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Oceanographic Center Overview

Nova Southeastern University

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Mission Statement

The mission of Nova Southeastern University, a private, not-for-profit institution, is to offer a diverse array of innovative academic programs that complement on-campus educational opportunities and resources with accessible, distance-learning programs to foster academic excellence, intellectual inquiry, leadership, research, and commitment to community through engagement of students and faculty members in a dynamic, lifelong learning environment.

Vision 2020 Statement

By 2020, through excellence and innovations in teaching, research, service, and learning, Nova Southeastern University will be recognized by accrediting agencies, the academic community, and the general public as a premier, private, not-for-profit university of quality and distinction that engages all students and produces alumni who serve with integrity in their lives, fields of study, and resulting careers.

Core Values

- Academic Excellence
- Student Centered
- Integrity
- Innovation
- Opportunity
- Scholarship/Research
- Diversity
- Community

The Mission Statement, Vision 2020 Statement, and Core Values were adopted by the NSU Board of Trustees on March 28, 2011.
Nova Southeastern University, synonymous with dynamic innovation and intellectual challenge, is the largest independent not-for-profit university in the Southeast, and with an enrollment of more than 29,000 students, is the eighth largest in the United States. Situated on a beautiful, 300-acre campus in Fort Lauderdale, Florida, the university is experiencing a sustained period of academic growth, fiscal strength, and commitment to the challenges of the 21st century.

In this environment of expansion and stability, the university is capitalizing on its strengths in such areas as academic innovation, comprehensive clinical training, and flexible educational delivery systems.

Founded in 1964 as Nova University, the institution merged with Southeastern University of the Health Sciences in 1994, creating Nova Southeastern University. To date, the institution has more than 143,000 alumni. Fully accredited by the Commission on Colleges of the Southern Association of Colleges and Schools, the university awards associate's, bachelor's, master's, educational specialist, and doctoral degrees in a wide range of fields including the health professions, law, business, marine sciences, psychology, social sciences, computer and information sciences, and education.

The university's programs are administered through 15 academic centers that offer courses at the main campus and at field-based locations throughout Florida; across the nation; and at selected international sites in Europe, Mexico, the Pacific Rim, Central and South America, and the Caribbean.

With a budget of more than $563 million per year and an upward trend in enrollment, the university will continue to maintain a solid record of academic and fiscal strength and excellence in teaching and community service, while expanding its mission in research and scholarship.
Be Part of a World-Class Research Institution

As an Oceanographic Center student, you can anticipate remarkable experiences. You will train, study, learn, and interact with students living and working around the world. A leader in marine biological research, with a focus on coral reef science and marine fish conservation, the Nova Southeastern University Oceanographic Center has been at the forefront of marine science education and oceanographic research for nearly 50 years. Situated at Port Everglades in Hollywood, Florida, the 10-acre campus is located on the water within John U. Lloyd Beach State Park. Our large marina affords immediate boat access to coastal and open ocean environments and ecosystems.

An ideal location for students, scientists, and faculty members of oceanography, the Oceanographic Center is also home to several institutes: the National Coral Reef Institute, providing research and training on coral reef assessment, monitoring, and restoration; the Guy Harvey Research Institute, aiding in fish research and conservation; the Save Our Seas Shark Center, specializing in providing accurate scientific information to guide management, conservation, and recovery of endangered and threatened sharks; and the Broward County Florida Sea Turtle Conservation Program, dedicated to the conservation and improved understanding of sea turtles. Also located at the campus is the Center of Excellence for Coral Reef Ecosystems Science Research Facility. Students, scientists, and faculty members come to the Oceanographic Center from all corners of the globe, with the common goals of learning from the ocean’s living classrooms and protecting its resources.
For students pursuing their education at Nova Southeastern University Oceanographic Center, the experience is both challenging and rewarding.

Our students receive a solid education curriculum coupled with outstanding research facilities, both of which are important in today's everchanging landscape. A key to our success is best illustrated by the dedicated faculty members who impart that education to the students. Our faculty members have diverse backgrounds, specialties, and educational experiences. These differences have produced a robust educational engine that is driving the Oceanographic Center. This is demonstrated by our students’ productivity, academic quality, and professional success.

