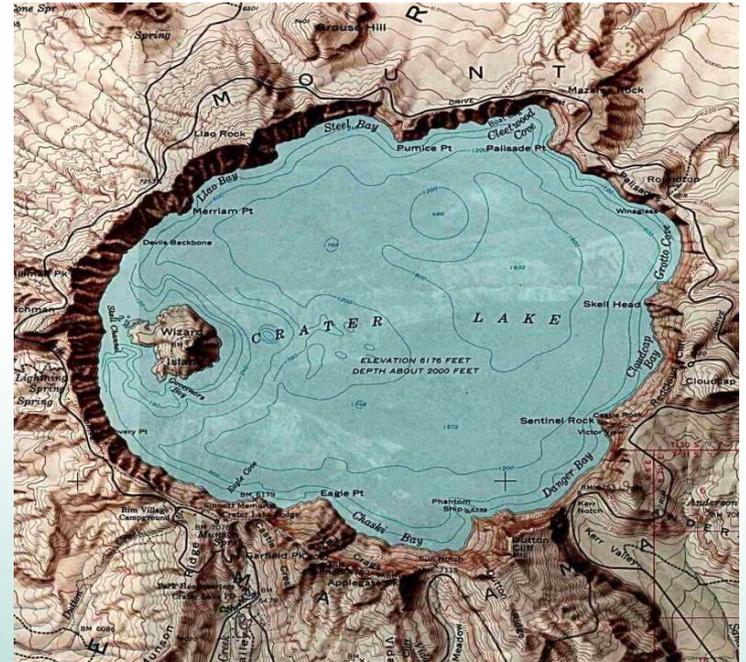


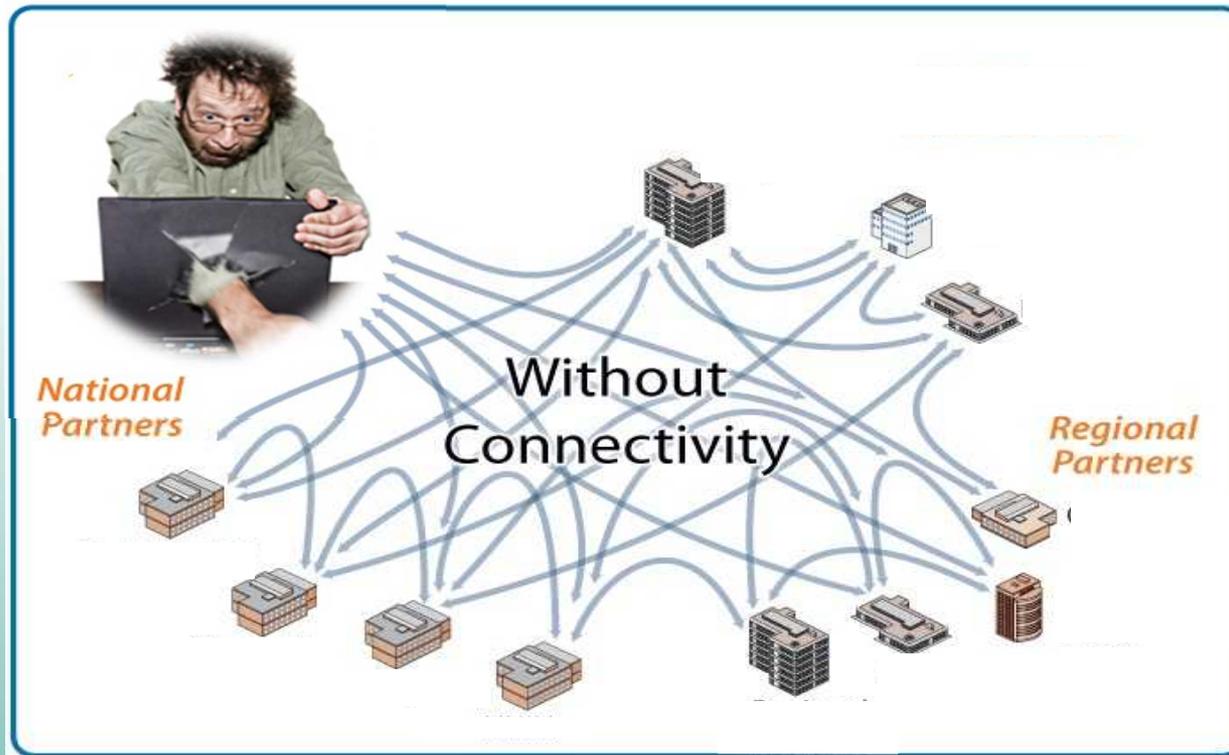
Using Innovative Technologies to Access Environmental Data



