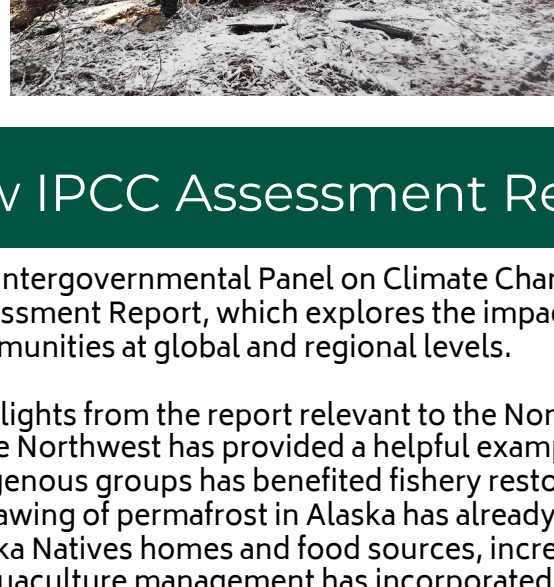




March 2022 Newsletter

Feature Article



Using Woody Biomass for Fuel and Energy in the Northwest

Woody biomass, particularly from slash and fuel treatments, has the potential to be a sustainable source of fuel in the Northwest. This article discusses the types of wood that can be used as renewable sources of energy, and in what situations wood for biofuel is an environmentally beneficial energy source.

New IPCC Assessment Report

The Intergovernmental Panel on Climate Change (IPCC) recently released the sixth Climate Change Assessment Report, which explores the impacts of climate change on ecosystems, biodiversity, and human communities at global and regional levels.

- Highlights from the report relevant to the Northwest Climate Hub Region include:
- The Northwest has provided a helpful example of how collaborative work between state, federal and indigenous groups has benefited fishery restoration in the region.
 - Thawing of permafrost in Alaska has already had negative impacts, and it will continue to negatively affect Alaska Natives homes and food sources, increase greenhouse gas emissions, and cause economic losses.
 - Aquaculture management has incorporated climate adaptation planning, allowing it to respond to changes in ocean conditions because of warming.
 - Marine heat waves are predicted to increase.
 - Northwest coastal rivers are identified as biodiversity hotspots.
 - Climate change is impacting snowmelt runoff, which may lead to future tensions and conflicts over water resources.

[Link to the Report](#)

[Summary for Policymakers](#)

Drought Update

Some snow and rain in the Northwest helped to reverse the trend of extreme dryness experienced in January and February. However, basin-average snow water equivalent (SWE) values were below normal in almost all basins in Oregon, Idaho, and Washington, with only a few basins in northern Idaho and Washington nearing or reaching normal for this time of year. Moderate and severe drought (D1 and D2) expanded over portions of southern Idaho, while extreme drought (D3) expanded over portions of southern Oregon. The area of severe and extreme drought and abnormally dry conditions was reduced in northern Oregon.

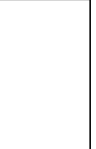
Snow water equivalent measurements in all basins in Alaska were above average, with some basins in eastern Alaska receiving double the amount of snowpack that is normal for this time of year (over 200% of normal). Alaska remains free of dryness and drought through a winter that has featured swings in temperature and ample to abundant precipitation.



National Integrated Drought Information System



CoCoRHS Community Rain Hail Snow Network



Snow Drought Conditions

Pacific Northwest Drought Impacts Survey

U.S. Drought Monitor USDA Northwest Climate Hub

March 15, 2022
(Released Thursday, Mar. 17, 2022)
Valid 8 a.m. EDT



	Drought Conditions (Percent Area)							
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4		
Current	75.58	24.44	22.90	14.63	6.40	1.84		
Last Week	75.56	24.44	23.01	14.66	6.33	1.89		
3 Months Ago	73.45	26.55	25.98	21.93	11.19	2.37		
Start of Calendar Year	74.10	25.90	23.79	15.09	6.81	2.01		
Start of Water Year	70.14	29.86	27.67	24.87	18.54	7.83		
One Year Ago	57.96	42.04	11.02	5.87	1.55	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>

