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After 40 years, researchers finally see Earth's climate destiny more clearly

By Paul VoosenJul. 22, 2020 , 10:00 AM

It seems like such a simple question: How hot is Earth going to get? Yet for 40 years, climate scientists have repeated the same unsatisfying answer: If humans double atmospheric carbon dioxide (CO₂) from preindustrial levels, the planet will eventually warm between 1.5°C and 4.5°C—a temperature range that encompasses everything from a merely troubling rise to a catastrophic one.

Now, in a landmark effort, a team of 25 scientists has significantly narrowed the bounds on this critical factor, known as climate sensitivity. The assessment, conducted under the World Climate Research Programme (WCRP) and publishing this week in *Reviews of Geophysics*, relies on three strands of evidence: trends indicated by contemporary warming, the latest understanding of the feedback effects that can slow or accelerate climate change, and lessons from ancient climates. They support a likely warming range of between 2.6°C and 3.9°C, says Steven Sherwood, one of the study's lead authors and a climate scientist at the University of New South Wales. "This is the number that really controls how bad global warming is going to be."

<<<https://www.sciencemag.org/news/2020/07/after-40-years-researchers-finally-see-earths-climate-destiny-more-clearly>>>