



CE 552 - Coastal and Nearshore Processes

Coastal Response to Changing Climate

Spring 2009

MWF 1:25 pm – 2:15 pm

Interested in waves, currents, and tides? Curious about beaches, sediment transport, and erosion? Wondering what will happen to Florida and Louisiana as sea level rises? CE 552 is a graduate class in Civil and Environmental Engineering that looks at physical processes in near-shore waters. The course is broadly divided into two thrusts: (a) understanding physical processes such as tides, waves, tsunamis, storm surges, and currents, and (b) understanding the coastal response to these processes in terms of sediment transport, morphological evolution, and equilibrium states. We will give special attention in 2009 to the effects of changing climate (notably sea level rise) on coastal environments. We will also spend considerable time on numerical modeling; students will gain extensive experience with models used by the US Army Corps and the National Weather Service for hurricane storm surge predictions.

CE 552 is appropriate for graduate students and senior level undergraduates having interests in geophysics, fluid mechanics, oceanography, and applied mathematics. A basic understanding of fluid mechanics (undergraduate) is expected. Familiarity with a mathematical package such as Matlab, Maple, or Mathematica will be useful. Prospective students with questions about their qualifications are encouraged to contact the instructor.



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