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In this issue:

Offshore Wind Power and Oceanography

LARRY ATKINSON

How can oceanographers help create a viable and safe offshore wind energy industry?

In the winter 2009 issue of *CCPO Circulation,* Jose Blanco, George Hagerman and I discussed the characteristics of winds off Virginia. Since then there has been more and more interest in developing offshore wind power. However, the path to an installed offshore wind farm is far in the future. In this short article, I will not go into all the issues that impede offshore wind farm development since in the end it will happen. Rather let's look at what oceanographers (and meteorologists) can do to assure a viable and safe offshore wind power industry.

Photo from Horns Rev wind farm in Denmark.

In November 2009, a small group met at Duck, NC. We called ourselves "The Friends of Wind". The group included myself, John Bane (UNC-CH), Jose Blanco (ODU, now at CORPESCA S.A.), George Hagerman (VT-ARI), Jeff Hanson (ACOE-FRF), Kent Hathaway (ACOE-FRF), Harvey Seim (UNC-CH), and Jay Titlow (Weatherflow, Inc.). The following is adapted and extracted from that report.

This group agreed that we know wind statistics at the few offshore wind observation platforms (buoys and towers) that exist. We also agreed that there are major gaps in our knowledge and that these gaps might be important to fill if the offshore wind industry were to develop. Below are our recommendations:

Offshore wind measurements: There should be a simple online database of all wind observing systems. In addition, the existing offshore observations need to be expanded in a rational way. For example, correlation length scale analysis could identify optimum locations for more measurements. A pragmatic approach would take advantage of the existing sites (Navy towers, offshore islands [Pamlico Sound, Chesapeake Bay Bridge-Tunnel, Sandy Hook, Cuttyhunk, Block, Fishers, etc.]). These locations may not be ideal but they will add useful information.

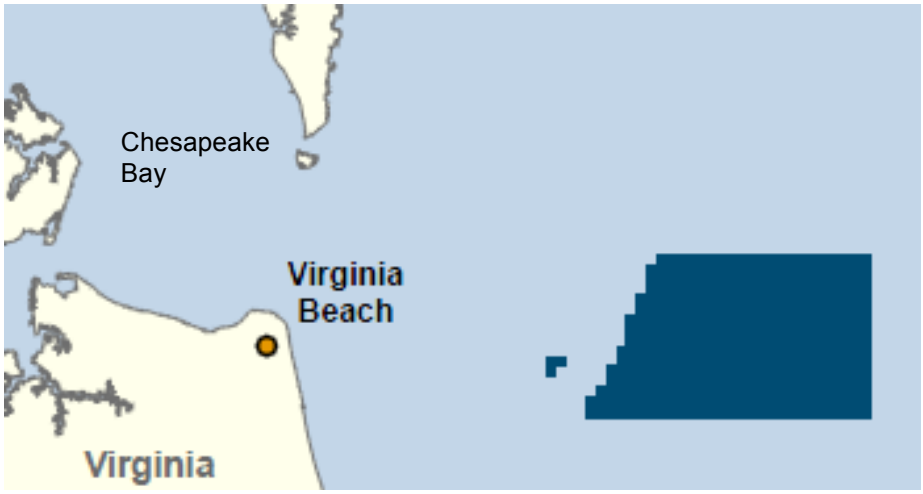
Offshore observing towers need to be deployed to measure the wind profile and specifically the winds at hub height. These towers should be placed based on likely placement of wind farms. The research pier at Duck would be an ideal place for the first tower for testing and measurements given its location and the facilities available there. Indirect means of measuring wind profiles, such as LIght Detection And Ranging (LIDAR) or SOnic Detection And Ranging (SODAR), should be tested for accuracy and deployed on existing platforms.

Existing wind measurements should be analyzed to determine the correlation length scale for the purpose of establishing spatial variability of the winds. This variability is very important to understand over the scale of the lease blocks (7 km). Some effort should go towards understanding the reason for the appearance of these particular length scales. Information on space and time (diurnal, seasonal, decadal) variation of winds is also needed from existing observations.

