SMS-598, Introduction to Acoustical Oceanography. Fall 2005
Assignment #1.

To be typed and handed in (email is OK) for next class (assignment can be done in groups, paper handed individually):

1. Why did you sign up for this class? What are your interests in acoustics? What are topics you would like to see us cover in the class? What are topics you would like us to spend extra time on in class? Are there specific acoustical phenomena/instruments that you would like to see demonstrated and/or discussed in class?

2. Investigate 5 applications of acoustics in the study of the ocean or its bottom (physics, biology, chemistry and/or geology). Feel free to use the articles linked in the class web page.
For each application determine:

1. What is the application for which sound is used?
2. What property of sound is being used and why? (e.g. variations in sound speed).
3. What frequency of sound is used and why that specific frequency? (e.g. 200Hz, propagates with little attenuation)..
4. What are the advantages of the technique? (e.g. sensitivity to temperature).
5. What are the limitations of the technique? (e.g. requires large array of sources).

3. Contrast and compare acoustics and optics (visible EM radiation) with respect to: Wavelength in water, speed, polarization, background intensity at sea lever, and attenuation in sea water.