Author:
Adam Hartman
NOAA/NWS/NCEP/CPC



droughtmonitor.unl.edu

Featured Information



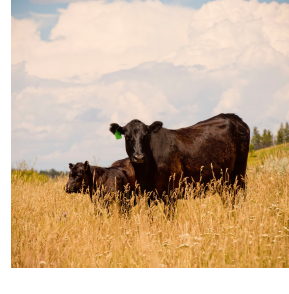
2021 Pacific Northwest Water Year Impacts Assessment
A summary of the 2021 water year conditions and sector impacts relevant to future management of drought and other climate impacts.



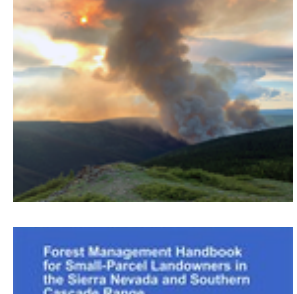
Climate Change Vulnerability and Adaptation in Southwest Oregon
An assessment of the vulnerability of Southwest Oregon's natural resources to climate change and adaptation options.



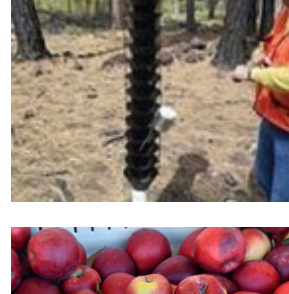
Sea Gardens Across the Pacific
A StoryMap that explores the historical indigenous practice of sea gardening in the Pacific, and the movement to reawaken sea gardens as resilient, sustainable, and equitable food systems.



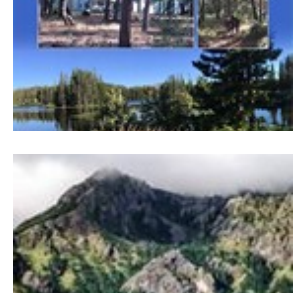
Drought in Southeast Alaska
A series of fact sheets on drought history, causes, impacts, and futures in Southeast Alaska from the International Arctic Research Center.



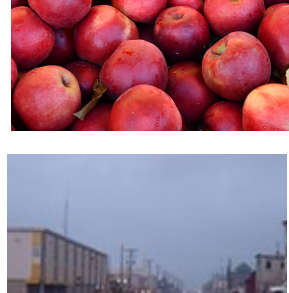
Saving the Sagebrush Sea
A StoryMap that underscores the significance of sagebrush lands in the West and the importance of protecting these ecosystems.



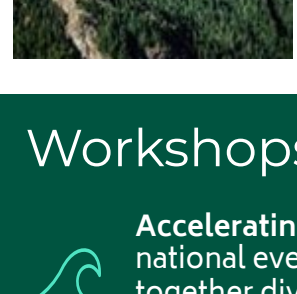
Cheatgrass Treatment Aids in Habitat Resiliency
This blog describes how land managers are changing the way they protect native sagebrush habitat by treating and managing core habitat before it reaches an irreparable state.



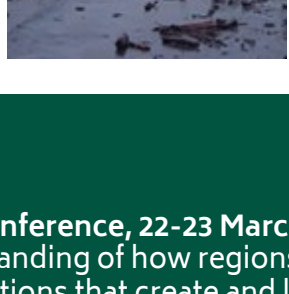
National Significant Wildland Fire Potential Outlooks
The latest predictive fire map shows April has normal conditions for significant fire potential in ID, OR, and WA, while AK is predicted to have below-normal fire potential.



What Does Resilience Mean to Western Ranchers?
A StoryMap that explores, through interviews and focus groups, the hardships western ranchers are facing.