Boundary layers and stability: A critical need is to understand how to extrapolate measurements vertically. This requires a detailed understanding of the structure of the marine boundary layer under different conditions of stability (vertical density gradient). This effort should expand into more research on the nature of ocean-atmosphere fluxes with an eye towards improved parameterizations that can be applied to coupled numerical models.

Numerical models: There is great potential in using numerical forecast models to provide details about the winds at space and intervals that are very difficult to obtain from sensors. There needs to be careful consideration of validation of model solutions against observations. It is important to begin saving model results so that we can use them for later analysis. Model documentation is important so that any modifications to the model are clearly identified and understood. Individual atmospheric models need to be improved to provide higher resolution in both space and time. These models need to focus on processes within the surface boundary layer (thickness of 100 to 200 m), which is where these turbines will extract energy. In addition, there needs to be a facility to create multi-model ensembles (such as RAMS and ARPS) to improve our confidence in these model results.

Turbine siting: All of this information from observations and models can be applied to the problem of siting of turbine arrays. A critical component of siting is the orientation of turbines within an array so that wake effects can be minimized. These issues are likely to vary by season so considerations of desired power output need to be included in these analyses.



Offshore area (shaded region) of the Virginia Continental Shelf approved for development. This region is east of the Chesapeake Bay.

Notes from the Director
John M. Klinck

The winds of change are blowing. These changes involve both investigations into the character of offshore winds and how they might lead to additional electrical power, as well as studies of how the Earth's changing climate modulates the myriad of processes in the ocean and atmosphere. The importance of understanding these changes is illustrated by a meeting held by the National Council for Science and the Environment, whose theme was "Our Changing Oceans". CCPO was represented at this meeting by Larry Atkinson and Eileen Hofmann.

CCPO plans to ride these winds to newer research destinations and expand the work that we are doing.

CCPO Represented at National Environmental Conference

The National Council for Science and the Environment (NCSE) held its 11th National Conference on Science, Policy and the Environment from January 19-21, 2011 in Washington, DC. The NCSE is a not-for-profit organization dedicated to improving the scientific basis for environmental decision-making. Each year, the NCSE convenes a conference on a theme related to critical environmental issues that are relevant to policy and decision-making. The theme of this year's conference was *Our Changing Oceans*, which provided a venue to address the crisis facing our oceans, new knowledge and innovative tools to address the challenge, and the policy and governance needed to restore and protect the oceans. The conference included plenary presentations by environmental activists who focus on ocean issues, topical symposia, and breakout sessions. CCPO scientists, **Eileen Hofmann** and **Larry Atkinson**, attended the 2011 NCSE Conference. Hofmann participated in some of the breakout sessions and in a topical symposium on "The Oceans' Role in Centuries of Climate Change", where she presented results from research focused on understanding climate change effects on Southern Ocean food webs. Atkinson participated in the general meeting. The 2011 conference was attended by over 1,200 participants, who helped develop policy recommendations to be distributed to decision and policy makers.

Welcome to Stuart Corney!

Dr. Stuart Corney is a research fellow at the Antarctic Climate and Ecosystems Co-operative Research Centre at the University of Tasmania, in Hobart, Australia. He is visiting CCPO for 12 weeks to collaborate on the development of a numerical ocean circulation model, based on the Regional Ocean Modeling System (ROMS), of the Eastern Antarctic as part of his work to couple food web and circulation models to examine how projected physical changes in the ocean under a changed climate will affect Antarctic food webs. Stuart's recent projects also include using dynamical downscaling of IPCC AR4 global climate models to examine the projected changes of Tasmania's climate, river runoff, agriculture and extreme weather events.

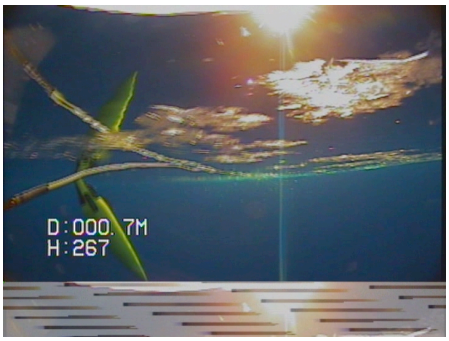
Stuart is visiting Norfolk with his wife and two daughters (ages 10 and 14). While here they are keen to experience the differences between Australian and American life, as well as learn about America's history in an area where so much of it seemed to happen. The girls are also keen runners and will be competing in as many fun runs as they can.

