

Introduction to Oceanography

EAS 4300

Homework #2:

Review for the chapter 2-3 of the textbook and the notes from recent lectures. Briefly (in a few sentences) discuss your answers to each of the questions below.

Early earth, oceans and life

- 1) What are the **definitive** evidences of the earliest existence of living organisms on the Earth? What are their approximate ages?
- 2) Geological evidences suggest that the atmospheric oxygen dramatically increased about 2 billion years ago. What is the origin of the atmospheric oxygen?
- 3) How does the presence of oxygen in our atmosphere help reduce the amount of ultraviolet radiation that reaches the surface?

Ocean bathymetry and plate tectonics

- 4) Formation of many seafloor structures can be explained by plate tectonics. Pick a bathymetric feature of your choice (e.g. ridges, trenches, seamount chain, etc) and discuss its formation mechanism.
- 5) Describe the general relationships that exist among distance from the spreading centers, heat flow, age of the ocean crustal rock and ocean depth.