American Lung Association.

State of the Air

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Acknowledgments

The American Lung Association "State of the Air" 2021 is the result of the hard work of many.

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"State of the Air" 2021 would not have been possible but for the twenty years of inspiration, dedication and hard work of the late Janice E. Nolen. We miss her every day.

The American Lung Association assumes sole responsibility for the content of the American Lung Association "State of the Air" 2021.

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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: ozone, particulate matter, nitrogen oxides, sulfur dioxide, carbon monoxide and lead. The NAAQS identify what is considered a safe level of the pollutants to breathe, based on the most recent health and medical science. The standards alert the public when pollution levels place Americans' health at risk, and require Tribes, 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 standard must be based solely on what is needed to protect health. "State of the Air" looks at the two most widespread and dangerous pollutants ozone and fine particulate matter.

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 criteria pollutants, including ozone and particle pollution, have fallen by 77%, according to EPA. But as "State of the Air" 2021 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 5 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 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" 2021 now includes data for 10 vulnerable groups.

Since its inception, "State of the Air" has been tremendously successful in raising awareness about ozone and particle pollution, the two 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. 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 2021 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), formerly called Aerometric Information Retrieval System (AIRS) database. The American Lung Association contracted with Dr. Allen S. Lefohn, A.S.L. & Associates, Helena, 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 2017-2019 for each monitoring site.

Year-round particle pollution. Design values for the annual $PM_{2.5}$ concentrations by county for the period 2017-2019 were retrieved December 1, 2020, from data posted on May 26, 2020, at the U.S. Environmental Protection Agency's website at https://www.epa.gov/air-trends/air-quality-design-values.

Ozone Data Analysis

The 2017, 2018 and 2019 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 30, 2020, 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 the 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 2017, 2018 and 2019, 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. 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 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 2017, 2018 and 2019 with monitoring information. The 24-hour $PM_{2.5}$ data were downloaded on August 7, 2020, following the close of the authorized period for quality review and assurance certification of data. In addition, on August 7, 2020, 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 EPA Air Quality Index, as adopted by 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 for each county. To determine the weighted average, the Lung Association followed these steps:

1. First, assigned weighting factors to each category of the Air Quality Index. The number of orange days experienced by each county received a factor of 1; red days, a factor of 1.5; purple days, a factor of 2; and maroon days, a factor of 2.5. This allowed days where the air pollution levels were higher to receive greater weight.
2. Next, multiplied the total number of days within each category by their assigned factor, and then summed all the categories to calculate a total.
3. Finally, divided the total by three to determine the weighted average, since the monitoring data were collected over a three-year period.

The weighted average determined each county's grades for ozone and 24-hour $PM_{2.5}$.

- 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 $\mu g/m^3$ (called a "98^{th} 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 $\mu g/m^3$ (called a "99^{th} percentile" form) of the $PM_{2.5}$. The American Lung Association supports using the tighter limits in a 99^{th} percentile form as a more appropriate standard that is intended to protect the public from short-term episodes or spikes in pollution.

Grading System		
Grade	**Weighted Average**	**Approximate Number of Allowable Orange/Red/Purple/Maroon Days**
A	0.0	None
B	0.3 to 0.9	1 to 2 orange days with no red
C	1.0 to 2.0	3 to 6 days over the standard: 3 to 5 orange with no more than 1 red OR 6 orange with no red
D	2.1 to 3.2	7 to 9 days over the standard: 7 total (including up to 2 red) to 9 orange with no red
F	3.3 or higher	9 days or more over the standard: 10 orange days or 9 total including at least 1 or more red, purple or maroon

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 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.

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, the air pollution circulates to that monitor through the county and metropolitan area.

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 $\mu g/m^3$. Counties that EPA listed as being at or below 12 $\mu g/m^3$ were given grades of "Pass." Counties EPA listed as being at or above 12.1 $\mu g/m^3$ were given grades of "Fail." Where insufficient data existed for EPA to determine a design value, those counties received a grade of "Incomplete."

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.

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 American 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.

Key Findings

The "State of the Air" 2021 report finds that despite some nationwide progress on cleaning up air pollution, more than 40% of Americans—more than 135 million people—are living in places with unhealthy levels of ozone or particle pollution. The burden of living with unhealthy air is not shared equally. People of color are more than three times more likely to be breathing the most polluted air than white people.

The "State of the Air" report looks at two of the most widespread and dangerous air pollutants, ozone and fine particulate matter. The air quality data used in the report is 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 ozone and daily and long-term measures of particle pollution. Those values are also used to rank cities (metropolitan areas) and counties. This year's report presents data from 2017, 2018 and 2019, the most recent quality-assured nationwide air pollution data publicly available. *See the About This Report section on* page 6 *for more detail about the methodology for data collections and analysis.*

"State of the Air" 2021 is the 22nd 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 now-50-year-old 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" 2021 ranked among the six hottest years on record globally. High ozone days and spikes in particle pollution, related to extreme heat and wildfires, are putting millions more people at risk and adding challenges to the work states and cities are doing across the nation to clean up air pollution.

The COVID-19 pandemic has driven home to the world the preciousness of healthy lungs.[1] New research shows that exposure to elevated levels of air pollution is linked to worse health outcomes from COVID-19, including higher death rates. As the nation continues to respond to the pandemic, reducing air pollution is critical for respiratory health now and in the future. The Lung Association will continue to champion the Clean Air Act and push for clean air, health equity and environmental justice for all.

More than 4 in 10 Americans live in places with unhealthy levels of air pollution.

More than four in ten Americans (41.1%—more than 135 million Americans) are living in the 217 counties across the nation with monitors that are capturing unhealthy levels of ozone or particle pollution. This is 14.8 million fewer people breathing unhealthy air compared to last year's report, mostly from improved levels of ozone pollution. However, the threat of deadly particulate matter air pollution continues to worsen with each new edition of "State of the Air." This year's report finds an increase of close to 1.1 million people living in areas with unhealthy levels of short-term particle pollution compared to last year's report.

People of color are 3 times more likely than white people to live in a county with 3 failing grades.

Close to 20.7 million people, or 6.3% of Americans, live in the 13 counties that failed all three measures. Of these 20.7 million people, 14 million are people of color. People of color were 61% more likely than white people to live in a county with a failing grade for at least one pollutant, and over three times as likely to live in a county with a failing grade for all three pollutants.

Los Angeles remains the city with the worst ozone pollution in the nation, as it has for all but one of the 22 years tracked by the "State of the Air" report. Fairbanks, Alaska, earned the unfortunate distinction of being the metropolitan area with the worst short-term particle pollution for the first time. And Bakersfield, California, returned to the most polluted slot for year-round particle pollution for the second year in a row.

1 The "State of the Air" 2021 covers the years 2017, 2018 and 2019 and does not reflect any changes in activity patterns and air quality that may have resulted from the COVID-19 pandemic in 2020. That data will not be available until next year. More information about the relationship between air pollution and COVID-19 can be found in the Health Impact of Air Pollution section on page 24.

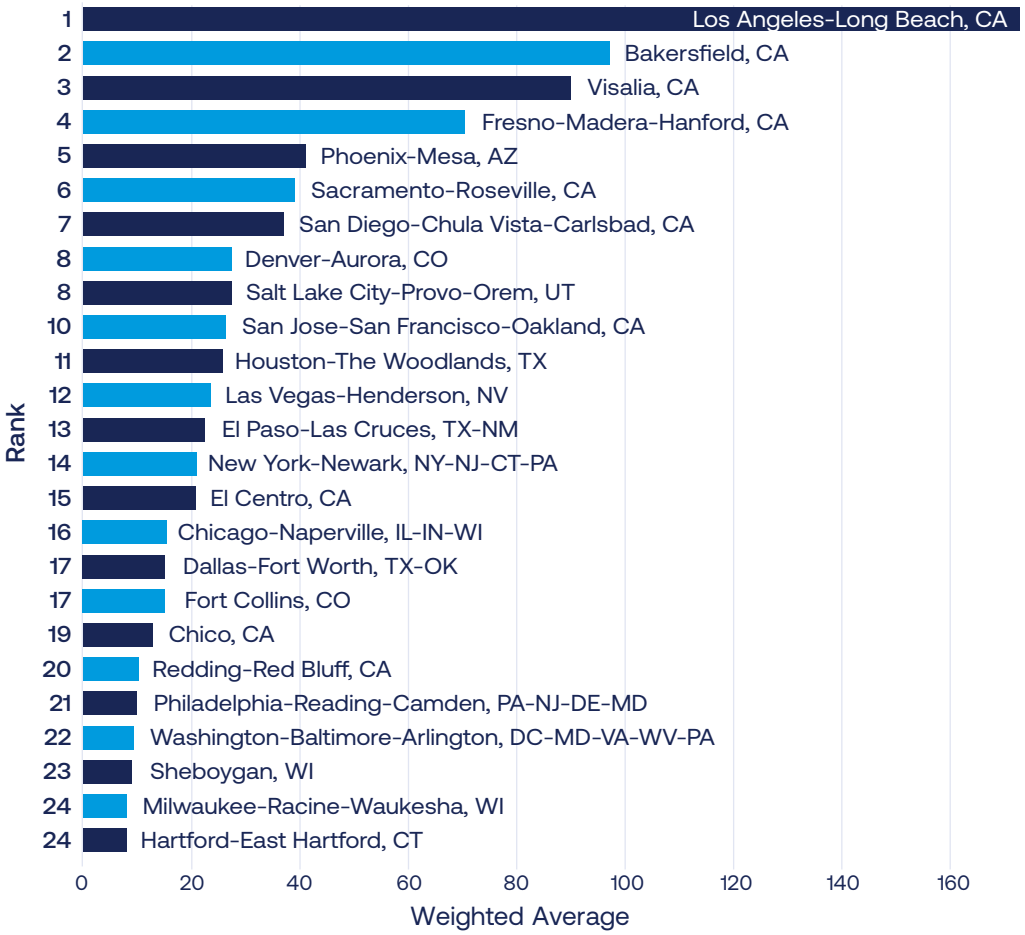
3 out of every 8 Americans live in counties with F grades for ozone.

Ozone Trends

Exposure to unhealthy levels of ozone air pollution continues to make breathing difficult for millions of Americans all across the country. In the years 2017, 2018 and 2019, more than 123.2 million people lived in the 163 counties that earned an F for ozone. That is fewer than in the 2020, 2019 and the 2018 reports, but more than in the 2017 report. There are still a lot of vulnerable people, including 28.1 million children and 18.2 million people age 65 or older, exposed to ozone air pollution and increased risk of harm.

The list of 25 cities with the worst ozone pollution in "State of the Air" 2021 remains the same as in last year's report, although a few moved up or down a bit in the rankings (see Figure 1). Cities in the West and the Southwest continue to dominate the most-ozone-polluted list. California retains its historic distinction of having the most cities on the list, with 10 of the 25 most-polluted cities. The Southwest fills most of the remaining slots, with eight of the 25 cities on the list. Only seven of the worst 25 cities are east of the Mississippi River. Once again this year, no metropolitan areas in the Southeast rank among the 25 worst cities most polluted by ozone.

Figure 1: 25 Cities Most Polluted by Ozone



Overall, the 25 most ozone-polluted cities in the U.S. experienced fewer bad air days on average from 2017 to 2019 than did those in last year's report covering 2016 to 2018. Four California cities on the list recorded their fewest bad ozone days on average in the report's 22-year history, although they are still among the ten most ozone-polluted cities in the nation.

The three years covered by "State of the Air" 2021 ranked among the six hottest years on record globally.

The geographical distribution of cities with the worst ozone problems confirms a trend seen over the past five reports: fewer Eastern cities and more Western cities. The increased oil and gas extraction in the Southwest and the cleanup of power plants in the East have shifted the cities that experienced the greatest number of unhealthy ozone days. However, there are still problems in the East with transported pollution when ozone and ozone precursors enter from upwind sources in the Midwest. For example, Fairfield County, Connecticut, is the county with the highest ozone in the eastern half of the nation, in part because of pollution transported from other states.

Heat also makes a difference. High temperatures again played a major role in the number of unhealthy ozone days. The previous three years' reports included data from 2016, which remains the hottest year on record globally. Although the years 2017, 2018 and 2019 included in "State of the Air" 2021 were somewhat cooler, they still rank among the six hottest years on record globally, showing the strong impact of warmer temperatures on air quality. Climate change is driving warmer temperatures, which make ozone pollution more likely to form and harder to clean up.

Short-term Particle Pollution Trends

Over 54 million Americans live in counties with F grades for spikes in daily particle pollution.

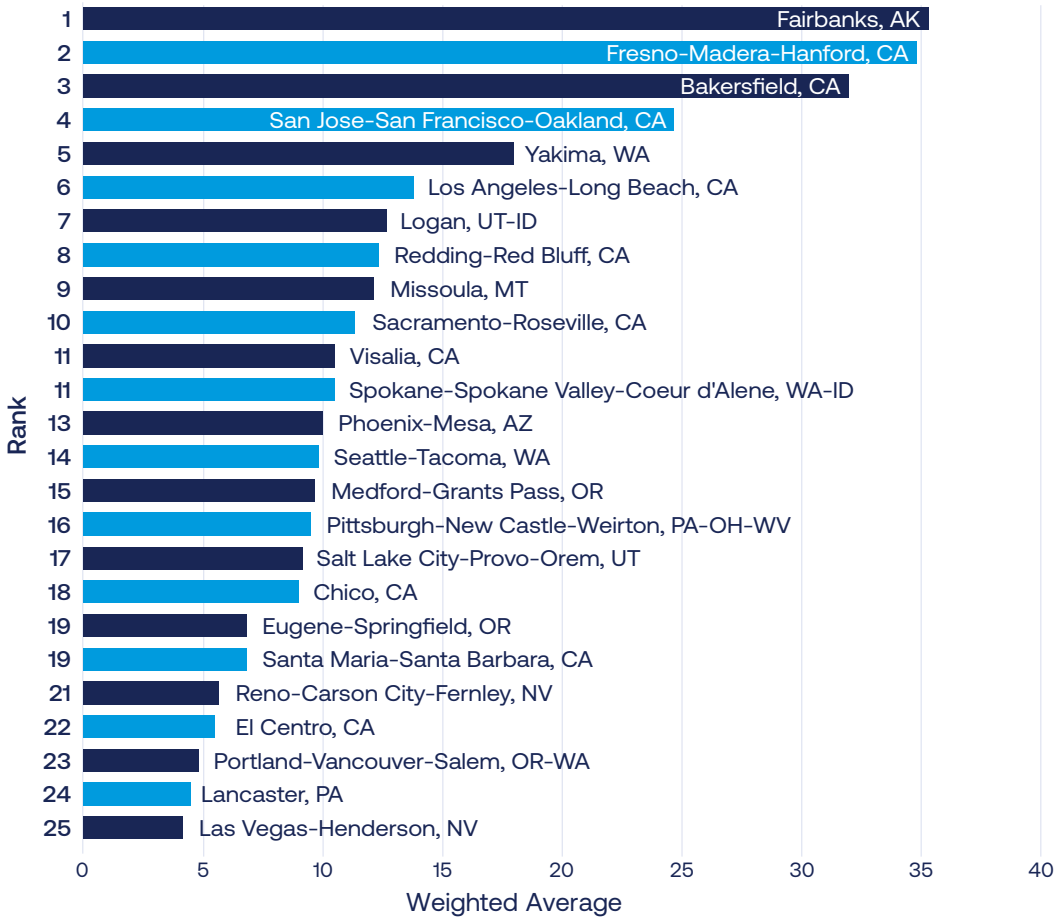
In the years 2017, 2018 and 2019, close to 54.4 million people lived in the 88 counties that experienced unhealthy spikes in particulate matter air pollution. This represents a million more people than in last year's "State of the Air," and higher numbers than in any of the last five reports.

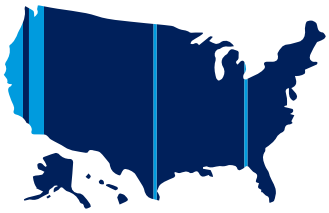
Many cities reached their highest number of days with unhealthy levels of particle pollution ever reported. Of the 25 most-polluted cities, 5 of them, including worst-ranked Fairbanks, posted their highest-ever average number of days with spikes in particle levels—for the second year in a row.

The list of the 25 worst cities for short-term particle pollution is very similar to last year's report, with minor shifts in rank-order. The exceptions are Salt Lake City, which improved dramatically from 7th worst to 17th worst; Salinas, California, which improved enough to be removed from the list; and Lancaster, Pennsylvania, which returned to the list for the first time since the 2018 report (see Figure 2).

Thirteen of the 25 most-polluted cities improved and had fewer unhealthy air days than in the 2020 report. However, as a general rule, improvements were modest, and all of these areas remained seriously polluted. For example, Bakersfield, though the only city among the worst 25 that improved to its best ever, nevertheless ranked third worst in the nation.

Figure 2: 25 Cities Most Polluted by 24-Hour PM





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

In “State of the Air” 2021, all but two of the 25 worst cities for short-term particle pollution are in the western U.S., with 10 in California, 8 in the Pacific Northwest and 5 in the Southwest. Only two cities are in the eastern U.S. This continues a shifting geographic trend being driven in large part by the increasing number and size of wildfires resulting from climate change-induced heat and drought.

Because of significant wildfires in 2019, Fairbanks, Alaska recorded three days when levels spiked to hazardous, the highest “maroon” level in the Air Quality Index. In California, the Los Angeles-Long Beach and Chico metro areas each had two maroon days, and three other cities in California, Oregon and Washington posted one. In the three years covered by “State of the Air” 2021, 60 very unhealthy “purple” air quality days were recorded in 33 counties in 8 states, affecting 16.3 million people. This is nearly twice as many very unhealthy days as occurred in the period from 2015 to 2017, and six times as many as from 2014 to 2016.

Wildfires, however, are not the only source of high particle pollution days. Other sources including wood stove use, older diesel vehicles and equipment, and industrial sources contribute to significant particle pollution. Changes in weather patterns can create atmospheric inversions that trap particles in place, leading to days with spikes.

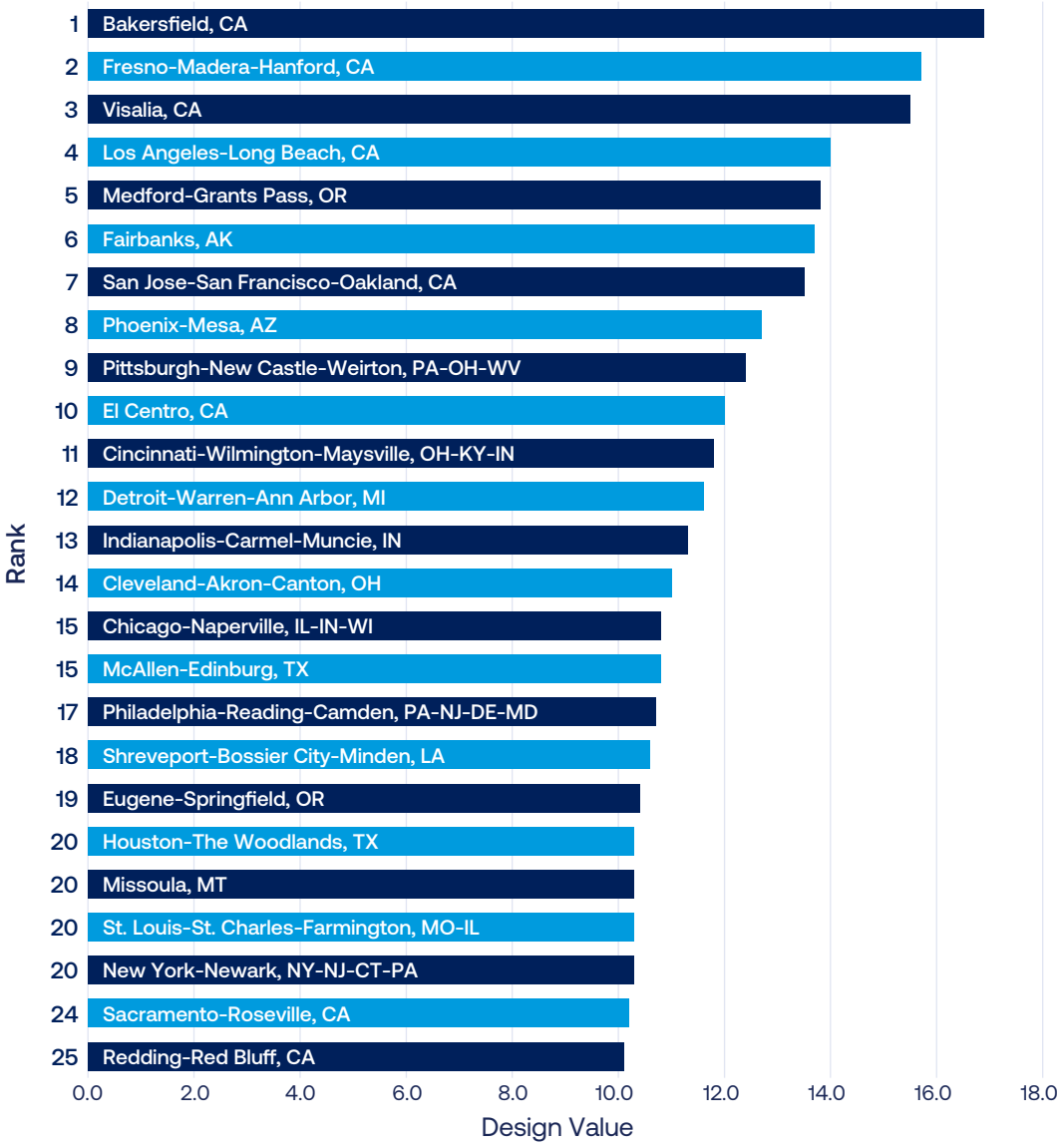
Year-Round Particle Pollution Trends

More than 20.9 million people, approximately 6.4% of the nation, live in one of the 17 counties where year-round particle pollution levels are worse than the national air quality limit, and that receive a failing grade in "State of the Air" 2021. The number of people living in counties with unhealthy levels of year-round particle pollution is slightly smaller than in last year's report, but higher than in reports published in 2017, 2018 and 2019.

Of the 25 cities most polluted year-round by particle pollution in the U.S., 13 suffered worse year-round levels during 2017, 2018 and 2019 than in last year's report, and two reported their worst ever. In contrast, 10 of the 25 most polluted cities had lower year-round levels, of which three achieved their lowest levels ever. Across all 25 cities, the year-round levels of particle pollution worsened only very slightly.

There was a good deal of shuffling positions on the list of 25 most polluted cities this year. Four cities improved enough to leave the list: Birmingham, Alabama; Chico, California; Atlanta, Georgia; and Brownsville, Texas. Three cities saw their air quality deteriorate enough in 2017, 2018 and 2019 to be added to the list (See Figure 3).

Figure 3: 25 Cities Most Polluted by Annual PM



In "State of the Air" 2021, 15 of the 25 worst cities for year-round particle pollution are in the western U.S.: eight in California, three in the Southwest and four in the Pacific Northwest. Because of their higher frequency, greater severity, longer duration, and increasing proximity to populated areas, the western wildfires contributed significantly to the elevated year-round levels in many western cities.

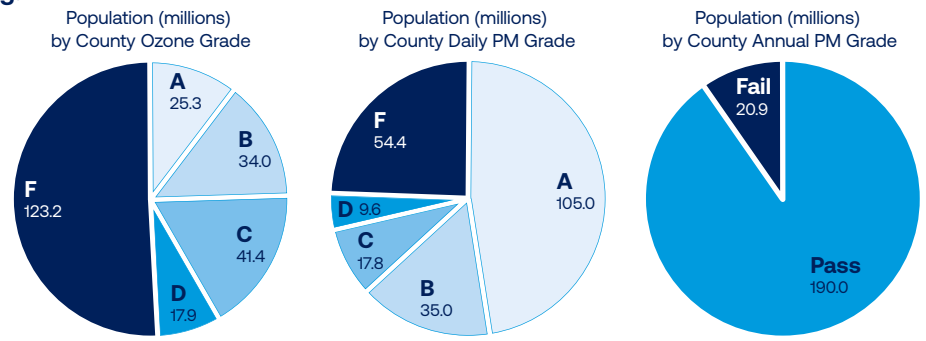
Cities with high power plant emissions as well as local, industrial sources continue to show up on the list, although with less frequency than in the past. These include Pittsburgh, Philadelphia, New York-Newark, Detroit, Cincinnati, Cleveland, Chicago, Houston, Indianapolis and Shreveport.

Except for continuing problems from western wildfires, year-round particle pollution continues to improve across most of the nation, unlike the days with high ozone and high short-term particle pollution. All cities but the nine most-polluted meet the current national air quality standards set by the U.S. Environmental Protection Agency, and receive a passing mark in "State of the Air" 2021. However, evidence shows that no threshold exists for harmful effects from particle pollution, even below the official standard.

Populations at Risk

Hundreds of millions of people are living in the 896 counties for which there is data for at least one pollutant in this year's report. The proportion of the population in those counties varies by pollutant (see Figure 4). 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.

Fig. 4



All of the 135 million Americans living in places with 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 the People at Risk section on page 24 for more detail about the factors that contribute to vulnerability.

The number of people in these high-risk groups in "State of the Air" 2021 are as follows:

- **People of color**—Almost 70 million people of color live in counties that received at least one failing grade for ozone and/or particle pollution. Nearly 14 million people of color live in counties that received failing grades on all three measures, including 9.7 million Hispanics.
- **People experiencing poverty**—More than 15.8 million people with incomes meeting the federal poverty definition live in counties that received an F for at least one pollutant. Nearly 2.8 million people in poverty live in counties failing all three measures.
- **Children and older adults**—Nearly 30.6 million children under age 18 and 20.1 million adults age 65 and over live in counties that received an F for at least one pollutant. Almost 4.9 million children and 2.9 million seniors live in counties failing all three measures.

- **People with underlying health conditions**
  - **Asthma**—2.3 million children and 9.2 million adults with asthma live in counties that received an F for at least one pollutant. More than 358,000 children and nearly 1.3 million adults with asthma live in counties failing all three measures.
  - **Chronic Obstructive Pulmonary Disease (COPD)**—Nearly 5.9 million people with COPD live in counties that received an F for at least one pollutant. Almost 717,000 people with COPD live in counties failing all three measures.
  - **Lung Cancer**—More than 67,000 people diagnosed with lung cancer in 2017 live in counties that received an F for at least one pollutant. More than 8,400 people diagnosed with lung cancer live in counties failing all three measures.
  - **Cardiovascular Disease**—More than 7.9 million people with cardiovascular disease live in counties that received an F for at least one pollutant. More than 1 million people live in counties failing all three measures.
- **People with a smoking history**—There is some recent evidence suggesting that people who have a history of smoking are at greater risk of premature death and of lung cancer when subjected to long-term exposure to fine particle pollution than never-smokers. More than 14.6 million Americans who have ever smoked live in counties that received at least one F for particle pollution. Of those, some 5.4 million people live in counties that received failing grades for both particle measures.

For more detail about the number of people at risk by grade and by pollutant, see Data Table 1 on page 35*. The populations at risk are also included by county in the State Data Tables.*

Rebecca B.

Rebecca B. has had asthma all her life. There were countless times as a child when she was rushed to the hospital with an asthma attack, and even as an adult, little things like the smell of cigarette smoke on someone's clothes could set off her wheezing.

"I grew up and spent my adult life in an area with poor air quality. I learned to manage my triggers early, but there were and continue to be some I couldn't control, including the particulate matter in the air in my community. Whenever I leave my home, I have to be vigilant—Every. Single. Time. Constantly aware of the air quality of the places I go, I'm often not able to stay in an area because of the poor air quality. Always armed with a rescue inhaler, I go and 'do' my life with enthusiasm but am always ever cautious of poor air, because I know I have to fight to breathe."

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:

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

PM Ranking	State	County
1	AK	Fairbanks North Star
2	CA	Fresno
3	CA	Kings
4	CA	Kern
5	CA	Stanislaus
6	CA	San Joaquin
7	CA	Siskiyou
8	WA	Yakima
9	CA	Merced
10	MT	Lewis and Clark
11	MT	Ravalli
12	WA	Okanogan
13	CA	Madera
13	CA	Plumas
13	MT	Lincoln
16	CA	Los Angeles
17	ID	Shoshone
18	UT	Cache
18	ID	Benewah
20	CA	Tehama
21	MT	Missoula
22	CA	Colusa
23	CA	Contra Costa
24	CA	Sacramento
24	CA	Mendocino

Annual PM Ranking	State	County
1	CA	Kern
2	CA	Kings
3	CA	Tulare
4	CA	Fresno
5	CA	Plumas
6	CA	San Bernardino
7	OR	Jackson
8	AK	Fairbanks North Star
9	OR	Klamath
10	CA	Riverside
10	CA	Stanislaus
12	MT	Lincoln
13	CA	San Joaquin
14	AZ	Pinal
15	CA	Los Angeles
15	CA	Merced
17	PA	Allegheny
18	CA	Imperial
19	OH	Hamilton
20	CA	Alameda
21	MI	Wayne
21	OR	Josephine
23	ID	Shoshone
23	IN	Marion
25	CA	Solano

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 cities had zero high ozone days and 112 cities had zero high short-term particle days. Because year-round particle pollution is scored differently, the 25 cleanest cities for this measure can be ranked. *See Tables 4a-c in the Data Table section on* pages 42-44.

Five cities rank on all three cleanest cities lists for ozone, year-round particle pollution and short-term particle pollution. They had zero days high in ozone or particle pollution and are among the 25 cities with the lowest year-round particle levels.

Added to the list this year are Charlottesville, Virginia, and Elmira-Corning, New York. Bangor, Maine, was dropped this year because of incomplete data for one measure. The other three again repeat their ranking on this list.

Listed alphabetically, these cities are:

- Burlington-South Burlington-Barre, VT
- Charlottesville, VA
- Elmira-Corning, NY
- Urban Honolulu, HI
- Wilmington, NC

What Needs to Be Done

Too many people are breathing unhealthy air, and they are disproportionately likely to be people of color. The good news is that the nation has an opportunity to curb climate change, clean up air pollution and promote health equity all at the same time. The nation must transition from fossil fuels and combustion to clean, renewable electricity and zero-emission transportation. And policymakers must ensure that as this transition happens, communities with the highest health burdens from air pollution are cleaned up first—not left behind. Join us in calling on President Biden to promote environmental justice by prioritizing historically burdened communities for pollution cleanup and to receive the benefits of investments in the transition to electric vehicles and clean, renewable electricity.

Everyone has a role to play in ending the disproportionate burden of air pollution. Individuals can take steps in their own lives like saving fuel and electricity; swapping solo gas-powered car trips with walking, biking or public transit; and skipping backyard fires. You can get tips on reducing your emissions with the Lung Association's Stand Up for Clean Air initiative.

Businesses can choose or build sources of clean, renewable electricity and electrify their vehicle fleets. And governments at every level must set and enforce strong policies to limit emissions; eliminate fossil fuel use and combustion for energy; invest in energy that's clean and renewable; and meaningfully engage community members like you in that work, especially in neighborhoods that have suffered from unhealthy air pollution for decades.

See the "Protect Yourself and Your Community" section on page 30 for detailed policy recommendations for local communities and the U.S. federal government.

Health Impact of Air 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.

Health Effects of Ozone

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 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.

How does ozone pollution harm 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.[1]

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;[2]
- Susceptibility to respiratory infections such as pneumonia, resulting in an increased likelihood of emergency department visits and hospitalizations.[3]

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

- Development of new cases of asthma in children;[4]
- Damage to the airways, leading to development of COPD;[5]
- Increased allergic response.[6]

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;[7]
- Impact on the central nervous system, including brain inflammation, structural changes and possible increased risk of cognitive decline;[8]
- Increased likelihood of reproductive and developmental harm, including reduced fertility, preterm birth, stillbirth and low birth weight;[9,10]
- Possible cardiovascular effects—although according to the most recent EPA review, the evidence linking ozone to heart disease, heart failure and stroke is mixed.[11]

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.[12] 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.[13]

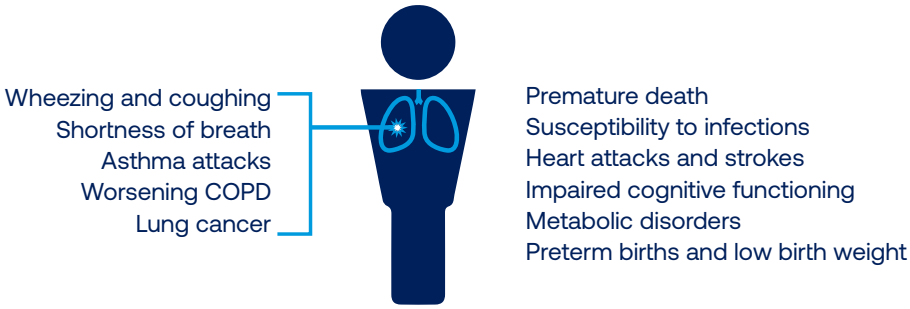
Who is most at risk from ozone pollution?

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 on page 24 for more information about vulnerable groups.

Research has shown that the groups at greatest risk from ozone pollution include:

- children;
- anyone age 65 and older;
- people with existing lung disease such as asthma and COPD;
- people who work or exercise outdoors.[14]

Air pollution can harm children and adults in many ways.



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 and trucks) and equipment either directly emit fine particles or generate the precursors such as nitrogen oxides (NOx) that can form into fine particles in the atmosphere. Other sources include wildfires and burning wood in wood stoves or residential fireplaces.

Sources of particle pollution

Many particles are so small as to be invisible, but when pollution levels are high, the air can appear thick and hazy. Researchers and regulators categorize particles according to size, grouping them as coarse, fine and ultrafine. Coarse particles, called PM_{10}, 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 $PM_{0.1}$, that are also produced by combustion.