Launching Gliders in the Ross Sea

MIKE DINNIMAN

After modeling coastal oceans around Antarctica for several years, I finally got to go there…and without ever setting foot on a ship. Along with **Eileen Hofmann** and **John Klinck**, I am part of the CCPO component of a project using autonomous gliders to study the seasonal evolution of the phytoplankton bloom in the Ross Sea off the coast of Antarctica. Besides the science objectives, part of the project was just to prove that the gliders could operate in Antarctic waters.

The gliders we used were the iRobot Seagliders that were originally developed by the Applied Physics Laboratory at the University of Washington. The Seaglider is about 6 feet tall and weighs about 115 pounds. It doesn't have a propeller and actually "flies" through the water by changing its density which makes it go up or down depending on whether it's more or less dense then the surrounding water. The wings then translate the up/down motion into forward motion and a weight inside can move forward or backward (which makes it pitch up/down for climbing/diving) and can rotate (which drops one of the wings making the glider turn). Since it does not use very much energy for motion, this allows it to stay in the water for months at a time. After a dive, it surfaces and then rotates so that the antenna is sticking out of the water and can communicate with a satellite. This allows us to get the data back after every dive and to send a new location that we want it to go to for the next dive. The satellite communicates with a base station and we can control the glider from anywhere via the Internet.



Picture from the submarine camera. The structures that look like clouds are actually small patches of ice on the water surface.

All five of us in the deployment team met in early November 2010 in Christchurch, New Zealand and flew together down to the large (over 1,000 people during the austral summer) U.S. base at McMurdo Station in Antarctica.

Our plan to launch the gliders into the Ross Sea was to fly out to the edge of the sea-ice and deploy the gliders from there. After a couple of failed attempts due to ice conditions, we finally got a chance to launch the first glider. It took two helicopter flights to get everyone and all the equipment out to the ice edge. We got really lucky with the weather that night as there was almost no wind (which is very rare) and the temperature was warm enough that most people took off their parkas. We also had a few interested penguin observers as we were setting up.

Once we had the glider ready to launch, we hauled it to the ice edge and lowered it into the water. Next, we looped a string around the glider and used a small remote controlled submarine to pull the glider out away from the sea-ice edge. While we were concentrating on towing the glider, an emperor penguin swam over when we weren't looking and popped up onto the ice right in front of us, which made everybody jump. The submarine had a camera on it, so it was able to take some pictures from under the water while it was pulling the glider out.

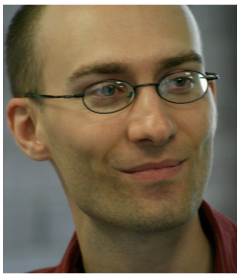
The glider is supposed to signal back to the satellite every time it finishes a dive and the first dives should have taken about 90 minutes. However, when we didn't hear back for over a day, we feared the glider might be lost. Eventually though, the glider called in and everything was fine. Apparently it had trouble surfacing through some of the sea-ice and had actually made 22 dives before it could surface. I had to leave Antarctica before the second glider was launched a couple of days later. That one also scared us by not phoning in for over a day, but it too ended up being fine.

We then got to go home and watch from our computers while the two gliders completed a combined 1,624 dives and traveled a total of 1,872 miles, taking measurements and sending back data the entire time. A separate team on a cruise in the Ross Sea in February successfully recovered both gliders. Other than a couple of minor sensor glitches, both gliders worked fantastically under difficult conditions and we're really excited now about going through all the new data.

CCPO PEOPLE PROFILES

PIERRE ST-LAURENT
Postdoctoral Research Associate

Pierre St-Laurent joined CCPO as a postdoctoral research associate in July 2010. His research interests are centered on the circulation and formation of the water masses in polar seas. The presence of a seasonal and perennial ice cover play a central role there and give rise to different ice-ocean interactions that are absent from the rest of the World's Ocean. The ice cover also makes these regions particularly difficult to access, and thus several aspects of these systems are still poorly understood. This is unfortunate, as the Arctic region is also where the effects of global warming are most readily felt. Understanding how such changes can affect the oceanography of the polar seas is a key motivation for his work.



