



Florida Coastal Everglades
Long Term Ecological Research

News from the Sloughs

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Feature Article: FCE and Sea Level Rise

Is Sea Level Rise (SLR) on your mind these days? You are not alone. By location, relation or dream destination we all are stakeholders in the Everglades ecosystem and want to know more. By design and through over 15 years of daily efforts from over 150 researchers, the Florida Coastal Everglades LTER program has become a science hub for long term data and research exchange needed to answer hard science questions swirling around SLR and South Florida, including what changes our very own precious freshwater supply and delivery.

FCE researchers are stepping up to network, interact, and educate about SLR, all while maintaining extraordinary efforts keeping an on going research program spanning both base studies and target experiments ranging from tracking and modeling changes in water depths, salinity and nutrients to those targeted at understanding changes in large predators and commercially important fishes. Around town this winter FCE researchers are reaching out to the community and beyond. This past week FCE students and researchers hosted Florida International University President Mark B. Rosenberg, Everglades Foundation CEO Erik Eikenberg, Dr. James Kushlan (upper left) and other key FIU administrators and community advocates on a brisk FCE field research day. Long term ecology means building and fostering long term research community ties and how better than whooshing through the sawgrass together? You may also have spotted a gaggle of FCE-ers engaged in the King Tide Day event on Miami Beach. Drs. René Price and Henry Briceño helped coordinate a water quality and crowd hydrology project. Co-PI and CAS Dean Dr. Mike Heithaus joined Senators Nelson and Whitehouse, Gina McCartney (EPA) and local mayors in speaking to the press about the importance of acting on plans to improve South Florida’s resilience and adaptation to SLR. Or you may also have visited Coral Gables Museum “Effects of Everglades Restoration on Sea Level Rise Resilience in Urban Miami” panel January 15, moderated by our FCE LTER Lead P.I. SLR is here and now and the ubiquity brings us together for our very human thirst for information and innovative solutions. FCE/SLR literature and data contributions are at an all time peak and the good news is information is working its way from the helm of the airboat to the halls of our state and nation’s Congress and back again! Stay tuned to our FCE webpages for more SLR news, FCE publications, reports and data.



Pictured right and fresh out of the field Dr. Rudolf Jaffe’s Ph.D. student Peter Regier (Left), and President Rosenberg capture the moment with a selfie. Story contributed by Dr. S.K. Dailey

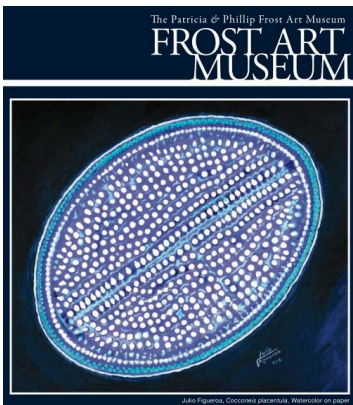
FCE Digestions: Updates from the Primary Production Working Group

Our winter working group update comes from the FCE Primary Production Group (PPG) researchers focusing on salinity and flooding changes to the primary producers' response to hydroclimatic variation. Everglades primary producers range from colossal 60 foot high red mangroves to macroalgae and seagrass to microscopic diatoms and photosynthetic bacteria, so these researchers have their days full collecting data to timescales of minutes to spatial scales requiring satellite images to microscopes. In addition, the PPG members are conducting mesocosm experiments in the Keys and FIU's campus, tending to baby mangroves and plots of freshwater marsh plants in a ICU-like tubs to manipulate water levels and salinity to determine the causes and consequences of changes in carbon dynamics in coastal areas. Why carbon? Carbon is nature's money! It is "fixed" into biological form in the marsh and stay until it is respired, decays, or is eaten and taken away. Links between primary producers, consumers, air, soil, and limestone baserock can be and are tracked in carbon units and learning effects of sea level rise and climate change depends on ongoing research of both mobile and stationary carbon banks. See new PPG papers this winter at FCE Publications.



Story by the editor and photo by Dr. Steve Davis

Community Spotlight: TBA Diatoms!



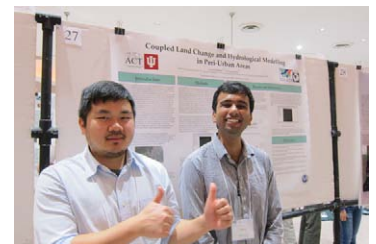
Arts and FCE are as naturally fit as your feet in sand and inspire different impressions for everyone. Diatoms are a hot art study this winter and created a dream Valentine's Day date destination at the Frost Art Museum

for their opening reception for the "In Deep with Diatoms" exhibit. This is FCE's second collaboration with the Tropical Botanic Artists (TBA) and features several paintings from their collection and sculptures produced by FCE partner and FIU-CART Artist in Residence, Xavier Cortada.

