

Graduate School of Oceanography - OCG 695
March 24, 2008, 3:30 PM, Corless Auditorium
Seminar Abstract
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Observations of a mid-shelf front in the Mid-Atlantic Bight during the winter of 2008

A frontal zone off of the coast of New Jersey was investigated during the winter of 2007. These fronts were discovered via 12 years of satellite-derived SST images as a persistent winter feature at mid-shelf in the Mid-Atlantic Bight. A field program to study the front's genesis, maintenance and general hydrography involved three, ten day cruises aboard the RV Endeavor in mid January, end of February and early April. Although other instruments, moored ADCPs, thermistor chains and Seagliders were also deployed for the study, we focus here on data from underway surveys with a towed undulating vehicle (Scanfish) and shipboard 300 kHz ADCP. Repeated surveys were carried out in a 45 km (along-shelf) by 35 km (cross-shelf) radiator pattern centered on the 50 meter isobath. The cross-shelf structure of the detided velocity field is examined in comparison with the frontal hydrography. Hydrography of the front is analyzed and compared between cruises from the Scanfish data and it is shown that the inner shelf water is cool and fresh, and outer shelf water is warm and salty; while a strong near-bottom high salinity tongue is frequently present in the first and last cruises coming from the outer shelf waters. The front is most easily seen in the February cruise when temperatures dropped and a storm was present. The water column was vertically mixed, as opposed to the first and last cruises in which vertical stratification was present. The January cruise temperatures ranged from 9°C to more than 14°C; while the February and April cruise temperatures ranged from 3°C to 9°C; the mean temperature dropped from 11°C to 6.5°C. Salinity during the three cruises remained relatively stable between 32.5 to 35 PSU from inner to outer shelf and salinity tongue, respectively, with freshening seen during the last cruise in the inner shelf water to as low as 30.5 PSU.

Lauren Decker received a B.S. from the University of Washington in 2005. She entered GSO as a M.S. candidate in the fall of 2006. Her major professor is Dave Hebert. Other committee members are David Ullman, and Gopu Potty.

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A. Quality of Abstract	_____	E. Quality of Verbal Communications	_____
B. Preparation of Material	_____	F. Adequacy of Visual Aids	_____
C. Timing	_____	G. Ability to Handle Questions During Discussion	_____
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