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## Trump official in Interior Department embeds climate change denial into the agency's scientific research

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An official at the Interior Department embarked on a campaign that has inserted misleading language about climate change — including debunked claims that increased carbon dioxide in the atmosphere is beneficial — into the agency's scientific reports, according to documents reviewed by The New York Times.

The misleading language appears in at least nine reports so far, including environmental studies and impact statements on major watersheds in the American West that could be used to justify allocating increasingly scarce water to farmers at the expense of wildlife conservation and fisheries.

The effort was led by Indur M. Goklany, a longtime Interior Department employee who, in 2017 near the start of the Trump administration, was promoted to the office of the deputy secretary with responsibility for reviewing the agency's climate policies. The Interior Department's scientific work is the basis for critical decisions about water and mineral rights affecting millions of Americans and hundreds of millions of acres of land.

The wording, known internally as the "Goks uncertainty language" based on Goklany's nickname, inaccurately claims that there is a lack of consensus among scientists that the Earth is warming. In Interior Department emails to scientists, Goklany pushed misleading interpretations of climate science, saying it "may be overestimating the rate of global warming, for whatever reason;" climate modeling has largely predicted global warming accurately. The final language states inaccurately that some studies have found the earth to be warming, while others have not.

He also instructed department scientists to add that rising carbon dioxide — the main force driving global warming — is beneficial because it "may increase plant water use efficiency" and "lengthen the agricultural growing season." Both assertions misrepresent the scientific consensus that, overall, climate change will result in severe disruptions to global agriculture and significant reductions in crop yields.

Samuel Myers, a principal research scientist at Harvard University's Center for the Environment who has studied the effects of climate change on nutrition, said the language "takes very specific and isolated pieces of science, and tries to expand it in an extraordinarily misleading fashion."

The Interior Department's emails, dating from 2017 through last year and obtained under publicrecords laws by the watchdog group Energy and Policy Institute, provide the latest evidence of the Trump administration's widespread attacks on government scientific work. The administration has halted or scaled back numerous research projects since taking office, including an Obama-era initiative to fight disease outbreaks around the world — a decision that has drawn criticism in recent weeks as a deadly coronavirus has spread globally.

The Interior Department referred questions to the Bureau of Reclamation, the office that oversees the nation's dams and water resources and the first to publish the language. "Uncertainty is a part of climate modeling, as it is with all scientific modeling," said Marlon Duke, the bureau's acting public affairs chief. He said the bureau did not have a formal requirement to include specific language in any document, "but we strive to be fully transparent in recognizing and sharing appropriate uncertainties in the information we use to make decisions."

The Interior Department declined to make Goklany available for an interview, and he did not return requests seeking comment.

The misleading language appears in environmental studies and impact statements affecting major watersheds including the Klamath and Upper Deschutes river basins in California and Oregon, which provide critical habitat for spawning salmon and other wildlife. In addition, millions of acres of farms in California's agriculturally important Central Valley are supplied, in part, by the Klamath, which is California's second-largest river by volume and is only slightly smaller than the Colorado River. Thirsty farms there have used increasing amounts of water at a rate that scientists say hurts wildlife and imperils the salmon industry.

Scientists and policy experts say that, by embedding an inaccurate sense of uncertainty about scientific findings in its documents, the Trump administration is advancing its policy of weakening environmental rules and reallocating vast quantities of water to farming and irrigation, even though climate change projections show that use to be unsustainable. Last month, President Donald Trump signed a memo in California relaxing regulations that have limited the flow of water to irrigate the Central Valley's big farms.

"Highlighting uncertainty is consistent with the biggest attacks on the climate science community," said Jacquelyn Gill, an associate professor of paleoecology and plant ecology at the University of Maine. "They're emphasizing discussions of uncertainty to the point where people feel as though we can't actually make decisions" based on the research.