Our faculty members teach by example and are recognized authorities in their fields. They devote countless hours to their areas of specialty to impact local, national, and international research. Our teams of faculty members and students have conducted research worldwide from Florida's coastal waters and the Caribbean Sea to the Antarctic and Pacific Oceans. The object is to accomplish needed marine research and to best prepare students for an exciting career.

Richard E. Dodge
Professor and Dean, NSU Oceanographic Center
Executive Director, National Coral Reef Institute
Mission Statement

Oceanographic Center

The mission of the Oceanographic Center is to carry out innovative, basic, and applied research and to provide high-quality graduate and undergraduate education in a broad range of marine science and related disciplines. The center also serves as a community resource for information, research, and education on oceanographic and environmental issues.
About the Oceanographic Center

The Oceanographic Center offers graduate certificates and bachelor’s, master’s, and Ph.D. degrees in the following areas:

- Dual degree (B.S./M.S.) program—available in marine biology with the Farquhar College of Arts and Sciences
- Marine Professional Studies (B.S.)—distance format
- Marine and Coastal Studies (M.A.)—distance format
- Biological Sciences (M.S.)
- Coastal Zone Management (M.S.)—available in distance format
- Marine Biology (M.S.)
- Marine Environmental Sciences (M.S.)
- Coastal Studies (graduate certificate)—available in distance format
- Marine and Coastal Climate Change (graduate certificate)—distance format
- Oceanography and Marine Biology (Ph.D.)

Courses are held in the evening for the convenience of working students and professionals. The Oceanographic Center operates on a modified trimester system that consists of 12- and 4-week sessions in the fall and winter terms and a 12-week session in the summer term. With moderate class sizes and a wide range of graduate-level courses, the capstone (scholarly research paper) track allows a diligent student to obtain an M.S. degree within 24 months.

The NSU Oceanographic Center offers academic studies in biological and physical oceanography.

Faculty and researcher fields of interest include

- benthic ecology
- coastal policy
- coral reef studies
- histology
- marine biodiversity
- marine fisheries
- marine microbiology and genomics
- modeling of large-scale ocean circulation
- molecular biology, ecology and evolution
- shark conservation
B.S. in Marine Professional Studies

The Bachelor of Science in Marine Professional Studies program is designed to provide students with an orientation toward the marine-related fields with a broadened, in-depth, scholarly perspective on marine and coastal issues. Topics range from the depths of the deep sea to the heights of atmospheric climate change and from details of port security, environmental impacts, and marine transportation to overarching international policy.

This program is totally online in an asynchronous format. The courses are limited by a start and end date, but do not require students to be at their computers at any particular time. Rather, students can download teaching modules and interact online with the professor on their own schedule within a specific time frame, such as a week.

Students graduating from this degree program will be well suited to further careers in industrial, governmental, or nongovernmental regulatory and policy positions.

M.S. in Biological Sciences

The M.S. in Biological Sciences degree program provides students with both a traditional biological curriculum and innovative approaches to instruction. Students will take core and required courses spanning a wide range of disciplines from molecular, through organismal, to ecosystem-level biology. Students can specialize in either organismal biology or molecular biology.

The program’s rigorous curriculum will provide a practical foundation that can be applied as an entry point or terminal degree for professional careers in biomedicine, biotechnology, and environmental biology.
M.S. in Coastal Zone Management

The Master of Science in Coastal Zone Management is offered both on campus and through distance learning. Students may complete the degree entirely online or take a blend of distance and on-site courses (including field courses) with the Oceanographic Center. The Coastal Zone Management degree program focuses on contemporary problems and conflicts arising from increased use of coastal areas and emphasizes the evaluation of alternative policy management solutions.

M.S. in Marine Biology

The M.S. in Marine Biology program is designed to equip students with a substantial understanding of the nature and ecology of marine life and a grounding in the other overlapping areas of marine science. Program flexibility provides preparation for further graduate study, secondary education career enhancement; or employment in technical research institutions, government agencies, or environmental consulting firms. Applicants should hold a bachelor’s degree in biology, oceanography, or a closely related field (e.g.: science education).

M.A. in Marine and Coastal Studies

The Master of Arts in Marine and Coastal Studies degree program is offered primarily online, although students may elect to take applicable on-site and field courses. The program provides a broadened and scholarly perspective on marine and coastal processes and related societal impacts that are applicable to students without an academic natural science background. Perspectives from emerging fields of study such as environmental history, environmental communication, and environmental psychology are incorporated through individual course offerings.

