

## Featured Article



### 2022 Workshop Summary: Sharing Knowledge on Farming, Water, and Drought in Alaska

In November 2022, workshops on drought and agriculture in Alaska occurred in Delta Junction and Palmer. Both workshops focused on precipitation and temperature as it relates to agriculture, drought indicators, monitoring, and scenarios, and peer-to-peer learning for producers and home gardeners. This Northwest Climate Hub webpage provides a synopsis of the workshops as well as links to workshop presentations and videos, and other drought resources.

## Climate Hubs Website Usability Survey



The USDA Climate Hubs want your feedback on our website to help improve our content delivery. This 5-10 minute national-level survey includes five multiple-choice questions and two open-ended questions. If you have specific feedback for the Northwest Climate Hub (and we hope you do!), mention the Hub region (Northwest) in the open-ended response section. If you are open to providing further information about your responses, there is an option to include your email address. Otherwise, the survey is anonymous. This survey's Office of Management and Budget control number is 0503-0024.

## Drought Update

Over the past few weeks, a series of atmospheric rivers brought significant amounts of rain and snow to parts of the Northwest, leading to improvements in soil moisture, streamflow, reservoirs levels, and snowpack. Abnormally dry (D0 - yellow) conditions in eastern Washington continue to improve due to precipitation brought by atmospheric rivers, which also reduced portions of severe drought (D2 - orange) in southern Idaho, and extreme drought (D3 - red) in southern Oregon. Recent dry conditions in northwest Washington expanded abnormally dry conditions (D0 - yellow). Moderate drought (D1 - tan) expanded into parts of northern Idaho due to worsening conditions in soil (D1 - tan) moisture, streamflow, and precipitation deficits (up to five inches). In mid-February, moderate drought expanded in southwest Oregon.

Alaska remains drought-free.

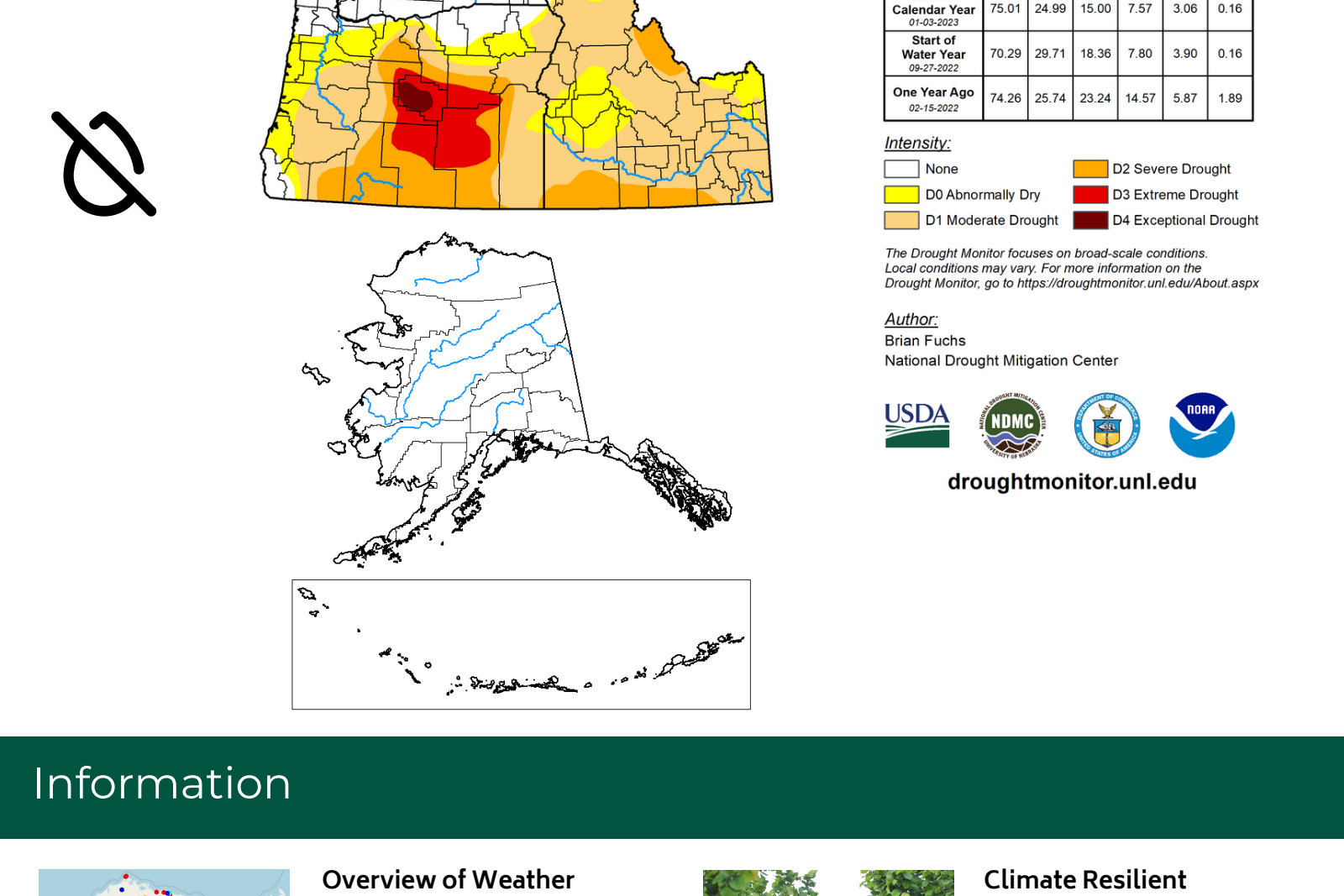
**National Integrated Drought Information System**