Dr. Mark Systma ¹, Dr. Richard Lycan ¹, Rich Miller ¹, Won Kim ²

1. Introduction
2. Exchange Network (EN)
3. Pacific Northwest WQ Exchange (PNWWQX)
4. Atlas of Oregon Lakes (AOL)
5. PNW meets AOL
6. Conclusion/Questions

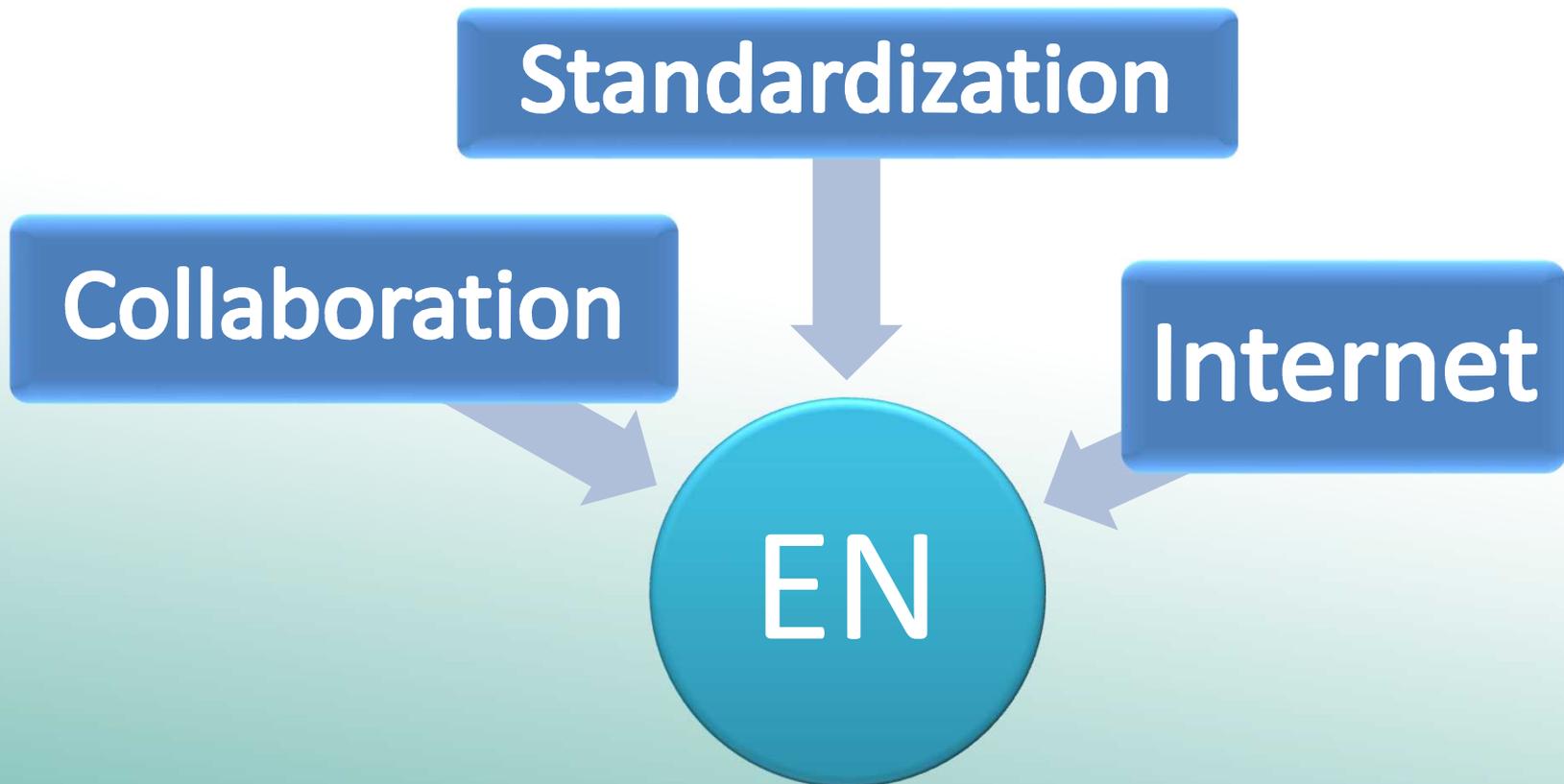
- Introduction
- Reason we're here:



- Introduction
- Reasons to collaborate and utilize new technologies:



