



## Featured Article

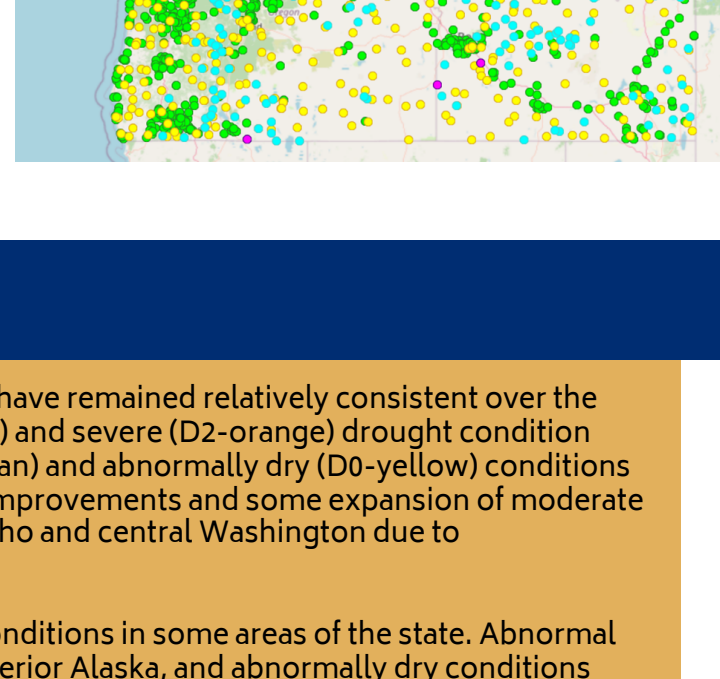


### Agriculture & Climate Change in Alaska: a Curriculum for Grades 6-12

The Northwest Climate Hub and Alaska FFA Association have developed a curriculum for grades 6-12 on agriculture and climate change in Alaska. This unit includes lessons on the difference between weather and climate, the basics of climate change, water quality, soils, agricultural economics in a changing climate, interviews with community members, and a group presentation on agricultural issues in Alaska. Because Alaska is one of the fastest warming regions on Earth, it is important to prepare future agricultural producers for changes that could arise with climate change.

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

Overview of Weather Water Land Sites (OWWLS) is a map of the locations of national weather stations, stream gauges, reservoirs, and groundwater monitoring stations. This online map also includes station locations, radar coverage at the 10,000-foot level, land cover, land use, land ownership type, and the median annual indemnity payment from USDA Risk Management Agency for weather-related causes. OWWLS covers most of the West, including Alaska, Idaho, Oregon, Washington, and states bordering the Northwest Climate Hub region and the Southwest Climate Hub region. This tool is for weather and climate service providers to see where data gaps exist.



News release from the National Drought Mitigation Center.

## Drought Update

Drought conditions in Idaho, Oregon, and Washington have remained relatively consistent over the last month. Exceptional (D4-dark red), extreme (D3-red) and severe (D2-orange) drought condition areas have remained the same. Moderate drought (D1-tan) and abnormally dry (D0-yellow) conditions were adjusted in Washington to show a mix of mostly improvements and some expansion of moderate drought. Drought conditions improved in northeast Idaho and central Washington due to precipitation.

In Alaska, recent precipitation has improved drought conditions in some areas of the state. Abnormal dryness (D0) and moderate drought (D1) continue in Interior Alaska, and abnormally dry conditions (D0). According to the Alaska Interagency Coordination Center, wildfires have burned more than 3 million acres in 2022 to date. Recent precipitation in southern Alaska eliminated abnormal dryness from Kodiak Island and also supported a decrease in abnormally dry (D0) and moderate drought (D1) conditions throughout southern Alaska.



