



War on NOAA? A Climate Denier's Arrival Raises Fears the Agency's Climate Mission Is Under Attack

David Legates has spent his career disputing climate science. Now he's a top manager in the federal agency most involved in assessing global warming's threat.

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In the shadow of the Trump administration's dismissal of climate change, the National Oceanic and Atmospheric Administration has continued to press on with its work measuring the breadth and pace of the climate crisis.

So far in 2020, NOAA recorded the nation's hottest summer on record, the second-lowest Arctic sea ice minimum and the greatest number of hurricanes hitting the U.S. coast since 1916. NOAA led a team that showed global warming is detectable at the bottom of the ocean. It funded work revealing the climate risks of coastal forest destruction. It helped develop a breakthrough method of measuring fossil fuel emissions in ambient air.

But climate scientists are bracing for the potential disruption of NOAA's climate work with the appointment of two prominent climate science deniers and a former campaign official for President Donald Trump to top agency positions this fall.

One of the new hires, David Legates, a University of Delaware geography and climatology professor who works closely with anti-climate action advocacy groups like the Heartland Institute and the Competitive Enterprise Institute, has been especially critical of the agency that he will now help run. Dismissive of NOAA's data-gathering and models, Legates maintains there is no scientific consensus on the environmental hazard of carbon dioxide emissions. He is in a newly created top deputy position, where he will not face Senate confirmation, but will report directly to NOAA's administrator.

"People are very alarmed and saddened about it, and it's spooking people on the inside," said Gretchen Goldman, research director for the Center for Science and Democracy at the Union of Concerned Scientists, which regularly surveys federal scientists on their perception of political interference. "We know from the scientific surveys that having a climate denier at the helm causes people in the agency to self-censor, even if they aren't told to change anything."

The hiring of Legates and others, only weeks before the election, comes just as NOAA is set to collaborate with more than a dozen other federal agencies on the next Congressionally mandated National Climate Assessment, due out in 2023. Work on the project kicked off in earnest on Oct. 15 when **a call for authors** was published in the Federal Register. The state-of-the-science synthesis of climate impacts and trends across the United States is meant to serve as a roadmap for policymakers.

Veterans of the process fear the new hires may presage a Trump administration effort to inject doubt about the scientific consensus into the climate assessment.

Foes of climate action hope that's the signal being sent.

"I hope it means that the administration, after three years of sitting on their hands, is actually going to reform the kind of junk science produced at NOAA," said Myron Ebell, a former Trump transition official who is energy and environment program director at the conservative think tank, the Competitive Enterprise Institute. "And I hope they will have a big impact on the way the next National Climate Assessment is put together."

Any such efforts would be a radical departure from past National Climate Assessments. The last report presented **the most dire picture yet** of the climate risks facing the U.S. population and economy, and gained perhaps even greater attention because of the Trump administration's effort to downplay its findings by releasing the final volume the day after Thanksgiving in 2018.

NOAA's Uneasy Path Under Trump

As the nation's lead agency for weather, water and climate prediction, NOAA has clashed repeatedly with the Trump White House—even on matters far less controversial than global warming.

The most notorious incident became known as "Sharpiegate," when Trump warned last year that Hurricane Dorian was headed for Alabama and then blew up when NOAA's National Weather Service contradicted his mistaken forecast. (Trump had a hurricane map displayed in the Oval Office that appeared to have been altered with a Sharpie pen.)

The cloud of "Sharpiegate" is at least part of the reason that NOAA has been without a permanent administrator throughout the Trump administration.

It is NOAA's longest stretch without a Senate-confirmed leader since its creation in 1970. And, as the agency marks its **50th anniversary**, its budget is, for the fourth consecutive year, facing a White House proposal for deep cuts. Congress has thus far rejected the proposed cutbacks, but like all federal agencies, NOAA is operating under a stopgap budget that expires Dec. 11, leaving the funding decision in the hands of the lame duck Congress.

Despite the uncertainty that has hung over the agency's leadership and budget, there is widespread praise in the scientific community for the work that NOAA's nearly 7,000 scientists and engineers have continued to do.

