TAMPA BAY OCEAN STRATEGY

COMPILED BY

Tampa Bay Ocean Team

IN COLLABORATION WITH

St. Pete INNOVATION DISTRICT

Tampa Bay Ocean Team

St. Pete INNOVATION DISTRICT

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LETTER FROM TAMPA BAY OCEAN TEAM LEADERSHIP

We are proud to support the development of the Tampa Bay Ocean Strategy, an initiative that unites partners from industry, government, academia and nonprofit sectors in a shared vision to strengthen and grow Tampa Bay and Florida's ocean economy. By working together, aligning priorities and pursuing innovative opportunities, we aim to coordinate actions and investments that will advance the region's ocean economy.

Through this collective effort, we are not only building on the region's existing strengths, but also shaping a future where economic vitality, environmental stewardship and resilient communities thrive side by side. We are grateful to the partners and community leaders whose support has been instrumental throughout the strategy's development. Together, we are committed to ensuring that Tampa Bay remains a leader in sustainable ocean and maritime innovation for generations to come.

Tara Hubbard

TAMPA BAY OCEAN TEAM CHAIR
HUBBARD'S MARINA

René Baumstark

TAMPA BAY OCEAN TEAM VICE CHAIR
FWC FISH AND WILDLIFE RESEARCH INSTITUTE

Alison Barlow, Amber Pacetti & Nisuka Williams

TAMPA BAY OCEAN TEAM CONVENERS
ST. PETERSBURG INNOVATION DISTRICT

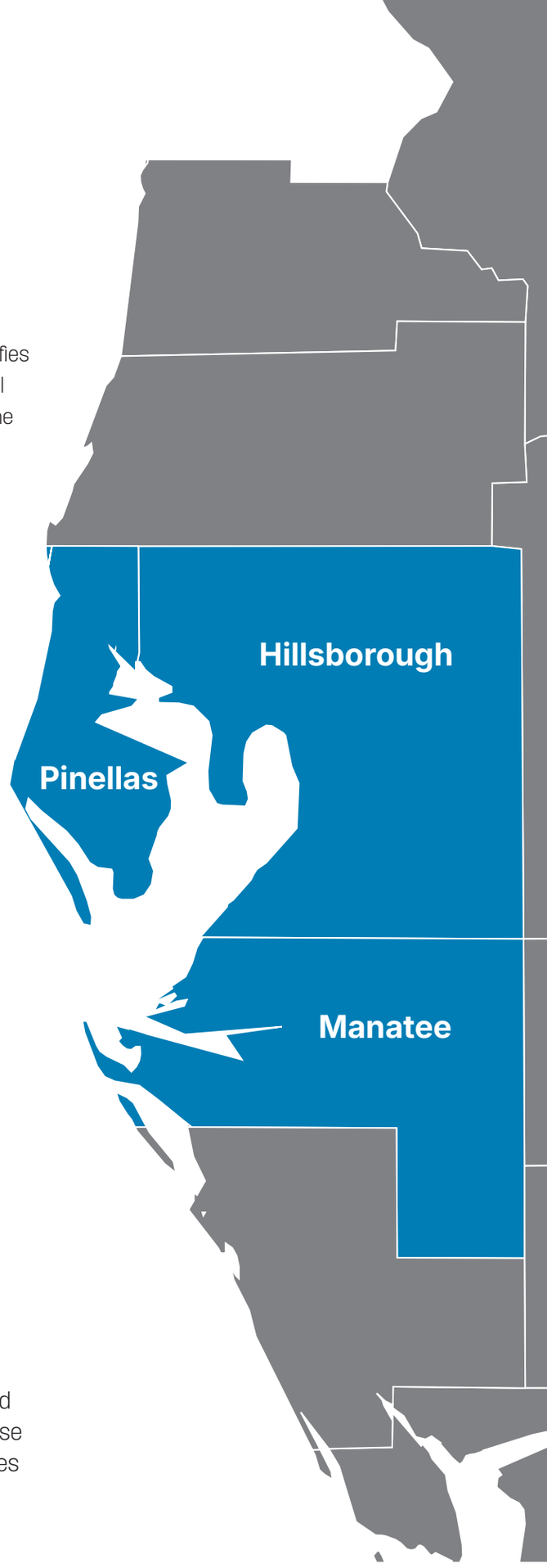
INTRODUCTION

The Tampa Bay region of Florida is powered by robust, organically driven economic growth rooted in the ocean economy and propelled by a dynamic network of government, academic, private sector and nonprofit partners. Nationally aligned yet regionally focused, the Tampa Bay Ocean Strategy identifies the best ways to leverage and expand the intellectual, community and physical infrastructure already in place, ensuring its relevance and impact far beyond the region and state, and into the future.

Tampa Bay's ocean-related sectors generate **$4.7 billion in wages** and contribute **$9.1 billion to the gross domestic product** when observing data for Pinellas, Hillsborough and Manatee counties, according to the National Oceanic and Atmospheric Administration (NOAA)'s Office for Coastal Management[1] Another view is offered by the Economic Valuation of the Bay by Tampa Bay Estuary Program (TBEP) and Tampa Bay Regional Planning Council (TBRPC), which pulls from ZIP codes across the entire watershed including counties beyond the three in this report, further highlighting the economic significance of the bay economy by showing an estimated **$32.1 billion contribution annually** from bay-dependent industries.[2]

As recognition of the ocean economy's importance grows across Florida, evidenced by initiatives such as the establishment of the Office of Ocean Economy at Florida Atlantic University[3], the region's unique contributions can drive transformative economic and environmental outcomes.

Now is the ideal time to develop a regional ocean strategy, given the alignment of federal priorities, such as maritime prosperity zones, and the growing maturity of new technologies in the ocean economy. The Tampa Bay region has a significant opportunity to benefit from a unified, strategic approach to advancing its ocean economy. By amplifying innovation, economic growth and coastal resilience, this strategy can help the region reach its full potential and ensure relevance and impact far beyond Tampa Bay.



Geography

The Tampa Bay region, for the purposes of the Ocean Strategy, is defined by the three counties of Pinellas, Hillsborough and Manatee. Each of these three counties directly touches Tampa Bay, has a seaport and possesses concentrated assets that support the ocean economy.

[1] NOAA Office for Coastal Management. (2024). *2024 ocean economy data from National Ocean Watch and the American Community Survey*. National Oceanic and Atmospheric Administration.

[2] Tampa Bay Regional Planning Council, & Tampa Bay Estuary Program. (2023). *2023 economic valuation of Tampa Bay*. https://tbrpc.org/valueoftampabay/

[3] Florida Office of Ocean Economy. (2025). *Oceans of opportunity.*

METRICS OF THE OCEAN ECONOMY

Tampa Bay Ocean Team

Together Pinellas, Hillsborough and Manatee counties are fueled by substantial, organically driven economic growth from the ocean economy. A growth that is on par with the rest of Florida.

Pinellas, Hillsborough and Manatee Counties

2,916,021
Combined Population

5,948
Marine economy businesses

117,958
Employees of marine businesses

$4.7 B
Wages generated by marine businesses

$9.1 B
Contribution to region's GDP by marine businesses

State of Florida

22,416,077
Combined Population

33,555
Marine economy businesses

673,362
Employees of marine businesses

$28.9 B
Wages generated by marine businesses

$61.1 B
Contribution to region's GDP by marine businesses

Relevant resources from partner organizations

"Oceans of Opportunity" Annual Report
Florida Office of Ocean Economy

ENOW Explorer
NOAA Office for Coastal Management

State of the Bay Progress Report
Tampa Bay Estuary Program

Industries and Businesses
St. Petersburg Economic Development Corporation

2026-2028 Strategic Plan
Tampa Bay Economic Development Council

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Areas of Focus

The Tampa Bay Ocean Strategy focuses on eight areas for a comprehensive framework to grow the region's ocean economy while protecting its natural and built assets. Together, these focus areas create a strategic, balanced approach that integrates economic development, scientific advancement, workforce growth and environmental preparedness for Tampa Bay. Each focus area highlights the region's existing assets and future opportunities for transformation.

FOCUS AREA #1
Unify Strategic Regional Collaboration

FOCUS AREA #2
Catalyze High-Impact Research

FOCUS AREA #3
Expand High-Quality Jobs

FOCUS AREA #4
Accelerate Innovation

FOCUS AREA #5
Facilitate Dual-Use Capabilities

FOCUS AREA #6
Invest in Critical Marine Infrastructure

FOCUS AREA #7
Enhance Coastal Resilience

FOCUS AREA #8
Advance the Ocean and Human Health Connection

Focus Area #1:

Unify Strategic Regional Collaboration

The Tampa Bay region has had historical success aligning the triple helix of innovation–academic research, industry expertise and public policy–to unlock the potential of its ocean economy. There is significant opportunity to increase this economic impact by expanding stakeholder engagement, avoiding duplication and fully leveraging unique assets through sustained, collaborative efforts.

Current Assets

The Tampa Bay Ocean Strategy builds on the region's strong foundation of collaboration across academia, government and industry, known as the triple helix model. Anchored by world-class research institutions, the region produces critical science to address challenges like preparing a skilled workforce for the ocean economy, sustainable marine resource management and coastal resilience. Government partners provide essential data, regulatory oversight and operational support. Complementing these efforts, industry leaders and nonprofits support organizations that translate research into innovative solutions, commercialize new technologies and engage the public in advancing ocean priorities.

At the center of this ecosystem is the Tampa Bay Ocean Team (TBOT). TBOT is composed of more than 50 complementary firms, government entities and institutions that draw advantages from their proximity as well as the similarities between their workforce and vendor needs. Over the years, TBOT has played a critical role in regional collaboration in the ocean economy and coordinated response to emerging disaster events. Strong connections with complementary organizations such as the Propeller Club, Tampa Bay Economic Development Corporation (EDC), Florida Office of Ocean Economy and Florida Ocean Alliance continue to enhance TBOT's collaborative network and extend its impact across the State's broader ocean economy.

