

## CABLE TAKES HELM OF CURRICULUM IN THE ENVIRONMENT AND ECOLOGY

Dr. Jaye E. Cable, UNC professor of marine sciences, has been named chair of the Curriculum for the Environment and Ecology (CEE), the program that administers the largest environment-related degree program on the UNC-Chapel Hill campus. Cable took over in January for Dr. David Moreau, the CEE's founding chair, who has returned to retirement after guiding the launch of the Curriculum and establishing a strong foundation for its degree programs.

Based in the College of Arts and Sciences, the CEE was established in 2008 to bring together the administration of two undergraduate environmental degree programs – the BS in Environmental Science and the BA in Environmental Studies – with the graduate Curriculum in Ecology, which awards master's and doctoral degrees. The two units collaborate closely to provide an optimal educational experience for Carolina students. The CEE is responsible for the academic program, interfacing with the College of Arts and Sciences, and confers the degrees, while the IE supports experiential learning opportunities including undergraduate research, internships on and off campus, and domestic and international field sites.

"Jaye Cable is an excellent choice as the new chair for the Curriculum in Environment and Ecology," said IE Director Larry Band, who will work closely with Cable in her new role. "She has very good experience developing a similar program at Louisiana State University, sound judgment on priorities and the balance needed in the majors, and a productive, collaborative approach to management and development. Jaye's willingness to take on this task will significantly benefit students and faculty across campus."

Cable, an expert in coastal ground-water hydrology and geochemistry, was recruited to UNC in January 2011 from LSU, where she established and led the Coastal Environmental Science undergraduate degree program. Since assuming leadership of the CEE, she has hit the ground running, chairing a search for a new faculty member in environmental economics, preparing for an external program review, leading strategic planning for thoughtful hiring, and launching a curriculum revision for the graduate program. Over the next few years, she would like the CEE to work with the IE and other UNC partners to create a water concentration or certificate to take advantage of the many water-related courses taught in several departments across the UNC campus. "The Curriculum is an obvious place to draw those resources together and serve as a focal point for a water program."

Cable is particularly excited about the quality of students that the Curriculum in the Environment and Ecology attracts. "The CEE faculty all hold primary or joint appointments with different departments around campus, and our amazing students [currently 358 undergraduates enrolled in environmental majors or minors, and about 35 master's and PhD students in ecology]



Jaye E. Cable

*continued on page 5*

## STUDENT BODY PRESIDENT IS A VISIONARY LEADER AND ENVIRONMENTALIST

Throughout her college career, UNC Student Body President Mary Cooper has been a strong advocate for the environment and for sustainable practices. The Environmental Health Sciences major and graduating senior first became concerned about environmental issues while at Groton, a boarding school in New England, where she saw firsthand the lasting impacts of small efforts to reduce waste. She started her school's first Environmental Club and quickly became a leader in pursuit of simple projects to reduce Groton's environmental impact. Once she learned that she could make a real and lasting difference, Cooper knew she had to find a college that could give her the opportunity to do the same.

The native of Nashville, Tennessee and daughter of U.S. Congressman Jim Cooper (UNC-Chapel Hill AB, History, '75) had a strong academic record: strong enough to be able to



Mary Cooper

choose from the top universities. While visiting potential colleges in spring 2008, she gauged each campus's environmental consciousness and the potential to contribute to the conversation about sustainability. At Carolina, Cooper says, she found exactly what she was looking for.

Once on campus, Cooper reveled in the many academic opportunities. "Coming to college was so exciting because I could take courses I was passionate about. I wanted a health background with classes in the environment, economics, and policy to make me more competitive in the job market," she said of her decision to major in Environmental Health Sciences.

One of her favorite courses has been a Capstone group project working on greening public housing in Chapel Hill. "What's so cool is that I've been able to take all my knowledge from the classroom

*continued on page 2*

*Student Body President, continued from page 1*

and my experiences outside the classroom and use that to apply to the community.”

She also dove into a variety of extracurricular sustainability activities. She served on Chancellor Holden Thorp’s Energy Task Force, where she sat with University leaders and top environmental and energy experts, and played an influential role in the Chancellor’s commitment to end UNC’s use of coal as a fuel source by 2020, and discontinue the purchase of coal mined by mountaintop removal immediately. She went on to serve on Student Government’s Environmental Affairs Committee.

When a friend at Carolina, David Baron, had the idea to start a community produce garden to employ, assist, and feed the local homeless population, Cooper rolled up her sleeves to help lead the community project. HOPE Gardens represents a nexus of environmental stewardship, community service, and the use of conservation to address the needs of a community, she says. Cooper spent much of her junior year leading the effort to grow and develop HOPE Gardens in partnership with the Town of Chapel Hill and others.

