

# NASA images show fall in China pollution over virus shutdown

March 2 2020

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NASA satellite images show a dramatic fall in pollution over China that is "partly related" to the economic slowdown due to the coronavirus

outbreak, the space agency said.

The reduction in nitrogen dioxide (NO<sub>2</sub>) pollution was first noticed near Wuhan, the epicentre of the outbreak, but eventually spread across China, according to NASA scientists who examined data collected by their and European Space Agency satellites.

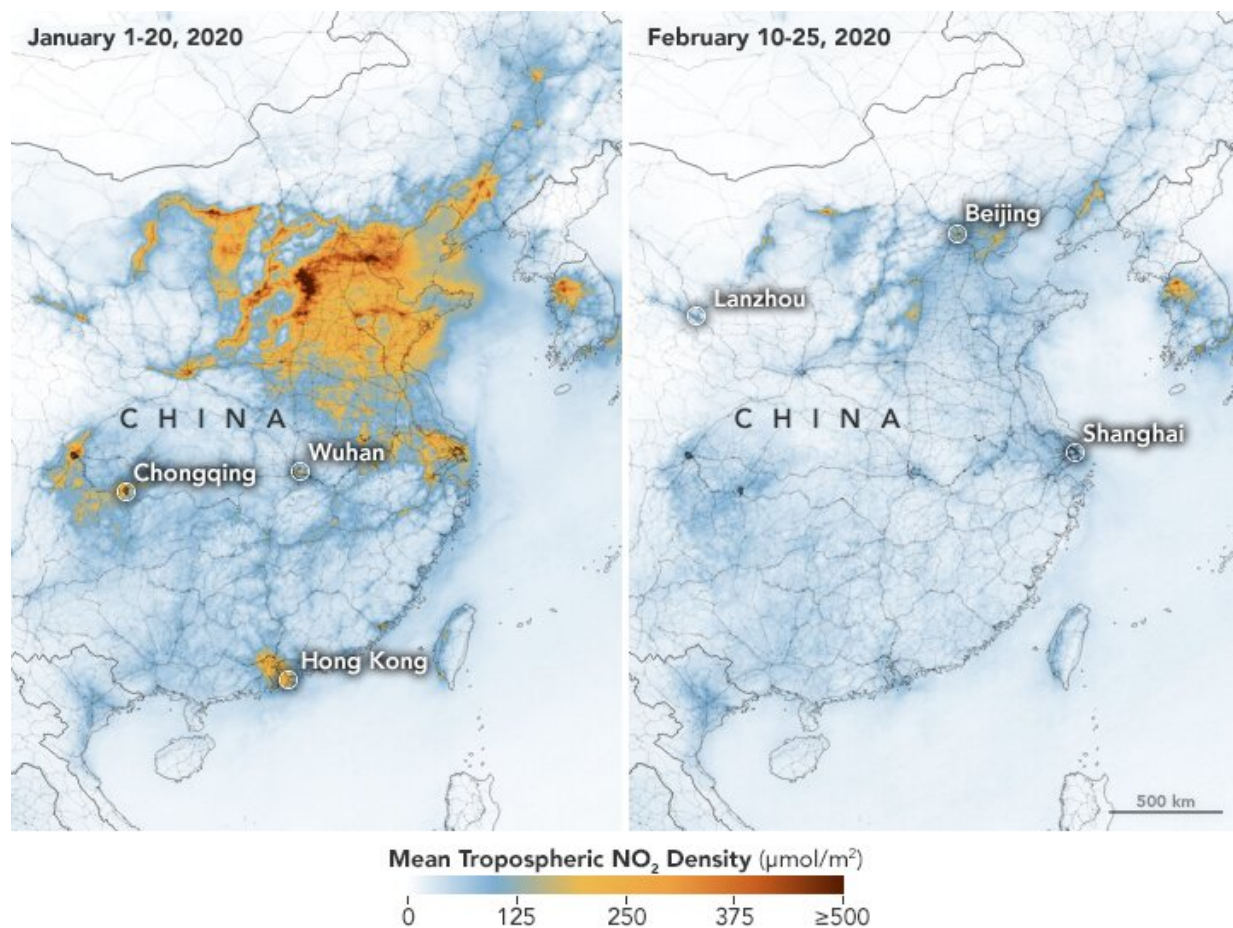
Maps comparing NO<sub>2</sub> concentrations showed a marked decline between January 1-20, before a sweeping quarantine was imposed on Wuhan and other cities, and February 10-25.

"There is evidence that the change is at least partly related to the economic slowdown following the outbreak of coronavirus," NASA's Earth Observatory said in a statement.

Chinese authorities have taken drastic steps to contain the virus, curbing the movement of people, temporarily closing factories across the country and quarantining central Hubei province, a key industrial region where the epidemic first appeared.

NO<sub>2</sub> is a byproduct of fossil fuel combustion in vehicles and power plants and can cause respiratory problems, such as asthma.

"This is the first time I have seen such a dramatic drop-off over such a wide area for a specific event," Fei Liu, an air quality researcher at NASA's Goddard Space Flight Center, said.