M.S. in Marine Environmental Sciences

This master’s degree program is designed to educate professionals in a broadly based degree program without the in-depth management emphasis of other graduate programs.

Graduates can find employment in environmentally oriented agencies and organizations. The M.S. in Marine Environmental Sciences program is of value for employees of government and industry who are seeking to advance careers in marine-related areas. Because of this diversity, applicants with any undergraduate major will be considered for admission. However, a science major is most useful.

Ph.D. in Oceanography/Marine Biology

The Ph.D. degree consists of a program of upper-level coursework and original research on a selected topic of importance in the ocean sciences. Courses consist of required general core courses as well as tutorial studies with the major professor. Applicants may be fully or provisionally accepted. If applicants do not make minimum provisional guidelines, the applications may be rejected out of hand and not circulated through the admissions committee. For Ph.D. applicants, previous degree(s) should be in the area of mathematics (for physical oceanography) or an appropriate area of the natural sciences (for marine biology). A master’s degree in biological oceanography, biology, marine biology, or a related science is preferred, especially for the biological sciences Ph.D.

Graduate Certificates

The Oceanographic Center offers two four-course graduate certificates, with courses available in convenient and flexible online or evening on-campus formats. Students may take either a graduate certificate in either Coastal Studies or Marine and Coastal Climate Change. Applicants with any undergraduate major will be considered for admission.

Graduate Certificates provide:
- a credible, holistic, and timely introduction to and knowledge of key ecological and socioenvironmental issues related to the oceans and coastal zone
- an understanding of the international, national, and local importance and impact of ocean and coastal issues, and sensitivity to cross-cultural and international perspectives
- a Web-based forum for sharing topical national and international information, perspectives, and case studies with peers and professionals in a variety of related fields and locations
- a stand-alone certificate from an accredited university for working professionals in a variety of related fields
- credit toward further master’s degree-level study at the Oceanographic Center, whether online or on campus
Information and solutions are needed to understand, conserve, sustain, and restore the ecological integrity of our oceans, which are under threat from both global and local stressors. Research and education is critical to improving the world's understanding, management, and conservation of these fragile and valuable environments. While the rest of the world is asking questions, the NSU Oceanographic Center is finding answers.

Since its inception in 1966, the Oceanographic Center has been conducting extramurally funded ocean research in a variety of topics and disciplines. The center leads NSU in external research funding. Oceanographic Center faculty members, researchers, and students pursue studies and investigations in marine biology and in observational and theoretical oceanography. At the forefront of the center's initiatives is marine research, with a distinct focus on coral reef ecosystems and fish science and conservation.

Our faculty members and researcher's regularly have their work published in peer-reviewed literature. Current research and educational topics include:

- aquaculture
- benthic ecology
- biological oceanography
- marine fisheries
- chemical oceanography
- coastal dynamics
- conservation biology and ecology
- coral reef ecology (including assessment, restoration, and monitoring)
- deep sea biology and ecology
- invertebrate systematics and phylogeny
Research regions include not only Florida's coastal waters and the continental shelf/slope waters of the southeastern United States, but also Haiti, Saudi Arabia, Puerto Rico, Barbados, Turks and Caicos, Jamaica, Virgin Islands, Bahamas, Dominican Republic, Panama, Cayman Islands, Bermuda, Cape Verde Islands, and Mexico.

The Oceanographic Center conducts much of its research within its three institutes:

- The National Coral Reef Institute
- The Guy Harvey Research Institute
- The Save Our Seas Shark Center

The Oceanographic Center also oversees the Broward County Florida Sea Turtle Conservation Program.

With the Oceanographic Center's location in Port Everglades, researchers have easy access to the coastal waters of southeast Florida and the Atlantic Ocean. A one-acre marina and several research vessels and dive boats are maintained at the center.
Coral reef ecosystems throughout the world are extremely valuable biologically, environmentally, and economically. Florida coral reefs represent the largest area of coral reefs in the United States, contributing more than $6 billion in income and 71,000 jobs annually in South Florida alone. They provide employment, food, recreation, biodiversity, habitat, chemicals for human health, and coastal protection. Millions of tourists and residents enjoy scuba diving, snorkeling, and fishing on coral reefs—activities that provide substantial income for coastal communities and inland.

