

Study Questions—Week 5 *Decomposition & Ecosystem Management, Global Climate Change Symposium*

Due Mon Feb 14

1. Outline the ideas presented in the global climate change talk you attended and be prepared to present a synopsis of this talk to the class.
2. Be prepared to discuss the answers to your quiz questions with your study group.

Quiz Questions—Week 5 Forests Through Time and Space

This is due Mon Feb 14

You need to bring two copies of your quiz to class on Monday. You will discuss your answers in your study group after you submit one copy. NO LATE QUIZZES WILL BE ACCEPTED.

1. (10 pts) Compare the total amount of organic matter carbon that would accumulate in two hypothetical forests, both with the same amount of litterfall ($900 \text{ gCm}^{-2}\text{yr}^{-1}$) over a five year period. For the sake of simplicity, assume the following:
 - There is no accumulated carbon at the beginning of the time period
 - All the litterfall occurs on the first day of the year (Jan 1)
 - You are calculating the amount of carbon on the morning of Jan 2 of the 5th year. You can ignore any decomposition that occurs on Jan 1 of the last year.
 - a. Calculate the total amount of organic matter carbon that would accumulate in a tropical forest where $k= 3.5$ over a five year period.
 - b. Calculate the total amount of organic matter carbon that would accumulate in a temperate forest where $k= 0.35$ over a five year period.
2. (15 pts) Every public forested property has a multiplicity of users whose needs and impacts must be considered as part of a management plan. Imagine that you are in charge of managing Evergreen's forests. Be very specific in your answers so that we can ascertain your level of critical thinking.
 - a. Identify four different user groups that currently use Evergreen's forests, the benefits they receive and the impacts that they cause. At least one of the user groups needs to be one that extracts some type of forest resource (and they are using the forests on campus).
 - b. Since the population in Thurston county is growing rapidly, assume that the size of each of the user groups identified in "a" will increase proportionally. For each of these groups at some point in the future, the impacts that they cause may decrease their benefits or the benefits of another user group. Identify what these impacts may be for each user group and how they might decrease benefits for other users of the forest.
 - c. As a manager, you must devise a management plan for sustainable use of the Evergreen forests. Outline how you might manage the forests in a sustainable way to continue to provide the experiences that each user group seeks. You may have to limit some or all uses to minimize impacts. Implementation of your management plan can not cost the College; your management plan must generate the income to implement any management actions. Outline the major elements of your plan and include strategies that you propose to generate the income needed for your management plan. Consider the user groups you have identified in your answer.