In September, NOAA's storm-monitoring was much in the news, as the agency tracked 10 named tropical formations, **a record** for the month. At the same time, it was monitoring the **spread of wildfires** in the West, which has set records for the number of **acres burned** and the size of the fires. In response, media coverage of climate change **soared**.

On Sept. 14, Democratic presidential nominee Joe Biden **highlighted the issue** in a campaign speech. Trump, on a brief stop in California's fire epicenter, doubled down on his climate denial. "It will start getting cooler," he said. "Just watch. I don't think science knows actually."

On that same day, Legates, who has spent years raising doubt about what science knows on climate, was named to the newly created position of deputy assistant secretary for environmental observation and prediction at NOAA.

'It's Like Trying to Keep the Sun From Shining'

As recently as 2018, Legates described himself as a scientist who had been ostracized by NOAA and other federal agencies for his outlier views on climate.

"I have been notified (unofficially) that I am on a federal 'do-not-fund' list simply because I have been critical of the official position on anthropogenic global warming," Legates said in a **legal brief** submitted in support of oil companies that were being sued over climate change. (Legates did not respond to requests for an interview for this story.)

In submitting the brief, Legates and other climate science skeptics were represented by a lawyer for Heartland, the conservative think tank that has led a years-long campaign to discredit climate science. The Heartland group went beyond the position of the oil companies in the suit, which focused their challenge on whether climate change was the appropriate basis for a lawsuit. Legates and his colleagues disputed the essential science of global warming, arguing that there was no scientific consensus on the cause of climate change or its dangers. (The case remains in litigation.)

It is an argument Legates has made often to Congress, state legislators, judges, including the Supreme Court, and most expansively, in lectures and panel discussions organized by Heartland and other groups that dispute climate science.

"Climate is changing because it always has changed and always will—it is dynamic and variable," Legates said in **testimony** last year to urge Pennsylvania's Legislature not to adopt Gov. Tom Wolf's climate action plan.

"To create a Climate Change Action Plan to 'stabilize' the Earth's climate is like trying to keep the Sun from shining," Legates said. "We cannot halt something that for all history has been variable and so all such attempts at 'climate stabilization' are doomed to failure."

Legates has a mix of views on climate change that are particularly dismissive of the work of NOAA. He doesn't accept the accuracy of the data gathered by NOAA and others showing that the planet is warming, but he also argues that warming of the planet will help civilization to thrive. He disputes that carbon dioxide is driving climate change but also points to lab studies showing that species like crabs and lobsters grow faster in carbon-saturated water, asserting that

could outweigh any damage of ocean acidification, which has been a central area of study for the agency. As for NOAA's tracking of sea level rise, Legates admits that both sea level and CO2 are rising, but disputes that there is a correlation between the two.

"It's all based on political views, it's not based on science," said Donald Wuebbles, an atmospheric scientist at the University of Illinois who served as chief climate science expert in President Barack Obama's White House. Wuebbles, who relies on the data gathered by NOAA in his work, is concerned about leadership of the agency, given the opinions that have been expressed by the new appointees. "Nothing they say really deals with any of the science, other than just to make strange statements that the data doesn't back," Wuebbles said.

A Career Devoted to Climate Skepticism

Legates has described himself as someone fascinated with weather since his childhood in the small town of Harrington, Delaware. He told the Wilmington News-Journal that when he was a fifth-grader, he made his own weather-observation station, taking wind and rain measurements daily before and after school.

"I've just always been interested in weather," Legates told the paper. "Unless you lock yourself in an interior room, you can't get away from it."

He took an unusual path to climate science, studying geography and math before pursuing his Ph.D. in climatology at the University of Delaware. For his dissertation, he delved deeply into the issue of bias in the measurement of precipitation, and his early publications on this issue are among his most cited works.

Legates collaborated, for example, on 1994 **research** that concluded that the United States gets about 9 percent more rain and snow than the official records indicate. The issue, according to the paper, was that the records had not accounted for problems with rain-collecting gauges, which could be affected by factors like wind-blown snow, evaporation or heat. The findings had obvious implications for understanding climate change, and whether current precipitation patterns marked a change from the past, or were an artifact of problematic measuring practices.

