



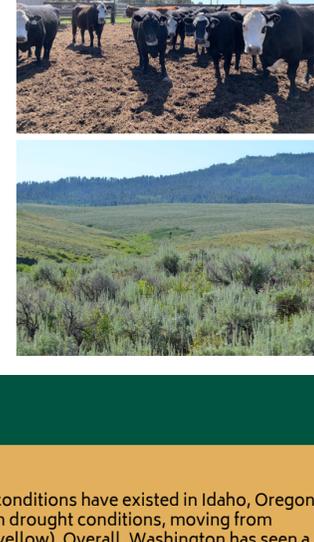
# October Newsletter

## Featured Article

### New! Adaptation in Action: Virtual Fencing Excludes Cattle from Burned Areas in Sagebrush Steppe Rangelands

The Northwest Climate Hub has developed a new "Adaptation in Action" series to highlight the climate adaptation and mitigation work of land managers, producers, and scientists in the region.

For the first article in this series, we speak with rangeland scientists at the Eastern Oregon Agricultural Research Center about the promise of virtual fencing as a rangeland restoration and management tool. Virtual fencing allows ranchers and land managers to confine livestock using only GPS collars and waystations. As such, managers can easily keep cattle out of vulnerable habitats (like recently burned areas) within a pasture, while continuing to allow access to healthy portions of the pasture. Because climate change is expected to increase fire frequency and size in sagebrush steppe rangelands, virtual fencing could prove an important tool for managing rangeland and livestock health.



## Drought Update

Alaska is not currently experiencing any drought.

Since September, abnormally dry (pre-drought) and drought conditions have existed in Idaho, Oregon and Washington. Northern Idaho has experienced decreases in drought conditions, moving from moderate drought (D1-tan) to abnormally dry conditions (D0-yellow). Overall, Washington has seen a large increase in abnormally dry conditions (D0-yellow) and moderate drought (D1-tan) throughout the state, especially in central Washington. Oregon also saw an increase in drought and abnormally dry conditions, particularly in the northwestern part of the state.



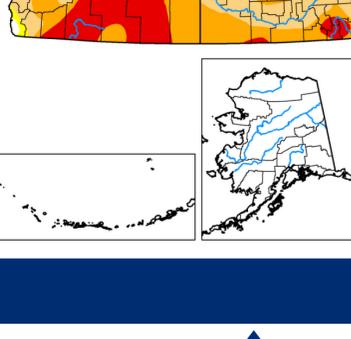
National Integrated Drought Information System



CoCoRHS Community Rain Hail Snow Network

Condition Monitoring Observer Reports - Drought

### U.S. Drought Monitor USDA Northwest Climate Hub



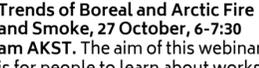
October 11, 2022  
(Released Thursday, Oct. 13, 2022)  
Valid 8 a.m. EDT

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	70.19	29.81	21.09	8.24	3.90	0.16
Last Week 10-04-2022	70.19	29.81	19.34	8.24	3.90	0.16
3 Months Ago 07-10-2022	51.01	48.99	24.20	8.73	4.04	0.21
Start of Calendar Year 01-04-2022	74.10	25.90	23.79	15.09	6.81	2.01
Start of Water Year 09-01-2022	70.29	29.71	18.36	7.80	3.90	0.16
One Year Ago 10-10-2021	72.18	27.82	26.83	24.84	18.03	7.44

**Intensity:**  
None (White), D0 Abnormally Dry (Yellow), D1 Moderate Drought (Light Orange), D2 Severe Drought (Orange), D3 Extreme Drought (Dark Orange), D4 Exceptional Drought (Red)

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

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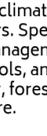
droughtmonitor.unl.edu

## Webinars



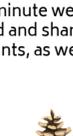
### October 2022 National Weather Service Alaska Climate Outlook Briefing, 21 October, 12-1 pm AKDT.

