

GLY 150 Study Guide Partial Exam #4

This guide contains in an outline/question format the important points that have been covered in the course since the third exam. You will be expected to have an understanding of this material for the exam on Tuesday Dec. 8, 2009, 8 am Cameron 105. The exam will cover parts of Chapters 10, 12 and 13 (The Coast, Marine Life and Biological Productivity). Please bring a wide (blue) scantron sheet to the exam.

Chapter 10 The Coast

What is a beach? Study fig. 10-1, know the parts of a typical beach profile. What are some sources of sediments on a beach? Know typical features associated with deposition along a coastline (fig 10.7).

What are factors that affect the rate of erosion on the coast? Why are headlands areas where wave energy is concentrated? What are some landforms that are typical along a coastline experiencing erosion? (fig 10.4)

How does a longshore current develop? What is longshore drift (transport)?

How and when did many of the large barrier islands develop? Why are chunks of peat and oyster shells often found on Topsail and Wrightsville beaches?

What are some of the different mechanism that might cause sea level to change?

What is the difference between eustatic and tectonic/isostatic sea level changes?

What is an emerging shoreline? Submerging shoreline?

What has the global sea level been doing for the past 18,000 yrs? What evidence exists to indicate that sea level has been higher in the past? How is sea level changing on the East coast? How is sea level changing on the West coast?

What are some methods humans have used to slow coastal erosion?

What is hard stabilization? Have any of these been effective? What method is currently being used along the beaches in SE North Carolina?

What is CAMA? What are the setback regulations along the North Carolina coast?

Chapter 12 Marine Life and the Marine Environment

Study figure 12.1. Know the domains and kingdoms of life and their characteristics. What is taxonomic classification?

What are plankton, nekton, benthos? Be able to give examples of each. Which make up the majority of marine species?

What is biomass? Which group makes up the majority of the ocean's biomass?

What is the difference between autotrophic and heterotrophic? What are phytoplankton and zooplankton? Be able to give examples of each.

Why are there so few marine species compared to terrestrial species?

Name and briefly discuss six physical factors of the marine environment that

affect living organisms. Be able to discuss physiological adaptations organism use to adapt to their environments.

What is surface-to-volume ratio?

How does temperature affect seawater viscosity, density and biological activity?

What is osmosis? What does isotonic mean? Hypertonic? Hypotonic?

Study figure 12.19. Know the pelagic and benthic zones of the oceans and how the marine environment is classified based on light and depth.

On the basis of wavelength which portion of the visible spectrum penetrates the deepest in the ocean? What is the euphotic zone? Disphotic zone? Aphotic zone?

How do nutrients and oxygen vary in these different zones?

Chapter 13

What is the ultimate source of the energy used by most living things?

What is primary productivity? What units do we use when we measure primary productivity? Where are the most productive regions of the oceans? On land?

Know four ways in which primary productivity is measured. What is SeaWiFS measuring to determine primary productivity?

Know the different photosynthetic primary producers in the marine environment and be able to give an example of each.

What are the key factors in the marine realm that limit primary productivity? How does primary productivity vary on a seasonal basis in the tropics, temperate and polar regions. Why?

Know the general formulas for photosynthesis and chemosynthesis.

What is a red tide? Which marine organisms cause this?

Know the different feeding strategies organisms use. What is symbiosis? What are the three main types of symbiosis/

What is a trophic level? How efficient is energy transfer between different trophic levels? How is the energy between levels partitioned?

What is the difference between a food chain, food web and biomass pyramid?

How do the number of individuals, biomass and size of organisms change at successive trophic levels?

What is a standing stock of a population? Maximum sustainable yield?

What are gill/drift nets? What is bycatch? Know specific examples of how fishing activity has been regulated.

Know examples of best choice vs. seafood to avoid to promote sustainable fisheries.