



## Surface Process Hazards Unit 4: Oso Washington Climate Assessment Exercise

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Complete the following questions using this data table and the provided precipitation map.

Darrington Station, WA (near Oso, WA)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Average high in °F:</b>	40.7	46.1	52	59.5	66.5	70.6	77.3	77.2	71.1	60.5	48	42.2
<b>Average low in °F:</b>	27.7	29.9	32.9	36.7	42.6	47.7	50.4	50.8	45.6	39.3	33.3	30.2
<b>Average precipitation in inch:</b>	11.89	8.84	8.25	5.09	3.5	2.84	1.53	1.71	3.64	7.42	11.65	13.12

Climate data from: <http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?wadarr>

Years of record: 1931-2005

Plot these data using a sheet of graph paper and a pencil. You can plot both temperature and precipitation on the same graph by making a left y-axis and a right y-axis. Be sure to put the months on the x-axis. You decide what to make the y-axis scales, but be sure to make the maximum value higher than your highest value and the minimum value lower than your lowest value.

For the temperature data, plot each value with a point and connect all of the highs with a line and all of the lows with a line (a line graph). For the precipitation data, use bars (a bar graph) to show the values and round to the nearest inch.

After you construct your graph, answer the following questions:

- 1) Does this region see many months below freezing temperatures?
- 2) What is the range of difference between the max and min temperature in a given month? For example, in Jan, the difference between the max and min is 13°F. Which month has the largest range of temperatures? Which month has the smallest range of temperatures?
- 3) Are the average monthly precipitation values the same throughout the year? If not, what is the total variation between the maximum precipitation per month and minimum precipitation per month in inches?
- 4) When are the wettest months? The driest?
- 5) Given these data, would you say there is a rainy season? If so, which months are the rainy season?
- 6) During March 1-22, 2014, there was a cumulative total of 15.8 in of rain measured at the Darrington Station (same as above data). Plot a point showing this amount of

precipitation in March. Is it more or less than the average rainfall for the entire month of March?

- 7) Look at the Washington Precipitation map. Describe the overall pattern of precipitation for the state. What part of the state would you expect to be most vulnerable to soil saturation and rain-induced landslides?
- 8) Estimate the location of Oso, Washington on the provided Washington Precipitation map. Does the precipitation indicated on the map match the station data from Darrington?