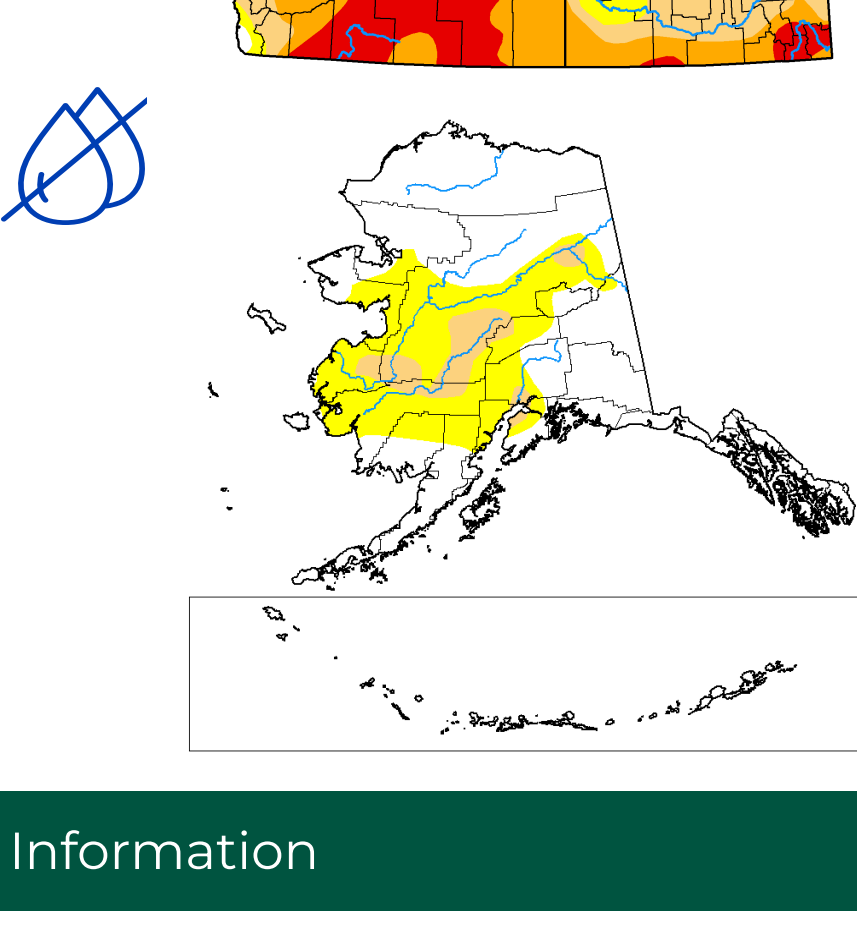
National Integrated Drought Information System



CoCoRaHS Community Rain Hail Snow Network

Condition Monitoring Observer Reports - Drought

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



July 19, 2022  
(Released Thursday, Jul. 21, 2022)  
Valid 8 a.m. EDT

	Drought Conditions (Percent Area)					
	None	D0-D1	D1-D2	D2-D3	D3-D4	D4

Current	56.09	43.91	17.83	7.85	4.04	0.21
Last Week 07-12-2022	51.01	48.99	24.20	8.73	4.04	0.21
3 Months Ago 04-19-2022	75.46	24.54	22.47	17.37	7.22	2.02
Start of Calendar Year 01-01-2022	74.10	25.90	23.79	15.09	6.81	2.01
Start of Water Year 09-01-2021	70.14	29.86	27.67	24.87	18.54	7.83
One Year Ago 07-20-2021	49.64	50.36	33.10	23.64	14.50	5.34

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

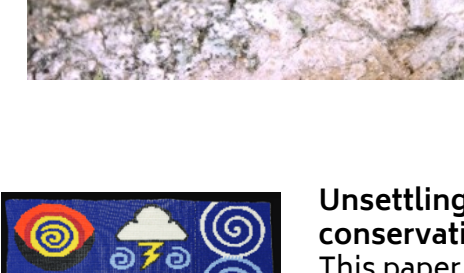
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:  
Brian Fuchs  
National Drought Mitigation Center



droughtmonitor.unl.edu

## Information

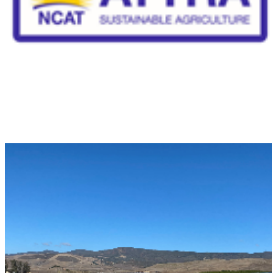


**Emerald Ash Borer in Oregon**  
This invasive and destructive wood-boring pest of ash trees was observed in Forest Grove, OR. A scientific study examined the probability of invasion from this pest and found that several counties in Oregon and Washington are at elevated risk due to relatively high densities of rural ash, a cooler climate, and high human population densities. Climate change will likely increase the potential area impacted by emerald ash borer in North America due to warmer night temperatures and fewer cold mortality events.

Find additional information on the Emerald Ash Borer via these links:  
Emerald Ash Borer Readiness and Response Plan for Oregon  
Oregon Department of Forestry – Forest Health



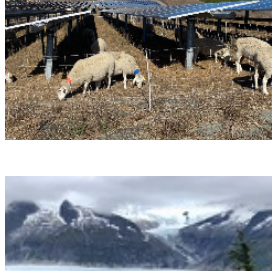
**Unsettling marine conservation:**  
This paper, written by Indigenous authors, discusses how to center marine conservation around Indigenous knowledge, using methodologies such as Two-eyed Seeing, reflexivity, and decolonizing messages.



