Miami-Dade Extension Connection

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Miami-Dade County resident Ralph Ariza removes a makeshift shelter made of debris from one of the ocean-side beaches on Elliott Key in Biscayne National Park. Ariza and almost 3,000 volunteers participated in the annual International Coastal Cleanup on September 15, a world-wide marine debris removal service and data collection event. See story on page 10. Photo: Ana Zangroniz

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Letter from the Editor

Ana Zangroniz, *Sea Grant Extension Agent*

Dear Friends of Extension,

My favorite time of the year is coming to a close. As the Sea Grant Extension Agent, summer means warm, flat water, and ample boating and scuba diving days. I feel very fortunate to be able to participate in these activities as part of my Extension work. In addition to my marine-based work, this summer, I jumped at the chance to learn how to use a mango picker and assist my colleague, and friend, Jeff Wasielewski in maintaining the mango grove based at our Homestead facility. Picking those high-hanging mangos is tough!

Over the past few months, I've delighted in working with our many colleagues in the Miami-Dade County Parks, Recreation, and Open Spaces department, teaching them about topics ranging from the coolest tree ever (the mangrove) to explaining what sargassum seaweed is, as well as learning about the different sargassum removal techniques employed on our local beaches. I enjoyed my annual day at Black Point Marina, assisting Biscayne National Park with Lobster Mini-Season surveys and interviews. We talked with over 200 people in just a few short hours. I know that my counterparts within Extension have similar experiences to share, and I encourage you to reach out to these experts to assist you with your questions and ideas.

Finally, I would like to congratulate the many award winners at this year's Extension Professionals Association of Florida meeting. Dr. Qingren Wang won three awards, Laura Vasquez was a part of a prestigious team award and Jeff and E. Vanessa Campoverde both won the Seymour Goldweber Extension Professional Enhancement Award. To use the Dean's own language when handing out the awards, "Miami-Dade County cleaned up". These awards reaffirmed my pride in our great Extension team and make it a little easier for me to say goodbye to my favorite time of year.

Sincerely,

Comings and Goings

Welcome to the new 4-H agent Whitney Thames

Whitney Thames on her graduation day from University of Florida. Photo: Cherae Teal

Whitney Thames is the new 4-H Youth Development agent for Miami-Dade County. Whitney is passionate about youth development, community development, and family engagement. She found her true calling after interning with The University of Florida's IFAS Extension as a program assistant. As the healthy living program assistant, Whitney taught students about the importance of maintaining a healthy lifestyle. She did this through a six-week healthy living lesson to children, which included hands on activities. This experience led Whitney to become more involved in extension services.

Whitney has also volunteered with Kids Count an after school program to help low income elementary students in Alachua County. Kids Count focuses on the needs of the students individually. Whitney tutored students one-on-one struggling in math and science. Her assistance showed a significant improvement in children's grades, and test scores.

Whitney recently received her Bachelors of Science in Family Youth and Community Science, with a minor in Sociology from The University of Florida. She recently finished her undergraduate degree with a service learning project in Galway, Ireland. She has obtained knowledge about service learning through the Irish culture, which she intends to use in her position as an agent.

Welcome to Extension Whitney! We are glad you are here.

Tropical Research Education Center Spotlight

Studying Sea Level Rise and More in South Florida

Dr. Ashley Smyth, Biogeochemist, UF/IFAS TREC

Ashley Smyth studies her Biscayne Bay sediment fluxes during a sampling trip. Photo: Tony Gilbert

Hello, my name is Dr. Ashley Smyth, and I am thrilled to join the UF/IFAS and TREC community. I have a background in applied coastal biogeochemistry and am excited to draw on my past experiences to help us better understand one of the most troubling issues facing South Florida—sea level rise.

I got my start in science by sampling marshes in New Jersey as a college student. I grew to love days in the field being covered with mud (Figure 2) while also getting satisfaction from analyzing and processing data. I was amazed at the role that microscopic organisms in the sediment had in helping to maintain and support our ecosystems. Figuring out the story the soil and sediment were trying to tell solidified my desire to conduct similar research at the graduate level.