The differences in size make a big difference in where and how particles affect our health. Our natural defenses help us to keep coarse particles 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 to the air sacs of the lungs. Many of these particles get trapped in the air sacs, while the smallest are so minute 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.[15]

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.[16]

Even low average daily levels of fine particles can be deadly. A 2016 study found that people aged 65 and older in New England faced a higher risk of premature death from particle pollution, even in places that met current standards for short-term particle pollution.[17] A study in 2017 looked more closely at Boston, which also met the standards, and found a similar higher risk of premature death from particle pollution.[18] Looking nationwide in another 2017 study, researchers found more evidence that older adults faced a higher risk of premature death even when levels of short-term particle pollution remained well below the current national standards. This was consistent whether the older adults lived in cities, suburbs or rural areas.[19]

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;[20]
- increased hospital admissions for cardiovascular disease, including heart attacks and strokes;[21]
- increased hospital admissions and emergency department visits for COPD;[22]
- increased severity of asthma attacks and hospitalization for asthma among children.[23,24]

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 exposure to particle matter and mortality.[25] Recent research using publicly available data on a cohort of more than a 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.[26]

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. In fetuses and children, long-term particle pollution exposure is linked to:

- Increased risk of preterm birth and low birth weight;[27]
- Increased fetal and infant mortality;[28]
- Reduced lung development and impaired lung function in children;[29]
- Higher likelihood of children developing asthma.[30]

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;[31,32]
- Higher likelihood of developing diabetes;[33]
- Higher likelihood of getting lung cancer and of dying from it;[34]
- Impaired cognitive functioning and an increased risk of Parkinson's disease, Alzheimer's disease and other dementias later in life.[35,36]

The good news is, cleaning up particle pollution makes a difference. In communities that have reduced their levels of year-round particle pollution, research has shown a consistent relationship between decreasing $PM_{2.5}$ concentrations and improving respiratory health in children and adults.[37]

Who is most at risk from particle pollution?

Anyone who lives where particle pollution levels are high is at risk. Some people face higher risk, however, based on their underlying health and other characteristics. See the People at Risk section on page 24 for more information about vulnerable groups.

Research has shown that the groups at the greatest risk from particle pollution include:

- Infants, children and older people (>65 years of age);[38]
- People with lung disease, especially asthma, but also people with COPD;[39]
- People with cardiovascular disease;[40]
- People with lung cancer;[41]
- People of color;[42]
- Current or former smokers;[43]
- People with low incomes;[44] and
- People who are obese or have diabetes.[45]

Particle Pollution and COVID-19

The staggering toll of the COVID-19 pandemic in the U.S. has revealed weaknesses in the underpinnings of public health that have left some communities at higher risk of severe illness and death than others. These risk factors include exposure to particle pollution.

In one study, researchers looked at the impact of long-term exposure to fine particle pollution on COVID-19 death rates. They found that just a small increase (1 microgram per cubic meter) in long-term average exposure to fine particle pollution is associated with an 11% increase in the COVID-19 death rates.[46] Another study, using a mix of epidemiological data, satellite data and other monitoring information from around the world, found that long-term exposure to particle pollution made an average 15% contribution to COVID-19 mortality globally, with lower rates in cleaner places and rates as high as 58% in some of the most polluted places in the world.[47]

Communities of color have been especially hard-hit by COVID-19. Communities of color also are disproportionately exposed to unhealthy air. Air pollution increases susceptibility to respiratory infections. It also worsens underlying chronic conditions such as heart disease and diabetes, which are more common in communities of color, that increase the risk of serious harm from COVID-19.

One study looked at the relationships between $PM_{2.5}$ and other air pollutant levels, race and COVID-19 death rates in Louisiana. It found that a higher burden of air pollution was associated with larger percentages of Black residents and increased unemployment, and higher COVID-19 death rates were associated with larger percentages of Black residents, even when accounting for diabetes, obesity, smoking, age and poverty.[48]

People at Risk

The health burden of air pollution is not evenly shared. There are people 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.
- Vulnerability—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 healthy 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, 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.

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.[49,50] Much of this inequity can be traced to the long history of systemic racism in the United States. Discriminatory practices such as redlining, the systematic outlining of 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, whiter neighborhoods. The resulting disproportionate exposure to air pollution has contributed to high rates of emergency department visits for asthma and other diseases.[51,52]

People of color are also more likely than white people to be living with one or more chronic conditions that make them more vulnerable to the health impact of air pollution, including asthma, diabetes and heart disease.[53]

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.[54,55] People living in poverty are more likely to live in close proximity to sources of pollution than people with more financial resources and have fewer resources to relocate. Poverty itself, along with the problems that beset many low-income communities, such as lack of safety, have been associated with increased psychosocial distress and chronic stress, which in turn make people more vulnerable to pollution-related health effects.[56] People with low income also have lower rates of health coverage and less access to quality and affordable health care to relieve them when they get sick.

Children

Children are both more vulnerable 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. Exposure to air pollution at any stage of that development process can have both immediate and lasting impacts on developing lungs and children's health. 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.[57]

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 exposed to more 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 increased 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.[58]

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, including COVID-19, 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.

People with a smoking history

There is some recent evidence suggesting that current and former smokers are at greater risk of premature death and of lung cancer when subjected to long-term exposure to fine particle pollution compared with never-smokers.[59] Smoking damages the lungs, heart, blood vessels and other organs.[60] This impairment leaves the person with a smoking history more vulnerable to the health risks of air pollution.

Emerging Threats

Since the passage of the Clean Air Act in 1970, the federal, state and local governments, businesses, community leaders and advocates have invested years of effort into reducing the public health threat from air pollution. By many measures, those efforts have paid off, and the air we breathe is dramatically cleaner than it was 50 years ago. "State of the Air" has documented this long-term improvement over the past twenty-two years. In recent years, however, new threats have emerged that are causing air pollution levels to rise and the potential harm to vulnerable populations to increase.

Climate change

The rising global temperatures and disruption of short- and long-term weather patterns caused by climate change are putting the health of millions of Americans at risk. The impacts of climate change currently being experienced in communities nationwide include an increase in extreme weather events, deterioration of air quality from increased ozone formation and wildfire smoke, expansion of the range of disease-carrying pests and increased stresses that affect mental health and well-being.

People and communities are differentially exposed to these climate-related hazards as well as being disproportionately affected by climate-related health risks. Populations experiencing greater health risks include children, older adults, low-income communities and some communities of color.

"State of the Air" largely focuses on the health harms linked to increases in ozone and particle pollution but increasing heat itself is another significant risk factor that adds to the climate vulnerability of some of the same populations who face increased risk from air pollution.[61] Children are especially vulnerable to extreme heat. They spend more time playing outside and participating in vigorous activity than the average adult. Their bodies have a high surface area-to-mass ratio, so must divert more blood flow to their skin to dissipate heat, which may strain other bodily functions.[62]

Among older adults, increased heat and exposure to air pollution increases the risk of premature deaths, resulting in more emergency room visits and hospital admissions, especially among those older adults who spend more time outdoors. The physical changes associated with aging—including those that affect breathing and movement—can make it even more difficult to respond to climate change. In the past two decades, heat-related mortality for older persons has almost doubled, reaching a record high 19,000 deaths in 2018.[63] Heat waves also significantly increase the risk of illness and death in people living with chronic lung disease.[64]

Alex S.

Colorado's record-breaking wildfires in 2020 filled the air with billowing smoke and pollutants for months. Alex S., who lives in the foothills west of Fort Collins, was 30-weeks pregnant. Her 3-year-old son suffered a runny nose for weeks from the poor air quality. The family's cars were constantly covered in ash. Just days before giving birth, the Cameron Peak fire forced Alex and her family to evacuate as flames moved dangerously close to their home. While her home wasn't damaged, the experience has made her reevaluate living in the foothills, with safety more top of mind than ever.

"We need officials who will advocate for policies that help to push climate change measures forward, and on a small scale we need to be focused on our carbon footprint and teaching our children to care for their portion of the earth."

Wildfires

Wildfires are posing a growing threat to public health in many parts of the U.S. Increased heat and drought caused by climate change are resulting in larger, more frequent fires that blanket communities in smoke and leave residents gasping for air. Smoke from large fires can spread over hundreds of miles, polluting the air breathed by millions of people. In the years 2016-2019, individuals in the U.S. experienced a 19% increase in the number of days they were exposed to high wildfire risk compared to 2001-2004.[65]

Wildfire smoke is a complex mixture of fine and course particulate matter and gases, including carbon monoxide, nitrogen oxides, volatile organic compounds and air toxics. The chemical composition of wildfire smoke varies widely depending on the location of the fire and the material burned. The details of how these differences impact health is the subject of ongoing research.[66]

The biggest health threat from smoke is from fine particles. Like other sources of fine particle pollution, wildfire smoke can be extremely harmful to the lungs, especially for children, older adults and people with asthma, COPD, chronic heart disease and diabetes. Recent research has confirmed that severe wildfire episodes are associated with increased risk of hospital admissions for respiratory diseases for Medicare recipients.[67] Pregnant people exposed to wildfire smoke are more likely to experience adverse pregnancy outcomes, including preterm birth.[68] There is also strong evidence linking smoke exposure to increased risk of premature death.[69]

COVID-19

Because COVID-19 is a new disease, the extent of possible long-term health consequences from infection are still unknown.[70] But healthcare providers and researchers are reporting that severe cases of COVID-19 can cause damage to organs throughout the body, including the lungs, heart, kidneys, skin and brain. This increases the risk of long-term health problems that individuals may continue to face for months, or perhaps years, after the initial infection. Scarring of the lungs and heart, and the onset of new or worsening cases of diabetes, may lead to the development of new cases of chronic disease.[71]

The uncertainties surrounding the COVID-19 pandemic, including how many thousands of survivors will never regain their full health, raises the danger of a sharp and sudden rise in the size of the population of people living with underlying conditions that put them at increased risk of health harm from air pollution.

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Protect Yourself and Your Community

Maria J.

Maria J. has lived in the Atlanta area for more than six years. The region's lush tree canopy and abundant green spaces make it an appealing place to live. But poor air quality can keep people like her indoors. Maria, who has asthma, avoids exercising outdoors when air quality alerts are issued.

"If they call an Ozone Action Day, I won't do an outdoor activity. I have more trouble breathing those days."

Reduce Your Personal Risk

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. The color-coded forecasts can let you know when the air is unhealthy in your community. Sources include local radio and TV weather reports, newspapers and online at airnow.gov.

Avoid exercising outdoors when pollution levels are high. When the air is bad, use an indoor exercise machine, or walk indoors in a shopping mall or gym once it's safe to spend time in indoor public spaces. Limit the amount of time your child spends playing outdoors if the air quality is unhealthy.

Always avoid exercising near high-traffic areas. Even when air quality forecasts are green, the vehicles on busy highways can create high pollution levels up to one-third a mile away.

Protect yourself from wildfire smoke if you live in a fire-prone area. Learn more about using masks and creating a clean room inside your home with our wildfire resources.

Improve the Air in Your Community

You can also take action to keep harmful pollution out of the air in the first place:

Drive less. Walk or bike whenever you can. Prioritize public transit for longer distances. If you drive a gas-powered car, combine trips or carpool to cut down on harmful emissions. And if you're getting ready to buy a car, consider an electric vehicle.

Use less electricity. Turn out the lights, set your thermostat to reduce energy use when you're out of the house, and use energy-efficient electric appliances. Generating electricity is one of the biggest sources of pollution, particularly in the eastern United States. If you have the option in your community, buy power from clean, renewable sources.

Don't burn wood or trash. Burning wood and trash is among the largest sources of particle pollution in many parts of the country. If you can, swap out your woodstove for an alternative source of heat. Avoid the use of outdoor hydronic heaters, also called outdoor wood boilers, which are frequently much more polluting than woodstoves.

Compost and recycle as much as possible and dispose of other waste properly; don't burn it. Support efforts in your community to ban outdoor burning of construction and yard wastes. And skip the firepit or bonfire for outdoor gatherings.

Make sure your local school system requires cleaner school buses, which includes replacing them with electric buses or retrofitting old school buses with pollution filters and other equipment to reduce emissions. Make sure your local schools don't idle their buses; this step can immediately reduce emissions. Parents shouldn't idle in their cars outside of schools either. That exhaust ends up inside idling vehicles, and often gets into classrooms.

Get involved in your community. Local governments make critical decisions that impact your air quality and our climate, from deciding whether to build bike lanes and sidewalks to determining whether a local industrial facility can expand its operations—and possibly its pollution. You don't have to be an expert to get involved. Reach out to your representatives, share this report and explain why you want them to protect your family's health from air pollution when making local planning decisions. You can help put a personal face on the importance of clean air in a way that they'll remember when it comes time to make decisions.

Share your story. Use your personal experiences with air pollution and climate change to help drive policy action at the state and federal level, too. Tell us why you care about clean air and we'll share your words with decision-makers to highlight the importance of policies that promote clean, healthy air for all to breathe.

For more tips and resources on how your actions can improve air quality, join our Stand Up For Clean Air initiative.

Promote Clean Air Policies

People are facing multiple threats to their lung health all at once: air pollution from fossil fuel use, woodburning and wildfires; various impacts of climate change; and the COVID-19 pandemic. And communities of color are faced with inequities in each of these areas of threat that put their health at greater risk. The good news is that the nation has an opportunity to curb climate change, clean up air pollution and promote health equity all at the same time. Every level of government must drive the transition from fossil fuels and combustion to clean, renewable electricity and zero-emission transportation. In particular, the White House, the U.S. Congress and federal agencies have real opportunities to take ambitious action to protect health now and in the future.

Key actions the federal government must take to promote clean air include:

President Biden: Ensure Investments in Climate Action Benefit Underserved Communities

Communities of color too often bear disproportionate burdens of air pollution because of nearby power plants, industrial facilities, highways, ports and other polluting sources. Efforts to clean up air pollution and address climate change must prioritize underserved communities with unhealthy air—not leave them behind. Any efforts to reduce emissions must ensure benefits to the communities most affected by them and ensure that no polluting facility uses offsets or emissions trading to avoid cleanup. Policies to reduce carbon emissions from power plants should maximize reductions in other air pollutants at the same time. And 40% of the nation's investments in this transition to clean, renewable energy and zero-emission transportation must improve air quality, health and life in underserved communities.

Congress: Pass COVID Recovery Legislation That Builds Healthier Communities

Congress is considering legislation to provide economic recovery from the COVID-19 pandemic and investments in a healthier future, and it is critical that this legislation include measures to clean up air pollution, address climate change and ensure environmental justice. There are many ways Congressional legislation could reduce emissions, such as investing further in clean, non-combustion renewable electricity and incentivizing zero-emission cars, transit buses, school buses and trucks and the necessary infrastructure to support an electric transportation sector.

Congress: Invest in State, Local and Tribal Air Quality Programs and Monitoring

The Clean Air Act set up smart, open processes for protecting Americans from air pollution, which have enabled the U.S. to reduce some of the most common pollutants by more than 70 percent over the last 50 years. Still, these processes only work if EPA and state, local and Tribal air agencies have the funding and staffing they need to monitor air pollution and implement and enforce the law. The Lung Association calls on Congress to ensure that EPA has sufficient funding to protect public health with a full range of programs, including by meaningfully increasing investments in state, local and Tribal air quality grants. Current funding for these air agencies falls far short of what

is needed to monitor and address local air quality, let alone meet the ambitious goals President Biden has set on climate change and environmental justice.

EPA: Set Stronger National Limits on Ozone and Particle Pollution

The national limits on ozone and particle pollution are too weak to fully protect health. The review process done under the previous administration failed to fully consider the current science, as required under the Clean Air Act. EPA must immediately initiate robust reviews for both the particle pollution and ozone limits and set the strongest standards supported by the science to fully protect health.

EPA: Limit Methane from New and Existing Oil and Gas Sources

The oil and gas sector is the largest contributor to methane pollution in the United States. Methane is an extremely potent climate pollutant and is a precursor of ozone pollution. Volatile organic compounds, which are emitted alongside methane from oil and gas sources, also lead to ozone formation and can cause cancers, irritation of the lungs and developmental disorders. To ensure that communities are protected from leaks of dangerous air pollutants and climate-warming methane, EPA must repeal the Final Policy and Technical Amendments to the New Source Performance Standards for the Oil and Natural Gas Industry Rule. EPA must then set limits on methane pollution from existing sources in the oil and gas industry.

EPA: Set a Strong, Long-Term Plan to Reduce Vehicle Emissions

For the nation to meet President Biden's ambitious climate goals, it must make plans now to rapidly transition from diesel and gasoline-powered vehicles to zero-emission electric cars and trucks. EPA must set strong pollution standards including limits on greenhouse gas emissions for cars and SUVs, not just for the next few years, but for 2025 and beyond. EPA must also move forward with cleaning up trucks to dramatically reduce pollution including nitrogen oxide emissions, a key component in the formation of ozone pollution.

EPA: Clean Up Wood Heaters

Wood-burning stoves and heaters are major contributors to particle pollution in many communities. EPA has standards that require new wood heaters to be less polluting and is supposed to ensure that appliances meet those standards by certifying them and periodically testing them. Unfortunately, recent research revealed major gaps in these processes that could mean polluting stoves are being sold under the guise of being cleaner.[1] EPA must ensure full implementation and enforcement of its new source standards for wood heaters.

Office of Management and Budget (OMB): Account for the Health Benefits of Cleaning Up Air Pollution

The White House Office of Management and Budget analyzes the costs and benefits of regulations before they become law. Clean air protections are very cost-effective—EPA has estimated that the benefits of rules under the Clean Air Act outweigh the costs by more than 30 to one. However, cost-benefit analyses too often fail to capture many of the health harms of air pollution or to reflect the disproportionate burden it places on some communities. OMB must make good on President Biden's pledge to ensure that health and equity are better taken into account in its analyses.

1. NESCAUM. Assessment of EPA's residential wood heater certification program test report review: stoves & central heaters. Boston MA. March 2021. Accessed March 22, 2021 at https://www.nescaum.org/documents/nescaum-review-of-epa-rwh-nsps-certification-program-202103.pdf.

Interagency Working Group on Social Cost of Greenhouse Gases: Set a Social Cost of Carbon That Reflects Health Impacts

The overwhelming scientific consensus is that federal agencies must fully account for the costs of climate change and integrate climate change planning across the agency's work. To do that, the federal government must set a social cost of carbon (and of other greenhouse gases) that accounts for the many health impacts of climate change.

Department of Health and Human Services (HHS): Help Integrate Climate and Health Across the Federal Government

The Centers for Disease Control and Prevention's (CDC) Climate and Health Program, housed in the Department of Health and Human Services, helps communities across the country prepare for and meet the health impacts of climate change. This office can help ensure that health is at the center of climate conversations across the federal government as all agencies work to meet President Biden's whole-of-government approach to addressing climate change.

Data Table Notes

A full explanation of the sources of data and methodology is in **Methodology**.

Notes for Populations at Risk:

1. **Total Population** is based on 2019 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 2019 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 2019 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 2017 based on state rates (StateCancerProfiles.gov) applied to county population estimates (U.S. Census).
7. **Cardiovascular disease (CV 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. **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 2019 county 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, 2019.
10. **Ever smoked** estimates are for adults 18 and over who have ever smoked 100 or more cigarettes based on state rates (BRFSS) applied to 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.

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 is underway for that pollutant in that county, but that the data are incomplete for 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 (2017-2019), 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."

Table 1 Populations at Risk by Grade and by Pollutant

People at Risk from Ozone

	Age Groups		Chronic Diseases							
In Counties Where the Grades Were:	Under 18	65 and Over	Adult Asthma	Pediatric Asthma	COPD	CV Disease	People of Color	Poverty	Number of Counties	Total Population
Grade A (0.0)	5,653,683	4,308,451	1,770,180	455,051	1,394,805	1,787,347	8,809,905	3,185,608	219	25,306,148
Grade B (0.3-0.9)	7,157,885	6,162,019	2,406,029	566,355	1,909,516	2,421,677	10,370,562	3,654,280	171	33,984,519
Grade C (1.0-2.0)	9,008,225	6,886,671	2,959,992	685,584	2,225,914	2,775,131	16,927,339	4,893,421	146	41,392,488
Grade D (2.1-3.2)	3,962,423	2,878,282	1,350,433	317,515	890,769	1,152,010	5,908,847	1,708,632	58	17,875,966
Grade F (3.3+)	28,066,910	18,165,534	8,373,011	2,107,763	5,412,388	7,269,100	65,102,238	14,680,016	163	123,203,498
National Population in Counties with Ozone Monitors	54,276,535	38,755,257	17,006,765	4,167,349	11,946,000	15,547,247	107,517,368	28,357,924	799	243,706,827

People at Risk from Short-Term Particle Pollution (24-Hour $PM_{2.5}$)

	Age Groups		Chronic Diseases									
In Counties where the Grades were:	Under 18	65 and Over	Adult Asthma	Pediatric Asthma	COPD	Lung Cancer	CV Disease	People of Color	Poverty	Ever Smoked	Number of Counties	Total Population
Grade A (0.0)	22,917,563	17,167,072	7,503,470	1,830,710	5,710,140	62,649	7,137,928	43,381,430	12,603,588	33,377,209	344	105,010,693
Grade B (0.3-0.9)	7,695,084	5,547,469	2,498,292	586,810	1,752,941	20,148	2,257,616	15,805,499	4,475,107	10,860,052	103	34,987,772
Grade C (1.0-2.0)	4,284,581	2,304,419	1,134,110	305,027	727,146	8,940	1,022,090	9,737,148	2,373,483	5,027,634	41	17,833,185
Grade D (2.1-3.2)	2,188,859	1,447,867	696,136	160,730	440,233	4,730	568,213	4,294,737	1,196,199	2,871,596	19	9,588,835
Grade F (3.3+)	12,417,753	8,098,506	3,618,739	910,955	2,060,273	22,653	2,909,439	29,898,995	6,119,180	14,619,392	88	54,375,684
National Population in Counties with $PM_{2.5}$ Monitors	51,140,597	35,617,811	15,950,083	3,924,425	11,036,235	123,157	14,360,555	105,583,000	27,546,585	68,881,059	643	228,865,494

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

	Age Groups		Chronic Diseases									
In Counties where the Grades were:	Under 18	65 and Over	Adult Asthma	Pediatric Asthma	COPD	Lung Cancer	CV Disease	People of Color	Poverty	Ever Smoked	Number of Counties	Total Population
Pass	42,148,139	29,846,801	13,404,461	3,249,907	9,419,376	104,434	12,142,107	85,464,780	22,730,315	57,989,989	510	190,030,520
Fail	4,905,579	2,961,108	1,298,134	361,945	725,674	8,548	1,047,642	14,022,677	2,805,127	5,408,176	17	20,902,316
National Population in Counties with $PM_{2.5}$ Monitors	51,140,597	35,617,811	15,950,083	3,924,425	11,036,235	123,157	14,360,555	105,583,000	27,546,585	68,881,059	643	228,865,494

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

2021 Rank	Metropolitan Statistical Areas	Total Population	Under 18	65 and Over	Pediatric Asthma	Adult Asthma	COPD	CV Disease	People of Color	Poverty
1	Los Angeles-Long Beach, CA	18,711,436	4,208,929	2,662,488	308,886	1,135,903	626,989	929,195	13,015,618	2,244,694
2	Bakersfield, CA	900,202	259,087	101,155	19,014	49,933	25,961	37,512	604,487	164,817
3	Visalia, CA	466,195	142,106	54,291	10,429	25,274	13,357	19,425	337,240	86,940
4	Fresno-Madera-Hanford, CA	1,309,368	366,345	164,036	26,885	73,602	39,304	57,381	923,184	249,022
5	Phoenix-Mesa, AZ	5,002,221	1,165,456	808,766	93,953	376,533	251,844	315,328	2,263,250	603,864
6	Sacramento-Roseville, CA	2,639,124	598,431	428,755	43,918	160,442	92,457	139,147	1,253,696	304,746
7	San Diego-Chula Vista-Carlsbad, CA	3,338,330	714,796	484,452	52,458	205,227	112,254	165,532	1,837,465	335,034
8	Salt Lake City-Provo-Orem, UT	2,641,048	773,232	274,894	44,369	185,980	74,170	100,272	618,472	213,637
8	Denver-Aurora, CO	3,617,927	799,988	483,904	58,867	275,867	122,035	153,556	1,265,299	299,059
10	San Jose-San Francisco-Oakland, CA	9,665,887	2,063,201	1,486,168	151,415	596,451	335,579	500,758	5,984,401	835,745
11	Houston-The Woodlands, TX	7,253,193	1,900,988	846,919	129,626	379,549	270,083	428,202	4,665,418	931,447
12	Las Vegas-Henderson, NV	2,313,238	528,518	356,755	41,580	170,096	137,619	168,316	1,333,700	304,084
13	El Paso-Las Cruces, TX-NM	1,062,319	278,364	141,364	18,255	57,689	40,115	61,451	905,924	206,573
14	New York-Newark, NY-NJ-CT-PA	22,589,036	4,807,142	3,695,349	379,882	1,632,452	1,001,150	1,385,913	11,716,586	2,551,734
15	El Centro, CA	181,215	51,600	24,137	3,787	10,134	5,525	8,130	163,054	38,020
16	Chicago-Naperville, IL-IN-WI	9,825,325	2,209,121	1,493,265	151,346	643,461	455,387	606,234	4,578,779	1,035,588
17	Fort Collins, CO	356,899	69,132	57,774	5,087	28,139	12,911	16,491	63,784	35,894
17	Dallas-Fort Worth, TX-OK	8,057,796	2,056,209	970,101	140,543	427,764	307,656	488,392	4,292,750	842,902
19	Chico, CA	219,186	44,393	40,228	3,258	13,744	8,012	12,071	63,771	34,503
20	Redding-Red Bluff, CA	245,164	54,280	50,849	3,984	15,141	9,552	14,821	58,776	33,992
21	Philadelphia-Reading-Camden, PA-NJ-DE-MD	7,209,620	1,556,914	1,205,088	120,736	578,725	379,361	484,714	2,780,639	816,161
22	Washington-Baltimore-Arlington, DC-MD-VA-WV-PA	9,814,928	2,205,641	1,425,556	197,723	704,667	434,950	563,148	4,840,082	801,330
23	Sheboygan, WI	115,340	25,229	21,394	1,072	9,159	5,256	6,968	19,019	9,051
24	Hartford-East Hartford, CT	1,470,083	291,177	263,983	25,592	124,977	61,811	78,731	474,735	135,016
24	Milwaukee-Racine-Waukesha, WI	2,047,966	460,608	336,812	19,580	161,969	87,625	113,468	623,417	231,986

Table 2b People at Risk in 25 U.S. Cities Most Polluted by Short-Term Particle Pollution (24-hour $PM_{2.5}$)

2021 Rank	Metropolitan Statistical Areas	Total Population	Under 18	65 and Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	People of Color	Poverty	Ever Smoked
1	Fairbanks, AK	96,849	23,004	10,828	1,693	7,304	3,036	52	3,774	29,785	6,656	31,557
2	Fresno-Madera-Hanford, CA	1,309,368	366,345	164,036	26,885	73,602	39,304	514	57,381	923,184	249,022	306,174
3	Bakersfield, CA	900,202	259,087	101,155	19,014	49,933	25,961	354	37,512	604,487	164,817	206,478
4	San Jose-San Francisco-Oakland, CA	9,665,887	2,063,201	1,486,168	151,415	596,451	335,579	3,793	500,758	5,984,401	835,745	2,516,455
5	Yakima, WA	250,873	73,950	35,213	5,406	17,723	8,972	126	13,013	144,698	41,218	66,419
6	Los Angeles-Long Beach, CA	18,711,436	4,208,929	2,662,488	308,886	1,135,903	626,989	7,338	929,195	13,015,618	2,244,694	4,770,767
7	Logan, UT-ID	142,165	42,975	14,599	2,537	9,892	3,872	39	5,226	22,384	17,365	25,303
8	Redding-Red Bluff, CA	245,164	54,280	50,849	3,984	15,141	9,552	96	14,821	58,776	33,992	65,803
9	Missoula, MT	119,600	22,206	19,337	1,489	9,725	5,956	57	7,365	13,095	13,748	41,624
10	Sacramento-Roseville, CA	2,639,124	598,431	428,755	43,918	160,442	92,457	1,034	139,147	1,253,696	304,746	680,909
11	Visalia, CA	466,195	142,106	54,291	10,429	25,274	13,357	183	19,425	337,240	86,940	104,895
11	Spokane-Spokane Valley-Coeur d'Alene, WA-ID	734,218	162,018	129,730	11,861	57,219	30,722	363	46,810	105,891	88,862	219,895
13	Phoenix-Mesa, AZ	5,002,221	1,165,456	808,766	93,953	376,533	251,844	2,178	315,328	2,263,250	603,864	1,580,693
14	Seattle-Tacoma, WA	4,903,675	1,036,190	731,285	75,744	387,743	194,199	2,457	278,962	1,737,058	395,291	1,449,463
15	Medford-Grants Pass, OR	308,431	62,205	72,911	4,323	27,541	16,533	150	23,192	55,687	43,276	105,208
16	Pittsburgh-New Castle-Weirton, PA-OH-WV	2,603,259	489,781	538,080	39,166	229,401	161,436	1,644	205,476	367,959	283,360	936,469
17	Salt Lake City-Provo-Orem, UT	2,641,048	773,232	274,894	44,369	185,980	74,170	673	100,272	618,472	213,637	456,248
18	Chico, CA	219,186	44,393	40,228	3,258	13,744	8,012	86	12,071	63,771	34,503	58,361
19	Eugene-Springfield, OR	382,067	69,515	76,174	4,831	35,062	19,291	186	26,020	71,475	52,146	130,297
19	Santa Maria-Santa Barbara, CA	446,499	98,556	70,125	7,233	27,233	15,106	175	22,345	250,942	51,298	114,199
21	Reno-Carson City-Fernley, NV	637,973	132,521	118,969	10,426	48,211	41,408	310	51,068	221,924	66,107	205,222
22	El Centro, CA	181,215	51,600	24,137	3,787	10,134	5,525	71	8,130	163,054	38,020	42,359
23	Portland-Vancouver-Salem, OR-WA	3,259,710	697,729	518,416	49,003	282,726	148,054	1,597	197,835	885,799	328,782	1,041,371
24	Lancaster, PA	545,724	127,875	100,381	10,199	45,632	30,255	342	38,387	102,183	55,968	182,963
25	Las Vegas-Henderson, NV	2,313,238	528,518	356,755	41,580	170,096	137,619	1,124	168,316	1,333,700	304,084	712,745

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

2021 Rank	Metropolitan Statistical Areas	Total Population	Under 18	65 and Over	Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	People of Color	Poverty	Ever Smoked
1	Bakersfield, CA	900,202	259,087	101,155	19,014	49,933	25,961	354	37,512	604,487	164,817	206,478
2	Fresno-Madera-Hanford, CA	1,309,368	366,345	164,036	26,885	73,602	39,304	514	57,381	923,184	249,022	306,174
3	Visalia, CA	466,195	142,106	54,291	10,429	25,274	13,357	183	19,425	337,240	86,940	104,895
4	Los Angeles-Long Beach, CA	18,711,436	4,208,929	2,662,488	308,886	1,135,903	626,989	7,338	929,195	13,015,618	2,244,694	4,770,767
5	Medford-Grants Pass, OR	308,431	62,205	72,911	4,323	27,541	16,533	150	23,192	55,687	43,276	105,208
6	Fairbanks, AK	96,849	23,004	10,828	1,693	7,304	3,036	52	3,774	29,785	6,656	31,557
7	San Jose-San Francisco-Oakland, CA	9,665,887	2,063,201	1,486,168	151,415	596,451	335,579	3,793	500,758	5,984,401	835,745	2,516,455
8	Phoenix-Mesa, AZ	5,002,221	1,165,456	808,766	93,953	376,533	251,844	2,178	315,328	2,263,250	603,864	1,580,693
9	Pittsburgh-New Castle-Weirton, PA-OH-WV	2,603,259	489,781	538,080	39,166	229,401	161,436	1,644	205,476	367,959	283,360	936,469
10	El Centro, CA	181,215	51,600	24,137	3,787	10,134	5,525	71	8,130	163,054	38,020	42,359
11	Cincinnati-Wilmington-Maysville, OH-KY-IN	2,280,246	529,314	358,435	40,787	190,117	159,881	1,594	178,563	470,112	253,186	799,064
12	Detroit-Warren-Ann Arbor, MI	5,341,994	1,154,803	901,922	89,947	469,545	349,665	3,251	388,176	1,717,326	683,924	1,896,154
13	Indianapolis-Carmel-Muncie, IN	2,457,286	589,769	358,626	39,618	185,299	161,523	1,650	179,140	639,840	267,098	823,704
14	Cleveland-Akron-Canton, OH	3,586,918	753,816	681,849	58,145	314,459	261,085	2,327	298,050	864,495	467,621	1,283,854
15	McAllen-Edinburg, TX	933,340	300,228	105,698	20,472	44,637	31,579	454	49,995	879,594	251,773	218,350
15	Chicago-Naperville, IL-IN-WI	9,825,325	2,209,121	1,493,265	151,346	643,461	455,387	6,150	606,234	4,578,779	1,035,588	3,044,149
17	Philadelphia-Reading-Camden, PA-NJ-DE-MD	7,209,620	1,556,914	1,205,088	120,736	578,725	379,361	4,274	484,714	2,780,639	816,161	2,348,439
18	Shreveport-Bossier City-Minden, LA	433,046	102,787	74,243	8,994	26,392	29,172	280	35,507	203,039	92,684	149,359
19	Eugene-Springfield, OR	382,067	69,515	76,174	4,831	35,062	19,291	186	26,020	71,475	52,146	130,297
20	Missoula, MT	119,600	22,206	19,337	1,489	9,725	5,956	57	7,365	13,095	13,748	41,624
20	Houston-The Woodlands, TX	7,253,193	1,900,988	846,919	129,626	379,549	270,083	3,539	428,202	4,665,418	931,447	1,852,232
20	St. Louis-St. Charles-Farmington, MO-IL	2,907,648	638,876	497,267	44,574	220,535	186,827	2,019	217,020	750,922	297,846	1,018,979
20	New York-Newark, NY-NJ-CT-PA	22,589,036	4,807,142	3,695,349	379,882	1,632,452	1,001,150	12,855	1,385,913	11,716,586	2,551,734	6,503,918
24	Sacramento-Roseville, CA	2,639,124	598,431	428,755	43,918	160,442	92,457	1,034	139,147	1,253,696	304,746	680,909
25	Redding-Red Bluff, CA	245,164	54,280	50,849	3,984	15,141	9,552	96	14,821	58,776	33,992	65,803

Table 3a Cleanest U.S. Cities for Ozone Air Pollution[1]