A prime example of regional collaboration is the Florida Coastal Mapping Program (FCMap). FCMap is coordinated by the Florida Institute of Oceanography and the Florida Department of Environmental Protection. The project involves a large network of federal and state agencies, universities and private partners, including the U.S. Geological Survey, NOAA, US Army Corps of Engineers, Florida Fish and Wildlife Conservation Commission and the University of South Florida, working to map Florida's seafloor for resilience, resource management and infrastructure. This effort highlights the importance of a collaborative ecosystem in the region.

Tampa Bay Ocean Team

ACADEMIA

Eckerd College
eckerd.edu

Florida Flood Hub for Applied Research and Innovation
floridafloodhub.org

Florida Institute of Oceanography
fio.usf.edu

Hillsborough College
hcfl.edu

Jim Moran Institute, Florida State University
jimmoraninstitute.fsu.edu

Manatee Technical College
manateetech.edu

Office of Ocean Economy, Florida Atlantic University
fau.edu/ocean-economy

SPC STEM Center
spcollege.edu/friends-partners/about/locations/bay-pines-stem-center

St. Petersburg College
spcollege.edu

State College of Florida, Manatee - Sarasota
scf.edu

Stetson College of Law
stetson.edu/law

University of South Florida, College of Marine Science
usf.edu/marine-science

University of South Florida, St. Petersburg Campus
stpetersburg.usf.edu

University of Tampa
ut.edu

GOVERNMENT

City of New Port Richey
cityofnewportrichey.org/Home

City of St. Petersburg
stpete.org

FWC Fish and Wildlife Research Institute
myfwc.com/research

National Oceanic and Atmospheric Administration
noaa.gov

Port St. Pete
stpete.org/residents/parking___transportation/port_st_pete.php

Port Tampa Bay
porttb.com

Seaport Manatee
seaportmanatee.com

Tampa Bay Estuary Program
tbep.org

Tampa Bay Regional Planning Council
tbrpc.org

United States Geological Survey
https://www.usgs.gov/centers/spcmsc/

US Coast Guard
uscg.mil/d7/sectStPetersburg

PRIVATE INDUSTRY

2 Degrees C
2degreesc.org

Aurora Borealis Networks
auroranetworks.io

Digital Twin Marine
digitaltwinmarine.com

Duke Energy
duke-energy.com

Fugro
fugro.com

Hapke Coastal
hapkecoastal.com

Hubbard's Marina
hubbardsmarina.com

KindDesigns
kinddesigns.com

Pole Star Defense
polestarglobal.com/defense

RDSea International
rdsea.com

SEAWARRDD Technologies
seawarrddtechnologies.com/services

Strong Properties
strongrealtygroupllc.com

Sweet Sparkman Architects
sweetsparkman.com

Tampa Deep Sea Xplorers
tampadeepseaxplorers.com

Tampa Electric Company
tampaelectric.com

The St. Pete Catalyst
stpetecatalyst.com

Woolpert
woolpert.com

NONPROFIT

Clearwater Marine Aquarium
cmaquarium.org

Environmental Defense Fund
edf.org

Florida High Tech Corridor
floridahightech.com

Marine Exploration Center
mecstpete.org

Maritime and Defense Technology Hub
stpeteinnovationdistrict.com/thehub

Mote Marine Laboratory
mote.org

Ocean Exchange
oceanexchange.org

Ocean Rescue Alliance International
oceanrescuealliance.org

Reef Renewal USA
reefrenewalusa.org

Seaworthy Collective
seaworthycollective.com

St. Petersburg Innovation District
stpeteinnovationdistrict.com

Tampa Bay Watch
tampabaywatch.org

Tampa Bay Wave
tampabaywave.org

The Florida Aquarium
flaquarium.org

Water Warrior Alliance
waterwarrioralliance.org

Future Opportunities

Significant opportunities to strengthen Tampa Bay's ocean-related initiatives will be achieved by fostering a more collaborative approach—one in which there is a unified strategy to address gaps that, if solved, will have transformational economic and/or environmental impact. These solutions will require coordinated pursuit of future funding and resources.

Actions

01. Publish the Tampa Bay Ocean Strategy to provide a unifying framework and shared vision for the stakeholders of the region and as part of the Florida Ocean Cluster.

02. Launch a partnership outreach program to formally engage cross-sector entities such as the Propeller Club, Tampa Bay EDC and the Florida Office of Ocean Economy, as well as municipalities, community groups and private-sector innovators whose work supports or intersects with the ocean economy.

03. Grow the membership of the Tampa Bay Ocean Team (TBOT) to enhance collective impact and resource alignment.

04. Actively manage the strategy's action plan through TBOT to ensure accountability and measurable progress.

05. Create TBOT thematic working groups around the strategy's focus areas to align partners around specific priorities and accelerate coordinated project development.

06. Implement a unified regional messaging and communications initiative to increase visibility of Tampa Bay's ocean assets, successes and opportunities for collaboration.

Relevant resources from partner organizations

Tampa Bay Ocean Team

Florida Office of Ocean Economy

Florida Ocean Alliance

Focus Area #2:

Catalyze High-Impact Research

The Tampa Bay region is home to groundbreaking research recognized both locally and globally for its profound impact. Continuing to catalyze this high-impact research positions Tampa Bay as a hub for scientific discovery and technological advancement, generating knowledge that can inform policy, industry practices and environmental stewardship.

Current Assets

The Tampa Bay region boasts a robust foundation of academic institutions, unique facilities and strong partnerships that position it as a powerhouse in catalyzing high-impact ocean research. Their work advances scientific understanding to the benefit of regional, national and international communities.

Institutions include the University of South Florida (USF), Research 1 (R1) and Association of American Universities (AAU) institution, which anchors this strength through the USF College of Marine Science (CMS), offering expertise in multiple disciplines, advanced engineering capabilities and access to unique testbeds. Eckerd College's marine science program and the Florida Institute of Oceanography (FIO) research vessels and Keys Marine Lab also contribute to a collaborative and multi-institutional research environment. St. Petersburg College's STEM Center, a hands-on research facility located along the Intracoastal Waterway, serves as a hub for internships and undergraduate research experiences, fostering collaboration with key regional stakeholders, including the Florida Fish and Wildlife Conservation Commission, Tampa Bay Estuary Program and Clearwater Aquarium. Further, government-based scientific research institutions contributing to regional research include facilities such as the U.S. Geological Survey St. Petersburg Coastal and Marine Science Center and the FWC Fish and Wildlife Research Institute.

Research in Tampa Bay extends beyond government and scientific institutions. It reaches all the way into the community itself through citizen science programs led by organizations such as Tampa Bay Watch. Citizen science programs demonstrate how residents actively contribute to data collection, environmental stewardship and ongoing scientific discovery. This deep public engagement showcases a research ecosystem that is a shared cultural value. Together, Tampa Bay's partners—from agencies and labs to everyday citizens—strengthen the region's capacity for high impact research.

Regional research is addressing high-impact national and international issues including PFAS (forever chemicals), microplastics, hurricanes and harmful algae blooms (including red tide).

USF and partners study PFAS contamination in sediments and fish to assess ecological and human risks. Eckerd College tracks microplastics in water, sediments and wildlife to understand pollution trends.

Researchers at USF, NOAA and USGS improve hurricane preparedness through flood risk assessment, storm impact analysis and better evacuation strategies.

USF and the Florida Fish and Wildlife Conservation Commission are advancing monitoring, modeling and forecasting tools to predict harmful algal blooms and mitigate health impacts.

Research Organizations in Tampa Bay

ORGANIZATIONS	WHAT IS OFFERED
Clearwater Marine Aquarium Research Institute cmaquarium.org	Conducts research focused on the conservation, rescue, rehabilitation and monitoring of marine animals and their habitats.
Eckerd College eckerd.edu	Offers strong undergraduate marine science programs contributing to regional research and education.
Florida Flood Hub for Applied Research and Innovation floridafloodhub.org	Aims to improve flood forecasting, inform policy and help communities adapt to flooding risks, focusing on resilience.
Florida Institute of Oceanography fio.usf.edu	Facilitates collaborative, multi-institutional ocean research and operates research vessels.
FWC Fish and Wildlife Research Institute myfwc.com/research	Conducts research to monitor, manage and conserve Florida's fish, wildlife and aquatic ecosystems.
Maritime and Defense Technology Hub stpeteinnovationdistrict.com/thehub	Provides dedicated wharf space supporting research vessels and fieldwork operations.
Mote Marine Laboratory &Aquarium mote.org	Conducts research to understand, conserve and restore marine and coastal ecosystems.
National Oceanic and Atmospheric Administration noaa.gov	Studies coastal ecosystems, water quality, fisheries, habitat restoration and improving resilience to coastal hazards.
St. Petersburg College spcollege.edu	Offers two and four year degrees as well as a collegiate high school program supporting STEM education, providing extensive workforce development and certification programs. The STEM Center provides resources and facilities to enhance STEM research and engagement. High level of community partnership for marine research.

ORGANIZATIONS	WHAT IS OFFERED
Tampa Bay Estuary Program tbep.org	Conducts and funds research, restoration and community education initiatives to restore and protect the bay. Further develops and implements a regional plan to support bay restoration and protection efforts.
Tampa Bay Watch tampabaywatch.org	Conducts research to restore and protect Tampa Bay's estuaries, habitats and water quality, often involving community-based monitoring and citizen science.
The Florida Aquarium flaquarium.org	Researches coral restoration, marine animal health, conservation of threatened species and water quality to support the protection and resilience of ocean ecosystems.
United States Geological Survey usgs.gov/centers/spcmsc/	Studies coastal and marine hazards and ecosystems, including hurricanes, sediment dynamics, seafloor mapping and marine wildlife impacts.
University of South Florida usf.edu	Serves as a Research 1 (R1) and Association of American Universities (AAU) institution; anchors regional ocean research strength. Provides extensive expertise across scientific disciplines, advanced engineering capabilities and access to research testbeds supporting innovation and applied research under The College of Marine Science.

