

What's New in the Wisconsin State Climatology Office?



Steve Vavrus

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Co-Director, Wisconsin Initiative on Climate Change Impacts (WICCI)

Nelson Institute Center for Climatic Research

University of Wisconsin-Madison



WiSCOnsin
State Climatology Office



As of January 2023. . . .

Rural Partnerships Institute at UW-Madison
(USDA-NIFA Funded: \$9.3M over 4 years)
Supporting Wisconsin rural communities

**Nelson Institute
Center for Climatic
Research:**
**Wisconsin State
Climatology Office**

**College of Agricultural
& Life Sciences (CALS) :**
Wisconsin Mesonet

**Division of Extension
and CALS:**
**Rural community
research and outreach
projects**

WiSCOnsin

State Climatology Office

Mission: Offer climate services that help Wisconsinites use weather and climate information most effectively.

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Vision:



"Climate Services"

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"Climate Services"

Information: providing users with *reliable* weather and climate information

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Information: providing users with *reliable* weather and climate information

Interpretation: assisting users in how to *understand and apply* this information

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State Climatology Office

Mission: Offer climate services that help Wisconsinites use weather and climate information most effectively.

Vision:



"Climate Services"

Information: providing users with *reliable* weather and climate information

Interpretation: assisting users in how to *understand and apply* this information

Investigation: conducting *basic and applied research* on Wisconsin's climate

**What do the new resources allow the
State Climatology Office to do?**

Monthly and Seasonal Climate Summaries

April 2023 Wisconsin Climate Summary

By Steve Vavrus, PhD
Wisconsin State Climatologist
sjvavrus@wisc.edu

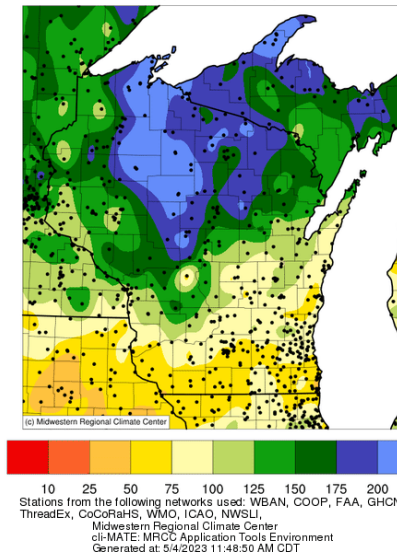
Posted on [April 30, 2023](#)

April 2023 in Wisconsin saw wild temperature fluctuations and above-normal precipitation, including record snowfall in some areas.