Metropolitan Statistical Area	Population
Jefferson City, MO	151,235
Johnstown-Somerset, PA	203,639
La Crosse-Onalaska, WI-MN	136,616
Laredo, TX	276,652
Lexington-Fayette--Richmond--Frankfort, KY	745,033
Lincoln-Beatrice, NE	357,887
McAllen-Edinburg, TX	933,340
Monroe-Ruston, LA	247,003
Morgantown-Fairmont, WV	195,116
Myrtle Beach-Conway, SC-NC	559,581
New Bern-Morehead City, NC	193,757
Paducah-Mayfield, KY-IL	133,538
Panama City, FL	174,705
Raleigh-Durham-Cary, NC	2,079,687
Rapid City-Spearfish, SD	167,951
Roanoke, VA	313,222
Rochester-Austin, MN	261,983
Rocky Mount-Wilson-Roanoke Rapids, NC	297,064
Salinas, CA	434,061
Savannah-Hinesville-Statesboro, GA	583,882
Scottsboro-Fort Payne, AL	123,139
Shreveport-Bossier City-Minden, LA	433,046
Springfield, MO	470,300
Topeka, KS	231,969
Tupelo-Corinth, MS	203,079
Urban Honolulu, HI	974,563
Utica-Rome, NY	289,990
Virginia Beach-Norfolk, VA-NC	1,859,197
Wausau-Stevens Point-Wisconsin Rapids, WI	307,056
Wichita-Winfield, KS	675,126
Williamsport-Lock Haven, PA	151,931
Wilmington, NC	297,533

Notes:

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

Table 3b Cleanest U.S. Cities for Short-Term Particle Pollution (24-hour $PM_{2.5}$)[1]

Metropolitan Statistical Area	Population
Albany-Schenectady, NY	1,167,594
Albuquerque-Santa Fe-Las Vegas, NM	1,158,464
Alexandria, LA	152,037
Asheville-Marion-Brevard, NC	542,821
Bangor, ME	152,148
Birmingham-Hoover-Talladega, AL	1,317,702
Bloomington-Bedford, IN	214,600
Bloomington-Pontiac, IL	207,165
Boston-Worcester-Providence, MA-RI-NH-CT	8,287,710
Bowling Green-Glasgow, KY	233,560
Brownsville-Harlingen-Raymondville, TX	444,521
Brunswick, GA	118,779
Buffalo-Cheektowaga-Olean, NY	1,204,100
Burlington-Fort Madison-Keokuk, IA-IL-MO	103,775
Burlington-South Burlington-Barre, VT	278,820
Cedar Rapids-Iowa City, IA	446,137
Champaign-Urbana, IL	226,033
Charleston-North Charleston, SC	802,122
Charlotte-Concord, NC-SC	2,797,636
Charlottesville, VA	218,615
Chattanooga-Cleveland-Dalton, TN-GA	1,004,573
Cincinnati-Wilmington-Maysville, OH-KY-IN	2,280,246
Clarksville, TN-KY	307,820
Columbia-Orangeburg-Newberry, SC	963,048
Columbus-Auburn-Opelika, GA-AL	485,590
Dayton-Springfield-Kettering, OH	1,080,282
Decatur, IL	104,009
Eau Claire-Menomonie, WI	214,672
Edwards-Glenwood Springs, CO	132,955
Elmira-Corning, NY	178,835
Erie-Meadville, PA	354,357
Fayetteville-Sanford-Lumberton, NC	854,826
Fayetteville-Springdale-Rogers, AR	534,904
Florence, SC	204,911
Florence-Muscle Shoals, AL	147,970
Fort Smith, AR-OK	250,368
Fort Wayne-Huntington-Auburn, IN	639,669
Gadsden, AL	102,268
Gainesville-Lake City, FL	400,814
Grand Island, NE	75,553
Grand Junction, CO	154,210
Grand Rapids-Kentwood-Muskegon, MI	1,412,470
Green Bay-Shawano, WI	368,361
Greensboro--Winston-Salem--High Point, NC	1,689,151
Greenville-Kinston-Washington, NC	283,685
Greenville-Spartanburg-Anderson, SC	1,475,235
Harrisonburg-Staunton, VA	258,084
Hartford-East Hartford, CT	1,470,083
Hickory-Lenoir-Morganton, NC	369,711
Hot Springs-Malvern, AR	133,157
Houma-Thibodaux, LA	208,075
Huntsville-Decatur, AL	624,427
Jackson-Brownsville, TN	195,948
Johnson City-Kingsport-Bristol, TN-VA	510,851
Johnstown-Somerset, PA	203,639
Kalamazoo-Battle Creek-Portage, MI	503,706
Knoxville-Morristown-Sevierville, TN	1,146,049
Kokomo-Peru, IN	118,060
La Crosse-Onalaska, WI-MN	136,616
Lafayette-Opelousas-Morgan City, LA	620,679
Lafayette-West Lafayette-Frankfort, IN	265,401
Lansing-East Lansing, MI	550,391
Lawton, OK	126,415
Lexington-Fayette--Richmond--Frankfort, KY	745,033
Lima-Van Wert-Celina, OH	217,454
Lincoln-Beatrice, NE	357,887
Little Rock-North Little Rock, AR	908,941
Louisville/Jefferson County--Elizabethtown--Bardstown, KY-IN	1,489,142
Lynchburg, VA	263,566
Memphis-Forrest City, TN-MS-AR	1,371,039
Miami-Port St. Lucie-Fort Lauderdale, FL	6,889,936
Mobile-Daphne-Fairhope, AL	652,770
Monroe-Ruston, LA	247,003
Montgomery-Selma-Alexander City, AL	461,516
Morgantown-Fairmont, WV	195,116
Nashville-Davidson--Murfreesboro, TN	2,062,547
New Orleans-Metairie-Hammond, LA-MS	1,507,017
North Port-Sarasota, FL	1,063,906
Orlando-Lakeland-Deltona, FL	4,160,646
Owensboro, KY	119,440
Palm Bay-Melbourne-Titusville, FL	601,942
Parkersburg-Marietta-Vienna, WV-OH	149,250
Pensacola-Ferry Pass, FL-AL	539,262
Peoria, IL	400,561
Portland-Lewiston-South Portland, ME	646,777
Raleigh-Durham-Cary, NC	2,079,687
Richmond, VA	1,291,900
Roanoke, VA	313,222
Rochester-Austin, MN	261,983
Rochester-Batavia-Seneca Falls, NY	1,160,940
Saginaw-Midland-Bay City, MI	376,821
Salisbury-Cambridge, MD-DE	447,655
Savannah-Hinesville-Statesboro, GA	583,882
Scottsboro-Fort Payne, AL	123,139
Scranton--Wilkes-Barre, PA	553,885
Sierra Vista-Douglas, AZ	125,922
Sioux City, IA-NE-SD	144,701
Sioux Falls, SD	268,232
South Bend-Elkhart-Mishawaka, IN-MI	809,069
Springfield, MA	697,382
Springfield, MO	470,300
Springfield-Jacksonville-Lincoln, IL	306,399
St. George, UT	177,556
Syracuse-Auburn, NY	725,169
Tallahassee, FL	387,227
Tampa-St. Petersburg-Clearwater, FL	3,194,831
Tuscaloosa, AL	252,047
Urban Honolulu, HI	974,563
Virginia Beach-Norfolk, VA-NC	1,859,197
Waterloo-Cedar Falls, IA	168,522
Wheeling, WV-OH	138,948
Wichita-Winfield, KS	675,126
Wilmington, NC	297,533

Note:

1. Monitors in these cities reported no days when PM2.5 levels reached the unhealthful range using the Air Quality Index based on the 2012 NAAQS.

Table 3c Top 25 Cleanest U.S. Cities for Year-Round Particle Pollution (Annual $PM_{2.5}$)[1]

2021 Rank[2]	Design Value[3]	Metropolitan Statistical Area	Population
1	3.5	Urban Honolulu, HI	974,563
2	4.2	Kahului-Wailuku-Lahaina, HI	167,417
3	4.3	Cheyenne, WY	99,500
4	4.5	Wilmington, NC	297,533
5	4.7	Casper, WY	79,858
6	4.9	St. George, UT	177,556
7	5.0	Bellingham, WA	229,247
7	5.0	Elmira-Corning, NY	178,835
7	5.0	Sioux Falls, SD	268,232
10	5.3	Duluth, MN-WI	288,732
11	5.5	Pueblo-Cañon City, CO	216,263
11	5.5	Grand Junction, CO	154,210
11	5.5	Syracuse-Auburn, NY	725,169
14	5.7	Twin Falls, ID	111,290
14	5.7	Colorado Springs, CO	745,791
14	5.7	Grand Island, NE	75,553
14	5.7	Springfield, MA	697,382
14	5.7	Bismarck, ND	128,949
19	6.1	Burlington-South Burlington-Barre, VT	278,820
19	6.1	Palm Bay-Melbourne-Titusville, FL	601,942
21	6.3	Asheville-Marion-Brevard, NC	542,821
22	6.4	Anchorage, AK	396,317
22	6.4	Salinas, CA	434,061
22	6.4	Charlottesville, VA	218,615
22	6.4	Lynchburg, VA	263,566

Notes:

1. This list represents cities with the lowest levels of annual $PM_{2.5}$ air pollution.
2. Cities are ranked by using the highest design value for any county within that metropolitan area.
3. The Design Value is the calculated concentration of a pollutant based on the form of the Annual $PM_{2.5}$ National Ambient Air Quality Standard, and is used by EPA to determine whether the air quality in a county meets the current (2012) standard (U.S. EPA).

Table 4a Cleanest Counties for Ozone Air Pollution[1]

Alaska
- Denali Borough
- Fairbanks North Star Borough

Alabama
- Colbert
- DeKalb
- Elmore
- Etowah
- Houston
- Morgan
- Russell
- Sumter

Arkansas
- Clark
- Newton
- Washington

California
- Colusa
- Glenn
- Lake
- Mendocino
- Monterey

Colorado
- Archuleta

Florida
- Alachua
- Baker
- Bay
- Collier
- Columbia
- Flagler
- Holmes
- Liberty
- Okaloosa
- Santa Rosa
- Volusia
- Wakulla

Georgia
- Chatham
- Chattooga
- Glynn
- Murray
- Muscogee
- Sumter

Hawaii
- Honolulu

Iowa
- Clinton
- Montgomery
- Van Buren

Indiana
- Brown
- Huntington
- Jackson
- Morgan

Kansas
- Johnson
- Leavenworth
- Sedgwick
- Shawnee
- Sumner
- Trego

Kentucky
- Bell
- Carter
- Christian
- Edmonson
- Fayette
- Hancock
- Hardin
- Jessamine
- Livingston
- McCracken
- Morgan
- Perry
- Pike
- Pulaski
- Simpson
- Trigg
- Warren

Louisiana
- Bossier Parish
- Caddo Parish
- Ouachita Parish
- St. James Parish

Massachusetts
- Franklin

Maryland
- Garrett

Maine
- Androscoggin
- Aroostook
- Kennebec
- Oxford
- Penobscot

Minnesota
- Carlton
- Hennepin
- Lake
- Lyon
- Mille Lacs
- Olmsted
- St. Louis
- Washington

Missouri
- Callaway
- Cedar
- Greene

Mississippi
- Hancock
- Hinds
- Lauderdale
- Lee
- Yalobusha

Montana
- Flathead
- Lewis and Clark
- Phillips
- Richland
- Rosebud

North Carolina
- Alexander
- Avery
- Buncombe
- Caldwell
- Carteret
- Caswell
- Cumberland
- Durham
- Edgecombe
- Graham
- Granville
- Johnston
- Lincoln
- Macon
- Martin
- Montgomery
- New Hanover
- Person
- Pitt
- Rockingham
- Rowan
- Swain
- Wake
- Yancey

North Dakota
- Billings
- Burke
- Burleigh
- Cass
- Dunn
- McKenzie
- Mercer
- Oliver
- Ward
- Williams

Nebraska
- Knox
- Lancaster

New Hampshire
- Belknap
- Cheshire
- Grafton
- Merrimack

New York
- Hamilton
- Herkimer
- Steuben

Ohio
- Delaware
- Licking
- Mahoning
- Medina
- Noble
- Portage

Oklahoma
- Adair
- Choctaw
- Kay
- Ottawa
- Sequoyah

Pennsylvania
- Blair
- Bradford
- Cambria
- Centre
- Elk
- Franklin
- Greene
- Lackawanna
- Lawrence
- Lycoming
- Somerset
- Tioga

South Carolina
- Aiken
- Berkeley
- Darlington
- Edgefield
- Horry
- Pickens

South Dakota
- Custer
- Jackson
- Meade

Tennessee
- Claiborne
- DeKalb

Texas
- Brewster
- Cameron
- Harrison
- Hidalgo
- Nueces
- Polk
- Webb

Virginia
- Albemarle
- Caroline
- Chesterfield
- Fauquier
- Frederick
- Hampton City
- Hanover
- Madison
- Prince Edward
- Prince William
- Roanoke
- Rockbridge
- Rockingham
- Suffolk City
- Wythe

Vermont
- Chittenden
- Rutland
- Washington

Clallam
- Skagit

Wisconsin
- Ashland
- Forest
- La Crosse
- Marathon
- Taylor
- Vilas

West Virginia
- Berkeley
- Gilmer
- Greenbrier
- Monongalia
- Tucker
- Wood

Wyoming
- Big Horn
- Converse
- Natrona
- Teton

Notes:

1. This list represents counties with no monitored ozone air pollution in unhealthful ranges using the Air Quality Index based on 2008 NAAQS.

Table 4b Cleanest Counties for Short-Term Particle Pollution (24-hour $PM_{2.5}$)[1]

Alabama
- Baldwin
- Clay
- Colbert
- DeKalb
- Etowah
- Jefferson
- Madison
- Mobile
- Montgomery
- Morgan
- Russell
- Tuscaloosa

Arkansas
- Arkansas
- Crittenden
- Garland
- Jackson
- Polk
- Pulaski
- Washington

Arizona
- Apache
- Cochise
- La Paz

Colorado
- Garfield
- Mesa
- Rio Blanco

Connecticut
- Hartford
- Litchfield
- New London

Delaware
- Kent
- Sussex

Florida
- Alachua
- Brevard
- Broward
- Escambia
- Hillsborough
- Leon
- Miami-Dade
- Orange
- Palm Beach
- Pinellas
- Polk
- Sarasota
- Seminole
- Volusia

Georgia
- Chatham
- Clarke
- Clayton
- Cobb
- Coffee
- DeKalb
- Fulton
- Glynn
- Hall
- Muscogee
- Walker

Hawaii
- Honolulu
- Kauai

Iowa
- Black Hawk
- Clinton
- Johnson
- Lee
- Linn
- Montgomery
- Muscatine
- Palo Alto
- Van Buren
- Woodbury

Illinois
- Champaign
- DuPage
- Hamilton
- Jersey
- Kane
- Macon
- McHenry
- McLean
- Peoria
- Randolph
- Rock Island
- Sangamon
- St. Clair
- Will

Indiana
- Allen
- Clark
- Dubois
- Elkhart
- Greene
- Howard
- LaPorte
- Monroe
- Spencer
- St. Joseph
- Sullivan
- Tippecanoe
- Vanderburgh
- Whitley

Kansas
- Johnson
- Neosho
- Sedgwick
- Sumner
- Trego

Kentucky
- Bell
- Boyd
- Campbell
- Carter
- Christian
- Daviess
- Fayette
- Hardin
- Jefferson
- Perry
- Pike
- Pulaski
- Warren

Louisiana
- Jefferson Parish
- Lafayette Parish
- Orleans Parish
- Ouachita Parish
- Rapides Parish
- St. Bernard Parish
- Tangipahoa Parish
- Terrebonne Parish
- West Baton Rouge Parish

Massachusetts
- Bristol
- Essex
- Franklin
- Hampden
- Hampshire
- Plymouth
- Suffolk
- Worcester

Maryland
- Cecil
- Dorchester
- Garrett
- Howard
- Kent
- Montgomery
- Prince George's
- Washington

Maine
- Androscoggin
- Cumberland
- Hancock
- Kennebec
- Oxford
- Penobscot

Michigan
- Allegan
- Bay
- Chippewa
- Genesee
- Ingham
- Kalamazoo
- Kent
- Lenawee
- Macomb
- Manistee
- Missaukee
- Oakland
- St. Clair
- Washtenaw

Minnesota
- Anoka
- Becker
- Carlton
- Cook
- Dakota
- Hennepin
- Lake
- Lyon
- Olmsted
- Scott
- Stearns
- Washington
- Wright

Missouri
- Cass
- Cedar
- Clay
- Greene
- Jackson
- St. Louis

Mississippi
- DeSoto
- Harrison
- Jackson

North Carolina
- Buncombe
- Catawba
- Cumberland
- Davidson
- Durham
- Forsyth
- Guilford
- Jackson
- Johnston
- Mecklenburg
- Mitchell
- Montgomery
- New Hanover
- Pitt
- Swain
- Wake

Nebraska
- Douglas
- Hall
- Lancaster
- Sarpy
- Washington

New Hampshire
- Belknap
- Cheshire
- Grafton
- Hillsborough
- Rockingham

New Jersey
- Atlantic
- Bergen
- Cumberland
- Essex
- Gloucester
- Hudson
- Hunterdon
- Mercer
- Middlesex
- Morris
- Ocean
- Passaic

New Mexico
- Bernalillo
- Santa Fe
- Taos

New York
- Albany
- Bronx
- Chautauqua
- Erie
- Essex
- Kings
- Monroe
- Onondaga
- Orange
- Queens
- Richmond
- Steuben
- Suffolk

Ohio
- Allen
- Athens
- Belmont
- Butler
- Clark
- Hamilton
- Jefferson
- Lake
- Lorain
- Mahoning
- Medina
- Montgomery
- Portage
- Scioto
- Stark

Oklahoma
- Comanche
- Oklahoma
- Pittsburg
- Sequoyah

Pennsylvania
- Armstrong
- Bradford
- Cambria
- Erie
- Greene
- Lackawanna
- Mercer
- Montgomery
- Philadelphia
- Tioga
- Washington
- Westmoreland
- York

Rhode Island
- Kent
- Providence
- Washington

South Carolina
- Charleston
- Chesterfield
- Edgefield
- Florence
- Greenville
- Lexington
- Oconee
- Richland
- Spartanburg

South Dakota
- Brookings
- Minnehaha
- Union

Tennessee
- Blount
- Davidson
- Dyer
- Hamilton
- Knox
- Lawrence
- Loudon
- Madison
- Maury
- McMinn
- Montgomery
- Putnam
- Roane
- Shelby
- Sullivan
- Sumner

Texas
- Brewster
- Cameron
- Orange
- Tarrant

Utah
- Uintah
- Washington

Virginia
- Albemarle
- Arlington
- Bristol City
- Charles City
- Chesterfield
- Fairfax
- Frederick
- Hampton City
- Henrico
- Loudoun
- Lynchburg City
- Norfolk City
- Roanoke
- Rockingham
- Salem City
- Virginia Beach City

Vermont
- Bennington
- Chittenden
- Rutland

Wisconsin
- Ashland
- Brown
- Eau Claire
- Forest
- Kenosha
- La Crosse
- Milwaukee
- Ozaukee
- Taylor
- Vilas
- Waukesha

West Virginia
- Cabell
- Hancock
- Harrison
- Kanawha
- Marion
- Marshall
- Monongalia
- Ohio
- Wood

Wyoming
- Sweetwater

Notes:

1. Monitors in these counties reported no days when PM2.5 levels reached the unhealthful range using the Air Quality Index based on the 2012 NAAQS

Table 4c Top 25 Cleanest Counties for Year-Round Particle Pollution (Annual $PM_{2.5}$)[1]

2021 Rank[2]	County	State	Design Value[3]
1	Gallatin	MT	2.6
2	Kauai	HI	2.7
3	Hillsborough	NH	3.0
4	Essex	NY	3.3
4	Campbell	WY	3.3
6	Hancock	ME	3.4
7	Honolulu	HI	3.5
8	Burke	ND	3.6
8	Hughes	SD	3.6
10	Lake	MN	3.8
10	Custer	SD	3.8
12	Billings	ND	3.9
13	Park	WY	4.0
14	Litchfield	CT	4.1
14	Carlton	MN	4.1
14	Jackson	SD	4.1
17	Maui	HI	4.2
17	Belknap	NH	4.2
19	Laramie	WY	4.3
20	New Hanover	NC	4.5
20	Brookings	SD	4.5
20	Albany	WY	4.5
20	Teton	WY	4.5
24	La Paz	AZ	4.6
24	Cook	MN	4.6
24	Mercer	ND	4.6
24	Ashland	WI	4.6

Notes:

1. This list represents counties with the lowest levels of monitored long term $PM_{2.5}$ air pollution.
2. Counties are ranked by Design Value.
3. The Design Value is the calculated concentration of a pollutant based on the form of the Annual $PM_{2.5}$ National Ambient Air Quality Standard, and is used by EPA to determine whether the air quality in a county meets the current (2012) standard (U.S. EPA).

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	People of Color	Poverty	Ever Smoked
Baldwin	223,234	47,554	46,830	6,276	16,827	18,453	141	23,810	37,487	22,360	79,225
Clay	13,235	2,669	2,785	352	1,013	1,112	8	1,435	2,601	2,156	4,769
Colbert	55,241	11,555	11,065	1,525	4,177	4,509	35	5,740	12,306	7,998	19,625
DeKalb	71,513	17,121	12,601	2,259	5,198	5,508	45	6,885	14,410	12,848	24,344
Elmore	81,209	18,129	12,657	2,393	6,019	6,195	51	7,516	21,858	8,753	28,063
Etowah	102,268	21,776	19,796	2,874	7,698	8,267	65	10,466	23,061	18,801	36,127
Houston	105,882	24,288	19,184	3,205	7,791	8,252	67	10,322	35,919	20,207	36,499
Madison	372,909	80,714	57,136	10,652	27,878	28,557	236	34,477	132,372	41,789	129,875
Mobile	413,210	96,342	68,742	12,714	30,204	31,332	260	38,432	179,663	71,784	141,074
Montgomery	226,486	52,888	35,281	6,980	16,516	16,818	142	20,275	152,427	34,268	76,953
Morgan	119,679	27,345	21,341	3,609	8,832	9,388	76	11,754	29,852	16,146	41,370
Russell	57,961	13,987	8,589	1,846	4,190	4,269	37	5,133	31,399	10,823	19,512
Shelby	217,702	50,500	34,724	6,665	15,971	16,593	137	20,312	49,611	13,428	74,554
Sumter	12,427	2,360	2,325	311	956	990	8	1,218	9,329	4,195	4,472
Talladega	79,978	16,705	14,769	2,205	6,049	6,427	50	8,051	30,178	13,326	28,338
Tuscaloosa	209,355	43,970	28,789	5,803	15,653	15,234	132	17,572	82,070	32,226	72,534

ALABAMA

American Lung Association in Alabama

	HIGH OZONE DAYS 2017–2019					HIGH PARTICLE POLLUTION DAYS 2017–2019							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Baldwin	1	0	0	0.3	B	0	0	0	0	0.0	A	7.3	Pass
Clay	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	7.4	Pass
Colbert	0	0	0	0.0	A	0	0	0	0	0.0	A	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	8.3	Pass
Houston	0	0	0	0.0	A	1	0	0	0	0.3	B	8.1	Pass
Jefferson	16	1	0	5.8	F	0	0	0	0	0.0	A	10.0	Pass
Madison	1	0	0	0.3	B	0	0	0	0	0.0	A	7.4	Pass
Mobile	4	0	0	1.3	C	0	0	0	0	0.0	A	8.1	Pass
Montgomery	1	0	0	0.3	B	0	0	0	0	0.0	A	8.8	Pass
Morgan	0	0	0	0.0	A	0	0	0	0	0.0	A	7.5	Pass
Russell	0	0	0	0.0	A	0	0	0	0	0.0	A	9.7	Pass
Shelby	4	0	0	1.3	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Sumter	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Talladega	DNC	DNC	DNC	DNC	DNC	INC	INC	INC	INC	INC	INC	INC	INC
Tuscaloosa	1	0	0	0.3	B	0	0	0	0	0.0	A	8.0	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	People of Color	Poverty	Ever Smoked
Anchorage Municipality	288,000	69,198	33,757	5,092	21,673	9,524	154	11,928	123,536	26,636	94,018
Denali Borough	2,097	399	238	29	169	76	1	95	430	132	730
Fairbanks North Star Borough	96,849	23,004	10,828	1,693	7,304	3,036	52	3,774	29,785	6,656	31,557
Juneau City and Borough	31,974	6,749	4,461	497	2,499	1,199	17	1,520	11,493	1,951	10,953
Matanuska-Susitna Borough	108,317	28,585	13,755	2,103	7,899	3,727	58	4,713	23,157	10,142	34,549

ALASKA

American Lung Association in Alaska

	HIGH OZONE DAYS 2017–2019					HIGH PARTICLE POLLUTION DAYS 2017–2019							
						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	5	4	0	0	3.7	F	6.4	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	53	29	1	3	35.3	F	13.7	Fail
Juneau City and Borough	DNC	DNC	DNC	DNC	DNC	4	0	0	0	1.3	C	6.4	Pass
Matanuska-Susitna Borough	INC	INC	INC	INC	INC	5	1	0	0	2.2	D	5.6	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	People of Color	Poverty	Ever Smoked
Apache	71,887	19,425	11,334	1,566	5,154	3,522	31	4,408	58,952	23,680	21,757
Cochise	125,922	26,973	29,118	2,174	9,484	7,307	55	9,554	56,954	20,172	42,214
Coconino	143,476	28,750	18,662	2,318	11,321	6,625	62	8,129	65,868	20,817	45,622
Gila	54,018	10,654	15,869	859	4,089	3,581	24	4,792	20,725	11,219	19,181
La Paz	21,108	3,506	8,392	283	1,591	1,583	9	2,222	9,180	4,593	8,013
Maricopa	4,485,414	1,052,438	696,331	84,843	337,692	222,803	1,952	277,583	2,039,325	539,670	1,409,822
Mohave	212,181	35,359	65,910	2,850	16,648	14,744	92	19,772	49,346	33,183	78,471
Navajo	110,924	29,120	20,829	2,348	7,953	5,817	48	7,432	64,734	27,440	34,507
Pima	1,047,279	215,307	212,554	17,357	80,436	57,488	456	74,030	511,043	142,859	347,839
Pinal	462,789	102,364	96,566	8,252	34,752	25,460	202	32,953	203,200	52,975	151,691
Santa Cruz	46,498	12,375	8,591	998	3,316	2,401	20	3,068	39,532	8,688	14,347
Yavapai	235,099	37,475	76,438	3,021	18,541	16,795	102	22,617	46,622	27,845	88,271
Yuma	213,787	53,569	41,302	4,318	15,414	10,838	93	14,062	149,334	41,782	66,551

ARIZONA

American Lung Association in Arizona

HIGH OZONE DAYS 2017–2019

County	Orange	Red	Purple	Wgt. Avg.	Grade
Apache	DNC	DNC	DNC	DNC	DNC
Cochise	1	0	0	0.3	B
Coconino	3	0	0	1.0	C
Gila	42	1	0	14.5	F
La Paz	5	0	0	1.7	C
Maricopa	116	5	0	41.2	F
Mohave	DNC	DNC	DNC	DNC	DNC
Navajo	4	0	0	1.3	C
Pima	13	0	0	4.3	F
Pinal	43	1	0	14.8	F
Santa Cruz	DNC	DNC	DNC	DNC	DNC
Yavapai	6	0	0	2.0	C
Yuma	16	0	0	5.3	F

HIGH PARTICLE POLLUTION DAYS 2017–2019

	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	0	0	0	0	0.0	A	INC	INC
Coconino	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Gila	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
La Paz	0	0	0	0	0.0	A	4.6	Pass
Maricopa	12	2	1	0	5.7	F	9.6	Pass
Mohave	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Navajo	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Pima	1	0	0	0	0.3	B	5.6	Pass
Pinal	27	2	0	0	10.0	F	12.7	Fail
Santa Cruz	5	3	0	0	3.2	D	8.7	Pass
Yavapai	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Yuma	2	0	0	0	0.7	B	8.4	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	People of Color	Poverty	Ever Smoked
Arkansas	17,486	4,007	3,551	295	1,263	1,514	13	1,804	5,411	2,714	6,276
Ashley	19,657	4,398	4,116	324	1,432	1,735	14	2,078	6,201	3,603	7,124
Benton	279,141	72,654	37,902	5,346	19,207	20,479	204	22,622	76,483	24,525	93,794
Clark	22,320	4,238	3,753	312	1,667	1,769	16	1,987	7,073	3,971	8,175
Craighead	110,332	27,576	15,424	2,029	7,673	8,111	80	8,959	27,743	17,960	37,483
Crittenden	47,955	12,972	6,960	955	3,271	3,619	35	4,076	28,347	10,520	16,031
Garland	99,386	19,811	24,144	1,458	7,437	9,217	72	11,297	18,222	16,532	37,251
Jackson	16,719	3,361	3,055	247	1,246	1,417	12	1,637	3,882	3,313	6,146
Newton	7,753	1,496	2,112	110	586	757	6	950	501	1,386	2,957
Polk	19,964	4,540	4,717	334	1,444	1,804	15	2,216	2,439	3,991	7,238
Pulaski	391,911	90,362	63,023	6,649	28,119	31,183	284	35,387	189,624	56,020	138,083
Union	38,682	9,266	7,119	682	2,757	3,231	28	3,786	15,220	7,216	13,639
Washington	239,187	57,750	28,919	4,250	16,741	16,776	175	17,890	70,699	34,731	81,271

ARKANSAS

American Lung Association in Arkansas

HIGH OZONE DAYS 2017–2019

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	5	0	0	1.7	C
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	0	0	0	0.0	A

HIGH PARTICLE POLLUTION DAYS 2017–2019

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Arkansas	0	0	0	0	0.0	A	8.0	Pass
Ashley	1	0	0	0	0.3	B	8.2	Pass
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	8.4	Pass
Garland	0	0	0	0	0.0	A	8.5	Pass
Jackson	0	0	0	0	0.0	A	8.1	Pass
Newton	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Polk	0	0	0	0	0.0	A	8.5	Pass
Pulaski	0	0	0	0	0.0	A	9.9	Pass
Union	1	0	0	0	0.3	B	8.9	Pass
Washington	0	0	0	0	0.0	A	8.1	Pass

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	People of Color	Poverty	Ever Smoked
Alameda	1,671,329	340,099	238,763	24,959	104,143	56,819	655	83,787	1,159,195	146,315	435,979
Amador	39,752	6,010	10,945	441	2,703	1,862	16	2,966	9,010	3,462	12,043
Butte	219,186	44,393	40,228	3,258	13,744	8,012	86	12,071	63,771	34,503	58,361
Calaveras	45,905	7,828	12,866	574	3,059	2,157	18	3,463	9,233	5,477	13,735
Colusa	21,547	5,841	3,214	429	1,233	703	8	1,053	14,203	2,554	5,218
Contra Costa	1,153,526	258,647	187,704	18,982	70,496	41,202	452	62,442	661,133	90,482	300,733
Del Norte	27,812	5,822	5,123	427	1,735	1,039	11	1,584	10,576	4,445	7,437
El Dorado	192,843	38,101	42,304	2,796	12,327	8,023	76	12,601	43,940	16,649	54,161
Fresno	999,101	281,853	125,435	20,685	55,990	29,956	392	43,768	713,052	200,873	233,020
Glenn	28,393	7,560	4,476	555	1,639	953	11	1,439	14,059	3,397	6,973
Humboldt	135,558	25,634	25,189	1,881	8,647	5,057	53	7,632	35,480	25,136	36,768
Imperial	181,215	51,600	24,137	3,787	10,134	5,525	71	8,130	163,054	38,020	42,359
Inyo	18,039	3,727	4,228	274	1,141	754	7	1,186	7,069	2,071	5,023
Kern	900,202	259,087	101,155	19,014	49,933	25,961	354	37,512	604,487	164,817	206,478
Kings	152,940	41,343	16,028	3,034	8,661	4,332	61	6,148	105,002	21,840	35,457
Lake	64,386	13,628	14,849	1,000	4,047	2,673	25	4,209	20,019	11,622	17,827
Los Angeles	10,039,107	2,144,550	1,413,753	157,385	617,777	337,748	3,936	498,620	7,423,160	1,319,242	2,588,195
Madera	157,327	43,149	22,573	3,167	8,951	5,016	62	7,466	105,130	26,309	37,697
Marin	258,826	51,331	59,404	3,767	16,573	11,030	101	17,448	74,710	17,357	73,302
Mariposa	17,203	2,778	4,974	204	1,159	819	7	1,314	3,558	2,565	5,201
Mendocino	86,749	18,319	20,025	1,344	5,448	3,563	34	5,588	30,929	11,980	23,903
Merced	277,680	81,229	31,636	5,961	15,304	7,989	109	11,559	204,134	46,011	63,330
Mono	14,444	2,569	2,330	189	934	534	6	803	4,944	1,437	3,961
Monterey	434,061	112,715	60,731	8,272	25,159	13,886	171	20,551	306,564	52,484	105,560
Napa	137,744	27,797	27,157	2,040	8,701	5,354	54	8,247	66,453	9,897	37,585
Nevada	99,755	16,918	28,306	1,242	6,649	4,675	39	7,490	15,225	9,268	29,798
Orange	3,175,692	689,676	485,568	50,614	195,299	110,983	1,245	166,449	1,910,690	297,658	826,920
Placer	398,329	87,947	79,390	6,454	24,608	15,393	156	23,841	113,409	26,170	106,792
Plumas	18,807	3,270	5,437	240	1,249	888	7	1,427	3,180	2,432	5,615
Riverside	2,470,546	614,154	365,942	45,072	145,621	81,933	969	122,215	1,628,719	274,953	614,205
Sacramento	1,552,058	363,121	224,882	26,649	93,162	51,754	608	76,847	872,332	192,993	391,757
San Benito	62,808	15,986	8,252	1,173	3,665	2,007	25	2,967	42,215	6,518	15,373
San Bernardino	2,180,085	569,638	260,520	41,805	125,646	66,407	855	96,717	1,585,067	284,359	522,028
San Diego	3,338,330	714,796	484,452	52,458	205,227	112,254	1,311	165,532	1,837,465	335,034	859,065
San Francisco	881,549	118,170	141,770	8,672	59,611	32,184	347	47,122	527,180	82,616	248,364
San Joaquin	762,148	204,571	99,781	15,013	43,619	23,790	299	35,079	530,025	101,772	182,597
San Luis Obispo	283,111	49,499	59,051	3,633	18,442	11,189	111	17,099	89,168	31,180	79,154
San Mateo	766,573	155,163	126,877	11,387	48,091	27,760	301	41,839	470,026	46,328	204,315
Santa Barbara	446,499	98,556	70,125	7,233	27,233	15,106	175	22,345	250,942	51,298	114,199
Santa Clara	1,927,852	415,915	268,207	30,523	118,306	64,582	758	95,308	1,338,306	116,401	495,543

