EART120: Wave-dominated coastlines

Name: ___________________

Although the deep-sea occupies the vast majority of the ocean, continental shelf depositional environments dominate the preserved sedimentary rock record. You’ll learn about specific nearshore environments (like deltas, estuaries, and barrier islands) later, but this exercise focuses on wave-influenced continental shelf deposition. You will practice 1) identifying coastal environments like shoreface, offshore-transition, and offshore and 2) subdividing coastal sedimentary successions into systems tracts with bounding surfaces.


1. What coastal depositional environment is recorded in this section? List one sedimentary structure and one other piece of evidence you used to make that determination.


2. What coastal depositional environment is recorded in this section? What is the dominant sedimentary structure?

Part 3: Coastal sections and sequence stratigraphy

3. Divide the stratigraphic section (on the back of the page) into coastal and fluvial depositional environments. Draw horizontal lines and add labels to the environment column. Also label systems tracts and add horizontal lines showing sequence stratigraphic surfaces (don’t forget about the regressive surface of marine erosion!).


4. Divide the stratigraphic section in this gigapan image into coastal depositional environments and label environments, systems tracts, and sequence stratigraphic surfaces. Draw lines to the left of the photo and add labels.