**CoCoRHS Community Rain Hail Snow Network**

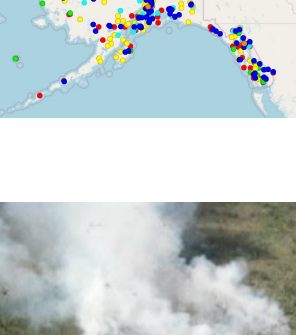
**National Drought Mitigation Center**

**Condition Monitoring Observer Reports**

**Snow Drought Information**

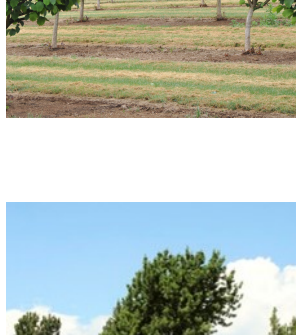


## Information



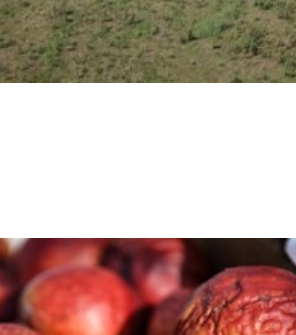
### Overview of Weather Water Land Sites (OWWLS)

OWWLS is a static map that shows weather and water monitoring stations used by the U.S. Drought Monitor to assess current drought conditions.



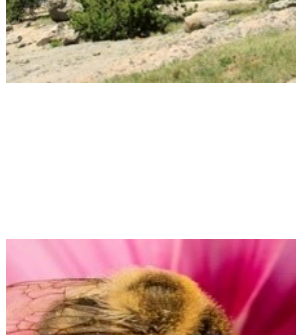
### Climate Resilient Hazelnuts in Oregon and Washington

99% of U.S. hazelnuts are grown in Oregon. Hazelnuts are a climate-resilient crop that could expand Oregon's market for food, livestock feed, and bioenergy.



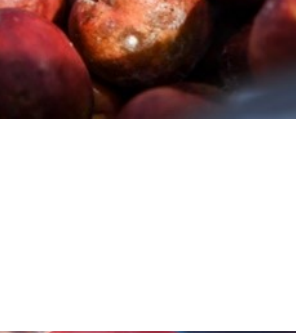
### A Future of More Wildfires in Alaska

Intensifying drought, massive lightning storms, and rising temperatures are symptoms of a changing wildfire environment in Alaska. This article from Western Forester explains what future Alaskan wildfire seasons may have in store.



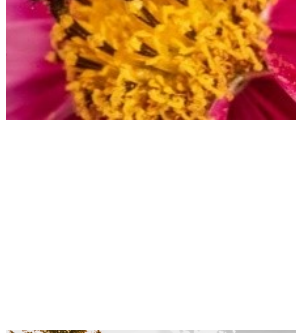
### Whitebark Pine Listed as Threatened Species

Whitebark pine is declining rapidly throughout much of its range. The species is primarily threatened by white pine blister rust, but also mountain pine beetle and more frequent and severe wildfires, all of which are amplified by climate change.



