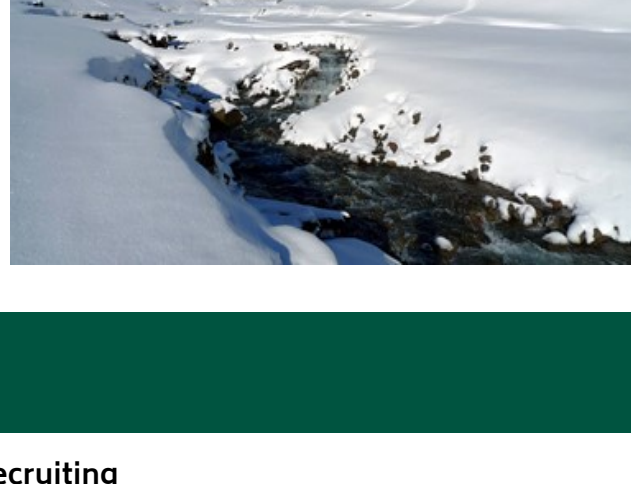




Featured Article

The Importance of Snow Water Equivalent in the Northwest

Snow is crucial to water supplies in the Northwest for both humans and animals. Snow water equivalent helps us understand how much water is in snow and helps water managers allocate water to different resources. Read about how to understand this metric and the impacts of climate change on snow in the Northwest and let's celebrate snow this holiday season!



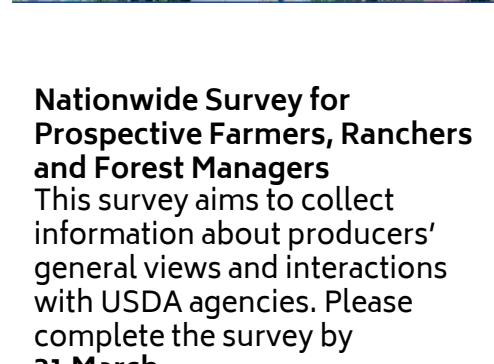
USDA Requests for Information

Request for Public Input About Implementation of the Inflation Reduction Act Funding.

The Natural Resources Conservation Service (NRCS) is asking for public input on how to maximize funding for climate mitigation, including targeting practices that reduce greenhouse gas emissions. Additionally, NRCS is requesting recommendations on how to maximize, target, monitor, and quantify improvements to soil carbon, reductions in nitrogen losses, and the reduction, capture, avoidance, or sequestration of greenhouse gases associated with agricultural production. NRCS is also seeking ideas for how to improve program delivery to increase efficiencies and expand program access for producers, especially underserved producers. **Comments due 21 December.**

USDA Forest Service Recruiting for New Federal Advisory Committee.

Nominations are being accepted for members to a Federal Advisory Committee for national forests in the Northwest Forest Plan area of Northern California, Oregon, and Washington. The Committee will provide input on modernizing landscape management to promote sustainability, climate change adaptation, and wildfire resilience while addressing increased demands on Northwest Forest Plan lands. The committee will meet about four times annually for a two-year term. They will include experts in the science community, organizations with an interest in these forests, and government, tribal, and public groups. **Packets due 17 January.**



Nationwide Survey for Prospective Farmers, Ranchers and Forest Managers

This survey aims to collect information about producers' general views and interactions with USDA agencies. Please complete the survey by **31 March.**

