F	2	1	0	0	1.2	C	8.9	Pass
Somerset	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Susquehanna	DNC	DNC	DNC	DNC	DNC	2	0	0	0	0.7	B	6.7	Pass
Tioga	0	0	0	0.0	A	1	0	0	0	0.3	B	6.2	Pass
Washington	0	0	0	0.0	A	1	0	0	0	0.3	B	8.6	Pass
Westmoreland	0	0	0	0.0	A	1	0	0	0	0.3	B	7.8	Pass
Wyoming	DNC	DNC	DNC	DNC	DNC	1	0	0	0	0.3	B	INC	INC
York	0	0	0	0.0	A	2	0	0	0	0.7	B	9.6	Pass

PENNSYLVANIA

American Lung Association in Pennsylvania

				AT-RISK GROUPS							
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Adams	104,127	20,561	22,390	1,340	8,544	6,003	61	8,638	965	8,622	12,044
Allegheny	1,238,090	232,418	243,967	15,142	104,584	67,638	726	95,494	13,161	136,011	278,320
Armstrong	65,093	12,493	15,091	814	5,324	3,914	38	5,710	562	7,580	2,125
Beaver	166,624	32,351	37,181	2,108	13,695	9,715	98	14,087	1,528	18,184	19,193
Berks	429,342	95,285	76,104	6,208	34,745	22,572	252	31,374	4,334	53,947	134,239
Blair	121,767	24,788	26,092	1,615	9,934	6,908	71	9,960	1,144	14,059	7,173
Bradford	59,892	13,311	13,229	867	4,734	3,412	35	4,974	520	8,085	2,757
Bucks	646,098	129,748	128,047	8,453	53,027	36,645	379	51,788	6,070	41,492	113,916
Cambria	132,167	25,521	31,020	1,663	10,829	7,824	78	11,474	1,186	16,322	10,716
Centre	157,527	23,261	24,568	1,515	14,398	7,936	93	10,548	1,895	21,124	23,054
Chester	538,649	120,158	92,653	7,828	43,525	28,345	316	39,130	5,408	34,996	118,853
Clearfield	80,082	14,517	16,994	946	6,719	4,679	47	6,681	659	10,556	6,037
Cumberland	262,919	54,039	49,533	3,521	21,722	14,075	155	19,758	2,681	20,156	45,108
Dauphin	287,400	65,000	50,819	4,235	23,163	14,931	169	20,778	2,965	33,359	106,831
Delaware	573,849	126,550	98,430	8,245	46,746	29,646	336	40,921	6,124	55,843	204,908
Elk	30,783	5,965	7,084	389	2,507	1,864	18	2,713	252	3,061	890
Erie	269,011	56,508	51,394	3,682	22,043	14,461	158	20,381	2,695	40,564	45,183
Fayette	126,931	24,387	28,156	1,589	10,454	7,440	75	10,762	1,132	19,633	11,081
Franklin	156,289	34,445	31,410	2,244	12,522	8,591	92	12,264	1,500	14,695	21,040
Greene	35,369	6,755	7,155	440	2,950	1,996	21	2,830	316	4,803	2,486
Indiana	82,886	14,973	16,954	976	7,050	4,592	49	6,527	863	10,735	5,345
Lackawanna	215,663	44,520	43,733	2,901	17,639	11,929	127	17,010	2,134	28,502	38,563
Lancaster	553,652	129,256	104,237	8,421	44,025	28,838	325	40,807	5,542	47,460	108,092
Lawrence	85,497	17,104	19,475	1,114	6,957	4,990	50	7,282	773	10,145	7,636
Lebanon	143,493	32,461	28,506	2,115	11,443	7,737	84	11,046	1,381	12,565	28,839
Lehigh	375,539	85,430	64,265	5,566	30,316	19,227	220	26,581	3,935	40,827	148,669
Luzerne	326,053	65,882	64,903	4,292	26,855	18,051	192	25,596	3,139	40,126	76,346
Lycoming	113,605	23,509	22,834	1,532	9,300	6,243	67	8,889	1,128	11,647	11,808
Mercer	109,972	21,065	24,834	1,372	9,065	6,435	65	9,352	1,000	13,461	11,418
Monroe	169,273	32,940	31,234	2,146	14,099	9,446	100	13,124	1,662	18,697	63,247
Montgomery	860,578	184,327	157,894	12,009	70,154	46,138	505	64,464	8,688	58,621	224,040
Northampton	313,628	61,579	62,047	4,012	26,054	17,396	184	24,598	3,128	29,433	82,377
Philadelphia	1,576,251	340,070	227,367	22,156	131,954	74,821	922	99,512	19,571	341,533	1,044,529
Somerset	73,627	13,326	17,027	868	6,128	4,422	44	6,436	587	8,898	4,470
Susquehanna	38,389	7,210	9,445	470	3,137	2,365	23	3,492	310	4,561	1,669
Tioga	40,929	8,083	9,417	527	3,340	2,399	24	3,506	372	5,266	1,629
Washington	209,470	41,277	44,721	2,689	17,218	12,025	123	17,278	1,957	18,667	17,755
Westmoreland	353,057	64,384	83,505	4,195	29,246	21,384	207	31,280	3,111	38,934	23,983
Wyoming	26,034	5,056	5,843	329	2,137	1,526	15	2,215	238	2,944	1,370
York	458,696	100,560	83,727	6,552	37,115	24,545	270	34,293	4,515	41,594	85,494

PUERTO RICO

American Lung Association in Puerto Rico

	HIGH OZONE DAYS 2019–2021					HIGH PARTICLE POLLUTION DAYS 2019–2021							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Adjuntas	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	INC	INC
Bayamón	0	0	0	0.0	A	0	0	0	0	0.0	A	INC	INC
Caguas	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	INC	INC
Cataño	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Fajardo	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	INC	INC
Guayama	DNC	DNC	DNC	DNC	DNC	INC	INC	INC	INC	INC	INC	INC	INC
Guaynabo	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	INC	INC
Juncos	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Mayagüez	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Ponce	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	INC	INC