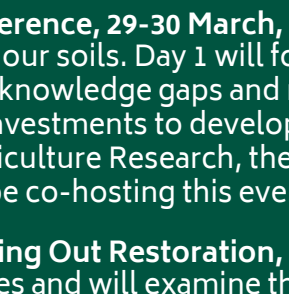
Burn Severity: Shovel Creek Fire
A StoryMap that provides an example of burn severity assessment and ecology in the Interior Alaska, using the 2019 Shovel Creek Fire outside of Fairbanks as a case study.



Post-Fire Management and Beetles
An edition of "Science Findings" that focuses on how the link between fire-injured pines and red turpentine beetles can aid in post-fire management.



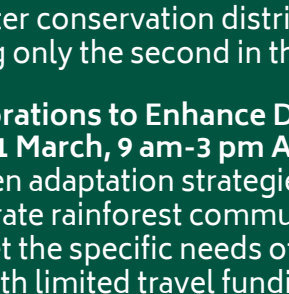
Forest Management for Landowners in the Southern Cascades
A forest management handbook that provides small-parcel landowners with tools to develop a climate-adaptive forest management strategy.



Rapid Apple Decline
First discovered in the Mid-Atlantic states, rapid apple decline is now in Washington. In this article, Dr. Ruhui Li comments on current research and how this disease may affect Northwest orchards.



Climate Analog Atlas
A tool that allows users to envision how a two-degree F temperature increase by 2050 could affect the places they live.



Alaskan Communities Receive Funding for Flood Protection
Focused on flood protection, damage reduction, and rural water supply, this NRCS funding will help rural Alaskan communities cope with climate change and extreme weather.

Workshops & Conferences

Accelerating Solutions for a Resilient Coast Conference, 22-23 March. Coastal Quest is hosting this national event to help participants build understanding of how regions, states, and tribes are bringing together diverse stakeholders to accelerate solutions that create and leverage results for the coast, helping communities, ecosystems, and economies be more resilient to climate change.

Biochar Research and Commercialization Conference, 29-30 March, 9 am-1:30 pm PST. Biochar provides an opportunity to store more carbon in our soils. Day 1 will focus on the structure, stakeholders, and funding needed to fill biochar knowledge gaps and meet research needs. Day 2 will engage industry partners to discuss policy and investments to develop a pyrolysis-based biochar and biofuel industry. The Foundation for Food & Agriculture Research, the National Center for Appropriate Technology, and American Farmland Trust will be co-hosting this event.

Watersheds: Assessing Degradation and Carrying Out Restoration, 30 March, 8 am-12 pm PST. This virtual workshop is the second in a two-part series and will examine the various degrees and causes of watershed degradation, and methods of prioritizing, planning, and interlinking watershed restoration projects. Although this second workshop builds on the first, stream restoration practitioners working for or with watershed councils, and soils and water conservation districts who have knowledge in the field, will still gain valuable knowledge attending only the second in the series.

Drought and Extreme Events: Building Collaborations to Enhance Data, Decision Making, and Adaptation Planning in Southeast Alaska, 30-31 March, 9 am-3 pm AKST. This workshop aims to assist with the development of community-driven adaptation strategies to serve the specific needs, challenges, and opportunities of remote, temperate rainforest communities. Participants will coproduce drought adaptation strategies to meet the specific needs of Southeast Alaska. The event can be attended online or in person in Juneau, with limited travel funding available for participants.

Alaska Resource Planning for Fuel Treatment Projects, 7 April, 9 am-3 pm AKST. When it comes to hazardous fuel treatment, if federal funding, land, or authorizations are involved, then the National Environmental Policy Act (NEPA) process is required. This workshop will address the resource laws and regulations that must be complied with for both non-federal and federal projects to facilitate efficient collaboration among resource professionals and fuels specialists.

USGS and NOAA National Listening Session: Groundwater drought prediction, 5 May, 10 am-12:30 pm PST. With climate change, agriculture is expected to rely more heavily on groundwater in times of drought. This listening session will include a short introduction to groundwater drought prediction products, followed by guided discussions with participants on research priorities for product development or improvement at the national and/or regional scale.