Until recently, Pierre's research was focused on Hudson Bay, a large shelf sea with an unusually cold climate for its latitude (the treeline can be seen to curve southward around the basin) and a complete ice cover over most of the year. As part of his graduate studies in physical oceanography at the Université du Québec, Pierre participated in the Canadian MERICA cruises whose role was to monitor the state of the basin through the deployment of instrumented moorings and ship-based cruises during the summer. He used this unique dataset, along with realistic numerical simulations, to study the resonance of Hudson Strait's tides, ice-tides interactions, the exchanges of river waters between the near and offshore areas, and more recently, the freshwater budget of this system.

His post-doctoral work at CCPO brings him to the opposite side of the planet but involves similar issues. **John Klinck**, **Mike Dinniman** (PIs), and Pierre are funded by the National Science Foundation to simulate the processes behind the exchange of deep warm waters across the continental shelf in Antarctica. These oceanic heat fluxes are thought to play a role in the accelerating melt of the Antarctic ice sheet, and then on the global sea level rise. They are particularly interested in examining whether the mesoscale variability could represent one of the important mechanisms. Pierre makes use of a generic model domain with high horizontal resolution to explicitly resolve the mesoscale eddies and assess their contribution to the cross-shelf heat flux to the ice shelves. The modeling approach allows them to study the different mechanisms independently and then to infer or estimate their relative importance in the real environment.

STEFANIE CUMBERLEDGE
Graduate Research Associate

Stefanie Cumberledge is a first-year graduate student from western Pennsylvania. In 2010, she graduated magna cum laude from Westminster College, PA with a Bachelor of Science degree in Physics. She was accepted into the doctoral program at Old Dominion University and spends most of her time taking classes and working as a Graduate Research Assistant.

Stefanie is currently working on a project under the supervision of **John Klinck**, her advisor and CCPO professor. By assisting in examining the effect of tides on sea ice in the Ross Sea, she is learning data processing and modeling techniques. Stefanie has been invited to participate in a sea-ice summer school hosted by the University Centre in Svalbard (UNIS), located north of Norway in the Arctic Ocean. For two weeks this summer, she will participate in a series of lectures on sea ice properties, processes, and effects on the climate system, and also in group work and social activities with other Ph.D. students. Stefanie will also present a poster on the work she has done so far on the tidal frequency variability of sea ice in the Ross Sea using both satellite data and an ocean model.

In the future, she hopes to continue to work with computer models and simulations of ocean processes. After obtaining her Ph.D., her goal is to work in a research position at a university or government agency.

Appointments/Awards

Gatski, T., Lecturer, "Recent Developments in the Modeling of Compressible Turbulence", ERCOFTAC Summer School (Turbulence and Mixing in Compressible Flows III), {CAES} La Vieille Perrotine, France, August 30-September 4, 2010.

Hofmann, E.E., Member, North Pacific Research Board, Committee of Visitors, 2010.

Hofmann, E.E., Member, National Research Council Committee on The Legacies and Lessons of IPY 2007-2008, 2010-2011.

Piñones, A.: Joint Best Poster Presentation, in session 17 in the theme "Antarctica – Witness to the Past and Guide to the Future: Tipping Points", for the poster entitled "Remote and local connectivity of Antarctic krill (*Euphausia superba*) populations along the western Antarctic Peninsula", XXXI SCAR Open Science Conference, Buenos Aires, Argentina, August 3-6 2010.

Piñones, A.: Best Oral Presentation, in session 17 in the theme "Antarctica – Witness to the Past and Guide to the Future: Tipping Points", for the talk entitled "Modeling early life stages of Antarctic krill (*Euphausia superba*) in continental shelf environments on the west Antarctic Peninsula", XXXI SCAR Open Science Conference, Buenos Aires, Argentina, August 3-6 2010.