This briefing will review recent and current climate conditions around Alaska, and discuss forecast tools and the Climate Prediction Center's forecast for November 2022. Join the gathering online to learn what's happened and what may be in store for Alaska's seasonal climate.



### Pacific Northwest Drought Early Warning System: October Drought and Climate Outlook, 24 October, 11 am-12 pm PT.

This webinar provides timely, regional information on current drought status and impacts. It will include a preview of current and developing climatic events and two speakers. Speaker topics focus on management actions, the latest tools, and research on snow, water, forestry, rangelands, or agriculture.



### Current and Near-Term Future Trends of Boreal and Arctic Fire and Smoke, 27 October, 6-7:30 am AKST.

The aim of this webinar is for people to learn about works in progress and describe current and near-term future trends of boreal and Arctic fire and smoke. The 90-minute webinar will be recorded and shared with participants, as well as posted online.



### Adaptation Resources for Agriculture: Responding to Changes in Climate in Alaska, 27 October, 12-1pm AKST.

The Northwest Climate Hub and Natural Resources Conservation Service will present on a recent publication reviewing climate information, agriculture, and adaptation options to build resilience in farming operations in Alaska. The webinar is a part of the PNW SciCast series hosted by the Pacific Northwest Research Station.



### The Right Seedling for Reforestation: Success, Partners, and Policy, 9 November, 11am-12:30pm MT.

Join the Rocky Mountain Research Station for a land manager-focused "lightning talk" webinar dedicated to forest regeneration, climate change, and Indigenous Knowledge exchange in the West. Short science presentations will highlight how climate change can impact different genotypes, planting methods following fire and forest treatments, and considerations and tools for reforestation.

## Opportunities

**USFS Fellowship on Climate Change Integration in Tribal Forest Management.** The Northwest Climate Hub is accepting applications for a fellowship opportunity that will focus on supporting the integration of climate change in tribal forest management plans. The fellow will develop relationships with Tribes in Idaho, Oregon, Washington, and Alaska, as well as scientists at the Pacific Northwest Research Station. **Applications will be reviewed on a rolling-basis starting 24 October.**

**USFS Fellowship on Climate Change Integration in National Forest Management in the Pacific Northwest.** The Northwest Climate Hub is accepting applications for a fellowship opportunity that will focus primarily on efforts to support integration of climate change in national forest management in the USDA Forest Service's Pacific Northwest Region. The fellow will develop relationships with scientists and land managers at the Pacific Northwest Research Station and Pacific Northwest Region of the USDA Forest Service. **Applications will be reviewed on a rolling-basis starting 24 October.**

## Information

**Forests and Drinking Water in the United States**  
This research article highlights the role of National Forests in supplying drinking water to the public. As climate change impacts our water supply and quality, understanding and quantifying this role will be important for planning.

**2022 Water Year Impact Survey**  
The goal of this survey is to gather information about climate impacts and response actions that were implemented during the 2022 water year (1 Oct. 2021 - 30 Sept, 2022) due to abnormally dry or abnormally wet conditions.

**Researchers Identify Pathogenic Agent that Tricks Plant's Defenses**  
This article discusses a fungus that can trick wheat into killing itself. Climate change will likely increase the frequency and variety of diseases affecting crops. Understanding this interaction will help develop disease-resistant crops.

**How to Get Started with Nutrient Management**  
This guide helps farmers get started with SMART nutrient management. SMART helps to optimize plant yields while reducing the amount of nutrients lost, preventing some impacts to greenhouse gas emissions, and air and water quality.

**Increasing Wildfire Impacts on Snowpack in the Western U.S.**  
This research article discusses how, with climate change, more wildfires are burning at higher elevation, causing snowpack to melt 18-24 days earlier than average and affecting water supplies.

**New Tool Maps the Likelihood of Large Wildfires in the Great Basin**  
Two research papers highlight a modeling tool that maps the probability of fire in the Great Basin. The papers discuss how rangeland fires differ from forest fires, and how fire-probability research informs rangeland fuels management.