PUERTO RICO

American Lung Association in Puerto Rico

		AT-RISK GROUPS									
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Adjuntas	17,987	3,196	3,979	332	1,690	769	3	1,628	101	12,084	17,980
Bayamón	182,673	28,837	43,441	2,993	17,530	7,932	29	16,819	1,061	61,089	184,839
Caguas	126,756	20,920	27,885	2,171	12,080	5,431	20	11,381	776	47,847	126,545
Cataño	22,861	3,962	5,305	411	2,154	973	4	2,061	134	10,834	23,310
Fajardo	31,590	5,425	7,357	563	2,986	1,362	5	2,905	187	13,758	32,250
Guayama	36,511	6,285	7,423	652	3,446	1,515	6	3,100	212	17,659	37,275
Guaynabo	89,195	12,738	22,197	1,322	8,726	4,009	14	8,619	496	22,468	88,900
Juncos	37,279	6,861	6,578	712	3,472	1,498	6	2,981	252	14,874	37,203
Mayagüez	71,939	11,309	18,723	1,174	6,887	3,129	11	6,717	409	39,204	73,711
Ponce	135,084	23,708	33,075	2,460	12,690	5,808	21	12,483	735	68,951	138,725

RHODE ISLAND

American Lung Association in Rhode Island

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
Kent	3	0	0	1.0	C
Providence	5	0	0	1.7	C
Washington	5	1	0	2.2	D

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Kent	1	0	0	0	0.3	B	4.6	Pass
Providence	1	0	0	0	0.3	B	8.2	Pass
Washington	0	0	0	0	0.0	A	4.5	Pass

RHODE ISLAND

American Lung Association in Rhode Island

				AT-RISK GROUPS							
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Kent	170,715	31,451	33,783	2,075	17,602	8,375	109	10,812	1,501	13,635	23,984
Providence	658,221	133,834	105,211	8,828	66,630	29,103	422	35,998	6,572	90,405	270,169
Washington	130,592	20,520	29,158	1,354	13,869	6,743	84	8,882	1,160	11,421	12,499

SOUTH CAROLINA

American Lung Association in South Carolina

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
Aiken	0	0	0	0.0	A
Anderson	1	0	0	0.3	B
Berkeley	0	0	0	0.0	A
Charleston	1	0	0	0.3	B
Chesterfield	0	0	0	0.0	A
Darlington	0	0	0	0.0	A
Edgefield	0	0	0	0.0	A
Florence	DNC	DNC	DNC	DNC	DNC
Greenville	2	0	0	0.7	B
Horry	0	0	0	0.0	A
Lexington	DNC	DNC	DNC	DNC	DNC
Oconee	INC	INC	INC	INC	INC
Pickens	INC	INC	INC	INC	INC
Richland	3	0	0	1.0	C
Spartanburg	3	0	0	1.0	C
York	8	0	0	2.7	D

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Aiken	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Anderson	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Berkeley	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Charleston	1	0	0	0	0.3	B	7.1	Pass
Chesterfield	0	0	0	0	0.0	A	7.0	Pass
Darlington	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Edgefield	0	0	0	0	0.0	A	7.5	Pass
Florence	0	0	0	0	0.0	A	7.3	Pass
Greenville	1	0	0	0	0.3	B	8.3	Pass
Horry	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lexington	2	0	0	0	0.7	B	7.8	Pass
Oconee	INC	INC	INC	INC	INC	INC	INC	INC
Pickens	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Richland	0	0	0	0	0.0	A	7.2	Pass
Spartanburg	0	0	0	0	0.0	A	8.1	Pass
York	0	0	0	0	0.0	A	7.2	Pass

SOUTH CAROLINA

American Lung Association in South Carolina

		AT-RISK GROUPS									
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Aiken	170,776	36,457	34,894	2,405	12,406	10,426	99	12,535	1,775	26,041	59,289
Anderson	206,908	46,680	38,059	3,079	14,843	12,193	120	14,445	2,207	32,461	48,744
Berkeley	236,701	56,246	34,962	3,710	16,758	12,744	138	14,589	2,669	23,708	88,944
Charleston	413,024	79,967	71,813	5,275	30,826	23,900	239	27,816	4,939	55,612	140,531
Chesterfield	43,268	9,524	8,355	628	3,127	2,635	25	3,145	430	8,658	17,622
Darlington	62,755	13,945	12,520	920	4,512	3,791	36	4,548	670	12,886	28,957
Edgefield	26,153	4,516	5,235	298	2,003	1,654	15	1,965	233	4,047	11,060
Florence	136,504	32,246	24,168	2,127	9,655	7,813	79	9,215	1,530	25,173	67,784
Greenville	533,834	121,953	88,092	8,045	38,193	30,017	310	34,928	6,056	56,924	174,431
Horry	365,579	63,249	95,413	4,172	27,805	25,322	212	31,480	3,409	45,501	81,797
Lexington	300,137	68,695	50,129	4,532	21,485	17,169	174	20,037	3,286	32,988	81,478
Oconee	79,203	15,424	19,070	1,017	5,877	5,259	46	6,477	717	12,882	12,761
Pickens	132,229	24,897	22,588	1,642	9,930	7,577	77	8,777	1,564	21,938	20,057
Richland	418,307	90,089	57,180	5,943	30,454	21,891	242	24,573	5,426	66,286	248,688
Spartanburg	335,864	78,166	54,898	5,156	23,906	18,824	195	21,895	3,751	44,859	111,083
York	288,595	68,801	43,313	4,539	20,452	15,973	167	18,371	3,311	27,670	91,111

SOUTH DAKOTA

American Lung Association in South Dakota

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
Brookings	8	0	0	2.7	D
Brown	DNC	DNC	DNC	DNC	DNC
Codington	INC	INC	INC	INC	INC
Custer	2	0	0	0.7	B
Hughes	DNC	DNC	DNC	DNC	DNC
Jackson	0	0	0	0.0	A
Meade	7	0	0	2.3	D
Minnehaha	1	0	0	0.3	B
Pennington	DNC	DNC	DNC	DNC	DNC
Union	1	0	0	0.3	B

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Brookings	3	1	1	0	2.2	D	5.1	Pass
Brown	0	3	0	0	1.5	C	INC	INC
Codington	2	2	1	0	2.3	D	7.4	Pass
Custer	2	1	0	0	1.2	C	3.6	Pass
Hughes	1	0	1	0	1.0	C	3.7	Pass
Jackson	0	1	1	0	1.2	C	4.6	Pass
Meade	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Minnehaha	3	2	0	0	2.0	C	INC	INC
Pennington	3	1	0	0	1.5	C	7.0	Pass
Union	2	2	0	0	1.7	C	INC	INC

