



# REGIONAL PARTNERSHIPS ELEVATE WYOMING'S ABILITY TO SERVE THE PEOPLE

Windy K. Kelley

*Weather Variability and Agricultural Resiliency*

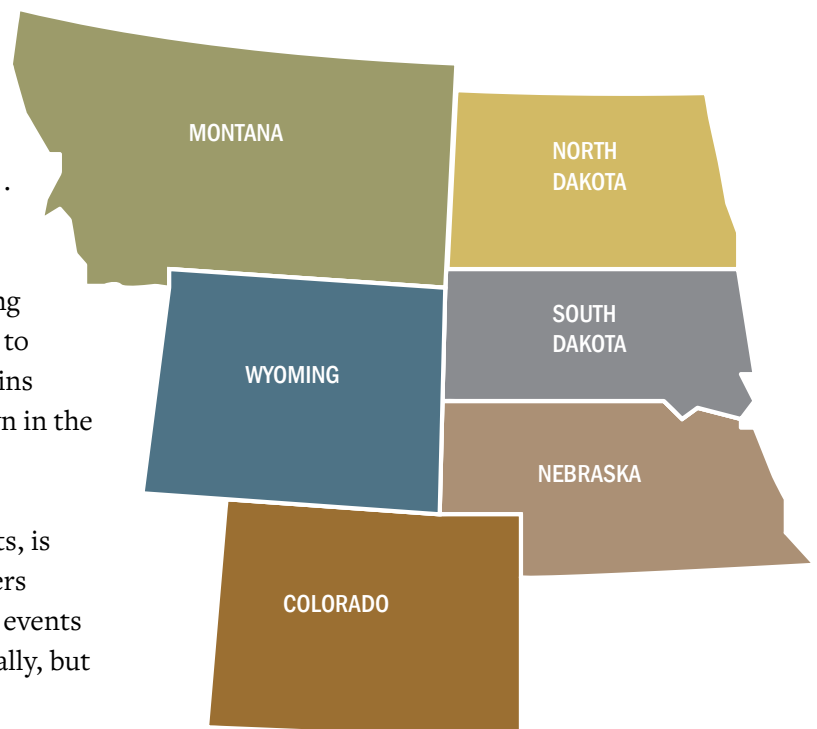
*Specialist, University of Wyoming Extension and Regional Extension Program Coordinator, USDA Northern Plains Climate Hub*

Land managers throughout the greater Northern Plains face greater risks associated with increasing weather variability, extreme weather events, and a changing climate. For example, major flooding throughout the Upper Missouri River Basin in 2011 was followed by severe drought in 2012 (NCA4, 2018) – a pattern repeated in 2019 and 2020. Four of the top 10 driest years on record in Wyoming occurred in the 21st century. Wyoming's driest year on record was 2012, while 2020 was the fifth driest year, and 2001 and 2002 were the seventh and eighth driest years (respectively) out of 126 years (NOAA, 2021). This year, 2021, is still unfolding; however, according to the U.S. Drought Monitor map released January 7, over 95 percent of Wyoming was classified as experiencing Abnormally Dry to Exceptional Drought – a percentage that remains relatively unchanged six months later, as shown in the July 8 map (USDM, 2021).

Variability in weather, including extreme events, is nothing new for Wyoming; however, researchers expect this variability to increase and extreme events to become even more extreme – not only globally, but regionally and locally.

Recognizing that working lands are the backbone of our nation – providing food, fiber, fuel, and countless ecosystem services – the U.S. Department of Agriculture (USDA) took action in 2014 to establish what is today a network of [10 Regional Climate Hubs](#). The Climate Hubs serve as regional climate innovation centers that provide climate information for agriculture and forestry with the intent of creating healthy agricultural production and natural resources under increasing weather variability and a changing climate.

The University of Wyoming Extension (UWE) has hosted the Regional Extension Program



The six-state USDA Northern Plains Climate Hub region

Coordinator of the [USDA Northern Plains Climate Hub](#) (NPCH) since April 2015. The NPCH is a six-state region, which includes those in the Western and North Central Extension regions. Through a cooperative agreement between USDA and UW, the NPCH coordinator also serves as the Weather Variability and Agricultural Resiliency Specialist for UWE. This win-win partnership between UWE and USDA has generated a myriad of outputs benefitting UWE stakeholders—the people of Wyoming. It has provided professional development opportunities for UWE professionals (for example, building climate literacy), and also expanded the network and resources available to faculty members and students at the University of Wyoming in addition to other direct and indirect benefits.