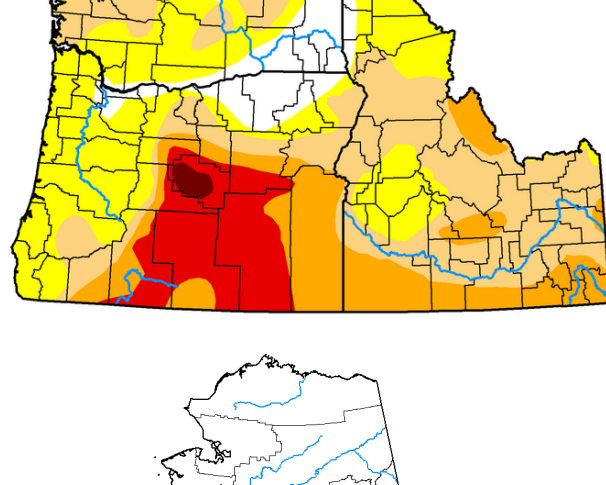
Drought Update

The region has seen some reductions in drought in the last month. Central and eastern Washington improved in some areas from moderate drought (D1 – tan) to abnormally dry conditions (D0 – yellow) and from abnormally dry conditions to no drought (white areas). The area along the Columbia River in northern Oregon and southern Washington has also seen a decrease from abnormally dry (D0 – yellow) to no drought (white). Idaho has also seen a reduction in drought, decreasing from moderate drought (D1-tan) to abnormally dry (D0-yellow) in the southeast. Some areas in southern Idaho that were experiencing extreme drought (D3-red) decreased to severe drought (D2-orange). There has been significant snowfall accumulation in mountain ranges in Oregon and Washington, including the Olympics, Cascades, and Blue Mountains. Idaho has also seen above normal snowfall. Back-to-back storm systems delivered significant rainfall accumulations to the lower elevations of Oregon and Washington.

Alaska remains drought free, with normal to above-normal snow water equivalent levels being reported across all observed basins.



U.S. Drought Monitor
USDA Northwest Climate Hub



December 13, 2022
(Released Thursday, Dec. 15, 2022)
Valid 7 a.m. EST

	Drought Conditions (Percent Area)						
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	
Current	72.58	27.42	16.42	7.57	3.06	0.16	
Last Week 12-06-2022	71.92	28.08	17.39	7.72	3.16	0.16	
3 Months Ago 09-13-2022	75.74	24.26	15.74	7.75	3.90	0.16	
Start of Calendar Year 01-01-2022	74.10	25.90	23.79	15.09	6.81	2.01	
Start of Water Year 09-27-2021	70.29	29.71	18.36	7.80	3.90	0.16	
One Year Ago 12-14-2021	73.45	26.55	25.98	21.93	11.19	2.37	

Intensity:
None D2 Severe Drought
D0 Abnormally Dry D3 Extreme Drought
D1 Moderate Drought D4 Exceptional Drought

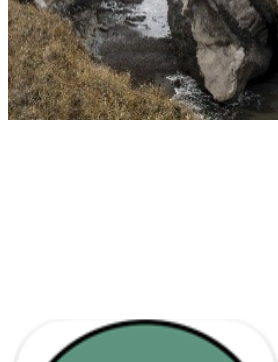
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:
Curtis Riggall
National Drought Mitigation Center



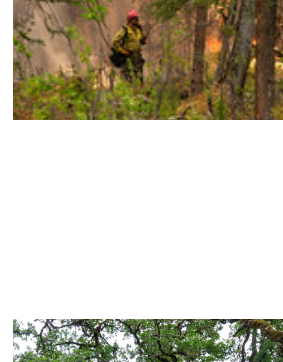
droughtmonitor.unl.edu

Information



Tribal Communities Impacted by Climate Change Receive Funds for Relocation

The Biden-Harris administration announced \$135 million in funds for the voluntary, community-led relocation of Tribal communities impacted by climate change, including Newtok and Napakiak, Alaska, and the Taholah Village on the Quinault Indian Nation.



Protecting Communities from Wildfire on the Kenai Peninsula

As fire frequency increases with climate change, communities will need to employ new methods of fire prevention. This storymap describes how public and private partners are working together to reduce wildfire risk surrounding the Kenai National Wildlife Refuge.



New App for Mapping Alaska Fish Habitat

Understanding the distribution of important fish habitat is critical to protecting Alaska's fisheries in a changing climate. A new smartphone app allows citizens to assist researchers in mapping fish in Alaska through citizen science.



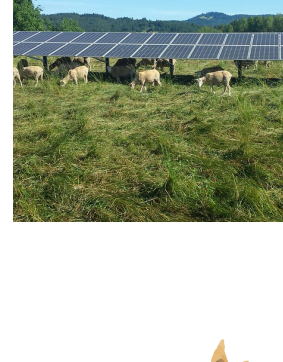
Northwest Forests and Woodlands

The forests and woodlands found in Alaska, Idaho, Oregon and Washington are as vast as they are diverse. Learn about the many types of Northwest forests, how climate change might impact them, and various adaptation options.