Unfortunately, reefs of Florida, the nation, and worldwide are under extreme threat from both global and local stressors. Research is urgently needed for improved understanding, management, and conservation.

Nova Southeastern University has established the Center of Excellence for Coral Reef Ecosystems Science Research Facility, opening in 2012. The 86,000-square-foot facility will be located at the Oceanographic Center by the National Coral Reef Institute (NCRI). The facility is funded in part by a grant from the National Institute of Standards and Technology (NIST) at a cost of more than $40 million.

The Center of Excellence will be the only research facility in the nation dedicated entirely to coral reef ecosystems science. It will provide urgently needed, state-of-the-art research facilities and, with those facilities, expanded scientific capacity. Highlights will include a cutting-edge seawater system in the research labs, an outdoor coral nursery, and 120-seat auditorium.
The activities in this multidisciplinary research building will address national and international priorities in coral reef research in five thematic areas:

- impacts of global and local stressors
- geospatial analysis and mapping
- deep sea coral reef biodiversity
- genetic and genomic connectivity
- hydrodynamics

The building will house space for offices, laboratories, collaboration, research training, and fieldwork staging. It is designed to promote high-quality and meaningful research by current and new faculty members, researchers, visiting scientists, postdoctoral fellows, and graduate students.

Major goals include fundamental research and finding management and conservation solutions to pressing coral reef issues.
About NCRI

In order to assess, monitor, and restore coral reefs through research and education, the National Coral Reef Institute (NCRI) was established by congressional mandate in 1998, and the Oceanographic Center of Nova Southeastern University was entrusted with the responsibility.

NCRI receives funding from a variety of sources, including the National Oceanic and Atmospheric Administration’s Center for Sponsored Coastal Ocean Research (NOAA/CSCOR), which is part of the National Ocean Service (NOAA/NOS), and the National Centers for Coastal Ocean Science (NOAA/NCCOS).

As a result of E.O. 13089, Congress created the Hawaii Coral Reef Initiative (HCRI), the National Coral Reef Institute (NCRI), the Caribbean Coral Reef Institute (CCRI), and most recently, the Western Pacific Coral Reef Institute (WPCRI).

Today, NCRI’s primary objective remains the assessment, monitoring, and restoration of coral reefs through research and education. Researchers at NCRI are exploring scientifically sound approaches to understand, assess, monitor, restore, and mitigate injured coral reefs. NCRI’s management-oriented research is designed to provide solid information and research products intended to help understand, manage, and conserve these invaluable assets for generations to come.
NCRI is devoted to enhancing management effectiveness in research, outreach, education, and conservation through valuable, efficient, and productive programs that

- identify critical, region-specific threats to coral reefs
- enhance flexibility in determining priorities and allocating funding
- focus on and respond to local, regional, and national management needs
- are subject to rigorous peer review
- adapt to local socioeconomic, cultural, and management regimes

**NCRI Goals**

The U.S. Commission on Ocean Policy and the Pew Oceans Commission have called for increased investment in research, science, and education and greater collaborations at all levels to address increasing threats to coastal environments. NCRI is a consistent, vital national resource for coral reef science, education, management, and conservation. The institute provides a direct link between researchers and resource managers, providing information so managers can make sound policies and decisions. NCRI builds capacity through procuring equipment, training graduates and undergraduates, sponsoring workshops and symposia, and collaborating on research. By concentrating on important and unique management and policy challenges, scientific contributions are made that better allow decisions on both local and national scales.

NCRI goals include

- identifying constraints in current scientific understanding of reefs
- providing scientific focus to emerging and innovative approaches
- identifying, conducting, and funding theoretical and applied programs of coral reef research
- assisting in coral reef management, public policy, and dispute resolution
- providing education (courses and training) on effective practices of reef conservation and restoration/remediation
- conducting hypothesis-based research
The world’s marine fish populations and diversity are experiencing an unprecedented assault from over-exploitation, pollution, and habitat loss. This situation is of great international concern because, in addition to being critical components of marine ecosystem functioning, fish resources are an indispensable part of the food supply and economies of many nations.

There is now a universally recognized and urgent need to develop and implement vastly improved measures for the conservation and management of fish resources worldwide. The availability of high-quality scientific information is critical to these efforts. The GHRI plays an important role in this endeavor as one of only a handful of private organizations dedicated exclusively to expanding the scientific knowledge base needed for effective conservation of fish populations and maintenance of fish biodiversity.