But Legates was not alone in noticing this issue. His studies are part of a vast body of **thousands** of peer-reviewed studies from around the world on such biases and how to correct them. NOAA has done extensive work on this topic, and is **transparent about the data correction** it has made in its own precipitation records. And the National Climate Assessment and the reports of the United Nations' Intergovernmental Panel on Climate Change have taken into account such uncertainties in providing a number of possible scenarios for global warming impacts.

But for Legates, the work was a first step in a career devoted to skepticism over the scientific consensus on climate change. After teaching at the University of Oklahoma and the University of Louisiana, he returned to the University of Delaware in 1999 and was promoted to full professor in 2010. The office of the Delaware State Climatologist resides within the university, and in 2005, after the professor who had been serving in that post was promoted to an administrative position, Legates took over the job.

Legates did more than carry out the traditional job of the state climatologist, maintaining current and historical weather data for the state and being the go-to person for local media interviews on storms hitting Delaware. He collaborated with other climate skeptics on research and activism against climate action. Legates has said he has not received any funding for his climate change research since 2002. But over the last 18 years, he has worked closely with other authors and conservative groups who are funded by industry, as well as conservative and libertarian-oriented foundations.

Brent Bozell, founder and president of the Media Research Center, former Alaska Gov. Sarah Palin, David Legates and David Rothbard, Executive Producer of the film speak during the "Climate Hustle" panel discussion at the Rayburn House Office Building on April 14, 2016 in Washington, D.C. Credit: Kris Connor/Getty Images

In 2006, Legates joined with other contrarian climatologists in a legal brief filed by the Competitive Enterprise Institute opposing the state of Massachusetts in its petition seeking federal Environmental Protection Agency regulation of greenhouse gases from motor vehicles. In that case, the Supreme Court issued its landmark 5-4 ruling that greenhouse gas emissions were a pollutant that could be subject to regulation under the Clean Air Act. That case led to what is known as the EPA's Endangerment Finding, the underpinning of the climate actions taken under the Obama administration. Legates and his colleagues argued that the EPA had insufficient evidence of the harm of greenhouse gases.

"The net effect of greenhouse emissions on human health and welfare is unknown and has not been comprehensively determined, even as the technological and scientific advances associated with those emissions have dramatically increased life expectancy," Legates and his colleagues said in their brief. "It is simply impossible to conclude that the net effect of greenhouse gases endangers human health and welfare."

By joining in the brief, Legates was taking a position opposed to that of the state of Delaware, which had supported Massachusetts' petition for greenhouse gas regulation. That led to a dust-up with Delaware's then-governor, Ruth Ann Minner, a Democrat, who in February 2007, wrote a letter to Legates, directing him to stop using his title as state climatologist in making public statements on climate change.

"Your views on climate change, as I understand them, are not aligned with those of my administration," she said.

The restriction on Legates' use of his title didn't stop his work as a contrarian. That same year, he was a co-author of a paper concluding that it was "highly premature" to suggest that global warming threatened the survival of polar bears of the western Hudson Bay. The paper instead focused on other stress factors the authors said affected the polar bears, such as interaction with humans and natural ocean oscillations. Legates's co-author on the paper, Willie Soon, disclosed that his work on the research was partially funded by the American Petroleum Institute, ExxonMobil Corporation and the foundation of libertarian petrochemical billionaire Charles Koch.

Soon, a scientist with the Harvard-Smithsonian Center for Astrophysics, became a frequent collaborator with Legates. They published a **paper together in 2015** that challenged **influential research** showing that 97.1 percent of the peer-reviewed climate science papers published from 1991 to 2011 endorsed the consensus position that humans are the cause of global warming. Legates and Soon argued that only scientific papers that specifically quantified the level of human contribution to climate change—a criterion that would include only 41 papers, or 0.3 percent of the total—should be considered to endorse the consensus position.

"By that logic, there is zero percent consensus on heliocentrism—that the Earth is revolving around the sun—because not a single recent astronomy paper states, 'the Earth is revolving around the sun,'" said John Cook, lead author of the 97 percent consensus paper, now at the Center for Climate Change Communication at George Mason University. In other words, the human contribution to climate change is so widely accepted that it is implicit in most published research.