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	People of Color	Poverty	Ever Smoked
Santa Cruz	273,213	51,899	47,217	3,809	17,394	10,017	107	15,059	118,119	27,531	73,759
Shasta	180,080	38,817	38,069	2,849	11,208	7,094	71	11,016	37,524	23,508	48,746
Siskiyou	43,539	8,736	11,379	641	2,786	1,916	17	3,050	10,803	7,484	12,402
Solano	447,643	98,456	73,156	7,226	27,466	15,873	176	23,925	281,254	39,018	116,696
Sonoma	494,336	95,505	102,323	7,009	31,600	19,688	194	30,436	183,334	34,758	136,910
Stanislaus	550,660	148,433	73,921	10,893	31,481	17,283	216	25,540	328,317	70,741	131,968
Sutter	96,971	24,976	15,095	1,833	5,659	3,255	38	4,894	53,398	12,310	24,001
Tehama	65,084	15,463	12,780	1,135	3,933	2,458	26	3,804	21,252	10,484	17,057
Tulare	466,195	142,106	54,291	10,429	25,274	13,357	183	19,425	337,240	86,940	104,895
Tuolumne	54,478	9,153	14,709	672	3,624	2,472	21	3,923	11,053	5,781	16,084
Ventura	846,006	190,911	136,705	14,011	51,559	29,918	332	45,194	467,982	68,482	219,419
Yolo	220,500	45,775	28,508	3,359	13,577	6,949	86	9,939	119,179	35,608	55,796

CALIFORNIA

American Lung Association in California

	HIGH OZONE DAYS 2017–2019					HIGH PARTICLE POLLUTION DAYS 2017–2019							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Alameda	15	1	1	6.2	F	10	13	2	0	11.2	F	11.7	Pass
Amador	12	0	0	4.0	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Butte	34	3	0	12.8	F	12	4	2	2	9.0	F	INC	INC
Calaveras	20	3	0	8.2	F	15	5	0	0	7.5	F	INC	INC
Colusa	0	0	0	0.0	A	12	16	0	0	12.0	F	8.8	Pass
Contra Costa	8	0	0	2.7	D	11	13	2	0	11.5	F	10.8	Pass
Del Norte	DNC	DNC	DNC	DNC	DNC	INC	INC	INC	INC	INC	INC	INC	INC
El Dorado	63	9	1	26.2	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Fresno	181	19	1	70.5	F	64	27	0	0	34.8	F	14.5	Fail
Glenn	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Humboldt	1	0	0	0.3	B	4	0	0	0	1.3	C	7.6	Pass
Imperial	58	3	0	20.8	F	15	1	0	0	5.5	F	12.0	Pass
Inyo	30	0	0	10.0	F	8	11	3	0	10.2	F	6.7	Pass
Kern	251	27	0	97.2	F	54	28	0	0	32.0	F	16.9	Fail
Kings	78	3	0	27.5	F	63	27	0	0	34.5	F	15.7	Fail
Lake	0	0	0	0.0	A	2	2	1	0	2.3	D	INC	INC
Los Angeles	187	75	10	106.5	F	31	7	0	0	13.8	F	12.5	Fail
Madera	57	3	0	20.5	F	32	8	0	0	14.7	F	INC	INC
Marin	1	0	0	0.3	B	8	12	1	0	9.3	F	9.0	Pass
Mariposa	47	4	0	17.7	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Mendocino	0	0	0	0.0	A	19	7	1	1	11.3	F	8.9	Pass
Merced	43	0	0	14.3	F	35	12	0	0	17.7	F	12.5	Fail
Mono	DNC	DNC	DNC	DNC	DNC	INC	INC	INC	INC	INC	INC	INC	INC
Monterey	0	0	0	0.0	A	7	2	0	0	3.3	F	6.4	Pass
Napa	4	0	0	1.3	C	10	13	2	0	11.2	F	INC	INC
Nevada	81	24	0	39.0	F	8	5	0	0	5.2	F	6.3	Pass
Orange	45	3	0	16.5	F	17	1	0	0	6.2	F	7.9	Pass
Placer	74	9	3	31.2	F	9	4	1	0	5.7	F	8.6	Pass
Plumas	DNC	DNC	DNC	DNC	DNC	29	10	0	0	14.7	F	14.2	Fail
Riverside	253	92	9	136.3	F	23	5	0	0	10.2	F	13.5	Fail
Sacramento	39	4	0	15.0	F	18	4	5	0	11.3	F	10.2	Pass
San Benito	2	0	0	0.7	B	11	0	0	0	3.7	F	5.7	Pass
San Bernardino	213	153	38	172.8	F	21	5	0	0	9.5	F	14.0	Fail
San Diego	99	8	0	37.0	F	8	0	0	0	2.7	D	9.3	Pass
San Francisco	1	0	0	0.3	B	9	11	1	0	9.2	F	9.7	Pass
San Joaquin	18	0	0	6.0	F	45	9	3	0	21.5	F	13.0	Fail
San Luis Obispo	16	0	0	5.3	F	2	0	0	0	0.7	B	8.2	Pass
San Mateo	3	1	0	1.5	C	7	12	0	0	8.3	F	8.9	Pass
Santa Barbara	3	0	0	1.0	C	5	9	1	0	6.8	F	7.4	Pass
Santa Clara	7	3	0	3.8	F	14	11	0	0	10.2	F	10.5	Pass

CALIFORNIA (cont.)

American Lung Association in California

	HIGH OZONE DAYS 2017–2019				
County	Orange	Red	Purple	Wgt. Avg.	Grade
Santa Cruz	1	0	0	0.3	B
Shasta	28	2	0	10.3	F
Siskiyou	4	0	0	1.3	C
Solano	4	1	0	1.8	C
Sonoma	1	0	0	0.3	B
Stanislaus	70	6	0	26.3	F
Sutter	20	0	0	6.7	F
Tehama	20	2	0	7.7	F
Tulare	228	28	0	90.0	F
Tuolumne	47	1	0	16.2	F
Ventura	38	3	0	14.2	F
Yolo	4	0	0	1.3	C

	HIGH PARTICLE POLLUTION DAYS 2017–2019							
	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Santa Cruz	8	5	0	0	5.2	F	7.3	Pass
Shasta	1	5	0	0	2.8	D	10.1	Pass
Siskiyou	19	26	0	0	19.3	F	10.4	Pass
Solano	7	14	1	0	10.0	F	11.2	Pass
Sonoma	4	11	2	0	8.2	F	7.4	Pass
Stanislaus	48	16	1	0	24.7	F	13.5	Fail
Sutter	12	0	0	0	4.0	F	9.3	Pass
Tehama	13	16	0	0	12.3	F	7.7	Pass
Tulare	18	9	0	0	10.5	F	15.5	Fail
Tuolumne	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Ventura	4	5	3	2	7.5	F	9.5	Pass
Yolo	1	2	1	0	2.0	C	9.8	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	People of Color	Poverty	Ever Smoked
Adams	517,421	135,191	55,528	9,948	37,575	15,629	208	19,377	263,741	47,464	146,669
Arapahoe	656,590	152,881	88,508	11,250	49,244	22,118	264	27,886	266,670	47,072	195,760
Archuleta	14,029	2,488	3,834	183	1,099	675	6	902	3,254	1,502	4,761
Boulder	326,196	61,234	48,358	4,506	25,914	11,673	131	14,772	73,717	33,965	103,060
Chaffee	20,356	3,071	5,298	226	1,658	957	8	1,271	3,015	2,070	7,044
Clear Creek	9,700	1,462	2,070	108	791	436	4	566	1,183	709	3,320
Delta	31,162	6,114	8,352	450	2,392	1,447	13	1,937	5,862	4,602	10,307
Denver	727,211	138,625	86,835	10,201	58,136	23,229	292	28,839	327,927	86,020	224,637
Douglas	351,154	88,367	43,602	6,502	25,579	11,796	141	14,788	65,602	9,622	102,467
El Paso	720,403	171,630	95,178	12,629	53,772	23,646	289	29,784	226,030	61,692	212,590
Garfield	60,061	14,985	8,288	1,103	4,395	2,033	24	2,574	19,564	5,694	17,603
Gilpin	6,243	910	1,112	67	513	269	3	344	774	421	2,127
Grand	15,734	2,626	2,905	193	1,267	647	6	832	2,100	1,271	5,209
Gunnison	17,462	2,915	2,384	215	1,430	607	7	761	2,307	1,920	5,605
Jefferson	582,881	113,198	98,793	8,330	45,645	22,178	234	28,422	129,794	41,258	185,077
La Plata	56,221	10,472	10,249	771	4,437	2,216	23	2,856	12,179	6,127	18,119
Larimer	356,899	69,132	57,774	5,087	28,139	12,911	143	16,491	63,784	35,894	112,353
Mesa	154,210	32,809	30,368	2,414	11,754	6,075	62	7,918	29,216	16,840	48,418
Moffat	13,283	3,375	2,116	248	962	473	5	607	2,700	1,611	3,912
Montezuma	26,183	5,659	6,004	416	1,970	1,120	11	1,480	7,300	3,856	8,335
Montrose	42,758	9,066	10,302	667	3,230	1,866	17	2,477	10,345	5,565	13,731
Park	18,845	2,828	4,070	208	1,531	869	8	1,131	2,061	1,602	6,489
Pueblo	168,424	37,414	31,933	2,753	12,691	6,500	68	8,450	81,302	29,187	52,154
Rio Blanco	6,324	1,539	1,034	113	465	229	3	294	1,002	624	1,890
San Miguel	8,179	1,414	1,265	104	657	314	3	398	1,212	804	2,655
Teller	25,388	4,290	5,888	316	2,014	1,173	10	1,540	3,047	1,990	8,597
Weld	324,492	84,043	40,351	6,184	23,557	10,315	130	12,953	113,920	26,547	93,060

COLORADO

American Lung Association in Colorado

	HIGH OZONE DAYS 2017–2019					HIGH PARTICLE POLLUTION DAYS 2017–2019							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Adams	2	0	0	0.7	B	3	0	0	0	1.0	C	9.6	Pass
Arapahoe	27	1	0	9.5	F	1	0	0	0	0.3	B	6.1	Pass
Archuleta	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Boulder	40	1	0	13.8	F	6	0	0	0	2.0	C	7.2	Pass
Chaffee	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Clear Creek	28	3	0	10.8	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Delta	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC
Denver	9	0	0	3.0	D	4	1	0	0	1.8	C	9.4	Pass
Douglas	47	4	0	17.7	F	4	1	0	0	1.8	C	6.6	Pass
El Paso	9	0	0	3.0	D	2	0	0	0	0.7	B	5.7	Pass
Garfield	15	1	0	5.5	F	0	0	0	0	0.0	A	INC	INC
Gilpin	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Grand	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Gunnison	5	1	0	2.2	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Jefferson	79	2	0	27.3	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
La Plata	9	0	0	3.0	D	5	9	1	0	6.8	F	INC	INC
Larimer	41	3	0	15.2	F	2	1	0	0	1.2	C	7.0	Pass
Mesa	5	0	0	1.7	C	0	0	0	0	0.0	A	5.5	Pass
Moffat	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Montezuma	5	0	0	1.7	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Montrose	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Park	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC
Pueblo	DNC	DNC	DNC	DNC	DNC	1	0	0	0	0.3	B	5.5	Pass
Rio Blanco	2	0	0	0.7	B	0	0	0	0	0.0	A	8.0	Pass
San Miguel	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Teller	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Weld	13	0	0	4.3	F	7	1	0	0	2.8	D	9.1	Pass

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	People of Color	Poverty	Ever Smoked
Fairfield	943,332	209,666	153,951	18,428	77,883	38,236	559	48,270	368,764	83,047	273,743
Hartford	891,720	186,263	155,502	16,371	74,888	36,750	529	46,697	357,283	93,694	262,324
Litchfield	180,333	32,373	39,654	2,845	15,354	8,532	107	11,172	22,639	12,741	57,500
Middlesex	162,436	28,059	34,075	2,466	14,047	7,509	96	9,750	27,059	11,024	51,488
New Haven	854,757	171,217	152,623	15,048	72,510	35,727	506	45,483	327,984	99,423	254,428
New London	265,206	50,952	49,835	4,478	22,640	11,405	158	14,611	65,970	19,739	80,344
Tolland	150,721	25,903	24,571	2,277	13,402	6,148	90	7,672	24,423	10,559	45,336
Windham	116,782	23,007	20,033	2,022	9,954	4,887	69	6,184	21,042	12,874	34,949

CONNECTICUT

American Lung Association in Connecticut

HIGH OZONE DAYS 2017–2019

County	Orange	Red	Purple	Wgt. Avg.	Grade
Fairfield	42	14	0	21.0	F
Hartford	9	0	0	3.0	D
Litchfield	5	0	0	1.7	C
Middlesex	21	2	0	8.0	F
New Haven	31	8	0	14.3	F
New London	19	2	0	7.3	F
Tolland	12	0	0	4.0	F
Windham	11	0	0	3.7	F

HIGH PARTICLE POLLUTION DAYS 2017–2019

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Fairfield	2	0	0	0	0.7	B	7.6	Pass
Hartford	0	0	0	0	0.0	A	7.6	Pass
Litchfield	0	0	0	0	0.0	A	4.1	Pass
Middlesex	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
New Haven	1	0	0	0	0.3	B	7.3	Pass
New London	0	0	0	0	0.0	A	INC	INC
Tolland	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Windham	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC

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	People of Color	Poverty	Ever Smoked
Kent	180,786	41,233	31,623	3,034	13,788	11,480	103	12,484	71,616	22,195	58,730
New Castle	558,753	119,399	89,961	8,786	43,700	35,469	319	37,818	244,090	56,289	183,906
Sussex	234,225	42,940	67,322	3,160	18,282	18,876	134	22,738	57,709	27,742	84,834

DELAWARE

American Lung Association in Delaware

	HIGH OZONE DAYS 2017–2019					HIGH PARTICLE POLLUTION DAYS 2017–2019							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Kent	3	0	0	1.0	C	0	0	0	0	0.0	A	6.6	Pass
New Castle	16	0	0	5.3	F	3	0	0	0	1.0	C	7.8	Pass
Sussex	5	0	0	1.7	C	0	0	0	0	0.0	A	6.8	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	People of Color	Poverty	Ever Smoked
District of Columbia	705,749	128,168	87,343	15,007	66,355	25,726	307	38,501	441,349	94,985	192,800

DISTRICT OF COLUMBIA

American Lung Association in the District of Columbia

	HIGH OZONE DAYS 2017–2019					HIGH PARTICLE POLLUTION DAYS 2017–2019							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
District of Columbia	13	1	0	4.8	F	0	1	0	0	0.5	B	9.5	Pass

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	People of Color	Poverty	Ever Smoked
Alachua	269,043	48,289	39,272	3,219	16,050	14,049	147	15,627	106,007	46,916	83,544
Baker	29,210	6,971	4,117	465	1,657	1,549	16	1,776	5,739	3,914	8,815
Bay	174,705	35,983	32,535	2,399	10,418	10,461	96	12,503	40,845	20,643	56,807
Brevard	601,942	109,155	145,752	7,276	37,268	40,338	329	50,186	157,652	55,578	208,781
Broward	1,952,778	410,225	334,596	27,345	115,556	113,288	1,067	133,580	1,272,242	237,486	624,842
Citrus	149,657	21,995	54,938	1,466	9,712	11,982	82	15,881	18,735	22,291	57,211
Collier	384,902	64,755	126,707	4,316	24,154	28,561	211	37,236	145,478	35,928	139,911
Columbia	71,686	15,440	13,809	1,029	4,205	4,232	39	5,078	20,202	10,338	22,945
Duval	957,755	215,748	138,594	14,381	55,066	51,145	523	58,522	459,412	126,963	292,315
Escambia	318,316	66,231	54,571	4,415	18,723	18,013	174	21,092	114,476	46,519	100,576
Flagler	115,081	19,127	35,896	1,275	7,281	8,523	63	11,030	29,413	11,049	42,015
Highlands	106,221	17,871	38,289	1,191	6,652	8,102	58	10,721	36,018	16,519	38,980
Hillsborough	1,471,968	325,238	214,035	21,680	85,184	79,280	805	90,785	770,372	195,684	452,505
Holmes	19,617	3,993	3,921	266	1,173	1,197	11	1,445	2,664	3,587	6,432
Indian River	159,923	25,026	54,133	1,668	10,223	12,232	87	16,006	40,008	18,179	59,492
Lake	367,118	69,378	99,386	4,625	22,408	24,934	200	31,563	115,088	39,419	126,819
Lee	770,577	133,509	224,632	8,899	47,971	54,374	421	69,476	260,577	85,295	273,390
Leon	293,582	54,668	40,786	3,644	17,391	15,130	160	16,740	129,384	58,203	90,347
Liberty	8,354	1,452	1,256	97	512	472	5	538	2,425	1,453	2,711
Manatee	403,253	72,493	113,157	4,832	24,983	28,190	220	35,885	118,500	44,991	142,143
Marion	365,579	67,514	106,675	4,500	22,434	25,534	199	32,702	111,131	52,950	128,055
Martin	161,000	26,084	50,760	1,739	10,241	12,016	88	15,566	35,856	14,000	59,147
Miami-Dade	2,716,940	549,679	452,607	36,640	161,969	156,612	1,484	183,288	2,366,265	419,056	871,642
Okaloosa	210,738	46,838	34,376	3,122	12,162	11,590	116	13,495	56,843	21,866	65,121
Orange	1,393,452	305,954	171,557	20,394	80,219	70,979	762	78,772	844,900	171,599	419,085
Osceola	375,751	90,600	50,781	6,039	21,116	19,320	206	21,908	262,647	49,803	111,534
Palm Beach	1,496,770	283,779	364,544	18,916	91,069	97,717	817	121,437	695,419	168,026	508,509
Pasco	553,947	112,115	125,451	7,473	33,236	35,210	303	43,401	151,029	61,716	184,727
Pinellas	974,996	155,045	247,630	10,335	61,978	67,424	532	84,140	257,235	108,948	347,855
Polk	724,777	159,235	148,168	10,614	42,159	42,919	396	51,945	312,128	99,590	230,973
St. Lucie	328,297	64,111	80,928	4,273	19,882	21,549	179	26,896	144,855	34,008	111,432
Santa Rosa	184,313	40,194	30,121	2,679	10,795	10,491	101	12,302	33,197	17,435	58,197
Sarasota	433,742	60,924	161,948	4,061	28,297	34,913	236	46,316	74,785	33,144	166,687
Seminole	471,826	98,198	75,401	6,546	27,856	26,588	258	30,898	194,096	43,741	149,242
Volusia	553,284	96,776	137,811	6,451	34,385	37,164	302	46,294	162,538	70,554	192,518
Wakulla	33,739	6,988	5,366	466	2,008	1,943	19	2,268	7,034	3,651	10,809

FLORIDA

American Lung Association in Florida

	HIGH OZONE DAYS 2017–2019					HIGH PARTICLE POLLUTION DAYS 2017–2019							
						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	0	0	0	0	0.0	A	INC	INC
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	1	0	0	0.3	B	0	0	0	0	0.0	A	6.1	Pass
Broward	5	0	0	1.7	C	0	0	0	0	0.0	A	9.3	Pass
Citrus	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
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	1	0	0	0.3	B	1	0	0	0	0.3	B	INC	INC
Escambia	4	0	0	1.3	C	0	0	0	0	0.0	A	7.9	Pass
Flagler	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Highlands	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hillsborough	12	0	0	4.0	F	0	0	0	0	0.0	A	7.9	Pass
Holmes	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Indian River	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lake	4	0	0	1.3	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lee	1	0	0	0.3	B	1	0	0	0	0.3	B	7.2	Pass
Leon	1	0	0	0.3	B	0	0	0	0	0.0	A	7.6	Pass
Liberty	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Manatee	6	0	0	2.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Marion	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Martin	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Miami-Dade	6	0	0	2.0	C	0	0	0	0	0.0	A	8.0	Pass
Okaloosa	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Orange	3	1	0	1.5	C	0	0	0	0	0.0	A	7.1	Pass
Osceola	8	0	0	2.7	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Palm Beach	2	0	0	0.7	B	0	0	0	0	0.0	A	6.3	Pass
Pasco	4	0	0	1.3	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Pinellas	1	0	0	0.3	B	0	0	0	0	0.0	A	7.6	Pass
Polk	6	0	0	2.0	C	0	0	0	0	0.0	A	7.5	Pass
St. Lucie	1	0	0	0.3	B	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	2	0	0	0.7	B	0	0	0	0	0.0	A	6.8	Pass
Seminole	4	0	0	1.3	C	0	0	0	0	0.0	A	6.5	Pass
Volusia	0	0	0	0.0	A	0	0	0	0	0.0	A	7.2	Pass
Wakulla	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC

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	People of Color	Poverty	Ever Smoked
Bibb	153,159	37,118	24,507	3,764	8,892	8,841	93	10,646	95,817	33,912	44,824
Chatham	289,430	60,346	46,192	6,120	17,456	16,869	177	20,149	151,008	40,565	87,633
Chattooga	24,789	5,541	4,369	562	1,487	1,537	15	1,875	4,344	4,085	7,539
Clarke	128,331	22,002	14,512	2,231	7,865	6,465	78	7,135	57,546	30,277	38,667
Clayton	292,256	80,622	28,167	8,176	15,932	14,654	178	16,086	265,672	45,655	79,566
Cobb	760,141	176,910	96,593	17,940	44,349	42,811	465	48,963	371,330	62,275	222,856
Coffee	43,273	10,565	6,090	1,071	2,492	2,419	27	2,835	18,478	8,048	12,525
Columbia	156,714	39,340	21,897	3,989	8,960	8,783	96	10,293	51,076	8,747	45,099
Coweta	148,509	35,754	21,189	3,626	8,657	8,756	91	10,253	43,805	13,318	43,789
Dawson	26,108	5,255	5,278	533	1,624	1,735	16	2,164	2,273	2,267	8,270
DeKalb	759,297	174,329	97,926	17,678	44,346	42,050	462	48,244	536,579	95,805	222,226
Dougherty	87,956	20,787	14,508	2,108	5,145	5,097	53	6,174	66,613	23,192	25,917
Douglas	146,343	37,576	17,366	3,810	8,284	8,087	89	9,176	91,581	15,842	41,709
Floyd	98,498	22,601	16,779	2,292	5,836	5,894	60	7,163	28,992	15,537	29,482
Fulton	1,063,937	228,033	127,765	23,124	63,113	58,717	651	66,170	642,759	141,979	315,526
Glynn	85,292	18,227	17,998	1,848	5,227	5,589	52	7,077	31,036	12,943	26,614
Gwinnett	936,250	249,008	97,934	25,251	52,077	49,636	574	55,155	604,950	85,810	261,380
Hall	204,441	50,803	31,489	5,152	11,790	11,830	126	14,132	81,607	27,137	59,526
Henry	234,561	59,276	28,018	6,011	13,361	13,098	143	14,864	140,788	18,819	67,312
Houston	157,863	40,320	20,492	4,089	8,942	8,633	97	9,980	71,166	17,079	44,924
Lowndes	117,406	28,320	14,794	2,872	6,695	6,034	72	6,930	55,214	22,685	33,304
Murray	40,096	9,804	6,137	994	2,331	2,373	25	2,823	7,295	5,755	11,795
Muscogee	195,769	48,411	26,880	4,909	11,182	10,615	120	12,408	118,178	34,694	56,019
Paulding	168,667	43,657	18,389	4,427	9,490	9,128	103	10,201	53,262	11,461	47,691
Pike	18,962	4,349	3,067	441	1,128	1,166	12	1,396	2,447	1,615	5,721
Richmond	202,518	46,053	29,363	4,670	11,887	11,344	124	13,340	134,204	41,081	59,589
Rockdale	90,896	22,007	13,574	2,232	5,302	5,414	55	6,401	64,598	10,873	26,850
Sumter	29,524	6,682	5,174	678	1,754	1,754	18	2,147	18,001	7,420	8,844
Walker	69,761	15,015	13,199	1,523	4,245	4,456	43	5,506	6,596	10,034	21,567
Washington	20,374	4,397	3,627	446	1,234	1,276	13	1,556	11,783	3,940	6,257
Wilkinson	8,954	2,020	1,808	205	541	585	5	734	3,868	1,491	2,762

GEORGIA

American Lung Association in Georgia

	HIGH OZONE DAYS 2017–2019					HIGH PARTICLE POLLUTION DAYS 2017–2019							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Bibb	1	0	0	0.3	B	3	0	0	0	1.0	C	9.1	Pass
Chatham	0	0	0	0.0	A	0	0	0	0	0.0	A	INC	INC
Chattooga	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Clarke	2	0	0	0.7	B	0	0	0	0	0.0	A	8.6	Pass
Clayton	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	8.9	Pass
Cobb	1	0	0	0.3	B	0	0	0	0	0.0	A	8.5	Pass
Coffee	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	INC	INC
Columbia	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Coweta	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Dawson	5	0	0	1.7	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
DeKalb	4	1	0	1.8	C	0	0	0	0	0.0	A	8.4	Pass
Dougherty	DNC	DNC	DNC	DNC	DNC	3	1	0	0	1.5	C	9.0	Pass
Douglas	6	0	0	2.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Floyd	DNC	DNC	DNC	DNC	DNC	INC	INC	INC	INC	INC	INC	INC	INC
Fulton	16	1	0	5.8	F	0	0	0	0	0.0	A	9.7	Pass
Glynn	0	0	0	0.0	A	0	0	0	0	0.0	A	7.2	Pass
Gwinnett	1	0	0	0.3	B	1	0	0	0	0.3	B	9.8	Pass
Hall	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	8.2	Pass
Henry	13	0	0	4.3	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Houston	DNC	DNC	DNC	DNC	DNC	3	1	0	0	1.5	C	8.9	Pass
Lowndes	DNC	DNC	DNC	DNC	DNC	1	0	0	0	0.3	B	7.5	Pass
Murray	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Muscogee	0	0	0	0.0	A	0	0	0	0	0.0	A	8.9	Pass
Paulding	DNC	DNC	DNC	DNC	DNC	INC	INC	INC	INC	INC	INC	INC	INC
Pike	5	0	0	1.7	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Richmond	3	0	0	1.0	C	3	0	0	0	1.0	C	9.9	Pass
Rockdale	8	0	0	2.7	D	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	0	0	0	0	0.0	A	8.8	Pass
Washington	DNC	DNC	DNC	DNC	DNC	1	0	0	0	0.3	B	7.9	Pass
Wilkinson	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC

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	People of Color	Poverty	Ever Smoked
Hawaii	201,513	43,201	44,041	3,221	15,126	7,102	92	11,959	140,656	26,071	60,175
Honolulu	974,563	204,871	177,668	15,276	74,215	32,410	445	51,255	800,358	74,282	289,158
Kauai	72,293	15,662	14,951	1,168	5,412	2,505	33	4,168	51,122	6,659	21,472
Maui	167,417	36,134	31,749	2,694	12,543	5,690	76	9,293	117,051	17,638	49,599

HAWAII

American Lung Association in Hawaii

HIGH OZONE DAYS 2017–2019

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 2017–2019

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Hawaii	11	2	0	0	4.7	F	8.3	Pass
Honolulu	0	0	0	0	0.0	A	3.5	Pass
Kauai	0	0	0	0	0.0	A	2.7	Pass
Maui	2	1	0	0	1.2	C	4.2	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	People of Color	Poverty	Ever Smoked
Ada	481,587	111,730	71,958	8,222	37,072	18,536	227	30,826	75,621	44,023	144,838
Bannock	87,808	22,704	12,894	1,671	6,512	3,155	41	5,315	14,616	11,554	25,358
Benewah	9,298	2,053	2,118	151	717	445	4	750	1,433	1,415	2,922
Butte	2,597	631	614	46	194	121	1	206	237	376	792
Canyon	229,849	64,118	32,213	4,718	16,600	8,148	108	13,626	69,054	22,828	64,709
Franklin	13,876	4,369	2,029	321	950	486	7	817	1,271	1,122	3,731
Idaho	16,667	3,221	4,773	237	1,315	869	8	1,502	1,562	2,227	5,458
Jerome	24,412	7,446	3,232	548	1,701	837	12	1,394	9,719	3,429	6,630
Lemhi	8,027	1,497	2,459	110	636	430	4	749	551	1,070	2,658
Shoshone	12,882	2,637	2,981	194	1,013	619	6	1,048	1,149	2,426	4,120

IDAHO

American Lung Association in Idaho

HIGH OZONE DAYS 2017–2019

County	Orange	Red	Purple	Wgt. Avg.	Grade
Ada	14	0	0	4.7	F
Bannock	DNC	DNC	DNC	DNC	DNC
Benewah	DNC	DNC	DNC	DNC	DNC
Butte	3	0	0	1.0	C
Canyon	DNC	DNC	DNC	DNC	DNC
Franklin	DNC	DNC	DNC	DNC	DNC
Idaho	1	0	0	0.3	B
Jerome	DNC	DNC	DNC	DNC	DNC
Lemhi	DNC	DNC	DNC	DNC	DNC
Shoshone	DNC	DNC	DNC	DNC	DNC

HIGH PARTICLE POLLUTION DAYS 2017–2019

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Ada	6	1	0	0	2.5	D	7.4	Pass
Bannock	INC	INC	INC	INC	INC	INC	INC	INC
Benewah	28	4	2	0	12.7	F	INC	INC
Butte	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Canyon	7	1	0	0	2.8	D	8.9	Pass
Franklin	9	2	0	0	4.0	F	INC	INC
Idaho	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Jerome	10	1	0	0	3.8	F	5.7	Pass
Lemhi	7	4	0	0	4.3	F	10.3	Pass
Shoshone	28	6	1	0	13.0	F	11.3	Pass

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	People of Color	Poverty	Ever Smoked
Adams	65,435	14,761	13,513	1,020	4,182	3,252	41	4,633	5,625	7,786	20,675
Champaign	209,689	39,292	27,827	2,716	13,834	8,519	131	11,126	70,109	38,566	64,892
Clark	15,441	3,443	3,115	238	996	774	10	1,100	536	1,636	4,907
Cook	5,150,233	1,113,238	776,229	76,958	332,967	226,740	3,204	307,228	2,988,077	659,687	1,587,231
DuPage	922,921	207,578	148,998	14,350	59,471	42,518	575	58,555	313,586	54,833	285,916
Effingham	34,008	8,138	6,087	563	2,144	1,595	21	2,234	1,508	3,087	10,441
Hamilton	8,116	1,773	1,816	123	525	423	5	610	330	1,017	2,619
Jersey	21,773	4,449	4,317	308	1,440	1,105	14	1,562	1,012	2,171	7,063
Jo Daviess	21,235	3,978	6,125	275	1,423	1,266	13	1,882	1,183	1,965	7,331
Kane	532,403	132,979	75,941	9,193	33,257	23,093	332	31,414	230,953	43,305	158,489
Lake	696,535	166,166	103,201	11,487	44,217	31,049	435	42,407	274,759	49,130	211,200
McHenry	307,774	71,302	46,900	4,929	19,809	14,163	192	19,445	61,292	16,380	94,825
McLean	171,517	36,445	23,622	2,519	11,073	7,175	107	9,544	35,593	23,034	52,298
Macon	104,009	23,100	21,195	1,597	6,672	5,140	65	7,299	25,132	16,762	32,908
Macoupin	44,926	9,469	9,145	655	2,946	2,289	28	3,252	1,815	5,934	14,505
Madison	262,966	57,081	46,334	3,946	17,082	12,520	164	17,422	40,383	28,284	82,786
Peoria	179,179	42,409	31,489	2,932	11,271	8,208	111	11,426	54,867	25,825	54,737
Randolph	31,782	6,063	6,157	419	2,127	1,587	20	2,226	4,939	3,499	10,379
Rock Island	141,879	31,558	28,046	2,182	9,091	6,902	88	9,755	41,196	18,669	44,671
St. Clair	259,686	60,549	42,597	4,186	16,524	11,880	161	16,409	100,700	33,979	79,651
Sangamon	194,672	42,966	35,833	2,970	12,571	9,368	121	13,123	38,916	23,367	61,252
Will	690,743	168,827	93,591	11,671	43,577	29,865	431	40,358	259,299	44,518	206,611
Winnebago	282,572	65,954	50,817	4,559	17,943	13,322	176	18,641	91,157	44,613	87,357

ILLINOIS

American Lung Association in Illinois

HIGH OZONE DAYS 2017–2019

County	Orange	Red	Purple	Wgt. Avg.	Grade
Adams	1	0	0	0.3	B
Champaign	5	0	0	1.7	C
Clark	2	0	0	0.7	B
Cook	39	5	0	15.5	F
DuPage	8	1	0	3.2	D
Effingham	4	0	0	1.3	C
Hamilton	4	0	0	1.3	C
Jersey	8	0	0	2.7	D
Jo Daviess	2	0	0	0.7	B
Kane	10	0	0	3.3	F
Lake	15	2	0	6.0	F
McHenry	13	0	0	4.3	F
McLean	1	0	0	0.3	B
Macon	6	0	0	2.0	C
Macoupin	3	0	0	1.0	C
Madison	17	4	0	7.7	F
Peoria	8	0	0	2.7	D
Randolph	2	0	0	0.7	B
Rock Island	3	0	0	1.0	C
St. Clair	6	1	0	2.5	D
Sangamon	3	0	0	1.0	C
Will	4	0	0	1.3	C
Winnebago	2	1	0	1.2	C

HIGH PARTICLE POLLUTION DAYS 2017–2019

	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	2	0	0	0	0.7	B	10.8	Pass
DuPage	0	0	0	0	0.0	A	INC	INC
Effingham	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hamilton	0	0	0	0	0.0	A	8.6	Pass
Jersey	0	0	0	0	0.0	A	INC	INC
Jo Daviess	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Kane	0	0	0	0	0.0	A	8.6	Pass
Lake	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
McHenry	0	0	0	0	0.0	A	7.7	Pass
McLean	0	0	0	0	0.0	A	9.2	Pass
Macon	0	0	0	0	0.0	A	9.5	Pass
Macoupin	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Madison	1	0	0	0	0.3	B	10.3	Pass
Peoria	0	0	0	0	0.0	A	8.6	Pass
Randolph	0	0	0	0	0.0	A	INC	INC
Rock Island	0	0	0	0	0.0	A	INC	INC
St. Clair	0	0	0	0	0.0	A	9.4	Pass
Sangamon	0	0	0	0	0.0	A	8.8	Pass
Will	0	0	0	0	0.0	A	INC	INC
Winnebago	1	0	0	0	0.3	B	INC	INC

