



Air pollution's link to dementia

The Institute for Health Metrics and Evaluation (IHME) carried out the largest-ever study synthesizing evidence of air pollution and dementia. Tiny particles of air pollution, known as PM_{2.5}, harm brain tissue and increase a person's risk of developing dementia. Most people in the US are exposed to levels of air pollution that increase their chances of developing this deadly disease.

Air pollution can increase your risk of dementia, even at low levels



Baltimore City Smoke Stack by Artondra Hall.

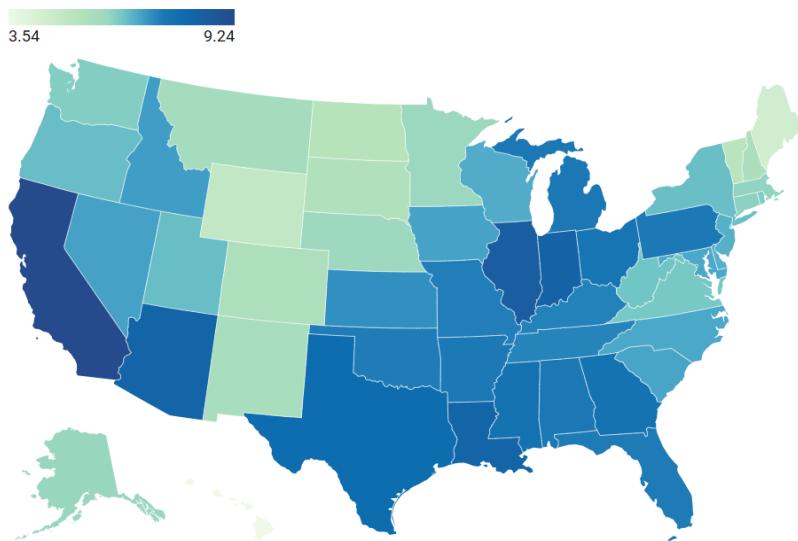
Air pollution increases
the risk of dementia
by at least

14%

Relative to a reference level of air pollution (PM_{2.5}) of 2 µg/m³

People in much of the US breathe polluted air¹

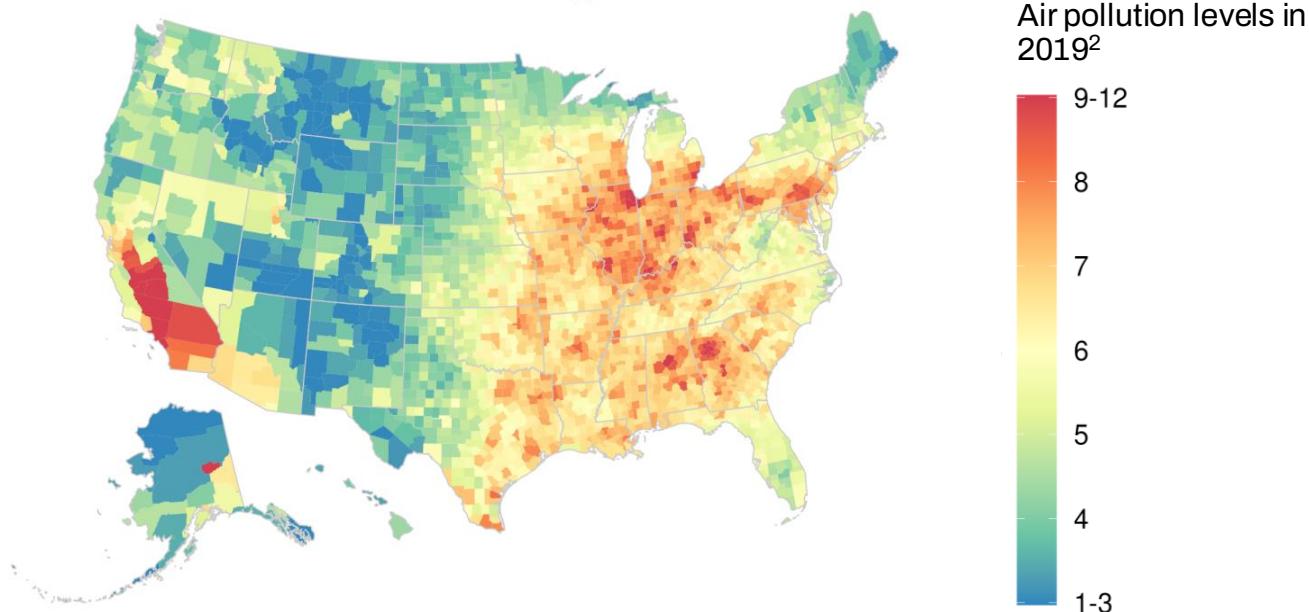
Pollution levels by state in 2022



Hawaii, Maine, and
Wyoming have the cleanest
air in the US.

¹Map shows air pollution (PM_{2.5}) measured in µg/m³.

Air pollution levels vary greatly within states



²Based on exposure to air pollution ($PM_{2.5}$) measured in $\mu g/m^3$.



Air pollution can harm the brain

Air pollution ages the brain by:

- Causing inflammation.
- Damaging brain tissue.
- Increasing the risk of heart disease, which can lead to dementia.

Protecting people from air pollution

- Adjustment of air quality regulations is needed to make the air safer to breathe.
- Current US air pollution guidelines specify levels around **2X** greater than the recommended level.³



³Recommended limit for air pollution ($PM_{2.5}$) is $5 \mu g/m^3$.

About IHME

The Institute for Health Metrics and Evaluation is an independent research organization at the University of Washington. Its mission is to deliver to the world timely, relevant, and scientifically valid evidence to improve health policy and practice.

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