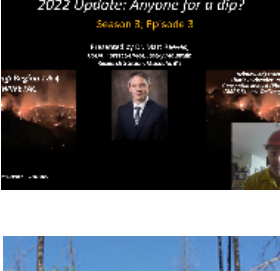
**Sustainable Agriculture Podcast: Indigenous Agriculture**  
This two-part podcast explores Indigenous and traditional agriculture methods that may help prepare for climate change from Appropriate Knowledge.



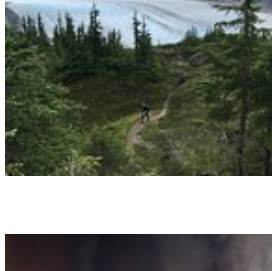
**The ABCs of Soil Health**  
This StoryMap discusses the importance of soil health in agriculture and how to manage for soil conservation practices. Improving soil health is a key climate change adaptation strategy.



**Solar Sheep: an Example of Multi-Functional Land Use**  
This article discusses the importance of multi-purpose land use in the face of climate change, and how using sheep to manage vegetation on solar farms is a mutually beneficial relationship.



**Anyone for a Dip? Reading the Tea Leaves**  
This recorded presentation discusses the impact the recent wet spring has had on cheatgrass conditions and how that will lead to a higher likelihood of grass fires this summer.



**Juneau Climate Report**  
A report from the Alaska Coastal Rainforest Center that includes impacts of climate change on the Juneau area and examples of community response to climate change.



**Hitting the Target Plant: Post-Disturbance Reforestation in a Changing Climate**  
This Science You Can Use bulletin explores how managers can implement climate-smart reforestation efforts following wildfire or severe drought.



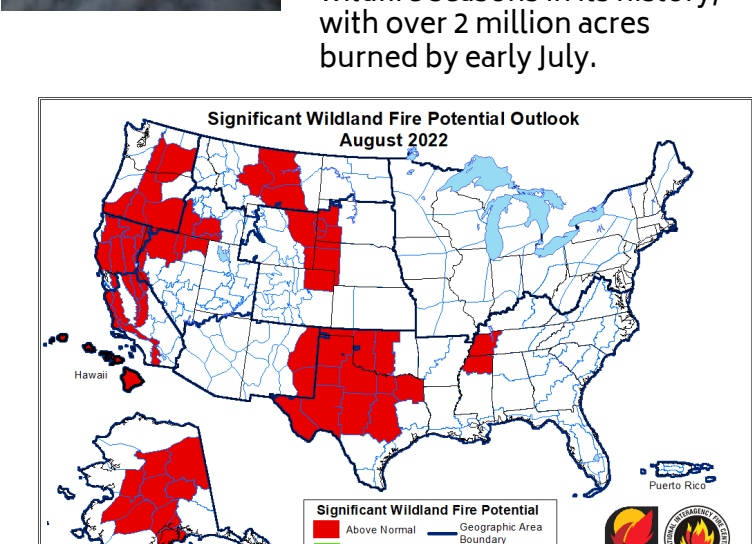
**Hotter, Drier Nights Mean More Runaway Fires**  
This article from University of Colorado Boulder explains that nights used to offer reprieve from wildfire, but hotter and drier nighttime weather no longer dampens wildfires in the West.



**Alaska on Fire**  
This Conversation interview with Rick Thoman, climate specialist at the International Arctic Research Center, examines how Alaska is on track to have one of the largest wildfire seasons in its history, with over 2 million acres burned by early July.



**Cascadia Burning**  
A scientific publication from the Pacific Northwest Research Station explores the historical, but not historically unprecedented, 2020 wildfire season in western Washington and Oregon.



**National Significant Wildland Fire Potential Outlook** Above-normal fire potential is expected for much of Southwest, Southcentral, and Interior Alaska from July to August. A month of hot and dry weather across much of the state has led to extremely dry fuels. All other areas across Alaska are expected to have normal fire potential in July and August.

In Washington and Oregon, above-normal and normal fire potential is expected from July-October. Above-normal precipitation from April through June has kept the fire season at bay and reduced drought severity. However, the high fine-fuel loads of exotic annual grasses in the Columbia Gorge, Columbia and Yakima Basin, and southwestern Idaho raise concerns for significant fire potential. Above-average precipitation in northern and central Idaho has reduced fire potential.