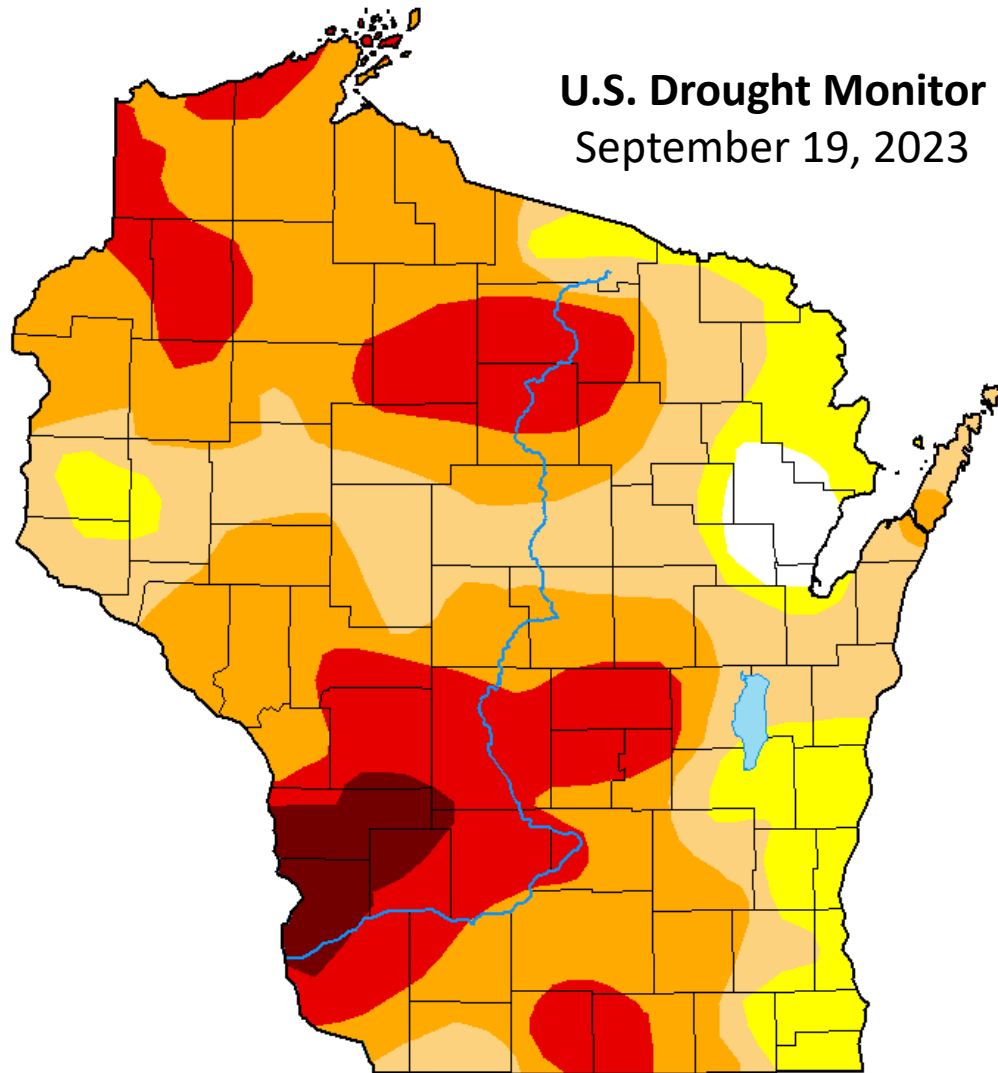
A Tale of Two Aprils

The month provided a very memorable roller coaster ride in Wisconsin. Although the monthly average temperature of 43.4°F was only 0.3 Fahrenheit degrees shy of the 1991-2020 average, the real story is how the month split evenly between an exceptionally warm first half and a remarkably cold second half. Statewide, temperatures averaged 8 Fahrenheit degrees warmer than normal from April 1-15 but flipped to 8°F colder than normal from April 16-30.

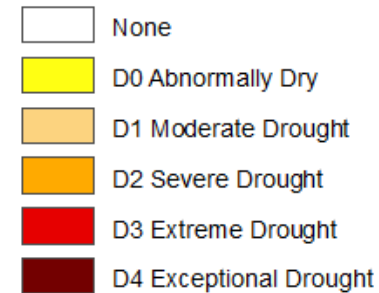
Accumulated Precipitation (in): Percent of 1991-2020 Normals
April 01, 2023 to April 30, 2023



Historic Drought in Wisconsin 2023



Intensity:



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <http://droughtmonitor.unl.edu/About.aspx>

Author:

Richard Tinker
CPC/NOAA/NWS/NCEP



• • • • •

- *SCO provides expert assessment to U.S. Drought Monitor authors*
- *SCO presents climate briefings to Wisconsin Drought Task Force (WI Emergency Management)*

Eric Klister
Diane Stojanovich
(Nelson Institute)

New website launched in September

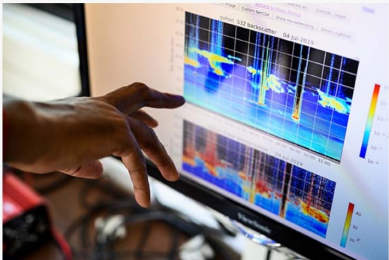


Wisconsin State Climatology Office
Nelson Institute for Environmental Studies

- Mesonet
- Data and Products ▾
- Research
- About
- Partners ▾
- Contact Us

Weather and climate play a vital role in our state’s economy, agriculture, and recreation. As part of the Nelson Institute Center for Climatic Research, the Wisconsin State Climatology Office collects, analyzes, and shares climate information with our communities while leading the way in climate science education and research.

Areas of Expertise



Climate Data

View our collection of Wisconsin climate data, which includes temperature, precipitation, snowfall, and other records dating back to the 19th century.