Graduates

Fine, Michael, M.S. (non-thesis), December 2010, Advisor: M. Scully

Mattheus, Alexandra, M.S. (non-thesis), May 2011, Advisor: E. Hofmann

Publications

Ezer, T. and H. Liu, On the dynamics and morphology of extensive tidal mudflats: Integrating remote sensing data with an inundation model of Cook Inlet, Alaska. *Ocean Dynamics*, 60(5), 1307-1318, 2010.

Ezer, T., W. D. Heyman, C. Houser, and B. Kjerfve, Modeling and observations of high-frequency flow variability and internal waves at a Caribbean reef spawning aggregation site. *Ocean Dynamics*, doi:10.1007/s10236-010-0367-2, 2010.

Hofmann, E.E. and E. Gross, IOC contributions to science synthesis. *Oceanography*, 23, 142-159, 2010.

Hofmann, E.E., B. Cahill, K. Fennel, M. A.M. Friedrichs, K. Hyde, C. Lee, A. Mannino, R.G. Najjar, J.E. O'Reilly, J. Wilkin, and J. Xue, Modeling the dynamics of continental shelf carbon. *Annual Review Marine Science*, 3, 93-122, 2011.

Huang, C. J., F. Qiao1, Z. Song, and **T. Ezer**, Improving simulations of the upper-ocean by inclusion of surface waves in the Mellor-Yamada turbulence scheme. *Journal of Geophysical Research*, 116, C1007, doi:10.1029/2010JC006320, 2011.

Oey, L.-Y., **T. Ezer**, C.-R. Wu, and Y. Miyazawa, Editorial - International Workshop on Modeling the Ocean (IWMO) special issue Part-2, *Ocean Dynamics*, 60(5), 1271-1272, 2010.

Perry, R.I., M. Barange, **E. Hofmann**, C. Moloney, G. Ottersen, and Y. Sakurai, Introduction to the GLOBEC 3rd Open Science Meeting: From ecosystem function to ecosystem prediction. *Progress in Oceanography*, 87(1-4), 1-5, 2010.

Piñones, A., E.E. Hofmann, M.S. Dinniman, and **J.M. Klinck**, Lagrangian simulation of transport pathways and residence times along the Western Antarctic Peninsula. *Deep-Sea Research II*, doi:10.1016/j.dsr2.2010.07.001, 2011.

Powell, E.N., **J.M. Klinck**, and **E.E. Hofmann**, Generation time and the stability of sex-determining alleles in oyster populations as deduced using a gene-based population dynamics model. *Journal of Theoretical Biology*, 21, 27-43, 2011.

Qiao, F., Y. Yuan, **T. Ezer**, C. Xia, Y. Yang, X. Lu, and Z. Song, A three-dimensional surface wave-ocean circulation coupled model and its initial testing, *Ocean Dynamics*, 60(5), 1339-1355, 2010.

Shahab, M.F., G. Lehnasch, **T.B. Gatski**, and P. Comte, Statistical characteristics of an isothermal, supersonic developing boundary layer flow from DNS data, Flow, Turbulence and Combustion, available online February 22, 2011, 2011.

Thais, L. A.E. Tejada-Martinez, **T.B. Gatski**, and G. Mompean, A massively parallel hybrid scheme for direct numerical simulation of turbulent viscoelastic channel flow. *Computers & Fluids*, doi.org/10.1016/ j.compfluid.2010.09.025, available online September 25, 2010.

Wiebe, P.H, C. Ashjian, G.L. Lawson, **A. Piñones**, and N. Copley, Horizontal and vertical distribution of euphausiid species on the Western Antarctic Peninsula Southern Ocean GLOBEC study site. *Deep-Sea Research II*, doi:10.1016/j.dsr2.2010.11.015, 2011.

Presentations

Dinniman, M.S. and **J.M. Klinck**, The influence of surface winds on Circumpolar Deep Water transport and ice shelf basal melt along the West Antarctic Peninsula, 2010 WAIS Workshop, Lake Raystown, PA, September 22-25, 2010.

Ezer, T., Inundation modeling, remote sensing data and the endangered beluga whales, Texas A&M University, Galveston, TX, October 5, 2010.

Ezer, T., Hydrodynamic models and remote sensing data help study the beluga whale habitat in Cook Inlet, Cook Inlet Beluga Whale Science Conference, Anchorage, AK, October 12, 2010.