SOUTH DAKOTA

American Lung Association in South Dakota

				AT-RISK GROUPS							
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Brookings	34,639	7,336	4,514	484	2,246	1,302	18	1,792	565	3,952	3,808
Brown	38,101	9,068	6,828	598	2,437	1,696	20	2,538	498	4,281	5,764
Codington	28,427	6,725	5,302	444	1,831	1,308	15	1,978	341	2,712	2,607
Custer	8,609	1,255	2,780	83	624	546	4	886	75	822	1,013
Hughes	17,694	4,352	3,153	287	1,126	794	9	1,195	230	1,652	3,501
Jackson	2,878	1,055	384	70	154	104	1	154	33	801	1,850
Meade	30,173	6,616	4,915	436	1,974	1,306	16	1,914	393	2,733	4,116
Minnehaha	199,685	50,571	27,266	3,336	12,542	8,018	103	11,552	2,728	18,377	38,577
Pennington	111,806	25,456	21,583	1,679	7,275	5,227	58	7,924	1,350	12,746	23,631
Union	16,872	4,092	3,175	270	1,080	779	9	1,183	199	1,086	1,621

TENNESSEE

American Lung Association in Tennessee

	HIGH OZONE DAYS 2019–2021					HIGH PARTICLE POLLUTION DAYS 2019–2021							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Anderson	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Blount	2	0	0	0.7	B	1	0	0	0	0.3	B	6.9	Pass
Claiborne	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Davidson	2	0	0	0.7	B	5	0	0	0	1.7	C	9.1	Pass
DeKalb	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Dyer	DNC	DNC	DNC	DNC	DNC	2	0	0	0	0.7	B	7.0	Pass
Hamilton	1	0	0	0.3	B	0	1	0	0	0.5	B	8.7	Pass
Jefferson	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Knox	0	0	0	0.0	A	5	0	0	0	1.7	C	9.1	Pass
Lawrence	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	6.3	Pass
Loudon	0	0	0	0.0	A	0	0	0	0	0.0	A	6.9	Pass
McMinn	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	7.3	Pass
Madison	DNC	DNC	DNC	DNC	DNC	2	0	0	0	0.7	B	INC	INC
Maury	DNC	DNC	DNC	DNC	DNC	1	0	0	0	0.3	B	6.5	Pass
Montgomery	DNC	DNC	DNC	DNC	DNC	3	0	0	0	1.0	C	INC	INC
Putnam	DNC	DNC	DNC	DNC	DNC	1	0	0	0	0.3	B	6.6	Pass
Roane	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	7.1	Pass
Sevier	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Shelby	7	0	0	2.3	D	0	1	0	0	0.5	B	8.6	Pass
Sullivan	1	0	0	0.3	B	0	0	0	0	0.0	A	6.6	Pass
Sumner	1	0	0	0.3	B	2	0	0	0	0.7	B	7.3	Pass
Williamson	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Wilson	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC

TENNESSEE

American Lung Association in Tennessee

				AT-RISK GROUPS							
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Anderson	77,576	16,418	15,764	1,599	6,326	6,825	54	7,817	806	10,945	8,796
Blount	137,605	27,345	28,998	2,663	11,402	12,472	95	14,309	1,426	13,065	13,447
Claiborne	32,267	6,271	6,606	611	2,691	2,890	22	3,304	343	5,291	1,749
Davidson	703,953	142,262	92,397	13,855	58,722	51,500	486	56,188	9,997	101,651	306,953
DeKalb	20,478	4,421	3,864	431	1,668	1,779	14	2,016	210	3,140	2,658
Dyer	36,615	8,735	6,513	851	2,895	3,014	25	3,409	404	5,767	7,865
Hamilton	369,135	76,661	66,898	7,466	30,348	30,758	255	34,783	4,348	45,470	108,366
Jefferson	55,624	10,739	11,341	1,046	4,655	5,081	39	5,790	575	7,962	4,685
Knox	486,677	101,563	79,519	9,891	40,073	38,801	337	43,379	6,026	57,580	89,954
Lawrence	44,828	11,174	7,943	1,088	3,495	3,665	31	4,149	463	5,998	3,184
Loudon	56,690	10,828	15,513	1,055	4,680	5,648	39	6,703	492	5,365	7,676
McMinn	54,059	11,492	10,890	1,119	4,406	4,761	37	5,444	571	7,651	6,289
Madison	98,775	22,110	17,714	2,153	7,955	8,128	68	9,198	1,159	16,124	44,370
Maury	104,760	24,030	17,650	2,340	8,398	8,456	72	9,499	1,207	10,695	22,663
Montgomery	227,900	61,609	22,341	6,000	17,466	14,448	158	15,414	3,015	24,078	89,261
Putnam	81,188	16,960	13,599	1,652	6,672	6,456	56	7,248	959	10,745	10,212
Roane	53,992	10,008	12,700	975	4,532	5,183	37	6,012	526	7,003	4,286
Sevier	99,517	20,247	20,405	1,972	8,210	8,964	69	10,247	1,014	12,973	11,490
Shelby	924,454	231,748	133,989	22,570	72,298	69,280	637	76,751	11,333	163,230	605,437
Sullivan	159,265	30,265	35,409	2,948	13,311	14,766	110	17,040	1,639	26,800	11,696
Sumner	200,557	46,697	32,818	4,548	16,042	16,302	139	18,219	2,267	17,062	36,494
Williamson	255,735	67,005	36,153	6,526	19,799	20,039	177	22,044	2,826	10,137	42,701
Wilson	151,917	35,365	24,251	3,444	12,168	12,324	105	13,725	1,708	11,297	26,021

