Drought in the NW Climate Hub Region

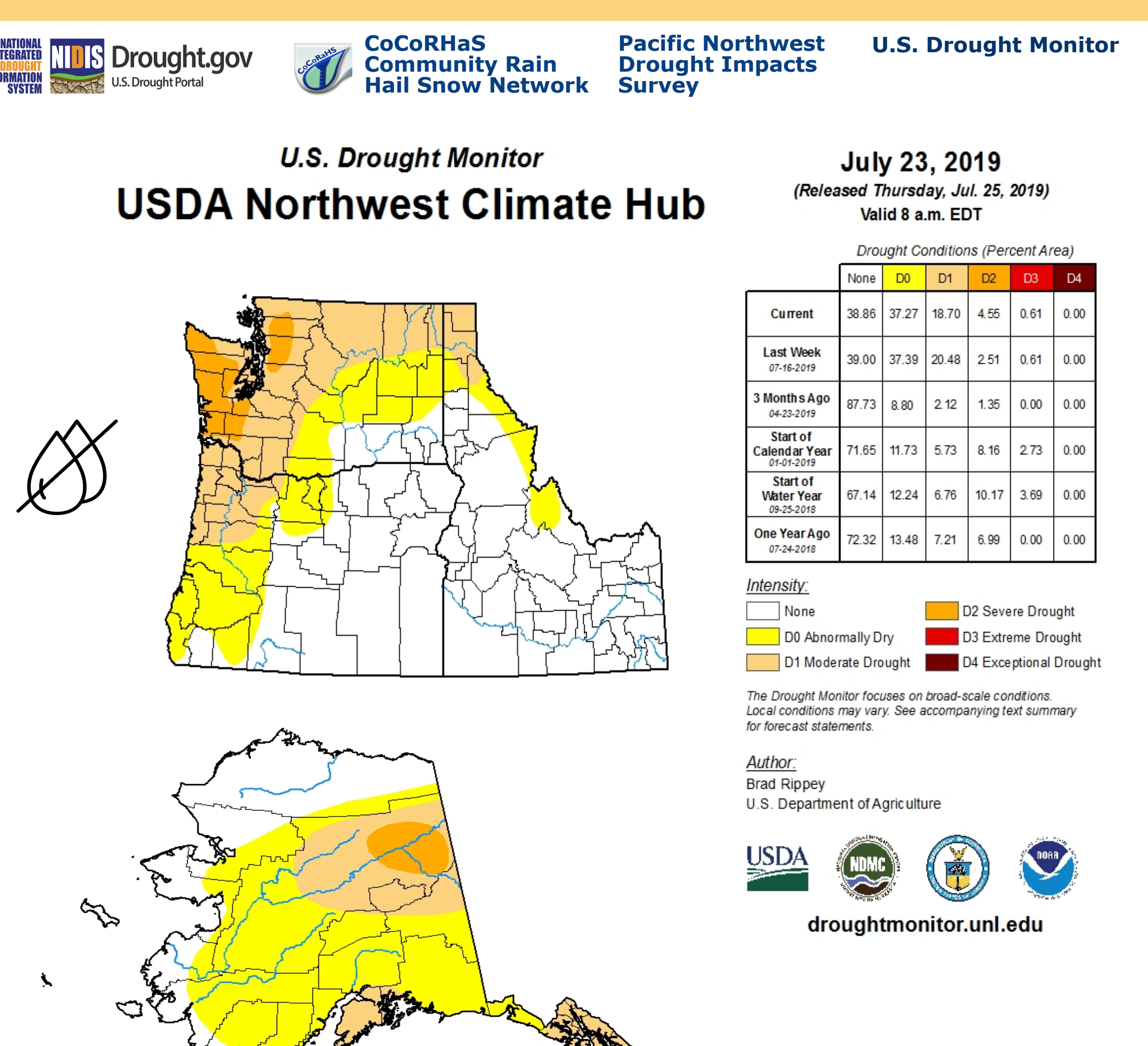
Drought conditions have worsened in Alaska with the majority of the state (~70%) experiencing abnormally dry conditions (D0-yellow). Parts of Southeast, the entire Kenai Peninsula and the Yukon have moderate drought (D1-tan), whereas portions of the Yukon flats have severe drought (D2-orange). Moderate drought conditions (D1-tan) have expanded in southeast Alaska with severe (D2-orange) and extreme drought (D3-red) conditions continuing in southern panhandle Alaska.

Severe drought (D2-orange) conditions are occurring in northeastern Washington and the northern panhandle of Idaho. There is a slight expansion of moderate drought (D1-tan) conditions in portions of Oregon, Washington and Idaho since last month. Abnormally dry conditions have expanded to much of Willamette Valley in Oregon, northern areas of the Columbia Plateau in Washington and along the eastern areas of the Bitterroot range in Idaho.

