Study Questions—Week 6

Forests Through Time and Space: November 3, 2004

Due November 8, when we will be discussing your answers in class. These do not need to be typed, and you will not be handing them in now (but they will go into your portfolio for us to assess at the end of the term).

1. Define adaptive radiation, and provide one real example. What is the evidence that your example is explained by adaptive radiation? What alternative explanations can you imagine for the distribution of organisms in your example?

2. What effect do you think the presidential election will have on the protection of American forests? On tropical forests? Provide details.

3. Consider the forest that you walked through along Kennedy Creek as an ecosystem. List all of the nitrogen inputs into this ecosystem, as well as all the nitrogen outputs. For each input/output, identify the source of the nitrogen (where did it originally come from) as best you can.

4. Using the Mt. Ellinor data file posted on the web site, construct a table showing the basal area per acre and number of stems/acre for all the overstory trees at each sampling site. What patterns do you see? What does this tell you about forests through vertical space? Group number correlates with height on the mountain, but only roughly.

Quiz Questions—week 6

Forests Through Time and Space: November 3, 2004

These questions are due in class on November 8. Type your answers. Do not discuss your answers with anyone once you have begun working on them.

1. Using the following fictional scenario:

> Two species of bark beetles have been deposited in the Pacific Northwest by a long distance windstorm that flew them in from the East Coast. In their native habitat they existed in allopatry, but are sympatric on the West coast. They are both best able to take advantage of the resource the Doug Firs provide, so are in competition with one another.

Describe three possible outcomes of this competition, giving as many plausible details as you can.

2. Why are the forest fauna on either side of Wallace's Line so different from one another? Make sure to include both vicariance and dispersal in your answer.