

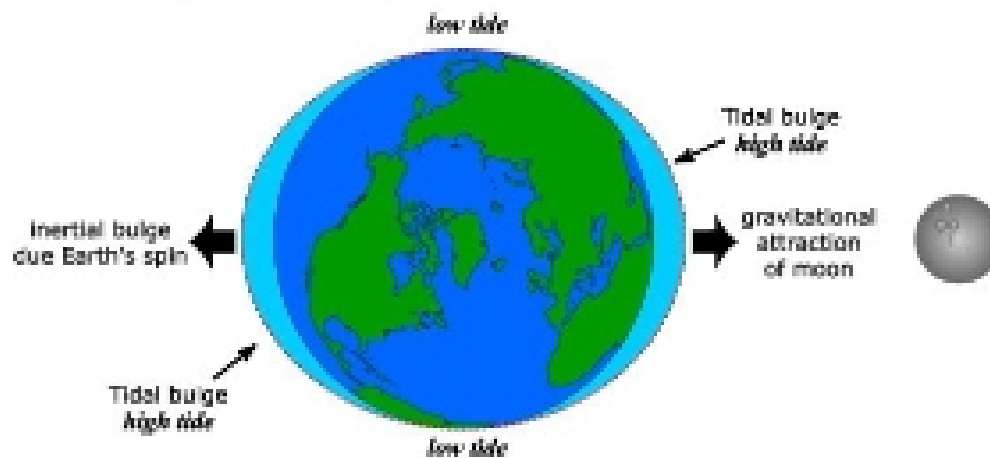
GEO 101 – Final Exam Study Guide for NEW information (cumulative study guide was given out in class – it is not available on Blackboard)

THIS IS NOT ALL INCLUSIVE – especially if you don't fill it out fully.

- 1. You are expected to know basic terminology in order to answer the questions.**
- 2. What are the major features of the ocean floor?**
 - Continental sheets
 - Part of a continental plate
 - Continental crust underwater
 - Continental slope
 - Slope where continental crust makes it way down to oceanic crust
 - Abyssal plain
 - Flat plain in the ocean
 - Sea mounts
 - Random volcanoes in the abyssal plain
 - Canyons
 - Rivers cutting into sediment
- 3. What are the salinity patterns in the ocean?**
 - Salinity dependent on location and temperature
 - Temperature is dependent on latitude and depth
 - At surface, the more evaporation, the more salt
 - Deep parts of ocean much saltier than surface
 - Where there is little evaporation, there is less salt
- 4. What are the types and underlying causes of ocean currents?**
 - Current: flowing water in a defined area; river in the ocean
 - 2 types:
 - surface
 - driven by wind and the coriolis effect
 - ❖ Coriolis effect: winds blow in the same pattern all the time
 - deep
 - down welling
 - ❖ water goes down into ocean
 - up welling
 - ❖ deep water moves up to surface
 - caused by:
 - ❖ Coriolis effect
 - ❖ Density (thermohaline circulation)
 - Thermohaline circulation: combination of temperature (thermo) and salinity (salt)

5. How does the moon create the tides?

- Tidal bulge
- Large tidal bulge is on the side closer to the moon



A: Moon, B: Large tidal bulge, C: Earth, D: Small tidal bulge

- A pulls B away from C, C away from D, but D stays still.
 - Moon pulls large tidal bulge away from earth, earth away from small tidal bulge, small tidal bulge stays still
6. Know the different types of waves and wave actions that we covered.
- Open Ocean Waves
 - Energy moves forward, water stays put
 - These waves are why, if at the beach in ocean, you stay relatively in the same location; these waves just bob objects up and down
 - Breaker
 - Friction between wave and ocean floor
 - Push forward
 - Wave Refraction
 - Waves come in parallel to the shore
 - Longshore Current
 - Moving along shoreline
 - These waves are responsible for you drifting away from location in the ocean. If you put your things down and go to water for a while, and look back at beach, you will be further to the right or left of your belongings.
7. What are the different kinds of coastlines and why do they form where they do?
- Beach
 - Nearshore zone
 - Underwater
 - Intertidal zone
 - Sometimes wet, sometimes dry
 - Depends on tides
 - Backshore
 - Dry most of the time
 - Dune
 - Where stairs are built on beaches
 - Natural barriers for hurricanes
 - Some beaches grow, some beaches erode

- Barrier Islands
 - At beaches
 - Thin strip of sand away from coastlines
 - Sand islands
 - Always changing
 - All are temporary
 - Dauphine Island
- Tidal Flat
 - High tide → covered by water
 - Low tide → exposed
- Rocky Coast
 - Embayment
 - Bay
 - Head land
 - High point of land with sheer drop
 - Always changing
- Fjords
 - Glacial valley
 - Flood after glaciers melt
- Coastal wetland
 - Shallow water
 - No wave action
 - Temperate climate → salt marsh
 - Subtropical climate → mangrove swamp
- Coral Reef
 - Shallow, warm areas
 - Grow until conditions change
 - Erode into coral sand
- Estuaries
 - Ocean rises into river valley
 - Mix of fresh and salt water (this is known as brackish water)
- Determined by:
 - Tectonic setting
 - Sea level
 - Sediment supply
 - Climate

8. What do humans do to try and stabilize the coastline?

- To deal with beach erosion:
 - Groin
 - Barrier built to keep sand from eroding
 - Jetty
 - Protect harbor entrances
 - Break Water