- Exchange Network

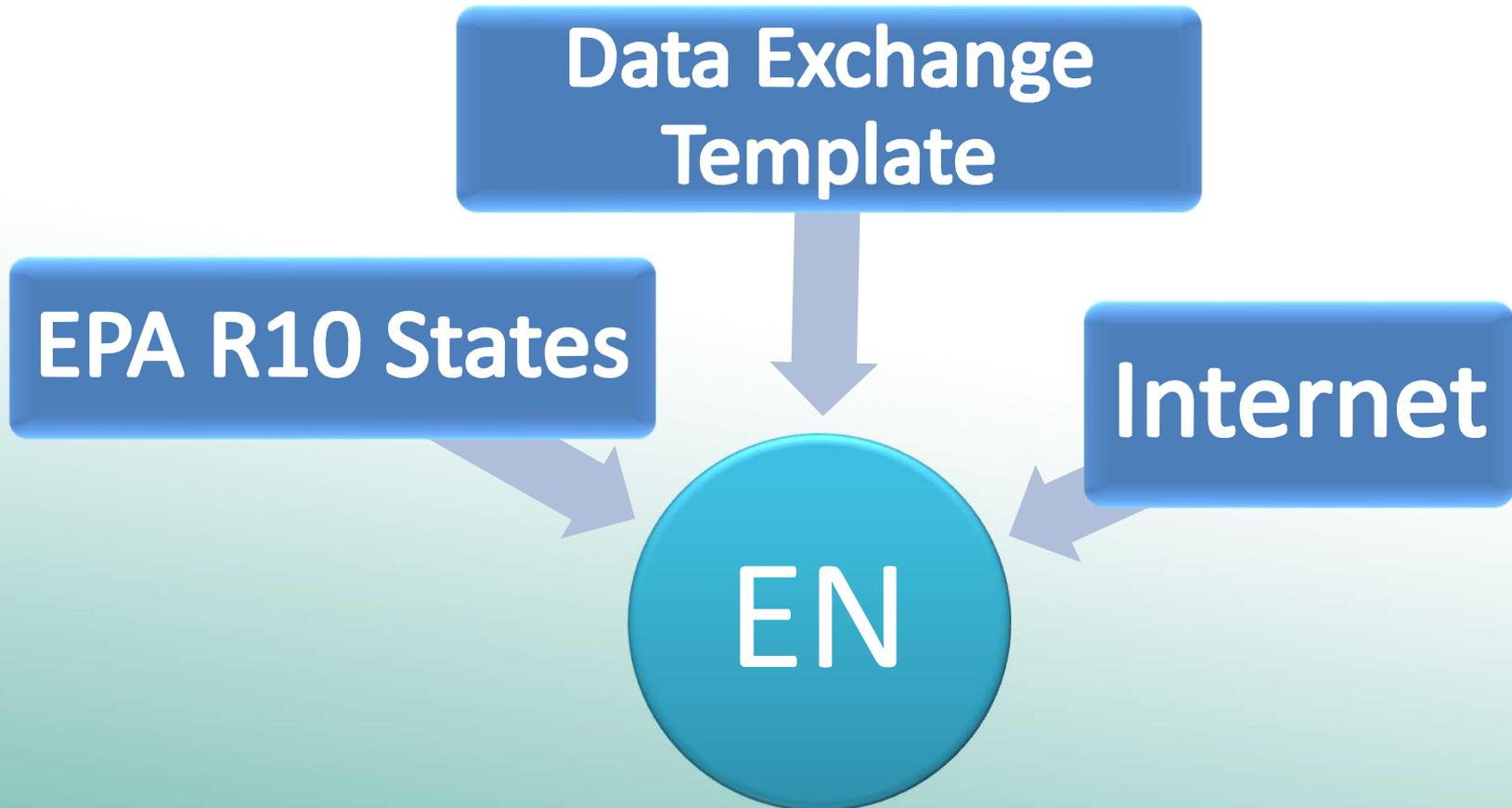




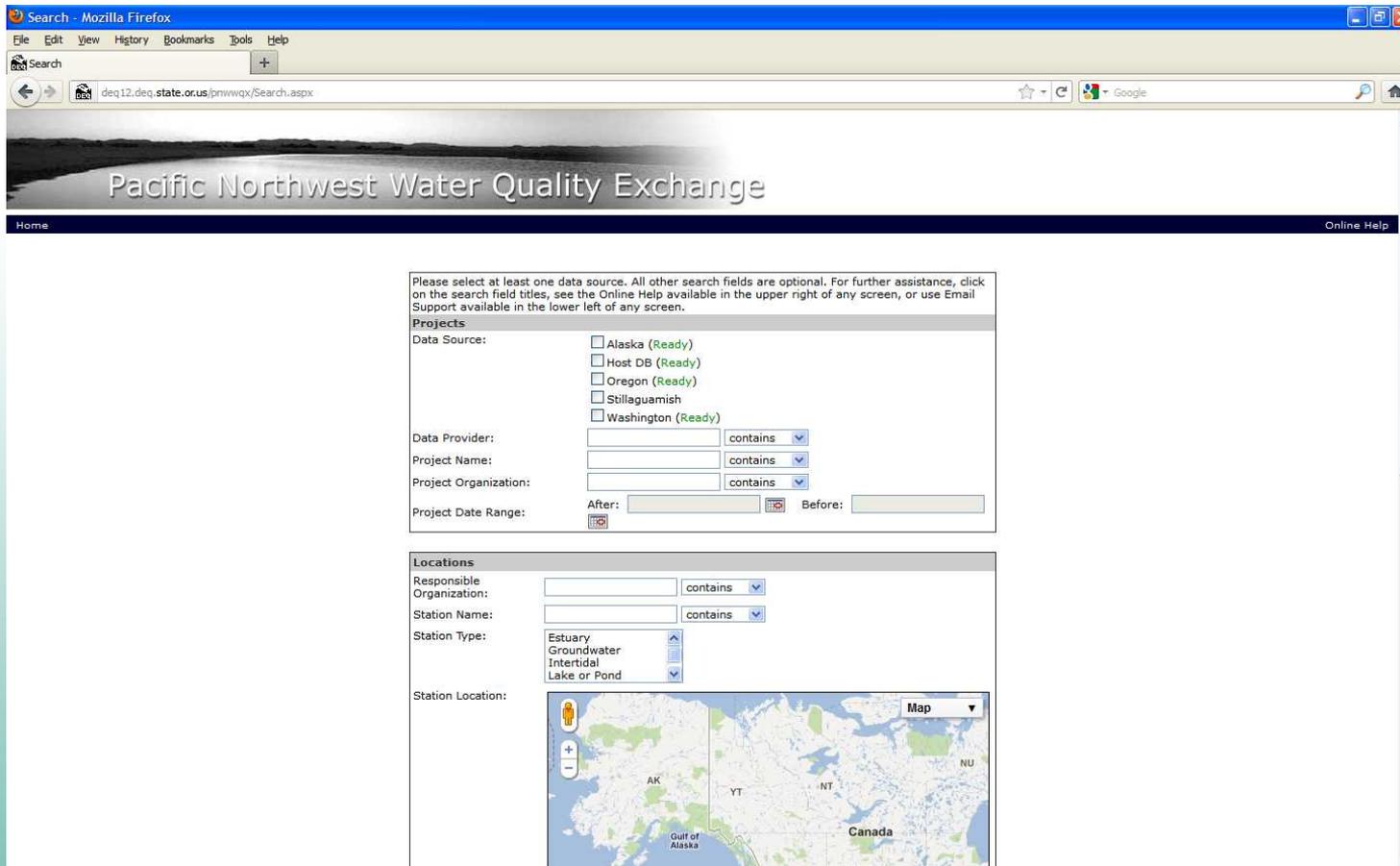
• Exchange Network

- Data user makes call.
- Switchboard directs the call to the database.
- Database being called on answers and responds.
- One phone can access multiple phone #'s.

- PNWWQX



• PNWWQX



The screenshot shows a Mozilla Firefox browser window displaying the Pacific Northwest Water Quality Exchange search page. The browser's address bar shows the URL: `deq12.deq.state.or.us/pnwwqx/Search.aspx`. The page title is "Pacific Northwest Water Quality Exchange".

Below the title bar, there is a navigation bar with "Home" and "Online Help" links. The main content area contains a search form with the following sections:

- Projects**
 - Data Source:** A list of checkboxes for "Alaska (Ready)", "Host DB (Ready)", "Oregon (Ready)", "Stillaguamish", and "Washington (Ready)".
 - Data Provider:** A text input field followed by a "contains" dropdown menu.
 - Project Name:** A text input field followed by a "contains" dropdown menu.
 - Project Organization:** A text input field followed by a "contains" dropdown menu.
 - Project Date Range:** Two date input fields labeled "After:" and "Before:" with a "Go" button.
- Locations**
 - Responsible Organization:** A text input field followed by a "contains" dropdown menu.
 - Station Name:** A text input field followed by a "contains" dropdown menu.
 - Station Type:** A dropdown menu with options: "Estuary", "Groundwater", "Intertidal", and "Lake or Pond".
 - Station Location:** A map of the Pacific Northwest region, showing parts of Alaska (AK), Yukon (YT), Northwest Territories (NT), and Nunavut (NU). The map includes labels for "Gulf of Alaska" and "Canada".

- PNWWQX

Please select at least one data source. All other search fields are optional. For further assistance, click on the search field titles, see the Online Help available in the upper right of any screen, or use Email Support available in the lower left of any screen.