The fire on May 2, 2026, at the USF Marine Science Laboratory devastated a cornerstone of marine research, placing decades of scientific progress, innovation and discovery at risk. Beyond the immediate loss, the destruction threatens future research opportunities, student training and the region's ability to address critical challenges facing our coastal ecosystems.

The Tampa Bay Ocean Team is committed to helping rebuild this vital institution-transforming it into a modern, resilient, world-class marine science facility that will accelerate discovery, inspire the next generation of scientists and strengthen Tampa Bay's leadership in ocean and coastal research for decades to come.

Future Opportunities

Strengthening Tampa Bay's research infrastructure and investment will be central to catalyzing high-impact ocean research. Increasing future opportunities will require a multifaceted approach, including amplifying and expanding core assets.

Actions

01. Equip researchers and decision-makers with resources to turn complex data into actionable insights for policy, resilience planning and community engagement. Examples include shared collaboration platforms, advanced toolsets like TBEPTools and enhanced core assets like USF College of Marine Science's Environmental and Ocean Sciences program.

02. Expand engineering capabilities to support research, development and innovation across the ocean science ecosystem.

03. Leverage shared equipment among institutions to reduce duplication, improve efficiency and increase access to advanced technology.

04. Pursue joint research funding to attract large-scale investments and foster multi-institutional, interdisciplinary research opportunities. Examples include developing a system to track grant applications and improving coordination while reducing competition and aligning research and development with regional marketing to position Tampa Bay as a leader in marine innovation.

05. Support existing and develop additional ocean-observing assets to generate more data supporting research, monitoring and decision-making.

Relevant resources from partner organizations

State of the Bay Progress Report Tampa Bay Estuary Program

Coastal Change Hazards Portal U.S. Geological Survey

Coastal and Marine Science of the U.S. Geological Survey in St. Petersburg, Florida Overview U.S. Geological Survey

Focus Area #3:

Expand High-Quality Jobs

The Tampa Bay region has a strong pipeline of academic institutions—from high schools to universities—actively shaping and preparing the next generation for the ocean economy. There continues to be a need for traditional marine skills and new, technology-focused competencies. Focusing on expanding high-quality jobs—those with stability, financial security and opportunities for growth—ensures that economic growth benefits the local workforce, providing opportunities in sectors such as marine technology, shipping and sustainable fisheries.

Current Assets

In the Tampa Bay region, educational institutions stand out as leaders in preparing students and professionals for careers in the ocean economy. Collectively, they encompass a pipeline that extends from youth programs to vocational training and higher education, connecting early experiences with opportunities for advanced study, career development and retraining.

Job Sectors identified by TBEP and TBRPC in the Economic Valuation of the Bay:

Ocean Enterprise Job Market Tampa Bay

Select Timeframe:
Jan 2023 - Aug 2025

Geography:
Hillsborough, Pinellas, and Manatee Counties

5,566	1,091	28 Days	$67.1K
UNIQUE JOB POSTINGS	TOTAL EMPLOYERS	MEDIAN POSTING DURATION	AVERAGE COMPENSATION

TOP POSTED OCCUPATIONS	AVG. COMPENSATION
Social Scientists	$95,680
Geoscientist	$92,240
Atmospheric and Space Scientists	$78,150
Natural Sciences Managers	$138,010
Marine Engineers and Naval Architects	$101,240
Captains, Mates, and Pilots of Water Vessels	$76,090
Environmental Scientists and Specialists	$65,200
Ship Engineers	$115,700
Hydrologists	$96,410

TOP DISTINGUISHING SKILLS

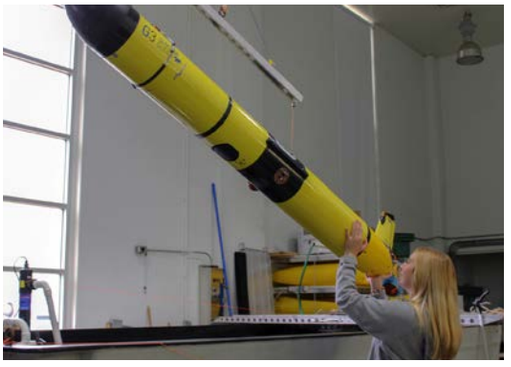
- Surface water
- Environmental Resource Management
- Water Quality
- Wetland Delineation
- Certified Risk Adjustment Coder
- Environmental Consulting
- ICH Guidelines
- Environmental Impact Assessments
- Clinical Study Design
- Environmental Studies

Lightcast data is a hybrid dataset derviced from official government sources such as the US Census Bureau, Bureau of Economic Analysis, and Bureau of Labor Statistics. Leveraging the unique strengths of each source, our data modeling team creates an authoritative dataset that captures more than 99% of all workers in the United States. This core offering is then enriched with data from online social profiles, resumés, and job postings to give you a complete view of the workforce.

Lightcast data is frequently cited in major publications such as The Atlantic, Forbes, Harvard Business Review, The New York Times, The Wall Street Journal, and USA Today.

A range of institutions are involved in this education and workforce development. Eckerd College offers nationally recognized undergraduate programs in marine science with strong experiential learning and research opportunities. Hillsborough College and Manatee Technical College provide technical training for aquaculture, marine service and environmental technician roles, while State College of Florida delivers flexible, employer-aligned programs with stackable credentials. St. Petersburg College bridges academics and workforce readiness through science degrees and targeted certifications in water quality, environmental monitoring, drones and advanced manufacturing for the Ocean Enterprise sector. At the graduate level, USF College of Marine Science leads in research and advanced training, including a partnership with the USF MUMA College of business in which a Blue Economy MBA has been developed to address coastal resilience, fisheries and marine habitat restoration.[4] Further, University of Tampa complements these programs with hands-on marine science and environmental studies degrees, preparing students for research, conservation and policy careers.

The diversity of programs across these institutions is a key strength, providing a robust pipeline of skilled professionals and advancing Tampa Bay's marine and ocean sectors. Undergraduate programs emphasize hands-on learning in conservation, research and environmental management, while graduate-level programs advance scientific knowledge and ocean economy-centered business expertise. In addition to offering four-year degrees and transfer programs, college programs in the area also contribute to the workforce training, technical skills and youth initiatives introducing the next generation to marine science, citizen engagement and maritime trades. Together, these efforts form a layered educational and training ecosystem that positions the region to meet both immediate workforce needs and long-term leadership in marine science, technology and coastal resource management.



An excellent example of the region's efforts to expand high-quality jobs in Tampa Bay was the NSF-funded Future Blue Economy Workforce Conference, hosted by St. Petersburg College. The event brought together industry leaders to address workforce needs in emerging ocean industries, emphasizing collaborative and adaptive approaches to build a resilient and skilled workforce that supports sustainable industry growth. Participants identified key strategies to align education and training with regional job opportunities, including making curriculum and labs project-based with transferable, real-world skills, incorporating reputable certification programs, hosting industry-led labs and offering tours and hands-on experiences with ocean technology and equipment. The conference demonstrates how the region is fostering sustainable industries and creating pathways to high-quality jobs through targeted workforce development and industry collaboration.

[4] *University of South Florida Muma College of Business. (2024, July 15). USF launches MBAs in blue economy, personal financial planning, and healthcare leadership. https://www.usf.edu/business/news/2024/07-15-mba .aspx*

Notable Career Building Opportunities

ORGANIZATIONS	WHAT IS OFFERED
Tampa Bay Watch tampabaywatch.org	Youth education programs, camps and citizen science opportunities *(K-12)*
Clearwater Marine Aquarium cmaquarium.org	Youth camps, marine science education and conservation programs *(K-12)*
USF College of Marine Science usf.edu/marine-science	Oceanography Camp Especially for Girls and MarineQuest youth programs introducing marine science and research *(K-12)*
St. Pete Science Festival stpetescifest.org	Annual public science festival with marine science engagement, hands-on exhibits and career exposure *(K-12)*
Propeller Club - Port of Tampa (with Hillsborough County Public Schools) propellerclubtampa.com	Maritime Technology course and career pathway programs (e.g., at Jefferson High School) focused on maritime careers, logistics and shipbuilding *(K–12 / Workforce Pathway)*
Eckerd College eckerd.edu	Undergraduate programs in marine science with experiential learning and research opportunities *(University)*
University of Tampa ut.edu	Marine science and environmental studies degrees with hands-on learning *(University)*
State College of Florida scf.edu	Flexible, employer-aligned programs with stackable credentials and workforce-aligned training *(University/ Workforce Pathway)*
St. Petersburg College spcollege.edu	Science degrees and certifications in water quality, environmental monitoring, drones and advanced manufacturing *(University/ Workforce Pathway)*
USF College of Marine Science usf.edu/marine-science	Graduate research and advanced marine science training *(University, Graduate)*
USF Muma College of Business usf.edu/business	Blue Economy MBA focused on coastal resilience, fisheries and habitat restoration *(University, Graduate)*
Hillsborough Community College hccfl.edu	Technical training for aquaculture, marine service and environmental technician roles *(Workforce Training)*
Manatee Technical College manateetech.edu	Technical and vocational training for marine service and environmental careers *(Workforce Training)*
Port Tampa Bay porttb.com	Apprenticeships, certifications, dual-credit opportunities, port tours and career exposure programs *(Workforce Training)*

Additionally, traditional education is not the only pathway to workforce training in the ocean economy; hands-on, career-connected learning is also built into places like the port itself. Port Tampa Bay supports workforce development by partnering with local schools, colleges, technical programs and employers to offer apprenticeships, certifications, dual-credit opportunities, port tours and career exposure programs that prepare students and jobseekers for maritime, logistics and industrial careers across the region.[5]

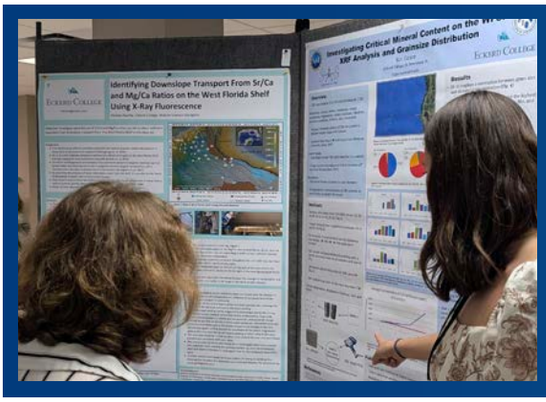
The Tampa Bay region also has a rich network of programs designed to introduce young people to careers in the blue economy. These initiatives range from hands-on marine science education to leadership development, citizen science engagement and environmental stewardship. Together, they form a diverse ecosystem of opportunities that prepare the next generation for roles in marine research, conservation, maritime trades and emerging ocean technologies. Examples include youth educational programs and camps provided by organizations such as Tampa Bay Watch and Clearwater Marine Aquarium. Important collaborations also provide excellent opportunities for youth, including The Propeller Club—Port of Tampa's collaboration with Hillsborough County Public School, specifically through the Maritime Technology course and programming at Jefferson High, to prepare students for maritime careers. This program not only supports pathways toward science but also supports students in understanding port operations, shipbuilding, logistics and related technical and professional pathways.