Goklany has been employed by the Interior Department since the 1980s, much of that time in less influential positions focused on policy analysis. He has also written papers for and participated in events hosted by conservative think tanks including the Cato Institute and the Heartland Institute, which have spread doubt about the scientific consensus that human activity is causing the world to warm rapidly. In 2009, he appeared as an expert voice in a film titled "Policy Peril: Why Global Warming Policies are More Dangerous than Global Warming Itself."

But Goklany's Interior Department responsibilities expanded substantially in the early months of the Trump administration, when he was elevated by Trump appointees to a position guiding the Interior Department's climate policy and began attending senior-level meetings and weighing in on early policy moves such as changes to the department's website. However, the details of his role in the agency's scientific work, including pressing scientists to include misleading climate language in critical policy documents, wasn't previously known.

In interviews, four current and former Interior Department officials said Goklany's rise was abrupt and unexpected.

"They were like, 'Who the hell is this guy?" said Joel Clement, a former top climate-policy expert at the Interior Department who quit in 2017 and testified in Congress that former Interior Secretary Ryan Zinke was purging the agency of government scientists working to address climate change — allegations later backed by the agency's inspector general. Clement is now a senior fellow at the Harvard Kennedy School's Belfer Center for Science and International Affairs. Zinke has denied the allegations.

The new documents show that, as early as September 2017, Goklany, newly appointed to the office of the deputy secretary, started directing scientists to add climate uncertainty language in agency reports. In an exchange with scientists at the Bureau of Reclamation, dated Sept. 12 of that year, Goklany ordered up uncertainty language that the emails say would be included in future studies of river basins, and he directly edited the file.

"My edits are on the attached," Goklany wrote in the email, sending a marked up draft that contained the misleading references to the benefits of higher carbon dioxide levels and that questioned the widely accepted scientific research projecting the future course of climate change. He also included an abstract of a paper, indicating, he wrote, "that CO2 may have increased the water use efficiency of plants globally."

In December of that same year, he gave a presentation at the Interior Department promoting the benefits of fossil fuels and carbon dioxide to human and environmental well-being, according to presentation slides viewed by The Times.

By early 2018, the emails show, the bureau had adopted a de facto requirement that studies reference climate uncertainty. "Attached here is the latest draft of the 'uncertainty' language that Dave Raff and others worked on with the Department, to be included in all Basin Studies from here forward," Avra Morgan, a watershed management official, wrote on Jan. 26, 2018, in a email to more than a dozen bureau scientists.

The Interior Department's scientists pushed back with some success against Goklany's demands, the emails show. Amanda Erath, program coordinator of the Bureau of Reclamation's water recycling and reuse projects, wrote in an email on Feb. 4, 2019, that more scientifically "robust uncertainty language" had been negotiated. In another email, she referred to the wording as the "Goks uncertainty language."

The final language seemed "balanced enough, especially since it does mention potential adverse effects of warming on water resources," wrote Ralph F. Keeling of the Scripps Institution of Oceanography, in an email. Nevertheless, Keeling — who was the lead author of the study cited by Goklany finding that more carbon dioxide helps plants use water more efficiently — also noted that the text "might have mentioned that warming may increase the water requirements for plant growth, which counters the CO2 impact on water-use efficiency."

Both scientists and environmental groups are concerned that Goklany's campaign will start to build a body of evidence that will undermine the agency's response to climate change in a region where water is already a highly contested resource. The language could "create a loophole that would prevent future legal challenges from succeeding," said Jayson O'Neill, deputy director of Western Values Project, a public-lands advocacy group.

In the Klamath River Basin in Southern Oregon and Northern California, for example, the federal government is set to make a decision on whether to remove four hydroelectric dams that

block about 400 miles of habitat for migratory salmon and steelhead trout. However, as climate change reduces the water available for irrigation there, some farmers have opposed the dam removals, fearing they will get even less water.

The Interior Department reports expressing uncertainty about the risks of global warming "become part of the record" supporting that argument, said Kristen Boyles, Seattle-based attorney for the environmental group Earthjustice, which is involved in court cases opposing more irrigation. "They'll be able to say, 'We're not going to consider climate change.'"