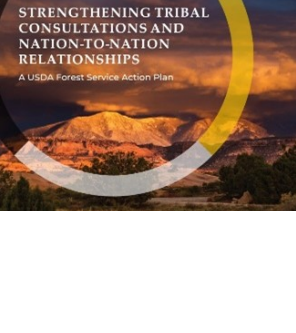
### USDA Invests \$9.4 Million in Compost and Food Waste Reduction Projects

Food waste contributes to climate change through increasing carbon emissions. These projects will divert food waste from landfills. Among the projects funded is a composting project designed and supported by the Tlingit and Haida Indian Tribes of Juneau, Alaska.



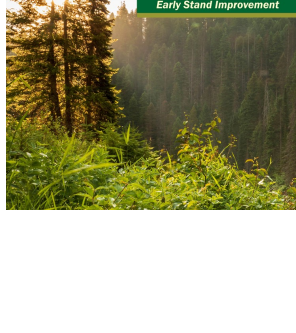
### Western Bumblebee Decline

The western bumble bee was once common in the West, but increasing temperatures, drought, and pesticide use have contributed to a 57% decline in the occurrence of this species in its historical range, according to a new U.S. Geological Survey-led study.



### Strengthening Tribal Consultations and Nation-to-Nation Relationships

This new USDA Forest Service action plan provides agency guidance and assistance to fulfill the Federal trust responsibility, honor treaty obligations, and support Tribal self-determination.



### Foundational Concepts in Silviculture: Reforestation and Early Stand Improvement

This summary report from the 2022 National Silviculture Workshop discusses several research topics, including climate resilience and the impacts of climate change on aspects of reforestation.

## Workshops and Conferences



### Climate Change Preparedness Conference, 1-3 March, Washington, D.C.

The three-day event will be a convening of climate experts, government officials, policymakers, community organizers, youth leaders, environmental professionals, and other stakeholders to focus on adaptive solutions to foster climate resilience.



### Burn with Benefits Workshop, 2 March online, 11 March in Sisters, OR.

Biochar has caught the attention of farmers, ranchers, and forest management officials all over the country as a way to slow the release of greenhouse gases from soil. This workshop provides a chance to work with and learn from an expert in the field, first in an online discussion on March 2, then live in Sisters on March 11. Learn how to tap into the benefits of biochar, solve problems relating to its production and use, and how to produce it at any scale from the School of Ranch.



### Solar Leasing for Agricultural Landowners in the Pacific Northwest, 4 March, Online Only.

To accompany the recent release of the guidebook, Solar Leasing: A Guide for Agricultural Landowners in the Pacific Northwest, the American Farmland Trust is offering workshops to help agricultural landowners better understand the complexity of solar leases.



### 2023 Restoring Riverscapes Workshop, 7-9 March, Online Only.

This NOAA Fisheries workshop will provide information on the practice of riverscape restoration through expert presentations, stories of place, and collaborative engagement sessions. Riverine restoration can reduce greenhouse gas emissions and offer valuable habitat as temperatures rise with climate change. Participants from all parts of the restoration community, in particular federal and state agencies, tribal communities, watershed councils, and conservation organizations who oversee, fund, or regulate riverscape restoration, are encouraged to join.



### Northwest Scientific Association Annual Meeting, 21-24 March, Bellingham, WA.

This joint meeting of The Northwest Scientific Association, the American Association for the Advancement of Science, and the Northwest Lichenologists will cover the breadth of science, including environmental science, biology, engineering, anthropology, geology, ecology, social sciences, art in science, resource management, GIS, atmospheric science, lichenology, chemistry, health sciences, physics, and science communication.



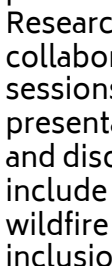
### 2023 US Drought Monitor Forum, 11-13 April, Boulder City, NV.

Instances of drought are likely to increase with climate change in the Northwest. The goal of this forum is to provide an in-depth discussion on the current state of US Drought Monitor production, as well as provide stakeholders with an opportunity to give feedback and ask questions about the US Drought Monitor process. Regional drought issues and the state of the science related to drought monitoring across the United States will also be discussed.