The following are examples of two efforts led by the NPCH coordinator/UWE specialist. The first was a regional event, the [NPCH AgroClimate Outreach Exchange](#), a culmination of an NPCH extension and outreach mini-grant program. The second is an ongoing, statewide collaboration called the **Wyoming Conditions Monitoring Team (WCMT)**.

## **NPCH AGROCLIMATE OUTREACH EXCHANGE**

In 2016, the NPCH initiated a mini-grant program under the guidance of six cooperative extension directors, and funded by USDA Agricultural Research Service, administered by South Dakota State University, and coordinated by the UWE specialist. The mini-grant program was designed to fund agroclimate (agriculture, and weather or climate focused) efforts led by extension from at least two states within the NPCH region. The program funded 11 extension and outreach projects.

To celebrate, and to raise the visibility and accessibility of these and other novel outreach tools and approaches, the *AgroClimate Outreach Exchange* was organized as the culminating event of the mini-grant program. This two-day event, March 2019, highlighted six innovative agroclimate

projects for participants from university extension, conservation districts, state government, agriculture, and several USDA agencies throughout the region. The exchange encouraged more widespread adoption of the outreach tools and approaches while also expanding participants' network of colleagues sharing an interest in agroclimate science and outreach. The event also strengthened their understanding and confidence in communicating the science of climate and agriculture to colleagues and stakeholders.

### **Key Outcomes**

- **Increased agroclimate knowledge and capacity** in the region
- **Connecting** partners
- **Expanding** network
- **Identifying** needs in the field
- **Making** science more usable
- **Amplifying** positive impacts

### **Participant Feedback**

- **Welcoming environment** by organizers and attendees
- **Content and resources** shared were of high quality and accessible
- **Networking** with new contacts from diverse locations, perspectives, and disciplines

## **WYOMING CONDITIONS MONITORING TEAM (WCMT)**

The UWE specialist convened a team of state, tribal, university, and federal agencies in June 2020 with expertise in weather, water, and agriculture to

### **VISION STATEMENT: WYOMING CONDITIONS MONITORING TEAM (WCMT)**

“Ensure that conditions (too wet, near normal, too dry) throughout the state of Wyoming, and associated impacts to all sectors, are accurately captured and communicated to the appropriate authorities/outlets, year-round\*. Create an efficient and sustainable condition-reporting network that gathers/encourages input from those who work in the field.”

\*Such as the Wyoming Governor's Office, Wyoming Homeland Security, the U.S. Drought Monitor, among others.

discuss current conditions and impacts throughout Wyoming—as abnormally dry and drought conditions were quickly emerging. The team has grown to include individuals from more than 20 state, tribal, university, and federal entities since this foundational meeting.

The WCMT now has several coordinated efforts. For example, the UWE specialist led the development of a new training process that quadrupled the number of team members trained to submit recommendations to the U.S. Drought Monitor on behalf of Wyoming—creating a more sustainable condition-reporting network.

As Wyoming faced a second year of widespread drought, the WCMT initiated a monthly webinar in March 2021 coordinated and facilitated by the UWE specialist.

The webinar is recorded and posted for public viewing on [UWE's YouTube Channel](#). During the first four months of the webinar,

The webinar was great ... I will ask producers to start submitting data again - thanks for the clarification on what data you need ... Again thanks for your work and the information.  
- *USDA Employee and webinar attendee*