Weekly drought maps are published, click on the U.S. Drought Monitor the link below to view the website. Many sources of information inform drought maps including reports from the public. Click the icons below to get information from the National Integrated Drought Information System (NIDIS), to submit precipitation data via the CoCoRHaS network, or to report drought impacts.

To view the extent of dry and drought conditions throughout North America, view this Drought Map that is produced once a month by clicking this sentence.

Drought.gov U.S. Drought Portal | CoCoRHaS Community Rain Hail Snow Network | Pacific Northwest Drought Impacts Survey | U.S. Drought Monitor

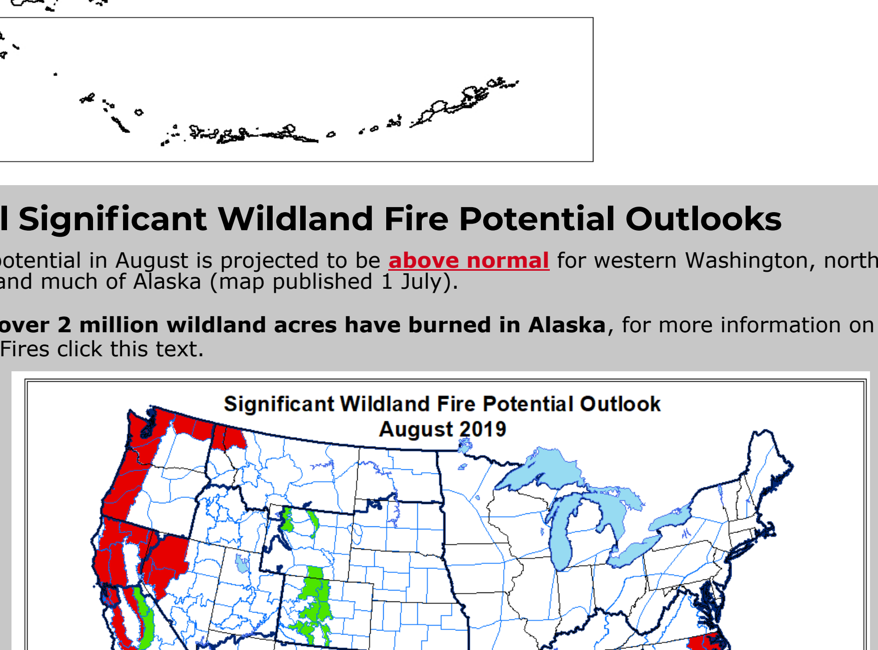


	None	D0	D1	D2	D3	D4
Current	38.86	37.27	18.70	4.55	0.61	0.00
Last Week 07-16-2019	39.00	37.39	20.48	2.51	0.61	0.00
3 Months Ago 04-23-2019	87.73	8.80	2.12	1.35	0.00	0.00
Start of Calendar Year 01-01-2019	71.65	11.73	5.73	8.16	2.73	0.00
Start of Water Year 09-25-2018	67.14	12.24	6.76	10.17	3.69	0.00
One Year Ago 07-24-2018	72.32	13.48	7.21	6.99	0.00	0.00

National Significant Wildland Fire Potential Outlooks

Wildfire potential in August is projected to be **above normal** for western Washington, northwestern Oregon, and much of Alaska (map published 1 July).

To date over 2 million wildland acres have burned in Alaska, for more information on Alaska Wildland Fires click this text.



Information

Science you can use in 5 min: A Go-To Guide for Your Mastication Questions. Publication from the Forest Service Rocky Mountain Research Station, which explains when, why, and how mastication can be a useful treatment for preparing a site for planting, releasing sapling-sized trees, or reducing surface fuels in fire-prone forest ecosystems.

Old-growth forests may provide valuable biodiversity refuge in areas at risk of severe fire. A recent study examined the impact of the Douglas Complex and Big Windy fires that burned in the Klamath-Siskiyou region of Oregon during July 2013, a drought year. The fires burned through a long-term study area for northern spotted owls. Using information on forest vegetation before and after the fires, along with known spotted owl nesting areas, researchers had an unprecedented chance to compare the impact of wildfire on critical old-growth nesting habitat.

Stewarding Woodlands in a Changing Climate. Ben Deumling, guest writer for the News Register and founder of Zena Forest Products, writes about his experiences managing woodlands in a changing climate.

OR **Oregon Wildfire Risk Explorer:** website and tools to provide information about wildfire throughout the state of Oregon.

The Oregon Wildfire Risk Explorer Basic Map Viewer provides data and reports summarizing wildfire risk for homeowners and community leaders.

Advanced Oregon Wildfire Risk Explorer is an advanced map viewer and report allows wildfire planners and professionals to access a broad suite of data layers and produce a customized report for an area of interest, such as a Community Wildfire Protection Plan boundary.