[Recent data](#) | [Historic data](#)
[Wisconsin seasons](#) | [First-order stations](#)



Mesonet

Explore our growing network of real-time weather and soil measurement stations to support Wisconsin farmers, scientists, and citizens.

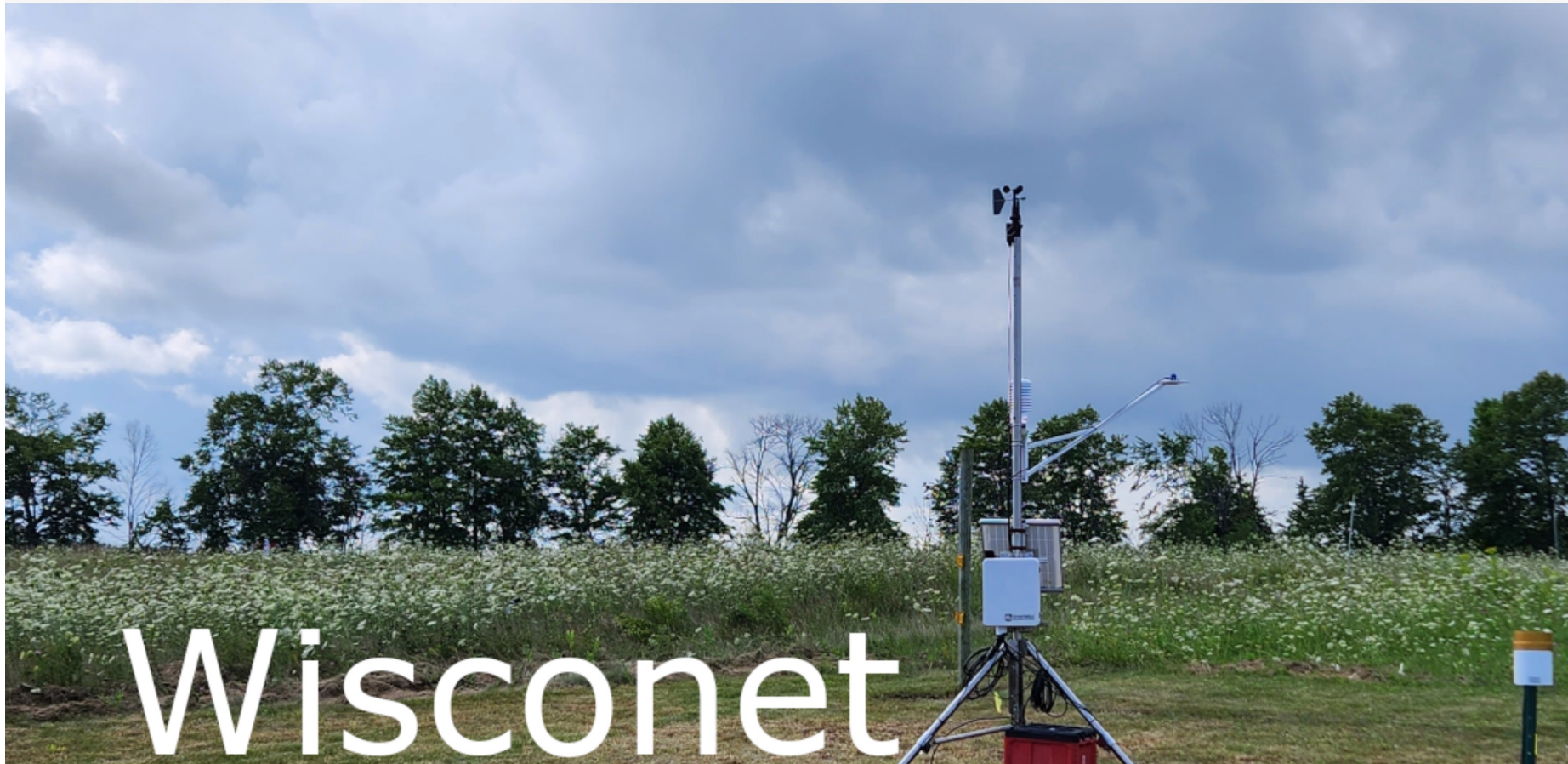
[Wisconsin Mesonet](#)



Research

Learn how we’re addressing the challenges posed by the Wisconsin’s climate, particularly among rural and agricultural communities.