### Cross Boundary Landscape Restoration Workshop: Adapting to a Climate-Altered West, 2-4 May, Fort Collins, CO.

This workshop unites land and fire managers, researchers and stakeholders to develop strategies that apply evidence-based collaborative management of forest landscapes in the Intermountain West. Topics and sessions include: crossing boundaries to realize cumulative impacts for effective landscape outcomes, understanding compounding disturbances, climate adaptation responses and needs, and incorporation of rapid adaptive management in changing ecological and social climates.



### Interagency Conference on Research in the Watersheds, 5-8 June, Corvallis, OR.

The Interagency Conference on Research in the Watersheds (ICRW) brings together watershed scientists, stakeholders, and managers to share scientific advances and management strategies to sustain the country's water resources. The goals are to better understand the factors driving change and associated impacts, and to incorporate societal needs and scientific uncertainties in the sustainable management of water resources.



### 2023 Native Youth Climate Adaptation Leadership Congress, 25 June-1 July, Shepherdstown, West Virginia.

This experience invites Native communities to work together to address conservation challenges by providing training in leadership principles and conservation skills. Application is open to high schoolers from federally-recognized Tribes in their young year (11th year). Students must be in a cohort of 3-5 individuals from their Tribe, and they will need a community mentor to accompany them. **Applications due 28 February.**

## Webinars

### Spring 2023 Science You Can Use Webinar Series, every Wednesday until 29 March, 9 am PST.

This series features seven land-manager focused webinars presented by Rocky Mountain Research Station scientists and collaborators. These one-hour sessions will begin with concise presentations followed by Q&A and discussion. Webinar topics include reforestation, assessing wildfire risk, and diversity and inclusion in outdoor recreation.

### Pacific Northwest Drought Early Warning System February Drought & Climate Outlook, 27 February, 11 am PST.

These webinars are designed to provide timely, regional information on current drought status and impacts, preview of current and developing climatic events and hear from two specialty topic speakers.

### ScienceX Fire Week, 27 February - 3 March, 11 am PST.

Fire is the theme for this webinar series that brings together scientists and land management experts from across the U.S. Forest Service and beyond to explore the latest science. Registration is required.

**27 February** - Fire History and Ecology  
**1 March** - Fire Behavior  
**3 March** - Looking Toward the Future

### February 2023 Alaska Climate Outlook Briefing, 27 February, 12 pm AKST.

This Alaska Center for Climate Assessment and Policy (ACCAP) webinar will review recent and current climate conditions around Alaska, review some forecast tools, and review the Climate Prediction Center's forecast for March and early spring 2023.

### Restoring Oregon's Dry Side Forests, 1 and 15 March, 5 April, 6 pm PST.

This series will explore the complexities and realities of "restoring" forests and other ecosystems to historical conditions. This series is not about telling the listener what is best, but rather collectively thinking about how resiliency in the landscapes we collectively steward can be promoted.

**1 March** - Post-Fire Restoration on Private Lands  
**15 March** - Fires on Agricultural and Rangelands  
**5 April** - Resources for Private Forest Land Risk Reduction and Post Fire Restoration

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### Short-interval High-severity Reburns Change the Playing Field for Forest Recovery, 8 March, 9:30-11 am PST.

Reburns (sequential overlapping fires occurring in an unusually short timeframe) are expected to become more common with increases in fire-conductive weather. In this Northern Rockies Fire Science Network webinar, join researchers Kristin Brazunas and Tyler Hoecker as they discuss recent studies looking at post-fire recovery after short-interval reburns in subalpine forests of the Northern Rockies.

### Managing Oregon Forests in a Changing Climate, 9 March, 6:30-8 pm PST.

This online presentation led by Oregon State University Extension Forester Glenn Ahrens will review options for managing forests in a changing climate, discuss guidance for forest management, and gather input on needs to guide development of educational and technical assistance for landowners and land managers.

### Tribal Health and Adaptation Peer-Learning Roundtable Webinars, 16 March, and every 3rd Tuesday until October 2023, 10 am PST.

This training is open to Tribes and Tribal-serving professionals throughout the United States who work at the intersections of climate change, health, and community well-being. The March webinar will focus on managing ongoing planning, decision-making, and progress tracking amongst Tribal departments and other stakeholders. These monthly 2-hour webinars will further advance the knowledge, skills, and networks of Tribes adapting to climate change.

