

# Drought in the NW Climate Hub Region

In Alaska, new areas of abnormal dryness (D0-yellow) developed in areas of the Interior and Southcentral. Abnormally dry conditions (D0-yellow) persisted across most of the Seward Peninsula, areas to the northwest, as well as on Kodiak Island.

In Oregon, areas in extreme drought (D3-red) expanded slightly in Douglas and Harney counties. Despite a short period of rain in the western and northern regions, all areas in severe (D2-orange) and moderate (D1-tan) drought persisted in Oregon.

In Washington, abnormally dry areas (D0-yellow) across the north-central and eastern parts of the state improved to normal. Areas of extreme (D3-red), severe (D2-orange), and moderate (D1-tan) drought throughout central Washington persisted since last month.

The western Idaho panhandle saw improvement since last month, where abnormally dry conditions (D0-yellow) continued to improve. Reductions in abnormally dry conditions (D0-yellow) occurred in the Rexburg region and areas of moderate drought (D1-tan) improved in southeastern Idaho. Moderate drought (D1-tan) developed in south-central Idaho this month, while drought status throughout the remainder of the state remained mostly unchanged, with a persistent "bullseye" of extreme to moderate drought conditions remaining.



## U.S. Drought Monitor

### December 15, 2020

(Released Thursday, Dec. 17, 2020)  
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0	D1	D2	D3	D4
<b>Current</b>	71.83	14.71	4.24	5.47	3.75	0.00
<b>Last Week</b> 12-08-2020	71.62	14.73	4.45	5.46	3.75	0.00
<b>3 Months Ago</b> 09-15-2020	54.79	30.28	6.02	5.19	3.71	0.00
<b>Start of Calendar Year</b> 12-31-2019	70.58	22.31	7.10	0.00	0.00	0.00
<b>Start of Water Year</b> 09-29-2020	61.33	22.98	6.22	4.96	4.51	0.00
<b>One Year Ago</b> 12-17-2019	70.78	22.02	7.20	0.00	0.00	0.00

**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>

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[droughtmonitor.unl.edu](http://droughtmonitor.unl.edu)

## Improving Drought Impact Indicators in the Pacific Northwest: Call for Input

A new online decision support tool will directly link drought indicators with impacts and management decisions in the Pacific Northwest. The ultimate goal is to improve drought impact mitigation and reduce the economic effects of drought. To achieve this, details from natural resource managers, tourism, and recreation sectors are needed. Participants will provide input on the effects of drought or limited water, strategies and barriers for coping with drought impacts, perspectives on existing data, and other aspects so that new products and information are more useful. To participate or request more information, contact Bart Nijssen ([nijssen@uw.edu](mailto:nijssen@uw.edu)), John Abatzoglou ([jabatzoglou@ucmerced.edu](mailto:jabatzoglou@ucmerced.edu)), or Katherine Hegewisch ([khegewisch@ucmerced.edu](mailto:khegewisch@ucmerced.edu)).

The new tool will be added to the Climate Toolbox, including the [Climate Mapper](#) that shows real-time weather and hydrological conditions and the [Historical Water Watcher](#) that compares different measures of water availability in near real-time.

## USDA Climate Hubs Annual Report 2019-2020

This story map summarizes 2019 - 2020 accomplishments from each of the ten regional USDA Climate Hubs.

## Webinars & Trainings

**National Weather Service Alaska Climate Outlook Briefings, Fridays 12 pm AKT.** This monthly webinar series by the Alaska Climate Assessment and Policy Center reviews recent climate and looks ahead at future climate projections. **The next webinar is on 18 December.**

**Climate Impacts Group 25-Year Anniversary Lecture Series on Building Climate Resilience**

**27 January 5 pm PST, Building Climate Resilience During COVID-19 Recovery**

**30 March 5 pm PST, The Next 25 Years: Building a Climate-Resilient Future**

**Pacific Northwest Drought & Climate Outlook, 22 February 11 am PST.** The Pacific Northwest Drought Early Warning System hosts a series of region-specific drought and climate outlook webinars to provide timely information on current drought status and impacts, a preview of current and developing climatic events, and special topics.

