



# Bridging the Air Quality Information Gap

## Satellite data for health communication

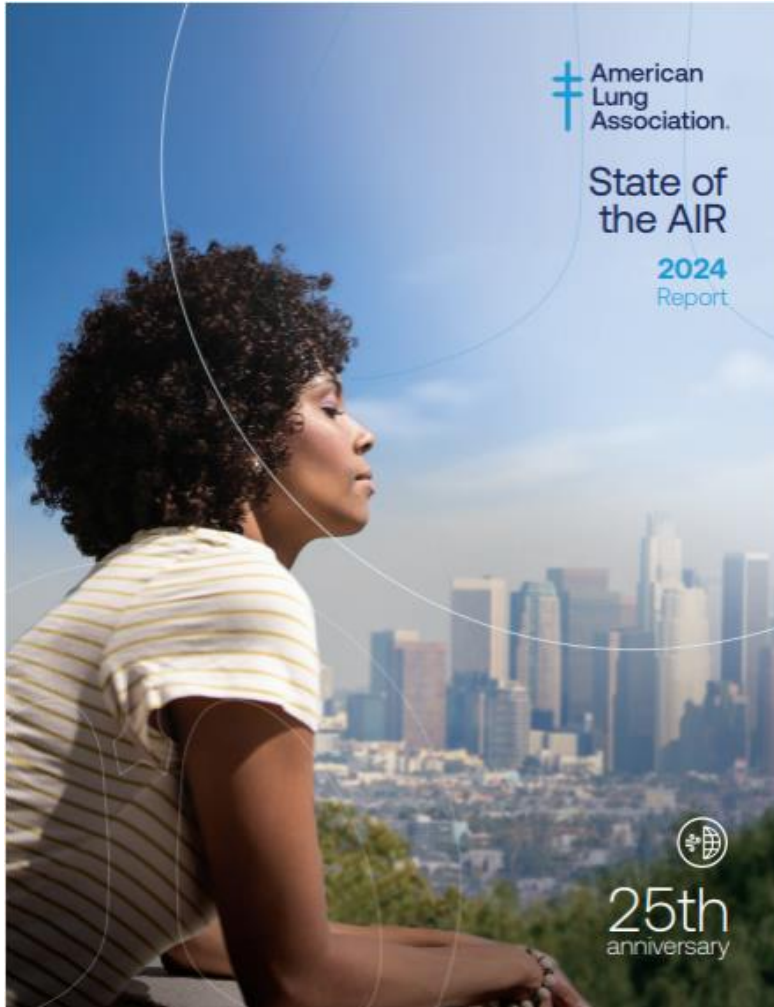
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# Why communicate air quality data

- To advise individuals about the air they breathe and potential health consequences — millions face risk of harm
- To alert populations at risk (children, elderly, individuals with chronic conditions, and communities near highways and industrial zones.)
- To give communities ways to advocate for healthy air
- To encourage and support programs to cut pollution and improve air quality

