The Florida Institute of Oceanography (FIO)

The State University System's (SUS) Commitment to Education and Research on Florida's Coastal Ocean Environments

An Academic Infrastructure Support Organization (AISO) Proposal

July 1, 2009

Establishment of the AISO.

Vision Statement

The Florida Institute of Oceanography (FIO) will become a global leader in coastal oceanographic research and education. The FIO will facilitate and support Florida's emergence as the preeminent state in the nation for understanding ocean processes and how they control economically essential natural resources and contribute to natural and man-made hazards.

Mission Statement

The FIO mission is to (1) provide a diverse and collaborative statewide forum addressing problems of concern in coastal oceanographic research and education; (2) leverage and integrate existing physical and intellectual resources within the State University System (SUS) and throughout Florida; (3) anticipate and plan for future infrastructure needs; (4) facilitate, promote and support collaborative ocean-related research and education statewide; and (5) develop and strengthen networks that enable timely identification of oceanographic research opportunities and distribution of research results and other information to the general public, natural resource management agencies and local, state and national policymakers.

Statement of Need and Demand.

Oceanography and the State of Florida

In accordance with the SUS Board of Governors Regulation 10.014, Academic Infrastructure Support Organizations provide "underlying technology, equipment, facilities, services, and resources for academic programs and research in the State University System of Florida." The new FIO AISO will facilitate access to major marine research and educational capabilities and facilities throughout the State, including the operation of sea-going vessels for coastal ocean research, and will promote research, education, economic development, and environmental sustainability of Florida's coastal ocean.

FIO enables the SUS to provide a virtual intellectual and physical hub for the mature and diverse marine science enterprise that exists in the state. Established entities across academia, government, and the private sector will collaborate to:

- Promote research, education, and project management;
- Enhance public awareness of ocean science issues affecting all Floridians;
- Maximize the efficient use of supporting infrastructure;
- Produce scientific solutions;
- Leverage public and private sector investments to increase capacity; and
- Inform public policy development and decision-making.

Florida benefits enormously from comprehensive, over-arching coastal and marine organizations. A few examples are highlighted below:

- **Florida Oceans and Coastal Council (FOCC)** was created by the 2005 Legislature through The Oceans and Coastal Resources Act. The Council is charged each year with developing priorities for ocean and coastal research and establishing a statewide ocean research plan.

- **Florida Ocean Alliance (FOA)** is a nonpartisan organization dedicated to bringing together government, academic, and private sectors in Florida to protect and enhance Florida's coastal and ocean resources for continued social and economic benefits.

- **NOAA Cooperative Institutes (CI)** includes *Marine and Atmospheric Studies* established in 1977 at the University of Miami, an *Environmental Cooperative Science Center* led by Florida A&M University, was established in 2001, the *Northern Gulf Initiative* established in 2006 with Florida State University as a partner, and the recent establishment, in 2009, of the *Ocean Exploration, Research, and Technology Development Center* led by the Harbor Branch Oceanographic Institute at Florida Atlantic University, with the University of North Carolina Wilmington as co-managing partner and limited partnerships with SRI International, St. Petersburg, Florida and the University of Miami.

- **Florida Sea Grant College Program** applies the scientific expertise of 15 private and public universities and research facilities toward solving the state's coastal problems. Through the funding of timely research in fisheries, aquaculture, marine biotechnology and coastal processes, the program brings researchers together to resolve problems that are clearly of major importance in the State. Florida Sea Grant is headquartered at the University of Florida at Gainesville, Florida.

- **National Coral Reef Institute (NCRI)** was established in 1998 at Nova Southeastern University. NCRI's primary objective is the assessment, monitoring, and restoration of coral reefs through basic and applied research and through training and education.

- **Florida Coastal Ocean Observing System consortium (FLCOOS)** established in 2005 to help coordinate and promote a coastal ocean observing system for the State of Florida.

FIO will facilitate collaboration among various coastal, marine and oceanographic components of the SUS to collaborate more effectively with each other and with the aforementioned entities. FIO will be the organization best positioned to coordinate and facilitate activities common to all. Moreover, FIO will provide statewide leadership in helping Florida's citizens and policymakers understand critical issues related to:

- The impact of clean oceans and beaches on the state tourism industry;
- Risks associated with hurricanes and tropical weather;
- Red-tide blooms;
- The health of living marine resources such as coral reefs;
- The health and economic importance of recreational and commercial fisheries and aquaculture;
- Impact of offshore oil drilling;
- Impact on living marine resources, human health and agriculture from fresh-water usage, estuarine and coastal water quality;
- Ocean acidification;
- The relationship of coastal ocean currents to effective search and rescue operations;
- Sea-level rise; and
- Impact of climate change.