## Funding

### February

### The Northwest Climate Resilience Collaborative Community Grants Program.

The Resilience Collaborative seeks to fund justice-focused, environmental and climate projects that advance community-centered resilience priorities. The Collaborative is particularly interested in supporting frontline communities and Tribes or nonprofits and community organizations that serve frontline communities and Tribes. Awardees must be based in Washington, Idaho or Oregon. **Letter of interest due 28 February.**

### Environmental Justice Government-to-Government Program.

The Environmental Justice Government-to-Government (EJ2G) program provides Environmental Protection Agency (EPA) funding at the state, local, territorial, and Tribal level to support government activities that lead to measurable environmental or public health impacts in communities disproportionately burdened by environmental harms. EJ2G programs should leverage existing resources to develop processes or tools that integrate environmental justice considerations into governmental decision-making at all levels. **Applications due 10 April.**

### March

### Earth Science Applications: Ecological Conservation, National Aeronautics and Space Administration (NASA).

The NASA Earth Science Division is calling for proposals that will improve or develop decision-making activities to combat the spread of invasive species, advance the use of ecosystem service assessment for decision making, and inform management, protection, and establishment of protected areas. These will help ecosystems prepare for climate change. **Letter of intent due 14 March.**

### Safeguarding Tomorrow Revolving Loan Fund Program.

The Federal Emergency Management Agency (FEMA) is launching a new revolving loan fund to allow local jurisdictions to reduce vulnerability to hazards, foster greater community resilience, and reduce suffering after disasters. The program provides funding to states and federally recognized Tribes that received a major disaster declaration during the five-year period ending on 1 January 2021. **Applications due 28 April.**

### Urban Agriculture and Innovative Production Competitive Grants Program.

This pilot project from the Natural Resources Conservation Service (NRCS) aims to support the development of urban agriculture and innovative production, particularly for planning and implementation projects. Planning projects will initiate, develop, or support the efforts of farmers, gardeners, citizens, government officials, schools, or members of Tribal communities in areas where access to fresh foods are limited or unavailable. Innovation may include new and emerging, as well as traditional or indigenous, agricultural practices. **Applications due 27 March.**

### Planning Proposals to Catalyze Innovative and Inclusive Wildland Fire Science through Diverse Collaborations.

The National Science Foundation is calling for planning proposals for advancing inclusive wildland fire science via diverse knowledge systems. Proposals that aim to develop a deeper understanding of wildland fire as integrated social-cultural-ecological-technological systems and improve education across multiple levels, in informal settings and/or formal settings spanning pre-college through postsecondary levels, are also encouraged. Budget requests may not exceed \$100,000 per year, with a duration of up to two years. **Applications due 31 May.**

### Rural Energy for America Fiscal Year 2023 Grants.

This USDA Rural Development program provides guaranteed loan financing and grant funding to agricultural producers and rural small businesses for renewable energy systems or 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 March.**

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## Ongoing

### Agriculture and Food Research Initiative (AFRI) Foundational and Applied Science Program.

This National Institute of Food and Agriculture (NIFA) program aims to invest in agricultural production research, education, and extension projects for more sustainable, productive, and economically viable plant and animal production systems. 2023 priority areas include plant health and production, animal health and production, food safety, nutrition, and health, bioenergy, natural resources and environment, agriculture systems and technology, and agriculture economics and rural communities. Applications that address climate change, food security, expanding markets for producers, traditional ecological knowledge, and equity for underserved producers are welcome. See Request for Applications announcement for details. **Applications due between August and November 2023 based on Program Priority Areas.**

### Extension, Education & USDA Climate Hubs Partnership,

program priority area has been updated to allow for maximum award amounts are \$1 million for 3-5 years and projects can be in one Climate Hub region. **Letters of Interest due 4 May.**

### Sabbatical Research and Education Call for Proposals.

This Western Sustainable Agriculture Research and Education (SARE) Sabbatical 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. \$75,000 limit/one year in scope. **Proposals due 21 November.**

## Opportunities

### Fellowships with the USDA Climate Hubs.

The USDA Climate Hubs have several fellowship opportunities available at the Northern Plains, Caribbean, Puerto Rico and US Virgin Islands, Northeast, and Southern Plains Climate Hubs. Positions encompass several focus areas. **Application due dates are dependent on position.**

### Research Fellowship Program, Northwest Climate Adaptation Science Center.

The Northwest Climate Adaptation Science Center (NWCASC) is accepting proposals for the 2023-24 Research Fellowship Program that support research related to climate adaptation for Northwest natural and cultural resource management and provide training in developing decision-relevant science. This one-year program begins in the fall term and continues through July. **Applications due 13 March.**

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