In graduate school at UNC-Chapel Hill, I studied how nitrogen moves between the air, water and soils in estuaries. Nitrogen is an essential element for life but too much nitrogen can be harmful to the aquatic environment. I think of nitrogen like coffee. Plants and animals need nitrogen to function best, but too much

Tropical Research Education Center Spotlight

Studying Sea Level Rise and More in South Florida

continued

nitrogen can lead to algal blooms, fish kills and overall reduction in water quality. This is similar to how coffee affects me, where I need a little coffee to start my day but too much of it can have negative effects on my health. We often add nitrogen to plants to help them grow but I wanted to know what happened to that nitrogen when it entered our waters. As I began to research nitrogen pollution I became more interested in the water quality benefits that marshes, seagrass and oysters provide. I learned that each of these habitats had high rates of denitrification, a biochemical process where microbes convert nitrogen in the water to a harmless gas. This process essentially removes nitrogen from the ecosystem. This information can help restoration and management combat nutrient pollution and improve water quality.

Figure. 2. Ashley Smyth, right, takes core samples in graduate school at UNC Chapel Hill. Photo: Roger Thomas

My research showed me the benefits that oyster reefs had for our environment. And, because of the rising demand for food and other economic benefits, oyster aquaculture had started to grow. Since the water quality benefits of oysters are related to their ability to filter the water as they feed, it seemed to me that oyster aquaculture could be an alternative to restoration, providing the same environmental benefits, but in an economic framework. As a David H. Smith Conservation Research Fellow, I partnered with Virginia Sea Grant and the Virginia Institute of Marine Science to determine if oyster aquaculture could be used to remove algae and manage nutrient pollutants in Chesapeake Bay. Given that nitrogen pollution is a major threat to coastal ecosystems, understanding how oyster aquaculture could affect removal of nitrogen in estuaries was of interest to industry, conservation groups and policy makers. It turns out that oyster aquaculture is a win-win-win, with benefits for the environment, the economy and it provides tasty treats for us.

My love for the marine ecosystems and interest in nutrients led me just about as far away as one can get from the ocean—Lawrence, Kansas. I had been looking at nitrogen in our coastal ecosystems but moving to the Midwest gave me the chance to see how actions upstream impact water quality. Working on a wetland that had previously been farmland, I learned how factors like drainage and conservation practices can alter nutrients and affect the environment.

Studying Sea Level Rise and More in South Florida

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Whether in farmland, wetlands or the ocean it is obvious that factors like sea level rise and storm intensity are changing the ways in which people live on and use the land. Many people are seeing the integrity of their drinking water threatened not only by nutrients but also by saltwater. The contamination of our aquifers by saltwater will likely alter irrigation and fertilizer practices as well as the type of crops we produce. The decisions we make on land in response to these changing conditions can have implications for water and soil quality. Yet, until we have a clear understanding of how these factors interact, we cannot design effective management plans. This is the need that my research group will address.

The location of TREC is perfect for my research. Situated at the interface of Miami, the Redland Agricultural Area, and Everglades and Biscayne National Parks there is no better location to explore how activities on the land and environmental change affect coastal ecosystems and water quality. Current research in my lab includes exploring how different species of seagrasses use and process nutrients, investigating how clam aquaculture can potentially mitigate harmful algal blooms, understanding the effects of saltwater intrusion on soil and water quality, and exploring how management of agricultural land impacts greenhouse gas fluxes. I am particularly excited about the collaboration that I have the Miami-Dade County Sea Grant Extension Agent, Ana Zangroniz. Ana and I recently began a shell-recycling program to help build coastal resilience and restore oyster reefs in Florida.

We all come from different backgrounds and have different perspectives, but we are all brought together by our passion and interest in conserving and preserving Florida's natural resources. I look forward to working with everyone to come up with creative solutions to the complex challenges facing South Florida.