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	People of Color	Poverty	Ever Smoked
Allen	379,299	96,954	56,584	6,513	27,952	24,489	255	27,420	102,155	39,176	124,566
Bartholomew	83,779	19,879	13,851	1,335	6,315	5,644	56	6,431	16,336	9,205	28,303
Boone	67,843	17,622	9,342	1,184	5,015	4,439	46	4,887	6,970	4,619	22,289
Brown	15,092	2,606	3,833	175	1,236	1,273	10	1,566	703	1,565	5,734
Carroll	20,257	4,467	4,060	300	1,564	1,500	14	1,775	1,280	1,739	7,122
Clark	118,302	26,428	19,117	1,775	9,123	8,186	79	9,236	20,783	11,267	40,813
Delaware	114,135	20,754	19,927	1,394	9,166	7,938	76	9,028	15,329	22,680	40,946
Dubois	42,736	10,413	7,634	700	3,210	3,011	29	3,493	4,622	2,465	14,515
Elkhart	206,341	56,442	31,210	3,792	14,838	13,159	139	14,858	53,434	19,316	66,319
Floyd	78,522	17,727	12,927	1,191	6,044	5,487	53	6,218	9,822	8,161	27,095
Greene	31,922	6,888	6,332	463	2,485	2,390	21	2,814	1,159	4,242	11,310
Hamilton	338,011	89,995	43,311	6,045	24,775	21,545	227	23,415	58,221	14,199	109,633
Hendricks	170,311	42,032	24,197	2,824	12,768	11,205	115	12,376	29,104	8,123	56,742
Henry	47,972	9,738	9,264	654	3,788	3,557	33	4,152	3,210	5,709	17,156
Howard	82,544	18,722	16,415	1,258	6,298	5,969	55	7,070	12,733	9,880	28,657
Huntington	36,520	7,887	6,394	530	2,842	2,610	25	2,990	2,075	3,407	12,788
Jackson	44,231	10,805	7,364	726	3,316	3,025	30	3,456	5,741	4,391	14,901
Johnson	158,167	38,852	23,480	2,610	11,842	10,417	106	11,614	19,101	9,294	52,745
Knox	36,594	7,818	6,736	525	2,837	2,584	25	2,998	2,800	4,381	12,791
Lake	485,493	112,628	82,195	7,566	36,961	33,617	325	38,423	224,427	69,073	166,056
LaPorte	109,888	23,309	20,303	1,566	8,567	7,912	74	9,172	23,283	13,771	38,672
Madison	129,569	27,697	24,197	1,861	10,073	9,325	87	10,843	19,955	16,056	45,517
Marion	964,582	236,917	124,220	15,915	72,073	60,167	646	65,079	442,755	143,107	317,563
Monroe	148,431	23,198	20,114	1,558	12,236	9,455	100	10,083	25,294	27,710	53,454
Morgan	70,489	15,808	12,201	1,062	5,457	5,108	47	5,844	3,046	6,201	24,592
Perry	19,169	4,033	3,638	271	1,496	1,390	13	1,620	1,190	2,113	6,767
Porter	170,389	37,070	28,752	2,490	13,231	11,993	115	13,638	30,075	13,421	59,353
Posey	25,427	5,527	5,003	371	1,974	1,887	17	2,219	1,083	2,167	8,973
St. Joseph	271,826	63,618	43,960	4,274	20,555	18,134	182	20,549	76,599	39,848	91,904
Shelby	44,729	10,106	7,829	679	3,447	3,213	30	3,688	3,514	4,414	15,539
Spencer	20,277	4,387	4,052	295	1,577	1,520	14	1,793	1,102	1,728	7,182
Sullivan	20,669	3,925	3,820	264	1,655	1,508	14	1,737	1,730	2,643	7,451
Tippecanoe	195,732	40,326	23,280	2,709	15,220	11,648	132	12,235	49,421	28,780	66,260
Vanderburgh	181,451	39,066	31,490	2,624	14,063	12,631	122	14,460	30,704	25,190	63,127
Vigo	107,038	21,805	17,876	1,465	8,385	7,281	72	8,244	15,887	20,241	37,430
Wabash	30,996	6,393	6,587	429	2,423	2,316	21	2,770	1,825	3,163	11,061
Warrick	62,998	14,770	11,273	992	4,785	4,459	42	5,161	5,061	3,888	21,613
Whitley	33,964	7,789	6,298	523	2,598	2,450	23	2,854	1,589	2,559	11,767

INDIANA

American Lung Association in Indiana

	HIGH OZONE DAYS 2017–2019					HIGH PARTICLE POLLUTION DAYS 2017–2019							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Allen	8	0	0	2.7	D	0	0	0	0	0.0	A	8.7	Pass
Bartholomew	3	0	0	1.0	C	1	0	0	0	0.3	B	7.1	Pass
Boone	6	0	0	2.0	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	3	0	0	1.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Clark	6	0	0	2.0	C	0	0	0	0	0.0	A	7.5	Pass
Delaware	4	0	0	1.3	C	1	0	0	0	0.3	B	8.1	Pass
Dubois	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	8.5	Pass
Elkhart	4	0	0	1.3	C	0	0	0	0	0.0	A	8.0	Pass
Floyd	10	0	0	3.3	F	INC	INC	INC	INC	INC	INC	INC	INC
Greene	4	0	0	1.3	C	0	0	0	0	0.0	A	7.9	Pass
Hamilton	9	0	0	3.0	D	1	0	0	0	0.3	B	8.0	Pass
Hendricks	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Henry	DNC	DNC	DNC	DNC	DNC	1	0	0	0	0.3	B	7.6	Pass
Howard	INC	INC	INC	INC	INC	0	0	0	0	0.0	A	7.8	Pass
Huntington	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Jackson	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Johnson	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Knox	4	0	0	1.3	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lake	8	1	0	3.2	D	2	1	0	0	1.2	C	9.6	Pass
LaPorte	18	1	0	6.5	F	0	0	0	0	0.0	A	INC	INC
Madison	8	0	0	2.7	D	1	0	0	0	0.3	B	8.4	Pass
Marion	13	0	0	4.3	F	5	1	0	0	2.2	D	11.3	Pass
Monroe	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	7.7	Pass
Morgan	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Perry	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Porter	17	0	0	5.7	F	0	1	0	0	0.5	B	8.0	Pass
Posey	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
St. Joseph	11	0	0	3.7	F	0	0	0	0	0.0	A	8.6	Pass
Shelby	6	0	0	2.0	C	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	0	0	0	0	0.0	A	INC	INC
Tippecanoe	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	8.5	Pass
Vanderburgh	5	0	0	1.7	C	0	0	0	0	0.0	A	8.9	Pass
Vigo	5	0	0	1.7	C	1	0	0	0	0.3	B	9.1	Pass
Wabash	6	0	0	2.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Warrick	6	0	0	2.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Whitley	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	7.9	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	People of Color	Poverty	Ever Smoked
Black Hawk	131,228	28,511	22,243	1,641	8,314	5,962	84	8,177	25,499	17,407	41,372
Bremer	25,062	5,623	4,977	324	1,542	1,215	16	1,728	1,276	1,581	7,952
Clinton	46,429	10,539	9,252	607	2,811	2,343	30	3,320	4,204	6,009	14,843
Delaware	17,011	4,015	3,366	231	1,011	866	11	1,225	637	1,450	5,402
Harrison	14,049	3,219	2,790	185	845	717	9	1,013	579	1,206	4,494
Johnson	151,140	30,002	18,565	1,727	10,136	6,116	97	7,781	33,303	22,937	47,483
Lee	33,657	7,145	7,057	411	2,071	1,745	22	2,491	3,168	4,859	10,982
Linn	226,706	52,239	36,853	3,007	14,004	10,449	145	14,198	33,506	24,600	70,812
Montgomery	9,917	2,236	2,147	129	595	519	6	748	668	1,279	3,201
Muscatine	42,664	10,556	7,341	608	2,553	1,991	27	2,751	10,140	4,249	13,129
Palo Alto	8,886	2,063	1,965	119	532	452	6	658	660	952	2,827
Polk	490,161	120,999	66,091	6,965	30,033	20,995	313	27,529	112,831	48,468	148,295
Pottawattamie	93,206	21,835	16,732	1,257	5,652	4,487	60	6,229	11,819	10,002	29,274
Scott	172,943	40,774	28,886	2,347	10,556	8,060	110	11,027	35,433	20,016	53,856
Van Buren	7,044	1,598	1,586	92	421	370	5	539	300	895	2,272
Warren	51,466	12,676	8,240	730	3,101	2,357	33	3,203	3,276	3,621	15,798
Woodbury	103,107	26,706	15,857	1,537	6,151	4,525	66	6,128	29,802	12,882	30,933

IOWA

American Lung Association in Iowa

	HIGH OZONE DAYS 2017–2019					HIGH PARTICLE POLLUTION DAYS 2017–2019							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Black Hawk	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	7.8	Pass
Bremer	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Clinton	0	0	0	0.0	A	0	0	0	0	0.0	A	8.6	Pass
Delaware	DNC	DNC	DNC	DNC	DNC	INC	INC	INC	INC	INC	INC	INC	INC
Harrison	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Johnson	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	7.6	Pass
Lee	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	8.4	Pass
Linn	4	0	0	1.3	C	0	0	0	0	0.0	A	8.0	Pass
Montgomery	0	0	0	0.0	A	0	0	0	0	0.0	A	6.6	Pass
Muscatine	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	8.3	Pass
Palo Alto	2	0	0	0.7	B	0	0	0	0	0.0	A	6.7	Pass
Polk	2	0	0	0.7	B	1	0	0	0	0.3	B	7.4	Pass
Pottawattamie	DNC	DNC	DNC	DNC	DNC	1	0	0	0	0.3	B	8.1	Pass
Scott	5	0	0	1.7	C	1	0	0	0	0.3	B	8.5	Pass
Van Buren	0	0	0	0.0	A	0	0	0	0	0.0	A	7.0	Pass
Warren	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Woodbury	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	7.8	Pass

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	People of Color	Poverty	Ever Smoked
Johnson	602,401	144,871	90,543	12,647	45,742	29,249	323	37,108	124,334	31,666	187,069
Leavenworth	81,758	19,158	12,296	1,672	6,262	3,993	44	5,059	17,389	6,255	25,586
Neosho	16,007	3,925	3,235	343	1,183	839	9	1,129	1,745	2,426	5,012
Sedgwick	516,042	131,189	77,033	11,452	38,522	24,397	277	30,977	167,248	64,061	157,145
Shawnee	176,875	41,140	33,317	3,591	13,387	9,167	95	12,116	46,868	16,817	56,028
Sumner	22,836	5,553	4,383	485	1,696	1,197	12	1,594	2,463	2,542	7,165
Trego	2,803	493	764	43	221	175	2	246	159	295	974
Wyandotte	165,429	45,724	20,795	3,992	12,076	7,332	89	9,069	98,834	33,777	48,602

KANSAS

American Lung Association in Kansas

HIGH OZONE DAYS 2017–2019

County	Orange	Red	Purple	Wgt. Avg.	Grade
Johnson	0	0	0	0.0	A
Leavenworth	0	0	0	0.0	A
Neosho	1	0	0	0.3	B
Sedgwick	0	0	0	0.0	A
Shawnee	0	0	0	0.0	A
Sumner	0	0	0	0.0	A
Trego	0	0	0	0.0	A
Wyandotte	2	1	0	1.2	C

HIGH PARTICLE POLLUTION DAYS 2017–2019

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Johnson	0	0	0	0	0.0	A	INC	INC
Leavenworth	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Neosho	0	0	0	0	0.0	A	INC	INC
Sedgwick	0	0	0	0	0.0	A	INC	INC
Shawnee	0	1	0	0	0.5	B	9.3	Pass
Sumner	0	0	0	0	0.0	A	7.4	Pass
Trego	0	0	0	0	0.0	A	INC	INC
Wyandotte	2	0	0	0	0.7	B	9.4	Pass

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	People of Color	Poverty	Ever Smoked
Bell	26,032	5,462	5,134	428	1,978	2,352	23	2,697	1,557	7,569	10,088
Boone	133,581	34,516	18,803	2,707	9,553	10,453	118	11,628	16,983	9,435	48,289
Boyd	46,718	9,954	9,334	781	3,536	4,231	41	4,862	3,246	9,186	18,042
Bullitt	81,676	17,631	13,216	1,383	6,189	6,976	72	7,832	4,928	6,294	31,332
Campbell	93,584	19,442	15,068	1,525	7,096	7,795	83	8,730	7,286	9,833	36,019
Carter	26,797	5,967	5,206	468	2,001	2,377	24	2,726	954	5,207	10,210
Christian	70,461	19,062	8,983	1,495	4,765	4,612	63	5,055	24,493	12,219	24,336
Daviess	101,511	24,651	17,547	1,934	7,363	8,418	90	9,554	12,606	15,213	37,487
Edmonson	12,150	2,162	2,601	170	959	1,155	11	1,331	642	1,925	4,901
Fayette	323,152	67,164	44,820	5,268	24,162	24,521	286	26,964	94,681	47,657	122,710
Greenup	35,098	7,502	7,469	588	2,652	3,243	31	3,754	1,381	5,490	13,565
Hancock	8,722	2,163	1,541	170	632	740	8	843	416	1,055	3,216
Hardin	110,958	27,138	16,027	2,129	8,034	8,689	98	9,668	26,887	11,476	40,696
Henderson	45,210	10,297	8,260	808	3,360	3,928	40	4,477	6,293	7,172	17,103
Jefferson	766,757	168,575	127,741	13,223	57,119	63,419	677	71,419	256,278	106,552	290,542
Jessamine	54,115	12,842	8,401	1,007	3,965	4,392	48	4,922	6,319	5,744	20,102
Livingston	9,194	1,860	2,068	146	711	897	8	1,043	496	1,110	3,631
McCracken	65,418	14,516	13,308	1,139	4,873	5,842	58	6,736	11,098	9,947	24,928
Madison	92,987	19,194	13,194	1,506	6,973	7,141	82	7,872	9,780	15,284	35,418
Morgan	13,309	2,374	2,316	186	1,050	1,176	12	1,323	1,033	2,997	5,329
Oldham	66,799	16,941	9,129	1,329	4,845	5,337	60	5,919	7,853	3,070	24,409
Perry	25,758	5,912	4,493	464	1,918	2,228	23	2,527	1,312	6,080	9,736
Pike	57,876	11,952	11,246	938	4,431	5,269	51	6,029	1,852	13,523	22,560
Pulaski	64,979	14,484	12,330	1,136	4,868	5,773	57	6,604	3,840	14,392	24,789
Simpson	18,572	4,410	3,103	346	1,363	1,554	16	1,756	2,795	2,264	6,923
Trigg	14,651	3,103	3,394	243	1,117	1,427	13	1,667	1,772	2,119	5,719
Warren	132,896	30,375	17,463	2,383	9,661	9,685	118	10,614	29,761	19,308	49,058
Washington	12,095	2,784	2,235	218	900	1,066	11	1,217	1,464	1,723	4,576

KENTUCKY

American Lung Association in Kentucky

	HIGH OZONE DAYS 2017–2019					HIGH PARTICLE POLLUTION DAYS 2017–2019							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Bell	0	0	0	0.0	A	0	0	0	0	0.0	A	7.5	Pass
Boone	1	1	0	0.8	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Boyd	1	0	0	0.3	B	0	0	0	0	0.0	A	7.5	Pass
Bullitt	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Campbell	4	0	0	1.3	C	0	0	0	0	0.0	A	7.8	Pass
Carter	0	0	0	0.0	A	0	0	0	0	0.0	A	6.1	Pass
Christian	0	0	0	0.0	A	0	0	0	0	0.0	A	8.2	Pass
Daviess	2	0	0	0.7	B	0	0	0	0	0.0	A	8.3	Pass
Edmonson	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Fayette	0	0	0	0.0	A	0	0	0	0	0.0	A	INC	INC
Greenup	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hancock	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hardin	0	0	0	0.0	A	0	0	0	0	0.0	A	7.9	Pass
Henderson	INC	INC	INC	INC	INC	1	0	0	0	0.3	B	INC	INC
Jefferson	12	2	0	5.0	F	0	0	0	0	0.0	A	9.8	Pass
Jessamine	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Livingston	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
McCracken	0	0	0	0.0	A	1	0	0	0	0.3	B	8.7	Pass
Madison	DNC	DNC	DNC	DNC	DNC	INC	INC	INC	INC	INC	INC	INC	INC
Morgan	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Oldham	3	0	0	1.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Perry	0	0	0	0.0	A	0	0	0	0	0.0	A	6.8	Pass
Pike	0	0	0	0.0	A	0	0	0	0	0.0	A	6.5	Pass
Pulaski	0	0	0	0.0	A	0	0	0	0	0.0	A	7.3	Pass
Simpson	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Trigg	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Warren	0	0	0	0.0	A	0	0	0	0	0.0	A	8.0	Pass
Washington	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC

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	People of Color	Poverty	Ever Smoked
Ascension Parish	126,604	33,621	15,543	2,942	7,465	7,838	82	9,098	41,111	12,011	41,681
Bossier Parish	127,039	31,354	18,875	2,744	7,617	8,135	82	9,648	43,291	20,339	42,947
Caddo Parish	240,204	56,325	42,592	4,929	14,703	16,377	155	20,050	133,798	56,480	83,297
Calcasieu Parish	203,436	50,756	30,965	4,441	12,196	13,175	132	15,738	67,852	37,742	68,734
East Baton Rouge Parish	440,059	100,073	64,429	8,757	26,933	28,293	284	33,205	246,349	76,011	151,950
Iberville Parish	32,511	6,605	5,323	578	2,077	2,265	21	2,718	17,013	5,370	11,694
Jefferson Parish	432,493	95,297	76,503	8,339	27,048	30,136	280	36,821	207,806	62,709	152,874
Lafayette Parish	244,390	57,798	33,640	5,058	14,884	15,669	158	18,324	85,037	39,646	83,560
Lafourche Parish	97,614	22,485	15,570	1,968	6,036	6,612	63	7,957	22,616	16,755	33,960
Livingston Parish	140,789	35,881	18,763	3,140	8,407	8,908	91	10,438	18,633	16,700	47,088
Orleans Parish	390,144	77,280	60,701	6,762	24,924	26,560	251	31,425	269,562	88,917	140,389
Ouachita Parish	153,279	37,645	23,510	3,294	9,231	9,966	99	11,906	64,601	35,315	52,043
Pointe Coupee Parish	21,730	4,646	4,648	407	1,376	1,612	14	2,041	8,602	4,312	7,833
Rapides Parish	129,648	31,911	21,708	2,792	7,831	8,669	84	10,545	50,521	23,052	44,243
St. Bernard Parish	47,244	12,500	5,665	1,094	2,779	2,887	31	3,329	18,117	8,967	15,530
St. James Parish	21,096	4,829	3,742	423	1,307	1,466	14	1,797	10,881	3,455	7,387
St. John the Baptist Parish	42,837	10,482	6,310	917	2,607	2,835	28	3,383	28,662	6,780	14,614
St. Martin Parish	53,431	12,745	8,400	1,115	3,273	3,590	35	4,321	18,885	9,811	18,401
St. Tammany Parish	260,419	61,751	45,560	5,403	16,022	18,046	169	22,157	57,274	29,707	90,383
Tangipahoa Parish	134,758	32,818	20,112	2,872	8,129	8,705	87	10,337	49,715	28,408	45,796
Terrebonne Parish	110,461	27,743	16,503	2,428	6,637	7,199	72	8,600	37,002	20,691	37,306
West Baton Rouge Parish	26,465	6,371	3,775	557	1,610	1,722	17	2,034	11,950	3,734	9,035

LOUISIANA

American Lung Association in Louisiana

	HIGH OZONE DAYS 2017–2019					HIGH PARTICLE POLLUTION DAYS 2017–2019							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Ascension Parish	6	0	0	2.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Bossier Parish	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Caddo Parish	0	0	0	0.0	A	2	0	0	0	0.7	B	10.6	Pass
Calcasieu Parish	5	0	0	1.7	C	1	0	0	0	0.3	B	7.5	Pass
East Baton Rouge Parish	17	0	0	5.7	F	2	0	0	0	0.7	B	8.8	Pass
Iberville Parish	11	0	0	3.7	F	0	1	0	0	0.5	B	8.5	Pass
Jefferson Parish	3	0	0	1.0	C	0	0	0	0	0.0	A	7.8	Pass
Lafayette Parish	1	0	0	0.3	B	0	0	0	0	0.0	A	8.1	Pass
Lafourche Parish	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Livingston Parish	3	0	0	1.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Orleans Parish	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	8.1	Pass
Ouachita Parish	0	0	0	0.0	A	0	0	0	0	0.0	A	7.6	Pass
Pointe Coupee Parish	5	0	0	1.7	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Rapides Parish	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	7.9	Pass
St. Bernard Parish	3	0	0	1.0	C	0	0	0	0	0.0	A	8.2	Pass
St. James Parish	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
St. John the Baptist Parish	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
St. Martin Parish	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
St. Tammany Parish	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Tangipahoa Parish	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	7.6	Pass
Terrebonne Parish	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	7.4	Pass
West Baton Rouge Parish	6	0	0	2.0	C	0	0	0	0	0.0	A	9.1	Pass

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	People of Color	Poverty	Ever Smoked
Androscoggin	108,277	23,313	19,666	2,185	10,171	7,579	74	8,435	10,619	10,871	40,639
Aroostook	67,055	12,246	16,717	1,148	6,338	5,417	46	6,273	4,200	10,052	26,621
Cumberland	295,003	54,010	56,160	5,063	28,932	21,378	203	23,811	29,073	22,333	115,181
Franklin	30,199	5,337	6,856	500	2,919	2,356	21	2,688	1,336	3,653	11,998
Hancock	54,987	9,353	13,892	877	5,279	4,506	38	5,216	3,026	5,695	22,161
Kennebec	122,302	23,314	25,150	2,185	11,699	9,167	84	10,338	6,904	13,605	47,604
Knox	39,772	6,989	10,356	655	3,788	3,259	27	3,794	2,007	4,174	15,938
Oxford	57,975	10,525	13,093	987	5,514	4,590	40	5,238	2,901	7,414	22,969
Penobscot	152,148	27,399	29,110	2,568	14,971	11,077	105	12,340	9,988	17,894	59,631
Washington	31,379	5,921	7,793	555	2,941	2,522	22	2,922	3,356	6,009	12,370
York	207,641	38,301	43,919	3,590	19,963	15,803	143	17,874	12,647	15,990	81,530

MAINE

American Lung Association in Maine

	HIGH OZONE DAYS 2017–2019					HIGH PARTICLE POLLUTION DAYS 2017–2019							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Androscoggin	0	0	0	0.0	A	0	0	0	0	0.0	A	6.0	Pass
Aroostook	0	0	0	0.0	A	1	2	0	0	1.3	C	6.6	Pass
Cumberland	2	0	0	0.7	B	0	0	0	0	0.0	A	7.5	Pass
Franklin	DNC	DNC	DNC	DNC	DNC	INC	INC	INC	INC	INC	INC	INC	INC
Hancock	7	1	0	2.8	D	0	0	0	0	0.0	A	3.4	Pass
Kennebec	0	0	0	0.0	A	0	0	0	0	0.0	A	INC	INC
Knox	4	0	0	1.3	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Oxford	0	0	0	0.0	A	0	0	0	0	0.0	A	5.7	Pass
Penobscot	0	0	0	0.0	A	0	0	0	0	0.0	A	INC	INC
Washington	3	0	0	1.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
York	3	1	0	1.5	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC

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	People of Color	Poverty	Ever Smoked
Anne Arundel	579,234	128,917	87,001	12,465	40,960	23,609	320	31,516	192,949	32,641	155,721
Baltimore	827,370	178,882	145,304	17,295	58,540	35,745	456	48,406	365,744	71,496	227,784
Calvert	92,525	21,310	14,321	2,060	6,444	3,911	51	5,250	20,816	5,216	25,043
Carroll	168,447	36,360	29,112	3,516	11,898	7,463	93	10,103	19,666	8,359	46,865
Cecil	102,855	23,106	16,676	2,234	7,207	4,407	57	5,936	15,846	10,469	28,087
Charles	163,257	38,861	21,007	3,757	11,355	6,422	90	8,481	102,444	10,268	42,889
Dorchester	31,929	6,710	7,063	649	2,240	1,543	18	2,138	12,027	5,160	9,181
Frederick	259,547	59,990	38,454	5,800	18,130	10,596	143	14,153	73,377	14,538	69,343
Garrett	29,014	5,329	6,713	515	2,101	1,467	16	2,034	1,094	3,644	8,662
Harford	255,441	56,605	42,293	5,473	17,966	10,966	141	14,788	63,610	16,851	69,946
Howard	325,690	78,888	46,496	7,627	22,447	13,006	180	17,334	162,009	16,216	85,556
Kent	19,422	2,999	5,264	290	1,447	1,045	11	1,467	4,313	2,242	6,052
Montgomery	1,050,688	242,367	168,702	23,434	73,182	43,850	579	58,996	599,461	75,836	282,667
Prince George's	909,327	201,314	126,297	19,464	64,642	36,143	501	47,883	797,887	76,853	242,833
Washington	151,049	32,766	26,429	3,168	10,668	6,584	84	8,918	34,126	17,545	41,710
Baltimore City	593,490	119,700	86,154	11,573	43,344	23,575	327	31,225	429,226	115,961	160,925

MARYLAND

American Lung Association in Maryland

	HIGH OZONE DAYS 2017–2019				
County	Orange	Red	Purple	Wgt. Avg.	Grade
Anne Arundel	22	0	0	7.3	F
Baltimore	24	1	0	8.5	F
Calvert	2	0	0	0.7	B
Carroll	2	0	0	0.7	B
Cecil	17	1	0	6.2	F
Charles	1	0	0	0.3	B
Dorchester	4	1	0	1.8	C
Frederick	3	0	0	1.0	C
Garrett	0	0	0	0.0	A
Harford	25	2	0	9.3	F
Howard	DNC	DNC	DNC	DNC	DNC
Kent	7	0	0	2.3	D
Montgomery	3	0	0	1.0	C
Prince George's	19	1	0	6.8	F
Washington	1	0	0	0.3	B
Baltimore City	15	0	0	5.0	F

	HIGH PARTICLE POLLUTION DAYS 2017–2019							
	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	1	0	0	0	0.3	B	7.8	Pass
Calvert	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Carroll	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Cecil	0	0	0	0	0.0	A	7.4	Pass
Charles	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Dorchester	0	0	0	0	0.0	A	6.5	Pass
Frederick	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Garrett	0	0	0	0	0.0	A	5.7	Pass
Harford	1	0	0	0	0.3	B	7.4	Pass
Howard	0	0	0	0	0.0	A	8.3	Pass
Kent	0	0	0	0	0.0	A	7.0	Pass
Montgomery	0	0	0	0	0.0	A	6.9	Pass
Prince George's	0	0	0	0	0.0	A	6.7	Pass
Washington	0	0	0	0	0.0	A	7.4	Pass
Baltimore City	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	People of Color	Poverty	Ever Smoked
Barnstable	212,990	31,616	66,917	3,016	18,420	12,166	122	18,851	22,342	13,595	75,221
Berkshire	124,944	20,848	29,923	1,989	10,682	6,086	72	9,311	15,421	13,321	41,150
Bristol	565,217	115,976	97,814	11,064	46,493	23,002	325	34,702	102,875	62,413	170,365
Dukes	17,332	3,085	4,346	294	1,458	863	10	1,325	2,269	1,249	5,709
Essex	789,034	166,639	138,529	15,898	64,379	32,165	453	48,575	244,631	68,255	236,641
Franklin	70,180	11,984	16,218	1,143	5,975	3,364	40	5,142	6,752	6,403	22,958
Hampden	466,372	99,490	80,807	9,492	38,003	18,640	268	28,076	179,851	62,331	138,178
Hampshire	160,830	23,193	28,806	2,213	14,317	6,613	92	9,876	26,825	15,342	50,416
Middlesex	1,611,699	315,616	252,286	30,111	134,739	62,019	926	92,715	464,053	108,177	478,678
Norfolk	706,775	146,594	121,823	13,986	57,991	28,591	406	43,112	185,477	40,148	212,036
Plymouth	521,202	110,457	96,933	10,538	42,371	22,049	299	33,458	98,271	37,885	158,637
Suffolk	803,907	131,537	99,229	12,549	70,588	27,297	462	39,772	440,676	126,266	233,395
Worcester	830,622	173,395	134,009	16,542	68,126	32,747	477	49,252	201,964	75,546	247,346

MASSACHUSETTS

American Lung Association in Massachusetts

HIGH OZONE DAYS 2017–2019

County	Orange	Red	Purple	Wgt. Avg.	Grade
Barnstable	9	0	0	3.0	D
Berkshire	INC	INC	INC	INC	INC
Bristol	15	1	0	5.5	F
Dukes	9	2	0	4.0	F
Essex	8	0	0	2.7	D
Franklin	0	0	0	0.0	A
Hampden	6	0	0	2.0	C
Hampshire	5	0	0	1.7	C
Middlesex	1	0	0	0.3	B
Norfolk	5	0	0	1.7	C
Plymouth	7	0	0	2.3	D
Suffolk	4	0	0	1.3	C
Worcester	7	0	0	2.3	D

HIGH PARTICLE POLLUTION DAYS 2017–2019

	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	INC	INC
Bristol	0	0	0	0	0.0	A	6.5	Pass
Dukes	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Essex	0	0	0	0	0.0	A	5.9	Pass
Franklin	0	0	0	0	0.0	A	5.7	Pass
Hampden	0	0	0	0	0.0	A	4.9	Pass
Hampshire	0	0	0	0	0.0	A	5.3	Pass
Middlesex	INC	INC	INC	INC	INC	INC	INC	INC
Norfolk	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Plymouth	0	0	0	0	0.0	A	5.8	Pass
Suffolk	0	0	0	0	0.0	A	7.9	Pass
Worcester	0	0	0	0	0.0	A	6.5	Pass

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	People of Color	Poverty	Ever Smoked
Allegan	118,081	28,098	20,099	2,189	10,064	7,710	72	8,590	14,007	12,648	40,970
Bay	103,126	20,558	21,642	1,601	9,117	7,392	63	8,436	10,505	13,645	37,896
Benzie	17,766	3,145	4,788	245	1,579	1,438	11	1,693	1,125	1,685	6,842
Berrien	153,401	33,136	31,122	2,581	13,294	10,677	93	12,168	38,727	23,806	55,098
Cass	51,787	10,663	11,149	831	4,527	3,784	32	4,331	7,104	7,558	18,990
Chippewa	37,349	6,645	7,003	518	3,429	2,528	23	2,839	11,490	5,966	13,849
Clinton	79,595	17,590	13,894	1,370	6,933	5,284	48	5,893	8,318	6,164	28,194
Genesee	405,813	90,473	72,921	7,047	35,178	27,079	247	30,348	112,100	66,557	143,580
Huron	30,981	5,946	8,034	463	2,710	2,453	19	2,878	1,582	4,190	11,710
Ingham	292,406	57,519	40,647	4,480	26,704	16,802	178	18,235	90,151	47,655	103,181
Kalamazoo	265,066	56,890	40,909	4,431	23,487	15,775	161	17,404	60,980	34,247	92,400
Kent	656,955	157,065	92,820	12,234	56,602	38,444	400	41,952	175,573	72,323	222,722
Lenawee	98,451	20,460	19,148	1,594	8,659	6,794	60	7,685	13,305	11,037	35,599
Macomb	873,972	181,801	152,268	14,160	77,503	58,724	532	65,322	192,492	74,273	314,494
Manistee	24,558	4,217	6,458	328	2,204	1,972	15	2,312	2,802	2,862	9,490
Mason	29,144	5,904	7,069	460	2,530	2,204	18	2,570	2,521	3,992	10,792
Missaukee	15,118	3,460	3,135	269	1,284	1,067	9	1,221	943	1,633	5,378
Monroe	150,500	31,733	28,228	2,472	13,221	10,462	92	11,749	13,506	15,223	54,379
Muskegon	173,566	39,742	30,561	3,095	14,943	11,313	106	12,672	40,993	22,745	60,723
Oakland	1,257,584	259,880	217,676	20,242	111,780	84,317	766	93,695	358,019	96,558	452,961
Ottawa	291,830	69,279	45,288	5,396	25,053	17,480	178	19,334	48,361	22,048	99,495
St. Clair	159,128	32,599	30,879	2,539	14,056	11,366	97	12,795	14,315	16,375	58,182
Schoolcraft	8,094	1,392	2,229	108	723	681	5	800	1,186	1,138	3,162
Tuscola	52,245	10,594	10,880	825	4,600	3,801	32	4,325	3,618	5,948	19,206
Washtenaw	367,601	67,764	53,369	5,278	34,034	21,857	224	23,794	109,706	44,991	132,175
Wayne	1,749,343	412,294	276,530	32,113	150,356	109,350	1,063	120,805	885,414	341,821	602,958
Wexford	33,631	7,744	6,581	603	2,866	2,306	21	2,618	1,977	4,118	11,872

MICHIGAN

American Lung Association in Michigan

	HIGH OZONE DAYS 2017–2019					HIGH PARTICLE POLLUTION DAYS 2017–2019							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Allegan	16	0	0	5.3	F	0	0	0	0	0.0	A	7.4	Pass
Bay	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	6.9	Pass
Benzie	3	1	0	1.5	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Berrien	13	0	0	4.3	F	INC	INC	INC	INC	INC	INC	INC	INC
Cass	13	0	0	4.3	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Chippewa	INC	INC	INC	INC	INC	0	0	0	0	0.0	A	INC	INC
Clinton	4	0	0	1.3	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Genesee	3	0	0	1.0	C	0	0	0	0	0.0	A	7.3	Pass
Huron	3	0	0	1.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Ingham	2	0	0	0.7	B	0	0	0	0	0.0	A	INC	INC
Kalamazoo	5	0	0	1.7	C	0	0	0	0	0.0	A	7.9	Pass
Kent	4	0	0	1.3	C	0	0	0	0	0.0	A	8.2	Pass
Lenawee	5	0	0	1.7	C	0	0	0	0	0.0	A	8.1	Pass
Macomb	14	0	0	4.7	F	0	0	0	0	0.0	A	7.5	Pass
Manistee	3	0	0	1.0	C	0	0	0	0	0.0	A	5.6	Pass
Mason	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Missaukee	1	0	0	0.3	B	0	0	0	0	0.0	A	5.4	Pass
Monroe	DNC	DNC	DNC	DNC	DNC	INC	INC	INC	INC	INC	INC	INC	INC
Muskegon	9	3	0	4.5	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Oakland	12	1	0	4.5	F	0	0	0	0	0.0	A	8.0	Pass
Ottawa	4	0	0	1.3	C	INC	INC	INC	INC	INC	INC	INC	INC
St. Clair	11	1	0	4.2	F	0	0	0	0	0.0	A	7.9	Pass
Schoolcraft	3	0	0	1.0	C	INC	INC	INC	INC	INC	INC	INC	INC
Tuscola	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Washtenaw	9	0	0	3.0	D	0	0	0	0	0.0	A	8.3	Pass
Wayne	17	0	0	5.7	F	8	0	0	0	2.7	D	11.6	Pass
Wexford	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC

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	People of Color	Poverty	Ever Smoked
Anoka	356,921	84,759	51,781	4,341	22,667	11,830	193	19,081	72,424	21,793	109,831
Becker	34,423	8,313	7,274	426	2,149	1,309	19	2,256	4,799	3,447	10,830
Beltrami	47,188	11,846	7,773	607	2,935	1,541	26	2,540	13,366	7,357	14,162
Carlton	35,871	7,988	6,263	409	2,311	1,289	20	2,140	4,338	3,114	11,390
Cass	29,779	6,193	7,887	317	1,925	1,301	16	2,314	5,055	3,359	10,011
Cook	5,463	824	1,601	42	378	260	3	464	844	484	1,975
Crow Wing	65,055	13,875	14,946	711	4,204	2,621	35	4,554	3,422	6,749	21,326
Dakota	429,021	104,055	63,011	5,330	27,055	14,134	232	22,858	98,152	26,714	131,035
Goodhue	46,340	10,243	9,337	525	2,978	1,767	25	3,007	3,838	3,248	14,918
Hennepin	1,265,843	276,136	183,653	14,144	82,545	41,041	686	65,666	399,458	120,032	393,705
Lake	10,641	2,035	2,855	104	703	472	6	838	501	945	3,646
Lyon	25,474	6,554	4,192	336	1,570	842	14	1,392	4,242	2,609	7,633
Mille Lacs	26,277	6,226	4,889	319	1,658	956	14	1,610	2,995	2,914	8,239
Olmsted	158,293	38,690	25,236	1,982	9,939	5,234	86	8,575	33,159	10,482	48,105
Ramsey	550,321	127,953	81,827	6,554	35,196	17,590	298	28,334	214,121	66,340	167,877
St. Louis	199,070	37,620	39,916	1,927	13,350	7,536	108	12,706	18,174	24,428	65,774
Scott	149,013	40,358	16,904	2,067	9,091	4,457	81	6,956	29,616	6,157	43,426
Stearns	161,075	37,362	24,922	1,914	10,297	5,246	87	8,513	24,866	17,305	49,361
Washington	262,440	63,673	40,867	3,261	16,518	8,917	142	14,579	48,248	11,924	80,745
Wright	138,377	38,362	17,973	1,965	8,342	4,257	75	6,799	11,466	7,079	40,193

MINNESOTA

American Lung Association in Minnesota

	HIGH OZONE DAYS 2017–2019					HIGH PARTICLE POLLUTION DAYS 2017–2019							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Anoka	2	0	0	0.7	B	0	0	0	0	0.0	A	7.3	Pass
Becker	1	0	0	0.3	B	0	0	0	0	0.0	A	5.3	Pass
Beltrami	DNC	DNC	DNC	DNC	DNC	2	1	0	0	1.2	C	6.0	Pass
Carlton	0	0	0	0.0	A	0	0	0	0	0.0	A	4.1	Pass
Cass	DNC	DNC	DNC	DNC	DNC	INC	INC	INC	INC	INC	INC	INC	INC
Cook	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	4.6	Pass
Crow Wing	1	0	0	0.3	B	1	0	0	0	0.3	B	5.1	Pass
Dakota	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	7.1	Pass
Goodhue	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hennepin	0	0	0	0.0	A	0	0	0	0	0.0	A	7.9	Pass
Lake	0	0	0	0.0	A	0	0	0	0	0.0	A	3.8	Pass
Lyon	0	0	0	0.0	A	0	0	0	0	0.0	A	5.7	Pass
Mille Lacs	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Olmsted	0	0	0	0.0	A	0	0	0	0	0.0	A	INC	INC
Ramsey	DNC	DNC	DNC	DNC	DNC	1	0	0	0	0.3	B	8.1	Pass
St. Louis	0	0	0	0.0	A	3	0	0	0	1.0	C	5.3	Pass
Scott	2	0	0	0.7	B	0	0	0	0	0.0	A	INC	INC
Stearns	1	0	0	0.3	B	0	0	0	0	0.0	A	6.0	Pass
Washington	0	0	0	0.0	A	0	0	0	0	0.0	A	INC	INC
Wright	3	0	0	1.0	C	0	0	0	0	0.0	A	6.3	Pass

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	People of Color	Poverty	Ever Smoked
Bolivar	30,628	7,483	4,997	571	2,281	2,172	22	2,604	20,625	10,665	9,827
DeSoto	184,945	46,895	24,505	3,581	13,651	12,678	136	14,592	70,498	17,313	58,386
Forrest	74,897	17,373	10,412	1,327	5,639	5,036	55	5,723	32,286	16,776	24,042
Grenada	20,758	4,913	3,761	375	1,567	1,549	15	1,909	9,506	4,162	6,793
Hancock	47,632	9,462	9,842	723	3,787	3,882	35	4,908	7,364	7,869	16,525
Harrison	208,080	49,506	32,081	3,781	15,642	14,746	153	17,422	76,597	35,341	67,209
Hinds	231,840	55,319	34,266	4,225	17,388	16,143	169	18,837	176,488	44,973	74,528
Jackson	143,617	33,172	23,457	2,533	10,930	10,575	106	12,707	46,789	21,371	47,142
Lauderdale	74,125	17,288	13,170	1,320	5,610	5,470	54	6,688	35,579	15,208	24,274
Lee	85,436	21,306	12,956	1,627	6,340	6,041	63	7,162	30,232	12,271	27,270
Yalobusha	12,108	2,667	2,545	204	935	960	9	1,224	5,089	2,906	4,085

MISSISSIPPI

American Lung Association in Mississippi

HIGH OZONE DAYS 2017–2019

County	Orange	Red	Purple	Wgt. Avg.	Grade
Bolivar	2	0	0	0.7	B
DeSoto	3	1	0	1.5	C
Forrest	DNC	DNC	DNC	DNC	DNC
Grenada	DNC	DNC	DNC	DNC	DNC
Hancock	0	0	0	0.0	A
Harrison	4	0	0	1.3	C
Hinds	0	0	0	0.0	A
Jackson	4	0	0	1.3	C
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 2017–2019

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Bolivar	INC	INC	INC	INC	INC	INC	INC	INC
DeSoto	0	0	0	0	0.0	A	7.8	Pass
Forrest	1	0	0	0	0.3	B	8.6	Pass
Grenada	INC	INC	INC	INC	INC	INC	INC	INC
Hancock	1	0	0	0	0.3	B	7.8	Pass
Harrison	0	0	0	0	0.0	A	8.3	Pass
Hinds	1	0	0	0	0.3	B	9.1	Pass
Jackson	0	0	0	0	0.0	A	8.2	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

MISSOURI

American Lung Association in Missouri

County	Total Population	Under 18	65 & Over	AT-RISK GROUPS: Lung Diseases: Pediatric Asthma	Adult Asthma	COPD	Lung Cancer	CV Disease	People of Color	Poverty	Ever Smoked
Andrew	17,712	4,059	3,434	284	1,369	1,294	13	1,466	1,080	1,559	6,408
Boone	180,463	36,730	23,084	2,570	15,114	10,875	130	11,636	38,948	29,399	64,689
Buchanan	87,364	19,547	14,600	1,368	6,921	5,986	63	6,642	15,138	13,094	31,405
Callaway	44,743	9,333	7,478	653	3,616	3,131	32	3,463	4,477	4,735	16,415
Cass	105,780	25,202	18,334	1,764	8,155	7,417	76	8,276	13,463	8,226	37,650
Cedar	14,349	3,455	3,403	242	1,067	1,112	10	1,300	837	2,529	5,174
Clay	249,948	59,748	36,092	4,181	19,599	16,214	180	17,674	49,633	22,470	87,635
Clinton	20,387	4,739	3,703	332	1,575	1,474	15	1,653	1,357	1,968	7,347
Greene	293,086	60,629	49,105	4,243	23,879	19,657	210	21,819	37,999	40,634	106,580
Jackson	703,011	164,372	108,131	11,503	55,321	46,325	505	50,917	265,629	94,823	248,336
Jasper	121,328	29,973	19,372	2,098	9,352	7,922	87	8,780	19,957	22,258	42,138
Jefferson	225,081	51,532	34,995	3,606	17,719	15,569	162	17,071	13,243	18,767	80,845
Lincoln	59,013	14,978	8,074	1,048	4,534	3,811	43	4,129	4,213	5,456	20,382
Monroe	8,644	1,864	2,073	130	664	695	6	809	650	1,143	3,228
Perry	19,136	4,396	3,680	308	1,479	1,395	14	1,577	1,033	1,710	6,916
St. Charles	402,022	92,296	63,470	6,459	31,666	27,382	289	30,133	53,992	18,379	143,688
Ste. Genevieve	17,894	3,911	3,598	274	1,395	1,360	13	1,542	794	1,698	6,602
St. Louis	994,205	217,851	184,280	15,246	78,441	71,331	712	80,190	345,296	90,474	362,099
Taney	55,928	11,685	12,379	818	4,402	4,259	40	4,910	6,620	6,818	20,771
St. Louis City	300,576	56,307	43,008	3,940	25,408	19,754	216	21,356	166,188	59,238	111,360

MISSOURI

American Lung Association in Missouri

	HIGH OZONE DAYS 2017–2019				
County	Orange	Red	Purple	Wgt. Avg.	Grade
Andrew	2	0	0	0.7	B
Boone	1	0	0	0.3	B
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	15	0	0	5.0	F
Clinton	2	0	0	0.7	B
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	4	0	0	1.3	C
Monroe	1	0	0	0.3	B
Perry	1	0	0	0.3	B
St. Charles	14	2	0	5.7	F
Ste. Genevieve	2	0	0	0.7	B
St. Louis	10	0	0	3.3	F
Taney	INC	INC	INC	INC	INC
St. Louis City	13	1	0	4.8	F

	HIGH PARTICLE POLLUTION DAYS 2017–2019							
	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	1	0	0	0	0.3	B	8.6	Pass
Callaway	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Cass	0	0	0	0	0.0	A	6.5	Pass
Cedar	0	0	0	0	0.0	A	7.2	Pass
Clay	0	0	0	0	0.0	A	6.3	Pass
Clinton	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Greene	0	0	0	0	0.0	A	7.4	Pass
Jackson	0	0	0	0	0.0	A	8.0	Pass
Jasper	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Jefferson	2	0	0	0	0.7	B	7.3	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	0	0	0	0	0.0	A	9.3	Pass
Taney	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
St. Louis City	2	0	0	0	0.7	B	9.1	Pass

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	People of Color	Poverty	Ever Smoked
Fergus	11,050	2,269	2,785	152	860	657	5	885	695	1,418	3,862
Flathead	103,806	22,568	20,994	1,514	8,055	5,657	49	7,357	7,655	9,689	35,385
Gallatin	114,434	22,546	15,030	1,512	9,227	5,253	54	6,272	9,974	11,486	38,936
Lewis and Clark	69,432	14,820	13,471	994	5,426	3,736	33	4,819	6,216	6,393	23,728
Lincoln	19,980	3,577	5,902	240	1,597	1,316	10	1,813	1,535	3,440	7,299
Missoula	119,600	22,206	19,337	1,489	9,725	5,956	57	7,365	13,095	13,748	41,624
Phillips	3,954	939	916	63	297	225	2	300	686	557	1,326
Powder River	1,682	283	466	19	137	109	1	148	123	227	620
Ravalli	43,806	8,215	11,628	551	3,485	2,728	21	3,696	3,222	4,859	15,722
Richland	10,803	2,696	1,660	181	813	526	5	658	1,204	945	3,499
Rosebud	8,937	2,569	1,472	172	635	428	4	546	4,096	1,437	2,761
Silver Bow	34,915	7,070	6,808	474	2,764	1,876	17	2,413	3,439	5,175	12,065
Yellowstone	161,300	37,578	28,085	2,520	12,325	8,140	77	10,341	22,663	17,752	53,448

MONTANA

American Lung Association in Montana

	HIGH OZONE DAYS 2017–2019				
County	Orange	Red	Purple	Wgt. Avg.	Grade
Fergus	1	0	0	0.3	B
Flathead	0	0	0	0.0	A
Gallatin	DNC	DNC	DNC	DNC	DNC
Lewis and Clark	0	0	0	0.0	A
Lincoln	DNC	DNC	DNC	DNC	DNC
Missoula	INC	INC	INC	INC	INC
Phillips	0	0	0	0.0	A
Powder River	3	0	0	1.0	C
Ravalli	DNC	DNC	DNC	DNC	DNC
Richland	0	0	0	0.0	A
Rosebud	0	0	0	0.0	A
Silver Bow	DNC	DNC	DNC	DNC	DNC
Yellowstone	DNC	DNC	DNC	DNC	DNC

	HIGH PARTICLE POLLUTION DAYS 2017–2019							
	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Fergus	10	3	0	0	4.8	F	5.0	Pass
Flathead	17	7	3	0	11.2	F	9.1	Pass
Gallatin	4	0	0	0	1.3	C	2.6	Pass
Lewis and Clark	26	15	0	0	16.2	F	9.9	Pass
Lincoln	15	18	1	0	14.7	F	13.4	Fail
Missoula	15	13	1	0	12.2	F	10.3	Pass
Phillips	6	1	0	0	2.5	D	5.1	Pass
Powder River	6	5	0	0	4.5	F	7.3	Pass
Ravalli	25	15	0	0	15.8	F	8.4	Pass
Richland	2	1	0	0	1.2	C	INC	INC
Rosebud	6	5	0	0	4.5	F	6.0	Pass
Silver Bow	21	4	0	0	9.0	F	8.1	Pass
Yellowstone	7	2	0	0	3.3	F	INC	INC

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	People of Color	Poverty	Ever Smoked
Douglas	571,327	145,687	76,770	9,042	34,625	22,748	316	29,678	178,376	57,105	166,307
Hall	61,353	16,918	9,263	1,050	3,583	2,544	34	3,408	21,399	6,123	17,561
Knox	8,332	2,027	2,115	126	491	441	5	647	1,272	986	2,577
Lancaster	319,090	72,189	45,902	4,480	20,100	12,922	177	16,988	61,805	32,535	96,000
Sarpy	187,196	50,933	22,662	3,161	11,114	7,204	104	9,250	37,264	10,930	53,207
Scotts Bluff	35,618	8,815	6,988	547	2,134	1,659	20	2,321	10,130	4,494	10,717
Washington	20,729	5,006	3,863	311	1,252	989	11	1,362	1,181	1,386	6,320

NEBRASKA

American Lung Association in Nebraska

HIGH OZONE DAYS 2017–2019

County	Orange	Red	Purple	Wgt. Avg.	Grade
Douglas	4	0	0	1.3	C
Hall	DNC	DNC	DNC	DNC	DNC
Knox	0	0	0	0.0	A
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 2017–2019

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Douglas	0	0	0	0	0.0	A	8.2	Pass
Hall	0	0	0	0	0.0	A	5.7	Pass
Knox	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lancaster	0	0	0	0	0.0	A	6.8	Pass
Sarpy	0	0	0	0	0.0	A	8.8	Pass
Scotts Bluff	1	0	0	0	0.3	B	6.2	Pass
Washington	0	0	0	0	0.0	A	7.0	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	People of Color	Poverty	Ever Smoked
Churchill	24,909	5,698	4,759	448	1,832	1,601	12	1,977	6,850	2,871	7,835
Clark	2,266,715	520,798	342,659	40,973	166,379	133,744	1,102	163,410	1,322,097	296,767	696,013
Douglas	48,905	7,818	14,501	615	3,940	4,069	24	5,159	9,691	3,930	17,685
Elko	52,778	14,376	6,220	1,131	3,663	2,791	26	3,399	17,665	5,714	15,119
Lyon	57,510	12,326	12,191	970	4,317	3,933	28	4,899	15,071	5,831	18,679
Washoe	471,519	100,530	79,377	7,909	35,347	29,214	229	35,785	177,689	49,598	148,934
White Pine	9,580	1,942	1,754	153	728	618	5	759	2,776	1,126	3,088
Carson City	55,916	11,348	11,573	893	4,258	3,821	27	4,752	18,796	6,458	18,345

NEVADA

American Lung Association in Nevada

HIGH OZONE DAYS 2017–2019

County	Orange	Red	Purple	Wgt. Avg.	Grade
Churchill	8	0	0	2.7	D
Clark	69	1	0	23.5	F
Douglas	DNC	DNC	DNC	DNC	DNC
Elko	INC	INC	INC	INC	INC
Lyon	11	0	0	3.7	F
Washoe	22	0	0	7.3	F
White Pine	5	0	0	1.7	C
Carson City	7	0	0	2.3	D

HIGH PARTICLE POLLUTION DAYS 2017–2019

	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	11	1	0	0	4.2	F	8.6	Pass
Douglas	9	4	1	0	5.7	F	5.9	Pass
Elko	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lyon	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Washoe	8	0	0	0	2.7	D	7.3	Pass
White Pine	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Carson City	6	4	0	0	4.0	F	5.9	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	People of Color	Poverty	Ever Smoked
Belknap	61,303	11,209	13,976	814	5,361	3,353	37	4,232	3,165	5,139	23,583
Cheshire	76,085	13,519	15,734	982	6,799	3,942	46	4,875	4,703	6,977	28,980
Coos	31,563	5,072	7,646	368	2,829	1,790	19	2,278	1,642	4,062	12,494
Grafton	89,886	14,342	19,181	1,042	8,229	4,723	55	5,863	8,618	7,601	34,888
Hillsborough	417,025	84,103	67,650	6,108	36,590	19,781	254	23,313	67,726	30,494	152,518
Merrimack	151,391	28,603	28,273	2,077	13,388	7,586	92	9,189	11,925	9,194	56,710
Rockingham	309,769	59,107	57,533	4,292	27,190	15,764	189	19,047	24,194	15,522	116,473

NEW HAMPSHIRE

American Lung Association in New Hampshire

HIGH OZONE DAYS 2017–2019

County	Orange	Red	Purple	Wgt. Avg.	Grade
Belknap	0	0	0	0.0	A
Cheshire	0	0	0	0.0	A
Coos	3	0	0	1.0	C
Grafton	0	0	0	0.0	A
Hillsborough	1	0	0	0.3	B
Merrimack	0	0	0	0.0	A
Rockingham	6	0	0	2.0	C

HIGH PARTICLE POLLUTION DAYS 2017–2019

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Belknap	0	0	0	0	0.0	A	4.2	Pass
Cheshire	0	0	0	0	0.0	A	5.1	Pass
Coos	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Grafton	0	0	0	0	0.0	A	5.6	Pass
Hillsborough	0	0	0	0	0.0	A	3.0	Pass
Merrimack	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Rockingham	0	0	0	0	0.0	A	4.9	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	People of Color	Poverty	Ever Smoked
Atlantic	263,670	55,537	49,027	4,025	17,573	11,962	137	18,167	116,137	29,057	77,796
Bergen	932,202	196,309	164,668	14,226	62,196	41,698	484	62,738	418,164	52,980	273,442
Camden	506,471	114,223	81,530	8,277	33,023	21,578	263	31,787	223,697	53,641	143,351
Cumberland	149,527	35,480	23,392	2,571	9,580	6,222	78	9,108	81,574	19,261	41,450
Essex	798,975	189,397	111,102	13,725	51,375	32,391	414	46,519	557,509	107,745	219,450
Gloucester	291,636	63,099	47,572	4,573	19,333	12,694	151	18,841	64,699	21,602	84,192
Hudson	672,391	136,715	81,907	9,907	44,587	26,537	350	35,941	477,629	90,976	185,152
Hunterdon	124,371	23,712	24,086	1,718	8,595	5,935	65	9,176	18,894	4,794	38,388
Mercer	367,430	78,062	57,487	5,657	24,367	15,719	191	22,946	190,208	41,600	105,159
Middlesex	825,062	178,792	127,763	12,957	54,409	35,042	429	51,084	480,864	68,514	234,621
Monmouth	618,795	129,412	112,498	9,378	41,564	28,217	321	42,978	154,372	37,725	183,984
Morris	491,845	102,477	86,486	7,426	33,027	22,162	255	33,461	145,313	25,678	145,363
Ocean	607,186	146,690	138,328	10,630	38,453	28,250	315	44,644	95,363	53,950	176,230
Passaic	501,826	119,018	75,180	8,625	32,206	20,690	260	30,087	299,361	65,342	138,698
Union	556,341	129,858	81,967	9,410	36,028	23,097	289	33,656	338,069	50,094	155,137
Warren	105,267	20,353	19,712	1,475	7,214	4,914	55	7,503	20,598	7,313	31,987

NEW JERSEY

American Lung Association in New Jersey

	HIGH OZONE DAYS 2017–2019				
County	Orange	Red	Purple	Wgt. Avg.	Grade
Atlantic	2	0	0	0.7	B
Bergen	22	2	0	8.3	F
Camden	20	0	0	6.7	F
Cumberland	3	0	0	1.0	C
Essex	4	1	0	1.8	C
Gloucester	14	0	0	4.7	F
Hudson	10	2	0	4.3	F
Hunterdon	8	2	0	3.7	F
Mercer	12	1	0	4.5	F
Middlesex	15	0	0	5.0	F
Monmouth	1	0	0	0.3	B
Morris	8	0	0	2.7	D
Ocean	14	0	0	4.7	F
Passaic	5	0	0	1.7	C
Union	DNC	DNC	DNC	DNC	DNC
Warren	2	0	0	0.7	B

	HIGH PARTICLE POLLUTION DAYS 2017–2019							
	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Atlantic	0	0	0	0	0.0	A	6.6	Pass
Bergen	0	0	0	0	0.0	A	10.3	Pass
Camden	4	0	0	0	1.3	C	10.2	Pass
Cumberland	0	0	0	0	0.0	A	INC	INC
Essex	0	0	0	0	0.0	A	8.4	Pass
Gloucester	0	0	0	0	0.0	A	INC	INC
Hudson	0	0	0	0	0.0	A	8.1	Pass
Hunterdon	0	0	0	0	0.0	A	7.9	Pass
Mercer	0	0	0	0	0.0	A	7.8	Pass
Middlesex	0	0	0	0	0.0	A	8.1	Pass
Monmouth	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Morris	0	0	0	0	0.0	A	5.8	Pass
Ocean	0	0	0	0	0.0	A	6.4	Pass
Passaic	0	0	0	0	0.0	A	7.7	Pass
Union	1	0	0	0	0.3	B	9.1	Pass
Warren	1	0	0	0	0.3	B	7.6	Pass

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	People of Color	Poverty	Ever Smoked
Bernalillo	679,121	145,064	114,902	7,902	45,007	29,021	233	38,871	419,329	103,458	215,994
Doña Ana	218,195	52,928	35,414	2,883	13,916	8,746	75	11,555	159,885	50,726	66,579
Eddy	58,460	15,514	8,535	845	3,614	2,260	20	2,991	32,004	6,474	17,287
Lea	71,070	21,141	8,076	1,152	4,189	2,429	24	3,113	46,704	10,399	19,875
Rio Arriba	38,921	8,977	7,814	489	2,534	1,789	13	2,479	33,929	8,542	12,292
Sandoval	146,748	33,530	27,090	1,827	9,563	6,502	50	8,892	84,320	14,627	46,181
San Juan	123,958	32,258	19,397	1,757	7,727	4,968	42	6,651	77,535	24,358	37,070
Santa Fe	150,358	26,394	38,106	1,438	10,525	7,952	51	11,249	85,459	18,378	51,497
Taos	32,723	5,684	9,014	310	2,300	1,802	11	2,577	21,004	5,922	11,309
Valencia	76,688	17,884	13,979	974	4,966	3,367	26	4,601	52,201	13,210	23,975

NEW MEXICO

American Lung Association in New Mexico

HIGH OZONE DAYS 2017–2019

County	Orange	Red	Purple	Wgt. Avg.	Grade
Bernalillo	23	0	0	7.7	F
Doña Ana	63	3	0	22.5	F
Eddy	44	5	0	17.2	F
Lea	12	0	0	4.0	F
Rio Arriba	6	0	0	2.0	C
Sandoval	13	0	0	4.3	F
San Juan	21	0	0	7.0	F
Santa Fe	4	0	0	1.3	C
Taos	DNC	DNC	DNC	DNC	DNC
Valencia	6	0	0	2.0	C

HIGH PARTICLE POLLUTION DAYS 2017–2019

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Bernalillo	0	0	0	0	0.0	A	7.8	Pass
Doña Ana	5	1	0	0	2.2	D	7.6	Pass
Eddy	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lea	2	0	0	0	0.7	B	8.1	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	0	0	0	0	0.0	A	INC	INC
Taos	0	0	0	0	0.0	A	INC	INC
Valencia	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	People of Color	Poverty	Ever Smoked
Albany	305,506	55,765	53,272	4,532	23,234	14,187	180	19,320	86,861	33,970	90,349
Bronx	1,418,207	348,663	188,766	28,334	99,992	57,466	836	76,526	1,290,424	361,834	381,027
Chautauqua	126,903	25,629	26,285	2,083	9,401	6,396	75	8,922	16,407	19,896	37,927
Dutchess	294,218	54,890	53,399	4,461	22,334	14,466	174	19,817	86,311	23,693	88,504
Erie	918,702	185,273	168,935	15,056	68,262	43,966	543	60,449	230,104	118,386	270,137
Essex	36,885	5,908	8,949	480	2,870	2,072	22	2,928	2,858	4,338	11,830
Franklin	50,022	9,595	8,725	780	3,769	2,371	30	3,235	9,145	8,017	14,794
Hamilton	4,416	603	1,407	49	351	289	3	420	243	433	1,521
Herkimer	61,319	12,526	13,017	1,018	4,529	3,143	36	4,398	3,532	8,235	18,399
Jefferson	109,834	26,349	15,611	2,141	7,774	4,419	65	5,918	20,534	15,168	29,546
Kings	2,559,903	580,671	367,884	47,189	184,536	106,019	1,509	141,949	1,618,635	446,923	703,521
Monroe	741,770	152,935	132,495	12,428	54,812	34,825	438	47,744	221,635	90,791	215,918
New York	1,628,706	232,284	276,121	18,877	129,797	74,845	960	100,909	859,607	222,672	495,723
Niagara	209,281	41,694	40,860	3,388	15,605	10,479	124	14,507	31,504	25,407	62,634
Onondaga	460,528	97,092	80,748	7,890	33,858	21,508	272	29,444	108,396	61,412	133,345
Orange	384,940	98,000	55,137	7,964	26,854	16,370	228	22,038	143,466	46,013	104,241
Oswego	117,124	24,478	19,686	1,989	8,658	5,516	69	7,514	7,356	17,530	34,110
Putnam	98,320	19,115	17,728	1,553	7,410	4,924	58	6,751	22,537	5,016	29,607
Queens	2,253,858	451,459	368,333	36,688	168,233	103,439	1,332	140,206	1,693,723	245,941	655,226
Richmond	476,143	103,686	79,301	8,426	34,779	22,016	281	29,994	192,452	42,807	136,749
Rockland	325,789	92,568	51,769	7,523	21,728	13,797	193	18,886	121,402	40,031	85,560
Saratoga	229,863	45,212	43,232	3,674	17,216	11,394	136	15,698	22,716	13,482	68,737
Steuben	95,379	20,272	19,211	1,647	6,982	4,769	56	6,640	6,283	14,089	28,199
Suffolk	1,476,601	309,098	255,941	25,119	109,101	70,817	874	96,828	492,795	97,920	432,531
Tompkins	102,180	14,976	15,430	1,217	8,107	4,374	60	5,811	23,473	15,079	30,340
Wayne	89,918	19,096	17,552	1,552	6,599	4,508	53	6,253	9,433	10,093	26,642
Westchester	967,506	210,282	168,511	17,089	70,662	45,673	572	62,550	458,407	79,545	279,820

NEW YORK

American Lung Association in New York

	HIGH OZONE DAYS 2017–2019					HIGH PARTICLE POLLUTION DAYS 2017–2019							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Albany	2	0	0	0.7	B	0	0	0	0	0.0	A	7.1	Pass
Bronx	14	0	0	4.7	F	0	0	0	0	0.0	A	7.8	Pass
Chautauqua	7	0	0	2.3	D	0	0	0	0	0.0	A	6.2	Pass
Dutchess	2	1	0	1.2	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Erie	3	0	0	1.0	C	0	0	0	0	0.0	A	7.4	Pass
Essex	2	0	0	0.7	B	0	0	0	0	0.0	A	3.3	Pass
Franklin	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hamilton	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Herkimer	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Jefferson	3	0	0	1.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Kings	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	7.7	Pass
Monroe	7	0	0	2.3	D	0	0	0	0	0.0	A	6.9	Pass
New York	13	1	0	4.8	F	1	0	0	0	0.3	B	9.0	Pass
Niagara	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Onondaga	2	0	0	0.7	B	0	0	0	0	0.0	A	5.5	Pass
Orange	1	0	0	0.3	B	0	0	0	0	0.0	A	6.1	Pass
Oswego	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Putnam	5	1	0	2.2	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Queens	17	1	0	6.2	F	0	0	0	0	0.0	A	7.0	Pass
Richmond	13	0	0	4.3	F	0	0	0	0	0.0	A	7.5	Pass
Rockland	7	0	1	3.0	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Saratoga	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Steuben	0	0	0	0.0	A	0	0	0	0	0.0	A	5.0	Pass
Suffolk	26	3	0	10.2	F	0	0	0	0	0.0	A	6.6	Pass
Tompkins	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Wayne	5	0	0	1.7	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Westchester	17	1	0	6.2	F	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	People of Color	Poverty	Ever Smoked
Alexander	37,497	7,457	7,667	857	2,540	2,537	24	3,290	5,005	4,193	13,123
Avery	17,557	2,588	4,020	297	1,251	1,255	11	1,642	2,014	2,481	6,519
Buncombe	261,191	47,414	53,494	5,449	17,796	17,400	167	22,462	43,475	31,045	92,483
Caldwell	82,178	16,336	16,769	1,877	5,589	5,597	53	7,255	10,913	9,728	28,817
Carteret	69,473	11,936	17,867	1,372	4,894	5,238	45	7,044	9,360	7,102	25,573
Caswell	22,604	4,221	5,005	485	1,559	1,594	15	2,091	8,821	3,438	8,079
Catawba	159,551	34,920	29,156	4,013	10,516	10,211	103	13,028	40,027	20,898	54,081
Cumberland	335,509	82,854	40,937	9,521	20,487	17,242	216	20,452	193,402	57,342	105,272
Davidson	167,609	36,324	31,089	4,174	11,138	10,910	108	13,956	34,558	25,099	57,177
Durham	321,488	65,659	43,764	7,545	20,920	18,032	206	21,644	183,313	43,009	107,342
Edgecombe	51,472	11,568	10,509	1,329	3,354	3,363	33	4,385	32,923	10,625	17,411
Forsyth	382,295	86,894	62,720	9,985	24,663	23,044	244	28,862	167,140	56,484	126,733
Graham	8,441	1,674	2,067	192	570	602	5	808	1,172	1,391	2,989
Granville	60,443	12,385	10,674	1,423	4,077	3,922	39	4,960	25,526	8,313	20,851
Guilford	537,174	118,934	83,442	13,667	34,749	31,753	343	39,298	271,882	83,004	178,357
Haywood	62,317	11,349	15,572	1,304	4,302	4,550	40	6,101	4,889	6,536	22,532
Jackson	43,938	7,217	8,759	829	3,002	2,839	28	3,628	8,505	7,661	15,686
Johnston	209,339	52,754	28,558	6,062	13,188	11,959	135	14,601	69,451	25,901	66,966
Lee	61,779	14,643	10,404	1,683	3,955	3,754	40	4,738	26,081	8,634	20,320
Lenoir	55,949	12,526	11,303	1,439	3,664	3,674	36	4,780	28,582	12,750	18,971
Lincoln	86,111	18,130	15,456	2,083	5,804	5,656	55	7,186	13,286	7,682	29,638
Macon	35,858	6,598	10,350	758	2,462	2,740	23	3,779	4,072	5,093	13,072
Martin	22,440	4,523	5,372	520	1,520	1,603	14	2,142	10,708	4,589	7,930
Mecklenburg	1,110,356	258,277	127,686	29,680	70,224	59,279	711	69,677	598,077	112,863	357,003
Mitchell	14,964	2,735	3,810	314	1,033	1,100	10	1,481	1,326	2,180	5,416
Montgomery	27,173	5,907	5,743	679	1,793	1,818	17	2,382	10,080	4,218	9,312
New Hanover	234,473	42,661	43,147	4,902	15,851	14,894	150	18,835	52,923	29,519	82,111
Northampton	19,483	3,351	5,256	385	1,367	1,484	13	2,014	11,931	4,042	7,184
Person	39,490	8,129	7,938	934	2,668	2,673	25	3,462	13,318	5,998	13,738
Pitt	180,742	38,276	25,045	4,399	11,583	9,981	115	12,025	83,020	33,512	59,667
Rockingham	91,010	18,315	18,996	2,105	6,181	6,249	58	8,138	25,348	16,504	31,899
Rowan	142,088	31,359	25,371	3,604	9,318	8,968	91	11,398	40,694	19,063	47,918
Swain	14,271	3,134	2,803	360	932	918	9	1,186	5,609	2,253	4,833
Union	239,859	63,243	31,234	7,268	15,007	13,645	154	16,601	69,356	17,281	75,790
Wake	1,111,761	262,706	133,864	30,189	70,553	60,863	714	72,307	449,527	87,375	358,092
Yancey	18,069	3,287	4,744	378	1,247	1,341	12	1,815	1,450	2,537	6,558