Ocean Economy related credentials awarded in Tampa Bay:

increased 28%

compared to 22% statewide and 20% nationally.

Source: IPEDS Awards by CIP

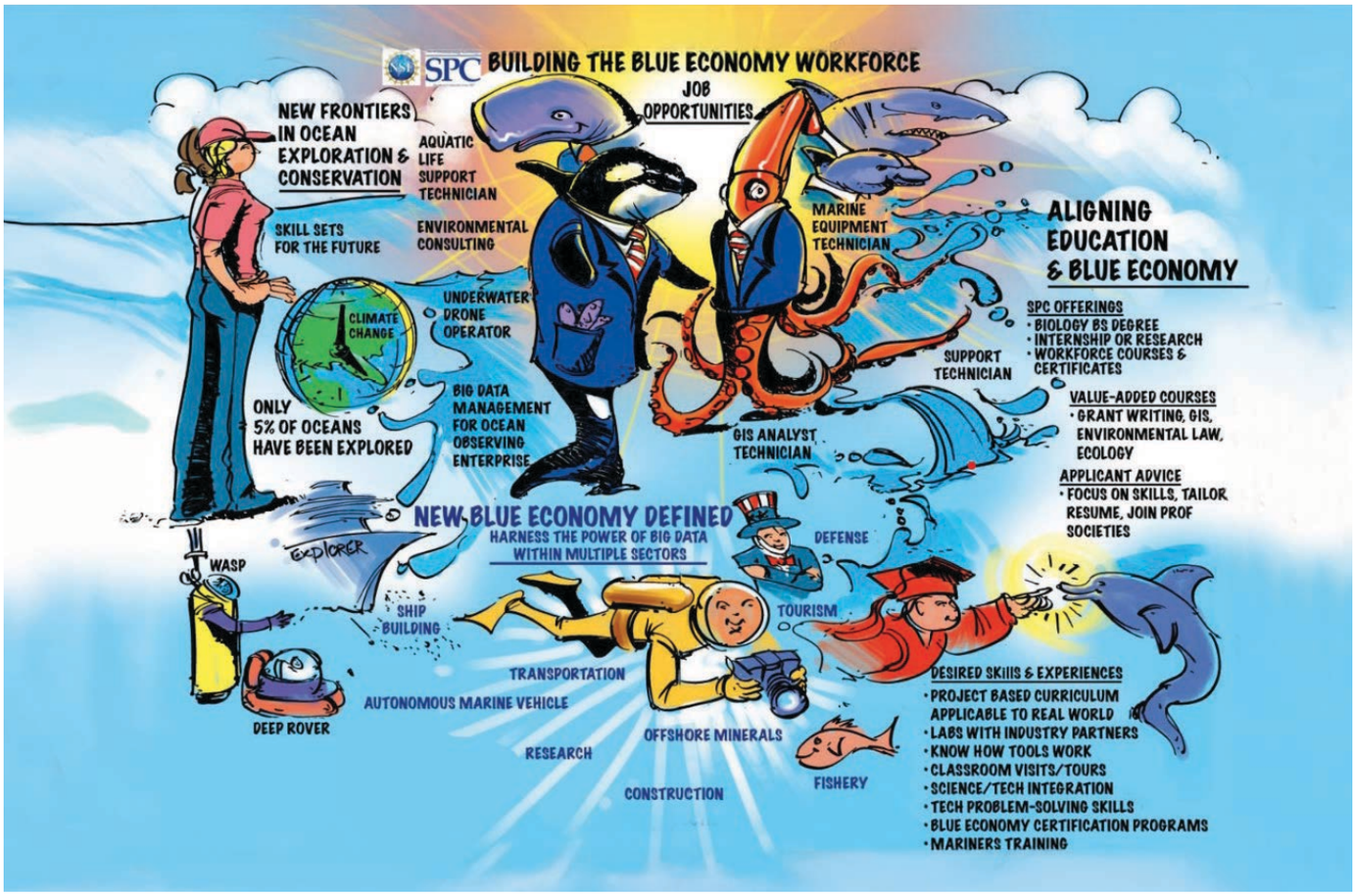


The Tampa Bay EDC and the Tampa Bay Ocean Team have partnered to assess the region's current and future workforce needs within the ocean economy. Identifying high-demand skill areas, aligning industry needs with existing education and training programs and uncovering critical gaps in certifications, credentials and workforce development pathways are needed to support long-term industry growth and competitiveness.

Future Opportunities

The Tampa Bay region will see clear demand for ocean economy jobs, from technical roles like instrument technicians and drone operators to professional careers in environmental consulting, data analysis and marine care. Some of the training programs needed to fill these gaps will already exist through local workforce certificates, community courses and degree programs. The challenge will be connecting talent to opportunity and marketing these pathways effectively. At the same time, several gaps will remain.

[5]*Port Tampa Bay. (2026). Maritime education and workforce training guide. https://www.tampaport.com*



Actions

01. Expand targeted outreach programs for K-12 students to build early interest in ocean-related careers. Examples include increasing access to recognized certifications and credentials that meet industry standards for marine, aquaculture and ocean technology careers.

02. Support interdisciplinary collaboration across institutions to foster innovation and adapt workforce training to evolving industry needs. Examples include creating clearer joint pathways between science and engineering to promote interdisciplinary skills and innovation.

03. Improve talent retention by expanding local career wopportunities and professional growth pathways. Examples include promoting lifelong learning and professional development opportunities to upskill the current workforce.

04. Bridge the divide between academia and industry to align education and training with real-world workforce needs. Examples include incorporating emerging technologies into curricula, strengthening hands-on training and apprenticeships, expanding partnerships through internships, mentorship and real-world learning experiences and facilitating workshops, tours and field experiences to connect students to employers.

05. Market ocean economy career pathways and high-quality job opportunities to attract talent to the region. Examples include expanding university and technical pathways to train a workforce in defense-focused maritime technologies like robotics, AI and cyber resilience.

Relevant resources from partner organizations

Building the Blue Identifying Educational Requirements of the Future Ocean Technical Workforce St. Petersburg College, National Science Foundation

Tampa Bay Maritime Education Guide Port Tampa Bay

Focus Area #4:

Accelerate Innovation

The Tampa Bay region has established programs that incubate startups, recruit new businesses and grow existing businesses. While their services are broadly applicable across industries, accelerating innovation could hinge on developing targeted, industry-specific capabilities. In turn, this supports the development and commercialization of cutting-edge ocean technologies, enhancing competitiveness and attracting investment to the region.

Current Assets

Tampa Bay has a growing reputation for high-tech innovation. At the core of this growth is a highly connected ecosystem linking innovators, investors and researchers. Supporting these efforts are over 100 organizations offering entrepreneurial services, business scaling support, physical assets and other resources.

Tampa Bay is strategically positioned within the Florida High Tech Corridor, which offers valuable resources such as Matching Grants Research Program and Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) training to foster innovation. The SBIR and STTR programs are essential sources of funding for startup research and development and help to catalyze the growth of emerging tech companies.

In addition to these resources, several initiatives are actively building capacity. The Continuum, a $13.9 million NOAA-funded Ocean Enterprise Accelerator aimed at supporting Ocean Enterprise startups is made up of a coordinated network, including three regional partners: Tampa Bay Wave, University of South Florida and the St. Pete Innovation District. They joined with Seaworthy Collective, Braid Theory, Ocean Exchange and the World Ocean Council to form a robust network of accelerators and programs to advance the commercialization of ocean-related technologies. The St. Pete Innovation District also manages and operates the Maritime and Defense Technology Hub, which fosters collaboration, innovation and commercialization of these technologies in the region.

Tampa Bay Wave exemplifies how the region is accelerating innovation by providing targeted support to high-growth startups. Through its accelerator programs, mentorship network and access to capital, Tampa Bay Wave helps entrepreneurs refine their technologies, scale their businesses and bring new solutions to market. Its role in connecting founders with investors, industry experts and strategic partners strengthens the broader innovation ecosystem and demonstrates how focused, collaborative support can drive the commercialization of emerging technologies in Tampa Bay.

The presence of the International Marine Minerals Society in the Tampa Bay region further strengthens the area's position as a global hub for ocean-based economic development. By bringing together industry leaders, government agencies, and academic institutions, the Society fosters international collaboration in both basic and applied research related to marine minerals exploration and development. As interest in the future of marine minerals continues to grow, the organization provides a valuable platform for advancing scientific discovery, supporting responsible resource development, and connecting emerging opportunities in ocean science, environmental stewardship, and related industries.

