

Bio. 463

STUDY QUESTIONS FOR:

Pan et al. 2011

Assume the total amount of terrestrial C (both plants & soils) is about 2,000 Pg C. Using the information in the article, calculate the percentage of this total carbon stock that is found in forests.

Rank order (from highest to lowest) the three forest types (boreal, temperate & tropic) with respect to their total carbon stocks.

What fundamental difference is there in the carbon structures of boreal and tropical forests?

By what fraction has the flux of carbon uptake increased in the United States between the 1990s to the 2000's?

What are the 3 likely causes they identify as explanations for this increase in the US?
Why is the contribution from forests in the western US likely to be less than for the US forests as a whole?

Rank order (from highest to lowest) the three types of ESTABLISHED forests (boreal, temperate & tropical) with respect to their average annual carbon uptake for 1990-2007.

When forest regrowth and emissions from gross deforestation are added to the uptake by established (i.e. intact) tropical forests, what happens to the net carbon flux for tropical forests?

Where are the largest net global forest carbon sinks found?

What do their results imply about the net carbon flux for non-forest ecosystems collectively?