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Study 'undercuts climate alarm,' suggests case for man-made global warming overstated

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Whenever climate models overestimate temperatures linked to rising carbon dioxide levels in the atmosphere, scientists have pointed to a convenient fall guy: aerosols, which cool the planet and act as a counterweight to global warming.

But what if the cooling influence of aerosols isn't as powerful as believed? Preliminary findings from a major study by the University of Reading released this week have provided strong corroboration for the argument that widely used climate models are overstating the impact of aerosols, meaning that the case for man-made global warming is also being oversold.

<u>Paul "Chip" Knappenberger</u>, assistant director for the Center of the Study of Science at the free market Cato Institute, called the study a potential game-changer that challenges the catastrophic climate change narrative.

"It undercuts climate alarm," said <u>Mr. Knappenberger</u>, who describes himself as a climate "lukewarmist." "Those climate model projections are what's driving climate policy. If those are two times too high, then it just takes a lot of the wind out of the need for a rapid and dramatic climate response."

The findings are likely to rekindle the sharp debate spurred by a study from Bjorn Stevens of the Max Planck Institute for Meteorology in Hamburg, Germany, who published a similar analysis in June 2015 in the American Meteorological Society journal.

After climate change skeptics trumpeted the findings, Mr. Stevens issued a disclaimer saying his study did not challenge human-caused climate change, prompting a round of claims of vindication from advocates of the climate change consensus.

The latest study was conducted by Nicolas Bellouin, a climate professor affiliated with the Europe-based Copernicus Atmosphere Monitoring Service, who discussed his findings in a Monday post on the university's meteorology blog. A final report is expected in August.

"[T]here are reasons to expect that aerosol-cloud interactions are weaker than simulated by climate models — and perhaps even weaker than the preliminary CAMS estimate," Mr. Bellouin said in the post.

Using the Stevens data, independent researcher Nicholas Lewis concluded last year that the best estimate of climate sensitivity now falls within the range of 1.2 to 1.8 degrees Centigrade, a

significant drop from the U.N. Intergovernmental Panel on Climate Change, which has an assessed range of 1.5 to 4.5 degrees Centigrade.

Mr. Lewis and Judith Curry, a climatologist at the Georgia Institute of Technology, published the findings in Climate Dynamics in August.

"The lower the climate sensitivity, the less future warming will result from our greenhouse gas emissions, the smaller any resultant impact, and the less the 'need' to 'do something' about it," <u>Mr. Knappenberger</u> said in a Tuesday post co-authored by Cato's Patrick Michaels.

"Lewis' narrow range of uncertainty increases our confidence that climate change will not be catastrophic — that is, will not proceed at a rate that exceeds our ability to keep up," they wrote.

Blistering back-and-forth

The Stevens paper touched off a blistering back-and-forth last year after the scientist's findings made the rounds in the conservative media.

Mr. Stevens said on the Max Planck website that "contrary to some reports that have appeared in the media, [man-made] climate change is not called into question by my study."

"I continue to believe that warming of Earth's surface temperatures from rising concentrations of greenhouse gases carries risks that society must take seriously, even if we are lucky and (as my work seems to suggest) the most catastrophic warming scenarios are a bit less likely," Mr. Stevens said.

The liberal website Media Matters for America followed up by accusing websites such as Breitbart and The Daily Caller of "grossly distorting a recent study on aerosols' climate impact," but that is not how <u>Mr. Knappenberger</u> sees it.

"When Bjorn Stevens put out his study, we wrote a story called 'Death knell to climate alarm,' and it got back to Stevens, and he said, 'Whoa, hold on a second, these guys are perhaps adding in a bunch of stuff that I didn't actually say," <u>Mr. Knappenberger</u> said.

"But we never said Stevens said that. We just basically said this is the result he put out. When Nic Lewis and Judy Curry ran it through their calculations of climate sensitivity, which they have published, it comes out very low, about a degree and a half," he said.

The latest University of Reading findings bolster those findings, he said. "Everyone was uncertain about what Stevens meant. Well, here's another study that's going to come out and find a number very close to Stevens," said <u>Mr. Knappenberger</u>.

He said there is no contradiction between Mr. Stevens' findings on the reduced cooling impact of aerosols and the impact of rising levels of greenhouse gases on temperatures.

"What's going on here is [that] humans emit greenhouses gases into the atmosphere and greenhouse gases add a warming pressure to the atmosphere, but we also emit aerosols, and the aerosols, which are little particulate matter, liquid or solid, interact with clouds and change the cloud properties," <u>Mr. Knappenberger</u> said.

The impact of clouds on temperatures has become a hot topic in climate circles. In a post last week on her blog Climate Etc., Ms. Curry cited four recent papers on the "climate-cloud conundrum," as well as a May 25 article in Science headlined "Earth's climate may not warm as quickly as expected, suggest new cloud studies."

"The results not only point to a cloudier past, but they also indicate a potentially cooler future: If Earth's climate is less sensitive to rising carbon dioxide (CO2) levels, as the study suggests, future temperatures may not rise as quickly as predicted," said the Science article.

At the same time, the article stressed that "scientists, who agree that CO2 and other gases from human activities are warming Earth, disagree widely about how sensitive the planet's climate is to these changes."