Projects

Data Source:

- Alaska (Ready)
- Host DB (Ready)
- Oregon (Ready)
- Stillaguamish
- Washington (Ready)

Data Provider:

 contains 

Project Name:

 contains 

Project Organization:

 contains 

Project Date Range:

After:  Before:


Locations

Responsible

AK

+

WA

+

OR

+

SG

+

Host

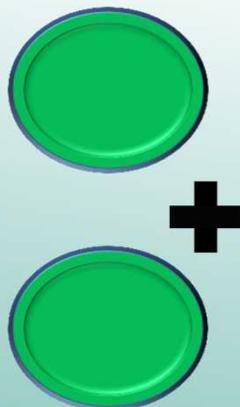
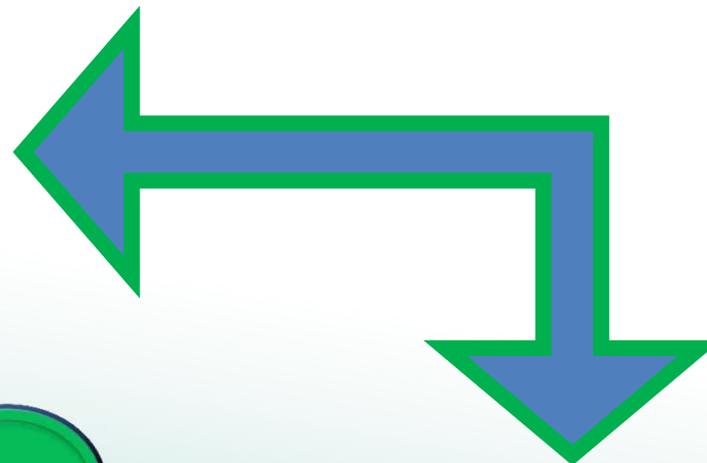


PNW

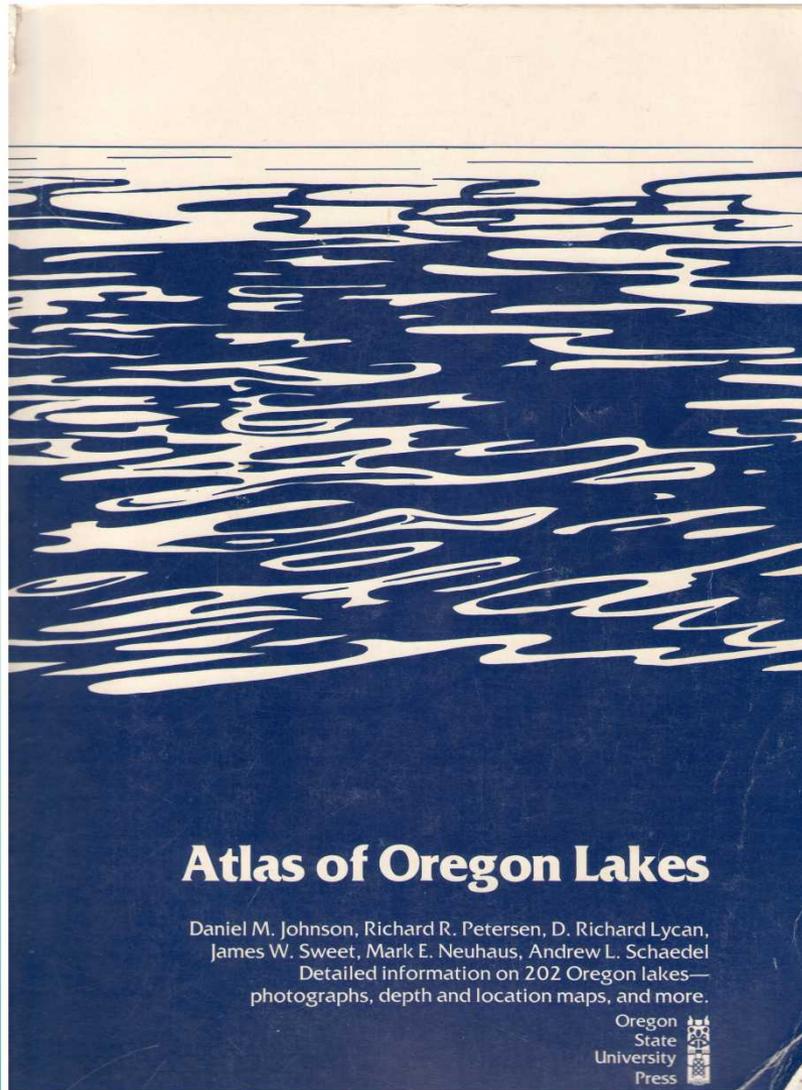


- PNWWQX

PNW - AOL



- PNWWQX



- AOL

- Johnson, D.M., R.R. Petersen, D.R. Lycan, J.W. Sweet, M.E. Neuhaus, and A.L. Schaedel.
- Published in 1985

www.aol.research.pdx.edu

• AOL

Atlas of Oregon Lakes

Home | About | Interactive Map | Individual Lakes Pages

A B C D E F G H I J K L M N O P
R S T U V W

Woahink Lake (Lane County)