As this year’s student body president, Cooper’s influence on campus environmental efforts has grown even stronger. Having run on a platform that included “Carolina Green Certification,” a program to promote environmentally conscious decisions across campus, Mary has made a true impact on environmental consciousness during her tenure. Carolina Green Certification has grown in to the standard that guides best-practices for campus events.

The UNC senior plans to eventually enroll in a graduate program in environmental law, environmental policy or medicine. But immediately after graduating in May, she will teach high school science in Dallas, Texas through Teach for America. As for a career related to environmental issues, Cooper is not looking for the easy route. “I want to go out in to the world and find people that disagree, and help them see why this is important.”

Pete Andrews, Professor in the Curriculum for the Environment and Ecology, raves about the impact Mary has made at UNC. “She and her fellow student representative on the Chancellor’s

Energy Task Force, Elinor Benami, were passionately influential in the recommendation that the Chancellor commit the university to ending its use of coal as a fuel for its cogeneration plant by 2020, and make every possible effort to end its purchases of coal mined by mountaintop removal immediately. Both these recommendations were adopted by the Chancellor. Mary has been a pleasure to get to know, to teach and to work with”, he said. ✿

“I want to go out in to the world and find people that disagree, and help them see why this is important.”

## INSTITUTE HIRES FIRST FULL-TIME DIRECTOR OF DEVELOPMENT

For the first time in its history, the UNC Institute for the Environment hired its own development officer dedicated to raising funds to support the IE’s mission. In January, David Greer joined the IE as director of development.

“The Institute for the Environment is very fortunate to have David Greer join us as our Director of Development” IE’s Director Larry Band said. “David has an ideal background and experience for this critical position, with a master’s in geological science and development experience working for the Chesapeake Bay Foundation. David’s ability to take in the big picture of the Institute’s priorities and directions, and his creative work developing resources to support our mission is especially important to our goals of providing top quality, innovative education, research and engagement to solve the major environmental issues of our day.”

Greer was a geology major at Mississippi’s Millsaps College, then came to UNC to earn a master of science degree in geological science. He soon realized that life in a research lab was not his calling. Instead, he found he enjoyed connecting with people, discussing scientific discoveries and their implications for the world at large, and linking scientists with the resources to advance their important work. He later joined the Chesapeake Bay Foundation, where he developed the largest corporate relationship in Virginia in the history of the Foundation and played a lead role in planning and implementing the \$20 million Hampton Roads Campaign. This is where he learned firsthand that the story of an organization’s efforts – the life behind the science – is what truly makes people want to help make an impact.

Now at UNC, Greer is excited to tell the Institute for the Environment’s story. “One thing that is critical to our conservation and sustainability efforts is having people who can tell the story in a galvanizing and engaging way that rallies the constituency. My science background helps give me a little bit of credibility to talk about the issues, share the IE’s story, and develop long-term relationships with people who have the capacity to make an enormous impact in the current and future direction of the Institute in a very positive way.”