OCEAN ECONOMY TRADEMARKS IN TAMPA BAY

19 **active trademarks dating back to 2006 (17 of these have been filed since 2016)**

Source: U.S. Patent & Trademark Office

OCEAN ECONOMY PATENTS IN TAMPA BAY

58 **patents dating back to 1967 (25 of the patents have been filed since 2016)**

Source: U.S. Patent Office

GRANTS

The dollar value of Ocean Economy grant work being conducted within the three-county region has significantly increased over the last 10 years. Looking at only new awards for each respective FY, there were:

117 **new grant awards FY 2016 totaling $1.3M**

11 **new grant awards FY 2025 but their value rose to $16M**

Total of all (not just new contracts) Ocean Economy grant activity being performed in the three counties has increased by more than 10x since the launch of the Innovation District:

$12.M **total grant obligations FY 2016**

$135M **total grant obligations FY 2025**

Source: USAspending.gov

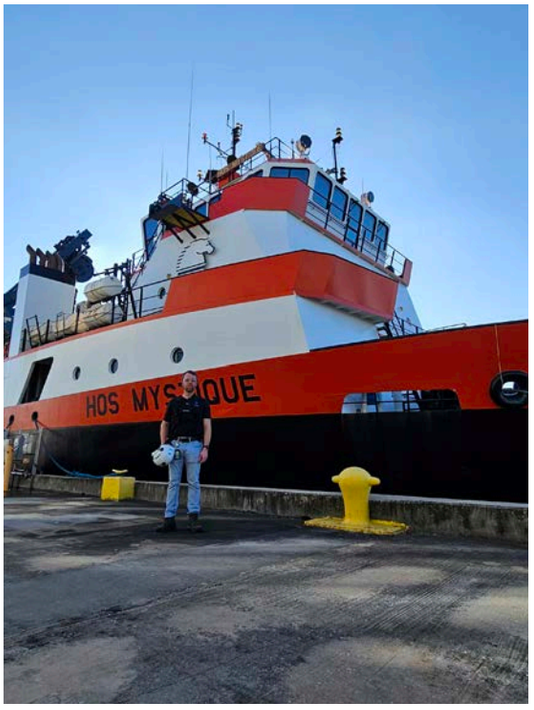
One tenant of the Maritime and Defense Technology Hub is an excellent example of accelerated innovation in Tampa Bay. SubUAS is a U.S.-based small business advancing multi-domain unmanned systems that operate seamlessly across air and water environments. Its flagship platform, the Naviator, is the first drone capable of transitioning between flight and underwater operations, supporting missions from maritime security and mine countermeasures to autonomous sensing in complex coastal environments. Organizations leading in maritime and defense technology, including SubUAS, and a growing network of startups, research institutions and industry partners, are driving accelerated innovation across the Tampa Bay region's ocean and defense economy[6]

[6] *The Naviator. (n.d.). SubUAS: The Naviator. https://thenaviator.com/*

[7] *European Investment Bank. (2024, May 13). EU Blue Champions unveiled: 20 companies will receive advisory support to grow their business. https://www.eib.org/en/press/news/eu-blue-champions-unveiled-20-companies-will-receive-advisory-support-to-grow-their-business*

Future Opportunities

Looking forward, business recruitment in the regional ocean economy will align with expanding fields such as marine mapping, deep ocean exploration, data and visualization platforms and broader Blue Tech services. The collective focus will be on creating technologies that solve real-world problems, demonstrate clear end-user applications and ultimately show sustainable cash flow potential. This approach will ensure that the region's ocean economy continues to grow and attract the investments needed for long-term success. Supporting existing businesses will be just as critical as attracting new ones. By helping established maritime and Blue Tech companies modernize their operations, adopt emerging technologies and access new markets, the region will strengthen its economic resilience while accelerating innovation.



Actions

01. Clarify and strengthen tech transfer processes to improve the movement of research innovations into market-ready products.

02. Establish physical and virtual testing sites to support prototype development, demonstration and validation of emerging technologies. Examples include increasing funding and streamline permitting for pilot projects that test and scale new technologies and developing a second Maritime and Defense Technology Hub ("Hub 2") focused on BlueTech and maritime technologies to complement existing accelerators.

03. Encourage private investment by creating risk-sharing frameworks that lower barriers for early-stage investors. Examples include diversify and increase funding similar to the European Blue Tech Fund, which offers an inspirational model for how targeted investment can catalyze sector-wide advancement[7], exploring a Blue Tech Corridor or investment fund, modeled after the High Tech Corridor to drive marine tech growth and engaging partners like Raymond James to assess feasibility and ROI.

04. Develop targeted support programs for existing businesses to help them adopt emerging technologies and expand into new markets, such as modernization grants, technical assistance and facilitated connections to research, defense and testing resources.

05. Expand Open Data capabilities by assessing existing data management tools and identifying where new systems or standards need to be created. Examples include expanding open data via platforms like TBEPtools and COMPS to give innovators accessible environmental and economic insights.

Relevant resources from partner organizations

Future Ready: Tampa Bay Strategic Plan 2026–2028
Tampa Bay Economic Development Council

Tampa Bay Innovation Ecosystem Map St. Pete Innovation District

The Continuum

BlueTechIX Accelerator
Tampa Bay Wave

Focus Area #5:

Facilitate Dual-Use Capabilities

The Tampa Bay region is uniquely positioned with access to key National Defense and Coast Guard assets both locally and nationally. As innovation accelerates across existing and emerging businesses, prioritization of dual-use opportunities will be critical. These opportunities span research and development, product development, investment and scaling, and will position the region as a place where defense-driven innovation drives economic growth and strategic advantage.

Current Assets

At the intersection of national defense, maritime expertise and emerging technology, the Tampa Bay region is poised to lead in advancing dual-use innovation with both strategic and economic impact. With proximity to the U.S. Central Command and U.S. Special Operations Command at MacDill Air Force Base, U.S. Coast Guard Sector St. Petersburg and Air Station Clearwater, the region benefits from direct connections to national defense programs that are actively investing in emerging technologies. Tampa Bay's network of maritime industries, research institutions and engineering capabilities—combined with a strong ocean economy—creates an ideal environment for developing dual-use technologies that serve both defense and commercial markets.

Recent federal action further reinforces the region's strategic relevance. The White House's Unleashing American Drone Dominance initiative calls for accelerating domestic unmanned systems manufacturing, streamlining testing and deployment and strengthening integration of drone technologies across defense and commercial sectors.[8] This national emphasis on air, surface and subsea autonomy directly aligns with Tampa Bay's defense presence, maritime infrastructure and research capabilities, positioning the region to play a meaningful role in advancing next-generation autonomous and dual-use technologies.

[8] *The White House. (2025, June 6). Unleashing American drone dominance (Executive Order). https://www.whitehouse.gov/presidential-actions/2025/06/unleashing-american-drone-dominance/*

Another executive order, Restoring America's Maritime Dominance, directs the development of a comprehensive Maritime Action Plan to revitalize the U.S. maritime industrial base, strengthen shipbuilding capacity and rebuild the maritime workforce after years of decline.[9] It aims to reduce reliance on foreign-built vessels by expanding domestic commercial and defense ship construction and enhancing port infrastructure. The order also includes provisions for engaging allies, incentivizing investment and increasing U.S. competitiveness in global maritime trade and security. Together, these federal priorities create a timely opportunity for the Tampa Bay region to leverage its ports, defense assets and maritime innovation ecosystem to help lead the next era of American maritime strength and industrial competitiveness.

The region also has a foundation of related expertise and infrastructure. These organizations have made contributions to technology development from the deep sea to space. At the center of the region's intellectual capital are collaborative entities such as the University of South Florida (USF) Global and National Security Institute, USF Office of Applied Engineering, SOFWERX, National Defense Industrial Association (NDIA) Tampa Bay and Tampa Bay Wave. These organizations are key to supporting technology growth across industry verticals.

Many organizations, such as SubUAS for example, are actively innovating to develop dual-use capabilities that bridge defense and commercial applications. Originally developed through U.S. defense programs, SubUAS technology also enables commercial applications including offshore energy inspection, port and vessel assessment, environmental monitoring and disaster response. By translating defense innovation into scalable commercial solutions, SubUAS strengthens domestic manufacturing, supports high-tech workforce growth and reinforces Tampa Bay's leadership in dual-use ocean technology and blue economy development.

FLORIDA SECURITY FORUM

The Florida Security Forum serves as a critical regional asset by convening government, industry and academic leaders to advance dual-use capabilities, strengthen maritime security innovation and foster collaboration that enhances both economic resilience and national defense readiness. By creating a dedicated platform for information sharing, applied research and cross-sector coordination, the Forum helps align emerging technologies such as artificial intelligence, cybersecurity and autonomous systems with real-world port operations. This collaboration accelerates the development of practical solutions to evolving threats, supports workforce development through academic partnerships and positions the Tampa Bay region as a leader in integrating commercial maritime activity with national security priorities.

[9] *The White House. (2025, June 6). Unleashing American drone dominance (Executive Order). https://www.whitehouse.gov/presidential-actions/2025/06/unleashing-american-drone-dominance/*

Future Opportunities

To fully capitalize on dual-use opportunities, the region needs to expand engagement among investors and increase the flow of capital necessary to scale innovative solutions from concept to market. The region also needs to address physical and regulatory constraints, including shallow-water environments and complex permitting requirements. Gaps identified in port and maritime security by the 2025 Florida Security Forum conference[10] should also be considered, including fragmented funding mechanisms, workforce shortages, limited integration of emerging technologies and inconsistent security standards across ports. Moreover, improved coordination between academic research, private innovation and national security priorities will enhance the transfer of knowledge and accelerate the scaling of dual-use solutions. If addressed strategically, these challenges represent opportunities for significant growth. Tampa Bay could emerge as a national leader in dual-use maritime innovation and as an ecosystem where defense-driven technologies also enhance commercial competitiveness.

Actions

01. Establish a Regional Dual-Use Innovation Framework connecting national security-related entities, universities, startups and established industries to identify shared priorities and funding opportunities. Examples include pursuing regional solutions for existing/upcoming national defense opportunities (e.g., serdp-estcp.mil/workwithus).