The Earth system is changing and the future will require an educated and informed populace and a new breed of ocean scientists, engineers, and public policy leaders to maintain a productive, sustainable environment. FIO will be an essential partner in realizing that future both in Florida and globally. FIO has the potential to transform the way Florida's scientists conduct coastal ocean research and education and establish the State of Florida, the SUS and FIO member institutions as international leaders in ocean science.

The Interdependency of Florida and its Ocean Environment.

The United Nations predicts that the global, human population will increase from approximately 6.77 billion now (World POPClock Projection) to about 10 billion by the year 2100[1]. Following past trends many, if not most, of the new additions to the Earth's population will live near the ocean with rapid coastal urbanization creating new burdens on our environment and potential new perils for mankind. The United States and Florida will most likely follow these trends, thus placing increased burdens on the State's coastal ocean environment and its resources. In contrast, as a global society, we are engaged in a huge experiment with the Earth's natural systems that may lead to significant changes in climate resulting in sea-level rise, changing rainfall patterns, and perhaps changing storm patterns. The health of the ocean and human society will be

[1] Ruddiman, W.F., 2008, *Earth's Climate Past and Future*, W.H. Freeman and Co. (Figure 19-1, p. 344), 388pp.

inextricably interdependent upon each other for coming generations. The future demands more scientific research, more comprehensive coordination of various academic and government entities and significant outreach to the public to adapt and thrive in a changing environment.

Florida is well-positioned to not only take a national leadership role in this arena, but to establish itself as an international voice on marine science discovery and technology. Florida's history, economy and world-renowned quality of life have been and will continue to be enormously dependent upon the ocean and all life contained therein. Florida Oceans and Coastal Council reports that more than $25 billion of Florida's Gross State Product (GSP) is generated from its ocean, and more than $560 billion of the state's GSP, when all direct and value added expenditures are captured, is generated in the coastal counties. There is an urgency to have an efficiently operated AISO that addresses Florida's coastal ocean issues while maximizing the significant knowledge capital of Florida's public and private marine science entities and its limited public financial resources.

Florida's marine science community has a long history of working collaboratively with each other in the cause of scientific discovery, environmental protection and economic development. The sharing of resources, knowledge, laboratory space and equipment has positioned Florida as a national and international leader in ocean science discovery and the creation of new technologies allowing the mapping, monitoring and understanding of our oceans. Among the state's collaborative efforts which have set new standards for scientific cooperation are efforts such as the Florida Coastal Ocean Observing System, a consortium of state and private universities, non-profit organizations and private companies which continues to build and maintain an advanced, monitoring system producing critical data on such key issues as red tide, storm surge and habitat mapping. Another notable example of exemplary interagency cooperation comes in the Center for Prediction of Red Tides, a cooperative effort between state agencies and higher education aimed at understanding, predicting and minimizing the effects of complex red tide formation and persistence in an effort to protect public health and the state's tourism and boating industries. In the field, Florida's marine science agencies have collaborated in making significant discoveries, such as the Pulley Ridge Expedition in which the nation's deepest coral reef was discovered. Working collaboratively over a period of more than five years, scientists from a wide-range of backgrounds in Florida's universities, private marine research laboratories, and government entities were involved in what has become one of the state's most significant scientific discoveries. Yet even with a proud history of scientific achievement, it is clear there is still much more to be discovered.

The Significance of the Coastal Ocean.

FIO will have within its scope all research and education aspects of coastal oceanography that affect the State of Florida. These are intrinsically wide-ranging because Florida, as a peninsula surrounded by water, is fully impacted by the intimately coupled ocean-atmosphere system. With Florida's economy largely based on tourism and agriculture, and with ever-growing coastal populations and associated development, it can be said that no aspect of Florida's economic health goes untouched by Florida's oceans. It is a matter of national importance as Florida's marine economy overall represents more than five percent of the nation's marine economy while

the Florida Ocean and Coastal Council reports that Florida's coastal and ocean economy generated more than $560 billion in 2008. Given its importance on a myriad of levels, special attention must be paid to the coastal ocean in its entirety because it is the source of conditions that determine water properties at Florida's beaches and the health of habitat for marine life and for ocean food sources. Environmental stewardship for the State of Florida requires a systems-wide approach and would suffer under any system that did not provide a cohesive, well-coordinated and mission-driven approach to the intertwined natural systems that determine the health of our oceans and our state.