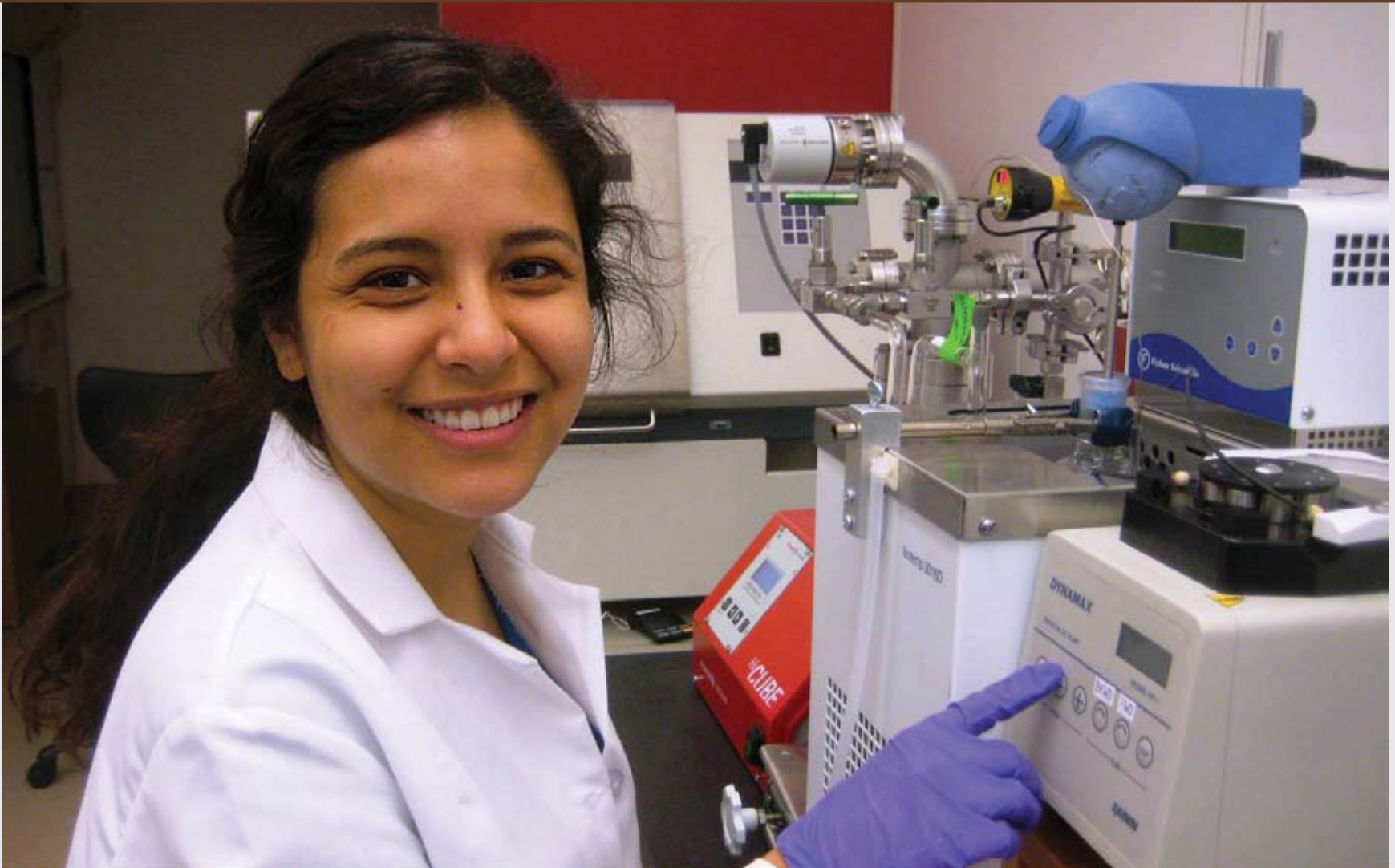
David Greer

Greer joins the IE at a time when universities and their centers and institutes are all facing challenging financial shifts. Significant cuts in State funding for the IE, which has seen a 17% reduction in state funds in the last year alone, and to the University as a whole requires re-prioritization, creativity, and, most importantly – private funds. While in the past, fundraising for the IE has been a portion of the position of Senior Associate Director Tony Reevy. Reevy, Band and the IE’s Board of Visitors agreed it was time for the IE to have a staff member with Development as their core responsibility.

“David comes to us at a time when the Institute is being called upon to meet ever more rigorous challenges. He is a terrific selection and will bring new energy and focus, together with a long-held devotion to the University as well as a very winning personality, that will more quickly allow us to meet current goals and to reach for new vital ones that are now within our grasp.” said IE Board of Visitors Chair Chris Sawyer.

The Institute has a number of giving opportunities for donors. These include funding to allow outfitting of laboratories in the Research Building at Carolina North; endowed and spendable funding for awards and scholarships for undergraduates in the Environmental Science and Environmental Studies degrees and the Minor in Sustainability and the Minor in Environmental Science and Studies; support for environmental faculty working in areas such as air quality, sustainable community design, sustainable energy, and watershed science and management; and gifts and grants supporting the Institute’s research and public service programs. Greer will focus on raising funds towards these priorities, as well as others identified by the Institute’s director.

Greer is proud to be a part of an environmental program that continues to lead the charge to address environmental issues locally, throughout North Carolina, across the nation, and around the world. He is particularly excited to have the opportunity to return to Carolina with his family. “You don’t have to cut me too deep to see that I bleed Carolina blue...and I’m excited for my son to grow up thinking that all fire trucks are Carolina blue!” ✿



Ashley Foguel, a sophomore studying Geology at UNC, is funded by the IDEA grant to work in the Cory Lab on campus.

## LARGE GRANT WILL HELP BRING DIVERSITY TO GEOSCIENCES

A \$926,000 grant from the National Science Foundation will help the UNC Institute for the Environment, together with partners from other North Carolina universities, encourage underrepresented minorities to pursue careers in the geosciences. The grant will fuel the growth of the North Carolina Alliance to Create Opportunity Through Education (OPT-ED), a partnership between UNC-Chapel Hill, N.C. State University and N.C. A&T University established to engage underrepresented minority students in science education programs at the undergraduate, graduate and doctoral levels.

Currently, less than 10 percent of graduates in undergraduate and graduate geoscience programs, majors such as geography, geology, oceanography, and atmospheric science, are underrepresented minorities. The geosciences confer the lowest percentage of Bachelor's and Master's degrees to this group when compared with other science and engineering programs.

"America's college age population of underrepresented minority students is growing. We view these students as an untapped resource for geosciences and environmental problem solving," said Kathleen Gray, the IE's associate director for outreach and public service, and one of the principal investigators on the NSF-funded project.