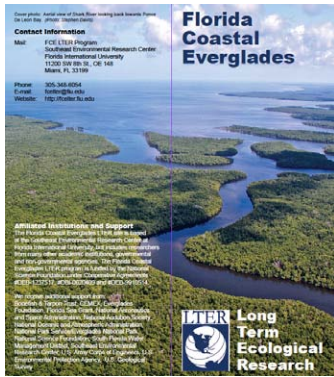
Pictured above is a watercolor by TBA artist Julio Figueroa of a *Cocconeis placentula*

Student Spotlight: Peri-urbanites' BOSS

Peri-urban areas are not quite urbanized with larger land parcels but far from suburbanized with planned concrete walkways and have a separate variety of land and water use patterns associated with the development of these parts of our ecosystem. You see communities of peri-urbanites from the plane window each take off and landing- about 5 minutes after you are airborne and far from the city. FCE graduate students David Massey (above left), Samapriya Roy (above right), and Landon Yoder from FCE's Dr. Roy Chowdhury's lab at Indiana U are modeling BMP's in peri-urbanite areas with their BOSS model with eyes now turned on modeling BMPs in the Everglades in peri urban zones. These data and models will provide info for policy makers, farmers and land owners' best decisions.



FCE Spotlight: New Pages & Webpages!



FCE’s Information Management Advisory Committee has been at work reviewing the efforts poured into the website and web materials by Project Manager Mike Rugge and Information Manager Linda Powell.

With a never ending wealth of information on the website, you may have missed the new sections of Key Findings you can access of the home page by topic including Blue Carbon and Communications to policymakers.

This winter we also released a brand new super glossy FCE brochure made of real paper to share, so stop by and pick up your copy highlighted by one of many photos FCE’s Dr. Steve Davis took from a Lighthawk flight open window at 100 mph. Get your copy to laminate and carry today!

Awards and Accomplishments

At our FCE All Scientists Meeting in January at Fairchild Tropical Gardens special awards were presented by our Lead P.I. Dr. Evelyn Gaiser. 2015 People of the Year were, Collaborator Award: Dr. Rudolf Jaffe’ with 25 FCE III publications already, averaging 8 papers a year (WOW!), Staff Award: Linda Powell (Information Manager Extraordinaire!) and Student Award: Shelby Servais (fearless leader of our FCE student group!)! Congratulations also to our ASM poster awardees Hilary Flower, Gregory Hill and Asher Williams – you show us how it’s done, and we are proud!!! Check out all the poster presentation on our FCE Meetings pages



Above photo: FCE ASM 2015 by Mike Rugge

Education and Outreach Update: FCE New Opportunities

with FCE Partners at The Deering Estate

In January 2015, FCE’s partners at the Deering Estate took possession of Marta Weeks-Wulf Palmetto Bay homestead. Adjacent to The Estate, the 8.75 acre property includes a 10,500 square foot energy efficient home and more than seven acres of pristine native tropical hardwood hammock that is managed and maintained under an Environmentally Endangered Lands (EEL) covenant.

The Weeks’ long-established commitment to environmental conservation is a natural fit for the Deering Estate and represents an exciting opportunity to expand FCE Education & Outreach initiatives. The Deering’s Cutler Slough Rehydration/Comprehensive Everglades Restoration Plan (CERP) Project has long been described as a potential “storefront” to the community for FCE’s research. The Weeks-Wulf acquisition is being discussed as a possible ecological field station and has been described by Jennifer Tisthammer, Director of the Deering Estate, “. . .as the catalyst and lead gift to realize a long-term vision to establish a Cultural and Ecological Field Study Station on the Estate, offering a contemplative venue for conservationists and preservationists to dialogue and discourse about unique ways to preserve the rich cultural and natural resources of our community.”

Story Contributed by Catherine Guerra, Deering Estate at Cutler and Nicholas Oehm, FCE LTER Education and Outreach Coordinator

Take Me to Your LTER: Lead Principal Investigator Address



Hi Everyone!

I'm writing this while traveling back from the 15th National Conference and Global Forum on Science, Policy, and the Environment: Energy and Climate Change, where Tiffany Troxler and I led a special session and workshop on the "Water-Energy-Climate Nexus." The symposium brought together academics, public planners and NGOs to discuss the challenges of planning low carbon, sustainable solutions to water sustainability problems in a changing climate. Context was set through examples from the FCE and CAP LTER by Fred Sklar and Dan Childers who served as discussion leaders, joined by some of our key county and municipal planning partners. We made some

headway in identifying avenues for moving sustainable plans forward, although there is much work to do.

To learn about visions for the future of Miami, visit the Miami 2100 exhibit at the Coral Gables Museum (on until March 1), brought to you by the FIU College of Architecture and the Arts, and our partners in the Miami-Dade Urban Long Term Research program, the exhibit showcases the complex problems and possible solutions associated with sea level rise in South Florida. It's an amazing exhibit! Best wishes to all!

Evelyn

Pictured above: Dr. Tiffany Troxler introduces Bruce Mowry, Miami Beach City Engineer, at the 2015 NCSE meeting Photo by Dr. E. Gaiser

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For more Florida Coastal Everglades LTER News and past newsletters - visit our [website](#). Please send submissions for our Spring newsletter by **March 15, 2015** to drskdailey@gmail.com. Please address questions or comments about this edition of the newsletter to: drskdailey@gmail.com or sdailey@fiu.edu.

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