02. Promote cross-sector collaboration through innovation challenges and demonstration events, bringing together defense, academia and private industry to showcase dual-use solutions and attract investor interest. Examples include partnering with USSOCOM and SOFWERX to pilot maritime technologies like subsea communications, autonomy and AI-enabled systems, and engaging partners like the Coast Guard's California Innovation Facility and NDIA to share best practices and enhance visibility.

03. Develop a Maritime Technology Test and Evaluation Corridor in coordination with national security entities and local ports to support testing of unmanned systems, underwater networks and smart surveillance tools.

04. Create financial and policy incentives (e.g., tax benefits or grant-matching programs) to attract maritime investors and small businesses into dual-use research and commercialization. Examples include building investor and entrepreneur awareness programs to train local venture capitalists and founders in identifying and valuing dual-use technologies, improving pathways from concept to commercialization.

05. Facilitate technology innovations for the Defense sector. Examples include investing in advanced sensing technologies like LIDAR, drones and subsea sensors, and enhancing port security through AI-enabled surveillance, drone detection and interoperable communications.

Relevant resources from partner organizations

Restoring America's Maritime Dominance
The White House

Florida's Maritime Edge: Built Through Leadership Ready for What's Next
USF Global and National Security Institute

USF Global and National Security Institute

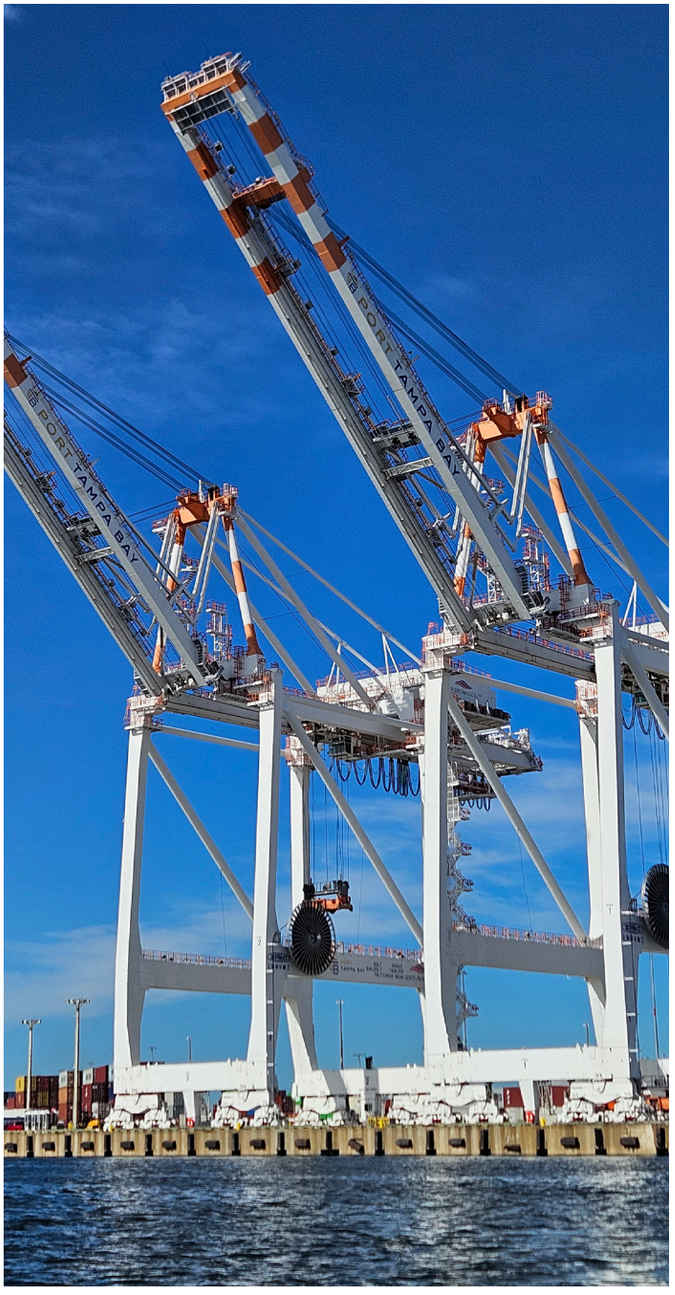
USF Institute of Applied Engineering

[10] *Global and National Security Institute. (2026). FSF port & maritime security report: Findings from the Florida Security Forum, February 2026. University of South Florida. https://www.usf.edu/gnsi/publications/reports/fsf-port-maritime-security-report-feb2026-interactive.pdf*

Focus Area #6:

Invest in Critical Marine Infrastructure

The Tampa Bay region depends on vital infrastructure—ports, shipyards and research facilities—that serve as the backbone of regional growth. Yet, these critical assets face mounting risks from cyber threats, aging systems and declining capacity. Strategic investment to expand, modernize and secure this infrastructure is essential to sustaining and strengthening the region's maritime future.



Current Assets

The Tampa Bay region's ocean economy is anchored by growing infrastructure, including three major ports, shipyards, test beds and specialized maritime facilities. These assets support trade, tourism, vessel maintenance and innovation forming the backbone of the ocean-based industries. As other coastal regions expand investments in waterborne transit maritime infrastructure, sustaining and strengthening these core assets is critical to keeping the region economically afloat.

Tampa Bay's three major ports operate as an interconnected maritime ecosystem, each specializing in distinct cargo, industries and research activities while collectively sustaining the region's critical infrastructure. Their proximity to major highways, rail corridors and international airports allows goods, services and people to move seamlessly across land, air and sea.

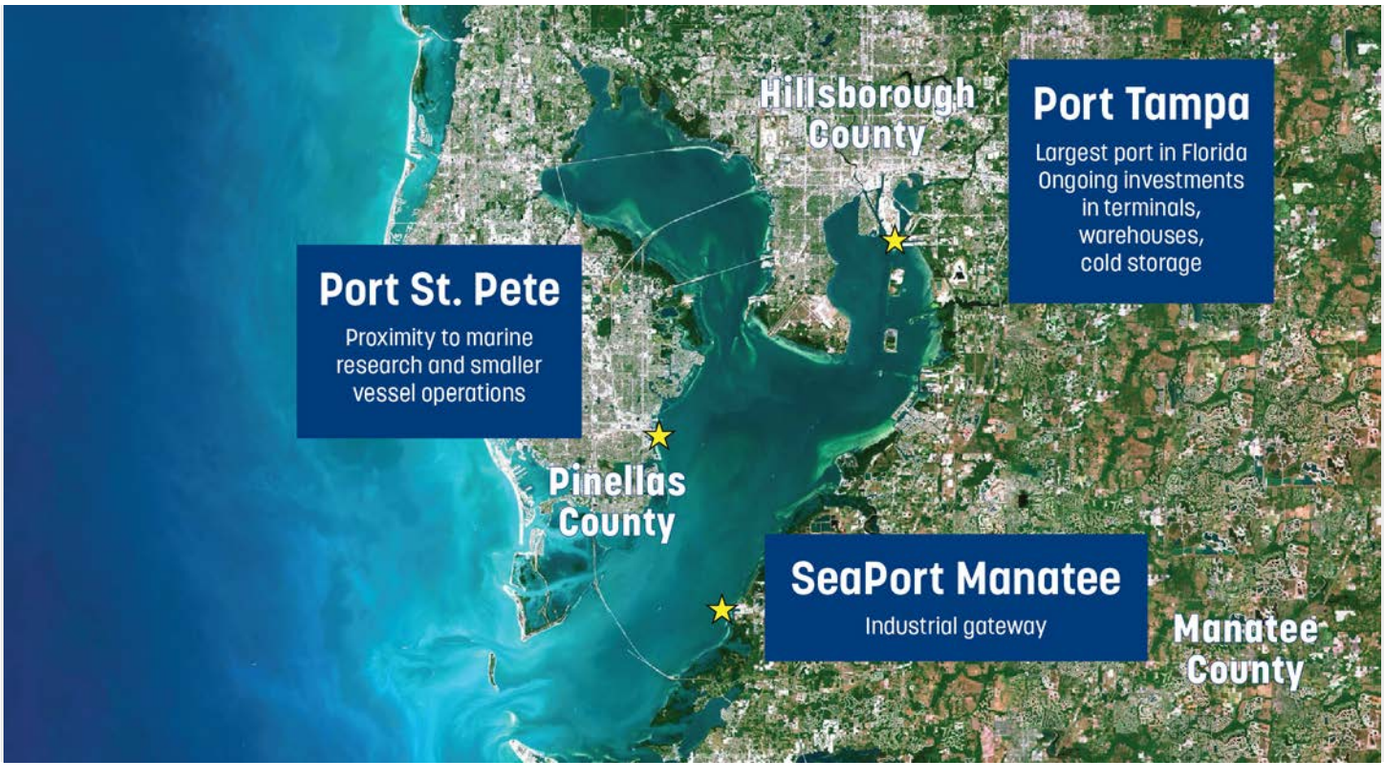
Regional shipyards support vessel construction, maintenance and repair for commercial, research and recreational fleets, playing a critical role in sustaining maritime operations and local industry capacity. Alongside these assets, a network of leading research facilities provides expertise in ocean science, coastal resilience and marine technology, positioning Tampa Bay as a center for innovation and applied research while supporting workforce development and industry collaboration. The region also benefits from a growing number of formal and informal test beds operated by academic institutions, government agencies and private partners, enabling real-world testing of marine technologies and creating opportunities to better coordinate and expand these capabilities.

Specialized assets further strengthen this ecosystem, including the test tank at the USF College of Marine Science, which provides a controlled environment for testing oceanographic instruments and prototypes, and the fleet and field capabilities of the Florida Institute of Oceanography and Keys Marine Laboratory, which support offshore and field-based research across the state. The St. Petersburg College Bay Pines facility contributes to workforce training aligned with regional maritime needs. Together, these assets point to an opportunity to better connect and elevate the region through a more unified maritime innovation hub, strengthening collaboration and accelerating commercialization.