Gray, along with her co-principal investigators, IE Director Larry Band and deputy director for the IE's Center for Sustainable Community Design, David Salvesen, are leading the five-year project. "Increasing Diversity and Enhancing Academia" (IDEA) aims to expand and enhance the OPT-ED network, add the geosciences as a research focus, and extend the program to Elizabeth City State University, an historically black university in eastern North Carolina.

IDEA will focus on recruiting and training students in topical areas of high importance to North Carolina communities. The program will shift the focus of the science in OPT-ED's network to include watershed hydrology, coastal marine processes, natural hazards, land use change and climate change – issues particularly relevant to communities in the eastern part of the State. Due to the eastern region's geography, geology and shifting community structures, these communities face flooding, storm surge, surface and ground-water quality problems, drinking water supply concerns and eutrophication (the over-loading of waters with nutrients such as nitrogen and phosphorus). Preparing more graduates to address these issues will help strengthen the economies, security and health of their communities.

The IE and its partners will recruit and mentor underrepresented minority high school and undergraduate students to pursue and excel at study in the

geosciences. Members of the Louis Stokes Alliance for Minority Participation and faculty at NCSU, UNC-Chapel Hill and NC A&T have already been engaged to help minority students succeed in undergraduate programs in science, technology, engineering and math. Updated information about the project is available at <http://www.ie.unc.edu/IDEA/>.

"With funding from the National Science Foundation, we are recruiting a more diverse group of students to the geosciences; we can help satisfy the growing need for experts in these areas, particularly in the eastern part of North Carolina. IDEA not only supports the IE's mission of enhancing the education of the next generation of environmental scientists, but also its goal of growing and improving interdisciplinary work and diversity in these areas," Band said. 🌱

"With funding from the National Science Foundation, we are recruiting a more diverse group of students to the geosciences; we can help satisfy the growing need for experts in these areas, particularly in the eastern part of North Carolina."

—IE Director Larry Band

# IE HELPS NORTH CAROLINA AGENCY MAP WELL WATER CONTAMINANTS, HELPS CITIZENS UNDERSTAND ISSUES

**M**ore than two million North Carolinians rely on groundwater from private wells as their primary drinking source. Because contaminants like arsenic from an increasing number of sources enter this groundwater unnoticed, regular testing of wells is recommended.

Since 1998, the North Carolina Department of Health and Human Services (DHHS) has collected tens of thousands of private well water tests from around the state – but the agency did not have the resources to analyze this tremendous trove of data.

Now, with the help of the IE’s Environmental Resource Program (ERP), DHHS can track the presence of a variety of contaminants in well water – a first step in identifying and addressing potential health and environmental concerns.

The two-year project, called Tracking and Analyzing Contaminants (TrAC) in Private Well Water in NC, was collaboration between the UNC Superfund Research Program’s Research Translation Core, which is administered by the ERP, and DHHS’s Division of Public Health. The goal was to develop the capacity of DHHS to identify North Carolina populations at greatest potential risk from well water contamination and enhance public understanding of exposure to contaminants, distribution of contamination, and the impact of groundwater quality on human health. The project was funded through the American Reinvestment and Recovery Act.

The ERP engaged UNC researchers who applied their expertise to compile 15 years of test results into maps that identify average concentrations of

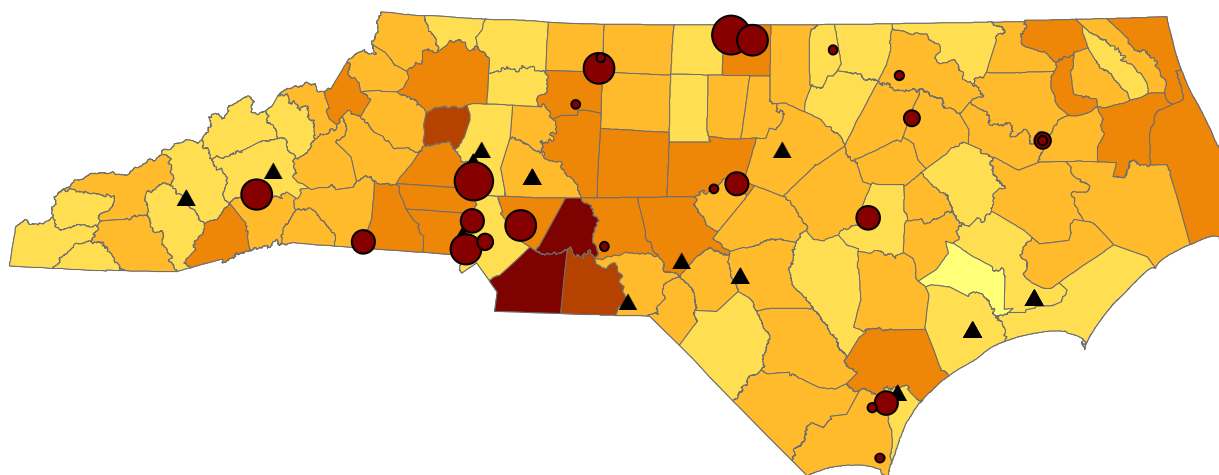
31 contaminants in private wells in each North Carolina county. The maps also include hazardous waste sites identified on the Environmental Protection Agency (EPA) Toxics Release Inventory and National Priority List. Over the past few months, UNC and DHHS researchers published papers on the presence and public health implications of arsenic and perchloroethylene (PERC) in North Carolina communities.