Did you miss the December DEWS webinar? Check out a recording here.

**Northwest River Forecast Center Monthly Water Supply Briefing, 7 January 10 am PST.** The monthly water supply briefings are held on the first Thursday of each month from January through late spring. Registration is required.

**Good Neighbor Authority in Oregon and Washington (recorded).** Learn how Good Neighbor Authority projects are implemented on National Forests by the Oregon Department of Forestry Federal Forest Restoration (FFR) Program and Washington Department of Natural Resources.

**Dry Forest Restoration on Steep Terrain (recorded).** Restoring dry forests on steep terrain remains challenging, partly because of historical policies that limit ground-based harvesting equipment on steep slopes. The long-term results may lead to increased likelihood of high-severity wildfires that undermine management intentions. The Central Oregon Forest Stewardship Foundation is increasing engagement about current harvesting systems and exploring restoration options on steep terrain. This webinar provides information on a pilot project and a synthesis of related workshops and demonstrations.

**Assessing the Work of Wildfires and Identifying Post-fire Management Needs (recorded).** This webinar covers Joint Fire Science Program-funded research on the "work of wildfires" on the landscape and helps identify post-fire management needs. Learn about how fires can aid or hamper adaptive and restorative management and how to determine post-fire management needs.

**Response of Big Sagebrush Plant Communities to Climate Change, Grazing, and Cheatgrass Throughout the 21st Century (recorded).** The webinar describes how model simulations can be used to evaluate the availability of water for plants under future climate scenarios. This approach helps managers better understand how climate change will affect big sagebrush and to identify which locations will be especially vulnerable.

## Conferences & Meetings

**Idaho Virtual Range Livestock Symposium 12 January.** Featured topics at this year's symposium include factors affecting cattle sales prices at auction, ranch management, riparian grazing management, and many more. [Click here to register.](#)

**SoilCon: Washington Soil Health Week 8-12 February.** Washington State University's Soil Health Initiative will bring together soil experts to discuss soil health. This virtual event will have sessions from 9:30-11:00 AM and 1:00 PM-2:30 PM PST each day. Topics will include status of soil health in the US and Washington State, soil health indicators, soil health specific to Washington's production systems, and lessons learned from long-term soil health research. These topics will be relevant to producers, consultants, agricultural professionals, policy makers, conservation districts, and interested members of the general public. [Attendance is free and open to anyone.](#)

**2021 Alaska Forum on the Environment Goes Virtual, 8-11 February.** This year's forum will take a new form online, including technical sessions and environmental trainings offered through the Alaska Connect platform all year long. To keep with tradition, enhanced content, trainings and world-renowned keynotes will take place February 8-11, 2021. [Register here.](#)

**Idaho Water Quality Workshop, 9-11 February.** This online meeting will feature presentations on nonpoint source pollution, Perfluorooctanoic acid (PFAS) in ground-water, and fish bioassessment.

**Society for Range Management 2021 Virtual Annual Meeting, 15-18 February.** The theme of the 2020 meeting is "new frontiers" and will highlight new ideas and endeavors occurring on rangelands across the globe. Registration opens soon.

**Northwest Climate Conference, 6-8 April.** This conference connects a diverse community of practitioners, scientists, tribal communities, and decision-makers to share knowledge and best practices related to climate change science, impacts, and adaptation across the Northwest. Topics include drought, wildfire, extreme events, coastal flooding, human and ecosystem health, and resiliency planning. Registration opens soon.

## Information

**Integrating Climate Change Considerations into Natural Resource Planning—An Implementation Guide.** A new guide for the Climate Adaptation Integration Tool (CAIT) from the USGS helps resource managers use climate science and assessments, along with local knowledge, to identify adaptation strategies and actions most appropriate for a given site or situation. CAIT is designed to help managers downscale regional climate assessments, plans, and data to identify adaptation actions and strategies appropriate for management units and project-level planning.

