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CLEARscapes



A Newsletter of the Center for Land Use Education and Research at the University of Connecticut.

Teaching/Outreach

Connecting Students and Teachers to Local Conservation Through STEM

This spring and summer CLEAR is playing a major role in an expansion of the Natural Resources Conservation Academy (NRCA), founded in 2011 by the Department of Natural Resources and the Environment (NRE—one of CLEAR’s academic parents). NRCA will now serve as an umbrella for a group of three closely interrelated programs that focus on connecting secondary school STEM (Science, Technology, Engineering and Math) education with real-world natural resources conservation.

CLEAR and NRE have leveraged the success of the original NRCA with additional grant funding to expand the program to more students, audiences, and topics. Over \$3 million in competitive grant awards from the National Science

Foundation (NSF) and the United States Department of Agriculture (USDA) will support two new research/engagement projects that will extend the reach of the NRCA’s conservation science and technology programs into even more schools and communities across Connecticut.

As noted, the three programs (the “Education Triad” as it is affectionately called in the hallways at CLEAR) will all be associated with the NRCA. The Conservation Ambassador Program (CAP—a.k.a. the original NRCA model—for teens); the Conservation Training Partnerships (CTP) for teens and adult learners working together; and Teacher Professional Learning (TPL) for middle and high school teachers to develop curriculum for their schools. The two new

projects, the CTP and TPL, are interdisciplinary partnerships that now include faculty from Neag School of Education’s Department of Curriculum and Instruction (EDCI) and the Center for Environmental Sciences and Engineering (CESE).

The two new NRCA programs will be offered for the first time this summer, along with the sixth year of the CAP. What that means is that, well...we’re pretty busy. In fact, the “new” NRCA has been added as a fourth program area here at CLEAR, joining our more venerable trio of Water, Land Use and Climate Resilience, and Geospatial Tools and Technology. You can bet that we are hard at work developing and revising curriculum, as well as reaching out to teens, teachers and adults to participate in all three of these awesome efforts.

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Teaching/Outreach continued...

Connecting Students and Teachers to Local Conservation Through STEM continued from pg 1...



Conservation Ambassador Program

For Teens



Conservation Training Partnerships

For Teens & Adults



Teacher Professional Learning

For Middle & High School Teachers

► The “original” NRCA, now called the Conservation Ambassador Program, provides high school students with an intensive informal learning experience focused on the environment, natural resources and geospatial technologies. The program is all about making connections. Connecting young adults to the environment around them, to natural resource science professionals, to their communities and local conservation programs, to the University and a potential career in a STEM discipline, and of course, to each other. These connections begin to form for students as they are immersed in a week-long field experience on the UConn campus, and continue to develop as students go on to complete conservation projects in their communities. The success of the program, now entering its sixth year, can be measured by the smiling faces of the students (over 116 of them so far!) who present the results of their ten-month, conservation based service learning project to scientists and professionals each spring at the Connecticut Conference on Natural Resources. It can also be seen in the 98 conservation projects students have completed in communities throughout the state.

► The NSF funded NRCA Conservation Training Partnerships is a five-year project modeled closely on the original NRCA field experience and community partnership project, but is centered on employing the science and practice of geospatial technologies to teach practical approaches to conservation. It is also expanded to explore the concept and patterns of inter-generational learning. What we’ve learned from informal observations of the interactions between adolescents and adults collaborating on community projects over the past five seasons of the NRCA is that each age group brings something unique to the partnership. Adolescents are often familiar with, and interested in, computer technology, picking up on mapping skills quickly; adults strengthen the partnership with their strong connection to nature and their commitment to, and engagement in, community service and conservation. Bringing the two groups of learners together has the potential to produce effective, efficient conservation outcomes, not to mention well rounded individuals.



► The USDA funded NRCA Teacher Professional Learning is a three-year project that will provide professional development to middle and high school teachers that focuses on sustainable water resources and is tied to the new Next Generation Science Standards (NGSS) recently adopted by the State of Connecticut. These workshops will make use of the ready-to-hand teaching tool of the UConn main campus, which is becoming nationally known for its innovative stormwater management practices. And, as with all NRCA programs, the workshops will also incorporate the practice of geospatial science as an effective teaching tool for engaging students in these disciplines. The goal will be for participants to combine their new knowledge with their new online mapping skills to develop tailored curriculum for their classrooms.