ERP Director Kathleen Gray and graduate student Tracey Slaughter helped DHHS translate the TrAC research results into a website to make these maps accessible for North Carolina health departments and residents. The website, <http://www.sph.unc.edu/ncwellwater/>, identifies counties where contaminant levels exceeded EPA drinking water standards and describes potential health impacts from exposure to these contaminants; it also provides information about proper maintenance of private wells.

“Our goal was to create an online resource that helps North Carolinians interpret well water test reports, and provides resources for understanding and responding to well contamination issues,” said Slaughter.

“UNC researchers have increased DHHS’s capacity to analyze these data and then respond to identified problems,” explained Gray, who led the project. “We are now working with them to communicate the results to affected communities.” In January, the ERP shared this information with county health directors at their annual meeting and have begun working with health departments in some of the counties with high levels of arsenic to discuss effective ways to inform residents. 🌱

## CONCENTRATION OF ARSENIC DETECTED IN NC PRIVATE WELL WATER (µg/L), AVERAGE 1998-2010



### Arsenic reported in Toxics Release Inventory (lbs.)

- 0.1 - 873
- 874 - 6,045
- 6,046 - 27,467
- 27,468 - 39,940
- 39,941 - 93,315
- ▲ National Priorities List sites reporting arsenic

### Concentration of arsenic detected in private wells (µg/L)

- 0.83 - 1.00
- 1.01 - 1.50
- 1.51 - 2.00
- 2.01 - 4.00
- 4.01 - 6.00
- 6.01 - 10.00

### Arsenic MCL: 10 µg/L

Arsenic can be found in ground water from the erosion of natural deposits. Arsenic is also released to the environment from the emissions of metal smelting operations, runoff from orchards, and wastes from glass & electronics production. Arsenic was used in the production of pressure-treated lumber until 2003 when it was banned for residential use.<sup>11, 16</sup>

[Health information about arsenic.](#)

# NEW WATER CENTER DIRECTOR BRINGS NEW ENERGY TO IE

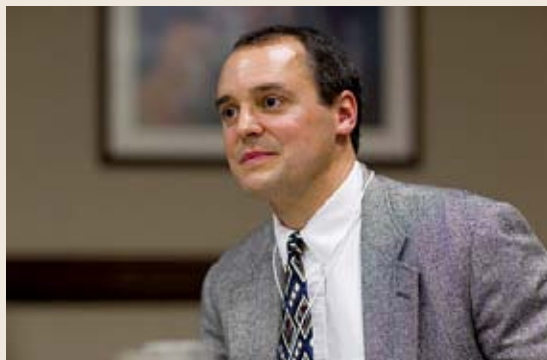
The IE's Center for Watershed Science and Management (CWSM), known for developing alternative environmental management techniques like scientific and incentive-based approaches to restore ecosystems and reduce water pollution, has a new director. Greg Characklis, associate professor of environmental sciences and engineering, brings a fresh perspective and exciting new research foci to the IE.

With his background in U.S. water supply issues, environmental performance metrics, and incentive-based reform of environmental policy, Characklis provides a valuable suite of experience to help the CWSM explore and address the most timely and relevant issues facing watersheds today. Prior to joining the UNC faculty in 2001, he worked in the private sector assessing the technical and financial merits of water supply development projects in the western U.S. He also spent two years in Washington, D.C. as a fellow with the National Academy of Engineering, where he studied environmental performance metrics and worked on market-based reform of environmental policy.

## The science and business of water

The CWSM's goals are well addressed by Characklis' research interests. Hydropower's use in deregulated energy markets, common in the Mid-Atlantic States, has implications for its place in energy portfolios that may become relevant in North Carolina. Characklis and colleagues hope to offer new information that will inform smart management of hydropower in the southeastern U.S., where the ability of this renewable resource to play a critical role in peak power is quickly becoming relevant.

Under a grant from the U.S. Department of Energy through the Hydro Research Foundation, Characklis and colleagues Jordan Kern (a UNC graduate student), Seth Blumsack of Penn State, Martin Doyle of Duke University, and Richard



Greg Characklis

“There is increased attention to using existing resources in the most efficient manner possible.”