January 1 - February 25, 2020. Credit: NASA

The 2008 global financial crisis saw a decrease in NO<sub>2</sub> over several countries but it was a gradual fall, she said.

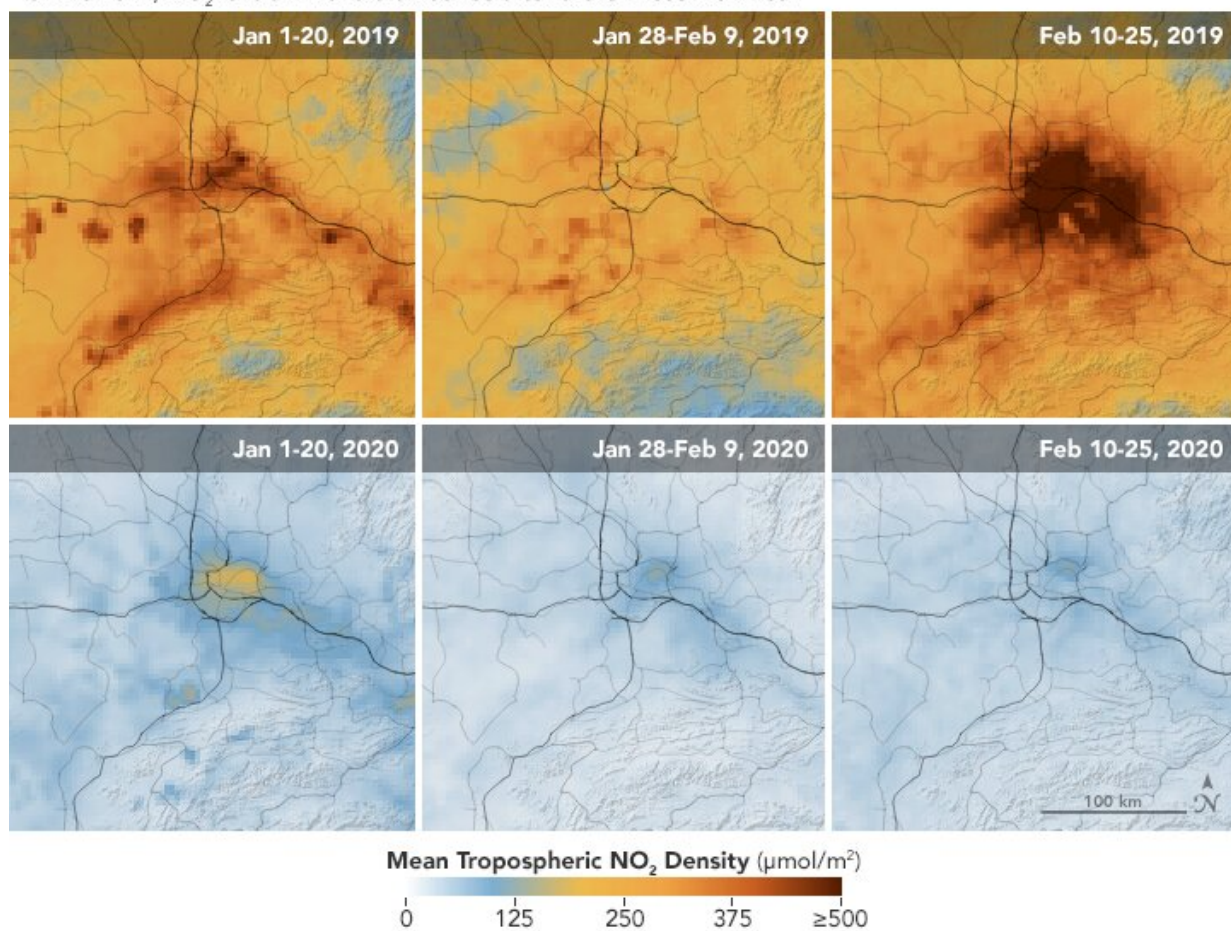
This year's fall came during the Lunar New Year, when factories and businesses close, but researchers believe the decline is far greater than could be attributed to the holiday period.

NO<sub>2</sub> concentrations over eastern and central China were 10-30 percent lower than what is normally observed over the time period.



### Pollutant Drops in Wuhan—and Does not Rebound

Unlike 2019, NO<sub>2</sub> levels in 2020 did not rise after the Chinese New Year.



January 1 - February 25, 2020. Credit: NASA

And there has not been a rebound in levels after the holiday.

"This year, the reduction rate is more significant than in past years and it has lasted longer," Liu said.

"I am not surprised because many cities nationwide have taken measures to minimize spread of the virus."

A separate study in February found China's carbon emissions had dropped by least 100 million metric tonnes in the previous fortnight—nearly six percent of global emissions during the same period last year.

According to a study by the Centre for Research on Energy and Clean Air in Finland, the rapid spread of the coronavirus led to a drop in demand for coal and oil, resulting in the emissions slump.

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