[Research](#)

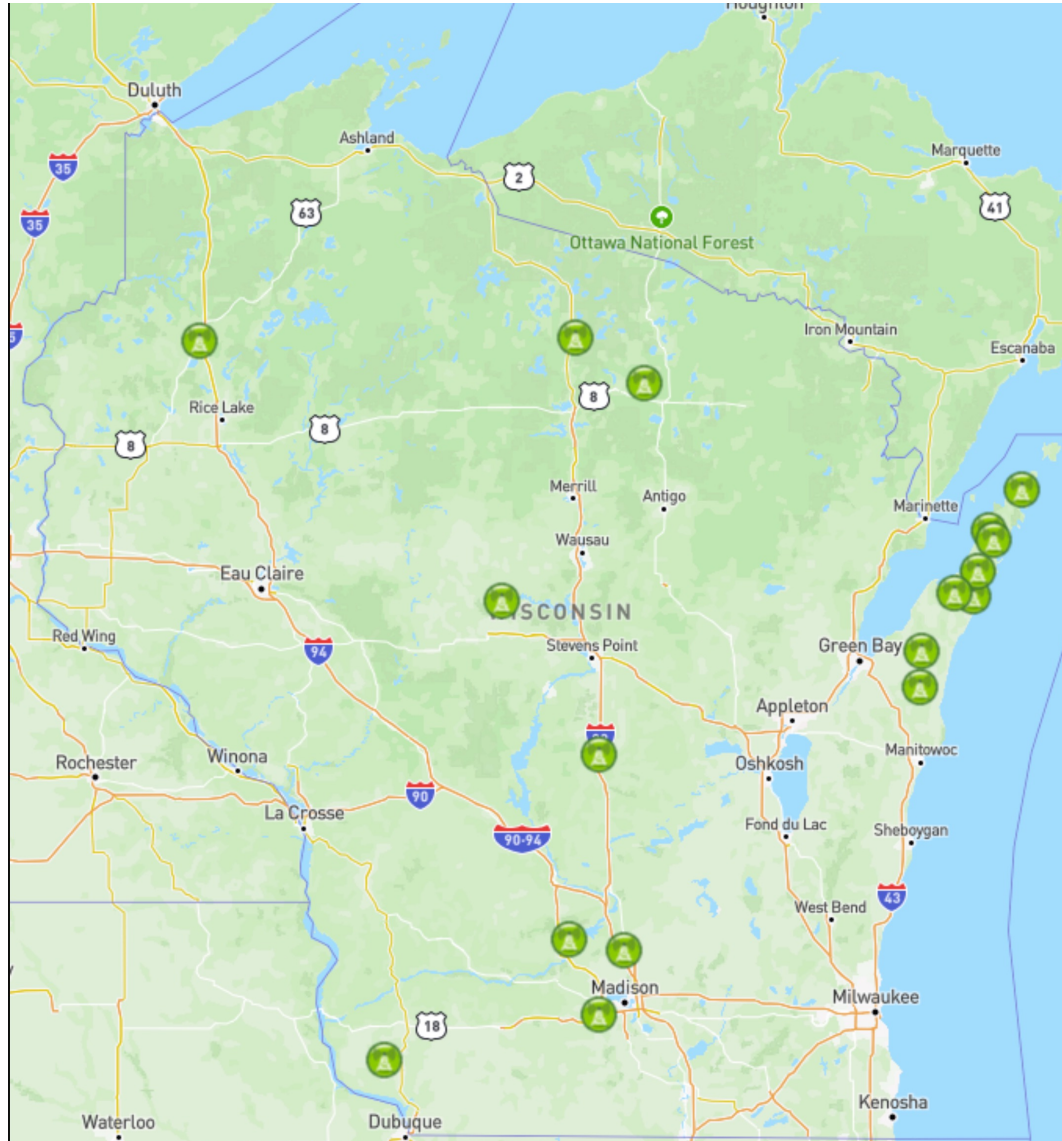


MISSION

Build and maintain an elite environmental monitoring network across Wisconsin that provides timely and accurate data for Wisconsin resource management, research, and industry decision-making.