Tribal Climate Change Camp, 8-14 May in Seward, AK. The Tribal Climate Camp (TCC) supports teams of tribal leaders, climate change coordinators, planners, and program managers to build skills, gather information, and develop tribal policy needed to address climate change impacts. TCC was collaboratively planned by the Affiliated Tribes of Northwest Indians, University of Michigan, Chugach Regional Resources Commission, and the Northwest Climate Adaptation Science Center. **Applications due by 25 March.**

Webinars

Alaska Climate Outlook Briefing, 18 March, 12-1 pm AKST.
Regional climate expert Rick Thoman will review recent and current climate conditions in Alaska, forecast tools, and the Climate Prediction Center's forecast for April 2022 and the early spring season.

SCIENCEx Water Webinars, 21-25 March, 11 am-12 pm PST.
These management-focused webinars will explore forests and water supply, water quality, aquatic life, restoring hydrologic systems, and the shifting water balance. US Forest Service Research & Development is hosting this week-long event.

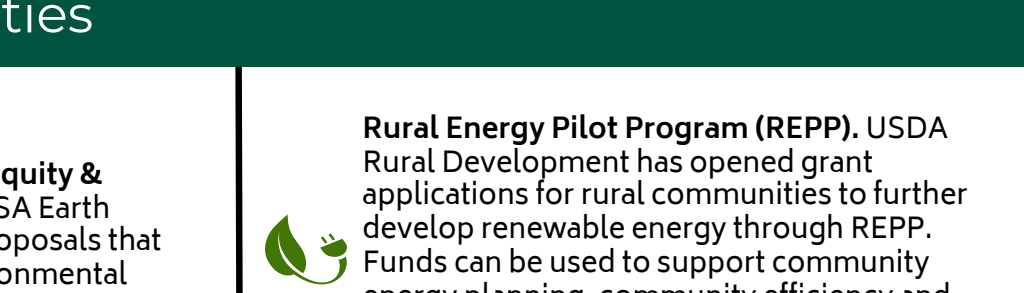
Northwest River Forecast Center Water Supply Forecast Monthly Briefing, 7 April, 10-11 am PST. This webinar will focus on current hydrologic and climatic conditions and water supply forecasts for the Columbia and Snake River basins of Idaho, Oregon, and Washington.

Science You Can Use Spring 2022 Webinar Series, Wednesdays until 13 April, 9-10 am PST. These seven land-manager-focused webinars cover topics ranging from fires, to the number of animals that can be sustainably supported on rangelands in the West, to a number of tools that are useful for land managers. All recordings of past presentations are posted to the site.

Advancing Climate Resilience with Women Ranchers in Northeastern Oregon, 18 April, 12:30-1:30 pm PST. This project aims to bring American Farmland Trust's innovative Women for the Land Learning Circle programming to women ranchers and ranchland owners in Northeast Oregon (particularly Union, Baker, and Walla Walla Counties) to advance soil health and rancher resilience.

The Future of Forest Products in a Changing Climate: Bioenergy from Forests Tuesdays, 8:30-9:10 am until April 19. Each week, a new speaker presents science on the pros and cons of forest bioenergy. Each topic addresses a new aspect of bioenergy in the U.S., including forestry, energy, conservation, and climate science, and economic, environmental, and societal impacts of increasing bioenergy use.

Climate Adaptation for Forest-Dependent Wildlife, 3rd Tuesday of each month until March 2023, 10-11 am PST. This series speaks to climate change and its impacts on forest ecosystems and dependent wildlife species. Topics range from forest composition and structure under a changing climate to influence on wildlife populations and carbon dynamics. Tools and management approaches for facilitating forest and wildlife climate adaptation at landscape and stand scales will be shared.