Whisnant of UNC's School of Government will look at how the changing operations of hydropower dams would affect downstream ecosystems. “Dams inherently alter stream flow patterns, and this can have impacts on vulnerable ecosystems,” he explained. “Our work explores the tradeoffs between hydropower production and environmental impact, offering decision makers detailed information that can help them make informed choices as to how best to manage hydropower operations.”

Understanding the true environmental impacts of hydropower will allow Characklis and his colleagues develop recommendations for power companies in order to reduce changes in natural flow regimes when using hydropower.

## Regional water supply coordination

Characklis is also working under a grant from the National Oceanic and Atmospheric Administration (NOAA) to look for regional opportunities to increase the efficiency of water use – including the potential for municipal utilities serving the Triangle region to strategically coordinate their water use to ensure long-term water supply reliability. This research explores the application of financial portfolio theory to water supply management, coordinating multiple water supplies, transfers, conservation and reuse to achieve a region's objectives for reliability, cost, and environmental impact.

“Water utilities face a number of challenges, but demand growth will always be at the top of the list,” Characklis noted. “The cost of developing new supplies is rising, as are the environmental regulatory challenges associated with getting new supply projects permitted. Consequently, there is increased attention to using existing resources in the most efficient manner possible; for instance, transferring water between communities during periods of drought.”

Partners in this research include the Urban Water Consortium, the North Carolina Water Resources Research Institute (WRRRI) and several individual utilities within the Research Triangle.

Addressing North Carolina's water concerns requires scientific and technical expertise and an understanding of both the human and natural systems involved, Characklis said. “The IE's Center for Watershed Science and Management brings together groups and individuals with expertise in these disparate areas – including people from outside of academia – to develop solutions that are scientifically sound, yet also responsive to economic and social considerations.”

*Cable, continued from page 1*

do a wonderful job – with the help of their academic advisors – managing an interdisciplinary course load that brings them in contact with faculty from many disciplines and opens up a whole world of educational opportunities.”

In addition to the CEE faculty, Cable will be working closely with Director of Undergraduate Studies Amy Cooke and Director of Graduate Studies Michael Piehler, CEE Curriculum Manager Kathleen McNeil, and the IE Associate Director for Undergraduate Education, Greg Gangi.

Cable also anticipates maintaining close ties with the IE. “For our undergraduate environmental majors, about 90 percent participate in the wonderful field site and field study programs offered by the Institute for the Environment, which really adds an important dimension to their studies. The CEE and the IE have a shared interest and dedication to making this undergraduate program increasingly successful and popular on campus. It is the strong cooperation between the IE and the CEE that makes this undergraduate program really work.”

## CURRICULUM FOR THE ENVIRONMENT AND ECOLOGY STUDENTS = CREAM OF THE CAROLINA CROP

### Notables in environmental undergraduates

#### Fall 2011

Four students elected to Phi Beta Kappa, oldest and most distinguished honor society in the USA

#### Spring 2012

Eight students expected to graduate with honors or highest honors in May  
Will Leimenstoll, the 2012/2013 Student Body President, is a CEE major

### Ecology graduate students, recent recognition

- UNC IMPACT Award for Graduate Studies
- University Fellowship (two)
- National Science Foundation Graduate Fellowship
- Distinguished Dissertation Award
- UNC Merit Fellowship (two)

# GIFTS AND GRANTS

NEW FUNDING SUPPORTS IE PROJECTS

The UNC Institute for the Environment is grateful for several recent contracts, subcontracts and grants that help our faculty, staff and students continue to pursue important research, education and outreach programs.

**The U.S. Department of Defense** provided \$206,140 to continue Assistant Professor of City and Regional Planning Nikhil Kaza's research focused upon improving the energy efficiency for the department's installations in the Joint Region Marianas, which includes the U.S. territory of Guam. Dr. Kaza's research includes continued development of an energy infrastructure management program for the Joint Region Marianas.

**The Federal Aviation Administration**, under the PARTNER Center of Excellence, provided a grant of \$169,996 allowing the IE to continue its work focused on linking emissions into our atmosphere from airplanes with their local air quality impacts. This additional funding expands previous work to include understanding aviation air quality impacts in the presence of climate change and enhancing sub-grid scale treatments in air quality models to study near-field impacts. The project is led by IE Research Associate Professor Sarav Arunachalam, and includes Research Associates Alejandro Valencia Arias and B. H. Baek, and Research Professor Frank Binkowski.

**The National Science Foundation** provided a \$926,000 grant to IE and its campus partners to fund "Increasing Diversity and Enhancing Academia" (IDEA) (see article, page 3).

