



Lewis Ziska has researched plants at USDA across five administrations, contributing significantly to the country's understanding of how climate change affects agriculture. | M. Scott Mahaskey/POLITICO

AGRICULTURE

'It feels like something out of a bad sci-fi movie'

A top climate scientist quit USDA, following others who say Trump has politicized science.

By **HELENA BOTTEMILLER EVICH** | 08/05/2019 05:14 AM EDT

One of the nation's leading climate change scientists is quitting the Agriculture Department in protest over the Trump administration's efforts to bury his groundbreaking study about how rice is

losing nutrients because of rising levels of carbon dioxide in the atmosphere.

Lewis Ziska, a 62-year-old plant physiologist who's worked at USDA's Agricultural Research Service for more than two decades, told POLITICO he was alarmed when department officials not only questioned the findings of the study — which raised serious concerns for the 600 million people who depend on rice for most of their calories — but also tried to minimize media coverage of the paper, which was published in the journal *Science Advances* last year.

“You get the sense that things have changed, that this is not a place for you to be exploring things that don't agree with someone's political views,” Ziska said in a wide-ranging interview. “That's so sad. I can't even begin to tell you how sad that is.”

The departure comes soon after several other government officials resigned from their posts over accusations that the administration is censoring climate science — reports that have raised alarm about scientific integrity in the federal government.

Last week, an intelligence analyst at the State Department said he left his post after administration officials blocked his testimony to Congress about the wide-ranging national security implications of climate change. A National Park Service employee also stepped forward, alleging she lost her job after refusing to scrub mentions of human-caused climate change from a peer-reviewed paper that was set to publish.

A POLITICO investigation revealed last month that USDA has routinely buried its own climate-related science and other work on climate change that continues. POLITICO also recently reported USDA suppressed the release of its own plan for studying and responding to climate change.

The USDA has repeatedly denied having any policy to discourage dissemination of science or the use of any climate-change-related terms.

In response to Ziska's resignation, the department said in a statement that objections to promoting his rice study were based on scientific disagreement involving career officials, not politics.

“This was a joint decision by ARS national program leaders — all career scientists — not to send out a press release on this paper,” the statement said.

Ziska, in describing his decision to leave, painted a picture of a department in constant fear of the president and Secretary Sonny Perdue's open skepticism about broadly accepted climate science, leading officials to go to extremes to obscure their work to avoid political blowback. The result, he said, is a vastly diminished ability for taxpayer-funded scientists to provide farmers and policymakers with important information about complex threats to the global food supply.


Ziska, or “Lew” as he’s known to his colleagues, has researched plants at USDA across five administrations, Republican and Democratic, contributing significantly to the country’s understanding of how rising carbon dioxide levels and changing temperatures affect everything from crops to noxious weeds and even plants grown to make illicit drugs.

Over the years, Ziska has published studies finding that climate change could exacerbate allergy seasons, render herbicides important for fighting weeds less effective, and fuel a decline in the nutritional quality of pollen important for bees. He and his colleagues have been investigating which strains of wheat and rice will be best suited for future climate conditions.

Each administration has had its own priorities, which sometimes nudged agricultural research in certain directions, but the changes were seldom dramatic, he said. For much of Ziska’s career at USDA, for example, his work fell under what’s known as the U.S. Global Change Research Program, an interagency initiative launched during the first Bush administration that continues to research the changing climate.

When Donald Trump was elected president in November 2016, however, scientists began to worry that the incoming administration would be fundamentally different. The USDA lab Ziska worked under decided preemptively to drop the term “global change” from its name to avoid attracting unwanted political scrutiny.

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“That was not something that had ever happened before,” he said.

USDA, in its statement, emphasized that the change was not in response to political pressure.

The overriding fear among scientists within USDA, Ziska said, was that the administration would take an ax to the department’s science budget and research priorities that perhaps didn’t align with its agenda. The Trump administration has repeatedly proposed significant cuts to ARS’ budget, but Congress has so far largely kept funding flat.

Anything related to climate change was seen as extremely vulnerable, he said.

“We were careful,” he said. “And then it got to the point where language started to change. No one

wanted to say climate change, you would say 'climate uncertainty' or you would say 'extreme events.' Or you would use whatever euphemism was available to not draw attention.”

Ziska said there was never a department memo that directed legions of USDA scientists to be more careful with their language, it was simply well understood.

The signals to scientists have been subtle but frequent. For example, the National Institute of Food and Agriculture, which funnels hundreds of millions in taxpayer dollars to colleges and universities for food and agriculture research has dropped the term “climate change” from its requests for applications from scientists. Instead, the agency uses "climate variability and change."

Other signals have come from Perdue or Trump himself, as both have publicly questioned the scientific consensus on the causes of climate change.

“There was a sense that if the science agreed with the politics, then the policymakers would consider it to be ‘good science,’ and if it didn’t agree with the politics, then it was something that was flawed and needed to be done again,” Ziska said, noting that other scientists are feeling the same pressures. “That was a sea change in how we viewed our role.

“We’re not a political agency,” he added. “Our goal is to deal, in a very pragmatic and very cost-effective way, with some of these issues.”