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Program Updates



A Brand New CT ECO

CLEAR is pleased to announce the soup-to-nuts and stem-to-stern revamp of *Connecticut Environmental Conditions Online*, more commonly known as CT ECO. CT ECO, an eight-year partnership between CLEAR and the Connecticut Department of Energy and Environmental Protection (CT DEEP), is Connecticut's go-to online site for statewide geospatial data, information and maps related to natural resources. CT ECO now boasts new hardware, new software, and lots of new map viewers. Most exciting of all are the new data layers populating those map viewers. Of particular note is the brand new statewide high resolution 3" imagery (flown in the spring of 2016), which makes Connecticut the first state in the country to make statewide coverage of such high quality aerials publically available. The aerials were funded by the state Office of Policy and Management and the project is a collaboration of a consortium of state agencies and the state's nine regional Councils of Government. High resolution elevation (Lidar) data and maps are following in short order. We will be devoting a special issue of CLEARScapes to the new CT ECO later this spring.

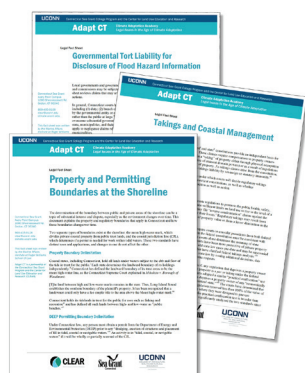
Visit the website at cteco.uconn.edu.

Climate Adaptation Academy Focuses on Legal Issues

The Climate Adaptation Academy (CAA), a partnership of CLEAR and Connecticut Sea Grant, provides information and a forum for community leaders, researchers, engineers, homeowners and others to discuss issues and best practices related to a wide range of topics related to climate adaptation. Lately, the CAA has gone legal! In late 2015, the CAA held a sold-out workshop entitled *Legal Issues in the Age of Climate Adaptation*, which focused

on local legal issues involving property rights, zoning, flooding and rebuilding after a storm. As with all CAA workshops, this event raised more questions than it answered, even given the panel of distinguished land use attorneys that were involved. Since that time, CAA founders Juliana Barrett and Bruce Hyde have been working with the Sea Grant Legal Network and the above-mentioned

lawyers on obtaining answers to some of the most important questions raised by the workshop attendees. There are 4 new CAA legal issues fact sheets, and a related webinar on May 2nd (the recorded webinar will be posted at clear.uconn.edu/webinars).

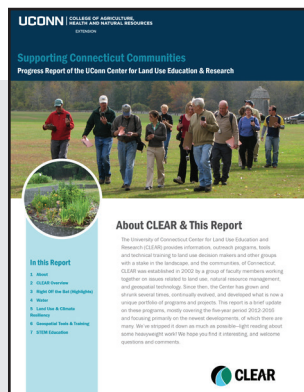


The CAA legal issues fact sheets can be found on the website climate.uconn.edu.

And in the "modesty will only get you so far" Category... Awards

CLEAR is pleased to note that the Center, both as a whole and as individual faculty members, have won a number of awards in the six months past. And here they are:

- **First Prize in Science, Technology, and Education category**, Esri corporation's "Storytelling with Maps" International Contest, to Emily Wilson and Joel Stocker.
- **Olmstead Award for Career Accomplishment**, from the Connecticut Chapter of the American Society of Landscape Architects, to CLEAR.
- **UConn Provost's Award for Excellence in Public Engagement**, Career Recognition, to CLEAR.
- **UConn Environmental Leadership Award**, Alumni category, to Mike Dietz.
- **UConn Environmental Leadership Award**, Faculty Team category, to Mike Dietz and Dave Dickson for their work on rain gardens.
- **Excellence in Engagement Award**, UConn College of Agriculture, Health, and Natural Resources, to Chet Arnold.
- **Innovative Extension Programming Award**, UConn College of Agriculture, Health, and Natural Resources, to the Climate Adaptation Academy.



