

# COVID-19 lockdown last year brought early spring to China

26 August 2021, by Bob Yirka

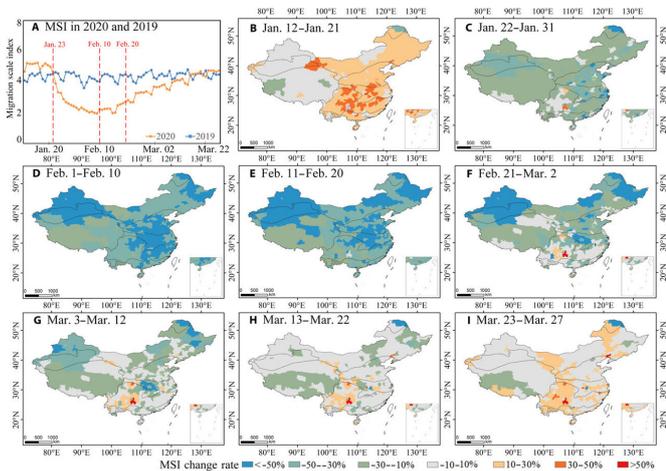


Fig. 1 Comparison of MSI for the same periods between 2019 and 2020. (A) National temporal trend of MSI from January to March; (B to I) spatial pattern of MSI change rates at the prefecture level for different time periods between 2019 and 2020 (blue and green represent decreased MSI, while orange and red represent increased MSI). Boundaries are the climate zones of China, defined in fig. S1. Credit: DOI: 10.1126/sciadv.abe8044

A team of researchers affiliated with several institutions in China, one in South Africa and one in Australia has found that the Chinese lockdown last year following the initial outbreak of COVID-19 led to an early spring in some parts of the country. In their paper published in the journal *Science Advances*, the group describes their multi-pronged approach to learning more about the environmental impact of the lockdown on various parts of China last year.

Early last year as the magnitude of the COVID-19 pandemic was becoming clear, governments around the world implemented lockdowns, limiting work and travel for billions of people around the globe. The sudden disruption in human activities resulted in a host of environmental changes, such

as encroachment by animals and cleaner air in many countries around the world, particularly in and around urban areas. In this new effort, the researchers undertook an extensive study of the environmental impact of the [lockdown](#) on China.

The work began with a study of data they obtained from Chinese telecommunications giant Baidu, with which they virtually tracked changes in movements of people across the country compared to prior years. They found that movement of people dropped by approximately 50% over the months January and February compared to the prior year, and that several months passed before things returned to normal. The researchers next studied data from the Sentinel-5 Precursor Earth [observation satellite](#)—it provided information regarding nitrogen dioxide and other aerosol levels in the atmosphere over China. Information from satellites also provided a leaf index—a measure of the greenness of vegetation on surface areas. Such information showed significant drops in air pollution in the industrial parts of the country and increases in greenness. They also found that the additional sunlight and reductions in air pollution led to an [early spring](#) in China—it came on average 8.4 days earlier than normal. And that the spring was approximately 17.45% greener than usual.

The researchers suggest their results show just how quickly nature can respond when human activity changes in dramatic ways—evidence that similar results could be seen if countries across the world took a more serious approach to global warming.

**More information:** Fenzhen Su et al, Rapid greening response of China's 2020 spring vegetation to COVID-19 restrictions: Implications for climate change, *Science Advances* (2021). DOI: [10.1126/sciadv.abe8044](https://doi.org/10.1126/sciadv.abe8044)

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