



SCIENCE & TECHNOLOGY

Satellites Show Landfills Releasing Large Amount of Methane

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Landfills are places where a large amount of waste and other refuse is buried in the ground. They are responsible for releasing a large amount of planet-warming methane gas into the atmosphere, a new study suggests.

Scientists used satellite data from four major cities around the world — Delhi and Mumbai in India, Lahore in Pakistan and Buenos Aires in Argentina for the study. They found that city-level **emissions** in 2018 and 2019 were 1.4 to 2.6 times higher than earlier estimates.

The study was published in *Science Advances* on Wednesday. It is aimed at helping local governments carry out targeted efforts to limit **global warming** by identifying areas of major concern.

When natural waste like food, wood or paper **decomposes**, it releases methane into the air. Landfills are the third-largest source of methane emissions worldwide, after oil and gas systems and agriculture.

Methane only accounts for about 11 percent of greenhouse gas emissions and lasts about 12 years in the air. But it traps 80 times more heat in the atmosphere than carbon dioxide. Scientists estimate that at least 25 percent of today's warming is driven by methane from human actions.

Joannes Maasakkers, an atmospheric scientist at the Netherlands Institute for Space Research, is a leader of the study.

“We found that these landfills, which are relatively small compared to city sizes, are responsible for a large **fraction** of total emissions from a given area,” he said.

Satellite data to measure emissions is still a new area of study. But it is being used more often to observe gases across the world. It means more independent organizations are measuring **greenhouse gases** and identifying big emitters. Previously, local government figures were the only source available.

“This new work shows just how important it is to **manage** landfills better, especially in countries like India where landfills are often on fire, emitting a wide range of damaging pollutants,” said Euan Nisbet. He is an Earth scientist at the University of London, who was not part of the study.

Earlier this year, smoke hung over New Delhi for days after a large landfill caught fire during an extreme heat wave. At least two other landfill fires have been reported in India this year.

Nisbet added that the newer satellite technology and on-the-ground research make it easier for researchers to identify “who is polluting the world.”

China and India are the world’s biggest methane polluters, recent research by the International Energy Agency found.

At last year's United Nations climate meeting, 104 countries signed a promise to reduce methane emissions by 30 percent by 2030 compared with 2020 levels. India and China did not sign the promise.

I’m Dan Novak.

Dan Novak adapted this story for VOA Learning English based on reporting by The Associated Press.

Words in This Story

emission — *n.* the act of producing or sending out something

global warming — *n.* the recent increase in the world's temperature that is believed to be caused by the increase of certain gases in the atmosphere

decompose — *v.* to cause something to be slowly destroyed and broken down by natural processes, chemicals, etc.

fraction — *n.* a part or amount of something

greenhouse gas — *n.* gases from fossil fuels released in the atmosphere believed to cause climate change

manage — *v.* to have control of

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