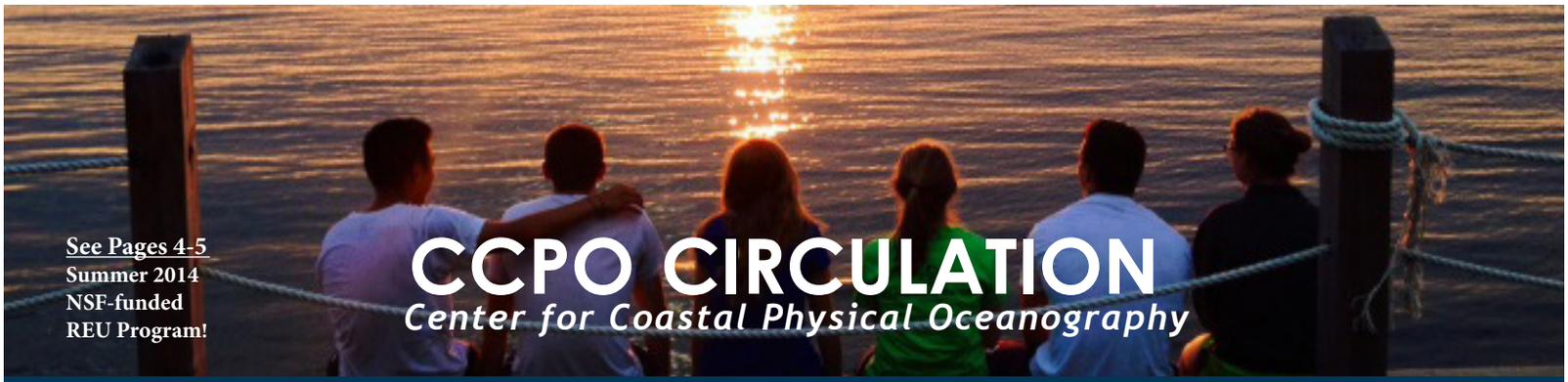

See Pages 4-5
Summer 2014
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CCPO CIRCULATION

Center for Coastal Physical Oceanography

OLD DOMINION UNIVERSITY FALL 2014

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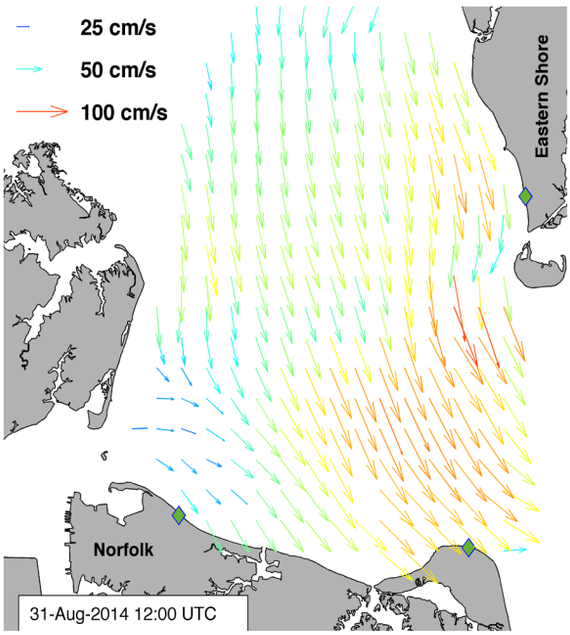
The seminar series has a new location! See page 7 for details.

Surface Current Mapping Using Radar Technology

Teresa Updyke

High frequency (HF) radars are now observing and mapping coastal surface currents all over the world. They are providing a unique perspective on currents, one that is quite distinct from the perspective of a traditional moored or towed current profiling instrument. CCPO uses these radars to monitor currents in local and regional waters. The map shown below was produced by a system of land-based HF radars located in the lower Chesapeake Bay. The radars measure surface current velocities over large areas and maps are typically produced each hour. Increasingly over the last two decades, this radar view of currents has led to the development of several practical applications. These range from aid to search and rescue operations to pollution tracking to informing numerical forecast models.



CCPO partners with the Center for Innovative Technology to operate several radar sites in the lower Chesapeake Bay and along the Mid-Atlantic coast as part of the Mid-Atlantic Regional Association Coastal Ocean Observing System (MARACOOS). In turn, the MARACOOS stations are a part of the vast network of sites located around the United States coastline which make up the HF Radar National Network funded by NOAA. Teresa Updyke, a researcher at CCPO, directly maintains six radar stations and helps oversee the operation of seven others located from North Carolina's Outer Banks north to Delaware Bay. Mark Bushnell of CoastalObsTechServices provides valuable assistance with site maintenance.

The systems in the Chesapeake are standard range systems with a range of 30 to 40 kilometers. The long range systems looking off the Atlantic coast "see" out to 180 kilometers on average. The data are freely available to researchers and the public. Since 2009, the Mid-Atlantic offshore data have been delivered in near real-time to the U.S. Coast Guard's database for conducting search and rescue operations.

Continued on page 3

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