NORTH CAROLINA

American Lung Association in North Carolina

	HIGH OZONE DAYS 2017–2019					HIGH PARTICLE POLLUTION DAYS 2017–2019							
						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	6.3	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	0	0	0	0	0.0	A	7.8	Pass
Davidson	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	8.8	Pass
Durham	0	0	0	0.0	A	0	0	0	0	0.0	A	8.2	Pass
Edgecombe	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Forsyth	2	0	0	0.7	B	0	0	0	0	0.0	A	7.8	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	2	0	0	0.7	B	0	0	0	0	0.0	A	7.3	Pass
Haywood	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Jackson	INC	INC	INC	INC	INC	0	0	0	0	0.0	A	6.6	Pass
Johnston	0	0	0	0.0	A	0	0	0	0	0.0	A	7.9	Pass
Lee	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lenoir	1	0	0	0.3	B	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	18	0	0	6.0	F	0	0	0	0	0.0	A	9.0	Pass
Mitchell	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	6.1	Pass
Montgomery	0	0	0	0.0	A	0	0	0	0	0.0	A	6.8	Pass
New Hanover	0	0	0	0.0	A	0	0	0	0	0.0	A	4.5	Pass
Northampton	DNC	DNC	DNC	DNC	DNC	INC	INC	INC	INC	INC	INC	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	6.5	Pass
Rockingham	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Rowan	0	0	0	0.0	A	INC	INC	INC	INC	INC	INC	INC	INC
Swain	0	0	0	0.0	A	0	0	0	0	0.0	A	7.6	Pass
Union	7	0	0	2.3	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Wake	0	0	0	0.0	A	0	0	0	0	0.0	A	8.1	Pass
Yancey	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC

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	People of Color	Poverty	Ever Smoked
Billings	928	193	211	13	58	45	1	69	75	90	301
Burke	2,115	524	449	34	125	98	1	150	161	185	652
Burleigh	95,626	22,261	15,859	1,448	5,952	3,883	59	5,750	11,246	6,304	29,368
Cass	181,923	40,969	22,672	2,666	11,839	6,295	112	8,979	28,417	20,189	55,155
Dunn	4,424	1,110	714	72	265	183	3	268	876	428	1,333
McKenzie	15,024	4,782	1,326	311	860	445	9	607	3,569	1,107	3,987
Mercer	8,187	1,898	1,642	123	492	382	5	576	641	624	2,570
Oliver	1,959	495	444	32	113	94	1	146	131	207	605
Ward	67,641	16,070	8,925	1,046	4,314	2,365	42	3,417	12,064	5,859	20,253
Williams	37,589	11,045	3,456	719	2,235	1,140	23	1,561	8,208	2,366	10,323

NORTH DAKOTA

American Lung Association in North Dakota

	HIGH OZONE DAYS 2017–2019					HIGH PARTICLE POLLUTION DAYS 2017–2019							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Billings	0	0	0	0.0	A	1	1	0	0	0.8	B	3.9	Pass
Burke	0	0	0	0.0	A	2	0	0	0	0.7	B	3.6	Pass
Burleigh	0	0	0	0.0	A	4	3	0	0	2.8	D	INC	INC
Cass	0	0	0	0.0	A	2	1	0	0	1.2	C	7.1	Pass
Dunn	0	0	0	0.0	A	1	1	0	0	0.8	B	INC	INC
McKenzie	0	0	0	0.0	A	1	1	0	0	0.8	B	4.8	Pass
Mercer	0	0	0	0.0	A	3	1	0	0	1.5	C	4.6	Pass
Oliver	0	0	0	0.0	A	3	1	0	0	1.5	C	5.7	Pass
Ward	0	0	0	0.0	A	5	0	0	0	1.7	C	4.9	Pass
Williams	0	0	0	0.0	A	2	0	0	0	0.7	B	5.0	Pass

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	People of Color	Poverty	Ever Smoked
Allen	102,351	23,492	18,509	1,812	8,757	7,113	67	8,086	19,858	12,452	35,559
Ashtabula	97,241	21,348	19,086	1,647	8,406	7,199	63	8,277	10,448	17,508	34,620
Athens	65,327	9,413	8,915	726	6,329	4,194	43	4,472	6,724	14,839	24,302
Belmont	67,006	12,569	14,338	969	5,994	5,184	44	6,000	5,062	7,355	24,831
Butler	383,134	89,141	57,964	6,876	33,113	25,268	249	27,990	77,206	43,439	131,428
Clark	134,083	29,900	26,463	2,306	11,503	9,742	87	11,211	21,596	18,960	47,334
Clermont	206,428	46,887	34,910	3,617	17,883	14,484	134	16,312	14,020	16,710	72,163
Clinton	41,968	9,554	7,369	737	3,618	2,952	27	3,342	2,796	6,041	14,662
Cuyahoga	1,235,072	254,117	230,202	19,601	108,987	88,819	799	100,972	511,426	195,758	442,757
Delaware	209,177	54,156	29,584	4,177	17,569	13,650	136	15,084	33,897	9,863	69,758
Fayette	28,525	6,664	5,216	514	2,431	2,026	19	2,311	2,211	3,777	9,923
Franklin	1,316,756	305,407	163,143	23,557	115,010	80,047	855	85,947	498,540	172,890	444,843
Geauga	93,649	21,107	19,803	1,628	7,984	7,153	61	8,327	4,289	5,083	33,373
Greene	168,937	34,754	29,636	2,681	14,964	11,799	110	13,284	27,565	15,932	60,193
Hamilton	817,473	187,063	128,675	14,429	70,752	54,245	530	60,363	287,648	116,077	281,719
Harrison	15,040	3,108	3,280	240	1,313	1,182	10	1,377	777	2,133	5,495
Jefferson	65,325	12,517	14,419	965	5,794	5,089	42	5,923	6,458	10,733	24,144
Knox	62,322	14,105	11,599	1,088	5,346	4,401	40	5,023	2,953	6,664	21,797
Lake	230,149	45,434	47,371	3,505	20,414	17,574	149	20,262	28,618	18,914	84,289
Lawrence	59,463	12,849	11,383	991	5,173	4,355	39	4,985	3,147	9,482	21,193
Licking	176,862	40,638	29,644	3,135	15,269	12,306	115	13,846	19,356	16,038	61,545
Lorain	309,833	67,504	58,196	5,207	26,932	22,509	201	25,695	68,979	41,735	110,046
Lucas	428,348	98,307	71,542	7,583	36,928	29,277	278	32,893	136,057	75,402	148,436
Madison	44,731	9,062	7,098	699	4,025	3,139	30	3,486	5,329	3,808	16,036
Mahoning	228,683	45,472	49,011	3,507	20,122	17,401	149	20,187	56,131	40,346	83,481
Medina	179,746	39,577	33,188	3,053	15,627	13,153	117	14,991	11,552	9,739	63,843
Miami	106,987	24,552	20,255	1,894	9,140	7,696	70	8,815	8,763	9,324	37,466
Montgomery	531,687	116,707	97,433	9,002	46,074	37,389	344	42,500	157,705	78,917	187,065
Noble	14,424	2,692	4,080	208	1,255	1,261	10	1,524	735	1,657	5,494
Portage	162,466	30,059	27,660	2,319	14,841	11,512	106	12,857	17,553	18,371	59,295
Preble	40,882	9,083	8,090	701	3,518	3,026	27	3,485	1,583	3,602	14,514
Scioto	75,314	16,277	14,030	1,256	6,557	5,396	49	6,147	5,109	15,739	26,704
Stark	370,606	78,924	73,876	6,088	32,225	27,329	240	31,442	51,213	46,938	132,600
Summit	541,013	112,193	100,079	8,654	47,730	39,175	351	44,517	127,815	75,226	194,017
Trumbull	197,974	40,198	43,681	3,101	17,286	15,283	129	17,827	25,999	29,809	72,211
Warren	234,602	56,729	34,945	4,376	20,123	15,811	153	17,545	34,400	10,308	80,190
Washington	59,911	11,828	12,942	912	5,283	4,608	39	5,352	3,047	6,395	21,959
Wood	130,817	26,556	20,525	2,048	11,699	8,666	85	9,576	15,732	13,819	46,233

OHIO

American Lung Association in Ohio

	HIGH OZONE DAYS 2017–2019					HIGH PARTICLE POLLUTION DAYS 2017–2019							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Allen	6	0	0	2.0	C	0	0	0	0	0.0	A	7.8	Pass
Ashtabula	6	0	0	2.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Athens	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	6.5	Pass
Belmont	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	8.0	Pass
Butler	14	0	0	4.7	F	0	0	0	0	0.0	A	10.4	Pass
Clark	8	0	0	2.7	D	0	0	0	0	0.0	A	9.2	Pass
Clermont	8	0	0	2.7	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Clinton	4	0	0	1.3	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Cuyahoga	18	0	0	6.0	F	1	0	0	0	0.3	B	11.0	Pass
Delaware	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Fayette	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Franklin	5	0	0	1.7	C	1	0	0	0	0.3	B	9.2	Pass
Geauga	15	0	0	5.0	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Greene	2	0	0	0.7	B	INC	INC	INC	INC	INC	INC	INC	INC
Hamilton	18	1	0	6.5	F	0	0	0	0	0.0	A	11.8	Pass
Harrison	DNC	DNC	DNC	DNC	DNC	INC	INC	INC	INC	INC	INC	INC	INC
Jefferson	1	0	0	0.3	B	0	0	0	0	0.0	A	8.8	Pass
Knox	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lake	20	0	0	6.7	F	0	0	0	0	0.0	A	6.9	Pass
Lawrence	2	0	0	0.7	B	1	0	0	0	0.3	B	6.6	Pass
Licking	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lorain	2	0	0	0.7	B	0	0	0	0	0.0	A	7.5	Pass
Lucas	13	1	0	4.8	F	1	0	0	0	0.3	B	8.3	Pass
Madison	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Mahoning	0	0	0	0.0	A	0	0	0	0	0.0	A	8.0	Pass
Medina	0	0	0	0.0	A	0	0	0	0	0.0	A	7.8	Pass
Miami	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Montgomery	5	0	0	1.7	C	0	0	0	0	0.0	A	8.6	Pass
Noble	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Portage	0	0	0	0.0	A	0	0	0	0	0.0	A	7.4	Pass
Preble	1	0	0	0.3	B	1	0	0	0	0.3	B	8.1	Pass
Scioto	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	INC	INC
Stark	5	0	0	1.7	C	0	0	0	0	0.0	A	9.3	Pass
Summit	3	0	0	1.0	C	1	0	0	0	0.3	B	8.6	Pass
Trumbull	5	0	0	1.7	C	1	0	0	0	0.3	B	7.7	Pass
Warren	9	0	0	3.0	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Washington	3	0	0	1.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Wood	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC

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	People of Color	Poverty	Ever Smoked
Adair	22,194	5,995	3,515	587	1,672	1,476	14	1,907	13,456	5,192	7,269
Bryan	47,995	11,166	8,645	1,094	3,763	3,295	30	4,308	14,301	8,070	16,440
Caddo	28,762	7,156	4,861	701	2,220	1,951	18	2,534	12,439	5,502	9,670
Canadian	148,306	38,554	19,714	3,778	11,317	9,240	93	11,672	37,125	11,747	48,286
Carter	48,111	11,979	8,282	1,174	3,714	3,299	30	4,294	14,696	6,760	16,218
Cherokee	48,657	10,545	8,264	1,033	3,894	3,290	31	4,259	25,716	10,049	16,862
Choctaw	14,672	3,547	3,097	348	1,139	1,088	9	1,452	5,874	3,247	5,084
Cleveland	284,014	60,218	39,189	5,900	22,929	18,015	179	22,701	82,914	31,942	97,386
Comanche	120,749	28,426	15,594	2,785	9,465	7,362	76	9,236	53,281	19,406	40,088
Creek	71,522	16,769	13,047	1,643	5,641	5,138	45	6,716	17,607	9,655	24,754
Dewey	4,891	1,338	888	131	365	335	3	441	920	553	1,608
Jefferson	6,002	1,451	1,288	142	466	448	4	599	1,405	1,218	2,083
Johnston	11,085	2,657	2,191	260	861	792	7	1,048	3,507	2,261	3,810
Kay	43,538	10,850	8,508	1,063	3,336	3,050	27	4,041	11,459	6,812	14,749
Le Flore	49,853	11,930	9,104	1,169	3,895	3,520	31	4,608	14,441	9,848	17,093
Love	10,253	2,463	2,007	241	796	728	6	963	3,079	1,356	3,517
McClain	40,474	10,324	6,367	1,012	3,114	2,726	25	3,509	8,656	2,869	13,502
Mayes	41,100	9,552	7,766	936	3,244	2,975	26	3,906	14,654	7,166	14,279
Nowata	10,076	2,251	1,993	221	806	755	6	995	3,423	1,484	3,564
Oklahoma	797,434	202,612	111,829	19,853	61,126	50,012	501	63,545	355,118	116,741	261,564
Osage	46,963	10,053	9,663	985	3,794	3,576	30	4,731	17,338	6,758	16,827
Ottawa	31,127	7,678	5,749	752	2,401	2,163	20	2,841	10,999	5,569	10,550
Pittsburg	43,654	9,745	8,882	955	3,464	3,189	28	4,227	13,450	8,136	15,332
Sequoyah	41,569	9,642	7,835	945	3,285	3,017	26	3,959	15,691	8,864	14,460
Tulsa	651,552	163,417	96,463	16,012	50,191	41,975	409	53,651	252,887	91,457	215,832
Washington	51,527	12,252	10,187	1,200	4,017	3,699	32	4,896	14,289	6,540	17,767

OKLAHOMA

American Lung Association in Oklahoma

	HIGH OZONE DAYS 2017–2019					HIGH PARTICLE POLLUTION DAYS 2017–2019							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Adair	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Bryan	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Caddo	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Canadian	8	0	0	2.7	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Carter	INC	INC	INC	INC	INC	2	0	0	0	0.7	B	INC	INC
Cherokee	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Choctaw	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Cleveland	7	0	0	2.3	D	1	0	0	0	0.3	B	9.3	Pass
Comanche	5	0	0	1.7	C	0	0	0	0	0.0	A	7.4	Pass
Creek	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Dewey	7	0	0	2.3	D	2	0	0	0	0.7	B	INC	INC
Jefferson	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Johnston	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Kay	0	0	0	0.0	A	2	0	0	0	0.7	B	8.0	Pass
Le Flore	DNC	DNC	DNC	DNC	DNC	INC	INC	INC	INC	INC	INC	INC	INC
Love	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
McClain	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Mayes	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Nowata	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC
Oklahoma	16	0	0	5.3	F	0	0	0	0	0.0	A	9.3	Pass
Osage	8	0	0	2.7	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Ottawa	0	0	0	0.0	A	INC	INC	INC	INC	INC	INC	INC	INC
Pittsburg	2	0	0	0.7	B	0	0	0	0	0.0	A	8.2	Pass
Sequoyah	0	0	0	0.0	A	0	0	0	0	0.0	A	8.2	Pass
Tulsa	8	1	0	3.2	D	1	0	0	0	0.3	B	9.5	Pass
Washington	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC

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	People of Color	Poverty	Ever Smoked
Clackamas	418,187	88,817	78,457	6,173	37,025	20,820	204	28,276	78,891	29,818	138,586
Columbia	52,354	10,875	10,044	756	4,665	2,670	26	3,651	6,364	4,444	17,560
Crook	24,404	4,823	6,140	335	2,189	1,361	12	1,935	2,929	2,627	8,460
Harney	7,393	1,486	1,844	103	660	404	4	573	1,004	1,031	2,538
Jackson	220,944	45,139	49,848	3,137	19,680	11,591	108	16,126	43,921	29,613	74,718
Josephine	87,487	17,066	23,063	1,186	7,862	4,942	43	7,066	11,766	13,663	30,490
Klamath	68,238	14,688	14,786	1,021	5,999	3,509	33	4,865	15,612	11,225	22,727
Lake	7,869	1,503	2,003	104	712	444	4	632	1,256	1,259	2,754
Lane	382,067	69,515	76,174	4,831	35,062	19,291	186	26,020	71,475	52,146	130,297
Marion	347,818	84,629	56,279	5,882	29,605	15,763	170	20,875	122,759	41,154	108,962
Multnomah	812,855	149,668	112,877	10,402	74,801	36,956	396	46,980	251,219	95,902	269,379
Umatilla	77,950	19,556	12,510	1,359	6,568	3,497	38	4,631	27,181	10,260	24,173
Wasco	26,682	5,893	5,600	410	2,329	1,346	13	1,856	7,047	3,174	8,791
Washington	601,592	135,155	83,361	9,393	52,610	26,668	293	34,354	213,095	48,575	190,888

OREGON

American Lung Association in Oregon

	HIGH OZONE DAYS 2017–2019				
County	Orange	Red	Purple	Wgt. Avg.	Grade
Clackamas	10	1	1	4.5	F
Columbia	1	1	0	0.8	B
Crook	DNC	DNC	DNC	DNC	DNC
Harney	DNC	DNC	DNC	DNC	DNC
Jackson	12	0	0	4.0	F
Josephine	DNC	DNC	DNC	DNC	DNC
Klamath	DNC	DNC	DNC	DNC	DNC
Lake	DNC	DNC	DNC	DNC	DNC
Lane	2	2	0	1.7	C
Marion	6	0	0	2.0	C
Multnomah	2	1	0	1.2	C
Umatilla	7	0	0	2.3	D
Wasco	INC	INC	INC	INC	INC
Washington	4	2	0	2.3	D

	HIGH PARTICLE POLLUTION DAYS 2017–2019							
	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	4	5	0	0	3.8	F	9.3	Pass
Harney	11	2	0	0	4.7	F	10.4	Pass
Jackson	5	12	3	0	9.7	F	13.8	Fail
Josephine	1	7	0	0	3.8	F	11.6	Pass
Klamath	11	9	2	0	9.5	F	13.6	Fail
Lake	12	6	0	0	7.0	F	10.0	Pass
Lane	12	4	0	1	6.8	F	10.4	Pass
Marion	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Multnomah	4	0	0	0	1.3	C	7.3	Pass
Umatilla	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Wasco	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Washington	7	0	0	0	2.3	D	7.6	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	People of Color	Poverty	Ever Smoked
Adams	103,009	20,397	21,730	1,627	8,889	6,349	65	8,157	11,609	7,548	36,756
Allegheny	1,216,045	226,573	235,279	18,072	108,247	71,117	762	90,101	266,241	127,238	432,396
Armstrong	64,735	12,364	14,629	986	5,583	4,168	41	5,400	1,964	7,076	23,519
Beaver	163,929	31,531	36,098	2,515	14,200	10,301	103	13,304	17,903	18,879	59,054
Berks	421,164	93,420	74,119	7,451	35,853	23,584	264	29,656	125,074	41,916	143,611
Blair	121,829	24,620	25,935	1,964	10,472	7,433	76	9,573	6,676	17,657	43,143
Bradford	60,323	13,139	13,213	1,048	5,039	3,729	38	4,834	2,609	8,527	21,134
Bucks	628,270	126,844	120,789	10,117	54,230	37,816	394	47,964	104,690	35,075	222,601
Cambria	130,192	24,894	30,242	1,986	11,247	8,315	82	10,824	9,686	18,583	47,083
Centre	162,385	24,059	24,134	1,919	15,657	8,498	103	10,284	23,673	22,610	58,270
Chester	524,989	117,965	88,351	9,409	44,566	29,196	330	36,497	111,439	30,184	178,481
Clearfield	79,255	14,356	16,614	1,145	6,998	4,948	50	6,332	5,718	10,064	28,834
Cumberland	253,370	51,267	47,750	4,089	22,094	14,573	159	18,444	39,051	17,269	88,441
Dauphin	278,299	62,602	48,420	4,993	23,633	15,416	174	19,365	98,874	30,942	94,331
Delaware	566,747	124,511	94,994	9,931	48,656	31,058	355	38,770	194,855	54,091	192,660
Elk	29,910	5,737	6,737	458	2,570	1,945	19	2,518	843	2,902	10,900
Erie	269,728	57,016	50,250	4,548	23,223	15,426	169	19,522	43,144	42,666	93,264
Fayette	129,274	24,718	28,057	1,972	11,224	8,107	81	10,446	10,834	21,995	46,618
Franklin	155,027	34,226	31,169	2,730	13,051	9,139	97	11,712	19,447	12,313	53,506
Greene	36,233	7,013	7,014	559	3,179	2,150	23	2,726	2,482	4,708	12,864
Indiana	84,073	15,069	16,822	1,202	7,540	4,981	53	6,335	5,253	11,048	30,163
Lackawanna	209,674	42,965	42,622	3,427	18,051	12,498	131	15,998	34,047	28,812	73,642
Lancaster	545,724	127,875	100,381	10,199	45,632	30,255	342	38,387	102,183	55,968	182,963
Lawrence	85,512	16,997	19,269	1,356	7,328	5,383	54	6,985	7,148	10,271	30,616
Lebanon	141,793	32,154	28,173	2,565	11,873	8,213	89	10,521	26,926	14,381	48,406
Lehigh	369,318	83,126	63,184	6,630	31,444	20,212	232	25,330	138,439	41,397	124,760
Luzerne	317,417	62,676	63,977	4,999	27,613	19,017	199	24,277	65,765	46,326	112,465
Lycoming	113,299	23,133	22,461	1,845	9,790	6,687	71	8,527	10,958	14,642	39,733
Mercer	109,424	20,999	24,323	1,675	9,483	6,879	69	8,897	10,909	13,469	39,420
Monroe	170,271	33,117	30,347	2,641	14,951	10,025	107	12,565	60,397	20,201	60,472
Montgomery	830,915	178,480	150,974	14,236	71,167	47,512	521	59,938	207,525	48,819	286,733
Northampton	305,285	60,215	59,625	4,803	26,645	18,079	192	22,974	75,154	23,228	107,922
Philadelphia	1,584,064	342,174	221,678	27,292	139,684	78,783	990	95,728	1,040,174	352,748	527,784
Somerset	73,447	13,035	16,876	1,040	6,458	4,757	46	6,165	4,342	8,552	27,026
Susquehanna	40,328	7,437	9,795	593	3,478	2,696	25	3,525	1,583	4,507	14,878
Tioga	40,591	8,081	9,155	645	3,478	2,553	26	3,313	1,578	5,254	14,524
Washington	206,865	40,156	43,541	3,203	17,954	12,769	130	16,389	16,799	19,860	74,113
Westmoreland	348,899	63,570	81,263	5,070	30,391	22,778	219	29,595	22,127	35,870	128,142
Wyoming	26,794	5,198	5,862	415	2,315	1,685	17	2,175	1,240	2,573	9,645
York	449,058	98,709	80,627	7,873	38,197	25,570	282	32,230	78,066	40,477	154,126

PENNSYLVANIA

American Lung Association in Pennsylvania

	HIGH OZONE DAYS 2017–2019					HIGH PARTICLE POLLUTION DAYS 2017–2019							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Adams	2	0	0	0.7	B	1	0	0	0	0.3	B	INC	INC
Allegheny	16	1	0	5.8	F	21	5	0	0	9.5	F	12.4	Fail
Armstrong	1	0	0	0.3	B	0	0	0	0	0.0	A	8.4	Pass
Beaver	8	0	0	2.7	D	2	0	0	0	0.7	B	9.2	Pass
Berks	9	0	0	3.0	D	6	1	0	0	2.5	D	8.4	Pass
Blair	0	0	0	0.0	A	1	0	0	0	0.3	B	8.4	Pass
Bradford	0	0	0	0.0	A	0	0	0	0	0.0	A	6.8	Pass
Bucks	24	3	0	9.5	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Cambria	0	0	0	0.0	A	0	0	0	0	0.0	A	9.7	Pass
Centre	0	0	0	0.0	A	2	0	0	0	0.7	B	9.0	Pass
Chester	7	0	0	2.3	D	1	0	0	0	0.3	B	9.7	Pass
Clearfield	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Cumberland	DNC	DNC	DNC	DNC	DNC	6	0	0	0	2.0	C	8.1	Pass
Dauphin	1	0	0	0.3	B	4	1	0	0	1.8	C	8.5	Pass
Delaware	9	0	0	3.0	D	5	0	0	0	1.7	C	10.7	Pass
Elk	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Erie	1	0	0	0.3	B	0	0	0	0	0.0	A	8.0	Pass
Fayette	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC
Franklin	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Greene	0	0	0	0.0	A	0	0	0	0	0.0	A	6.8	Pass
Indiana	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lackawanna	0	0	0	0.0	A	0	0	0	0	0.0	A	7.8	Pass
Lancaster	6	0	0	2.0	C	12	1	0	0	4.5	F	9.6	Pass
Lawrence	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lebanon	2	0	0	0.7	B	5	0	0	0	1.7	C	9.0	Pass
Lehigh	3	0	0	1.0	C	3	0	0	0	1.0	C	8.4	Pass
Luzerne	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lycoming	0	0	0	0.0	A	INC	INC	INC	INC	INC	INC	INC	INC
Mercer	5	0	0	1.7	C	0	0	0	0	0.0	A	9.3	Pass
Monroe	2	0	0	0.7	B	INC	INC	INC	INC	INC	INC	INC	INC
Montgomery	15	0	0	5.0	F	0	0	0	0	0.0	A	8.1	Pass
Northampton	7	0	0	2.3	D	2	0	0	0	0.7	B	8.3	Pass
Philadelphia	25	3	0	9.8	F	0	0	0	0	0.0	A	9.4	Pass
Somerset	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Susquehanna	DNC	DNC	DNC	DNC	DNC	INC	INC	INC	INC	INC	INC	INC	INC
Tioga	0	0	0	0.0	A	0	0	0	0	0.0	A	7.1	Pass
Washington	2	0	0	0.7	B	0	0	0	0	0.0	A	8.4	Pass
Westmoreland	2	0	0	0.7	B	0	0	0	0	0.0	A	8.4	Pass
Wyoming	DNC	DNC	DNC	DNC	DNC	INC	INC	INC	INC	INC	INC	INC	INC
York	1	0	0	0.3	B	0	0	0	0	0.0	A	9.1	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	People of Color	Poverty	Ever Smoked
Kent	164,292	30,602	31,822	2,653	14,997	9,649	102	11,385	20,634	13,152	54,403
Providence	638,931	130,874	99,783	11,346	57,127	33,161	398	38,113	255,089	85,644	199,072
Washington	125,577	20,291	26,959	1,759	11,784	7,705	78	9,165	11,540	9,524	42,995

RHODE ISLAND

American Lung Association in Rhode Island

HIGH OZONE DAYS 2017–2019

County	Orange	Red	Purple	Wgt. Avg.	Grade
Kent	11	0	0	3.7	F
Providence	12	0	0	4.0	F
Washington	11	1	0	4.2	F

HIGH PARTICLE POLLUTION DAYS 2017–2019

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Kent	0	0	0	0	0.0	A	4.9	Pass
Providence	0	0	0	0	0.0	A	8.5	Pass
Washington	0	0	0	0	0.0	A	4.8	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	People of Color	Poverty	Ever Smoked
Aiken	170,872	36,539	33,992	2,689	12,683	11,271	107	15,144	58,510	21,071	58,677
Anderson	202,558	45,900	37,126	3,378	14,866	12,928	127	17,193	46,330	25,717	68,148
Berkeley	227,907	54,159	32,276	3,985	16,716	13,228	144	16,727	83,711	23,953	73,750
Charleston	411,406	80,015	69,826	5,888	31,626	25,799	258	33,166	143,189	46,853	141,253
Chesterfield	45,650	9,973	8,685	734	3,382	3,000	29	4,029	18,249	8,937	15,632
Colleton	37,677	8,459	7,803	622	2,748	2,503	24	3,402	16,116	7,823	12,848
Darlington	66,618	14,662	12,991	1,079	4,912	4,361	42	5,857	30,321	12,767	22,713
Edgefield	27,260	4,841	5,302	356	2,128	1,850	17	2,459	11,674	3,839	9,752
Florence	138,293	32,514	24,062	2,393	10,061	8,575	86	11,287	67,436	22,950	45,737
Greenville	523,542	119,973	84,528	8,828	38,572	31,822	329	41,176	167,724	54,815	173,036
Horry	354,081	62,199	88,809	4,577	27,151	26,115	222	36,368	78,968	44,197	129,997
Lexington	298,750	68,842	48,450	5,066	21,988	18,384	188	23,967	77,223	35,210	99,165
Oconee	79,546	15,781	18,743	1,161	5,952	5,659	50	7,842	12,662	10,268	28,349
Pickens	126,884	23,626	21,240	1,739	9,862	7,913	80	10,077	18,809	18,055	43,758
Richland	415,759	88,924	54,857	6,543	31,552	23,701	261	29,031	243,360	62,567	136,436
Spartanburg	319,785	73,812	52,487	5,431	23,489	19,558	201	25,435	103,082	40,129	105,766
York	280,979	67,516	41,402	4,968	20,517	16,725	176	21,513	85,012	23,679	91,581

SOUTH CAROLINA

American Lung Association in South Carolina

	HIGH OZONE DAYS 2017–2019				
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	2	0	0	0.7	B
Chesterfield	1	0	0	0.3	B
Colleton	INC	INC	INC	INC	INC
Darlington	0	0	0	0.0	A
Edgefield	0	0	0	0.0	A
Florence	DNC	DNC	DNC	DNC	DNC
Greenville	1	0	0	0.3	B
Horry	0	0	0	0.0	A
Lexington	DNC	DNC	DNC	DNC	DNC
Oconee	1	0	0	0.3	B
Pickens	0	0	0	0.0	A
Richland	4	0	0	1.3	C
Spartanburg	3	0	0	1.0	C
York	12	0	0	4.0	F

	HIGH PARTICLE POLLUTION DAYS 2017–2019							
	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	0	0	0	0	0.0	A	7.1	Pass
Chesterfield	0	0	0	0	0.0	A	INC	INC
Colleton	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Darlington	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Edgefield	0	0	0	0	0.0	A	7.7	Pass
Florence	0	0	0	0	0.0	A	INC	INC
Greenville	0	0	0	0	0.0	A	7.8	Pass
Horry	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Lexington	0	0	0	0	0.0	A	7.7	Pass
Oconee	0	0	0	0	0.0	A	INC	INC
Pickens	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Richland	0	0	0	0	0.0	A	7.6	Pass
Spartanburg	0	0	0	0	0.0	A	7.7	Pass
York	INC	INC	INC	INC	INC	INC	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	People of Color	Poverty	Ever Smoked
Brookings	35,077	7,241	4,377	533	2,492	1,356	20	1,786	3,537	3,767	12,248
Brown	38,839	9,205	6,959	677	2,506	1,759	22	2,507	5,370	3,526	13,228
Codington	28,009	6,645	5,135	489	1,792	1,296	16	1,858	2,110	2,691	9,559
Custer	8,972	1,326	2,840	98	594	571	5	880	966	834	3,470
Hughes	17,526	4,241	3,158	312	1,116	803	10	1,149	3,225	1,491	5,943
Jackson	3,344	1,165	451	86	186	125	2	174	2,030	988	971
Meade	28,332	6,339	4,530	466	1,889	1,239	16	1,727	3,615	2,400	9,787
Minnehaha	193,134	48,704	26,041	3,584	12,529	7,841	110	10,709	34,859	16,209	64,200
Pennington	113,775	25,970	21,084	1,911	7,376	5,311	65	7,608	23,034	13,383	39,270
Union	15,932	3,878	2,962	285	1,008	739	9	1,063	1,427	999	5,397

SOUTH DAKOTA

American Lung Association in South Dakota

HIGH OZONE DAYS 2017–2019

County	Orange	Red	Purple	Wgt. Avg.	Grade
Brookings	4	0	0	1.3	C
Brown	DNC	DNC	DNC	DNC	DNC
Codington	DNC	DNC	DNC	DNC	DNC
Custer	0	0	0	0.0	A
Hughes	DNC	DNC	DNC	DNC	DNC
Jackson	0	0	0	0.0	A
Meade	0	0	0	0.0	A
Minnehaha	3	0	0	1.0	C
Pennington	DNC	DNC	DNC	DNC	DNC
Union	2	0	0	0.7	B

HIGH PARTICLE POLLUTION DAYS 2017–2019

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Brookings	0	0	0	0	0.0	A	4.5	Pass
Brown	1	0	0	0	0.3	B	6.1	Pass
Codington	1	0	0	0	0.3	B	7.2	Pass
Custer	2	1	0	0	1.2	C	3.8	Pass
Hughes	1	0	0	0	0.3	B	3.6	Pass
Jackson	3	0	0	0	1.0	C	4.1	Pass
Meade	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Minnehaha	0	0	0	0	0.0	A	5.0	Pass
Pennington	7	1	0	0	2.8	D	6.7	Pass
Union	0	0	0	0	0.0	A	6.2	Pass

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	People of Color	Poverty	Ever Smoked
Anderson	76,978	16,291	15,599	1,587	5,374	6,329	56	7,254	8,578	11,559	27,806
Blount	133,088	26,522	27,372	2,583	9,452	11,183	96	12,812	12,494	13,649	48,903
Claiborne	31,959	6,103	6,477	594	2,289	2,662	23	3,040	1,626	6,021	11,814
Davidson	694,144	143,073	87,023	13,934	48,720	46,940	500	50,314	303,130	84,547	242,420
DeKalb	20,490	4,402	3,855	429	1,432	1,663	15	1,885	2,585	3,624	7,361
Dyer	37,159	8,825	6,670	859	2,513	2,860	27	3,237	7,602	6,298	12,894
Hamilton	367,804	75,957	65,976	7,398	25,812	28,610	265	32,219	107,044	45,523	131,965
Jefferson	54,495	10,444	11,133	1,017	3,920	4,648	39	5,310	4,457	6,622	20,246
Knox	470,313	98,285	76,036	9,572	32,913	35,013	339	38,880	84,804	61,334	166,838
Lawrence	44,142	10,991	7,922	1,070	2,942	3,377	32	3,830	2,947	7,250	15,117
Loudon	54,068	10,339	14,536	1,007	3,828	4,965	39	5,915	6,952	5,182	20,397
McMinn	53,794	11,406	10,701	1,111	3,762	4,426	39	5,058	6,096	7,620	19,432
Madison	97,984	21,847	17,201	2,128	6,744	7,512	70	8,456	43,506	16,421	34,479
Maury	96,387	22,433	15,744	2,185	6,575	7,227	69	8,066	20,568	8,059	33,438
Montgomery	208,993	55,939	19,760	5,448	13,561	12,355	151	12,901	78,840	24,633	66,696
Putnam	80,245	16,721	13,459	1,628	5,594	5,945	58	6,638	9,683	12,434	28,441
Roane	53,382	9,937	12,366	968	3,851	4,772	39	5,545	3,998	7,687	20,138
Sevier	98,250	20,023	19,972	1,950	6,948	8,234	71	9,422	10,450	12,541	35,928
Shelby	937,166	232,754	131,371	22,668	62,665	65,570	674	71,880	606,622	157,667	315,402
Sullivan	158,348	30,189	35,185	2,940	11,329	13,692	114	15,842	10,870	23,452	59,022
Sumner	191,283	44,706	31,047	4,354	13,076	14,505	138	16,172	32,441	16,330	66,471
Williamson	238,412	63,932	32,189	6,226	15,734	17,172	172	18,789	38,673	10,228	79,131
Wilson	144,657	33,902	23,186	3,302	9,892	10,964	105	12,203	22,945	10,536	50,237