## Webinars

**2022 NWS Alaska Climate Outlook Briefing, July 22, 12 - 1 pm AKST.** This webinar will review recent and current climate conditions around Alaska, discuss forecast tools, and conclude with the Climate Prediction Center's forecast for August 2022. Join the gathering online to learn what's happened and what may be in store with Alaska's seasonal climate from Rick Thoman, Alaska climate and weather specialist.

**Pacific Northwest Drought Early Warning System: August Drought and Climate Outlook. 22 August, 11 am -12 pm PST.** This webinar is designed to provide timely, regional information on current drought status and impacts. It will include a preview of current and developing climatic events and two specialty topic speakers. Specialty topics focus on management actions, latest tools, and research on snow, water, forestry, rangelands, or agriculture.

**USGS and NOAA National Listening Session: Water Availability Prediction for Ecosystems. 8 September, 10 - 12:30 pm PST.** This listening session will include a short introduction to water availability prediction products for ecosystems, followed by guided discussions with participants on research priorities for product development or improvement at the national and/or regional scale.

## Workshops & Conferences

**2022 Annual Soil and Water Conservation Society Conference, 31 July-3 August, Denver, CO.** This year's conference aims to gather people from all backgrounds. It will feature the latest ideas, technologies, and practices and foster a dialogue around water conservation efforts. Through workshops, sessions, symposia, tours, exhibits, and demonstrations, cutting-edge research and practice developments in soil health, water quality, and resource management will be shared. Current policies, practices, and research about climate change and climate-smart agriculture will also be shared.

**Tribal Lands and Environmental Forum, 8-11 August, Milwaukee, WI and online.** The 12th annual forum for environmental professionals will provide a space for Tribes; state, local, and federal agencies; community organizations; and other interested parties to share knowledge on how to improve management, protection, and restoration of Tribal lands. **Registration must be completed by 25 July for in-person and 5 August for virtual.**

**National Tribal and Indigenous Climate Conference, 29 August-1 September, St. Paul, MN and online.** This conference focuses on climate change adaptation and resilience efforts conducted by Tribal and Indigenous people and communities. People from all backgrounds, including Tribal and Indigenous resource professionals, federal staff, personnel from universities, nonprofits, and students from academic institutions, including Tribal colleges and universities, are invited to attend.

**Oregon Conservation Education and Assistance Network (OCEAN) CONNECT+, 6-8 September in Seaside, OR.** This three-day, immersive conference will bring together local, state, and federal decision-makers from conservation districts, watershed councils, land trusts, and others committed to conserving natural resources. This conference advances Oregon's conservation efforts through diversity, equity, and inclusion of all people across the state.

**10th Annual Rising Voices Workshop, Virtual, 14-16 September.** The Rising Voices Center for Indigenous and Earth Sciences facilitates opportunities for Indigenous and Non-Indigenous scientific experts and community leaders from around the world to jointly address how extreme weather and climate events are impacting communities, and to develop action plans. This year's workshop theme, "Emergent Knowledge through Indigenous and Earth Science Collaborations," will serve as a bridge to reflect on where Rising Voices has been in its first decade, and what emerges into the next decade. Registration information for this virtual workshop to come.

**Reforestation Pipeline in the Western United States, Missoula, MT, 27-29 September.** Large-scale reforestation is one proposed solution to mitigate the effects of climate change. This conference will be a place to discuss the potential challenges to reforestation in the western United States. This is a joint annual meeting for the Western Forest and Conservation Nursery Association, Intertribal Nursery Council, and Intermountain Container Seedling Growers' Association.

**National Adaptation Forum, 25-27 October, Baltimore, MD.** The National Adaptation Forum provides an opportunity for attendees to make their work climate informed, share what they have learned with others, and explore innovative adaptation approaches. It is a professional development event that aims to expand the network of all attendees striving to be climate informed. The 5th National Adaptation Forum will continue to bring together individuals from a wide spectrum of sectors and regions integrating climate adaptation planning into their day-to-day activities.

