

# Combatting air pollution with nature

November 6 2019

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Air pollution is composed of particles and gases that can have negative impacts on both the environment and human health. Technologies to mitigate pollution have become widespread in recent years, but scientists are now exploring a new, pared-down approach: using nature to restore ecological balance. They report their findings in ACS' *Environmental*

## *Science & Technology.*

In the decades since the Clean Air Act of 1970, air quality across the U.S. has improved dramatically. However, according to the American Lung Association, four in 10 people in the U.S. still live in areas with poor air quality, which can result in serious health effects such as asthma, lung cancer and cardiovascular disease. Technology to control and remove pollutants can be costly and often requires a great deal of energy. As an alternative, researchers are looking to nature-based solutions (NBS), a form of sustainable infrastructure that uses natural, rather than manufactured, elements. NBS are adaptable, cost-effective and can support native wildlife, making it a truly "green" solution in combatting pollution and climate change. To better understand the feasibility of NBS to reduce pollution, Bhavik Bakshi and colleagues wanted to perform a data-driven analysis.

The researchers used publicly available data and calculated factors, such as current vegetation cover, county-level emissions from air pollutants and [land area](#) available for restoration, to determine the potential benefits of NBS across the U.S. Next, they calculated the financial aspect of implementing NBS to mitigate various air pollutants. The team found that in 75% of counties analyzed, it was more economical to use nature-based solutions for mitigating emissions than to implement technological interventions. Counties that were not strong candidates for NBS either did not have enough [available land](#), or the cost of technological methods was less than that of restoration.

Overall, the researchers found that both urban and rural populations could benefit from NBS, though many environmental factors should be considered before putting the approach into practice.

**More information:** "Nature-Based Solutions Can Compete with Technology for Mitigating Air Emissions Across the United States"

*Environmental Science & Technology* (2019).  
[pubs.acs.org/doi/abs/10.1021/acs.est.9b01445](https://pubs.acs.org/doi/abs/10.1021/acs.est.9b01445)

Provided by American Chemical Society

Citation: Combatting air pollution with nature (2019, November 6) retrieved 27 April 2024 from  
<https://phys.org/news/2019-11-combatting-air-pollution-nature.html>

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