TENNESSEE

American Lung Association in Tennessee

	HIGH OZONE DAYS 2017–2019					HIGH PARTICLE POLLUTION DAYS 2017–2019							
						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	3	0	0	1.0	C	0	0	0	0	0.0	A	7.1	Pass
Claiborne	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Davidson	6	1	0	2.5	D	0	0	0	0	0.0	A	9.3	Pass
DeKalb	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Dyer	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	7.1	Pass
Hamilton	3	0	0	1.0	C	0	0	0	0	0.0	A	8.2	Pass
Jefferson	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Knox	1	0	0	0.3	B	0	0	0	0	0.0	A	8.5	Pass
Lawrence	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	INC	INC
Loudon	1	0	0	0.3	B	0	0	0	0	0.0	A	6.6	Pass
McMinn	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	7.6	Pass
Madison	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	INC	INC
Maury	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	6.8	Pass
Montgomery	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	INC	INC
Putnam	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	6.9	Pass
Roane	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	7.2	Pass
Sevier	3	0	0	1.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Shelby	14	1	0	5.2	F	0	0	0	0	0.0	A	8.6	Pass
Sullivan	2	0	0	0.7	B	0	0	0	0	0.0	A	7.2	Pass
Sumner	1	0	0	0.3	B	0	0	0	0	0.0	A	6.9	Pass
Williamson	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Wilson	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC

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	People of Color	Poverty	Ever Smoked
Bell	362,924	99,992	40,534	6,818	18,442	12,712	177	19,925	201,172	48,565	90,002
Bexar	2,003,554	506,440	247,843	34,534	105,811	75,210	977	119,254	1,460,879	298,018	517,333
Bowie	93,245	21,981	15,832	1,499	5,141	4,036	46	6,630	34,375	14,627	25,392
Brazoria	374,264	97,720	45,752	6,663	19,696	14,262	183	22,757	204,664	31,116	96,230
Brewster	9,203	1,680	2,231	115	551	475	5	804	4,621	1,198	2,761
Cameron	423,163	126,548	58,607	8,629	21,157	15,848	206	25,619	386,782	106,976	104,070
Collin	1,034,730	265,269	116,575	18,088	54,817	39,192	504	62,210	464,722	62,612	267,021
Culberson	2,171	486	480	33	124	106	1	180	1,699	424	619
Dallas	2,635,516	680,356	292,117	46,393	137,995	96,195	1,285	151,331	1,890,008	363,567	672,411
Denton	887,207	215,494	93,499	14,694	47,563	33,089	432	51,982	375,856	56,476	231,188
Ector	166,223	50,330	15,970	3,432	8,101	5,441	81	8,437	115,653	19,781	39,405
Ellis	184,826	49,008	24,288	3,342	9,732	7,239	90	11,663	76,013	15,932	47,659
El Paso	839,238	224,419	105,175	15,303	43,500	31,168	409	49,574	741,991	154,504	212,912
Galveston	342,139	82,294	50,987	5,612	18,706	14,288	167	23,238	148,193	38,181	91,907
Gregg	123,945	31,871	19,451	2,173	6,612	5,092	60	8,310	53,275	19,832	32,599
Harris	4,713,325	1,245,880	514,167	84,955	244,668	170,252	2,300	267,644	3,360,247	701,075	1,191,937
Harrison	66,553	16,586	11,607	1,131	3,625	2,905	32	4,803	24,602	11,600	17,932
Hidalgo	868,707	279,132	98,328	19,034	41,565	29,396	423	46,535	817,063	231,032	203,317
Hood	61,643	12,993	15,416	886	3,611	3,234	30	5,529	10,172	5,581	18,132
Hunt	98,594	23,496	15,810	1,602	5,422	4,220	48	6,910	29,145	14,114	26,711
Jefferson	251,565	60,531	37,595	4,128	13,677	10,324	123	16,729	152,539	39,998	67,240
Johnson	175,817	45,595	25,151	3,109	9,357	7,097	86	11,514	52,628	19,035	45,949
Kaufman	136,154	38,006	16,113	2,592	6,984	5,041	66	8,035	54,724	13,108	34,118
Kleberg	30,680	7,339	4,046	500	1,630	1,134	15	1,785	24,551	6,804	7,993
Lubbock	310,569	73,525	39,476	5,014	16,624	11,599	151	18,275	147,036	53,478	81,349
McLennan	256,623	62,912	37,728	4,290	13,767	10,199	125	16,427	114,383	44,574	67,700
Maverick	58,722	18,175	7,003	1,239	2,864	2,048	29	3,255	57,145	15,491	14,027
Montgomery	607,391	158,440	81,457	10,804	32,220	24,114	296	38,933	216,298	53,807	157,855
Navarro	50,113	13,233	8,651	902	2,679	2,158	24	3,573	22,713	6,586	13,259
Nueces	362,294	88,059	54,069	6,005	19,603	14,751	177	23,879	258,352	58,465	96,398
Orange	83,396	20,652	13,729	1,408	4,539	3,574	41	5,873	16,862	10,307	22,395
Parker	142,878	35,332	22,331	2,409	7,797	6,109	70	10,020	24,824	11,524	38,375
Polk	51,353	10,206	9,733	696	3,013	2,470	25	4,111	14,959	7,839	14,905
Potter	117,415	32,014	15,203	2,183	6,073	4,435	58	7,102	66,663	22,514	29,757
Randall	137,713	32,912	21,424	2,244	7,488	5,665	67	9,191	41,353	12,178	36,879
Rockwall	104,915	27,941	13,395	1,905	5,526	4,110	51	6,620	32,561	4,991	27,030
Smith	232,751	56,769	39,337	3,871	12,670	9,918	113	16,276	95,080	29,285	62,610
Tarrant	2,102,515	547,232	244,511	37,315	110,367	78,590	1,023	124,620	1,149,353	211,454	538,453
Travis	1,273,954	270,379	129,553	18,437	70,128	46,632	623	71,997	651,615	134,983	340,480
Victoria	92,084	23,253	15,242	1,586	4,948	3,853	45	6,313	51,680	12,924	24,444
Webb	276,652	89,656	26,921	6,114	13,140	9,006	135	14,078	266,604	57,053	63,975

TEXAS

American Lung Association in Texas

	HIGH OZONE DAYS 2017–2019					HIGH PARTICLE POLLUTION DAYS 2017–2019							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Bell	12	0	0	4.0	F	INC	INC	INC	INC	INC	INC	INC	INC
Bexar	18	1	0	6.5	F	2	0	0	0	0.7	B	8.4	Pass
Bowie	DNC	DNC	DNC	DNC	DNC	2	0	0	0	0.7	B	9.2	Pass
Brazoria	16	3	0	6.8	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Brewster	0	0	0	0.0	A	0	0	0	0	0.0	A	INC	INC
Cameron	0	0	0	0.0	A	0	0	0	0	0.0	A	9.9	Pass
Collin	30	1	0	10.5	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Culberson	INC	INC	INC	INC	INC	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Dallas	26	1	0	9.2	F	3	2	0	0	2.0	C	9.2	Pass
Denton	34	1	0	11.8	F	INC	INC	INC	INC	INC	INC	INC	INC
Ector	DNC	DNC	DNC	DNC	DNC	INC	INC	INC	INC	INC	INC	INC	INC
Ellis	8	0	0	2.7	D	1	0	0	0	0.3	B	INC	INC
El Paso	33	2	0	12.0	F	1	0	0	0	0.3	B	8.8	Pass
Galveston	21	0	1	7.7	F	1	0	0	0	0.3	B	7.0	Pass
Gregg	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Harris	55	12	2	25.7	F	4	1	0	0	1.8	C	10.3	Pass
Harrison	0	0	0	0.0	A	1	0	0	0	0.3	B	8.4	Pass
Hidalgo	0	0	0	0.0	A	6	0	0	0	2.0	C	10.8	Pass
Hood	9	0	0	3.0	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hunt	3	1	0	1.5	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Jefferson	15	1	0	5.5	F	1	0	0	0	0.3	B	INC	INC
Johnson	22	1	0	7.8	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Kaufman	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Kleberg	DNC	DNC	DNC	DNC	DNC	INC	INC	INC	INC	INC	INC	INC	INC
Lubbock	DNC	DNC	DNC	DNC	DNC	INC	INC	INC	INC	INC	INC	INC	INC
McLennan	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Maverick	DNC	DNC	DNC	DNC	DNC	INC	INC	INC	INC	INC	INC	INC	INC
Montgomery	22	1	0	7.8	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Navarro	3	0	0	1.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Nueces	0	0	0	0.0	A	1	0	0	0	0.3	B	9.0	Pass
Orange	7	0	0	2.3	D	0	0	0	0	0.0	A	INC	INC
Parker	6	1	0	2.5	D	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	INC	INC	INC	INC	INC	INC	INC	INC
Randall	12	0	0	4.0	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Rockwall	8	0	0	2.7	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Smith	3	0	0	1.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Tarrant	41	3	0	15.2	F	0	0	0	0	0.0	A	8.5	Pass
Travis	10	0	0	3.3	F	5	0	0	0	1.7	C	9.8	Pass
Victoria	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Webb	0	0	0	0.0	A	INC	INC	INC	INC	INC	INC	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	People of Color	Poverty	Ever Smoked
Box Elder	56,046	17,462	7,399	1,002	3,816	1,674	14	2,406	7,461	4,147	9,584
Cache	128,289	38,606	12,570	2,215	8,942	3,386	33	4,409	21,113	16,243	21,571
Carbon	20,463	5,244	3,688	301	1,494	717	5	1,085	3,503	3,255	3,838
Davis	355,481	112,807	36,638	6,473	24,148	9,768	91	13,335	59,665	19,344	59,489
Duchesne	19,938	6,664	2,481	382	1,314	572	5	818	3,062	2,787	3,294
Garfield	5,051	1,161	1,214	67	378	203	1	324	598	460	1,000
Iron	54,839	15,590	7,070	895	3,890	1,631	14	2,281	7,780	7,013	9,631
Salt Lake	1,160,437	309,145	130,051	17,739	84,689	34,385	296	47,060	344,482	103,036	208,809
San Juan	15,308	4,486	2,281	257	1,067	491	4	725	8,528	3,295	2,717
Tooele	72,259	23,232	6,748	1,333	4,888	1,944	18	2,624	12,676	3,829	12,013
Uintah	35,734	11,753	4,022	674	2,380	995	9	1,389	6,618	3,920	5,909
Utah	636,235	209,285	50,490	12,009	42,706	15,502	162	19,519	116,385	60,411	102,167
Washington	177,556	45,381	39,067	2,604	12,876	6,627	45	10,371	28,771	16,590	33,574
Weber	260,213	72,447	30,870	4,157	18,647	7,765	66	10,807	63,565	17,647	46,261

UTAH

American Lung Association in Utah

	HIGH OZONE DAYS 2017–2019				
County	Orange	Red	Purple	Wgt. Avg.	Grade
Box Elder	7	1	0	2.8	D
Cache	2	0	0	0.7	B
Carbon	6	0	0	2.0	C
Davis	36	1	0	12.5	F
Duchesne	21	7	0	10.5	F
Garfield	4	0	0	1.3	C
Iron	INC	INC	INC	INC	INC
Salt Lake	79	2	0	27.3	F
San Juan	7	0	0	2.3	D
Tooele	24	0	0	8.0	F
Uintah	23	11	3	15.2	F
Utah	29	1	0	10.2	F
Washington	2	0	0	0.7	B
Weber	32	1	0	11.2	F

	HIGH PARTICLE POLLUTION DAYS 2017–2019							
	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Box Elder	14	1	0	0	5.2	F	INC	INC
Cache	32	4	0	0	12.7	F	7.1	Pass
Carbon	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Davis	10	0	0	0	3.3	F	7.5	Pass
Duchesne	4	0	0	0	1.3	C	6.4	Pass
Garfield	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Iron	INC	INC	INC	INC	INC	INC	INC	INC
Salt Lake	21	1	0	0	7.5	F	8.1	Pass
San Juan	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Tooele	6	0	0	0	2.0	C	6.6	Pass
Uintah	0	0	0	0	0.0	A	5.5	Pass
Utah	14	9	0	0	9.2	F	7.4	Pass
Washington	0	0	0	0	0.0	A	4.9	Pass
Weber	9	3	0	0	4.5	F	INC	INC

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	People of Color	Poverty	Ever Smoked
Bennington	35,470	6,608	8,288	537	3,311	2,077	20	2,765	2,243	3,399	13,111
Chittenden	163,774	28,538	25,481	2,317	16,181	7,884	94	10,029	19,194	16,084	59,202
Rutland	58,191	10,218	13,232	830	5,525	3,413	33	4,508	2,859	6,033	21,749

VERMONT

American Lung Association in Vermont

HIGH OZONE DAYS 2017–2019

County	Orange	Red	Purple	Wgt. Avg.	Grade
Bennington	2	0	0	0.7	B
Chittenden	0	0	0	0.0	A
Rutland	0	0	0	0.0	A

HIGH PARTICLE POLLUTION DAYS 2017–2019

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Bennington	0	0	0	0	0.0	A	5.6	Pass
Chittenden	0	0	0	0	0.0	A	6.1	Pass
Rutland	0	0	0	0	0.0	A	7.4	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	People of Color	Poverty	Ever Smoked
Albemarle	109,330	21,553	21,155	1,586	7,688	5,877	57	7,553	25,285	6,882	33,011
Arlington	236,842	42,954	26,282	3,161	17,202	10,900	124	12,201	91,537	17,774	69,381
Caroline	30,725	7,007	5,206	516	2,076	1,582	16	2,020	11,296	2,883	8,935
Charles City	6,963	1,024	1,775	75	514	448	4	616	3,925	870	2,327
Chesterfield	352,802	83,011	54,353	6,108	23,653	17,586	183	22,088	138,921	22,943	100,998
Fairfax	1,147,532	266,825	160,461	19,634	77,368	55,849	599	68,719	573,200	68,543	327,142
Fauquier	71,222	16,452	12,072	1,211	4,783	3,726	37	4,811	14,949	4,310	20,796
Frederick	89,313	20,307	15,939	1,494	6,030	4,689	47	6,064	15,825	5,731	26,149
Giles	16,720	3,409	3,737	251	1,158	963	9	1,297	892	1,890	5,138
Hanover	107,766	23,347	19,790	1,718	7,367	5,817	56	7,583	17,828	5,393	32,154
Henrico	330,818	74,158	52,720	5,457	22,513	16,683	172	20,936	158,283	28,486	95,917
Loudoun	413,538	115,266	40,150	8,482	26,297	17,847	216	20,912	187,012	12,909	109,192
Madison	13,261	2,671	3,036	197	920	776	7	1,053	2,078	1,224	4,107
Prince Edward	22,802	3,648	3,869	268	1,690	1,177	12	1,426	8,843	3,852	7,007
Prince William	470,335	126,300	48,523	9,294	30,344	20,571	246	24,130	275,097	28,463	125,787
Roanoke	94,186	18,518	20,534	1,363	6,591	5,378	49	7,171	13,969	5,918	29,033
Rockbridge	22,573	3,870	6,048	285	1,621	1,416	12	1,962	1,835	2,525	7,317
Rockingham	81,948	17,828	15,971	1,312	5,600	4,418	43	5,774	9,937	6,482	24,367
Stafford	152,882	39,639	16,417	2,917	9,981	6,830	80	8,067	62,210	8,097	41,512
Wythe	28,684	5,675	6,350	418	2,000	1,664	15	2,239	1,873	3,645	8,886
Bristol City	16,762	3,371	3,624	248	1,168	944	9	1,254	2,036	3,604	5,121
Hampton City	134,510	28,167	21,177	2,073	9,353	6,729	70	8,298	84,179	17,926	39,364
Lynchburg City	82,168	15,929	11,906	1,172	5,869	3,865	43	4,498	30,738	11,947	23,854
Norfolk City	242,742	47,017	28,107	3,460	17,376	10,978	128	12,292	137,586	39,553	69,890
Richmond City	230,436	39,686	31,809	2,920	16,868	11,271	120	13,193	133,172	42,010	69,156
Salem City	25,301	4,929	4,810	363	1,783	1,372	13	1,767	3,809	2,197	7,685
Suffolk City	92,108	21,956	13,704	1,616	6,152	4,549	48	5,689	47,064	8,906	26,232
Virginia Beach City	449,974	98,974	66,399	7,283	30,890	21,969	234	26,852	175,155	31,898	129,584

VIRGINIA

American Lung Association in Virginia

	HIGH OZONE DAYS 2017–2019					HIGH PARTICLE POLLUTION DAYS 2017–2019							
						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	6.4	Pass
Arlington	7	0	0	2.3	D	0	0	0	0	0.0	A	7.7	Pass
Caroline	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Charles City	1	0	0	0.3	B	0	0	0	0	0.0	A	6.7	Pass
Chesterfield	0	0	0	0.0	A	0	0	0	0	0.0	A	6.8	Pass
Fairfax	4	0	0	1.3	C	0	0	0	0	0.0	A	7.0	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	7.4	Pass
Giles	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hanover	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Henrico	1	1	0	0.8	B	0	0	0	0	0.0	A	7.1	Pass
Loudoun	1	0	0	0.3	B	0	0	0	0	0.0	A	7.2	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	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Roanoke	0	0	0	0.0	A	0	0	0	0	0.0	A	6.5	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	6.9	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	6.8	Pass
Hampton City	0	0	0	0.0	A	0	0	0	0	0.0	A	6.3	Pass
Lynchburg City	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	6.4	Pass
Norfolk City	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	6.9	Pass
Richmond City	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	INC	INC
Salem City	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	6.9	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

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	People of Color	Poverty	Ever Smoked
Benton	204,390	54,272	31,460	3,967	15,041	7,826	102	11,445	62,570	21,437	56,822
Chelan	77,200	17,906	15,169	1,309	5,935	3,368	39	5,097	25,034	9,332	22,997
Clallam	77,331	12,945	23,554	946	6,420	4,298	39	6,924	13,601	8,476	26,198
Clark	488,241	114,686	77,942	8,383	37,467	19,751	244	28,817	109,845	44,548	142,173
King	2,252,782	451,616	304,315	33,012	180,603	86,327	1,129	121,701	944,532	171,116	666,488
Kitsap	271,473	54,936	49,858	4,016	21,679	11,683	136	17,373	65,270	19,787	82,707
Kittitas	47,935	8,066	8,030	590	3,986	1,968	24	2,869	7,804	6,326	14,813
Okanogan	42,243	9,833	9,311	719	3,243	1,956	21	3,016	15,082	6,828	12,808
Pierce	904,980	210,453	128,408	15,384	69,641	34,604	453	49,515	310,595	83,128	259,772
Skagit	129,205	27,780	27,780	2,031	10,144	5,914	65	9,061	33,487	14,314	39,620
Snohomish	822,083	184,110	114,832	13,458	64,065	32,193	412	45,780	262,277	56,935	239,959
Spokane	522,798	114,853	86,623	8,396	40,867	21,347	262	31,293	83,627	65,750	154,547
Stevens	45,723	9,686	10,914	708	3,610	2,272	23	3,525	6,243	6,738	14,466
Thurston	290,536	61,708	51,871	4,511	22,913	12,276	145	18,204	75,268	26,105	87,272
Whatcom	229,247	43,954	41,205	3,213	18,530	9,650	115	14,295	49,786	28,310	69,933
Yakima	250,873	73,950	35,213	5,406	17,723	8,972	126	13,013	144,698	41,218	66,419

WASHINGTON

American Lung Association in Washington

	HIGH OZONE DAYS 2017–2019				
County	Orange	Red	Purple	Wgt. Avg.	Grade
Benton	14	0	0	4.7	F
Chelan	DNC	DNC	DNC	DNC	DNC
Clallam	0	0	0	0.0	A
Clark	4	0	0	1.3	C
King	12	6	0	7.0	F
Kitsap	DNC	DNC	DNC	DNC	DNC
Kittitas	DNC	DNC	DNC	DNC	DNC
Okanogan	DNC	DNC	DNC	DNC	DNC
Pierce	4	0	0	1.3	C
Skagit	0	0	0	0.0	A
Snohomish	DNC	DNC	DNC	DNC	DNC
Spokane	5	0	0	1.7	C
Stevens	DNC	DNC	DNC	DNC	DNC
Thurston	2	1	0	1.2	C
Whatcom	2	0	0	0.7	B
Yakima	DNC	DNC	DNC	DNC	DNC

	HIGH PARTICLE POLLUTION DAYS 2017–2019							
	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Benton	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Chelan	INC	INC	INC	INC	INC	INC	INC	INC
Clallam	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Clark	10	3	0	0	4.8	F	7.8	Pass
King	11	7	0	0	7.2	F	9.0	Pass
Kitsap	6	3	0	0	3.5	F	4.9	Pass
Kittitas	17	6	2	0	10.0	F	8.3	Pass
Okanogan	7	22	1	1	14.8	F	INC	INC
Pierce	11	8	0	0	7.7	F	8.2	Pass
Skagit	3	3	0	0	2.5	D	5.8	Pass
Snohomish	19	7	0	0	9.8	F	8.2	Pass
Spokane	13	7	4	0	10.5	F	9.6	Pass
Stevens	INC	INC	INC	INC	INC	INC	INC	INC
Thurston	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Whatcom	6	3	0	0	3.5	F	5.0	Pass
Yakima	30	12	3	0	18.0	F	10.0	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	People of Color	Poverty	Ever Smoked
Berkeley	119,171	27,453	17,935	2,585	10,793	10,717	98	12,450	19,566	12,942	46,017
Brooke	21,939	3,823	5,393	360	2,089	2,357	18	2,886	959	2,551	9,113
Cabell	91,945	18,076	17,866	1,702	8,490	8,618	76	10,248	9,105	16,337	36,802
Gilmer	7,823	1,120	1,386	105	773	742	7	863	1,443	1,536	3,330
Greenbrier	34,662	6,762	8,136	637	3,226	3,628	29	4,430	2,592	5,814	14,046
Hancock	28,810	5,460	6,841	514	2,710	3,080	24	3,765	1,855	3,559	11,782
Harrison	67,256	14,247	13,300	1,341	6,175	6,595	55	7,898	4,061	7,353	26,647
Kanawha	178,124	35,560	37,741	3,348	16,533	17,887	146	21,565	21,906	28,499	71,620
Marion	56,072	11,222	11,084	1,057	5,182	5,383	46	6,426	3,977	7,939	22,427
Marshall	30,531	5,835	7,021	549	2,866	3,211	25	3,909	1,045	4,081	12,446
Monongalia	105,612	17,254	13,964	1,624	10,152	8,698	87	9,743	12,356	18,887	43,496
Ohio	41,411	7,935	9,205	747	3,855	4,172	34	5,052	3,333	5,504	16,773
Tucker	6,839	1,008	1,835	95	674	785	6	969	193	1,014	2,944
Wood	83,518	17,457	17,464	1,644	7,689	8,386	69	10,112	4,083	11,627	33,253

WEST VIRGINIA

American Lung Association in West Virginia

	HIGH OZONE DAYS 2017–2019					HIGH PARTICLE POLLUTION DAYS 2017–2019							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Berkeley	0	0	0	0.0	A	2	0	0	0	0.7	B	8.5	Pass
Brooke	DNC	DNC	DNC	DNC	DNC	1	0	0	0	0.3	B	9.2	Pass
Cabell	2	0	0	0.7	B	0	0	0	0	0.0	A	INC	INC
Gilmer	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Greenbrier	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Hancock	1	0	0	0.3	B	0	0	0	0	0.0	A	INC	INC
Harrison	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	7.3	Pass
Kanawha	2	0	0	0.7	B	0	0	0	0	0.0	A	7.9	Pass
Marion	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	7.6	Pass
Marshall	DNC	DNC	DNC	DNC	DNC	0	0	0	0	0.0	A	9.2	Pass
Monongalia	0	0	0	0.0	A	0	0	0	0	0.0	A	7.1	Pass
Ohio	1	0	0	0.3	B	0	0	0	0	0.0	A	7.9	Pass
Tucker	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Wood	0	0	0	0.0	A	0	0	0	0	0.0	A	7.9	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	People of Color	Poverty	Ever Smoked
Ashland	15,562	3,427	3,151	146	1,229	728	9	986	2,772	2,655	5,223
Brown	264,542	62,218	40,806	2,645	20,679	10,961	150	14,032	52,101	25,456	84,696
Columbia	57,532	12,099	10,579	514	4,622	2,657	33	3,502	4,445	3,776	19,423
Dane	546,695	110,268	77,771	4,687	44,754	21,596	310	27,031	113,526	50,163	178,393
Dodge	87,839	17,173	15,996	730	7,196	4,082	50	5,347	9,166	6,512	30,107
Door	27,668	4,497	8,437	191	2,306	1,609	16	2,353	1,843	2,549	10,408
Eau Claire	104,646	21,086	16,958	896	8,534	4,284	59	5,536	10,921	10,586	34,447
Fond du Lac	103,403	21,953	19,652	933	8,272	4,750	59	6,327	11,345	7,326	34,780
Forest	9,004	1,774	2,078	75	729	458	5	634	1,944	1,443	3,162
Grant	51,439	10,650	9,079	453	4,153	2,190	29	2,887	2,636	6,278	17,018
Jefferson	84,769	17,641	14,975	750	6,839	3,845	48	5,022	9,110	5,824	28,531
Kenosha	169,561	38,003	24,706	1,615	13,480	7,123	96	8,948	41,727	16,248	55,095
Kewaunee	20,434	4,390	4,276	187	1,623	983	12	1,337	1,196	1,496	6,947
La Crosse	118,016	23,134	19,934	983	9,680	4,987	67	6,486	12,338	13,280	39,371
Manitowoc	78,981	16,146	16,680	686	6,358	3,873	45	5,255	8,067	6,899	27,260
Marathon	135,692	30,724	24,682	1,306	10,672	6,096	77	8,065	15,954	11,026	44,776
Milwaukee	945,726	225,421	132,290	9,582	73,815	36,747	536	46,209	466,965	156,647	296,780
Outagamie	187,885	43,823	28,662	1,863	14,733	7,857	107	10,013	24,241	13,110	60,428
Ozaukee	89,221	18,950	18,165	806	7,118	4,260	51	5,752	8,018	3,926	30,340
Racine	196,311	44,900	33,642	1,909	15,428	8,660	111	11,300	56,209	23,688	64,330
Rock	163,354	37,402	27,898	1,590	12,834	7,140	93	9,321	28,914	19,755	53,375
Sauk	64,442	14,617	12,281	621	5,056	2,932	37	3,924	6,164	6,471	21,328
Sheboygan	115,340	25,229	21,394	1,072	9,159	5,256	66	6,968	19,019	9,051	38,486
Taylor	20,343	4,750	3,980	202	1,581	955	12	1,283	956	1,942	6,755
Vilas	22,195	3,746	6,886	159	1,834	1,318	13	1,931	3,353	2,460	8,365
Walworth	103,868	21,036	19,065	894	8,428	4,720	59	6,225	15,225	9,532	35,143
Waukesha	404,198	86,052	77,551	3,658	32,306	18,951	229	25,228	48,561	18,915	136,703

WISCONSIN

American Lung Association in Wisconsin

	HIGH OZONE DAYS 2017–2019					HIGH PARTICLE POLLUTION DAYS 2017–2019							
						24-Hour						Annual	
County	Orange	Red	Purple	Wgt. Avg.	Grade	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Ashland	0	0	0	0.0	A	0	0	0	0	0.0	A	4.6	Pass
Brown	1	0	0	0.3	B	0	0	0	0	0.0	A	6.6	Pass
Columbia	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Dane	1	0	0	0.3	B	1	0	0	0	0.3	B	7.9	Pass
Dodge	4	0	0	1.3	C	1	0	0	0	0.3	B	7.0	Pass
Door	8	0	0	2.7	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Eau Claire	1	0	0	0.3	B	0	0	0	0	0.0	A	7.3	Pass
Fond du Lac	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Forest	0	0	0	0.0	A	0	0	0	0	0.0	A	4.7	Pass
Grant	DNC	DNC	DNC	DNC	DNC	1	0	0	0	0.3	B	7.9	Pass
Jefferson	2	0	0	0.7	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Kenosha	23	3	0	9.2	F	0	0	0	0	0.0	A	7.1	Pass
Kewaunee	6	1	0	2.5	D	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
La Crosse	0	0	0	0.0	A	0	0	0	0	0.0	A	7.3	Pass
Manitowoc	9	2	0	4.0	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Marathon	0	0	0	0.0	A	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Milwaukee	11	1	0	4.2	F	0	0	0	0	0.0	A	8.3	Pass
Outagamie	2	0	0	0.7	B	1	0	0	0	0.3	B	6.8	Pass
Ozaukee	16	2	0	6.3	F	0	0	0	0	0.0	A	6.3	Pass
Racine	21	2	0	8.0	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Rock	1	0	0	0.3	B	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Sauk	1	0	0	0.3	B	1	0	0	0	0.3	B	6.7	Pass
Sheboygan	24	2	0	9.0	F	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Taylor	0	0	0	0.0	A	0	0	0	0	0.0	A	5.9	Pass
Vilas	0	0	0	0.0	A	0	0	0	0	0.0	A	4.7	Pass
Walworth	3	0	0	1.0	C	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Waukesha	4	0	0	1.3	C	0	0	0	0	0.0	A	8.7	Pass

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	People of Color	Poverty	Ever Smoked
Albany	38,880	6,253	4,752	537	3,183	1,643	16	1,963	7,036	5,861	13,634
Big Horn	11,790	2,895	2,578	249	849	686	5	840	1,468	1,400	3,881
Campbell	46,341	12,573	4,969	1,080	3,284	2,023	18	2,317	6,080	3,506	14,337
Carbon	14,800	3,362	2,666	289	1,101	795	6	955	3,413	1,638	4,931
Converse	13,822	3,374	2,379	290	1,005	739	6	879	1,599	1,256	4,513
Fremont	39,261	10,001	7,387	859	2,808	2,121	16	2,562	11,986	4,937	12,675
Goshen	13,211	2,592	2,951	223	1,016	797	5	974	1,958	1,557	4,618
Johnson	8,445	1,827	2,078	157	630	536	3	660	757	751	2,905
Laramie	99,500	22,926	16,390	1,970	7,387	5,100	40	6,090	21,342	9,194	32,859
Natrona	79,858	19,121	12,717	1,643	5,862	4,030	32	4,795	10,943	7,735	26,053
Park	29,194	5,959	7,123	512	2,214	1,832	12	2,259	2,614	2,936	10,166
Sheridan	30,485	6,438	6,607	553	2,301	1,808	12	2,203	2,616	2,500	10,461
Sublette	9,831	2,169	2,017	186	734	574	4	694	1,067	701	3,332
Sweetwater	42,343	10,968	5,489	942	3,041	1,964	17	2,292	8,782	3,453	13,378
Teton	23,464	4,200	3,717	361	1,863	1,238	9	1,462	4,464	1,396	8,236
Uinta	20,226	5,752	3,025	494	1,397	981	8	1,160	2,569	1,699	6,223
Weston	6,927	1,415	1,478	122	528	418	3	505	691	692	2,400

WYOMING

American Lung Association in Wyoming

HIGH OZONE DAYS 2017–2019

County	Orange	Red	Purple	Wgt. Avg.	Grade
Albany	4	0	0	1.3	C
Big Horn	0	0	0	0.0	A
Campbell	2	0	0	0.7	B
Carbon	1	0	0	0.3	B
Converse	0	0	0	0.0	A
Fremont	1	0	0	0.3	B
Goshen	DNC	DNC	DNC	DNC	DNC
Johnson	INC	INC	INC	INC	INC
Laramie	1	0	0	0.3	B
Natrona	0	0	0	0.0	A
Park	INC	INC	INC	INC	INC
Sheridan	INC	INC	INC	INC	INC
Sublette	15	3	0	6.5	F
Sweetwater	5	0	0	1.7	C
Teton	0	0	0	0.0	A
Uinta	2	0	0	0.7	B
Weston	1	0	0	0.3	B

HIGH PARTICLE POLLUTION DAYS 2017–2019

	24-Hour						Annual	
County	Orange	Red	Purple	Maroon	Wgt. Avg.	Grade	Design Value	Pass/ Fail
Albany	0	1	0	0	0.5	B	4.5	Pass
Big Horn	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Campbell	3	3	0	0	2.5	D	3.3	Pass
Carbon	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Converse	1	0	0	0	0.3	B	INC	INC
Fremont	2	0	0	0	0.7	B	7.2	Pass
Goshen	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Johnson	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Laramie	1	2	0	0	1.3	C	4.3	Pass
Natrona	2	0	0	0	0.7	B	4.7	Pass
Park	2	0	0	0	0.7	B	4.0	Pass
Sheridan	3	1	0	0	1.5	C	7.0	Pass
Sublette	1	0	0	0	0.3	B	4.7	Pass
Sweetwater	0	0	0	0	0.0	A	5.1	Pass
Teton	2.0	0.0	0.0	0.0	0.7	B	4.5	Pass
Uinta	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC
Weston	DNC	DNC	DNC	DNC	DNC	DNC	DNC	DNC

About the American Lung Association

The American Lung Association is the leading organization working to save lives by improving lung health and preventing lung disease through education, advocacy and research. The work of the American Lung Association is focused on four strategic imperatives: to defeat lung cancer; to champion clean air for all; to improve the quality of life for those with lung disease and their families; and to create a tobacco-free future. For more information about the American Lung Association, a holder of the coveted 4-star rating from Charity Navigator and a Gold-Level GuideStar Member, or to support the work it does, call 1-800-LUNGUSA (1-800-586-4872) or visit: Lung.org.

American Lung Association®