

GEO 4928/6938 Biogeography

Name: _____

Time it took to complete this exam: _____ Hours:Minutes

Exam 2: 24-29 April 2009 (Take home, due 5:00 PM Wednesday 29 April). The exam is open book, and you can use any other resources that you need to help you with it including the internet. However, you must use your own words and drawings in the answers and not downloaded, cut-and-paste text or other material including figures, photographs, etc. Give references, whether literature or web sites, of your sources if other than the lecture or text. Use only the space allocated to the question.

When you finish the exam, email the document to me at mbinford@geog.ufl.edu. If the document is larger than 5 megabytes, please place it in the folder G:\share\GEO4938-6938 Biogeography*yourname* and send me an email note that you did so. You can create a new folder in that directory if you do not already have one.

1. Name and describe the ten major biomes of Earth. Include information about soil type, climate, dominant vegetation types, and distribution on the Earth's surface.

2. Species that colonize islands successfully may have similar characteristics. This question has multiple parts about those characteristics.

A. What are some characteristics of successful island colonizers?

B. Define r and K strategists.

C. Which one(r-strategists or K-strategists) would you assume to be a more successful island colonizer and why?

D. Give an example of an organism with a large dispersal range and describe some qualities that allow this organism to successfully establish populations in isolated habitats.

3. The equilibrium theory of island biogeography was (and is) a fundamental theoretic body used for understanding the effects of habitat loss and fragmentation on biodiversity as well as for reserve design.

a) Write five reasons why this theory is still useful.

b) Discuss at least three different assumptions of this theory.

c) Given the assumptions stated above, discuss three reasons why the applicability of the ETIB to biodiversity conservation in fragmented landscape could be limited.

4. Which specific regions seem to have the most Species Richness on the planet? Describe five patterns of diversity gradients?

5. One of the three fundamental Biogeographical processes is dispersal. Explain what dispersal is and explain the three ways organisms are dispersed leading to range expansion.

6. Describe the most common type of speciation and the mechanisms that lead to species formation. How is the Evolutionary Species Concept similar yet different from the traditional Biological Species Concept?