



OREGON ENVIROTHON

CURRENT ISSUE 2021

Water Resources Management: Local Control and Local Solutions

Learning Objectives

Oregon has a diversity of watersheds and water bodies due to its unique geologic history and climate. Surface water is vital to Oregon's public health, economy and environment. Over 300 public water providers rely on surface water to provide about 75% of Oregon's drinking water. Managing and protecting this resource is the responsibility of many organizations, including the Department of Environmental Quality, the Oregon Department of Agriculture, the Oregon Department of Human Services Drinking Water Program and the Oregon Water Resources Division. Despite diligent efforts to protect this resource, issues of supply and contamination persist.

Students will learn concepts of how water is managed in Oregon, and what local stakeholders can do to address integrated water management challenges.

Key topics include:

1. Understanding how groundwater and surface water systems function.
2. Understanding the importance of water quality and quantity as the foundation of a healthy ecosystem.
3. Understanding a variety of water quality indicators in different landscapes.
4. Understanding a variety of water quantity indicators in different landscapes.
5. Understanding how sustainable and best management practices enhance and protect both water quality and quantity for humans and wildlife.
6. Understanding the differences of local, regional and national systems that manage natural resources, and the importance of each in water resources.
7. Understanding the social, economic and political impacts of natural resource management and decision-making.



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Resources

Oregon Water Resources Department

<https://www.oregon.gov/OWRD/pages/index.aspx>

Well Water Handbook

https://www.oregon.gov/OWRD/WRDPublications1/Well_Water_Handbook.pdf

Mapping

https://apps.wrd.state.or.us/apps/gw/gw_info/gw_info_report/Default.aspx

Water rights

<https://www.oregon.gov/owrd/programs/WaterRights/Pages/default.aspx>

<https://www.oregon.gov/owrd/WRDPublications1/aquabook.pdf>

Department of Environmental Quality

Groundwater Resource Guide

<https://www.oregon.gov/deq/FilterDocs/gwresguide.pdf>

Water quality information

<https://www.oregon.gov/deq/wq/Pages/default.aspx>

Educator lessons

https://www3.epa.gov/safewater/kids/teachers_9-12.html

<https://www.epa.gov/laws-regulations/summary-clean-water-act>

Groundwater Management Areas

<https://www.oregon.gov/deq/wq/programs/Pages/GWP-Management-Areas.aspx>

<https://www.oregon.gov/deq/wq/programs/Pages/GWP-Basics.aspx>

<https://www.oregon.gov/deq/wq/programs/Pages/GWP-about.aspx>

USGS

Ground Water Atlas

<https://pubs.er.usgs.gov/publication/ha730H>

Water cycle education

<https://www.usgs.gov/special-topic/water-science-school/science/teachers-resources-water-education>

<https://www.usgs.gov/special-topic/water-science-school/science/fundamentals-water-cycle>

Agriculture and water quality

<https://pubs.usgs.gov/circ/1433/cir1433.pdf>

Oregon Forest Resources Institute

Trees to Tap

<https://oregonforests.org/TreesToTap>

Forests and water

<https://oregonforests.org/water-cycle>

Water videos, hydrologist career video, “how to protect water” video

https://www.oregonforests.org/video_gallery

Oregon Forest Practices Act – water protection

https://www.oregonforests.org/sites/default/files/2018-02/OFRI_IllusManual_full.pdf

Oregon Department of Agriculture

Agriculture groundwater quality resources

<https://www.oregon.gov/ODA/programs/NaturalResources/AgWQ/Pages/AgWQResources.asp>

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Institute of Natural Resources

Willamette Water 2100 Project

<https://inr.oregonstate.edu/ww2100>