Homework Assignment #3 (Due in Sections Week of Jan. 29)

1) You are given sediment samples from two beaches. One has rocks, sand, silt and clay of many different sizes and compositions, all jumbled together. The other is all quartz sand of about the same size and shape, very smooth, and very clean (think of a white sand beach). If you don’t know anything else, speculate on where the samples might have come from, and what the sediment tells you about that location.

2) Draw a typical profile for temperature, salinity, and density in the ocean, indicating on your drawing which line represents each. Provide appropriate units for the axes. Indicate the thermocline on your plot.

3) What is the difference between an active and passive margin? Provide an example of each, and describe how they differ.

4) What controls the pH of seawater?

Extra Credit: Where did the white sand on the beach in Waikiki, Hawaii come from? (Hint: if you’ve been to Hawaii, do any of the other beaches have the same type of sand?)