TEXAS

American Lung Association in Texas

County	Ozone					24-Hour						Annual	
	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Atascosa	DNC	DNC	DNC	DNC	DNC	INC	INC	INC	INC	INC	INC	INC	INC
Bell	5	0	0	1.7	C	1	0	0	0	0.3	B	INC	INC
Bexar	24	0	0	8.0	F	1	1	0	0	0.8	B	8.7	Pass
Bowie	DNC	DNC	DNC	DNC	DNC	3	0	0	0	1.0	C	9.6	Pass
Brazoria	19	3	0	7.8	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Brazos	DNC	DNC	DNC	DNC	DNC	INC	INC	INC	INC	INC	INC	INC	INC
Brewster	0	0	0	0.0	A	1	0	0	0	0.3	B	5.4	Pass
Cameron	0	0	0	0.0	A	6	3	0	0	3.5	F	9.7	Pass
Collin	16	3	0	6.8	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Culberson	13	0	0	4.3	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Dallas	20	1	0	7.2	F	1	0	0	0	0.3	B	9.1	Pass
Denton	37	3	0	13.8	F	1	0	0	0	0.3	B	INC	INC
Ector	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	7.4	Pass
Ellis	1	0	0	0.3	B	0	0	0	0	0.0	A	INC	INC
El Paso	39	1	0	13.5	F	1	0	0	0	0.3	B	8.9	Pass
Galveston	12	0	0	4.0	F	1	0	0	0	0.3	B	7.7	Pass
Gregg	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Harris	51	11	1	23.2	F	3	2	0	0	2.0	C	11.1	Pass
Harrison	0	0	0	0.0	A	0	1	0	0	0.5	B	INC	INC
Hidalgo	1	0	0	0.3	B	6	2	0	0	3.0	D	10.6	Pass
Hood	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hunt	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Jefferson	10	0	0	3.3	F	1	0	0	0	0.3	B	8.3	Pass
Johnson	15	0	0	5.0	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Kaufman	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Kleberg	DNC	DNC	DNC	DNC	DNC	5	2	0	0	2.7	D	INC	INC
Lubbock	DNC	DNC	DNC	DNC	DNC	1	0	0	0	0.3	B	6.0	Pass
McLennan	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Maverick	DNC	DNC	DNC	DNC	DNC	0	1	0	0	0.5	B	7.8	Pass
Montgomery	13	1	0	4.8	F	INC	INC	INC	INC	INC	INC	INC	INC
Navarro	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Nueces	1	0	0	0.3	B	1	2	0	0	1.3	C	8.6	Pass
Orange	1	0	0	0.3	B	1	0	0	0	0.3	B	8.2	Pass
Parker	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Polk	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Potter	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	5.6	Pass
Randall	5	0	0	1.7	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Rockwall	3	0	0	1.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Smith	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Tarrant	37	4	1	15.0	F	2	0	0	0	0.7	B	9.2	Pass
Travis	2	0	0	0.7	B	1	1	0	0	0.8	B	9.5	Pass
Victoria	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Webb	0	0	0	0.0	A	3	1	0	0	1.5	C	10.4	Pass

TEXAS

American Lung Association in Texas

				AT-RISK GROUPS							
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Atascosa	49,939	13,575	7,409	863	3,083	2,307	23	2,841	573	8,151	34,363
Bell	379,617	104,738	43,456	6,655	22,804	15,520	173	18,284	4,873	52,868	214,614
Bexar	2,028,236	508,429	254,331	32,305	127,064	88,953	923	105,803	26,238	293,859	1,498,029
Bowie	92,581	21,930	15,842	1,393	6,003	4,600	42	5,769	1,011	15,460	35,252
Brazoria	379,689	98,396	47,141	6,252	23,742	16,994	173	20,197	4,620	33,053	215,814
Brazos	237,032	49,177	23,861	3,125	15,224	9,411	108	10,663	3,698	50,154	107,978
Brewster	9,450	1,691	2,327	107	667	558	4	741	96	1,250	4,804
Cameron	423,029	123,932	59,236	7,875	25,179	18,462	192	22,642	4,963	103,230	387,136
Collin	1,109,462	279,040	126,015	17,730	70,315	49,914	505	58,297	14,253	72,757	524,183
Culberson	2,193	507	457	32	144	117	1	152	21	427	1,717
Dallas	2,586,050	660,039	297,660	41,939	161,276	111,844	1,176	131,129	33,777	368,709	1,881,922
Denton	941,647	223,263	104,586	14,186	60,541	42,240	428	49,004	12,670	68,494	418,018
Ector	161,091	49,640	15,700	3,154	9,244	6,172	74	7,123	1,957	26,375	115,676
Ellis	202,678	53,626	26,437	3,407	12,631	9,210	92	11,053	2,459	17,641	90,495
El Paso	867,947	229,713	110,826	14,596	53,375	37,630	395	45,064	10,701	171,242	769,302
Galveston	355,062	84,994	54,033	5,400	23,003	17,332	161	21,248	4,209	42,174	157,503
Gregg	124,201	32,069	19,580	2,038	7,794	5,856	56	7,273	1,452	19,426	54,649
Harris	4,728,030	1,240,902	537,117	78,846	292,122	202,685	2,152	237,486	61,038	767,505	3,419,691
Harrison	69,150	17,065	12,443	1,084	4,459	3,516	31	4,456	761	10,198	25,753
Hidalgo	880,356	278,386	99,917	17,688	50,219	34,929	400	41,493	10,815	251,220	830,323
Hood	64,222	13,231	16,258	841	4,426	3,830	29	5,128	610	6,484	11,314
Hunt	103,394	24,845	16,524	1,579	6,686	5,078	47	6,286	1,207	13,902	32,431
Jefferson	253,704	61,836	38,049	3,929	16,217	11,998	116	14,707	2,816	45,633	157,260
Johnson	187,280	48,594	26,661	3,088	11,773	8,741	85	10,643	2,167	17,978	60,720
Kaufman	157,768	44,850	17,591	2,850	9,482	6,629	72	7,781	1,997	13,916	72,988
Kleberg	30,635	7,489	4,124	476	1,904	1,297	14	1,564	412	7,233	24,623
Lubbock	314,451	74,448	40,525	4,730	19,843	13,545	143	16,160	4,317	48,593	152,242
McLennan	263,115	64,243	39,346	4,082	16,656	12,070	119	14,816	3,374	37,352	119,229
Maverick	58,056	17,923	6,866	1,139	3,352	2,349	26	2,806	681	11,691	56,500
Montgomery	648,886	168,407	88,311	10,700	40,816	30,111	295	36,356	7,728	67,809	245,536
Navarro	53,591	14,303	9,071	909	3,357	2,619	24	3,298	578	8,469	25,016
Nueces	353,079	85,527	53,930	5,434	22,575	16,692	161	20,532	4,286	62,967	254,286
Orange	84,742	21,359	13,560	1,357	5,401	4,126	39	5,123	958	10,515	17,987
Parker	156,764	38,840	24,590	2,468	10,098	7,753	71	9,569	1,754	12,227	29,291
Polk	51,899	10,516	9,844	668	3,581	2,882	24	3,639	457	8,117	14,987
Potter	116,547	31,375	15,686	1,994	7,167	5,180	53	6,266	1,314	22,716	66,728
Randall	143,854	34,668	22,151	2,203	9,188	6,763	65	8,334	1,776	12,785	46,395
Rockwall	116,381	31,070	14,495	1,974	7,253	5,290	53	6,297	1,392	5,880	39,986
Smith	237,186	57,701	40,558	3,666	15,212	11,617	108	14,600	2,850	30,154	98,518
Tarrant	2,126,477	547,327	254,934	34,777	132,875	93,864	966	110,853	27,418	242,783	1,197,695
Travis	1,305,154	269,709	138,888	17,137	85,918	57,020	596	65,263	18,755	143,340	673,317
Victoria	90,964	23,090	15,235	1,467	5,741	4,360	41	5,475	1,060	14,471	52,336
Webb	267,945	85,427	26,695	5,428	15,224	10,370	122	12,044	3,287	59,771	258,388