**Science You Can Use in 5 Minutes, Hearing Every Voice in the Room: Social Science for Public Engagement During Forest Planning.** Forest Service resource managers and research scientists are meeting requirements for engagement under the 2012 Forest Planning Rule using Q methodology. A recent report describes how this technique has been used to work with the public to better understand ecosystem service tradeoffs and drivers of change in a way that is engaging and scientifically rigorous for forest planning and management.

[Click here to read the General Technical Report](#)

**2020 Arctic Report Card.** This year's report card tells the story of a rapidly changing Arctic, characterized by record warm temperatures and unprecedented rates of coastal permafrost loss, record sea ice and loss, and a record number of acres burning in the Arctic. The report covers many changes occurring in the Arctic, including impacts to traditional food sources for Indigenous populations.

[Download a PDF of the full report card](#)      [Video summary of the report card](#)

**Is Mastication Right for Your Site? Science-Based Decision Trees for Forest Managers.** Mastication can improve forest resilience, but it may suit some sites better than others. A new decision tree tool helps managers determine if mastication is beneficial using site-specific criteria, including site slope, abundance of unmerchantable post-harvest biomass, smoke production limitations, and more.

**Rangeland Conservation Actions in Oregon.** A recent report summarizes conservation actions taken on 17 Sagebrush Reporting Units (SRUs) across public and private rangelands in southeastern Oregon between 2010 and 2018. Summaries include acreage details and conservation action types, such as implementation of fuel management and fuel breaks, riparian restoration, treatments to annual invasive grasses and noxious weeds, and more.

**Story Map: After the Fire.** The Oregon State University Extension Fire Program's story map provides managers and landowners in Oregon with a list of funding sources for state and federal post-fire recovery. It also includes an embedded searchable map that provides burn severity (helpful to assess potential soil stability challenges) and landslide susceptibility data layers at the individual-property (tax-lot) scale. This information may help highlight risk and inform landslide and flood mitigation measures on fire-impacted lands that protect property and infrastructure.

**Oregon's Western Cascades Watershed to Experience Larger, More Frequent Fires.** A recently published study found that wildfire hazard in the Clackamas Basin is likely to increase by mid-century due to expected changes in temperature and relative humidity. These conditions are expected to extend throughout the fire season and contribute to larger and more frequent fire in the western Cascades. The Clackamas Basin is the second largest source of drinking water for the Portland metro area.

[Click here to read the full article](#)

**Water Management Survey in Okanogan, Methow, Walla Walla, Yakima Basins.** Washington State University scientists and collaborators will survey owners of irrigated farms this winter in central Washington. Insights from irrigators will help researchers develop innovations to foster water use efficiency for Northwest residents, agriculture, and the environment. The survey asks about use of weather forecasts, operations information, views on water management policies, and views and experience with water markets. The survey is available now and closes in January 2021 with results reported in April 2021.

**A (Mis)alignment of Farmer Experience and Perceptions of Climate Change in the U.S. Inland Pacific Northwest.** Check out a peer-reviewed article that explores farmers' perceptions of current and future climate as an indicator of adaptation behavior. The study finds no links between farmers' experience and perceptions related to climate change, and their intentions to adapt. This suggests that perceptions of change may be maladapted to gradual, long-term climate changes and could pose a barrier to climate action policy and adaptation strategies.

**Expanding Opportunities for Learning and Sharing Best Practices.** An AgClimateNet article describes the National Extension Climate Initiative, an effort to establish a network of researchers and Extension professionals. The network will share knowledge of climate science and policy and become better coordinated, prepared, and motivated to provide educational community outreach and research, including current and accurate information about the impacts of climate change and methods of adaptation and mitigation.

## Tree Planting Has the Potential to Increase Carbon Sequestration Capacity of Forests in the United States

A recent Forest Service study highlights targeted reforestation to maximize climate benefits. Scientists evaluated carbon sequestration potential on productive forestland and found that tree planting on understocked forestland could significantly increase carbon sequestration capacity in the continental US.