What are PARTS OF A WILDFIRE? There are many parts of a wildfire and wildland firefighters use specific terminology to describe each part. An information sheet by the Northwest Fire Science Consortium on the different parts of a wildfire.

NASA Earth Science Disasters Program promotes the use of Earth observations to improve prediction of, preparation for, response to, and recovery from natural and technological disasters.

Alaska Wildland Fires 2019

AK **NOAA This week in Climate.gov: Focus on Alaska** In this early July communication, NOAA highlights extremes in temperatures, precipitation and sea ice in Alaska as well as a case study on Homer, Alaska's climate action plan and a video that touches upon ecology of climate change in relation to forests responding to rising atmospheric carbon dioxide.

High temperatures smash all-time records in Alaska in early July 2019. NOAA's Climate.gov reviews the recent period of warmth in Alaska that re-wrote the record books for multiple cities and communities across the state.

A Call to Community, a video and public service announcement produced at the Affiliated Tribes of Northwest Indians' Tribal Climate Camp of 2019. 'It's time to talk about how Tribal Nations will adapt to climate change.'

Request for Feedback from American Indian, Alaska Native, and Native Hawaiian Community Leaders on the Effects of Climate Change on Native Communities
The Committee of Indian Affairs request feedback on the effects of climate change on Native communities to foster a dialogue with Native communities on potential solutions and responses to this urgent threat. Thoughts and comments are due by **September 13, 2019**. To submit a comment, send an email to Community_Leaders_Feedback@indian.senate.gov.

Climate Change and Agricultural Risk Management Into the 21st Century, This study uses a combination of statistical and economic modeling techniques to explore how climate change could affect the cost of the Federal Crop Insurance Program. All climate scenarios considered suggest that climate change would lower domestic production of corn, soybeans, and wheat relative to a future scenario with climate identical to that of the past three decades.

Farmers Employ Strategies To Reduce Risk of Drought Damages. Article from AmberWaves a monthly newsletter from the USDA Economic Research Service. This 2017 article is a good one to review especially for areas experiencing abnormally dry to drought conditions.

Improve On-Farm Conservation, a website from Farmland Information Center on improving soil health, water quality and wildlife habitat on your farm. On-farm conservation can sustain agricultural productivity while achieving a range of environmental benefits. Learn how to understand the natural resources on your land and take action to protect them.

How Suitable is Apple Orchard Netting as a Sunburn Control Measure? A blog post from Agricultural Climate Network on the use of netting in apple orchards to reduce sunburn, a process that decreases fruit quality, and is likely to worsen as temperatures increase.

Cover Crops and Federal Crop Insurance, fact sheet from the USDA Risk Management Agency (RMA) on cover crops and crop insurance. A cover crop aids with soil erosion control or other purposes for conservation or soil improvement.

Funding opportunities

2019 Regenerative Farming Fellowship. The Stone Barns Regenerative Farming Fellowship (RFF) provides medium-scale farmers transitioning to regenerative farming practices with education, a cohort of supportive peers, and the inspiration, leadership and advocacy skills they need to bring about structural change. Applications are due at **11:59 ET pm / 8:50 PT pm on August 7**.

USDA National Institute of Food and Agriculture funding opportunity **Tribal Colleges Research Grants Program (TCRGP).** This program was designed to assist 1994 Land-Grant Institutions (Tribal Colleges) in building institutional research capacity through applied projects that address student educational needs and meet community, reservation or regional challenges. Applications due **9 August 2019**.

Natural Climate Solutions Accelerator Grant, The Nature Conservancy is announcing a request for proposals for projects with potential to substantially increase the use of natural climate solutions through the U.S. Natural Climate Solutions Accelerator program. This grant-funding program is focused on helping kick-start innovative and scalable approaches to capturing greenhouse gas emissions by using natural and working lands in the United States. Proposals are due **16 August 2019.**

USDA National Institute of Food and Agriculture (NIFA) has a request for applications for fiscal year 2019 for the Agriculture and Food Research Initiative (AFRI) Competitive Grants Program. Applications are due **26 September 2019 5 pm ET**.

Priority areas include:
1. Plant health and production and plant products;
2. Animal health and production and animal products;
3. Food safety, nutrition, and health;
4. Bioenergy, natural resources, and environment;
5. Agriculture systems and technology; and
6. Agriculture economics and rural communities.