The GHRI is a collaboration between renowned marine artist, explorer, film-maker, and entrepreneur, Guy Harvey, Ph.D., and NSU’s Oceanographic Center to help save the world’s fish resources and biodiversity from drastic, ongoing declines. Established in 1999, the mission of the GHRI is to provide the
scientific information necessary to understand, conserve, and effectively manage the world’s marine fishes and their ecosystems.

A scientific research organization, the research, education, and outreach activities of the GHRI are supported by the Guy Harvey Ocean Foundation, Guy Harvey Inc., extramural research grants, philanthropic donations from private businesses and individuals, and Nova Southeastern University.
Save Our Seas Shark Center

The Save Our Seas Shark Center (SOS SC) U.S.A. is a new program at NSU OC, supported by the Save Our Seas Foundation, Nova Southeastern University, and private businesses and individuals concerned with improving the state of the world's oceans. SOS SC scientists conduct research, education, and conservation projects aimed at identifying and finding solutions to the major threats facing the world's shark and ray populations. By developing these solutions, the SOS SC provides critical information to governments and international organizations, helping improve management, conservation, and recovery of shark and ray populations on a global basis.

Photos © Save Our Seas Foundation/Peter Verhoog
Sea Turtle Conservation

The Oceanographic Center operates the Broward County Sea Turtle Conservation Program in a contractual partnership with the Broward County government. The program provides for the conservation of endangered and threatened sea turtle species within Broward County. While nearly 90 percent of sea turtle nesting occurs on Florida's beaches, Broward County serves as a regular nesting area of three particular species of sea turtles. One is the loggerhead sea turtle, which is listed as threatened (Northwestern Atlantic stock) or endangered (other U.S. locations). The other two (green and leatherback sea turtles) are both listed as endangered. By creating public awareness, monitoring nests, and doing almost anything else the turtles need, the Broward County Sea Turtle Conservation Program helps protect these fragile creatures.

An associated part of this effort is the Marine Environmental Education Center, which the Oceanographic Center operates on behalf of Broward County Parks and Recreation to expand education and outreach about its sea turtles and other valuable marine resources.

NSU Oceanographic Center Partners and Supporters

- AFTCO Bluewater Wear
- Albert E. and Birdie W. Einstein Fund
- Bahamas Department of Fisheries
- Bahamas National Trust
- The Batchelor Foundation
- Bermuda Shark Project
- Bimini Big Game Club/Guy Harvey Outpost
- Broward County Department of Planning and Environmental Protection
- Center for Coastal Environmental Health and Biomolecular Research
- ExxonMobil
- Florida Fish and Wildlife Research Institute (FWRI)
- Florida Institute of Oceanography
- Florida Keys National Marine Sanctuary
- Florida Sea Grant Program
- Guy Harvey, Inc.
- Guy Harvey Ocean Foundation
- Hai Stiftung/Shark Foundation
- Harbor Branch Oceanographic Institute at Florida Atlantic University
- International Union for Conservation of Nature and Natural Resources/World Conservation Union
- Khaled bin Sultan Living Oceans Foundation
- Miami-Dade County Department of Environmental Resources Management
- National Fish and Wildlife Foundation
- National Oceanic and Atmospheric Administration (NOAA)
- National Science Foundation
- The Nature Conservancy
- New England Aquarium's Consortium for Wildlife Bycatch Reduction
- North Carolina Sea Grant
- Palm Beach County Department of Environmental Resources Management
- Petroleum Institute of the University of the United Arab Emirates
- Qatar Supreme Council for the Environment and Natural Reserves
- Save Our Seas Foundation
- Shell
- South Florida Water Management District
- Southeast Florida Coral Reef Initiative
- St. John's River Water Management District
- State of Florida Department of Environmental Protection
- State of Florida Fish and Wildlife Conservation Commission (FWC)
- U.S. Coast Guard
- U.S. Coral Reef Task Force
- U.S. Department of Commerce's NIST
- U.S. Department of Defense
- U.S. Department of Interior
- U.S. Environmental Protection Agency
- United Arab Emirates Environmental Research and Wildlife Development Agency
- World Bank Global Environment Fund
- World Wildlife Fund
- Yacht Chandlers, Inc.