## Funding Opportunities

**WaterSMART Drought Response Program.** Funding for fiscal year 2021 projects is available for water managers to support proactive approaches to drought, including the development and updates of comprehensive drought plans (drought contingency planning) and projects that will build long-term resilience to drought (drought resiliency projects). **Application are due 6 January.**

**Sustainable Regional Systems Research Networks.** This funding will support projects that address and strengthen natural resource-based interconnections between rural and urban regions. Funds are intended for interdisciplinary, multi-organizational teams to collaboratively address major sustainability challenges to regional systems. Track one (full-scale awards) support fundamental convergent research, education, and outreach with a duration of 5 years. Track two (planning grants) build capacity to prepare project teams to propose future Track one proposals. **Applications due 11 January.**

**The Community Forest and Open Space Conservation Program** provides an opportunity for local governments, nonprofits, and federally recognized Indian tribes to establish permanent tenure of community forests that will provide public recreation, environmental and economic benefits, and forest-based educational programs. Applicants are encouraged to work with their Forest Service Region and must also send an email to [SM.FS.CFP@usda.gov](mailto:SM.FS.CFP@usda.gov) to confirm submission. **Applications due 11 January.**

**Organic Agriculture Research and Extension Initiative (OREI).** This program funds projects that will enhance the ability of farmers, ranchers, and processors who have already adopted organic standards to physical and market high-quality organic agricultural products. Priority concerns include biological, physical, and social sciences, including economics. Projects should emphasize practical, research-based information, education, and outreach for whole farm planning. **Applications due 14 January.**

**Forest Service Cross-Boundary Wildfire Hazard Mitigation.** This funding will support projects for cross-boundary wildfire hazard mitigation on non-federal lands, wildfire risk reduction, and wildfire response. All grants support the National Cohesive Wildland Fire Management Strategy goals: restore and maintain landscapes; create fire-adapted communities; and improve wildfire response. **Applications are due 15 January.**

**Specialty Crop Research Initiative (SCRI) Pre-Applications.** These funds are intended for specialty crop industry challenges that address: plant breeding, pollinators, production improvements, innovation, or food safety. The program supports research and extension projects that address national, regional, and multistate food and agriculture challenges. **Pre-applications due 26 January.**

**Federal Emergency Management Agency (FEMA) Building Resilient Infrastructure and Communities (BRIC) program.** This grant program is for states, local communities, Tribes and territories for pre-disaster mitigation activities. This pre-disaster hazard mitigation program replaces the existing pre-disaster mitigation program and will provide \$500 million for mitigation planning and projects nationwide. **Applications are due 29 January.**

**2021 Wood Innovations Grant Program and 2021 Community Wood Energy and Wood Innovation Grant Program.** The Forest Service and its partners are creating new opportunities for innovative wood products which contribute to diversified rural economies and support sustainable forest management. **Applications are due 20 January and 3 February, respectively.**

**Rural Health and Safety Education Competitive Grants Program (RHSE).** Proposals for this program should focus on community-based outreach education programs, including extension outreach. Applications can address rural environmental issues that directly impact human health, information about and access to health promotion and educational activities, training for volunteers and health services providers, and more. **Applications are due 29 April.**

**Agriculture and Food Research Initiative - Sustainable Agricultural Systems.** This opportunity is focused on: (1) sustainable agricultural intensification; (2) agricultural climate adaptation; (3) value-added innovation; and/or (4) food and nutrition translation. Proposed work should result in societal benefits like rural prosperity and enhancement of quality of life for all those involved in food and agricultural value chains. **Applications due 1 July.**

**Agriculture and Food Research Initiative - Foundational and Applied Science Program.** Grant funds are available in six priority areas which include plant or animal health, production, and 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 extension projects are eligible. **Applications due 29 July.**

## Podcast Highlights

**The Vandal Theory** podcast from the University of Idaho covers climate change and addresses about how climate change is affecting farming, ranching and aquaculture in Idaho. [Click here to check out all three episodes.](#) Scroll to bottom of page to start with season one.

**Climate Change is Here and Now** is an episode of The Science of Where Podcast that features climate scientist Katherine Hayhoe. Dr. Hayhoe explains how to talk about climate change to initiate community action and how to counter science skepticism.

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