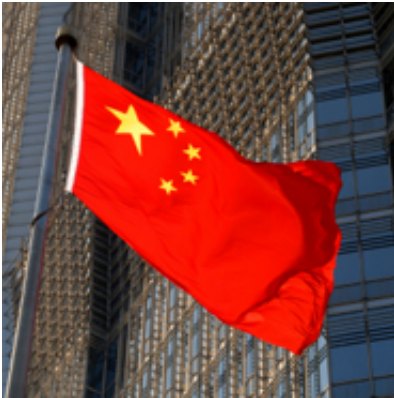


Substantial changes in air pollution across China during 2015 to 2017

October 17 2018



The first detailed analysis of air pollution trends in China reveals a 20 per cent drop in concentrations of particulate pollution over the last three years (2015-2017).

A study by the University of Leeds has examined measurements from more than 1600 locations in China and found that more than 50 per cent of the locations showed a significant decrease in concentrations of [sulphur dioxide](#) and fine particulates that make up a large portion of [air pollution](#).

The team used datasets from 2015 to 2017 consisting of hourly assessments of concentrations of Nitrogen Dioxide (NO₂), Sulphur

Dioxide (SO₂), Ozone (O₃), and fine particles measuring less than 2.5 μm (PM_{2.5}).

The hourly data was used to calculate monthly averages and determine overall concentration levels as well as which regions of China have the highest and lowest concentrations. The data was then used to assess whether pollutant concentrations had changed over the 2015 to 2017 period. The team found that concentrations of PM_{2.5} fell by 7.2% per year over this period and concentrations of SO₂ fell by 10.3% per year. In contrast, O₃ concentrations increased by 5% per year.

Study co-author Professor Dominick Spracklen, from the School of Earth and Environment at Leeds, said: "Rapid economic growth and large increases in emissions has led to serious air quality issues across China. One of the most dangerous components of air pollution is [fine particulate matter](#) that measures less than the width of a human hair. These particles can penetrate deeply into the lungs causing serious health complications. Exposure to these particles is estimated to cause more than 1 million deaths across China each year.

"In response the Chinese government introduced policies to reduce emissions and set ambitious targets to limit the amount of particulates in the atmosphere. This is the first detailed assessment as to whether these policies are having an impact."

Ben Silver, study lead author and post graduate researcher at Leeds, said "Our work shows rapid and extensive changes in air pollution right across China. In particular it is encouraging to see that levels of fine particulate matter have fallen rapidly in the last few years.

"While more research is needed to fully assess what is driving the trends we've uncovered here, particularly what is causing the widespread increase in [ozone concentrations](#), we can see that China's emissions

control policies seem to be on the right track."

More information: Ben Silver et al, Substantial changes in air pollution across China during 2015 to 2017, *Environmental Research Letters* (2018). [DOI: 10.1088/1748-9326/aae718](https://doi.org/10.1088/1748-9326/aae718)

Provided by University of Leeds

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