ENVI 485: Beach Erosion Questions  
DUE Thursday, 3/8/07

1. Read the following articles:
   a. Griggs, G., CALIFORNIA’S RETREATING COASTLINE: WHERE DO WE GO FROM HERE? (article emailed out or available at “www.sandiego.edu/~sgray/ENVI48507/griggs.pdf”)
   b. Various articles from the Union Tribune and the San Diego Magazine about the 2001 SANDAG Beach Nourishment Project (article emailed out or available at “www.sandiego.edu/~sgray/ENVI48507/nourishment.doc”)

2. Watch the following video: The Beaches are Moving (on reserve at Copley Library)

QUESTIONS:
1) Compare and contrast the following approaches to beach erosion:
   a) passive solutions
   b) soft solutions
   c) hard solutions
   Note: be sure to mention the advantages and disadvantages to each approach

2) Briefly describe the SANDAG 2001 beach nourishment program for San Diego county beaches.
   a) How much sand was placed?
   b) Where was it obtained?
   c) What was the total cost?
   d) Where did the money come from?
   e) What were some of the potential environmental issues associated with the project?

3) What are the costs per meter and the other negative consequences of bringing in inland sand to nourish beaches?

4) Griggs used an example from Monterey Bay to illustrate that nourishment was not a practical solution to compensate for erosion along the front of a condominium complex. Summarize his argument.

5) Overall, does Griggs think nourishment a viable solution to coastal erosion in California? Explain.

6) Read the articles in the Union Tribune and the San Diego magazine about the 1991 SANDAG nourishment project.
   a) What evidence indicates that it was a “successful” program?
   b) What evidence indicates that it was unsuccessful?
   c) When will San Diego’s beaches need to be renourished?
7) What percentage of the coast is armored?
   a) For all of California
   b) For southern California

8) Griggs noted that “development of the coastline usually proceeds protection”. Explain why this is a problem.

9) What is the cost of hard coastal protection structures in California?

10) Why has there been opposition to the building of new seawalls in California? What are the concerns?

11) What is the impoundment of various types of hard stabilization structures?

12) What percentage of the beach sand in California comes from eroding cliffs and bluffs?

13) What is “passive erosion”?

14) Do armoring structures cause erosion?

15) According to Griggs, What is the best approach to shoreline erosion hazards?

16) According to the film “the Beaches are Moving”, why didn’t native Americans or early settlers settle permanently on the barrier islands of the coastal south-east Atlantic?

17) In the film, “The Beaches are Moving” Orrin Pilke sites several examples of places where hard stabilization has increased erosion. Give two examples from the film.

18) Summarize Orrin Pilke’s opinion of the best approach to deal with coastal erosion.

19) Some people might disagree with his opinion. Explain what their perspective would be.