**The North Carolina Department of Environment and Natural Resources** is providing \$75,000 in funding for an Environmental Resources Program (ERP) project led by ERP Environmental Health Educator Amy MacDonald, with

assistance from IE Associate Director/ERP Director Kathleen Gray and a program director in the Injury Prevention Research Center, Mariana Garrettson. The project is focused on reducing housing-related health hazards in North Carolina through implementation of a coordinated, statewide strategy.

**North Carolina State University** is providing \$75,072 in funding to benefit a project, led by Department of Environmental Sciences and Engineering/IE Research Assistant Professor Jun Li, which provides a critical review of available models for predicting nuclear proliferation.

**The Progress Energy Foundation** again provided a one-year grant of \$150,000 to the Institute's Center for Sustainable Energy, Environment and Economic Development (C-SEED), which is directed by Research Professor David N. McNelis. The grant provides three fellowships for faculty working in the area of energy, and five matched fellowships for graduate students working on energy related research programs. The grant also provides funds to the IE's Environmental Resource Program, a suite of energy information and training activities for K-12 teachers in North Carolina. Finally, it funds a series of public lectures on a host of energy and environmental topics given by Dr. McNelis, in Progress Energy's North Carolina service area.

**The US Forest Service** provided \$129,964 to a research team led by IE Research Associate Uma Shankar. The project will assess the impact of climate change on wildland fires and forest resources using available climate simulation data based on the scenario assumptions of the Intergovernmental Panel on Climate Change to run a production function model over the southeastern U.S. The research team also includes Research Associate Professor Aijun Xiu, and Research Associates B. H. Baek, Mohammed Omary, Kevin Talgo and Dongmei Yang.

## UNC INSTITUTE for the ENVIRONMENT

### Board of Visitors

CHRISTOPHER G. SAWYER, *Chair*  
 REGINALD R. HOLLEY, *Vice Chair*  
 FRED R. ANDERSON  
 PHILIP BLUMENTHAL  
 KIRK J. BRADLEY  
 EDITH CECIL  
 BETSY CHAFFIN  
 WILLIAM CLARKE  
 JOHN COOPER  
 CHRISTOPHER J. DAGGETT  
 THOMAS F. DARDEN  
 WILLIAM E. EASTERLING III  
 BILL EICHBAUM  
 JEFFREY R. GARWOOD  
 C. BOYDEN GRAY  
 CHARLES T. HAGAN III  
 MARY LAMBERTON HILL  
 OLIVIA HOLDING  
 HENRY LANCASTER  
 R. MICHAEL LEONARD  
 STEVE LEVITAS  
 TODD MILLER  
 JIM PARROTT

WILLIAM A. PIZER  
 ELIZABETH P. PUNGELLO  
 J. ADAM RIGGSBEE  
 DAVID H. RUFFIN  
 THE HONORABLE RUTH CULBERTSON  
 SAMUELSON  
 THOMAS F. VALONE  
 NANCY HANES WHITE  
 LLOYD M. YATES  
 LAWRENCE E. BAND, *Director, ex-officio*

### Faculty Advisory Committee

LAWRENCE E. BAND,  
 Voit Gilmore Distinguished Professor,  
 Geography and Director, Institute for  
 the Environment (*ex-officio*)  
 PHILIP BERKE  
 Deputy Director, Institute for the Environment,  
 Director, Center for Sustainable Community  
 Design, and Professor, City and Regional  
 Planning (*ex-officio*)

RICHARD "PETE" ANDREWS,  
 Professor, Public Policy, Environmental  
 Sciences and Engineering

JAYE CABLE,  
 Professor, Marine Sciences  
 Adjunct Professor, Curriculum for the  
 Environment and Ecology  
 Chair, Curriculum for the Environment  
 and Ecology

JACQUELINE MACDONALD GIBSON,  
 Assistant Professor, Environmental Sciences  
 and Engineering

JENNIFER HORNEY,  
 Research Assistant Professor, Epidemiology  
 and Institute for the Environment

DONALD HORNSTEIN,  
 Aubrey L. Brooks Professor, School of Law

DOUGLAS MACLEAN,  
 Professor, Philosophy

RACHEL NOBLE,  
 Associate Professor, Institute of Marine  
 Sciences and Institute for the Environment,  
 Director, Morehead City Field Site

TAMLIN PAVELSKY,  
 Assistant Professor, Geological Sciences

DAVID PEDEN,  
 Professor, Pediatrics and Director, Center  
 for Environmental Medicine, Asthma and  
 Lung Biology

ROBERT PEET,  
 Professor, Biology

DANIEL RODRIGUEZ,  
 Associate Professor, City and  
 Regional Planning

CAROL A. SEAGLE,  
 Director of Research, Center for Sustainable  
 Enterprise and Adjunct Professor of Strategy  
 and Entrepreneurship, Kenan-Flagler  
 Business School

RICHARD WHISNANT,  
 Professor, Public Law and Government,  
 School of Government

PETER WHITE,  
 Director, North Carolina Botanical Garden  
 and Professor, Biology

### UNC Environment Newsletter Staff

TONY REEVY,  
 Senior Associate Director

KATIE HALL,  
 Public Communications Specialist

LAURA ERTEL,  
 Writer/Editor

UNC CREATIVE,  
 Design

## IE WELCOMES NEW BOARD MEMBERS

THE IE WELCOMES THREE NEW BOARD MEMBERS, ALL OF WHOM BRING GREAT EXPERIENCE, INSPIRATION, AND INSIGHT TO OUR BOARD.

