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## **Nova Southeastern opens \$50 million reef research center**

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Nova Southeastern opens a \$50 million facility that is the nation's largest coral research facility, called the Nova Southeastern University Oceanographic Center. The spectacular building overlooking Port Everglades, is located at the north end of John Lloyd State Park. WALTER MICHOT / MIAMI HERALD STAFF

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Every time Richard Dodge looks out his window, he can see how far Nova Southeastern University's oceanography program has come.

When Dodge arrived as a young marine biologist 34 years ago, the nascent marine program at an obscure Broward County school was still reeling from the death of its first director, mysteriously lost at sea with four others when a research vessel vanished off the coast of Maine. The faculty worked out of a houseboat moored at a small marina and had to beg and borrow boats for forays to nearby reefs.

Now, he and the university's marine scientists are settling into a strikingly beautiful building that is the centerpiece of a \$50 million state-of-the-art research facility. From his new office, Dodge can see — and hear, all too clearly — heavy machinery pounding concrete pilings to upgrade and expand a marina that now boasts a small research fleet.



At a ceremony Thursday that featured comments by former Vice President Al Gore, NSU officially opened the doors on a facility that represents a milestone for NSU and an ocean sciences program of growing prestige. The Center for Excellence for Coral Reef Ecosystems Research ranks as the largest research center in the country solely devoted to studying how to sustain and protect declining corals reefs.

“I do think it was affirmation that we are doing good science here and are considered worthy enough to have a significant investment from the federal government,” said Dodge, who is now dean of NSU's Oceanographic Center, which is located in Hollywood at the northern end of John U. Lloyd Beach State Park just across from Port Everglades.

The new facility was built with the help of a competitive 2009 federal science grant program designed to help build research centers across the country. NSU was one of only a dozen schools given awards in 2010 by the National Institute of Standards and Technology and one of only two to receive the largest \$15 million grants that year. The University of Miami's Rosenstiel School of Marine and Atmospheric Science received a similar \$15 million grant in 2009 to construct a facility focused on the impacts of hurricanes on structures and the environment. The money for both projects came from the stimulus funding package championed by the Obama administration.



The opening was significant enough to draw Gore, who won the Nobel Peace Prize for his campaign to address the climate changes that scientists believe have contributed to the massive declines of coral reefs around the world.

Both Gore, and keynote speaker U.S. Rep. Debbie Wasserman Schultz, D-Weston, who NSU leaders credited with helping secure the funding, called the center "amazing" after a tour and briefings with scientists.

Gore, in brief remarks that highlighted the continuing threat that rising temperatures and ocean acidity pose to reefs, called the center's work "much needed."

"This is an amazing institution and it's an example of how education and research work

hand in hand to accelerate solutions that can help us understand, conserve and protect coral reefs,” he said.

Though the site was still crawling with electricians, plumbers and other workers a few days before the dedication, scientists and graduate students have been moving into the building over the last two months. They’re thrilled by the possibilities and the change of scenery from aging and overcrowded older buildings just a short stroll away across the marina. Those will now be mainly used as classrooms.



“We went from a rundown facility to the Taj Mahal,” said Mahmood Shivji, a NSU professor who has pioneered the use of DNA to identify sharks and fish. The five-story

building, designed by the international architectural firm Cannon Design, is a knockout that has already won one design award, with glass walls sculpted like waves and sail-shaped canvas shades meant to evoke both the waterfront surroundings and the work going on inside. The interior is more understated and functional but carries over the ocean theme with underwater videos running on display screens and murals by noted marine artist Guy Harvey, who has helped fund Shivji's work at NSU. Dodge opened the door to a fifth-floor lab, stepped in and spread his arms wide. "C'mon, just look at this," he said, sounding giddy. The room overlooked the Atlantic Ocean, tranquil on this day, and offered panoramic views both up and down the Intracoastal Waterway.



PhD candidate Dorothy Ellen Abigail Renegar shows a Staghorn coral growing tank to former Vice President Al Gore as the university's dean, Richard Dodge , President George Hanbury and master's candidate Kerri Lyn O'Neil look on at the opening of Nova Southeastern's Coral Reef Research Center. PATRICK FARRELL / MIAMI HERALD STAFF

It was a view worthy of some posh Trump-esque seaside tower but utterly unexpected in a lab devoted to converting sonar readings and other data into three-dimensional maps of reefs and the ocean bottom.

Brian Walker, a research scientist who runs the mapping program, certainly appreciates his new penthouse perch. He got it largely because his graduate students work with computers, not the chemicals and tanks that fill labs below.

"I was out in the trailer before, next to the fisheries guys who stink up the place," Walker

said, with a laugh. “The facility is amazing.”

Still, the center’s design stresses function over flash — with the glass-sided northern half of the building devoted to offices, graduate students’ study areas, meeting rooms, an 85-seat-auditorium and science library. The southern half consists of five floors of lab space constructed in 30-foot-by-30-foot expandable modules filled with cutting-edge computer systems and modern equipment. A coral nursery and laboratory tanks are fed by a 5,000-gallon system that filters contaminants from saltwater pumped from an underground well.

Abigail Renegar, an NSU research assistant and graduate student, said the school will be able to triple the capacity of a nursery growing endangered staghorn corals to help restore South Florida’s declining reefs. The school also already has a grant to add “stressor” tanks where corals could be exposed to specific threats, such as oil or chemical dispersants.

It’s a center designed to allow scientists to examine the array of pressures on coral reefs — from rising temperatures and acid levels in the ocean to pollution and assorted diseases — and to seek ways to help preserve and protect the corals that remain.

The facility also promises to draw new students as well as visiting scientists and additional support for scholarships and expanded research, Dodge said. The \$15 million in federal funding was critical to constructing the 86,000-square-foot building but the project still represented a major private investment for NSU, which had to match the grant. The school has spent an additional \$20 million to complete an overhaul of the marina and entire waterfront campus.

Though the stimulus program, formerly known as the American Recovery and Reinvestment Act of 2009, has often been branded a failure by President Obama’s critics, Wasserman-Schultz said the federal funding had helped create 300 construction jobs and 22 new academic jobs, preserve 22 others and produce a research center devoted to preserving healthy coral reefs that are worth billions of dollars to the South Florida economy.

“This was yet another example of the effectiveness of the Recovery Act in creating jobs and getting our economy turned around,” she said.