Ezer, T., Turbulent flow near Caribbean coral reefs and fish spawning aggregations: observations and simulations shed light on physical-biological connections, CCPO Spring 2011 Seminar Series, Norfolk, VA, January 31, 2011.

Garner, T., A study of surface currents in the lower Chesapeake Bay using HFRADAR, 10th International Radiowave Oceanography Workshop (ROW-10), Timberline Lodge, Mt. Hood, OR, September 27-28 2010.

Garner, T., Surface current mapping in the lower Chesapeake Bay, 37th Annual Mid-Atlantic Bight Physical Oceanography and Meteorology Meeting (MABPOM 2010), Stevens Institute of Technology, Hoboken, NJ, October 26-27, 2010.

Gatski, T.B., A hybrid RANS–LES model based on temporal filtering, Institute for Fluid Mechanics and Technical Acoustics, Technical University of Berlin, Berlin, Germany, November 9, 2010.

Hofmann, E.E., Understanding how disease and environment combine to structure resistance in estuarine populations, Department of Environmental and Aquatic Animal Health Seminar, Virginia Institute of Marine Science, Gloucester Point, VA, October 26, 2010.

Hofmann, E.E., Coupled physical-biological models for the Southern Ocean, EUR-OCEANS Workshop on Rapid change in polar ecosystems, Bremerhaven, Germany, November 15-17, 2010.

Hofmann, E.E., Climate impacts on the Southern Ocean ecosystem(s) (invited oral presentation), National Conference on Science, Policy, and the Environment, Washington, DC, January 19-21, 2011.

Hofmann, E.E., The spectrum of models crucial for EID in marine systems (invited presentation), Ecology of Marine Infectious Disease (EMID) Workshop, San Juan, Puerto Rico, February 12-13, 2011.

Hofmann, E.E., M.S. Dinniman, and **J.M. Klinck**, A model study of how changes in winds affect Circumpolar Deep Water transport and ice shelf basal melt along the West Antarctic Peninsula, XXXI SCAR Open Science Conference, Buenos Aires, Argentina, August 3-6, 2010.

Hofmann, E.E., T. Ballerini, E.J. Murphy, R. Cavanagh, and N.M. Johnston, Synthesis of Southern Ocean food webs, IMBER IMBIZO-II, Crete, Greece, 11-14 October 2010.

Hofmann, E.E., D. Bushek, S. Ford, X. Guo, E. Powell, D. Haidvogel, J. Wilkin, and **J. Klinck**, Understanding how disease and environment combine to structure resistance in estuarine populations. ASLO Aquatic Sciences Meeting, San Juan, Puerto Rico, February 13-18, 2011.

Hückstädt, L.A., D. Palacios, B. McDonald, **M.A. Piñones, M.S. Dinniman, E.E. Hofmann**, M.E. Goebel, D.E. Crocker and D.P. Costa, Overlap versus segregation: Do Crabeater Seals and Elephant Seals utilize similar habitats along the Western Antarctic Peninsula? XXXI SCAR Open Science Conference, Buenos Aires, Argentina, August 3-6, 2010.

Klinck, J.M. and **M.S. Dinniman**, How variability in wind and ACC transport affects Circumpolar Deep Water transport across the west Antarctic Peninsula continental shelf and its influence on ice shelf basal melt, 2010 Fall AGU Meeting, San Francisco, CA, December 13-17, 2010.

Klinck, J., E. Hofmann, M. Dinniman and D. Costa, Using instrumented seals to observe spatial and temporal variations in environmental conditions on the West Antarctic Peninsula during 2005 to 2009, XXXI SCAR Open Science Conference, Buenos Aires, Argentina, August 3-6, 2010.

Mueller, R., **M. Dinniman**, L. Erofeeva, H. Fricker and L. Padman, "The other guys'" in "Waterworld": Ice shelf basal melt beyond plume dynamics, 2010 WAIS Workshop, Lake Raystown, PA, September 22-25, 2010.

Murphy, E.J., J.L. Watkins, P.N. Trathan, S. Hill, N.M. Johnston, R. Cavanagh, and **E. Hofmann**, Spatial and temporal operation of Southern Ocean food webs: Structure, variability, uncertainty and modelling, XXXI SCAR Open Science Conference, Buenos Aires, Argentina, August 3-6, 2010.