NOAA Climate Program Office (CPO) FY2020 CPO supports competitive research through three major program areas: Earth System Science and Modeling (ESSM); Climate and Societal Interactions (CSI); and Communication, Education and Engagement (CEE). Through this announcement, CPO is seeking applications for 10 individual competitions in FY20:

Competition 1: AC4 - Urban atmosphere in a changing climate: chemistry, carbon and composition
Competition 2: CVP - Climate and Changing Ocean Conditions - Process Research and Modeling to Support the Needs of NOAA Fisheries
Competition 3: MAPP - Characterizing and Anticipating U.S. Droughts' Complex Interactions
Competition 4: MAPP - Modeling Climate Impacts on the Predictability of Fisheries and Other Living Marine Resources
Competition 5: MAPP - Constraining Models' Climate Sensitivity
Competition 6: COM - Developing terrestrial-, marine-, and ice-atmospheric boundary layer datasets through collaborations between observations and modeling communities
Competition 7: Multi-program - Explaining Climate Extreme Events: Developing a Rapid Assessment Capability and Understanding the Causes and Mechanisms of Extreme Events
Competition 8: COCA Fisheries and Climate Program: Understanding Climate Impacts on Fish Stocks and Fisheries to Inform Sustainable Fisheries Management
Competition 9: NIDIS: Coping with Drought****
Competition 10: CEE: Evolving the Climate Resilience Ecosystem of Adaptation Service Providers

Webinars

AK **August National Weather Service Alaska Climate Outlook Briefing. 16 August** 12 pm AKT. The tools and techniques for making monthly and season scale climate forecasts are rapidly changing, with the potential to provide useful forecasts at the month and longer range. We will review recent climate conditions around Alaska, review some forecast tools and finish up the Climate Prediction Center's forecast for September 2019 and the late fall/early winter season.

Pacific Northwest Drought Early Warning System, Drought and Climate Outlook webinar **26 August 2019** 11 am-12 pm PT. This webinar includes four brief presentations on 1) a climate recap and current conditions, 2) a seasonal outlook, and special topic speakers will demonstrate new tools in the Northwest Climate Toolbox 3) Katherine Hegewisch will show new features in the water watcher and 4) Lauren Parker will show a tool to assist with irrigating tree fruits. Click on text to register for this webinar.

AK **Climate Scale Predictability and Variability of Alaska Wildfire Seminar.** RECORDED. Peter Bieniek presented to students working in Alaska and reviews the progress on several projects working to provide Alaska fire managers with guidance from the next season to the next 80+ years.

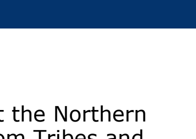
FREE Online Climate Courses - 2019

The South Central Climate Adaptation Science Center at the University of Oklahoma will offer four short courses that will provide an integrative understanding of the components of the climate system. We will discuss the impacts of a changing climate on multiple sectors such as the economy, policy, ecosystems, and indigenous populations. In addition, we will discuss how managers can adapt to these changes.

The courses are free and online, so anyone from anywhere may participate!

Upon successful completion of a short course, you will receive a personalized certificate. Short courses may be taken individually, or as any combination of the four being offered.

Introduction to the climate system (Aug. 26 - Sept. 9)
Climate models, downscaling, & assessments (Sept. 10 - Sept. 30)
Societal impacts of climate change (Oct. 1 - Oct. 21)
Physical impacts of climate change & adaptation strategies (Oct. 22 - Nov. 25)



Conferences

2019 Tribes and First Nations Climate Change Summit 30-31 July 2019 at the Northern Quest Casino in Airway Heights, Washington. The summit will convene leaders from Tribes and First Nations throughout the Pacific Northwest and North America to advance tribal climate change policy and action. The summit will focus on topics such as tribal climate change resiliency, protecting and applying Traditional Knowledge in climate change initiatives, and implementing a unified tribal climate change policy agenda. The Summit will also include a half-day tour of the Spokane Tribal Housing Program solar project on 1 August. The Summit will be hosted by the Kalispel Tribe of Indians and co-sponsored by the Affiliated Tribes of Northwest Indians (ATNI), Bureau of Indian Affairs (BIA), North Pacific Landscape Conservation Cooperative (NPLCC), Pacific Northwest Tribal Climate Change Network, and others. Registration is open.

10th Annual Northwest Climate Conference 8-10 October 2019 Portland, Oregon. This conference provides a unique opportunity to learn from and connect with a diverse community of experts fostering a more climate resilient Northwest. The event brings together practitioners, scientists, tribal communities, and decision-makers to share knowledge, ideas, and best practices related to climate change science, impacts, and adaptation in the Pacific Northwest. Topics include drought, wildfire, extreme events, coastal flooding, human and ecosystem health, and resiliency planning.

Post-Doctoral Research Positions

Two post-doctoral research positions are available with NOAA RISA (Regional Integrated Sciences and Assessments) ACCAP the Alaska Center for Climate Assessment and Policy. Click this text to get more information on these two positions.

Assessing climate change knowledge co-production and boundary spanning in Alaska. This position will be open until filled and review of applications began **8 July**.

Interdisciplinary Analysis of Economic Impacts of Climate Change in Alaska. This position will be open until filled and review of applications will begin **13 August**.

NORTHWEST CLIMATE HUB

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