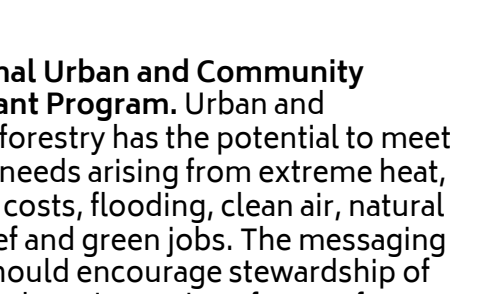


The Starker Lecture Series "Women of Forestry: Inspiring Leadership"

A lecture series that focuses on women who have played crucial roles in creating change in forestry and forest products as well as in their communities. Lectures start on 26 January and occur monthly through April, culminating in an in-person capstone workshop in May.

The Road Less Traveled: How Women in Forestry Can Save the World, 20 April, 3:30-5:30 pm PST.
Eddie Sohn Hall will weave personal stories and lessons that demonstrate the importance of women having courage, confidence, collaboration, and compassion to harness the power of trees and create a world within the limits of the planet.

Capstone Workshop, 10 May, 8 am-5 pm at Oregon State University. This day-long capstone workshop will explore all aspects of forestry, with a focus on women's leadership and the future of women in forestry and wood products industry.



Opportunities

Environmental Justice Video Challenge for Students Undergraduate or graduate students must create two videos detailing the use of data and publicly available tools to identify and address an environmental justice issue in a specific community. **Videos must be submitted by 1 April.**

Funding Opportunities

Earth Science Applications in Equity & Environmental Justice. The NASA Earth Science Division is accepting proposals that aim to advance equity and environmental justice domestically. Proposals should include three elements: landscape analyses, community-based feasibility projects, and data integration projects that combine Earth science information and socioeconomic datasets. A pre-information teleconference is planned on 17 February. **Apply by 18 March.**

Renewable Resources Extensions (RREA-National Focus Fund Projects (RREA-NFF)). USDA National Institute of Food and Agriculture's RREA-NFF provides funds for pilot projects that address emerging forest and rangeland resource issues, have national or regional relevancy, or develop new and innovative projects that can be replicated at other institutions. **Apply by 21 March.**

Rural Energy for America Program Renewable Energy Systems and Energy Efficiency Improvement Guaranteed Loans and Grants. This program provides guaranteed loan financing and grant funding to agricultural producers and rural small businesses for renewable energy systems and energy efficiency improvements. Increasing energy efficiency and developing more renewable energy systems is cost effective and reduces the consumption of fuels that generate greenhouse gases, which contribute to climate change. Applications can be for grants of \$20,000 or less or a loan/grant combination of \$20,000 or less. **Apply by 31 March.**

Rural Energy Pilot Program (REPP). USDA Rural Development has opened grant applications for rural communities to further develop renewable energy through REPP. Funds can be used to support community energy planning, community efficiency and weatherization, and installing and equipping community scale renewable energy. **Apply by 19 April.**

Drivers and Environmental Impacts of Energy Transitions in Underserved Communities. The Environmental Protection Agency (EPA) is seeking applications proposing community-engaged research that will address the drivers and environmental impacts of energy transitions in underserved communities. **Apply by 28 April.**

FY 22 National Urban and Community Forestry Grant Program. Urban and community forestry has the potential to meet community needs arising from extreme heat, high energy costs, flooding, clean air, natural disaster relief and green jobs. The messaging campaign should encourage stewardship of urban forests by using various forms of media to engage citizens in understanding trees and urban forests as a vital part of a community's health and security. The messaging campaign should also address national priorities of environmental and climate justice. The Forest Service is offering this grant program. **Apply by 8 April 2022.**

Alaska Center for Climate Assessment and Policy (ACCAP) Small Grants Program. Successful proposals will focus on activities that provide organizations an enhanced ability to help Alaska Native communities respond, adapt, and become more resilient to climate change. It is important for proposals to involve building relationships with ACCAP and utilize its information or resources. Statewide and regional non-profit organizations that serve Alaska Native peoples are eligible to apply. **Apply by 30 April.**

Informational session on 25 March, 1-2 pm AKST.

