

Climate scientist James Hansen: We aren't doing nearly enough to slow climate change



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James Hansen, former NASA director and well-known climate scientist, is out with [another dire climate warning](#): The last time that the Earth was this hot, the oceans were about 20 feet higher than they are right now.

And while that doesn't necessarily mean that we're in for an unstoppable, 20-foot rise in sea level (although it ostensibly [could get that bad](#)), it does mean that the world is leaving a dangerous, and expensive, climate change problem for future generations.

"There's a misconception that we've begun to address the climate problem," Hansen told reporters on a press call Monday. "The misapprehension is based on the Paris climate summit where all the government leaders clapped each other on the back as if some great progress has been made, but you look at the science and it doesn't compute. We are not doing what is needed."

Hansen's warning is based off a new, yet-to-be-peer-reviewed paper—submitted Tuesday to the [Earth Systems Dynamics Journal](#)—that he authored with 11 other

climate scientists. In the paper, the authors argue that the Earth has warmed by about 1.3°C relative to pre-industrial levels, and that the atmospheric concentration of the most potent greenhouse gases—carbon dioxide, methane, and nitrous oxide—has been accelerating in recent years. The last time the Earth was this hot was during the last inter-glacial period, known as the Eemian, when sea level was about 20 to 30 feet higher than it is today.

In order to stay below the aspirational target of limiting the planet to 1.5°C of warming set in Paris, the paper argues that negative carbon dioxide emissions—that is, sucking carbon dioxide from the air—will be necessary. In a blog post accompanying the paper, Hansen warns that proposed techniques for carbon sequestration, like carbon capture and storage or air capture of carbon dioxide, could cost anywhere from \$104 to \$507 trillion this century, with “large risks and uncertain feasibility.”

Speaking to reporters, Hansen suggested a better method for achieving negative carbon emissions could be through sequestering carbon dioxide in the Earth's soil. Soil currently stores [three times as much carbon](#) as is contained in the atmosphere, and [some studies](#) suggest that through better management and restoration practices, the soil could sequester the majority of fossil fuel emissions generated by humans.

Hansen's paper was written in part to support litigation brought against the U.S. government by Our Children's Trust, which argues that the government is violating young peoples' constitutional rights by failing to act on climate change. The lawsuits, filed in every state as well as against the federal government, are based on a legal theory known as [atmospheric trust litigation](#), developed by University of Oregon law professor Mary Wood. The theory argues that the atmosphere is a crucial natural resource that the government must hold in trust for future citizens. By failing to pass policies that stop climate change, the reasoning goes, the government is failing to preserve the natural environment for future generations.

Hansen, along with his granddaughter, is a party in the Our Children's Trust litigation in Oregon. That case is [currently awaiting a decision](#) from a federal judge as to whether the litigation will be allowed to move forward. Earlier this year, a group of fossil fuel companies, including representatives of ExxonMobil, BP, Shell, and Koch Industries, [filed a motion to intervene](#), arguing that a decision in favor of the children would force an “unprecedented restructuring of the economy.”

In discussing how the paper relates to his involvement with the legal case, Hansen said he hoped the paper would help spur courts to action.

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"I think it is essential that the third branch of government, the courts, get involved in the climate story," he said. "We need to quantify what is needed in an understandable way so that the judicial system can make an evaluation and step in and have some effect where the other branches of government have failed us."