UTAH

American Lung Association in Utah

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
Box Elder	7	0	0	2.3	D
Cache	3	0	0	1.0	C
Carbon	5	0	0	1.7	C
Davis	35	1	0	12.2	F
Duchesne	13	4	0	6.3	F
Garfield	2	0	0	0.7	B
Iron	2	0	0	0.7	B
Salt Lake	57	8	0	23.0	F
San Juan	4	0	0	1.3	C
Tooele	11	1	0	4.2	F
Uintah	21	4	1	9.7	F
Utah	17	0	0	5.7	F
Washington	4	1	0	1.8	C
Weber	17	0	0	5.7	F

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Box Elder	INC	INC	INC	INC	INC	INC	INC	INC
Cache	27	2	0	0	10.0	F	7.6	Pass
Carbon	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Davis	14	1	0	0	5.2	F	7.0	Pass
Duchesne	8	1	0	0	3.2	D	7.0	Pass
Garfield	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Iron	2	1	0	0	1.2	C	5.4	Pass
Salt Lake	19	5	0	0	8.8	F	9.9	Pass
San Juan	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Tooele	11	3	0	0	5.2	F	6.8	Pass
Uintah	4	1	0	0	1.8	C	6.3	Pass
Utah	14	0	0	0	4.7	F	7.2	Pass
Washington	1	1	0	0	0.8	B	5.3	Pass
Weber	8	0	0	0	2.7	D	INC	INC

UTAH

American Lung Association in Utah

		AT-RISK GROUPS									
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Box Elder	59,688	18,466	7,675	1,014	4,020	1,860	16	2,539	742	4,712	8,081
Cache	137,417	40,855	13,651	2,243	9,565	3,883	37	4,946	2,095	14,719	23,115
Carbon	20,372	5,181	3,786	284	1,463	743	5	1,093	250	3,166	3,636
Davis	367,285	113,162	39,135	6,212	24,957	10,909	98	14,216	4,948	23,286	65,161
Duchesne	19,790	6,498	2,545	357	1,294	606	5	833	236	2,555	3,089
Garfield	5,129	1,156	1,222	63	378	209	1	325	53	490	607
Iron	60,519	16,921	8,219	929	4,267	1,920	16	2,628	848	7,906	9,171
Salt Lake	1,186,421	306,977	138,009	16,851	86,331	37,869	316	49,569	16,946	103,046	360,327
San Juan	14,489	4,144	2,164	227	1,001	491	4	689	173	3,832	8,043
Tooele	76,640	24,168	7,086	1,327	5,166	2,212	20	2,799	1,047	4,289	14,836
Uintah	36,204	11,507	4,345	632	2,415	1,094	10	1,473	460	4,285	6,802
Utah	684,986	220,721	53,903	12,116	46,184	18,037	183	21,954	10,260	54,542	130,573
Washington	191,226	47,707	42,202	2,619	13,732	7,321	51	11,261	2,219	17,782	32,190
Weber	267,066	72,498	32,373	3,980	19,056	8,520	71	11,311	3,646	24,635	65,769

VERMONT

American Lung Association in Vermont

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
Bennington	0	0	0	0.0	A
Chittenden	0	0	0	0.0	A
Rutland	0	0	0	0.0	A

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Bennington	1	0	0	0	0.3	B	5.8	Pass
Chittenden	1	0	0	0	0.3	B	6.9	Pass
Rutland	1	0	0	0	0.3	B	7.6	Pass

VERMONT

American Lung Association in Vermont

				AT-RISK GROUPS							
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Bennington	37,312	6,992	8,842	309	3,560	2,158	20	2,615	274	4,471	2,544
Chittenden	168,865	29,439	27,292	1,300	16,849	8,265	90	9,206	1,701	15,931	20,789
Rutland	60,591	10,508	14,307	464	5,892	3,526	32	4,254	448	6,135	3,031

VIRGINIA

American Lung Association in Virginia

	HIGH OZONE DAYS 2019–2021					HIGH PARTICLE POLLUTION DAYS 2019–2021							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Albemarle	0	0	0	0.0	A	0	0	0	0	0.0	A	6.9	Pass
Arlington	4	0	0	1.3	C	0	0	0	0	0.0	A	7.5	Pass
Caroline	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Charles City	0	0	0	0.0	A	0	0	0	0	0.0	A	6.4	Pass
Chesterfield	1	0	0	0.3	B	0	0	0	0	0.0	A	6.4	Pass
Fairfax	5	0	0	1.7	C	1	0	0	0	0.3	B	8.7	Pass
Fauquier	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Frederick	0	0	0	0.0	A	0	0	0	0	0.0	A	7.6	Pass
Giles	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hanover	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Henrico	0	0	0	0.0	A	1	0	0	0	0.3	B	7.4	Pass
Loudoun	3	0	0	1.0	C	0	0	0	0	0.0	A	6.9	Pass
Madison	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Prince Edward	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Prince William	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Roanoke	0	0	0	0.0	A	1	0	0	0	0.3	B	7.1	Pass
Rockbridge	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Rockingham	0	0	0	0.0	A	0	0	0	0	0.0	A	6.8	Pass
Stafford	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Wythe	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Bristol City	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	6.6	Pass
Hampton City	0	0	0	0.0	A	0	0	0	0	0.0	A	6.4	Pass
Lynchburg City	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	6.1	Pass
Norfolk City	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	6.8	Pass
Richmond City	DNC	DNC	DNC	DNC	DNC	1	0	0	0	0.3	B	7.8	Pass
Salem City	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	6.5	Pass
Suffolk City	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Virginia Beach City	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	6.8	Pass