Small Business Innovation Research Program (SBIR). This program by USDA-National Institute of Food and Agriculture supports small businesses in the creation of innovative, disruptive technologies and enables the disruption of research advancements from conception to market. Projects must have previously completed a successful USDA SBIR Phase I project before applying for a Phase II grant. Projects dealing with agriculturally related manufacturing and alternative and renewable energy technologies are encouraged to apply. **Apply by 6 April.**

Regional Conservation Partnership Program (RCPP). USDA Natural Resources Conservation Service has \$225 million available nationally for projects that address natural resource issues on agricultural land. This year's funding includes updates that encourage projects to address climate change, benefit historically underserved farmers, and support urban agriculture. **Proposals due 13 April.**

Energy Transitions Initiative Partnership Project (ETIPP). This U.S. Department of Energy's (DOE) Energy project works alongside remote, island, and islanded communities seeking to transform their energy systems and increase energy resilience through strategic energy planning and the implementation of solutions that address their specific technical assistance from the ETIPP network, working collaboratively with the DOE, national laboratories, and regional partner organizations on strategic energy planning and analysis to investigate solutions that address their specific energy challenges and goals. **Apply by 15 April.**

Rural Innovation Stronger Economy (RISE). USDA Rural Development's RISE program seeks to increase equity in rural America by offering grants of up to \$2 million to local governments, investors, industry, institutions of higher education, and other public and private entities that create projects in distressed communities. Communities that have traditionally had high concentrations of employment in fossil-fueled energy production and are transitioning away from this are encouraged to apply. **Apply by 19 April.**

Partnerships for Climate Smart Commodities Funding Opportunity Extended. The USDA will finance pilot projects that create market opportunities for U.S. agricultural and forestry products that use climate-smart production practices and include innovative, cost-effective ways to measure and verify greenhouse gas benefits. Successful candidates will implement climate-smart production practices, activities, and systems on working lands, measure/quantify, monitor, and verify the carbon and greenhouse gas benefits associated with those practices, and develop markets and promote the resulting climate-smart commodities. **Apply by 6 May or 10 June.**

Funding for Sage Grouse Habitat Restoration Projects. Rangeland Fire Protection Associations to improve fire suppression capabilities, build strategic fuel breaks, restore areas that have been degraded by wildfire, restore and improve brood rearing habitat, and enhance the monitoring of sage grouse activity. Projects located in one of the seven focus areas will receive an additional ranking score, but projects outside of the focus area may be accepted as well. Projects will be reviewed by the Idaho Governor's Office of Species Conservation and Sage-Grouse Actions Team and receive funding through U.S. Fish and Wildlife Service, Bureau of Land Management, and potentially the U.S. Forest Service. **Apply by 6 May.**

Ongoing

Funding for Watershed Improvement: New funding from the Infrastructure Investment & Jobs Act is available through the USDA Natural Resources Conservation Service to help communities improve land, water, and disaster resources.

Funding for Water Systems Due to an Emergency Event. USDA Rural Development has new grant funding available for rural communities whose water systems have been damaged in events such as drought and floods, as well as man-made events such as contamination from emerging contaminants.

Conservation Program Opportunities to Support Climate Smart Agriculture. The USDA has updated the Environmental Quality Incentives Program (EQIP) Conservation Incentives Contracts and has made it easier for producers to re-enroll in the Conservation Stewardship Program. Applications accepted year-round. **To be considered for funding in 2022, apply by:**
29 April in Idaho **18 March, 20 May, or 15 July in Alaska**

Conservation Reserve Program. Agricultural producers and landowners can sign up soon for the Conservation Reserve Program (CRP), a cornerstone conservation program offered by the USDA Natural Resources Conservation Service. The General CRP signup will run from 31 Jan to 11 March, and the Grassland CRP signup will run from 4 April to 13 May.

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To unsubscribe email holly.prendeville@usda.gov