

# Different Perspectives Of Oregon's Forest Economic Geography

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Adapted from lesson by Tony Crawford

**OVERVIEW:** Students map data on employment in wood products manufacturing in Oregon counties to discover how maps can be used to analyze the same information processed in different ways to convey different inferences.

**GEOGRAPHIC QUESTION:** What is the pattern of employment in wood products manufacturing for Oregon?

**CONNECTION TO CURRICULUM:** Students will use MATH to create box and whisker plots and find the percent of a number.

## **NATIONAL GEOGRAPHIC STANDARDS:**

(#1) How to use maps and other geographic representations, tools, and technologies to acquire, process, and report information from a spatial perspective.

(#18) How to apply geography to interpret the present and plan for the future.

## **OREGON STATE CONTENT STANDARDS AND BENCHMARKS:**

Benchmark 3 (grade 8)

Number Theory: use ratios, proportions and percents to solve problems.

Interpretation of Data: Read, construct, and interpret displays of data (e.g., charts, tables, graphs) using appropriate techniques and technologies.

## **GRADE LEVELS:** 6-8

**OBJECTIVES:** The student will:

- Gather, organize and analyze data to compare timber manufacturing in Oregon.
- Examine, compare, and contrast the 2 maps created.
- Report their findings.

**MATERIALS:** Pictures/posters of manufacturing, forests, logging, and the like.

Blank maps of Oregon with counties (two for each student or group of students)

Colored pencils

Calculators

Loy, W. (editor), *Atlas of Oregon*, (2<sup>nd</sup> edition). University of Oregon Press, 2001, pgs 72-73.

## **PRESENTATION STEPS:**

- 1) Anticipatory set: Students will have a brief discussion of types of manufacturing in Oregon and then specifically discussing timber manufacturing. Include pictures/posters.
- 2) Introduce students to the "Geographic Process" (Ask a geographic question, gather data, organize data, data analysis, and answer the question).

- 3) Students list the percentage of people employed in wood products manufacturing in each county of Oregon (gather data from page 72 of *Atlas of Oregon*).
- 4) Students arrange the counties from high to low according to percentage data.
- 5) Students find the absolute number of jobs in each county provided by timber manufacturing ( $\% \times \#$  of total manufacturing jobs)(gather data from page 72 of *Atlas of Oregon*).
- 6) Students arrange the counties from high to low according to the second set of data (the absolute numbers).
- 7) Students create a box and whisker plot for each set of data to divide the information into quartiles. Using these quartiles create a key that is universal to each data set. (Red might represent the 1<sup>st</sup> quartile on both maps).
- 8) Students color 2 maps of Oregon counties using the created key: one map for the percentage information and one map for the absolute job numbers. Include a key, title, compass rose, and author.
- 9) Students compare and contrast the two maps and look for patterns and extreme differences (such as Wheeler and Multnomah county) and speculate why such differences exist.
- 10) Students answer the geographic question twice: once using the percent information and map and once using the absolute job numbers and map.
- 11) Students brainstorm situations where one map or data set might be preferable over another. Which map would be used to express what specific platform/point of view/perspective?

#### **ASSESSMENT:**

Subjective: Each group of students reports their conclusion of the “Economic Status” of Oregon’s forests based on their analysis of both pieces of data produced during this lesson. The report may be written or verbal and should include graphic representations to support drawn conclusions. Use the CIM scoring guides to score the reports.

Objective: Each student or group of students should include their box and whisker plots. Check for accuracy. Have students complete checklist for completion and accuracy of maps.

#### **ADAPTATIONS:**

This lesson can be adapted for special needs learners by reducing the tasks required for the lesson. A pre made list of counties ranked from high to low with one or both sets of data could be provided. The counties absolute job numbers could be calculated ahead of time. Medians could be determined for students to aid in the creation of the box and whisker plot. Maps could be provided with the counties written on the maps instead of having them blank. Students could do this project alone or in groups.

ELL students could be allowed to present in their home language with an interpreter available if needed.

#### **EXTENSIONS:**

- Students use technology to create their maps or box and whisker plots and report their findings.

- Write a persuasive essay or speech based on a particular platform for which a specific map is more favorable.
- Present information using other styles of graphs or displays and discuss those differences in inferences and implications.
- Interview members of own county to compare perceptions with reality.
- Research other factors of forests that could be added to the map or another map for additional information.

# Organize and Display the Data

## By percent

Wheeler	100
Lake	97
Grant	94
Crook	91
Jefferson	78
Douglas	73
Klamath	73
<u>Curry</u>	<u>72</u>
Columbia	63
Coos	58
Union	57
Wallowa	54
Baker	51
Jackson	50
Josephine	45
Linn	44
Deschutes	42
<u>Harney</u>	<u>42</u>
Tillamook	38
Lane	36
Morrow	31
Polk	29
Marion	28
Hood River	21
Umatilla	20
<u>Clatsop</u>	<u>20</u>
Yamhill	19
Lincoln	16
Clackamas	16
Wasco	14
Benton	12
Multnomah	10
Washington	06
Malheur	00
Sherman	NA
Gilliam	NA

## By Absolute Number

Lane	7831
Douglas	6285
Multnomah	5192
Linn	5168
Jackson	4539
Marion	3976
Washington	3043
<u>Clackamas</u>	<u>2900</u>
Klamath	2713
Deschutes	2232
Coos	1641
Josephine	1456
Jefferson	1437
Columbia	1404
Crook	1386
Yamhill	1200
<u>Benton</u>	<u>1031</u>
Union	834
Polk	822
Umatilla	812
Curry	644
Clatsop	548
Tillamook	428
Morrow	337
Baker	327
<u>Grant</u>	<u>317</u>
Hood River	227
Lake	223
Harney	194
Lincoln	186
Wasco	164
Wallowa	157
Wheeler	6
Mahleur	0
Sherman	NA
Gilliam	NA

## **Map Checklist**

- **My maps have titles.**
- **My maps have keys to explain the different color meanings.**
- **My maps are neatly colored following the box and whisker plot and color guide.**
- **My maps have a compass rose.**
- **My maps have Oregon's neighbors labeled.**