There are three regions of oceanographic concern to which FIO must be particularly attuned:

1. The *watershed*, consisting of the upland drainage basins that feed into the rivers, the estuaries and the aquifers, which begins on land and continues offshore to the state water limits;

2. The *coastal ocean*, the continental shelf region between the shoreline and the deep-ocean where society literally meets the sea, where most commercial and recreational fisheries take place and where phenomena such as harmful algal blooms (red tides) occur; and

3. The *deep-ocean* extending beyond the continental shelf break.

The properties of the coastal ocean are determined by the interactions that occur between the coastal ocean and the deep-ocean and between the coastal ocean and the upland watershed via land drainage through rivers and estuaries. With a coastal ocean focus, plus a facilitating role amongst other agencies and programs, FIO will be positioned to support systems-wide SUS scientific leadership in an area unique to the State of Florida but whose properties also hold vital lessons for the world's increasingly urbanized coastal areas.

Consistency with the BOG Strategic Plan.

The Strategic Plan of the State University System of Florida, adopted by the BOG on June 9, 2005 and extending for the period 2005-2013, assumes participation of each university in the statewide plan and asserts that, "The Board will support universities' efforts and provide leadership when progress toward goals requires funding, state-level policies, or collaboration with other agencies." The FIO AISO is a significant effort that will contribute to the SUS' shared mission to serve the needs of a diverse state through excellence in teaching, research, and public service. It is the responsibility of the BOG and, therefore, the SUS to "ensure well-planned coordination and operation… and avoidance of wasteful duplication of facilities or programs." FIO will be an example to be emulated in other academic programs and areas of research within the SUS. The following three SUS goals are reflected throughout this document and the accompanying Memorandum of Understanding (MOU): (1) access to and production of degrees; (2) meeting statewide professional and workforce needs; and, (3) building world-class academic programs and research capacity. FIO will assist in facilitating these goals.

Expanded access to at-sea research facilities and ease of coordination with peer researchers throughout the SUS will enhance the recruitment and retention of talented professors; attract more high ability Bachelor's, Master's and PhD students resulting in more degrees awarded in related high demand, high skilled and high wage targeted areas; increase interface with public and private employers of marine scientists leading to new job creation and economic growth; and foster cooperation and collaboration which will produce more publications, awards, and recognition for the SUS as a national leader in coastal oceanographic education and research. Most importantly, the FIO will significantly strengthen the SUS' competitive position in securing higher levels of R&D investment from the federal government, foundations and industry. It is anticipated that the creation of FIO will elevate the SUS' status as a global hub of world-class oceanographic education and research.

These goals are interdependent. For example, introduction of a new area of concentration in Marine Resource Assessment at USF's College of Marine Science is attracting increased student interest (i.e. more degrees); responding to a critical need identified to Congress by NOAA's National Marine Fisheries Service (i.e. meeting workforce needs); and will enhance the reputation of the SUS. Partnership with, and by, FIO is critical to the success of this new program.

As an AISO, the FIO's vision, mission, and goals are aligned with the BOG Strategic Plan as applied to issues and opportunities concerning Florida's ocean environment.

The Importance of Infrastructure Support.

From these discussions, the FIO niche becomes abundantly clear. Its core support mission will include the facilitation of research and education in Florida's ocean environment, ensure the adequacy of infrastructure support, and serve as a coordinating body for oceanographic research and education for Florida across academia, the state and federal agencies and the private sector. This requires, first and foremost, infrastructure support for sea-going operations and other shared-use facilities. Ensuring access to all major research and educational capabilities throughout the State is a primary objective for FIO.

The importance of versatile, ship-based platforms is, and will continue to be, paramount to the infrastructure support function of FIO. However, other shared-use facilities such as shore-based support facilities (e.g., Keys Marine Lab) and specialized equipment (e.g., autonomous underwater vehicles, manned-submersibles, oceanographic observing platforms and sensors), are also important. Shared infrastructure will consist of assets owned by either the FIO or consortium members, with management or facilitation of their use representing a key function of FIO.

Historically, Florida's east and south coasts drew ship operations from the Harbor Branch Oceanographic Institute (HBOI) *R/V Seward Johnson* and the University of Miami (UM) *R/V Walton Smith*, both of which are University National Oceanographic Laboratory System (UNOLS) ship operators with research days-at-sea largely assigned to investigators by the National Science Foundation via a competitive grant-proposal process. Additional sea-going

operations were facilitated by smaller vessels operated by Florida Atlantic University SeaTech and NOVA Southeastern University.

The west coast of Florida had access to the *R/V Suncoaster* (now sold) and the *R/V Bellows*, along with more limited, local support by FSU. Without these vessels, research in Florida's ocean environment would have been greatly hampered. For example, without these vessels there would not have been any substantive coastal ocean research for the West Florida continental shelf, a coastal ocean region that is as large as the entire sub-aerial State of Florida landmass. This situation, at least for the west coast of Florida, remains unchanged. Presently the *R/V Weatherbird II* and *R/V Bellows* continue to provide infrastructure support for seagoing operations.