Grazing Lands in Idaho, Oregon, and Washington

Grazing lands in the Northwest are affected by climate change in myriad ways. In this article from the NW Climate Hub learn about their characteristics, how they might be affected by climate change, and adaptation options.



Agriculture in Alaska

Learn about agricultural production in Alaska and how climate change could present opportunities and challenges to producers in the state from this NW Climate Hub article.



Podcast: Growing Crops Among Solar Panels in Colorado

In the first episode of AgriSolar podcast, hear about the benefits of agrisolar, the challenges of farming in an obstacle course, and the importance of community.



Exploring the Nexus of Solar Energy and Agriculture

This article from Agriculture Climate Network discusses two approaches by American Farmland Trust to ensure the interests and values of agricultural lands and landowners are equitably considered in decisions about solar development.

Workshops & Conferences

Alaska Forum on the Environment, 6-10 February, Anchorage, AK and virtual. This is Alaska's largest statewide gathering of environmental professionals and will offer sessions on climate change, energy, environmental regulations, cleanup and remediation, fish and wildlife, solid waste, and more. This year, both in person and virtual attendance is available for attendees and exhibitors.

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 Oregon wildfires can inform future decisions, and aims to promote collaboration between institutions/agencies involved in post-fire research and monitoring. **Register by 15 January.**

2023 Society for Range Management Annual Meeting, 12-16 February, Boise, ID and virtual. The annual meeting will include technical tours, sessions, and meeting events that focus on rangelands-related topics including rangeland restoration, climate change adaptation, and wildland fire resilience.

SoilCon 2023, 14-15 February, Online Only. Soil health is trending topic in agricultural production and environmental resilience to climate change, but what does the latest research tell us and how can we put it into practice for regional systems? SoilCon aims to address these questions for agriculture or natural resource professionals, producers, consultants, University faculty and students, and interested members of the public.

2023 Tribal Resilience Camp, 12-18 March, Ghost Ranch, NM. Applications due 12 January. The camp will support teams of Tribal leaders, climate change coordinators, planners, and program managers to build skills, gather information, and develop Tribal plans and policies needed to address climate change impacts. Applications will be prioritized from delegations of 3-4 individuals from each Tribe and/or organization and will be considered from all geographies.

Webinars

Tribal Health and Adaptation Peer-Learning Roundtable Webinars, every 3rd Tuesday until October 2023, 10 am PST. The 15 December webinar will focus on approaches to scoping climate and health adaptation based on Tribes' unique needs. These monthly 2-hour webinars will advance the knowledge, skills, and networks of Tribes adapting to climate change. The training will include step-by-step instruction, tools, interactive discussions, and templates on health adaptation topics. Participants will have the opportunity to contribute to live conversations or asynchronously to "wisdom wells."

December Alaska Climate Outlook Briefing, 16 December, 12 pm AKST. The briefing will review recent and current climate conditions around Alaska, discuss forecast tools, and conclude with the Climate Prediction Center's forecast for January 2023 and the winter.

Pacific Northwest Drought Early Warning System December Drought and Climate Outlook, 18 December, 11 am PST. This webinar will provide timely information on current and developing drought conditions. Speakers will also discuss the impacts of these conditions on events such as wildfires, floods, disruption to water supply and ecosystems, as well as impacts to affected industries like agriculture, tourism, and public health.

Restoring Oregon's Dry Side Forests, every 1st and 3rd Wednesday until 5 April, 6-7:30 PM PST. This series will explore the complexities and realities of "restoring" forests and other ecosystems to historic conditions. **21 December** will focus on assessing forest and range wildfire risk. **4 January** will prioritize restoring resilience in Dry Side fire-adapted forests. 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.

Southeast Alaska Drought Report, 10 January, 11 am AKST. This webinar will discuss drought history, causes and ecosystem impacts in the region. Select community perspectives will be highlighted and the likelihood of future drought events will be reviewed. For Tribes, communities and decision makers in Southeast Alaska, this report will provide ready access to "what happened" and can inform planning, adaptation and mitigation activities in the future.

