

## STUDENT ATLAS OF OREGON: A CLASSROOM ATLAS FOR ELEMENTARY AND MIDDLE SCHOOLS



By Teresa L. Bulman and Gwenda H. Rice.

Cartography by Center for Spatial Analysis and Research at Portland State University  
(Chief Cartographer: David Banis)

Oregon Geographic Alliance,

2009. 48 pages, 47 maps, 8 1/2 X 11 inches. Available free online at <http://studentatlasoforegon.pdx.edu/>

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**Review by:** Victoria Packard

### Description:

The *Student Atlas of Oregon: A Classroom Atlas for Elementary and Middle Schools* is 48 pages long and includes 47 maps. It is available in a soft or hard cover and is 8 1/2 X 11 inches, making it easy for students to carry and use.

The maps are general reference and thematic. This review will focus primarily on the thematic maps, among which are examples of dot density, choropleth, isopleth, graduated circle, and color patch maps.

The *Student Atlas of Oregon* is subtitled as *A Classroom Atlas for Elementary and Middle Schools*, but it is a good basic atlas for other age groups as well.

### Analysis:

Any discussion of the large amount of information available in this atlas will involve a consideration of how this atlas is compiled, and the various sections it contains. The following is a brief description of these sections.

The “General Reference Map” section displays the larger cities of Oregon, and the roads and highways connecting them together. “What is a Map?” provides a brief explanation of the differences between a picture, aerial photo, and a regular map the student may have used in the past.

“Types of Maps” shows the differences between a general reference map that provides the location of cities, towns, roads, and thematic maps, which provides a variety of information by themes. These themes deal with the distribution of people within a geographic region, by means of dot density, choropleth, isopleth, graduated circle, and color patch maps.

“How Geographers Use Maps” explains, with written and visual images, how maps can be used to learn about places, locations, agriculture, environment, population, weather, and many more topics.

“How Cartographers Use Symbols” and “Latitude and Longitude Lines” explain the use of cartographic symbols. The description of latitude and longitude is well done. There is enough description to understand map symbols and coordinates, but not so much as to overwhelm the student with information they will not use at this level.

The sections “Making a Globe Become a Map” and “Map Distortions” do a very good job explaining a map projection, and distortions that can occur, without going into extreme detail. There is discussion about the three basic types of maps and how they distort distance, direction, area, shape, or scale. Students will be able to know what distortion will occur with each map type, and how to choose the best map projection for their project.

“Map Scale” and “Using Scale Bars” are both very informative. Map scale is a concept that can be confusing to younger students. The illustration showing the distance of 20 miles on maps from small scale to large scale is a good visual example, and the explanation of the three ways to represent scale is also well done. The assignment to measure and read distances using a map, paper, and pencil is a good practical application for students.

“Physical Regions of the Pacific Northwest” is a good example of how mountains, plateaus, basins, and valleys do not follow the boundaries of states. For example, the Cascade Range crosses the states of Oregon and Washington, while the Wallowa Mountains flow through the states of Washington, Oregon, and Idaho.

“Ecoregions” provides a visual delineation from cool mountain ranges to hot lower basins. Oregon is a good example of multiple ecoregions within a state.

The “Topography” and “Elevation Cross Sections” chapters display the elevation range in feet, making it more understandable visually. The cross sections of elevation in different colors is a good representation of sea to mountain levels. Crossing the map from border to border north to south and east to west will help students realize the symbiotic relationship between topography, and the environment, and how each can affect other changes such as crops, wildlife, and forests.

Oregon sits on three tectonic plates, and it is very interesting to see, in “Pacific Northwest Plate Tectonics,” where they are and in which direction they move in relation to the coast. The listing of located volcanoes

along with historic data on eruptions puts the correlation of plate movement and volcanic eruption in perspective.

Because the “Natural Hazards” map is on the page adjoining the earthquake map, it is easy to see the correlation between plate tectonics, volcanoes, and the number and magnitude of earthquakes in the state of Oregon.