Wisconet Weather Station Sites

17 up, 73 to go!



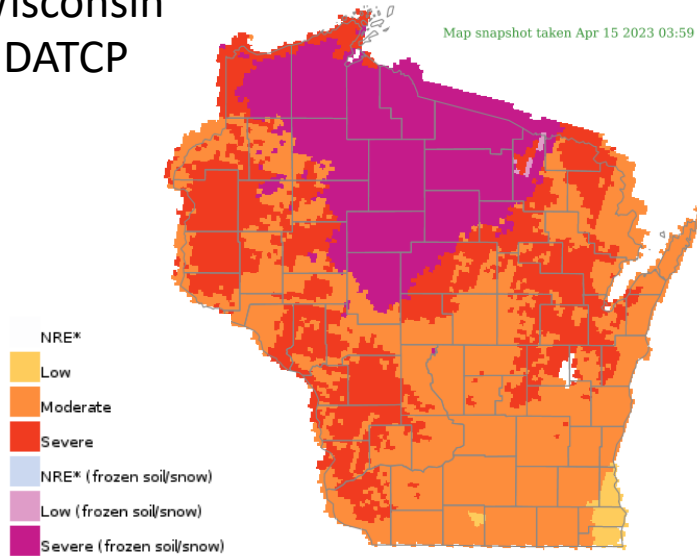
Research in the SCO: Basic and Applied

Examples of Applied Research: Decision-Support Tools



Runoff Risk Advisory Forecast
Wisconsin Manure Management Advisory System

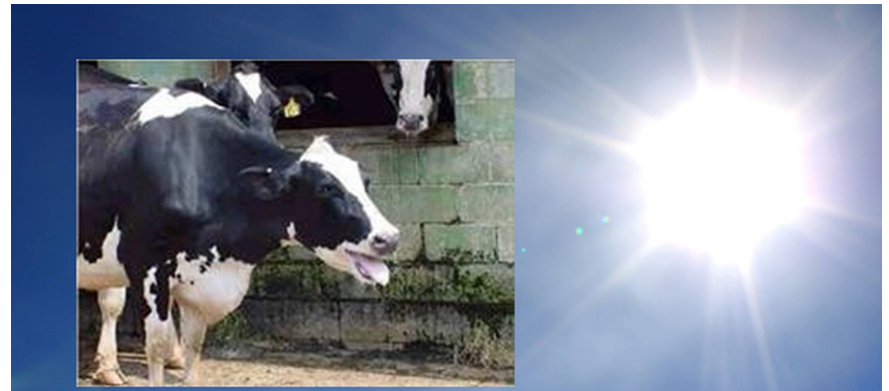
Wisconsin
DATCP



Animal Comfort Index (Kansas Climate Office)

Heat and cold stress level categories for the cattle comfort advisor:

| Comfort level | Map indicator | Index Value, °F | General Interpretation |
|---------------|---------------|-----------------|---|
| Heat Danger | Red | > 105 | Animal deaths may exceed 5% |
| Heat Caution | Orange | > 95 to 105 | Decreased production, 20% or more Reduced conception, as low as 0% |
| Heat Caution | Yellow | > 85 to 95 | Decreased production, 20% or more Reduced conception, as low as 0% |
| Comfortable | Yellow | 77 to 85 | |
| Comfortable | Green | 32 to 77 | |
| Comfortable | Green | 15 to 32 | |
| Cold Caution | Blue | < 15 to -20 | 18 to 36% increase in dry matter intake |
| Cold Danger | Dark Blue | < -20 to -40 | |
| Cold Danger | Purple | < -40 | |



SCO Partners and Collaborators



Nelson Institute for
Environmental Studies
UNIVERSITY OF WISCONSIN-MADISON

Rural Partnerships Institute



Center for Climatic Research
NELSON INSTITUTE
UNIVERSITY OF WISCONSIN-MADISON



Atmospheric and
Oceanic Sciences



WISCONET
Wisconsin's Environmental Mesonet



USDA Climate Hubs
U.S. DEPARTMENT OF AGRICULTURE



Extra Slides



Wisconsin Initiative on Climate Change Impacts (WICCI)