Climate Change and the Water Cycle: Fifth National Climate Assessment Draft, 12 January, 10 am PST. Across the US, floods, droughts, and other water-related hazards are being amplified by climate change, but the impacts are not falling equally across regions and populations. Learn about the consequences of an intensified water cycle in the Fifth National Climate Assessment (NCAS) draft, which is now posted for public review and comment. Chapter lead Liz Payton will present highlights from the chapter, followed by Q&A with members of the chapter author team.

Funding Opportunities

December

National Fish Passage Program, U.S. Fish and Wildlife Service. This voluntary program aims to maintain or increase fish populations to improve ecosystem resilience and to provide quality fishing experiences for the American people. Building resilience for fish populations through improved habitat will be important because climate change will decrease summer river flow and increase water 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 health and production and animal products; 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 integration projects are solicited. **Applications due 31 December.**

February

Clean Energy Technology Deployment on Tribal Lands. The Department of Energy Office of Indian Energy is soliciting applications from Tribes to install clean energy generating system(s) and energy efficiency measure(s) for Tribal buildings; deploy community-scale clean energy generating system(s) or energy storage on Tribal lands; or install integrated energy system(s) for autonomous operation to power essential Tribal facilities during emergency situations or for Tribal community resilience. Individual awards vary depending on type of project with a range from \$100,000 to \$4,000,000. **Applications due 9 February.**

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.**

Apply to Host the Alaska, Northwest, and Southeast Climate Adaptation Science Centers (CASCs). The CASCs provide highly local climate science in focus areas relevant to their regions. Institutions can apply to host the CASCs, and once selected, the recipient will be established as the host institution for the respective regional CASC. As a host, an institution will be the sole entity eligible to receive funding to conduct follow-on research and science projects anticipated as a part of this program announcement. **Applications due 14 March.**

January

Cultural and Community Resilience Program. The National Endowment for the Humanities Division of Preservation and Access is accepting applications for the Cultural and Community Resilience Program. This program supports community-based efforts to mitigate climate change and COVID-19 pandemic impacts, safeguard cultural resources, and foster cultural resilience through identifying, documenting, and/or collecting cultural heritage and community experience. The program prioritizes projects from disadvantaged communities in the U.S., and encourages applications that use inclusive methodologies. **Applications due 12 January.**

Building Resilient Infrastructure and Communities Program. This program funds states, U.S. territories, Indian tribal governments, and local communities for pre-disaster mitigation, with a focus on disasters, risks, and hazards, including those associated with climate change. The program offers support through capability- and capacity-building, innovation, investing partnerships and enabling investments to reduce risk from natural hazards, providing an opportunity to reduce losses and minimize impacts on the Disaster Relief Fund, promoting equity, and supporting building codes, standards, and policies that will protect the health, safety, and welfare of the public. **Applications due 27 January.**

Ongoing

Weatherization Pilot Program, Emerald Cities Collaborative. Low-Income Weatherization programs have been instrumental in improving lives and meeting energy efficiency goals in Washington. Emerald Cities Collaborative Northwest is working to refresh these programs in order to respond to climate change with more resources, collaboration with frontline communities, and a diverse workforce to implement these actions. This pilot program is funded through a Department of Energy Innovation Grant and aims to reach a majority of eligible low-income residents in hard-to-reach, frontline communities. The pilot program aims to include 40 houses. **Applications opened 30 November.**

View this webinar to learn how to apply (start recording at 11:24).

Opportunities

Art x Climate: A Project of the Fifth National Climate Assessment. Artists are invited to engage in the development of the Fifth National Climate Assessment by creatively visualizing climate change in the United States. Art x Climate seeks to strengthen partnerships between science and art and demonstrate the power of art to advance the national conversation around climate change. Selected art submissions will be featured in the Fifth National Climate Assessment. Selected artworks may also be used in case studies, public events, or communication materials. **Submissions due by 11:59 PM ET on 27 January 2023.**