Introduction

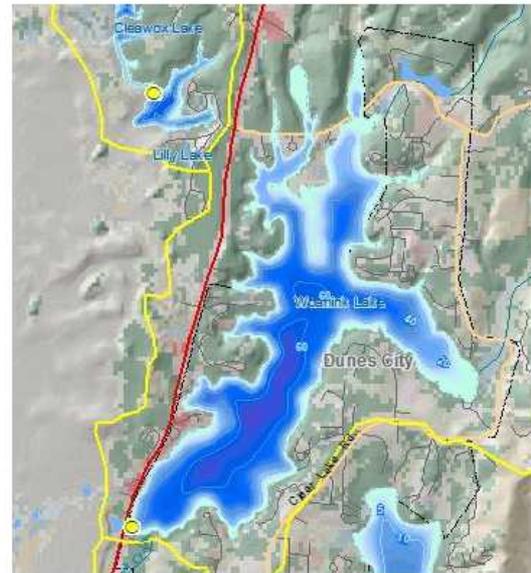
Woahink Lake is a large, deep, clear lake located about three miles inland from the central Oregon coast, directly south of the city of Florence. The lake is popular for boating, swimming and fishing. Fish species include yellow perch, largemouth bass, rainbow trout, cutthroat trout, kokanee, and coho salmon. Woahink Lake's primary recreational access is through Jessie C. Honeyman State Park. This 522-acre park covers about 15 percent of the lake's shoreline and contains developed recreational areas and natural areas. An endangered species of pitcher plant (*Darlingtonia californica*) grows in the bog areas within the park. Much of the remainder consists of private lakeside residences.

The lake basin owes its origin to the periods of submergence and emergence of the coastal zone that accompanied the latter stages of the Pleistocene Epoch (Cooper 1958). During periods of submergence, coastal streams were inundated by the higher sea level. Subsequent migration of sand dunes across the mouths of the streams as ocean levels decreased created impoundments. The current water surface of Woahink Lake is 38 feet above mean sea level, and the bottom at its deepest point is 74 feet deep, or about 36 feet below sea level, the lowest of any of the sand-dune dammed lakes on the Oregon coast. Tributaries feed three large arms from the north and east; the longest of the three is only about three miles in length. The lake empties southward into adjacent Siltcoos Lake via Woahink Creek.

Watershed Characteristics

Woahink Lake's watershed is 1784 hectares with 16.8 percent covered by the lake itself. More than half of the watershed is covered with conifer and hardwood forests. The eastern shoreline of the lake abuts the forested foothills of the Coast Range. The remainder consists of residential