**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.

## Funding Opportunities

### August

**Urban Agriculture and Innovative Production (UAIP) Competitive Grants Program.** The primary goal of the UAIP pilot project is to support the development of urban agriculture and innovative production, especially planning and implementation projects. Planning projects will initiate or expand the efforts of farmers, gardeners, citizens, government officials, schools, members of Tribal communities, and other stakeholders in areas where access to fresh foods is limited or unavailable. Implementation projects accelerate models of urban and innovative agricultural practices for multiple farmers or gardeners. Innovation may include new and emerging, as well as traditional or Indigenous, agricultural practices. Nonprofits, units of local and Tribal government, and K-12 schools are invited to apply. **Applications due by 2 August.**

**Composting and Food Waste Reduction (CFWR) Pilot Project.** Uneaten food contributes approximately 4% of greenhouse gas emissions in the United States. To help reduce these emissions the U.S. Department of Agriculture, Natural Resources Conservation Service are soliciting applications from eligible applicants to host a CFWR pilot project. Projects are intended to help carry out planning and implementation of activities that will generate compost, increase access to compost for agricultural producers, reduce reliance on (and limit the use of) fertilizer, improve soil quality, encourage waste management and permaculture business development, increase rainwater absorption, reduce municipal food waste, and divert food waste from landfills. **Applications due by 1 September.**

**Clean Lakes, Estuaries, and Rivers Initiative.** The USDA Farm Service Agency is offering a nationwide opportunity for landowners and agricultural producers currently implementing water quality practices through the Conservation Reserve Program to enroll in 30-year contracts, extending the lifespan and strengthening the benefits of important water quality practices on their land. To sign up, landowners and producers should contact their local USDA Service Center by 5 August.

**Partners for Fish and Wildlife Program.** This is a voluntary, incentive-based program that provides direct technical and financial assistance to private landowners to restore and conserve fish and wildlife habitat for the benefit of federal trust resources. Project work plans are developed strategically, in coordination with partners, and with substantial involvement from Service field staff. Project selection will seek to align or support the Secretary's priorities. Program strategic plans inform the types of projects funded under this opportunity. **Applications due by 30 September.**

**Proposals for the Joint Chiefs' Landscape Restoration Partnership.** The U.S. Department of Agriculture (USDA) is asking for proposals from partners that aim to improve forest health on public and private lands by reducing wildfire risks in a municipal watershed or wildland-urban interface. USDA's Natural Resources Conservation Service and the Forest Service are seeking proposals by 5 August.

**Foundational and Applied Science Program.** The USDA 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; 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 by 31 December.**

**Restoring Fish Passage through Barrier Removal Grants, NOAA Fisheries.** Up to \$65 million in funding is available under the Bipartisan Infrastructure Law for fish passage projects that will remove in-stream barriers. This funding will support transformational projects that reopen migratory pathways and restore access to healthy habitat for fish around the country. In collaboration with NOAA, selected partners will use these funds to implement locally led removals of dams and other in-stream barriers to rebuild sustainable fisheries, contribute to the recovery of threatened and endangered species, enhance watershed health, and improve economic vitality. **Applications due by 15 August.**

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**Restoring Tribal Priority Fish Passage through Barrier Removal Grants, NOAA Fisheries.** \$12 million in funding is available to implement fish passage work and build tribal organizational capacity in FY2022 under the Bipartisan Infrastructure Law. NOAA received Tribal input to inform this specific funding opportunity, which will support Tribes, Tribal commissions, and Tribal consortia in building Tribal organizational capacity and implementing projects that reopen migratory pathways and restore access to healthy habitat for Tribal-important species. NOAA will accept proposals between \$300,000 and \$5 million. **Applications due by 29 August.**

### September

**Post-Doc Position in Boundary Spanning and Knowledge Co-Production for Community Climate Resilience** The Alaska Center for Climate Assessment and Policy is seeking a highly innovative and energetic interdisciplinary scientist with interest and aptitude in bridging science and practice, partnerships between researchers and local knowledge, and/or observable science to join their team. **Open until filled.**

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**Opportunity to Join Team in Developing Northwest Climate State of Knowledge Synthesis** The University of Washington Climate Impacts Group is seeking individuals from Northwest Climate Adaptation Science Center University Consortium members — Boise State University, Oregon State University, University of Montana, University of Washington, Washington State University, Western Washington University — who are interested in being part of a team to develop the Northwest Climate State of Knowledge Synthesis. Time commitment to this project can be as little as three months, but the project will be running through December 2023.

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### October

**Rapid Response to Extreme Weather: Food and Agricultural Science Enhancement (FASE) Grant.** This program is designed to rapidly deploy strategies and fill knowledge and information gaps to protect the nation's food and agricultural supply chains, from production through consumption, during and after extreme weather and disasters. All applicants must directly address effects associated with an extreme weather event or disaster that has occurred and address agroecosystem resilience, agricultural commodity, and nutrition security, and/or health, well-being, and safety. FASE grants will accept applications continuously, so long as a Letter of Intent is submitted within 14 days of an extreme weather event.

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### Ongoing

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