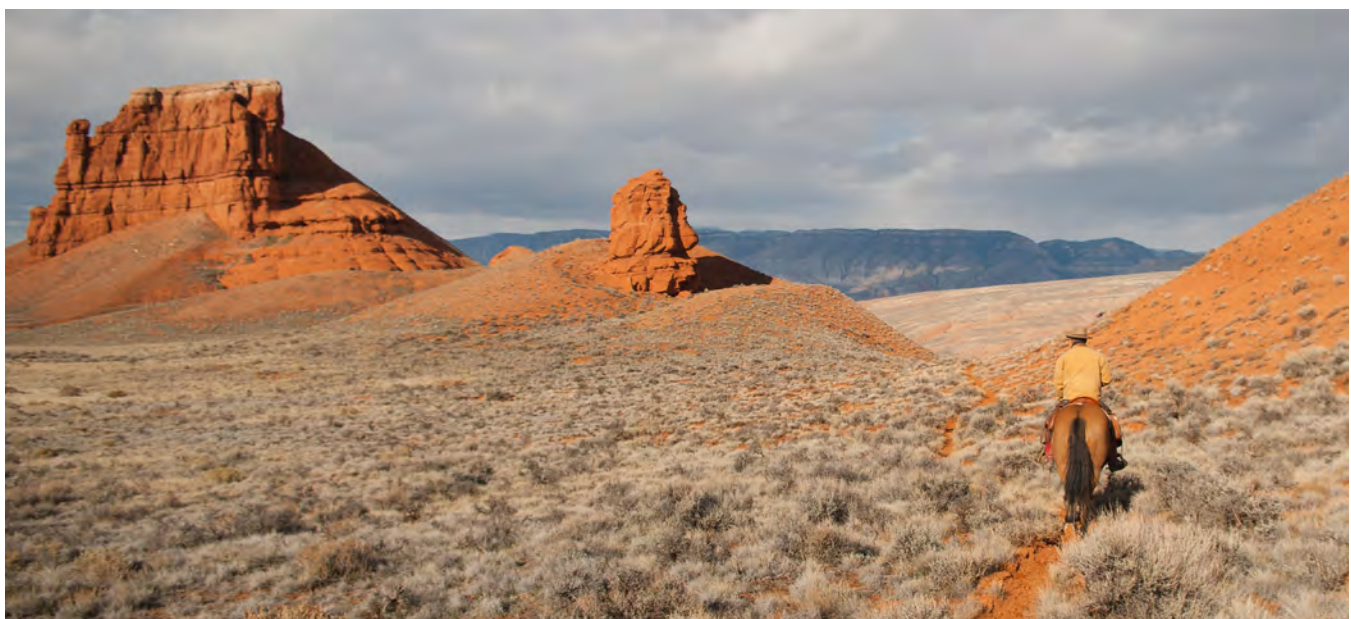
an average of 40 invited public servants attended each webinar, and the recordings are approaching 400 views on YouTube (as of 07/09/21).

The UWE specialist also coordinated an effort by the WCMT to develop the Wyoming Drought Information and Resources website (<https://drought.wyo.gov>). The website is a collaborative effort with several federal, tribal, and state agencies, including the Wyoming Governor's Office, which [launched the website in June 2021](#).

As the people of Wyoming prepare for, respond to, and recover from increasingly extreme weather events and a changing climate, UWE, in partnership with the USDA NPCH, is well-positioned to provide science-based information and resources to help navigate the resulting challenges, opportunities, and changes.

## LEARN MORE

- [AgroClimate Outreach Exchange](#)
- [Wyoming Conditions Monitoring Team \(WCMT\)](#)
- [Website: Drought Information and Resources](#)
- [WY Conditions & Outlooks Webinar](#)
- Learn more about [Windy Kelley](#)



Shell, Wyoming

## LITERATURE CITED/REFERENCES

Fourth National Climate Assessment, Chapter 22 Northern Great Plains, retrieved on April 30, 2021, from <https://nca2018.globalchange.gov/chapter/22/>

NOAA National Centers for Environmental information, Climate at a Glance: Statewide Mapping, published May 2021, retrieved on May 10, 2021 from <https://www.ncdc.noaa.gov/cag/>

United States Drought Monitor, Map Archive, published January 2021, retrieved on May 10, 2021, from <https://droughtmonitor.unl.edu/>



MP-151 | DECEMBER 2021

*Issued in furtherance of extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Kelly Crane, director, University of Wyoming Extension, University of Wyoming, Laramie, Wyoming 82071.*

*The University's policy has been, and will continue to be, one of nondiscrimination, offering equal opportunity to all employees and applicants for employment on the basis of their demonstrated ability and competence without regard to such matters as race, sex, gender, color, religion, national origin, disability, age, veteran status, sexual orientation, genetic information, political belief, or other status protected by state and federal statutes or University Regulations.*