

Minimize the Effects of Drought on Your Operation

After a record wet December, conditions were looking very favorable for avoiding drought in the early months of 2016, especially compared to 2015. However, with significantly earlier snowmelt and streamflows nearing record-lows in parts of Oregon's southern and coastal basins, we should anticipate the possibility of drought conditions returning this summer. Low streamflows can impact the way you operate your farm or ranch. This information provides general considerations and recommendations to help you keep your operation sustainable during drought. For specific questions about how NRCS can help your farm or ranch, contact your local USDA Service Center.



Save the Soil

Farmers without access to adequate water to produce a crop may find themselves thrust from a water crisis to a dust crisis. Options for protecting fields vulnerable to erosion include cover crops, surface roughening, residue management, converting to crops that use less water, mulching, or other practices.

Conserving Rangeland

Ranching with limited water supply is difficult. For some ranchers, managing the livestock to take advantage of available grass while protecting areas from overuse may be easier with tools such as livestock watering systems, piping, troughs, and fencing. NRCS works with ranchers to develop grazing management plans to make the best use of what forage remains on the ranch.

Stretching Every Drop

Farmers who have access to water and want to make every drop count should develop irrigation water management plans with their NRCS conservationists or other consultants. Assistance is available to improve irrigation systems to help farmers working to produce a crop with a smaller allocation of water.

What impacts can drought have on your operation?

- Soil Erosion
- Loss of Plant Cover
- Degraded soil quality
- Water Quantity - Limited irrigation supply and reduction in water use
- Wind Erosion
- Degraded Air Quality - increased dust due to wind and soil erosion
- Increased Fire Risk
- Increased plant stress
- Reduction in animal food/cover/shelter
- Increased animal stress
- Reduced stream levels for aquatic habitat

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Natural Resources Conservation Service

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Minimize the effects of drought on your fallowed land.

The most commonly prescribed practices for protecting vulnerable farmland fallowed by drought are:

- **Tillage & Residue Management** - Leaving residues from the previous crop undisturbed on the soil surface can help reduce wind and water erosion.
- **Cover Crops** - Planting or maintaining vegetation, living or dead, will provide cover on the soil surface and reduce erosion. Low-water using plants like barley are typically used as cover crops during droughts.
- **Surface Roughening & Cross Wind Ridges** - By disking heavier soils into a rough, cloddy surface, the soil can be protected from wind erosion.
- **Mulching** - Covering bare soil with wood chips, straw or other plants material can help to hold the soil in place.
- **Conservation Crop Rotation** - Switching to crops that require less water can allow a field to remain productive and provide erosion protection.

Minimize the effects of drought on your irrigated cropland.

The most commonly prescribed practices for protecting irrigated cropland from drought are:

- **Irrigation System Improvement**
 - Evaluating irrigation systems, improving management of existing systems, replacing poorly performing components or converting to pressurized irrigation systems will improve the uniformity of water application. It takes less water to irrigate when the irrigation is uniform.
- **Irrigation Scheduling** - Irrigating at the optimum time and applying the amount the soil can hold minimizes undesirable water loss below the root zone of the crop. Good scheduling or “Irrigation Water Management” will help stretch limited water supplies.
- **Vegetative Practices & Mulching**
 - Growing certain crops, either interplanted in or in sequence with production crops can increase infiltration and retention of valuable rainfall and reduce evaporation loss from the soil surface. Mulching by covering the soil surface with wood chips, straw or other plant materials can also reduce water loss to evaporation.
- **Residue & Tillage Management** - Modifying tillage to retain residues from a previous crop left on the soil surface can help reduce water loss to evaporation.



Minimize the effects of drought on your rangeland or pastureland.

Protecting rangeland/pastureland during a drought means balancing the needs of livestock with the capacity of natural resources that have been made more fragile by lack of water. Following are some of the conservation practices recommended by NRCS:

- **Irrigation System Improvement** - Evaluating irrigation systems, improving management of existing systems, replacing poorly performing components or converting to pressurized irrigation systems will improve the uniformity of water application. It takes less water to irrigate when the irrigation is uniform.
- **Irrigation Scheduling** - Irrigating at the optimum time and applying the amount the soil can hold minimizes undesirable water loss below the root zone of the crop. Good scheduling or “Irrigation Water Management” will help stretch limited water supplies.
- **Grazing Management Plans** - Developing a drought management plan helps protect the long-term condition of the ranch by balancing the needs of the livestock with the capacity of the soil and plants.
- **Cross Fencing** - Controlling where and how long livestock are permitted to graze, allows ranchers to protect their soil and plants and make use of their remaining forage.
- **Livestock Water Systems** - Providing water across the ranch with sources such as livestock wells and springs makes it possible to distribute livestock according to the capacity of the soils and plants. Producers should evaluate and improve livestock water systems to increase efficiencies of system delivery.



Service Centers

County	Office Location	Phone
BAKER	Baker City	541-523-7121
BENTON	Tangent	541-967-5925
CLACKAMAS	Oregon City	503-655-3144
CLATSOP	Astoria	503-325-4571
COLUMBIA	St. Helens	503-397-4555
COOS	Coquille	541-396-2841
CROOK	Redmond	541-923-4358
CURRY	Coquille	541-396-2841
DESCHUTES	Redmond	541-923-4358
DOUGLAS	Roseburg	541-673-6071
GILLIAM	Condon	541-384-2671
GRANT	John Day	541-575-0135
HARNEY	Hines	541-573-6446
HOOD RIVER	Hood River	541-386-2815
JACKSON	Central Point	541-776-4267
JEFFERSON	Warm Springs	541-553-2009
JOSEPHINE	Roseburg	541-673-6071
KLAMATH	Klamath Falls	541-883-6924
LAKE	Lakeview	541-947-2367
LANE	Eugene	541-465-6443
LINCOLN	Newport	541-265-2631
LINN	Tangent	541-967-5925
MALHEUR	Ontario	541-889-9689
MARION	Salem	503-399-5741
MORROW	Heppner	541-676-5021
MULTNOMAH	Portland	503-326-3941
POLK	Dallas	503-623-5534
SHERMAN	Moro	541-565-3551
TILLAMOOK	Tillamook	503-842-2848
UMATILLA	Pendleton	541-278-8049
UNION	La Grande	541-963-4178
WALLOWA	Enterprise	541-426-4521
WASCO	The Dalles	541-298-8559
WASHINGTON	Hillsboro	503-648-3174
WHEELER	Condon	541-384-2671
YAMHILL	McMinnville	503-472-1474

Monitor current drought conditions and streamflow forecasts online.

The following websites provide up-to-date water supply information and drought maps where farmers and ranchers can find specific forecasts for their part of the state.

Oregon Basin Outlook Report

Produced by the USDA Natural Resources Conservation Service, Oregon Snow Survey Team

www.or.nrcs.usda.gov/snow

West-wide Water Supply Forecast

Produced by the NRCS National Water and Climate Center

www.wcc.nrcs.usda.gov/wsf

U.S. Seasonal Drought Outlook

Produced by the National Weather Service Climate Prediction Center

www.cpc.ncep.noaa.gov

U.S. Drought Monitor

Produced by USDA, the University of Nebraska-Lincoln, and the National Oceanic and Atmospheric Administration

www.droughtmonitor.unl.edu