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Heat Illness Prevention

E. Vanessa Campoverde, Commercial Agriculture/Ornamentals Extension Agent

It is HOT out there! Protect yourself and your workers!

If you have been like the rest of us enjoying the outdoors during these sunnier months in South Florida, I'm sure you noticed, it's HOT!!! South Florida is known for its beaches, Latin flavor and warm weather. Muy caliente! With so many warm days in summer, we need to remember some tips to avoid a trip to the hospital caused by heat stroke.

Now that I have your attention, you better be on the lookout for that nice landscaper that takes care of your garden, farmworkers in agricultural operations, those construction employees you supervise in urban areas or perhaps your grandparents that like to spend a lot of time making their backyard beautiful. They are all at risk for heat-related diseases.

What are Heat-Related Diseases?

There are two types of heat-related diseases: Heat Exhaustion and Heat Stroke.

- Heat Exhaustion: tells you that something is not right with the temperature of your body. You start to get tired, dizzy, a little confused, maybe feeling tired or with a headache. Some people working outdoors feel some muscle pain and cramps and excessive thirst. If you take your body temperature, it could be higher than normal but the key number here is 104F, if you surpass that limit then we are talking about heat stroke.
- Heat Stroke: this is more serious than heat exhaustion. It happens when you don't stop to take a break for shade and water while being exposed to high temperatures for a long period of time. Your body's temperature reaches 104°F or higher, and it is a life-threatening medical emergency.

How to Protect Yourself from Heat Stroke and Exhaustion During Physical Activities Outdoors:

Start by wearing loose fitting and lightweight clothing. Avoid dark colors if you will be working under the sun. Hydrate continuously and take breaks.

These recommendations are vital to avoid heat illness and are especially important in South Florida conditions due to our high numbers on the heat index. The heat index is the measure of how hot you actually feel when we factor in the relative humidity with the actual temperature.

The University of Florida/IFAS Extension in Miami-Dade County offers Heat Prevention Trainings to outdoor workers as part of their safety trainings. For more information please me in English or Spanish at evcampoverde@ufl.edu or 305-248-3311, ext. 241.

It is important that agricultural workers protect themselves from the heat. Photo: E. Vanessa Campoverde

The Jewel Orchid

Carol DeBiase, Urban Horticulture Program Specialist

The jewel orchid, *Ludisia* (loo-DISS-ee-ah) *discolor*, is finally getting some of the attention it deserves. Although it only blooms for a few weeks in the winter, its exceptional foliage makes it a worthy house plant all year long. The jewel is generally very easy to grow because the plant does well in our modern living conditions.

It is from Southeast Asia. Discolor means differently colored or two colors, as its velvety, maroon-black leaves sport dapper pinstripes, giving these orchids an aristocratic flair that's all their own. The jewel grows up to 10 inches tall, with up to 3 inch long leaves and a 4 to 12 inch tall flower stem (inflorescence) with as The jewel is suitable for planting in a light, humus-rich soil, such as a 50% mix of peat and 50% compost.

Left: A jewel orchid in full bloom. Photo: blockbotanicalgardens.com. Right: A close-up of the jewel orchid's flowers: Photo: Jay Pfahl

Do not use traditional potting soil. It is essential that the mixture is kept moist, though excessive and stagnant water can cause rotting. Make sure the orchid is drained well. Clay pebbles, placed on a tray under the plant with water just to the top of the pebbles, is an ideal way of increasing humidity around the plant.

A jewel orchid does not have a dormant period. It can be grown inside the home with an east to northeast exposure, or a shady spot outdoors with the same type of light exposure. In your home or on a patio grow these plants in a plastic pot. It is better to grow in a plastic pot rather than clay, because the clay pot dries out too quickly.

This orchid flowers from September to March, with small white flowers on the stem which grows out of the heart (center) of the plant. Although these orchids will tolerate low to moderate light levels just fine, you won't get the blooms without bright (indirect) light. Water your orchid plant first before feeding. The American Orchid Society advises fertilizing orchids once a week with one teaspoon of fertilizer per gallon of water, explaining that most orchids will do better with a little fertilizer than too much. A 20-20-20 water soluble formulation is fine.