**Prescribed Fire in the Northwest**  
Curious about the process of prescribed fire after the recent lift of the national ban on prescribed burning? Check out the NWCH Prescribed Fire page to learn more about the history, benefits, and disadvantages of prescribed fire in the Northwest.

**Columbia Plateau Least-Conflict Solar Siting Gateway**  
This gateway assists participants in locating potential utility-scale solar sites in eastern Washington. This tool could help achieve state climate goals and minimize negative impacts of solar sites on natural and working lands.

**New Tribal Nations Drought Map**  
NOAA's National Integrated Drought Information System (NIDIS) has announced a new map feature for Tribal Nations, allowing users to display more than 300 reservation boundaries on any map on Drought.gov.

**Rural Development Innovation Center**  
The Center provides innovative products and services to rural customers. Their newsletter includes funding opportunities, new publications, and event information. Innovation will identify new ways to adapt and mitigate climate change.

## Workshops & Conferences

**Climate Resilience Training for Oregon Agricultural Professionals, Wednesdays throughout October, 9:30-11:30 am PST.** The Oregon Climate and Agricultural Network is hosting a series of virtual trainings that increase the knowledge of technical service providers to support growers in their efforts to mitigate and adapt to climate change. Registration is now open.

**Oregon and Washington Water Year 2022 Recap and 2023 Outlook Meeting, 25-26 October.** This meeting is to share and gather information regarding climate impacts during the 2022 water year. The focus will be on the continuing drought in some areas, flooding in the fall of 2021, and the exceptionally wet spring. This meeting will also offer the opportunity to learn from others about mitigation actions that were taken. Both days will include time for discussion and peer-to-peer learning, in addition to hearing from forecast experts on what to expect for 2023.

**Annual SageCon Summit, 2-3 November, Burns, OR and online.** SageCon is an opportunity for local, state, and federal partners to work towards resilient rangelands in southeastern Oregon and across the Great Basin. The summit will include discussions on the status and trends of sage grouse populations in Oregon, and strategies for addressing invasive annual grasses in the region.

**Annual Idaho Water Supply Meeting, 9 November, Boise, ID and online.** The Idaho Fall Water Supply Outlook is an annual meeting to recap the water supply from the previous water year and provide climate and water supply outlook information for the coming water year.

**Sharing Knowledge on Farming, Water, and Drought in Alaska, 14 November, Delta Junction (in-person) and 16 November, Palmer (in-person and remote).** Farmers, technology transfer specialists, and drought scientists will share knowledge of water and farming and how to reduce impacts of drought. These workshops will discuss drought indicators and monitoring, give attendees an opportunity to engage in drought scenarios, and focus on water mitigation strategies to contend with dry and variable conditions for producers and gardeners.

**2022 Affiliated Tribes of Northwest Indians Tribal Leaders Climate Change Summit, 28-30 November, Spokane, WA.** The Summit will engage Tribal leaders, citizens, staff, youth and collaborators in conversation about navigating the cultural, economic, and social challenges of climate change. This summit provides a forum for discussion among Tribal communities on the front lines of climate change, and an opportunity to discuss how Tribal sovereignty and co-management can advance climate action. Discounted registration is available until November 1.

**Arctic Rivers Summit, 6-8 December, Anchorage, AK.** This workshop will discuss the current and future states of Alaskan and Yukon rivers and fish, and adaptation options. The Summit will bring together up to 150 Tribal and First Nation leaders, community members, managers, and knowledge holders, western scientists, federal, state, and provincial agency representatives, academic partners, non-governmental organizations, and others. The Summit is being held as part of a five-year Arctic Rivers Project funded by the National Science Foundation's Navigating the New Arctic Program.

**Oregon Post-Fire Research and Monitoring Symposium, 7-8 February, Corvallis, OR and virtual.** The symposium will provide practitioners and policy-makers an opportunity to discuss how new discoveries in western wildfires can inform future decisions, and aims to promote collaboration between institutions/agencies involved in post-fire research and monitoring. Submit abstracts by 15 November, and register by 15 January.

