



Soil in the Arctic Is Now Releasing More Carbon Dioxide Than 189 Countries

A dangerous feedback loop is occurring.

Why Global Citizens Should Care

As climate change intensifies, natural environments are becoming major sources of greenhouse gas emissions. The United Nations Global Goal 13, Climate Action, urges countries to pursue zero emissions to avoid catastrophic environmental changes. You can join us in taking action on related actions [here](#).



By [Joe McCarthy](#) Oct. 23, 2019

The Arctic is now releasing more carbon dioxide in the winter than it can absorb in the summer, according to a [new report](#).

Now that heat waves are occurring in the winter, and the Arctic is [warming three times faster than](#)

[the global average](#) because of human activity, greenhouse gases that would have normally remained frozen in the ground are being released into the atmosphere, according to a [study](#) published in the journal Nature Climate Change.

The study indicates that more than 1.7 billion tons of carbon dioxide are being released from

https://www.globalcitizen.org/en/content/arctic-soil-releasing-carbon-dioxide/?_branch_match_id=724607511060084523

Arctic soil annually because of warming temperatures — but plant growth in the region can only draw around 1.1 billion tons of carbon dioxide into the soil during warmer months.

That means that an additional 600 million tons of CO₂ are being released annually, which exceeds the [CO₂ levels of 189 countries](#).

What to Know

Leaders committed to 17 Global Goals to end extreme poverty, reduce inequality, and tackle climate change by 2030.

Right now, leaders are lagging behind — and if we don't act now, we will lose our chance to achieve this dream.

Call on those in power — from governments and institutions, to big business and billionaires — to urgently step up.

Globally, countries release around [42 billion tons of carbon dioxide annually](#), with China, the United States, India, Russia, Japan, and Germany accounting for nearly half of this total.

The United Nations' International Panel on Climate Change estimates that no more than 420 billion tons of carbon dioxide [can be released into the atmosphere](#) in the years ahead if goals set under the Paris climate agreement are to be achieved.

The global pact aims to keep global temperatures from rising more than 1.5 degrees celsius compared to pre-industrial levels, otherwise catastrophic environmental changes could occur.

The transition of the Arctic from a carbon sink (an area that stores more carbon dioxide than it releases) to a carbon hose (an area that releases

more carbon dioxide than it stores), jeopardizes this already precarious goal.

For years, scientists had suspected that an important shift was underway in the Arctic as global temperatures increased, but no data had been collected on emissions in the region.

A team of scientists from 12 countries set out to change this by placing monitoring devices in more than 100 sites in the Arctic and gathered more than 1,000 readings, [according to CBC](#).

After extrapolating the data, they calculated annual emissions and compared them with the annual absorption level, and found a significant gap.

The scientists estimate that emissions from the region will increase by 40% by the end of the century if countries continue on a “business-as-usual” trajectory and make no major efforts to halt the use of fossil fuels. Even if meaningful climate action occurs, emissions from the Arctic will rise by an estimated 17% by the end of the century.

The Arctic is also becoming a major emitter of methane, a greenhouse gas with 30 times the heat-trapping ability as carbon dioxide.

The phenomenon taking place in the Arctic is known as a feedback loop. As the planet warms, forests, permafrost layers, glaciers, and more, are releasing more emissions and absorbing more heat, raising global temperatures in the process, and causing more environmental changes to occur — setting in motion a cycle that could soon reach a [dangerous runaway point](#).

These feedback loops make it all the more urgent for countries to bring their net emissions to zero.

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