



### Research for climate adaptation

Climate change will pose a significant challenge to high-value crop cultivation in California. The California Climate Hub presented the study 'Exposure to Climate Stressors for California Winegrapes under a Changing Climate', which examined 12 agriculturally important climate metrics to quantify the potential effects of climate change on six major winegrape varieties. Additionally, the relationship between irrigation water demand and groundwater fluctuations was examined to aid in future vineyard and water resource planning. The findings indicate that climate change may lead to earlier winegrape growth stages, increased exposure to heatwaves, and higher crop water usage. A notable correlation was observed between irrigation demand and groundwater changes in certain winegrape growing regions. These results offer valuable insights for farmers, enabling them to prioritize and implement effective adaptation strategies. These findings were shared at [The Universities Council on Water Resources \(UCOWR\) annual conference](#).



### Outreach and education

Caribbean citizens are increasingly concerned about climate change and its implications on their lives. The Caribbean Climate Hub engaged in diverse outreach activities to increase climate literacy. The Hub collaborated with Agricultural Extension Services to provide climate-educational materials at two fairs: Efficient Use of Irrigation Water Expo, which brought together over 80 professionals in agriculture; and the [2nd Pollinators Fair](#). In both events, visitors attended the Hub booth to learn about climate change basics, decision-making tools, and adaptation mechanisms.

### Extreme drought conditions

In April 2023, the U.S. Drought Monitor indicated one-third of Wyoming still in moderate to extreme drought, three years after it first emerged. Ongoing concerns about drought prompted two outreach activities for the Northern Plains Climate Hub. The Hub Coordinator was interviewed by University of Wyoming Extension's AgNews about the [Wyoming Conditions & Outlooks webinar series](#). A resulting [press release](#) was picked up by several outlets around the state, increasing webinar registrations by 25 percent. The Hub also gave an invited presentation to 38 members of the Wyoming Employee Association of Conservation Districts about drought conditions and outlooks, including Grass-Cast.

### Climate change and vulnerable communities

The climate is changing in Alaska faster than in anywhere else in the U.S. Climate changes are affecting subsistence of Alaska Natives, but there is little information on how climate change will likely continue to affect important subsistence species. The Northwest Climate Hub conducted a webinar, [Vulnerability of Alaska Native Tribes in Prince William Sound and Adjoining Kenai Peninsula to Selected Climate and Nonclimate Stressors](#), to provide participants with the key findings of a new report on climate change effects on Alaska Native Tribe subsistence.

### Collaborative network of NRCS Climate Hub Co-leads

Each USDA Climate Hub has a designated co-lead from the NRCS, many of whom are new to the role. Because of the regional nature of the Climate Hubs, NRCS co-leads do not often have the opportunity to meet. The Northeast Climate Hub [hosted a meeting](#) of all the Climate Hub NRCS co-leads to discuss how they could interact and provide support to their respective regions, how to best network between Climate Hubs, and how to engage with NRCS leadership and support staff on climate issues.

# USDA Climate Hubs Mission Area Highlights

Farm Production, and Conservation

FY23 Q3



## Promoting climate-smart practices

Sharing science helps to expand adaptation and application of climate-smart practices. Following a formal request from Caribbean Community (CARICOM) to President Biden, the Southeast Climate Hub Natural Resources Conservation Service co-lead led a team to share soil health practices via workshops to Caribbean Nations. Through lectures and field exercises, workshop participants improved their ability to reduce fertilizer use and prevent nutrient loss to the environment, thus protecting their natural resources. Participants also gained knowledge and experience that can reduce the impacts of climate change and increase efficiency and production for a secure food supply within the country. Over 100 agricultural extension agents participated in the three workshops (45 in St. Vincent and the Grenadines, 54 in Guyana, and 34 Jamaica).

## Looking ahead

### New projects, collaborations and upcoming meetings

- The Caribbean Climate Hub provided three orientations with USDA agencies, Extension, Conservation Districts, and Climate-Smart Commodities Partners focused on agroforestry, coffee, and vegetables. Farmers-to-farmers presentations highlighted challenges and solutions amid climate change. Registration is now open for the next workshop on September 15th.
- The Midwest Hub is partnering with the University of Illinois to develop a climate training course for Illinois Extension specialists. Expected launch is fall 2023.

## By the numbers

### The USDA Climate Hubs

- National Office
  - 1 Lead
  - 1 Coordinator
  - Supported by 3 agency liaisons
- Regional Climate Hubs
  - 10 Directors
  - 27 Co Leads
  - 10 Coordinators
  - 1 Tribal Coordinator
  - 17 Fellows
  - 8 Interns
  - 44 research and other staff
- International Climate Hub
  - 1 Director
  - 1 Coordinator

## Engagements

In QR3, the Hubs hosted, participated in, or led

- 75 workshops and webinars
- 4,937 stakeholders engaged

## Publications [PDF, 5 pages]

The Hubs published 62 products in the third quarter

- 10 peer reviewed publications
- 52 white papers or grey literature

## USDA Climate Hubs

Building climate resilience and supporting equity by co-developing research, tools, outreach, and engagement with natural resource and agricultural managers.

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