Maps Summary Statistics Water Quality Photos

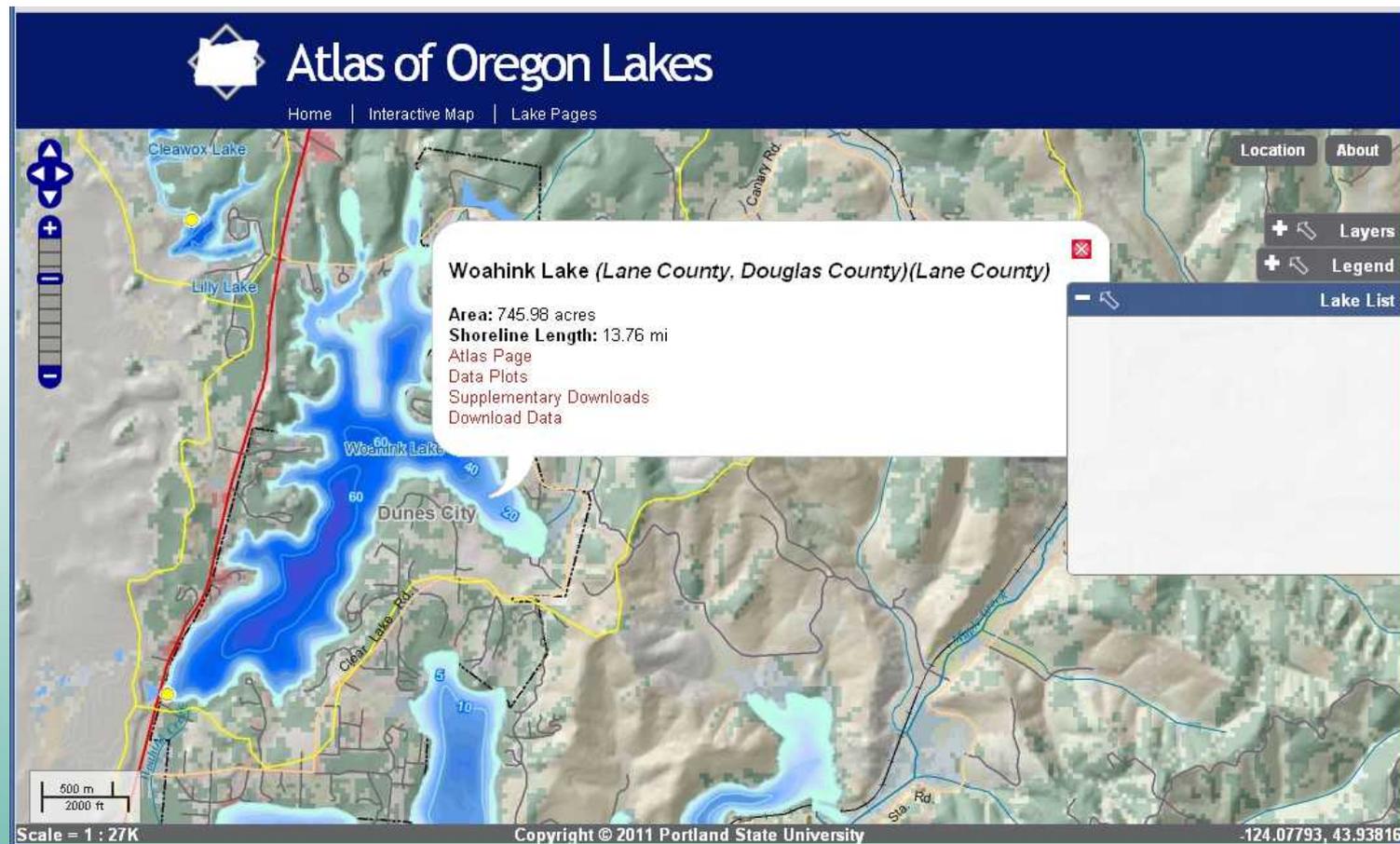


Click to go to the interactive map.

Lakebasin

www.aol.research.pdx.edu

• AOL



Atlas of Oregon Lakes
Home | Interactive Map | Lake Pages

Woahink Lake (Lane County, Douglas County)(Lane County)
Area: 745.98 acres
Shoreline Length: 13.76 mi
Atlas Page
Data Plots
Supplementary Downloads
Download Data

Scale = 1 : 27K
Copyright © 2011 Portland State University
-124.07793, 43.93816

• PNW-AOL



Atlas of Oregon Lakes

Home | About | Interactive Map | Individual Lakes Pages

Lake Search

A B C D E F G H I J K L M N O P
R S T U V W

Woahink Lake (Lane County)

Introduction

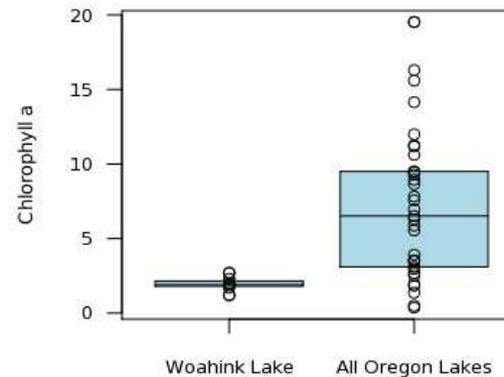
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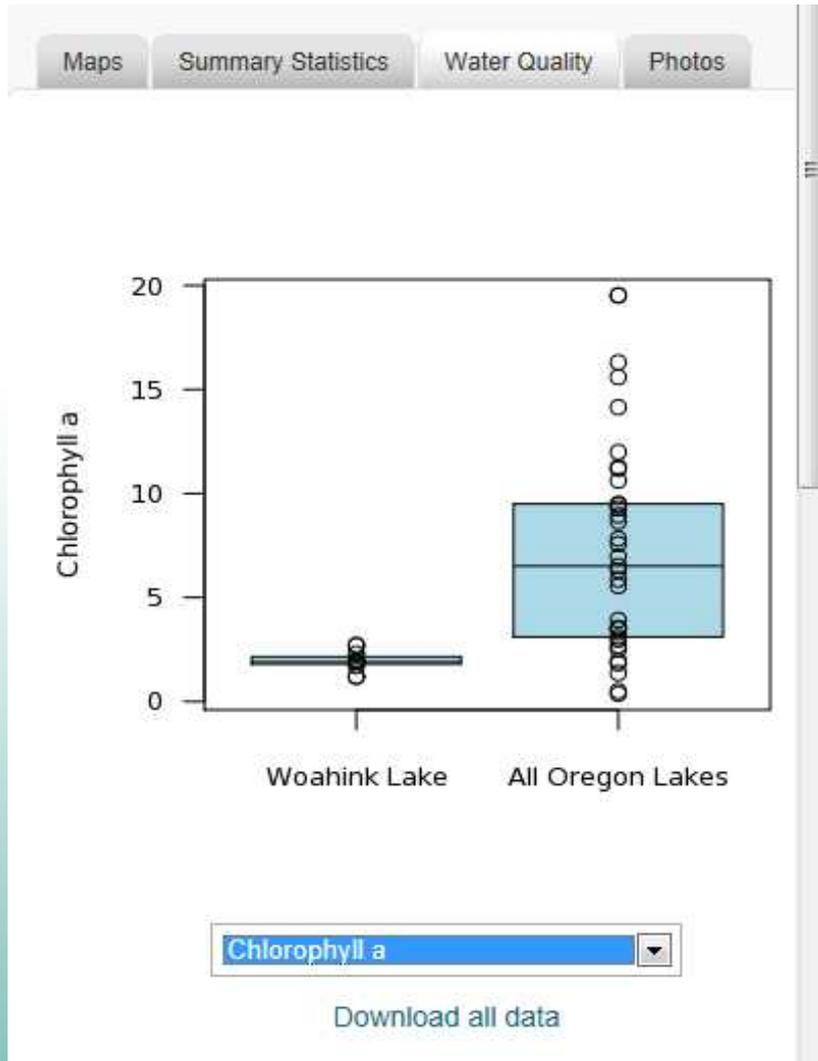
Woahink Lake's watershed is 4704 hectares with 46.9 percent covered by the lake itself. Most