# “State of the Air” as inspiration



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

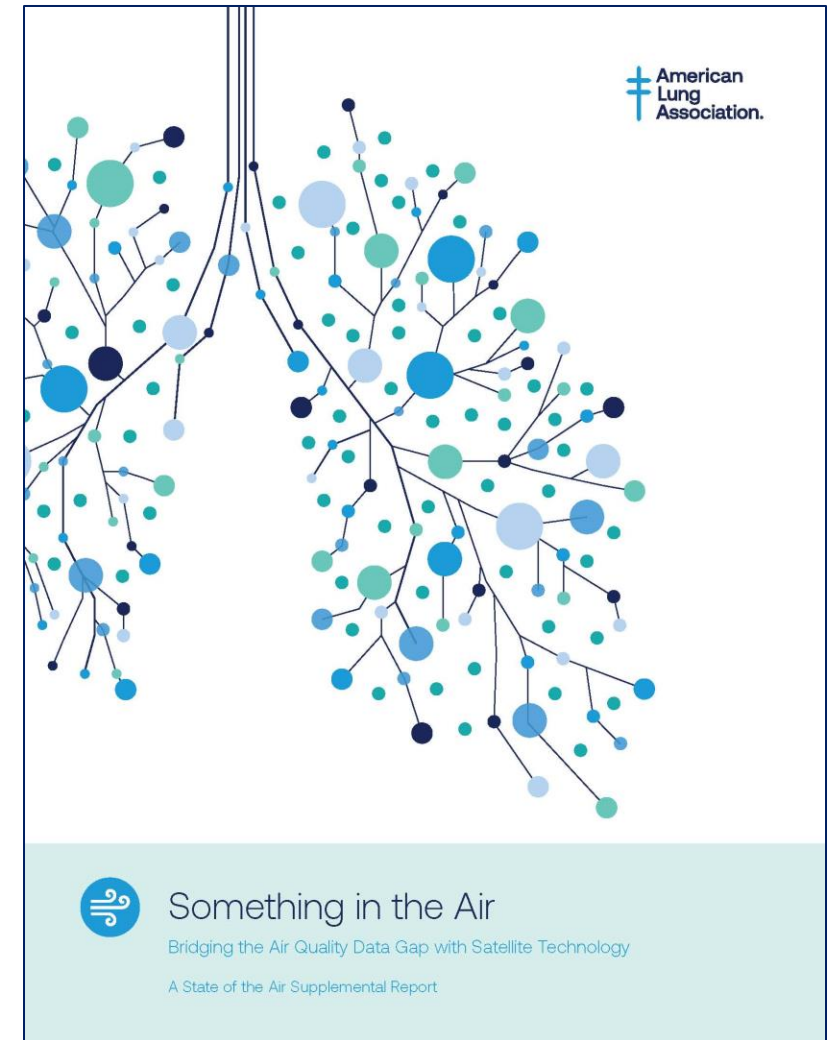
# Bridging the air quality data gap

- Reliance on regulatory monitors leaves some big gaps in “State of the Air”
  - In 2024, only 885 out of 3,143 counties in the U.S. had enough data to be included
  - Focus on large MSAs acknowledges that air pollution and people move around, but obscures intra-urban exposure disparities
- Engaging with HAQAST as a collaborating partner has been an opportunity explore ways to supplement the report

# Something in the Air

- First in a series of reports exploring ways to fill in the gaps in “State of the Air.”
- Examines use of satellite technology to improve data coverage and public health insights.
- Focuses on unmonitored areas that register elevated levels of annual PM<sub>2.5</sub>

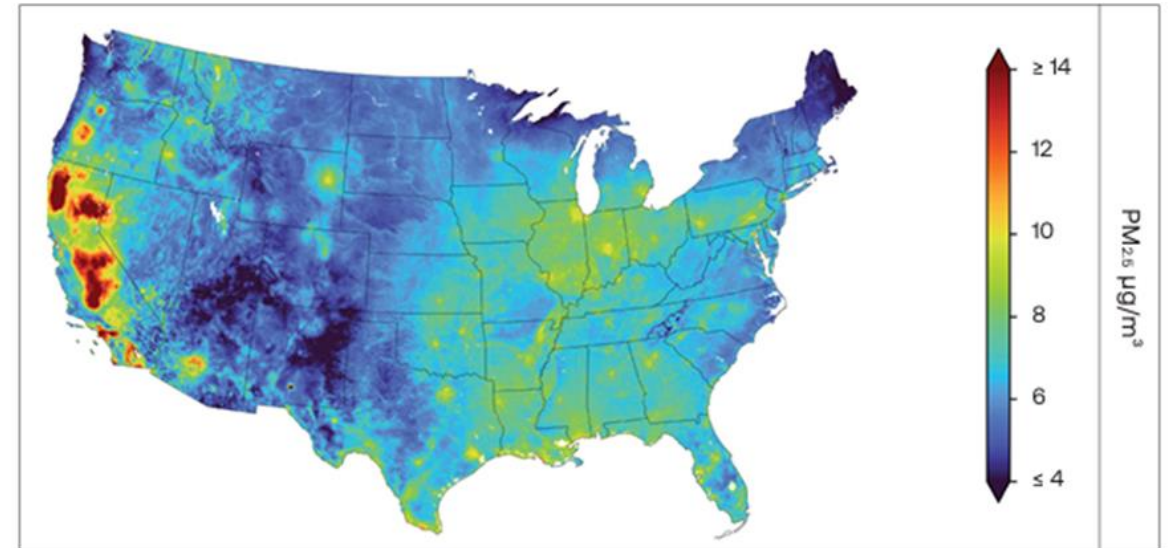
[Lung.org/something-in-the-air](https://Lung.org/something-in-the-air)



# Annual average PM<sub>2.5</sub> from 2020-2022



**Figure 1a:** A map of the contiguous United States with county-level annual design values from 2020-2022 and sourced from the 2022 EPA design value report for fine particulate matter.



**Figure 1b:** A map of the contiguous United States showing estimates for the 3-year (2020-2022) averaged fine particulate matter based on satellite-derived data, V5.GL.04, developed by Washington University at 0.01° by 0.01° spatial resolution.

# Key messages

- Unmonitored does not mean unpolluted.
- Using satellite data to reveal local hotspots in unmonitored areas can provide decision-makers with useful insights for pollution control efforts.
- Researchers and air agencies should continue to work together to make progress on developing and disseminating data fusion products.
- The goal should be to continue refining and enhancing the use of satellite data to augment, not replace, existing monitoring networks.
- Interest in satellite technology isn't just about more data—it's about providing every community with the information they need to protect their health and advocate for cleaner air.



# Our Vision

## A World Free of Lung Disease