'This So-Called War'

Beginning around 2009, the environmental advocacy group Greenpeace filed Freedom of Information Act requests with the public institutions and universities of a number of contrarian scientists, including Soon and Legates, in an attempt to uncover the extent of fossil-fuel industry funding of their work. In 2015, Greenpeace unearthed and distributed documents showing that Soon had received \$1.2 million in industry funding over the last decade, exposing him to criticism for using a title that invoked **the prestige of Harvard and the Smithsonian** for fossil fuel industry-backed research. The revelations led to **new funding disclosure requirements** at the Smithsonian.

The Greenpeace request faced obstacles at the University of Delaware, which is state-assisted but privately governed, and where only documents related to the spending of public funds are subject to state FOIA law. The school's general counsel asked Legates to turn over documents so it could be determined whether they needed to be produced in response to the FOIA request.

Legates refused, arguing that doing so would violate his academic freedom. The Competitive Enterprise Institute then intervened on Legates' behalf, firing off its own FOIA petition to the University of Delaware, aimed at obtaining documents of other faculty members who supported the consensus science on climate change. Legates then argued that the school's general counsel was not making the same document demands with those faculty members as he did for Legates, in effect discriminating against him because of his out-of-the-mainstream views.

According to a footnote in **a 2016 account** that Legates later wrote about the incident, he also hired an unusually high-powered attorney to represent him in his dispute with the university: Noel Francisco of Jones Day, a law firm that represents a wide array of corporate clients, including **Koch Industries** and **other fossil fuel interests**. (Francisco is not known for representing university professors in FOIA cases; for three years, beginning in 2017, he was **President Trump's solicitor general**, the administration's top lawyer in arguments before the Supreme Court. He also was on Trump's short list of **potential Supreme Court picks**.)

None of Legates' documents were ever released to Greenpeace, but the episode was a bitter one, in his telling. After he hired his own lawyer, Legates said, he was terminated as Delaware State Climatologist and as co-director of an environmental monitoring network he had spent a decade helping to develop. In testimony before Congress in 2014, Legates said that his conflict with the administrators at the university revealed bias against contrarians.

"There is nothing in my records of which I am embarrassed," he said in written testimony to a subcommittee of the Senate Environment Public Works Committee. "I tell you this story not because I seek sympathy, but because of many other cases for which the victims cannot speak out."

At the time, there was talk in the Democratic-controlled Senate about a war on climate science that had stalled federal action to cut carbon emissions. But Legates, invited to speak by the Republicans, said that contrarian scientists who dispute climate science were taking the most flak from their institutions and were being denied federal research dollars.

"This so-called war on science is nothing but a diversion," Legates said in his testimony. "The real war is being waged within the halls of academia and within our Federal granting agencies."

Legates will now be a high-level manager of one of those agencies, thanks to the Trump administration.

'We've Got to Make Sure It's Done Right'

Legates' hiring was one of a slew of top personnel moves made by the Trump administration at NOAA.

A day after he was hired, on Sept. 15, Erik Noble, who had served as a data analyst for the Trump campaign in 2016, was brought in as NOAA's chief of staff. Noble had past experience as an atmospheric scientist at NASA's Goddard Space Center, where he did climate and weather prediction modeling, and he had been working in the Trump White House's Office of Science and Technology Policy.

On Sept. 21, the White House tapped meteorologist Ryan Maue to serve as the new chief scientist at NOAA. Maue has frequently posted criticisms on Twitter, some of them now deleted, aimed at scientists and politicians who draw connections between extreme weather or wildfires and climate change. Maue is also a former scholar with the libertarian Cato Institute. NOAA's public affairs office did not respond to requests for details on the hirings.

Some close observers, who requested anonymity because they were not authorized to speak on personnel matters, said that the moves may signal that Trump, if he wins a second term, plans a wholesale sweep of NOAA leadership, replacing the current acting administrator, Neil Jacobs, NOAA's former chief scientist Craig McLean and others who crossed the White House during the Sharpiegate controversy.