Maps Summary Statistics Water Quality Photos



Chlorophyll a

Download all data



- PNW-AOL

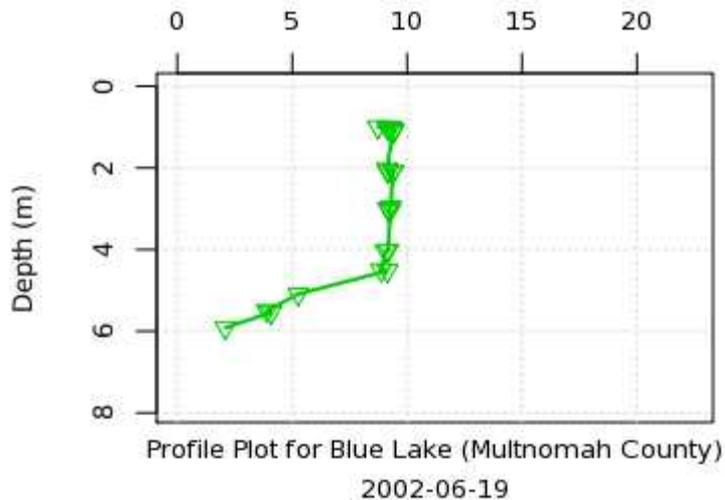
- Data call from PNW
- Real time data manipulation with PostgreSQL and plotting with PL/R
- Data call for each lake downloadable

Maps

Summary Statistics

Water Quality

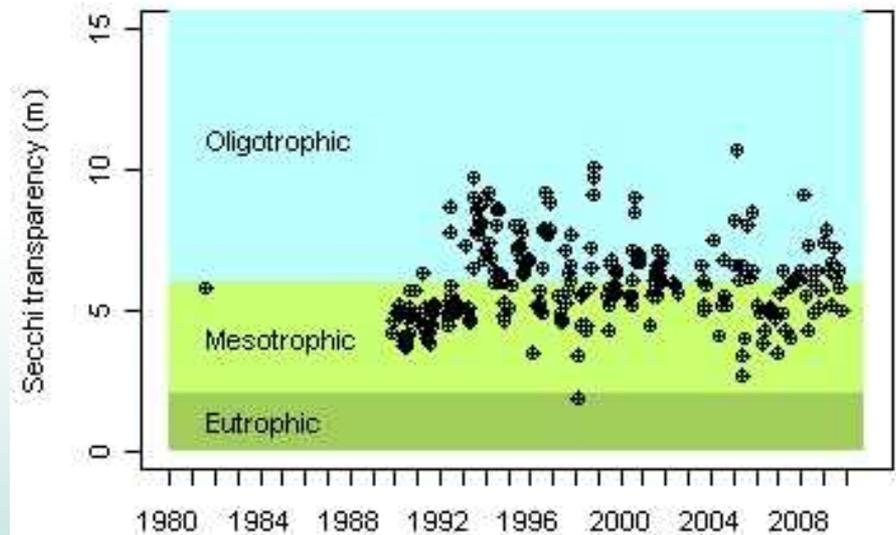
 Dissolved Oxygen (mg/l)



2002-06-19

Download all data

• PNW-AOL



- Conclusion
- Partnerships
- Data portals
- Data presentation
- Next steps: more data into PNW,
More data sources, add/improve
plots and narratives

Many thanks to:

- PSU – Center for Lakes and Reservoirs
- Dr. Rich Lycan
- Curtis Cude (OHA)
- Academic Research and Computing (ARC)
- Exchange Network – Environmental Council of States (ECOS)
- US EPA
- Oregon DEQ

• Questions?