Established in 2007

Co-directors: Ann Kipper (DNR), Steve Vavrus (UW-Madison)



**Nelson Institute for
Environmental Studies**
UNIVERSITY OF WISCONSIN-MADISON

Making Sense of Past, Present, and Future Climate Change



Past and Present,
Near-term weather and climate



Present and Future,
especially societal impacts

Full SCO Staff

Ed Hopkins

Asst. State Climatologist
(part-time)



Lyle Anderson

Office Manager



Steve Vavrus

Director



John Young
Emeritus Director



Full-time Assistant
State Climatologist



Graduate student



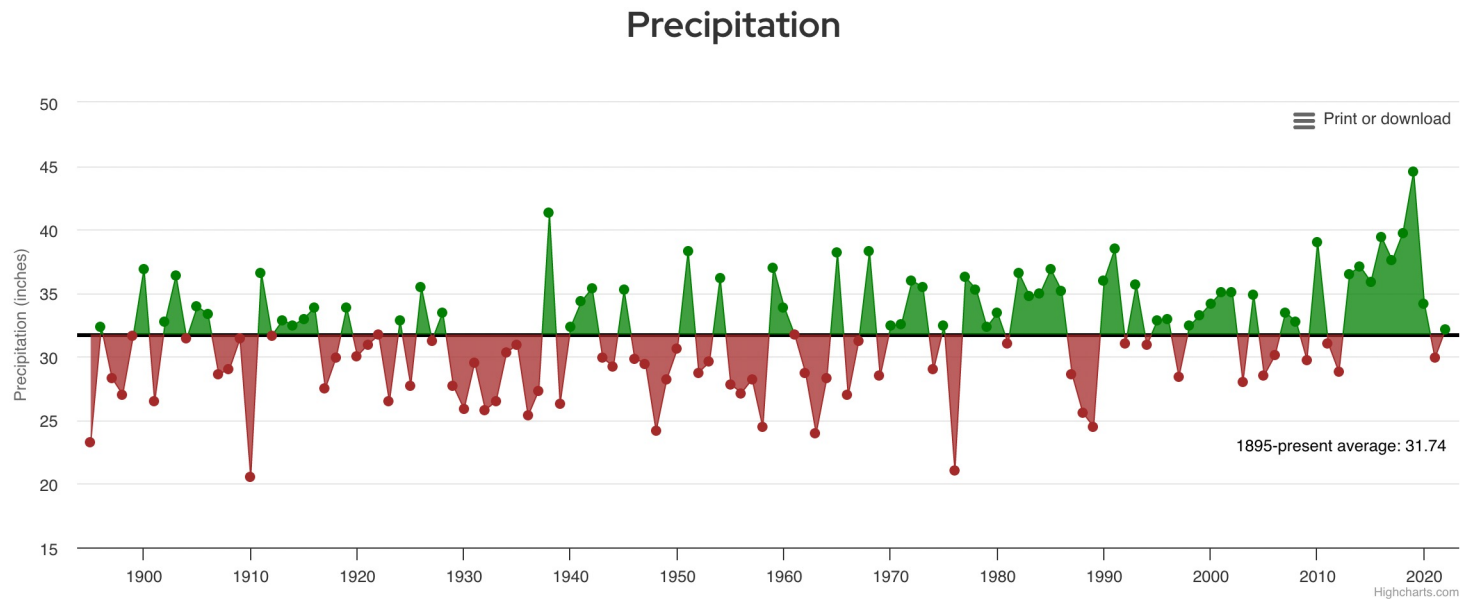
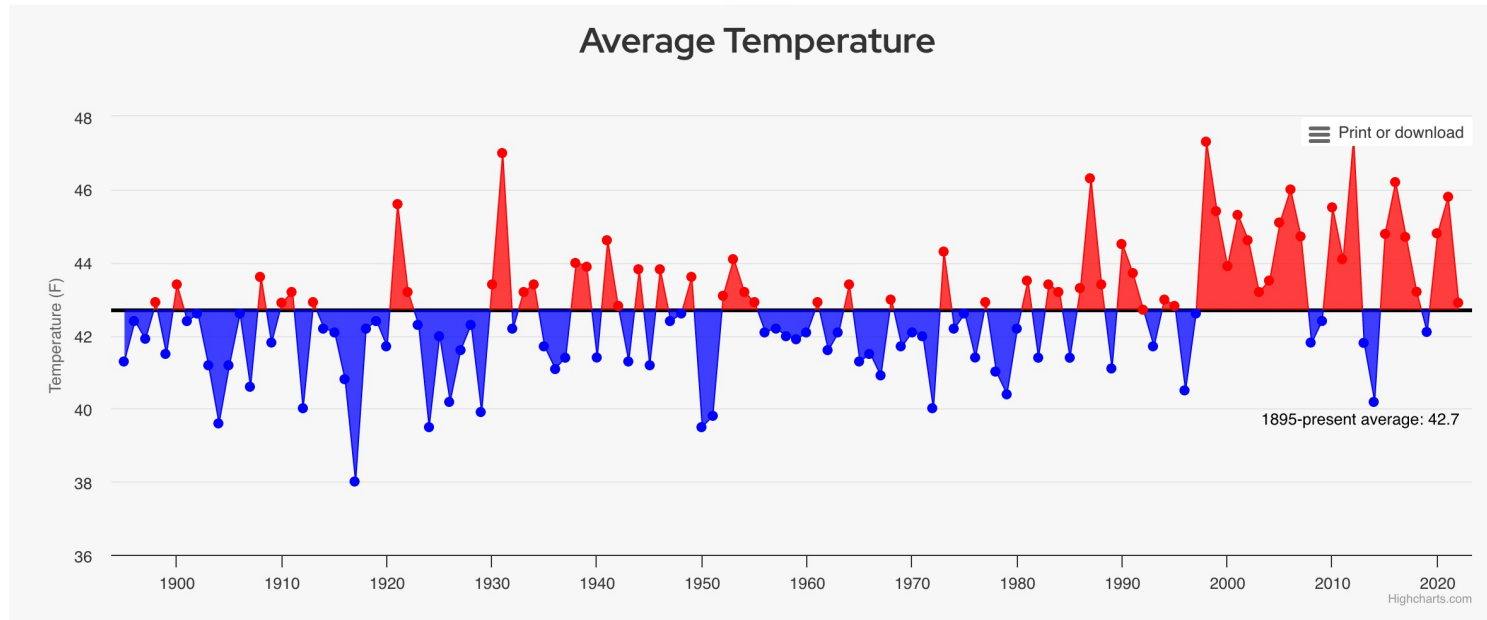
Undergrad student