The Jewel Orchid

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This orchid can be reproduced by dividing the plant in spring, or by rooting side shoots in water. This can be done by clipping the stem and cutting it into 3-4 inch pieces. Make your cuts just below where the leaves are attached to the stem (called a node). Put the cuttings in moist sphagnum moss or a jar of water. The shoot can be planted once it has developed enough roots. Older plants often lose their bottom leaves, making them look bare. By taking top shoots and rooting them, you can "rejuvenate" the plant. The jewel is also suitable for growing as a hanging plant or together with others in a large dish garden.

Growing orchids is fun and rewarding. These plants are available at your local garden centers, big box stores, plant festivals and orchid events around town. Here are links to growing orchids in your home and, how to use orchids in your landscape.

http://gardeningsolutions.ifas.ufl.edu/plants/ornamentals/orchids.html
http://edis.ifas.ufl.edu/pdffiles/EP/EP45700.pdf

Happy gardening!

The 2018 International Coastal Cleanup

Ana Zangroniz, Sea Grant Extension Agent

Earlier this month, close to 3,000 volunteers gathered for the annual International Coastal Cleanup (ICC). Held every year on the third Saturday of September, community members come out to participate in not-so-glamorous, but much needed work: marine debris removal along the shoreline and in coastal areas. Marine debris is manmade trash that ends up in the aquatic environment. In addition to being unsightly, it can degrade the integrity of coastal habitats as well as endanger animal species that depend on them: fish, birds, reptiles, mammals, and invertebrates. It is also important to keep the marine environment clean since thousands of people flock to South Florida for clean, inviting beaches, as well as activities that involve viewing or experiencing wildlife, from boating, fishing, to paddlesports and photography.

Christina Dupy separates marine debris on Elliott Key in Biscayne National Park during the ICC. Photo: Ana Zangroniz

Spearheaded by the Ocean Conservancy, the ICC began 30 years ago as a community-based effort to clean beaches and waterways of marine debris. Now, over 100 countries participate in this annual event. This year, Miami-Dade County participated with over 45 cleanup sites, ranging from the northernmost reaches of the county all the way south to Homestead. The event was sponsored by Capital One, City of Miami Beach, Covanta, Miami Beach Suncare, Revolution 935 Radio, and Volunteercleanup.org.

Working with partners at Biscayne National Park, I hosted a cleanup on Elliott Key, the longest uninhabited Florida key that is protected by the park. The seven-mile island has five active sea turtle nesting beaches, which are constantly inundated by marine debris that comes from all around the world. Constant marine debris removals are critical to keep these beaches accessible for turtle nesting activity. On the morning of the event, six determined volunteers met at the Dante Fascell Visitor Center. They received a cohesive briefing about marine debris, safe boating practices, and the process for reaching the island. This type of cleanup requires a 45-minute long boat ride, anchoring in shallow water as close to Elliott Key as possible. Next, volunteers wade through waist-deep water, over rocky and muck bottom, and seagrass, doing the "stingray shuffle" all the way in.

Total work time was a bit over two and half hours. Instead of the frenzied approach of picking up everything in sight, this cleanup was much more deliberate: focusing on data collection and categorizing of the debris. Ocean Conservancy provided data cards, and compiles this information from around the world to produce

The 2018 International Coastal Cleanup

continued

The group of ICC volunteers at Biscayne National Park with their final haul of debris. Photo: Ana Zangroniz

many of the statistics about marine debris that we are familiar with, such as, the number one item collected, cigarette butts. Our cleanup resulted in over 270 pounds of debris collected, including a very old metal sink, and a commercial shipping line that weighed over 50 pounds.

