

ALERT TOP STORY TOPICAL

KNOW YOUR MADISONIAN | STEVE VAVRUS

## State climatologist Steve Vavrus wants to help Wisconsin adapt as our climate changes

Kimberly Wethal

Oct 28, 2023

**L**ike any good Midwesterner, Steve Vavrus has been fascinated by storm clouds rolling in since he was a child.

Growing up in central Indiana — "Purdue Country," as he affectionally called it — one of Vavrus' earliest memories is from about the age of 5, as he stood in his front yard watching the sky to the north grow dark, contrasting with the clear blue sky to the south.

"Growing up in central Indiana, it was a big storm country, a lot of tornadoes," he recalled. "And when I was a kid in the late '70s, we had a series of severe winters, about three in a row. And I was just fascinated by these cold waves, and the blizzards, and all sorts of interesting phenomena. And so that was what piqued my interest in weather."



Wisconsin state climatologist Steve Vavrus hopes his revitalized office through UW-Madison can offer research to help workers most susceptible to climate change — farmers, maple syrup tappers, herd managers — make decisions that help them increase their yields or keep animals healthy.

JOHN HART, STATE JOURNAL

And while Vavrus started off a Boilermaker, earning his undergraduate degree in meteorology at Purdue, he's been a Badger for decades — for so long, in fact, that as the newest state climatologist, Vavrus is now referencing his own graduate work from the 1990s as he investigates how Wisconsin's climate has changed.

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Vavrus was formally named the director of the Wisconsin State Climatology Office after serving leading in an interim capacity for most of the year. Also the assistant director of UW-Madison's Nelson Institute's Center for Climatic Research and co-director of Wisconsin Initiative on Climate Change Impacts (WICCI), Vavrus' goal as state climatologist is to investigate real-world impacts of climate change and help people make informed decisions.



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Kimberly Wethal

The state climatology office operated unfunded for decades, kept afloat by emeritus director John Young and assistant state climatologist Ed Hopkins. But under U.S. Department of Agriculture

**Rural Partnerships Institute** funding, UW-Madison and the state climatology office will **establish a mesonet of 90 weather stations** across the state monitoring atmospheric and soil conditions.

The climatology office is especially important to rural residents, many of whose livelihoods are most affected as climate change reshapes Wisconsin's weather patterns.

Having better weather prediction models could inform farmers when might be the best time to plant, Vavrus said, especially in years such as this one when **wet conditions pushed some Dane County farmers to plant later in the spring**, only to be met by a crop-crippling drought. The state's sugarmakers could tap into climate research to determine when maple sap production will peak; herd managers could better anticipate at what point a combination of heat and humidity might be lethal to their animals.





Maple syrup is a kitchen staple and a mainstay of your weekend brunch, but have you ever wondered how it's made? Jeremey Solin, owner of Tapped Maple Syrup in northern Wisconsin, walks us through the process from sap to syrup.

Bryce Gauger

## Why accept the role of the state climatologist?

That opportunity came along unexpectedly. They needed someone to be the director, and I was happy to do so, in part because I've worked with the office over the years in my own research, so I know how important it is. And also because it just seemed like a perfect match (with) my interests in weather, climate and Wisconsin, and then this need for somebody to help lead the revitalized office.



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Kimberly Wethal

## What's most pressing research need?

The whole goal of the Rural Partners Institute is to improve the lives of rural communities in Wisconsin, and so our part of it is to help with the weather and climate element. But we also have other stakeholders — really anyone who's affected by weather and climate. Sometimes that's private citizens. Sometimes it's someone deciding how big a stormwater pipe to build. It can certainly be in the tourism

industry. Any sector, any person, that's affected by weather and climate — and who isn't? — can utilize the services and becomes a stakeholder of the state climatology office.



Real-time weather data, culled from instruments atop the Atmospheric and Oceanic Sciences Building on the campus of UW-Madison, is displayed in the lobby of the building. The Rural Partners Initiative will help fund a mesonet of 90 weather stations, with at least one in each Wisconsin county.

JOHN HART, STATE JOURNAL

## How have you seen Wisconsin's climate change?

We've become warmer and we've become wetter. Those are the two descriptors that I would use to describe our climate change, and those are also the descriptors we expect to continue in the future. Now, it may be hard for readers to buy that we're getting wetter after this summer's drought. We also had a big drought in 2012 that was comparable. But in between those bookends of drought, we have the wettest

years on record in the 20-teens. So we don't want to forget that. And the trend is in every season, Wisconsin has been getting wetter, since at least the middle-early to middle-20th century and really going as far back as the late 1800s.

And it isn't just the fact that we're getting more total precipitation, but we're also getting it in heavier doses. And that's where it becomes really impactful. So if we had steady rain that added up over time, not as big a problem. If we get the kind of mind-blowing rainfall amounts like we had in August of 2018, we had the terrible flooding here, that becomes a huge concern.



A weather station on the roof of the Atmospheric and Oceanic Sciences Building on the campus of UW-Madison monitors local conditions in Madison. Pictured is Steve Vavrus, the state's climatologist, who officially took over the role in September.

JOHN HART, STATE JOURNAL

## What could be the impact of climate change on Wisconsin's economy?

This is exactly the sort of thing that WICCI deals with. That's our bread and butter: looking at how climate change affects various sectors of Wisconsin economically, culturally, practically. There are certain economic sectors that are on the frontlines of weather and climate change. Agriculture being an obvious one, tourism being another one, water resources. There's ways that we can adapt, in some cases fairly easily. Other cases not so easily.

People need to be creative and be thinking, "How are we going to cope with the changing climate?" I think one way to do that is for people who have experienced being in that business for a while to look back and think, "OK, we're expecting a warmer and wetter future. What are some of the warmer and wetter years we've had in the past, and what did we do about it?"



**Once a UW-Madison Posse mentor, new program director is back to guide more students**

Kimberly Wethal

## Are there glimmers of hope? What can individuals do to make a difference?

We need to tackle this both at an individual level and also a societal level. There're not either/or things that individuals can do to help leverage large systemic changes in our society. For instance, a shift toward renewable energy is one, but on an individual level, everyone's carbon footprint is a little different.

But one thing we can all do is recent studies have shown that the No. 1 lever to reduce carbon emissions is to reduce food waste. It's surprising, but this is something that everybody can do, everybody should do, everybody wants to do because nobody wants to waste food. It saves us money if we don't waste food and ends up helping the climate because there's so much heat-trapping pollution that's caused by food

production. And so the more efficient we can make that, and the less wasteful after we buy food or as it's shipped to the market or coming home, the more beneficial it is for our climate.

*Editor's note: This article has been updated to reflect a correction. The name of the U.S. Department of Agriculture program that is funding the mesonet is the Rural Partnerships Institute.*



Steve Vavrus, the climatologist for the state of Wisconsin, may have started a Purdue Boilermaker, but he's been a Badger for decades — long enough that he's now referencing his own climate data from 30 years ago to examine how Wisconsin's climate has changed.

JOHN HART, STATE JOURNAL

**By Kimberly Wethal**

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