Dea Larsen Converse
Communications Dir.

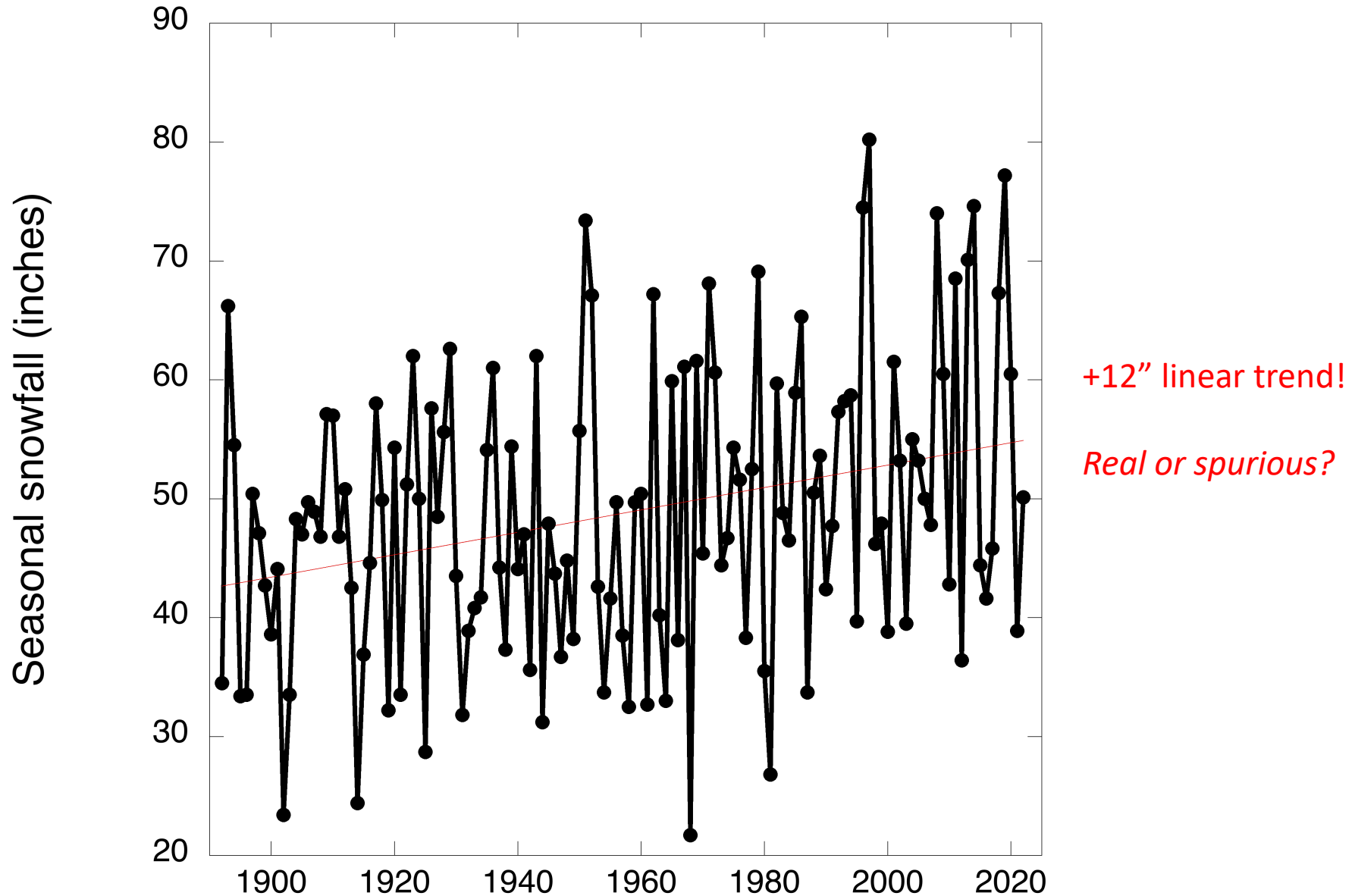


Statewide Climate Trends 1895-



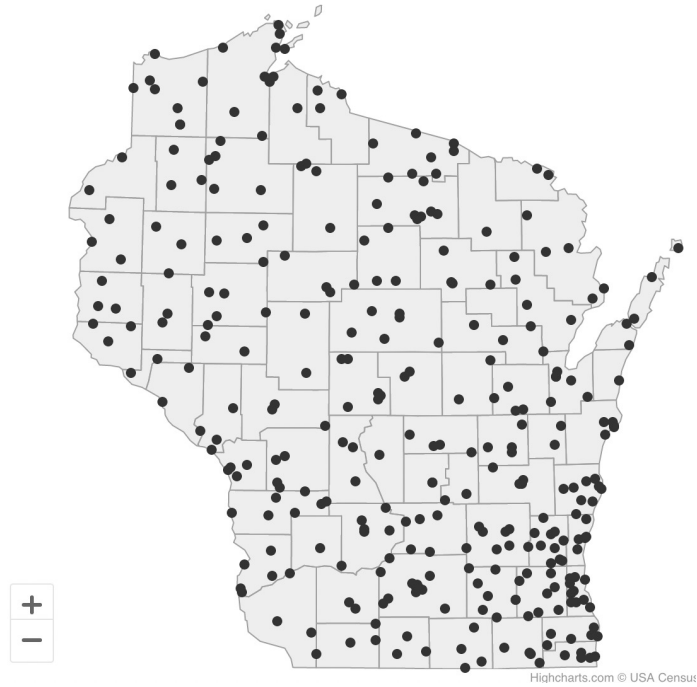
Is Wisconsin Becoming Snowier?

Wisconsin Seasonal Snowfall (1891-2022)



Wisconsin Climate Normals (1991-2020)

Click a station to view a climograph



1991-2020 Climate Normals MADISON DANE COUNTY REGIONAL AP (WI)

Print or download

