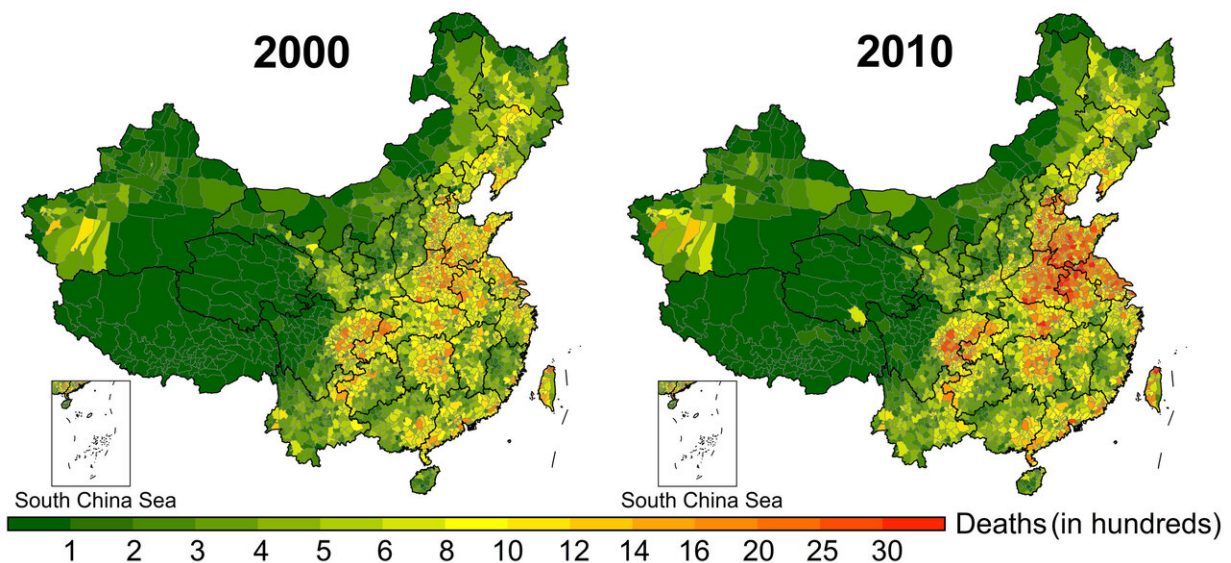


Researchers claim long-term exposure to air pollution in China killed 30.8 million people between 2000 and 2016

September 22 2020, by Bob Yirka



County-level premature deaths attributable to long-term PM2.5 exposures in China in 2000 and 2010. The small box shows the islands in the South China Sea. Credit: Yang Liu.

A team of researchers affiliated with several institutions in China and one in the U.S. has found evidence that suggests as many as 30.8 million people suffered premature deaths in China over the years 2000 to 2016 due to breathing polluted air. In their paper published in *Proceedings of the National Academy of Sciences*, the group describes their study of air

pollution levels in China and premature death rates for people with lung ailments and what they found.

A significant amount of research has been conducted over the past century to understand what happens when people breathe different types of polluted air. In virtually all cases, the impact is negative. People develop lung illnesses and die younger than they would have otherwise. In this new effort, the researchers looked to better understand the actual toll that breathing polluted air is having on people living in China, a country known for its [high levels of air pollution](#).

To learn more, the researchers studied [satellite images](#) from NASA to help them gage the level of [pollution](#) in different parts of China over the years 2000 to 2016. More specifically, they measured concentrations of PM2.5, which are particles in the air that are less than 2.5 micrometers in diameter. The team also used data from pollution emission monitoring stations in China and maps that showed the locations of roads and factories known to be heavy polluters. They also looked at ground cover in the areas under study because it helps remove pollutants from the air. To make premature [death](#) estimates for China, they used data from prior studies that have published premature death rates due to varying amounts of air pollution exposure.

The team compared the average concentration levels of PM2.5 across the country with population levels to calculate likely deaths due to pollution in the air. Their calculations showed that between 1.5 and 2.2 million people died prematurely in China every year due to high concentrations of PM2.5 over the years 2000 to 2016, for a total of approximately 30.8 million [premature deaths](#) overall. They noted also that exposure to high concentrations of PM2.5 can lead to a host of health problems, diminishing the quality of life for those exposed to it.

More information: Fengchao Liang et al. The 17-y spatiotemporal

trend of PM_{2.5} and its mortality burden in China, *Proceedings of the National Academy of Sciences* (2020). [DOI: 10.1073/pnas.1919641117](https://doi.org/10.1073/pnas.1919641117)

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