The three maps “Average Temperature for January,” “Average Temperature for July,” and “Average Annual Precipitation” enable students to see which locations are the coldest in January, the hottest in July, and which receive the most rain. This allows students to make comparisons between agricultural, population, and environmental questions. The next map, “Climographs,” displays the annual precipitation and temperature for the larger cities in Oregon in graph format.

The “Vegetation Zones” maps display 10 zones with descriptions of the trees, shrubs, plants, and grasses found in each area. The forest map displays the distribution of 10 different trees in Oregon. Using this map with the previous vegetation map, students are able to understand that there are not many trees in an area that is labeled the Big Sagebrush zone and why the Sitka spruce, which is not affected by salt, grows along the coast.

“Timber Harvest Over Time” display maps from 1925, 1960, 1980, and 2004. They show, in thousands of board-feet, how much was harvested per square mile, and in which areas.

The “Forest Fire Risk” map displays the high, medium, and low risk zones for forest fires. In the “Historic Fires” map there is a listing for historic fires from 1848 to 2002. The list includes data on how many acres were consumed and the geographic location of the fires.

In the “Land Ownership” map, there are three smaller maps displaying Oregon land ownership by private, state, and federal land. There is also a chart showing the percentages of land ownership. The chart is a very good visual aid showing that state and federal land claims 54.6% of the land in Oregon.

The “Wildlife Distribution” map is very interesting. There are eight smaller maps showing the habitat ranges of such animals as black bear, rattlesnake, spotted owl, bald eagle, American beaver, pronghorn, elk, and red-legged frog. Included with the maps are identification keys for animal tracks.

The map in the “Pacific Coast Salmon” section displays the historic and current salmon ranges along with major dams. Different color overlays show historic and present day salmon ranges. This section explains how trees, boulders, leaves, and the water movement all work to help provide food and protection for the salmon and their young.

The “Rivers and Lakes” map displays the location,

direction, and size of various rivers and lakes in Oregon.

The “Pacific Northwest Watersheds” is a good display of watersheds, separated by colors. There is a small display about the large Columbia River watershed: the area it encompasses, and the states and countries it touches.

The “Dams of the Pacific Northwest” page includes a photograph of the Grand Coulee Dam. The legend displays the purpose of each dam, whether hydroelectric, irrigation, or flood control. The names of the rivers along with the dam location and type provides important information.

“Oregon Dams” is a good explanation of the dam systems in Oregon, with a display indicating the size of the dam by the size of the marker. The legend explains that one acre-foot equals 325.851 gallons. The inclusion of mountain ranges helps to explain dam placement.

The “Renewable Energy Potential” section is well done. There are definitions of solar, geothermal and wind energy. Within each of the energy types there are small legends showing potentials by kilowatt/meters. It is very easy to see that along the coast is the best for energy production from wind and that solar energy potential is highest in the east and southeast of Oregon.

The “Lewis and Clark Expedition of 1804–1806” and the following map of the “Oregon Trail” are two good resources for geography and history classes. The boundaries of the Indiana Territory and the Louisiana Purchase are well defined in relation to where Oregon would eventually be. The use of different colors and inclusion of dates for the Clark, Lewis, and Lewis & Clark expeditions are well separated.

All of the Oregon Trail is displayed on this map. The location of forts and geologic formations, such as Chimney Rock, makes the map interesting and less a listing of dry facts. The inclusion of a photograph of wagon wheel ruts is a nice touch.

The “Native American 1780 Population” displays the number and names of the Native American tribes. This is very interesting for genealogy, history, political science, and current affairs.

The “Population” map shows the distribution of people throughout the state, with one dot equaling 500 people. It is very easy to see that the greatest concentration of people is in the western section of Oregon.

The “Ancestry and Race in Oregon” maps have a bar chart for ancestry and a pie chart for race distribution. The ancestry chart displays the ancestral heritage of the parents and grandparents of an Oregonian student. The race chart uses U.S. Census data to display the ethnicity of the state.