By placing Legates in a deputy position, the administration has made him legally eligible under the Federal Vacancies Reform Act to be moved to NOAA's top slot as "acting" administrator. One advantage of "acting" appointments is they are a way to avoid a contentious Senate

confirmation process. Trump has said he prefers "acting" appointments, because it gives him more flexibility, but his administration has been **slapped down by the courts** for **circumventing the vacancies law**.

The personnel moves won praise from the community of conservative climate action opponents, who have mostly supported the president, but who expressed concern that he has not moved more aggressively to dismantle the remnants of climate science policy. "Legates' appointment to NOAA represents a big win for climate realism," **wrote** H. Sterling Burnett, a senior fellow with the Heartland Institute, on the group's website.

But if Trump loses the election, added Ebell, of the Competitive Enterprise Institute, "I expect David would disappear pretty rapidly in a Biden administration."

That isn't necessarily the case. Political appointees sometimes go on to seek appointments to career government positions, an end-of-administration ritual known in Washington as "burrowing in." Although there is anxiety in NOAA about Trump appointees finding a way to stay on in a Biden administration, there's no indication that is Legates' intention. Indeed, **an email** that his University of Delaware department chair sent to students said, "David hopes to be back at UD in the spring."

Even if Legates and the other new hires have a short stay at NOAA, they still could have influence over the National Climate Assessment.

Nominations of scientists from both inside and outside the federal government will be accepted through Nov. 15. Hundreds of authors typically participate, and at least one climate contrarian—William Happer, a Princeton University emeritus professor of physics and former Trump White House official—has **expressed interest in participating as an author**. Steven Koonin, a former chief scientist for BP who briefly held a position in the Obama administration and is now a physics professor at New York University, **told E&E News** that he has pitched to the Trump White House the idea of incorporating an adversarial review by skeptics of climate science into the National Climate Assessment.

That would make for a quite different report from the National Climate Assessment that came out on Black Friday in 2018. Philip Duffy, a physicist and former White House policy adviser who helped coordinate the National Climate Assessment in the Obama administration, said he believed that the last report was an important affirmation of the science at a critical time, likening it to the statements about the coronavirus by Dr. Anthony Fauci, head of the National Institute of Allergy and Infectious Diseases.

"It was a strong statement which contradicted the party line, shall we say," said Duffy, president and executive director of the Woodwell Climate Research Center in Woods Hole, Mass. He added that the assessment's greatest value was the detail it provided on the specific impacts of warming on different regions of the country, from heavy precipitation in the South to heat and drought in the West. "It's intended to form the basis of decision-making and planning. That's what's unique about it, and essential."

But skeptics of climate science and opponents of U.S. action to curb fossil fuel emissions were sharply critical of that report, and **the Trump administration** for not exerting more control over it. Ebell, who disputes the validity of both the models and the data that have informed the climate assessment, said he believes that if Legates has an opportunity to help shape the next assessment, it could provide a much different perspective than the reports of the past.

"If David Legates and his colleagues are able to be involved in the preparation of the National Climate Assessment right up to the date of publication, they're not going to feature the least likely scenario in order to scare the public," Ebell said. "They're going to feature the most realistic scenario, and that will be a huge improvement."

What that most realistic scenario is, however, is another matter: The consensus of mainstream scientists is that it depends on how much the world's nations do to cut carbon emissions.

The 2018 National Climate Assessment focused both on **a high-end global warming scenario**, assuming little effort by nations to curb greenhouse gases, and a low-end scenario, consistent with nations implementing significant mitigation measures. **At least one recent study** concluded that the high-end scenario is the most realistic.

Wuebbles, who has been a coordinating lead author on past National Climate Assessments, said the next volume will come at a critical time.

"We need to make sure we understand well what climate change means, and what kind of options do we have, both in terms of trying to reduce the future climate change, but also in terms of 'how do we adapt to be resilient,'" he said. "This is an important document for the government. We've got to make sure it's done right."

Wuebbles said he could not speculate on the impact the new leadership at NOAA could have on the report. "I think we're all concerned," he said. "We don't know for sure."