Port Tampa Bay is the state's largest and most diverse port. It supports the region's heavy industrial and energy needs, moving more than 15 million tons of petroleum products each year while also handling construction materials, containerized goods and other energy-related commodities. As it expands its container yard toward 100 acres and adds cranes and berths, the port's direct shipping services to Asia, Mexico and Central America feed directly into the I-4 distribution hub. This makes Port Tampa Bay a central engine of economic activity, supporting over 190,000 jobs and generating more than $30 billion in regional impact.

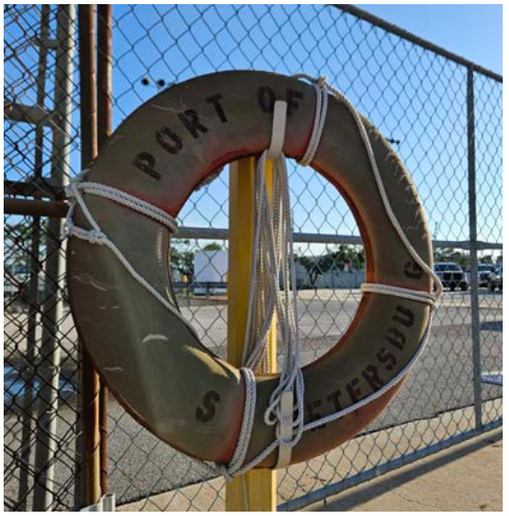
At the mouth of Tampa Bay, **Seaport Manatee** serves as a vital commercial gateway, leveraging its position as the closest U.S. deepwater port to the expanded Panama Canal. With a 40-foot channel depth, 10 berths and specialized capabilities in containers, bulk, breakbulk, heavy-lift and refrigerated cargo, it moves more than 11 million tons of goods annually.

Working in complement, **Port St. Pete** provides specialized capacity that the larger ports cannot. As a deep-water port optimized for superyachts, research vessels and marine science operations, it strengthens Tampa Bay's innovation ecosystem. Its adjacency to the University of South Florida's College of Marine Science and the St. Petersburg Innovation District's Maritime & Defense Technology Hub positions the port as a nexus for oceanographic research, blue economy development and high-tech maritime capabilities.



Future Opportunities

Tampa Bay will be well-positioned to expand its role as a hub for ocean-based industries by addressing key infrastructure gaps. Across the region, master plans will be set in motion to modernize and expand port infrastructure. At Port Tampa Bay, this will include improving channel depth, expanding on-dock facilities and integrating new technologies to increase capacity and efficiency. Upgrades to road and rail connectivity will strengthen inland logistics, while investments in resilience and sustainability, such as electrification and emissions reduction, will future-proof port operations against environmental and climate risks. Advancing environmental and technological resources, such as advanced LIDAR systems and subsea autonomy test ranges, will be essential for developing and validating emerging maritime technologies. Additionally, the region will aim to increase regional connectivity through waterborne transit, and planning for and investing in port and dockage infrastructure will be vital to creating a viable transportation opportunity.



Actions

01. Invest strategically in expansion projects that increase port capacity, efficiency and resilience, ensuring long-term competitiveness. Examples include pursuing joint funding and public-private partnerships to accelerate modernizing and securing existing port, shipyard and research infrastructure to address aging systems, capacity constraints and cyber vulnerabilities, and establishing a long-term infrastructure resilience plan to safeguard against environmental, cyber and economic disruptions.

02. Develop and/or retain proximate Maintenance, Repair and Overhaul (MRO) facilities for both commercial and recreational vessels. Expanding MRO infrastructure would allow research and commercial vessels to remain operational locally, supporting both economic and workforce development.

03. Enhance multimodal connectivity by upgrading road and rail access to ports, improving logistics and inland transport efficiency.

04. Increase regional waterborne transit capacity through planning for and investing in strategic ferry ports/dockage.

05. Leverage underused waterfront and industrial spaces for expanded maritime uses, including innovation hubs, test beds and workforce training centers.

06. Continue to strengthen collaboration across ports and regional partners to align infrastructure planning and investment priorities.

Relevant resources from partner organizations

Port Tampa Bay
Master Plan
Port Tampa Bay

Port of St. Petersburg
Master Plan
Port of St. Petersburg

SeaPort Manatee
Master Plan
SeaPort Manatee

Focus Area #7:

Enhance Coastal Resilience

As a coastal region, Tampa Bay faces growing threats from extreme weather and environmental challenges. Protecting the region's communities through thoughtful policies and urban development isn't just a matter of safety, it's a smart economic strategy that safeguards the region's future prosperity.

Current Assets

Tampa Bay has hundreds of miles of coast and shoreline along the Bay and Gulf. The region's leadership in coastal resilience is grounded in its growing network of physical and data infrastructure. These assets provide the foundation for real-time monitoring, predictive modeling and rapid response to coastal threats. Entities like the Florida Flood Hub for Applied Research and Innovation, the USGS Coastal and Marine Science Center and Tampa Bay Regional Planning Council anchor statewide efforts in data sharing, policy development and disaster preparedness.

In 2024, the Tampa Bay region experienced back-to-back Hurricanes Helene and Milton. These storms highlighted the threats from increasing frequency of severe storms and compound flooding. Compound flooding occurs when two or more sources of water converge in an area (e.g., storm surge accompanied by heavy rainfall). Because of increasing perceptions of flooding risks, property insurance rates in coastal areas of Florida have increased dramatically.

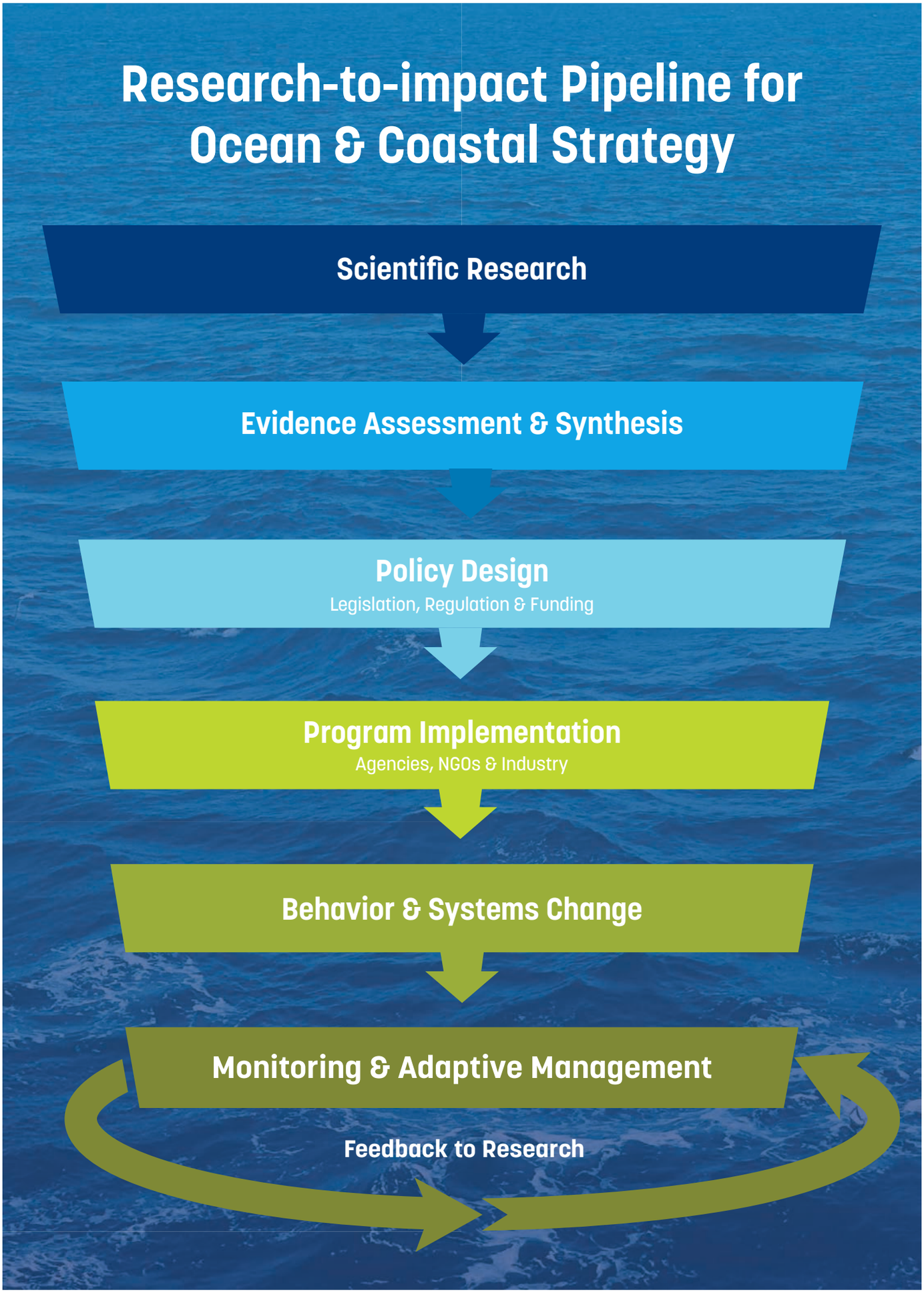
At the same time, efforts are underway to invest in infrastructure and deploy new technologies. "Significant investments [since 2016] have led to meaningful improvements—reducing [sanitary sewer] overflows by 57% through wastewater system upgrades during the 2024 hurricane season."[11] Tampa Bay Regional Planning Council has deployed "visualization services including cost-effective, high-quality 3D models, renders and animations, from conceptual diagrams to interactive fly-throughs" that help tell the before and after story.[12]

Overall, a strong network of environmental organizations, public agencies and regional partnerships serves as a key asset for advancing coastal resilience. Groups such as the Florida Stormwater Association, Florida Water Environment Association and Tampa Bay Waterkeeper provide technical expertise, advocacy and community engagement that support improved water quality and stormwater management. This collaborative ecosystem, combined with access to state funding programs and local leadership, positions the region to scale solutions, influence policy and accelerate implementation of resilience strategies that benefit both the environment and the ocean economy.