## Funding Opportunities

**Western Sustainable Agricultural Research and Education (SARE) Grants**  
**Farmer/Rancher:** With the support and guidance of a technical advisor, farmers and ranchers will integrate research and education to conduct on-site/on-farm experiments to improve production, marketing, and the environment. **Proposals due 2 November by 12 pm MT.**

**Professional + Producer:** This grant program involves agricultural professionals, in collaboration with producers, implementing projects to address identified needs in sustainable agriculture. **Proposals due 3 November by 12 pm MT.**

**Professional Development:** This grant program focuses on training agricultural professionals to help them spread knowledge about sustainable agriculture concepts and practices. **Proposals due 9 November by 12 pm MT.**

**Research to Grassroots:** These projects take research results from previously funded SARE projects and bring those results into the field through education to agricultural professionals and producers. **Proposals due 9 November by 12 pm MT.**

**Sabbatical Research and Education:** These grants provide an opportunity for faculty around the world to partner with farmers, ranchers, agricultural professionals, and researchers of the Western U.S. region for conducting research, education, and extension activities. Projects focused on unexplored topics in underserved communities, and understudied geographic locations are of special interest. **Proposals due 12 November by 12 pm MT.**

## October

**USDA Accepting Applications to Help Cover Costs of Producers Transitioning to Organic.** Transitioning to organic farming may be one way for farmers to combat the climate crisis. Organic farming can help with carbon storage by improving soil health. This fund will help farmers cover fees associated with organic certification. **Applications due 31 October.**

**Rural Energy for America Program Renewable Energy Systems and Energy Efficiency Improvement Guaranteed Loans & Grants.** The program provides guaranteed loan financing and grant funding to agricultural producers and rural small businesses for renewable energy systems or to make energy-efficiency improvements. Agricultural producers may also apply for new energy-efficient equipment and new system loans for agricultural production and processing. **Applications due 31 October and 31 March, 2023.**

## November cont.

**Funding to Expand Monitoring of Soil Carbon.** This program will support and expand monitoring of carbon in soil on working agricultural lands and assess how climate-smart practices are affecting carbon sequestration. The Natural Resources Conservation Service will fund one agreement in the West. Funding ranges from \$1.5 to \$2 million, and projects will last two to four years. Applications must include a strategy to reach equity of program delivery in historically underserved communities. Partners will work collaboratively to complement soil carbon monitoring efforts taking place across USDA. **Applications due 28 November.**

## November

**Environmental Justice Thriving Communities Technical Assistance Centers Program.** Underserved communities will be more impacted by climate change, and this program aims to address this problem. This grant will help eligible applicants establish centers across the nation providing technical assistance, training, and related support to communities with environmental justice concerns and their partners. **Application deadline extended to 1 November.**

**USDA Regional Food Business Centers Request for Applications.** The Regional Food Centers will serve as the cornerstone of USDA's development of local and regional supply chains. They will offer coordination, technical assistance, and capacity-building support to small and mid-sized food and farm businesses, with the goal of creating a more resilient, diverse, and competitive food system. **Applications due 22 November.**

**National Fish Passage Program, U.S. Fish and Wildlife Service.** This voluntary program aims to maintain or increase fish populations to improve ecosystem resiliency and to provide quality fishing experiences for the American people. Building resilience for fish populations through improved habitat will be important, as climate change will decrease summer river flow and increase temperature, making it more difficult for fish to survive. Example project types include dam removals, culvert replacements, and the installation of fishways. **Applications due 30 December.**

**Foundational and Applied Science Program.** The USDA National Institute of Food and Agriculture's Agriculture and Food Research Initiative supports grants in six priority areas to advance knowledge in both fundamental and applied sciences important to agriculture. The six priority areas are: Plant health and production and plant products; animal products and food safety, nutrition, and health; bioenergy, natural resources, and environment; agriculture systems and technology; and agriculture economics and rural communities. Research-only, extension-only, and integrated research, education and/or extension projects are solicited. **Applications due 31 December.**

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