Ziska told POLITICO he’s concerned the politicization of climate science poses a threat to the future of agriculture in the U.S. and abroad.

"You have farmers who are looking at climate and weather that they've not seen in their lifetimes,” he said. “It's not your father's climate. It's changing. What does that mean? Does it mean that I'm screwed, or does it mean I have an opportunity? ... What does it mean in terms of soil health? What does it mean in terms of diseases or weeds that might be new to the area?

“This is a fundamental change across all different aspects,” he added. “To ignore it. To just dismiss it and say, ‘Oh that's political.’ ... I don't have the words to describe that. It's surreal. It feels like something out of a bad sci-fi movie.”

Ziska’s concerns about the Agriculture Department’s lack of prioritization of climate research began before Trump took office. There’s been a slow and steady erosion of the number of scientists dedicated to studying all the ways climate change is affecting — and will continue to affect — agriculture, and even fewer scientists researching what all of this could mean for human health.

When Ziska joined the USDA’s climate stress lab in 1991, there were about 11 scientists dedicated to studying climate stressors, including air quality and climate change, in the Agricultural Research

Service. Today, he reckons there are maybe four or five.

Ziska told POLITICO he had been frustrated for several years with the USDA's lack of focus and funding for climate-related research, particularly as scientific authorities have warned the problem is an increasingly urgent one for humanity, but the rice paper saga was the final straw for him.

Ziska and another leading researcher at USDA, Naomi Fukagawa, director of USDA's Human Nutrition Research Center in Beltsville, Md., had collaborated for more than two years with scientists at the University of Washington, University of Tokyo, the Chinese Academy of Sciences, the University of Southern Queensland, and Bryan College of Health Sciences on what they considered a groundbreaking achievement. The paper looked at how an atmosphere increasingly rich in carbon dioxide could affect rice, which some 600 million people rely on for the majority of their calories, particularly in developing Asian countries.

The researchers not only found that rice loses protein and minerals, which confirmed earlier research, but they also found for the first time that levels of key vitamins in the cereal grain can drop.

The journal editors anticipated that the paper would attract international media interest, so they asked the researchers to have their institutions help prepare a press packet. USDA officials wrote their own news release to tout the findings, but ended up spiking the release at the last minute because they said senior officials within ARS had concerns about the paper, according to emails from one of the study's other co-authors that POLITICO obtained.

A communications official went as far as to call the University of Washington and suggest the university reconsider its plans to promote the paper.

A USDA spokesperson said department leaders simply disagreed with the paper's conclusions.

"The concern was about nutritional claims, not anything relating to climate change or CO₂ levels," the spokesperson said in response to an earlier POLITICO story outlining the department's failure to promote climate research. "The nutrition program leaders at ARS disagreed with the implication in the paper that 600 million people are at risk of vitamin deficiency. They felt that the data do not support this."

The episode was unusual. The paper had already gone through the typical internal clearance processes within USDA, had undergone a lengthy peer-review process, and had been set to publish within a matter of days.

Ziska, speaking about the episode for the first time, said he suspected something was seriously wrong after he had rebutted the points raised by national program leaders and asked to schedule a

meeting to discuss their concerns, point by point. There was no response, he said.

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“That's when it occurred to me,” he said. “This isn't about the science. It's about something else, but it's not about the science.

“When that happened, I realized it's not just a question of language,” he said. “It's not just a question of philosophy. They're saying we're not going to support this work. And the reason that they're not going to support the work is because the science doesn't suit their — I don't know what. Ideology?”

Earlier this year, Ziska saw another worrying sign that scientific discourse was being discouraged.

A CNN producer requested an interview to discuss his rice research. Ziska followed the typical protocol and sent the ask to the press office. It denied the request.

“That was the first time that had ever happened,” Ziska said.

A spokesperson for the department said the agency “reserves the right to accept or deny any media interview request.”

Amid his growing frustration with how the department tried to block dissemination of the rice study, Ziska began to look for a new job. His last day at USDA was Friday. He begins a new research post at Columbia University this week. In his new post, he is likely to rely to some degree on USDA funding, making his willingness to speak out against the department’s political biases more striking to his fellow scientists.

“I’m happy for Lew to go into a situation where he can pour his whole mind into global change and health — it seems clear he wasn’t going to be able to do so at USDA,” said Kristie Ebi, a University of Washington researcher and one of the co-authors of the rice study. “A mind is a terrible thing to waste.”

“It’s a loss for USDA,” said David Lobell, an agricultural ecologist at Stanford University, noting Ziska’s body of work has not only been impressive in volume, but also in its reproducibility. “He’s

been right about a lot, and changed how the field thinks.”

Last month, for example, researchers from Harvard University confirmed the findings that rice loses vitamins in a carbon-rich environment and flagged concerns about how such a change could affect the health of hundreds of millions of people.

Jeff Dukes, director of Purdue University’s Climate Change Research Center, praised Ziska’s work as groundbreaking: “I see him as being a real beacon in identifying the ways in which CO2 and climate change affect plants in ways that immediately affect people ... the sort of studies that should serve as wake-up calls.”

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