

ES 106 Laboratory # 7

WEATHER – OREGON CLIMATE

Introduction

Climate is the measure and description of average weather conditions for a place on Earth's surface over time. Earth's climate system is very complex. The atmosphere, hydrosphere (mostly oceans), lithosphere, cryosphere (ice), and biosphere all contribute to Earth's climate.

Understanding how all of these subsystems work is what helps scientists determine how subsystems respond to change. Oregon is a diverse place with regards to climate. The purpose of this lab is study the climate of Oregon and to focus on the major influences on Oregon's varied climate.

Goals and Objectives

- Interpret climatic data from maps, tables, and graphs
- Describe Oregon's climate based on climatic data
- Develop an understanding of the major factors influencing Oregon's climate

Useful Websites

- http://weather.noaa.gov/weather/OR_cc_us.html
- <http://www.wrcc.dri.edu/CLIMATEDATA.html>
- <http://www.oregonphotos.com/pagetwentyone-Q.html>
- http://www.worldbook.com/wb/Students?content_spotlight/climates/north_american_climate_oregon
- <http://www.musc.edu/cando/geocam/atacama/atacama.html>
- http://www.esa.int/esaEO/SEM3PIWJD1E_index_0.html
- <http://www.wou.edu/las/physci/taylor/gs106/OregonRoadTrip.htm>

Name_____

Lab Day/Time_____

Pre-lab Questions – Complete these questions before coming to lab.

1. Define the following terms:

A. Orographic lifting

B. Rain shadow

C. Jet Stream

2. What is the effect of proximity to a major body of water (like the Pacific Ocean) on climate? How does this relate to the amount of heat that water must absorb to change its temperature?

3. What happens to the temperature of an air mass as it rises? Why?

4. What happens to the relative humidity of an air mass as it rises? Why?

See "Jump Start Activity" on next page to get a jump start on your work.

Laboratory Jump Start Activity

Work in groups to complete the table below by filling in the blanks. Imagine, in your mind's eye, a road trip from Newport, OR to Corvallis, OR to Sweet Home, OR to Santiam Pass, OR to Bend, OR to Burns, OR to Boise, ID. Describe what type of weather and vegetation you would experience on your drive **during the winter months**, for example over Christmas Break. For weather descriptions, your options are: "rainy", "snowy", "sunny and clear", and temperatures can be "above freezing", or "below freezing". For vegetation descriptions, your options are Spruce-Douglas Fir, Ponderosa Pine, agricultural fields (e.g. grass seed, wheat, etc.), Juniper-sagebrush, and sagebrush.

See <http://www.wou.edu/las/physci/taylor/gs106/OregonRoadTrip.htm> in 'useful websites' if you are unfamiliar with Oregon. Look at the graphs of climate data to fill in the weather and temperature.

Location (as you drive from west to east)	Weather and temperature	Vegetation
Newport		
Corvallis		
Sweet Home		
Santiam Pass		
Bend		
Burns		
Boise		

In the space below, write a brief paragraph discussing what you think the controlling factors are on the weather and vegetation observations that you've made on your road trip. (Describe what makes the weather like it is in the various places.)