**C. Boyden Gray**, a Harvard graduate and UNC Law alum, spent many years at the firm Wilmer Cutler & Pickering, where his practice focused on a range of regulatory matters with emphasis on environmental issues, including those relating to biotechnology, trade, clean air and the management of risk. He served as counsel for George H.W. Bush, counsel to the Presidential Task Force on Regulatory Relief, and director of the Office of Transition Counsel for the Bush administration. During his time as counsel to President Bush, Gray played a leading role in crafting the 1990 Clean Air Act Amendments that suggested market-based solutions for environmental problems.

**Todd Miller**, Executive Director of the North Carolina Coastal Federation (NCCF) and UNC alum, has spent his life fighting to protect North Carolina's coastal habitats. After UNC exposed him to the possibilities in environmental management and entrepreneurship, he created the coastal federation in 1982. 30 years later, having fought off countless threats to the delicate balance between man and nature at the Coast, Todd and the NCCF continue to work to protect North Carolina's coast. Miller has received several awards honoring his dedication, vision, and tireless work on efforts such as oyster reef restoration, wetland protection, and growing his grassroots organization to a large community of volunteers and a 20+ person full-time staff.

**Liz Pungello**, a UNC alum and scientist at UNC's Frank Porter Graham Child Development Institute, researches early child care environments and parenting's impacts on young children. She is a research assistant professor in the Department of Psychology and serves as the co-Chair of the Academic Affairs Institutional Review Board (AA-IRB). Liz serves on the boards of many local non-profit organizations, including the Carolina Friends School and the Brady Education Foundation. She also serves on the Editorial Board for the Journal of Marriage and Family.



Photo by Dan Sears

## NEW FACES

**Jared Bowden** has joined the IE as a faculty member in the Center for Environmental Modeling and Policy Development. Bowden previously was a National Research Council research associate, where he developed capabilities for regional climate modeling with the U.S. Environmental Protection Agency.

**Greg Characklis** is now director of the IE's Center for Watershed Science and Management (see page 5.)

**David Greer** has joined the Institute as its first Director of Development (see page 2.)

**Jennifer Nickerson**, temporary employee of the IE since 2012, has joined the IE as a permanent, part-time employee. Nickerson is an Administrative Support Specialist and assists a number of faculty and staff with various projects.

**Kelly Robinson** joined the Institute full-time in January as a Social/Clinical Research Assistant with the Environmental Resource Program. Robinson has been an intern and temporary research assistant for the IE since the summer of 2010.

INSTITUTE for the ENVIRONMENT  
The University of North Carolina at Chapel Hill  
Campus Box 1105  
Chapel Hill, NC 27599-1105

Non Profit  
Organization  
US POSTAGE PAID  
Chapel Hill, NC  
Permit Number 177

ADDRESS SERVICE REQUESTED



FSC logo will go here



This newsletter was printed with vegetable-based inks on 100% recycled, 100% post-consumer waste paper, which was processed chlorine-free and manufactured with Green-e® certified biogas energy and wind power. No state funds were used to print this document.

© 2012 Institute for the Environment, UNC-Chapel Hill

UNC environment

## UPCOMING EVENTS

### Commencement:

The UNC Institute for the Environment and the Curriculum for the Environment and Ecology will host a commencement ceremony for graduates of UNC's B.S. in Environmental Sciences, B.A. in Environmental Studies, and B.S. in Environmental Science. The event will be held at the North Carolina Botanical Garden on Sunday, May 13th at 1:00 p.m.

### CMAS: October 15-17, 2012

The IE's Center for Environmental Modeling and Policy Development will host its annual Community Modeling and Analysis System conference this fall at the Friday Center in Chapel Hill. CMAS allows the model user and development communities to share their experiences with air quality models, modeling, and model development. More information about this year's conference can be found at [www.cmascenter.org/conference](http://www.cmascenter.org/conference).

### Water and Health Conference: October 29-November 2, 2012

The Water Institute at UNC will host "Water and Health 2012: Science, Policy, and Innovation" at the Friday Center in Chapel Hill. This annual conference will consider drinking water supply, sanitation, hygiene and water resources in both the developing and developed worlds with a strong public health emphasis. More information including registration, accommodations, and sponsorship can be found on the conference website, [whconference.unc.edu](http://whconference.unc.edu).