Supporting Connecticut Communities

Want a slightly broader perspective on the Center than just the latest issue of CLEARScapes? CLEAR has just issued a brief overview of the Center, focused primarily on the last 5 years and particularly on our newest programs. The report is filled with updates, facts and figures on CLEAR research, outreach, tools and training. It's light on text, but weighty on information. And it's free. Check it out at clear.uconn.edu.

Announcements & Shout-outs...

New Websites Abound at CLEAR

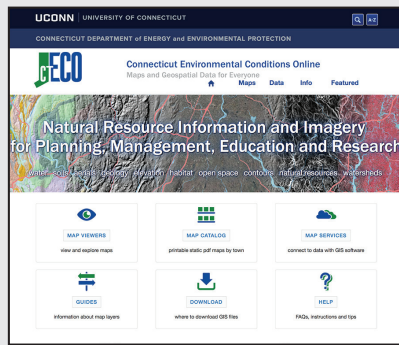
All four program areas of CLEAR have added new websites within the past 3 months. And when we say “websites,” we don’t mean a couple of pages of text and a grainy photo or two—we’re talking about large, multifaceted sites that include useful resources and tools as well as information. Our new contributions to the internet include:

Introducing Amanda Ryan, CLEAR’s First-ever Circuit Rider



Amanda Ryan joined the CLEAR NEMO team in November 2016 as a Municipal Stormwater Educator (aka Circuit Rider), tasked with assisting towns

and institutions on issues related to the newly expanded “MS4” general stormwater permit. Amanda has worked on conservation, climate resilience, and planning issues for the Town of Greenwich, The Nature Conservancy, and the Central Connecticut Regional Planning Agency. She has a MS in Environmental Science and Management from the University of Rhode Island and is a graduate of the United States Coast Guard Academy. Amanda is also a Lieutenant Commander in the U.S. Coast Guard Reserve, so we’re hoping that she will bring a note of organization and discipline to the unstructured world of CLEAR... Amanda can be reached at 860-345-5231 or amanda.ryan@uconn.edu. ●



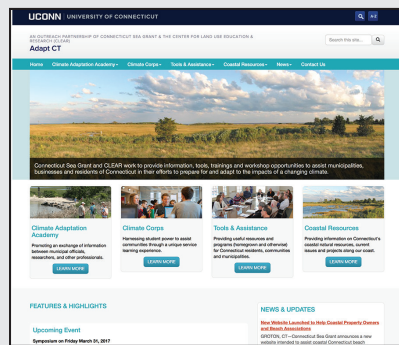
▶ **CT ECO** www.cteco.uconn.edu

Natural resource information and imagery for planning, management, education and research. The Mothership of all natural resource data in the state. (Highlighted on page 3.)



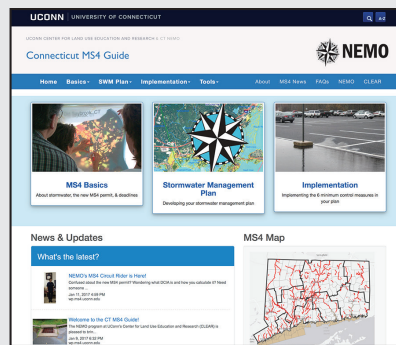
▶ **NRCA** nrca.uconn.edu

The umbrella site for all three NRCA programs connecting STEM education with local conservation. (Lead article, page 1.)



▶ **Adapt CT** climate.uconn.edu

The new umbrella site for the CLEAR/ Connecticut Sea Grant climate programs, including the Climate Adaptation Academy (highlighted on page 3) and the new UConn Climate Corps.



▶ **MS4** nemo.uconn.edu/ms4

The new, extensive but ever-growing website devoted to providing assistance to the 121 municipalities and federal/state agencies subject to the newly enhanced “MS4” general stormwater permit. Timelines, technical info, maps, templates, advice and more....

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The UConn Center for Land Use Education and Research (CLEAR) provides information, education and assistance to land use decision makers, in support of balancing growth and natural resource protection. CLEAR is a partnership of the Dept. of Extension and the Dept. of Natural Resources and the Environment at the College of Agriculture, Health and Natural Resources, and the Connecticut Sea Grant College Program. Support for CLEAR comes from UConn and from state and federal grants.

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