VIRGINIA

American Lung Association in Virginia

		AT-RISK GROUPS									
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Albemarle	113,535	22,352	22,416	1,474	8,898	6,033	58	7,879	1,279	7,465	26,931
Arlington	232,965	42,477	27,006	2,802	18,779	10,632	119	12,703	3,245	18,150	92,160
Caroline	31,332	7,061	5,322	466	2,391	1,585	16	2,060	321	3,357	11,548
Charles City	6,594	941	1,740	62	554	425	3	587	54	753	3,708
Chesterfield	370,688	87,796	58,505	5,792	27,895	18,119	189	23,325	4,103	26,947	151,831
Fairfax	1,139,720	263,571	165,344	17,387	86,612	54,725	583	69,594	12,672	79,572	580,355
Fauquier	73,815	17,043	12,621	1,124	5,609	3,778	38	4,953	718	4,780	16,426
Frederick	93,717	21,346	17,066	1,408	7,115	4,841	48	6,359	926	6,980	18,385
Giles	16,562	3,245	3,665	214	1,305	945	8	1,274	153	1,934	943
Hanover	111,603	24,073	20,835	1,588	8,621	5,923	57	7,822	1,099	7,297	19,167
Henrico	333,554	74,241	54,923	4,897	25,516	16,625	170	21,408	3,751	23,099	163,226
Loudoun	427,592	115,849	43,443	7,642	31,092	18,290	219	22,522	4,942	15,315	200,645
Madison	13,942	2,785	3,221	184	1,092	806	7	1,094	127	1,294	2,142
Prince Edward	21,932	3,522	3,686	232	1,795	1,108	11	1,381	270	3,407	8,456
Prince William	484,472	128,947	52,455	8,506	35,338	20,895	248	25,746	5,508	30,613	290,988
Roanoke	96,589	18,993	21,361	1,253	7,585	5,455	49	7,320	953	7,597	15,280
Rockbridge	22,641	3,959	6,131	261	1,815	1,407	12	1,941	194	2,254	1,937
Rockingham	84,394	18,641	16,704	1,230	6,438	4,476	43	5,924	841	6,848	11,206
Stafford	160,877	41,803	17,528	2,758	11,834	6,988	83	8,602	1,779	8,443	70,043
Wythe	28,178	5,482	6,265	362	2,225	1,616	14	2,182	263	4,727	1,842
Bristol City	17,054	3,453	3,753	228	1,328	953	9	1,276	168	3,098	2,123
Hampton City	137,746	29,506	22,128	1,946	10,611	6,732	70	8,535	1,607	16,442	87,749
Lynchburg City	79,009	15,026	11,305	991	6,233	3,646	40	4,404	1,142	12,216	30,025
Norfolk City	235,089	45,560	28,169	3,005	18,576	10,445	121	12,375	2,864	34,150	133,572
Richmond City	226,604	38,768	31,900	2,557	18,421	10,883	115	13,281	3,192	45,409	129,112
Salem City	25,373	4,806	4,938	317	2,013	1,361	13	1,778	285	2,469	4,181
Suffolk City	96,194	22,771	14,539	1,502	7,249	4,648	49	5,949	1,043	10,069	49,994
Virginia Beach City	457,672	100,780	69,529	6,648	35,092	22,048	234	27,866	5,209	41,912	182,232

WASHINGTON

American Lung Association in Washington

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
Benton	3	0	0	1.0	C
Clallam	0	0	0	0.0	A
Clark	0	0	0	0.0	A
Columbia	INC	INC	INC	INC	INC
King	2	2	0	1.7	C
Kitsap	DNC	DNC	DNC	DNC	DNC
Kittitas	DNC	DNC	DNC	DNC	DNC
Okanogan	DNC	DNC	DNC	DNC	DNC
Pierce	1	0	0	0.3	B
Skagit	0	0	0	0.0	A
Snohomish	DNC	DNC	DNC	DNC	DNC
Spokane	3	0	0	1.0	C
Stevens	DNC	DNC	DNC	DNC	DNC
Thurston	INC	INC	INC	INC	INC
Whatcom	0	0	0	0.0	A
Yakima	DNC	DNC	DNC	DNC	DNC

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Benton	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Clallam	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Clark	2	1	2	5	6.7	F	8.9	Pass
Columbia	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
King	5	5	3	0	6.2	F	8.3	Pass
Kitsap	4	3	3	0	4.8	F	5.9	Pass
Kittitas	7	4	3	1	7.2	F	7.5	Pass
Okanogan	13	11	7	2	16.2	F	12.4	Fail
Pierce	6	4	3	0	6.0	F	7.9	Pass
Skagit	0	0	0	0	0.0	A	INC	INC
Snohomish	7	6	1	0	6.0	F	8.7	Pass
Spokane	1	9	1	3	8.0	F	INC	INC
Stevens	7	13	1	3	12.0	F	INC	INC
Thurston	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Whatcom	3	6	1	0	4.7	F	4.7	Pass
Yakima	21	17	1	4	19.5	F	11.8	Pass

WASHINGTON

American Lung Association in Washington

		AT-RISK GROUPS									
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Benton	210,025	55,177	32,606	4,033	16,257	7,954	102	10,628	2,133	22,043	67,666
Clallam	78,209	12,959	24,237	947	6,694	4,338	38	6,196	611	9,204	14,690
Clark	511,404	117,552	83,476	8,593	41,318	20,591	247	27,595	5,385	45,938	123,174
Columbia	4,042	724	1,156	53	341	215	2	306	34	529	706
King	2,252,305	445,849	309,960	32,591	190,746	85,718	1,091	111,773	26,732	205,784	989,428
Kitsap	274,314	54,566	52,523	3,989	22,979	11,858	133	16,080	2,657	23,100	67,344
Kittitas	45,499	7,659	7,756	560	3,981	1,859	22	2,464	551	6,195	7,644
Okanogan	42,634	9,791	9,722	716	3,404	1,976	21	2,753	367	6,748	15,313
Pierce	925,708	214,751	133,409	15,698	74,885	35,006	448	46,160	10,117	74,284	334,152
Skagit	130,696	27,830	28,464	2,034	10,697	5,946	63	8,209	1,232	15,073	35,339
Snohomish	833,540	185,638	119,706	13,570	68,228	32,277	404	42,603	9,006	59,505	284,840
Spokane	546,040	118,778	91,795	8,682	44,833	22,096	264	29,590	5,837	59,848	92,139
Stevens	47,426	10,087	11,708	737	3,858	2,342	23	3,288	383	6,392	6,570
Thurston	297,977	62,966	54,080	4,603	24,606	12,496	144	16,871	3,189	29,197	81,106
Whatcom	228,831	43,098	41,938	3,150	19,472	9,620	111	12,927	2,618	29,011	51,342
Yakima	256,035	75,344	36,193	5,508	19,003	9,052	124	12,015	2,605	37,078	151,594