Piñones, A, E.E. Hofmann, K.L. Daly, **M.S. Dinniman**, and **J.M. Klinck**, Modeling early life stages of Antarctic krill (*Euphausia superba*) in continental shelf environments on the west Antarctic Peninsula, XXXI SCAR Open Science Conference, Buenos Aires, Argentina, August 3-6, 2010.

Piñones, A., E.E. Hofmann, K.L. Daly, P.H. Wiebe, **M.S. Dinniman**, and **J.M. Klinck**. Remote and local connectivity of Antarctic krill (*Euphausia superba*) populations along the western Antarctic Peninsula (poster), XXXI SCAR Open Science Conference, Buenos Aires, Argentina, August 3-6, 2010.

Springer, S.R., L. Padman, and **M.S. Dinniman**, Modeling the effects of tides on sea ice around the Antarctic Peninsula, 2010 Fall AGU Meeting, San Francisco, CA, December 13-17, 2010.

St-Laurent, P., J.M Klinck, and **M.S. Dinniman**, Idealized experiments of warm Circumpolar Deep Waters intruding over the continental shelf of West Antarctica (poster), 2010 WAIS Workshop, Lake Raystown, PA, September 22-25, 2010.

CCPO SEMINAR SERIES

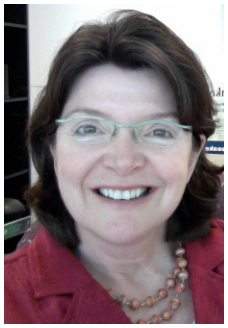
During the academic year, CCPO invites distinguished scientists to present seminars, which take place in Room 3200, Innovation Research Building 1, Old Dominion University on Mondays at 3:30 PM. A reception is held prior to the seminar at 3:00 PM. Eileen Hofmann, professor of oceanography, coordinates the seminar series. Specific topics are announced one week prior to each seminar; abstracts can be found at www.ccpo.odu.edu/seminars.html.

Spring 2011 seminar speakers

January 24	**Evamaria Koch, UMCES Horn Point Laboratory**
January 31	**Tal Ezer, CCPO**
February 7	**Mark Butler, Department of Biological Sciences, ODU**
February 21	**Danielle Kreeger, Partnership for the Delaware Estuary**
February 28	**Pablo Huq, University of Delaware**
March 14	**Mehmet Ilicak, NOAA Geophysical Fluid Dynamics Laboratory**
March 21	**Robert Tuleya, CCPO**
March 28	**Malcolm Scully, CCPO**
April 4	**Jason Link, NOAA NMFS Northeast Fisheries Science Center**
April 11	**Larry Atkinson, CCPO**
April 18	**Stuart Corney, Antarctic Climate and Ecosystems Co-operative Research Centre**

NEWS BRIEFS

Congratulations to **Malcolm Scully**, CCPO assistant professor, who was one of nine nominees at Old Dominion University for the 2011 Virginia Outstanding Faculty Awards. The awards are administered by the State Council of Higher Education for Virginia (SCHEV), with grant funding provided by the Dominion Foundation. Each nominee received $500 to support continuing research.



In June 2010, **Elizabeth Smith**, research assistant professor, took a position with the Southeastern Universities Research Association (SURA, *www.sura.org*) as the Coastal Research Programs Manager. Ms. Smith's primary responsibility is managing the day-to-day business of a $4M testbed to improve coastal predictive models of water quality and inundation for the US Atlantic and Gulf of Mexico coasts. This project involves more than 70 participants at over 40 institutions. A key element of the SURA Testbed project is to foster stronger dialog between the academic research community and the federal operational modeling centers to facilitate the transition of promising models and model elements to operational use. CCPO's **Malcolm Scully** is a SURA Testbed investigator, working on improving models of estuarine hypoxia in Chesapeake Bay. **Larry Atkinson**, also at CCPO, serves on the SURA Testbed Advisory and Evaluation Group. Old Dominion University is a SURA member. More information about the SURA Testbed can be found at *http://testbed.sura.org*.

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