The “Population Pyramids of Three Counties” displays gender and age with bar charts. These counties are

Multnomah in the north, Malheur in the southeast, and Curry County in the southwest.

“Farm and Ranch Lands” provides a graphic breakdown across the state and includes the outline of counties.

The two “Major Crops” maps display the distribution of wheat fields and of greenhouses and nurseries. There is a breakdown by bushels and pounds for the wheat and number of nurseries by dot.

The “Farm Products” page has separate maps displaying such products as onions, potatoes milk cows, and beef cows, with one dot equal to so many of the product. The “Fruit” maps have separate displays of grapes, apples, cherries, and pears with each dot equal to so much fruit on each map.

The “Transportation” map displays major transportation infrastructure, such as railroads, highways, and airports, with specific symbols showing train stations, types of railroads (e.g. freight or passenger or both), interstates and highways, and major airports versus smaller or private airports.

The “Ports” section displays two maps. One covers the “Columbia/Snake River System Ports” with each port marked, and the other listing the top 10 ports from Washington to Oregon to California and how many ports are within each state.

The last map shows the “Counties and County Seats.” It displays the counties in Oregon, the county seats, and their location within the county.

#### **Weakness:**

The atlas is a good resource to use with a standard text, but if it will be used as a single teaching tool it will need more practical applications.

The “Topography” map would be more pertinent with names of mountain ranges and cities, and could be cross referenced with “Elevation Cross Sections” on the next page.

If the “Wildlife Distribution” map included another map overlaying of all the habitats, students could see how different habitats overlap.

The “Rivers & Lakes” map should include the mountain ranges to show how mountains affect water flow and lake creation. The “Pacific Northwest Watersheds” section needs a definition of the concept of a watershed.

The “Population Pyramids of Three Counties” shows the breakdown of three counties by age and gender using percentages, but fails to explain why these three counties were chosen. Are they representative of the state?

“Farms and Ranch Lands” is a good display of the farms and ranches in the state, but including the names of the counties would have been helpful.

#### **Appraisal:**

This atlas is a wonderful start for students to learn geography. Many of us sat through geography classes where we colored the states and marked the capitals. The thematic approach is much more educational, and the information is presented in a way students will retain longer and be able to apply to other classes such as history or current affairs.

The use of detailed written text with visual examples is very well done. It encompasses the learning style of two types of learners.

Used in higher education, this atlas will enable students learning GIS or remote sensing to understand the various themes and levels of information, and provides examples of how to overlay information within the programs.

#### **CENSUS ATLAS OF THE UNITED STATES: CENSUS 2000 SPECIAL REPORTS**

By Trudy A. Suchan, Marc J. Perry, James D. Fitzsimmons, Anika E. Juhn, Alexander M. Tait, Cynthia A. Brewer.

Washington, DC: Government Printing Office, 2007. 302 pages, maps, figures, notes, map and figure index. \$173.50, hardcover.

ISBN: 978-1-58-769010-5

Entire text available online at: <http://www.census.gov/population/www/cen2000/censusatlas/>

**Review by:** Russell S. Kirby, University of South Florida

Every once in a while, a volume is published on such a seemingly ubiquitous subject that it gives one pause to discover how unusual its publication really is. Unfortunately, in the field of the geography of North America, this is the norm rather than the exception. How many comprehensive texts on the regional geography of the continent, or of the United States, have been published in the past thirty years? A handful come to mind, including *Across This Land* by John C. Hudson (2002), *Regional Geography of the United States and Canada* by Tom L. McKnight (2003), *Regional Geography of Anglo-America* by White, Foscoe, and McKnight (1985), *North America: A Geography of the United States and Canada* by John H. Paterson (multiple editions, most recent, 9<sup>th</sup> edition, 1994); none of them are best-sellers, although perhaps all are familiar to readers of this journal.