WEST VIRGINIA

American Lung Association in West Virginia

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
Berkeley	0	0	0	0.0	A
Brooke	DNC	DNC	DNC	DNC	DNC
Cabell	0	0	0	0.0	A
Gilmer	0	0	0	0.0	A
Greenbrier	0	0	0	0.0	A
Hancock	1	0	0	0.3	B
Harrison	DNC	DNC	DNC	DNC	DNC
Kanawha	0	0	0	0.0	A
Marion	DNC	DNC	DNC	DNC	DNC
Marshall	DNC	DNC	DNC	DNC	DNC
Monongalia	0	0	0	0.0	A
Ohio	1	0	0	0.3	B
Tucker	0	0	0	0.0	A
Wood	0	0	0	0.0	A

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Berkeley	2	0	0	0	0.7	B	8.4	Pass
Brooke	1	0	0	0	0.3	B	9.1	Pass
Cabell	0	0	0	0	0.0	A	7.2	Pass
Gilmer	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Greenbrier	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hancock	0	0	0	0	0.0	A	INC	INC
Harrison	0	0	0	0	0.0	A	7.1	Pass
Kanawha	0	0	0	0	0.0	A	7.5	Pass
Marion	0	0	0	0	0.0	A	INC	INC
Marshall	1	0	0	0	0.3	B	9.3	Pass
Monongalia	0	0	0	0	0.0	A	7.0	Pass
Ohio	0	0	0	0	0.0	A	7.8	Pass
Tucker	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Wood	0	0	0	0	0.0	A	7.5	Pass

WEST VIRGINIA

American Lung Association in West Virginia

				AT-RISK GROUPS							
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Berkeley	126,069	28,915	19,145	2,722	11,929	12,052	93	12,400	1,310	12,365	22,403
Brooke	22,140	3,878	5,433	365	2,201	2,511	16	2,776	193	2,776	1,095
Cabell	93,418	18,612	17,986	1,752	9,079	9,275	69	9,926	1,012	17,022	9,557
Gilmer	7,377	1,117	1,309	105	764	743	6	777	60	1,455	1,421
Greenbrier	32,608	6,365	7,794	599	3,164	3,613	24	3,993	286	6,037	2,464
Hancock	28,656	5,357	6,850	504	2,814	3,236	21	3,563	251	4,223	1,916
Harrison	65,158	14,005	12,994	1,319	6,218	6,760	48	7,259	615	9,405	4,129
Kanawha	177,952	35,421	38,514	3,335	17,257	18,939	130	20,595	1,704	27,810	22,201
Marion	56,001	11,216	11,000	1,056	5,439	5,694	41	6,102	568	8,257	4,142
Marshall	30,115	5,727	7,138	539	2,944	3,363	22	3,703	254	4,826	1,154
Monongalia	106,387	17,578	14,352	1,655	10,895	9,549	79	9,594	1,362	18,293	12,870
Ohio	41,776	8,135	9,428	766	4,060	4,442	31	4,875	402	5,793	3,426
Tucker	6,672	934	1,831	88	690	818	5	914	56	954	196
Wood	83,624	17,611	17,574	1,658	8,008	8,861	61	9,591	773	12,172	4,272

WISCONSIN

American Lung Association in Wisconsin

	HIGH OZONE DAYS 2019–2021					HIGH PARTICLE POLLUTION DAYS 2019–2021							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Ashland	1	0	0	0.3	B	2	1	0	0	1.2	C	5.6	Pass
Brown	1	0	0	0.3	B	3	0	0	0	1.0	C	7.8	Pass
Columbia	4	0	0	1.3	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Dane	3	0	0	1.0	C	0	0	0	0	0.0	A	8.3	Pass
Dodge	3	0	0	1.0	C	0	0	0	0	0.0	A	8.0	Pass
Door	8	0	0	2.7	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Eau Claire	0	0	0	0.0	A	4	1	0	0	1.8	C	8.2	Pass
Fond du Lac	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Forest	0	0	0	0.0	A	3	1	0	0	1.5	C	5.9	Pass
Grant	DNC	DNC	DNC	DNC	DNC	1	0	0	0	0.3	B	8.8	Pass
Jackson	DNC	DNC	DNC	DNC	DNC	INC	INC	INC	INC	INC	INC	INC	INC
Jefferson	5	0	0	1.7	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Kenosha	22	1	0	7.8	F	1	0	0	0	0.3	B	7.7	Pass
Kewaunee	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
La Crosse	0	0	0	0.0	A	1	0	0	0	0.3	B	7.9	Pass
Manitowoc	6	0	0	2.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Marathon	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Milwaukee	13	1	0	4.8	F	1	0	0	0	0.3	B	8.9	Pass
Monroe	DNC	DNC	DNC	DNC	DNC	INC	INC	INC	INC	INC	INC	INC	INC
Outagamie	3	0	0	1.0	C	4	0	0	0	1.3	C	8.1	Pass
Ozaukee	14	1	0	5.2	F	0	0	0	0	0.0	A	7.0	Pass
Racine	16	1	0	5.8	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Rock	3	0	0	1.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Sauk	1	0	0	0.3	B	1	0	0	0	0.3	B	7.7	Pass
Sheboygan	11	2	0	4.7	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Taylor	0	0	0	0.0	A	2	2	0	0	1.7	C	6.8	Pass
Vilas	0	0	0	0.0	A	3	0	0	0	1.0	C	5.3	Pass
Walworth	6	0	0	2.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Waukesha	6	0	0	2.0	C	1	0	0	0	0.3	B	9.4	Pass