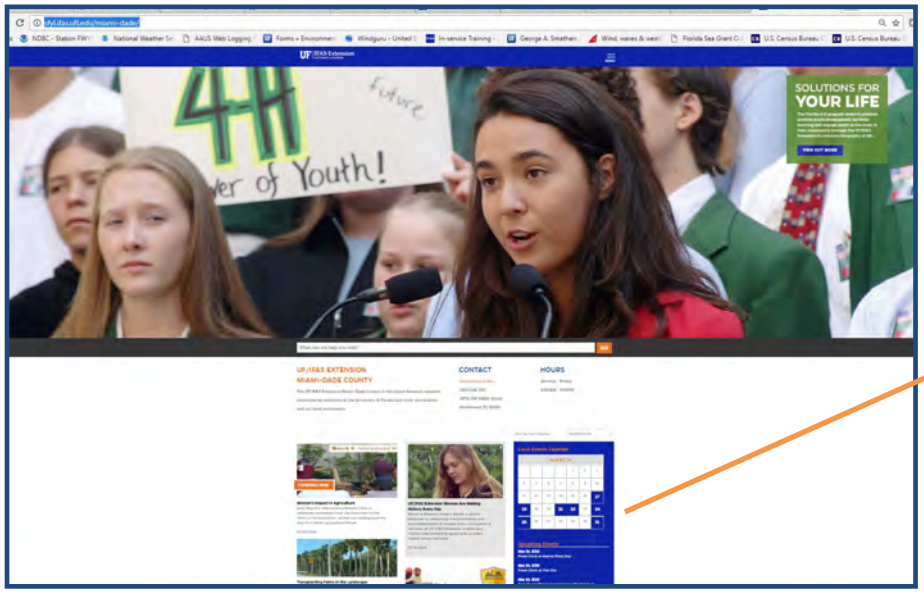
Preliminary results from Volunteercleanup.org report that in Miami-Dade County almost 3,000 volunteers participated, removing 13,698 pounds of debris. Aside from land-based cleanups, there were SCUBA dive teams performing underwater cleanups, kayak-based cleanups, and some groups even had swimmers in the water removing debris! For the Ocean Conservancy 2017 ICC report, please go here.

Miami-Dade College student Jesus Valera, left, weights a commercial shipping line collected during the ICC on September 15. Photo: Ana Zangroniz

Marine debris is a dire problem and we all can assist in managing it. We must remember that the garbage that is in our waterways didn't accumulate overnight, and to reach a solution it will take some time and change of habits. Aside from recycling, we can focus on reducing our dependency for single-use, disposable items. Carry your own refillable water bottle and coffee mug. The distribution of free reusable shopping bags are becoming increasingly common at community events. Keep a few of these in your car so that they are easily accessible the next time you get to the grocery store. Say "no" to plastic straws when ordering from your favorite restaurant. Bring your own container when dining out, so that you do not have to take home a Styrofoam box. Together, we can work towards the solution to pollution, and hopefully pick up less and less trash with each ICC event.

What's New at Miami-Dade Extension?

Check out our new website! To access our Extension Calendar, please visit our website: http://sfyl.ifas.ufl.edu/miami-dade/ and scroll through the calendar. There, you will find all event information including how to register for classes and workshops.



What is UF/IFAS Extension?

The **UF/IFAS Extension Service** is the liaison between research conducted at the University of Florida, other institutions of higher learning, other universities and stakeholders in Miami-Dade County. Our clientele includes growers (agricultural and horticultural), homeowners, youth, people interested in family issues or food and nutrition, and marine industries.

The **UF/IFAS Extension Miami-Dade County** receives direct funding from the University of Florida's Institute of Food and Agricultural Sciences (IFAS) and Miami-Dade County's Parks, Recreation and Open Spaces Department.

The **United States Department of Agriculture (USDA)** is the third partner in this cooperative agreement. The Miami-Dade County offices are part of a nationwide system of information, outreach, and education offered by county governments and land-grant educational institutions in each state.

Get Social With Us!

Follow us on our various social media outlets:

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Check out our various informative videos on our YouTube channel: UF/IFAS Extension Miami-Dade

Tweet with our agents and programs on Twitter:
@sflhort
@MiamiUCU
@miamidade4h
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