The Tampa Bay Coastal Master Plan led by the Tampa Bay Regional Planning Council is an essential project for helping the region respond to rising seas, stronger storms and increasing flooding. Because Tampa Bay's communities and infrastructure are highly vulnerable, a unified, science-based strategy is needed to coordinate local efforts, prioritize vulnerable areas and guide cost-effective, nature-based and structural resilience projects. The plan provides a shared roadmap that strengthens regional coordination, improves access to funding and supports long-term coastal resiliency for the entire Tampa Bay area.

[11] *Tampa Bay Estuary Program. (2025). State of the bay. https://tbep.org/about-the-bay/state-of-the-bay/*

[12] *Tampa Bay Regional Planning Council. (2026). Planning and design visualization. https://tbrpc.org/about/services/planning-and-design-visualization/*


Research-to-impact Pipeline for Ocean & Coastal Strategy
Scientific Research
Evidence Assessment & Synthesis
Policy Design
Legislation, Regulation & Funding
Program Implementation
Agencies, NGOs & Industry
Behavior & Systems Change
Monitoring & Adaptive Management
Feedback to Research

Future Opportunities

Tampa Bay's continued growth in the ocean economy will depend on enhancing long-term coastal resilience. As the region faces increasing threats from sea level rise, storms and extreme weather, proactive investment and strategic planning will be essential. Importantly, pragmatic approaches to coastal resilience through the translation and communication of current research into actionable insights for local policymakers will need to be addressed. This will ensure local planning remains responsive to the latest information on coastal health. Additionally, coastal resilience will be constrained by a regional imbalance between funding for wastewater systems and stormwater infrastructure. While wastewater spills are visible and tightly regulated, stormwater systems discharge largely untreated runoff during every rainfall event, carrying diffuse pollution that potentially creates a greater cumulative environmental impact. Coordinated, science-driven approaches will also help insurance carriers better understand future regional risk trajectories, encouraging them to remain active in the market and to recognize the benefits of resilience investments. Together, research platforms and system upgrades will enable Tampa Bay to anticipate risks, respond effectively and lead in building a resilient coastal future.

Actions

01. Support projects such as the Tampa Bay Coastal Master Plan as a critical part of planning for coastal resilience in Tampa Bay.

02. Support insurance and permitting innovation that reflect and support resilience investments and help communities recover faster. Examples include exploring novel approaches such as natural system reinsurance markets.

03. Integrate strategic urban planning by designing resilient waterfronts and coastal communities that minimize risk while supporting sustainable growth. Examples include incorporating green infrastructure and securing funding for upgrades to stormwater infrastructure and outreach programs.

04. Expand the use of data visualization and business intelligence tools to anticipate environmental risks and inform operational and emergency planning. Examples include establishing the USF College of Marine Science Visualization Lab and expanding Tampa Bay Regional Planning Council Visualization Services.

05. Outreach and education on the benefits of nature-based or hybrid adaptation solutions rather than hard solutions. Examples include using targeted social media campaigns to educate the public on how everyday behaviors impact stormwater runoff and promote practical techniques to reduce pollution, especially during Florida's summer months.

06. Continue funding and implementation of the Florida Coastal Mapping project.

Relevant resources from partner organizations

Resilient Ready Tampa Bay Summary Report July 2022 Tampa Bay Regional Planning Council

Coastal Resilience Scorecard Waterfront Alliance and ARISE-US

Tampa Bay Coastal Master Plan Tampa Bay Regional Planning Council

Coastal Hazards and Resilience U.S. Geological Society

State of the Bay Progress Report Tampa Bay Estuary Program

Florida Coastal Mapping Program

Focus Area #8:

Advance the Ocean and Human Health Connection

The Tampa Bay region thrives because of stunning beaches, healthy fisheries and vibrant waterways that shape how residents live, work and play. The health of the waterways and community members are inseparable. Understanding the connection between ocean and human health in circumstances such as harmful algae blooms, environmental toxins and extreme heat can assist in developing future medical treatments, programs and policies.

Current Assets

The Tampa Bay region possesses a strong foundation to advance the connection between ocean and human health, built on the collaboration of multiple institutions and stakeholders. Human and ocean health are deeply interconnected, as clean waters support safe seafood consumption and food security, enable residents and tourists to safely enjoy beaches, contribute to mental well-being and drive biomedical discoveries, while pollution, habitat degradation and contamination threaten both ecosystem integrity and human health outcomes.

Research institutions generate critical data through technology such as environmental monitoring programs that inform local policies and contribute to medical studies, providing a scientific backbone for understanding how environmental conditions affect community health. Local hospitals and healthcare systems, such as Johns Hopkins All Children's Hospital, complement these research efforts by working closely with organizations such as the University of South Florida (USF) College of Marine Science and the Florida Fish and Wildlife Conservation Commission (FWC). Organizations such as U.S. Geological Survey (USGS) also work to understand how environmental, animal and human health are linked through studying contaminants, natural hazard assessments and pathogens.[13] These partnerships allow for active monitoring and response to harmful algal blooms, marine toxins and waterborne illnesses. By integrating environmental data into public health practices, healthcare providers can respond more effectively to threats that emerge from the region's waterways.

The health of fisheries, coastal wildlife and marine habitats is inseparable from the region's recreation, public health and economic vitality, particularly given the role of recreational fishing in the local economy. A focus on fisheries health provides an inclusive framework that addresses both ecological sustainability and human well-being, from maintaining resilient fish populations to reducing risks associated with toxin exposure and contaminated waters. By explicitly ensuring that coastal and marine wildlife and habitat resources are integrated into this strategy, Tampa Bay can safeguard the natural systems that support healthy communities, thriving recreation and long-term economic resilience.

Community engagement and education play an equally vital role. Local non-profits and outreach initiatives promote awareness of environmental health risks and encourage residents to adopt precautions during harmful algal blooms, extreme heat or other hazardous conditions. By fostering a culture of awareness, these programs help bridge the gap between scientific research and practical action in everyday life.

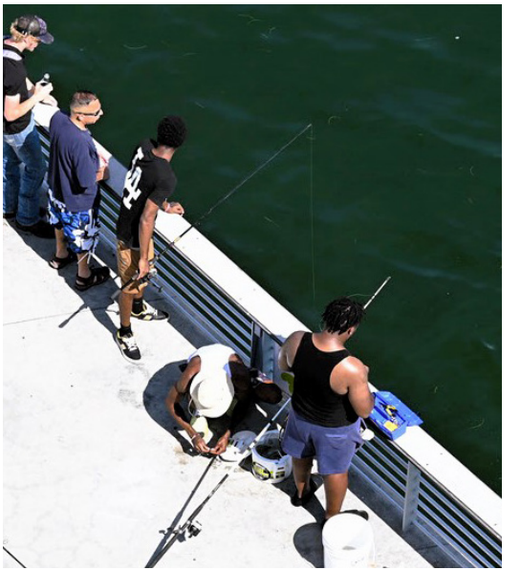
Research at the University of South Florida highlights the region's leadership in advancing the ocean and human health connection, exemplified by Dr. Bill Baker's work using compounds derived from marine invertebrates to develop life-saving therapeutics, including promising treatments for diseases such as melanoma. This work underscores the ocean's vast, largely untapped potential as a source of biomedical innovation and positions Tampa Bay as a hub for marine-based health research and drug discovery.

Mayor, A. (2024, October 29). Dr. Bill Baker's career of merging the world of marine organisms and medicine. University of South Florida College of Arts and Sciences

[13] *Environmental Health Program. (2025, June 3). USGS Environmental Health Program: Integrating science for public health and resource management. U.S. Geological Survey. https://www.usgs.gov/programs/environmental-health-program/science/usgs-environmental-health-program-integrating-science*

Future Opportunities

Greater collaboration between environmental scientists, healthcare providers, and biomedical and pharmaceutical innovators will strengthen the region's ability to fully integrate ocean and human health initiatives. This collaboration can drive advances in biomedical solutions, pharmaceutical research, and public health strategies. Making targeted investments in field monitoring, laboratory facilities, mobile testing units and citizen science programs will strengthen the region's infrastructure and capacity to respond effectively to ocean-human health opportunities. Leveraging the strong regional research capacity to advance marine-based discoveries into scalable therapies will be important and will need to include expanding funding for early-stage commercialization, regulatory navigation and industry partnerships to move innovations from lab to market. These will present key opportunities to accelerate innovation and fully realize the ocean's potential to advance human health in the Tampa Bay region.



Actions

01. Develop a Regional Ocean-Health Task Force to coordinate research, monitoring and public health responses across the Tampa Bay Region.

02. Strengthen university and industry partnerships to accelerate innovation in marine monitoring technologies, predictive modeling for public health and biomedical advancements. Examples include supporting real-time water quality monitoring with sensors, drones and citizen science; expanding data collection in smaller waterways to improve response; integrating environmental data into healthcare systems; securing funding for mobile labs and rapid response teams for toxins, HABs and extreme weather; and expanding statewide collaborations for biomedical innovation.

03. Launch public awareness campaigns targeting residents, schools and vulnerable populations on ocean-related health risks and preventive measures. Examples include expanding public awareness campaigns to reach vulnerable populations affected by extreme heat, pollution or harmful algal blooms, and promoting marine-based education in schools and programs to foster a "blue mind" approach.

04. Enhance fisheries and seafood safety monitoring and data integration by coordinating across state agencies, researchers and fishing communities, and using results to inform public health advisories, climate-adaptive management and community outreach.

05. Develop policy recommendations based on regional research to guide sustainable coastal management, public health guidelines and emergency response planning.

Relevant resources from partner organizations

Tampa Bay Surveillance Project USF College of Marine Science

Environmental Health Program U.S. Geological Society

Microplastics Monitoring Project Eckerd College

Translational Research and Innovation Laboratory Johns Hopkins All Children's Hospital

Tampa Bay Ocean Team

St. Pete INNOVATION DISTRICT

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