WISCONSIN

American Lung Association in Wisconsin

		AT-RISK GROUPS									
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Ashland	16,107	3,507	3,335	219	1,373	749	9	1,034	150	2,266	2,967
Brown	269,591	62,787	42,776	3,914	22,662	11,246	155	14,781	2,891	24,355	56,164
Columbia	58,488	12,198	11,083	760	5,089	2,686	34	3,642	550	4,415	5,065
Dane	563,951	112,552	82,750	7,016	48,951	22,918	324	29,232	7,060	62,409	122,418
Dodge	89,313	17,326	16,392	1,080	7,925	4,105	52	5,511	799	7,043	10,141
Door	30,369	4,891	9,437	305	2,741	1,743	17	2,576	231	2,604	2,167
Eau Claire	106,452	21,475	17,428	1,339	9,165	4,441	61	5,790	1,306	12,739	11,774
Fond du Lac	104,362	22,087	20,106	1,377	8,996	4,759	60	6,470	1,054	8,168	12,438
Forest	9,258	1,773	2,166	111	819	467	5	658	78	1,250	1,940
Grant	52,110	10,941	9,303	682	4,449	2,247	30	2,994	527	6,039	2,892
Jackson	21,121	4,553	4,152	284	1,814	971	12	1,328	175	2,497	3,069
Jefferson	84,943	17,246	15,545	1,075	7,442	3,861	49	5,191	875	6,203	9,619
Kenosha	168,732	37,117	25,585	2,314	14,545	7,132	97	9,286	1,842	17,554	43,765
Kewaunee	20,543	4,293	4,436	268	1,777	987	12	1,373	184	1,567	1,279
La Crosse	120,433	23,505	20,945	1,465	10,474	5,195	69	6,855	1,457	13,944	13,466
Manitowoc	81,505	16,785	17,747	1,046	7,086	3,946	47	5,496	728	8,665	8,988
Marathon	137,648	31,227	25,622	1,947	11,667	6,152	79	8,344	1,335	10,345	17,021
Milwaukee	928,059	222,246	132,643	13,854	76,921	36,585	532	47,022	11,124	161,890	472,561
Monroe	46,193	11,643	8,224	726	3,789	1,989	27	2,691	427	5,119	4,911
Outagamie	191,545	44,488	30,229	2,773	16,163	8,033	110	10,555	2,005	13,789	26,169
Ozaukee	92,497	19,563	19,187	1,220	7,977	4,357	53	6,015	880	4,244	9,041
Racine	196,896	44,950	34,390	2,802	16,702	8,616	113	11,548	1,950	23,827	59,293
Rock	164,381	37,374	28,507	2,330	13,943	7,158	94	9,574	1,693	16,283	30,689
Sauk	65,697	14,838	12,814	925	5,558	2,977	38	4,073	628	6,305	6,659
Sheboygan	117,747	25,658	22,395	1,599	10,092	5,341	68	7,259	1,119	10,013	20,770
Taylor	19,923	4,596	4,063	287	1,688	932	11	1,291	171	2,027	912
Vilas	23,520	3,960	7,271	247	2,120	1,358	14	2,010	154	2,677	3,465
Walworth	106,799	21,162	20,389	1,319	9,357	4,893	61	6,615	1,101	10,644	16,066
Waukesha	408,756	86,561	80,160	5,396	35,384	18,950	235	25,891	3,965	20,035	53,259

WYOMING

American Lung Association in Wyoming

HIGH OZONE DAYS 2019–2021

County	Orange	Red	Purple	Wgt. Avg.	Grade
Albany	12	0	0	4.0	F
Big Horn	3	0	0	1.0	C
Campbell	11	0	0	3.7	F
Carbon	INC	INC	INC	INC	INC
Converse	7	0	0	2.3	D
Fremont	9	0	0	3.0	D
Johnson	7	0	0	2.3	D
Laramie	10	0	0	3.3	F
Lincoln	INC	INC	INC	INC	INC
Natrona	6	0	0	2.0	C
Park	INC	INC	INC	INC	INC
Sheridan	DNC	DNC	DNC	DNC	DNC
Sublette	18	3	0	7.5	F
Sweetwater	9	0	0	3.0	D
Teton	3	0	0	1.0	C
Uinta	INC	INC	INC	INC	INC
Weston	1	0	0	0.3	B

HIGH PARTICLE POLLUTION DAYS 2019–2021

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Albany	4	1	0	0	1.8	C	INC	INC
Big Horn	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Campbell	5	0	0	0	1.7	C	INC	INC
Carbon	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Converse	INC	INC	INC	INC	INC	INC	INC	INC
Fremont	6	1	0	0	2.5	D	2.4	Pass
Johnson	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Laramie	4	2	0	0	2.3	D	4.1	Pass
Lincoln	INC	INC	INC	INC	INC	INC	INC	INC
Natrona	5	0	0	0	1.7	C	INC	INC
Park	2	0	0	0	0.7	B	4.3	Pass
Sheridan	0	0	0	0	0.0	A	6.3	Pass
Sublette	4	1	0	0	1.8	C	3.5	Pass
Sweetwater	1	0	0	0	0.3	B	INC	INC
Teton	17	5	0	0	8.2	F	4.4	Pass
Uinta	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Weston	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC

WYOMING

American Lung Association in Wyoming

		AT-RISK GROUPS									
				Lung Diseases							
County	Total Population	Under 18	65 & Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	Pregnancies	Poverty	People of Color
Albany	37,608	5,998	4,884	515	3,099	1,579	17	1,700	556	6,309	6,710
Big Horn	11,632	2,844	2,532	244	860	647	5	768	106	1,440	1,542
Campbell	46,401	12,511	5,669	1,075	3,352	2,011	20	2,161	519	3,882	6,085
Carbon	14,649	3,312	2,606	285	1,114	749	6	855	142	1,706	3,503
Converse	13,672	3,336	2,482	287	1,017	712	6	815	137	1,321	1,608
Fremont	39,336	9,944	7,694	854	2,882	2,062	17	2,408	384	5,683	12,151
Johnson	8,623	1,834	2,297	158	662	542	4	662	75	855	805
Laramie	100,863	22,942	17,183	1,971	7,659	5,017	44	5,689	1,101	9,765	22,344
Lincoln	20,153	5,131	3,901	441	1,476	1,074	9	1,247	189	1,522	1,673
Natrona	79,555	19,108	13,135	1,642	5,946	3,890	35	4,395	873	8,349	11,303
Park	30,108	6,196	7,490	532	2,334	1,827	13	2,204	280	3,372	2,771
Sheridan	31,646	6,654	6,942	572	2,448	1,805	14	2,131	317	2,929	2,824
Sublette	8,697	1,831	1,923	157	673	505	4	595	82	612	1,019
Sweetwater	41,614	10,468	5,886	899	3,072	1,909	18	2,100	471	3,761	8,704
Teton	23,575	4,142	3,984	356	1,914	1,227	10	1,370	281	1,392	4,522
Uinta	20,635	5,729	3,280	492	1,468	977	9	1,104	214	1,917	2,742
Weston	6,745	1,354	1,523	116	529	398	3	470	57	666	687