Should it become apparent to the FIO Ship Scheduling and Coordination Committee, the FIO Council, and the FIO leadership that parts of the state, particularly the east coast, do not have sufficient access to the FIO vessels due to extensive, insurmountable transit times, the FIO Council may approve a Legislative Budget Request (LBR) to fund an additional vessel of sufficient size and ability. USF staff, in consultation with the FIO Council and FIO Director, will prepare and submit the LBR, through the Council of Academic Vice Presidents (CAVP) to the BOG, on behalf of the FIO according to standard LBR procedures. Any such new vessel would be operated by FIO personnel but would likely be home-ported at an appropriate facility along Florida's east coast.

Anticipated Funding Sources.

Florida's marine science community is grateful to the BOG, the State Legislature, and Governor Crist for having the foresight to recommend and provide funding for the *R/V Weatherbird II.* This vessel greatly enhances the marine science community's capability to conduct oceanographic research in the state's coastal ocean. The marine science community cannot overstate the importance of this new research platform. USF will continue as the host organization for FIO under the proposed MOU.

Initial resources (staff, funds, grants, services) to start up FIO will consist of those previously dedicated to the Florida Institute of Oceanography, as well as those previously identified for the acquisition and operation/maintenance of the *R/V Weatherbird II*. It is anticipated that incremental increases would be needed and occur through the LBR process with guidance and advocacy provided by all member institutions. An AISO will have the ability to propose special requests through the Council of Academic Vice Presidents (CAVP) to the BOG for consideration as an issue in the SUS system-wide LBR.

As a result, FIO will be supported by funds flowing from the State Legislature, fees charged for use of vessels and facilities, appropriate charges to administer contracts and grants awarded to or passed through FIO, and overhead returned. A five-year projected budget is included with the MOU as Attachment A. Members will also be encouraged and supported in requesting funds for education and infrastructure improvements not specific to any one institution or organization or research project. Cooperative agreements or contracts with private enterprise for at-sea activities/observations may also generate additional support.

MEMORANDUM OF UNDERSTANDING (MOU)
Academic Infrastructure Support Organization Proposal (AISO)

The Florida Institute of Oceanography (FIO)

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1. Vision and Creation.

The Florida Institute of Oceanography (FIO) will facilitate and support Florida's emergence as the pre-eminent state in the nation for research and education in understanding ocean processes and how they impact economically essential natural resources and contribute to natural and man-made hazards.

The University of South Florida, in its capacity as the host university, and the participating universities hereby request that the Florida Board of Governors (BOG) approve this proposal to name and restructure the current Florida Institute for Oceanography as the Florida Institute of Oceanography (FIO) pursuant to BOG Regulation 10.015(6). The host and participating universities agree to mutually support the creation of a new AISO as follows.

2. Establishment of the AISO.

(a) The name of the AISO.

The Academic Infrastructure Support Organization established and governed by this MOU shall be named The Florida Institute of Oceanography (FIO).

Under this MOU, the University of South Florida (USF) assumes the role of host university, with the support of participating universities, for the operation of FIO, an Academic Infrastructure Support Organization (AISO) of the State of Florida approved by the State University System (SUS) Council of Academic Vice Presidents (CAVP), ratified by the presidents and chairs of the boards of trustees of the member institutions and approved by the BOG.

(b) The Mission and Goals of the AISO.

FIO will have within its scope all aspects (research and education) of oceanography that affect the State of Florida. FIO will direct its focus on the entire coastal ocean, from the coastline to the deep ocean, thereby positioning itself to facilitate and support systems-wide scientific leadership within the SUS for the environmental stewardship of the State of Florida.

The FIO mission is: to (1) provide a diverse and collaborative statewide forum addressing problems of concern in coastal oceanographic research and education; (2) leverage and integrate existing physical and intellectual resources within the State University System (SUS) and throughout Florida; (3) anticipate and plan for future infrastructure needs; (4) facilitate, promote

and support collaborative ocean-related research and education statewide; and (5) develop and strengthen networks that enable timely identification of oceanographic research opportunities and distribution of research results and other information to the general public, natural resource management agencies and local, state and national policymakers.

(c) A five-year budget that projects the major sources of funding and expenditures.

Most of the activities delineated above represent new or enhanced initiatives and will require additional resources. The FIO Council will review and recommend annual budgets and ensure their sufficiency to meet the strategic goals of the AISO. A five-year continuing operational budget, based upon current state appropriations, is presented in Appendix C.

(d) Identification of the host institution/fiscal agent and participating institutions/ organizations.

USF serves as host institution with FIO housed on the campus of the College of Marine Science in St Petersburg, Florida, where the *R/V Bellows* and the *R/V Weatherbird II* are home-ported. Fiscal accounting functions are administered by USF and will be overseen by the USF Board of Trustees (BOT).

The FIO consists of the eleven (11) state universities and nine (9) other entities which include faculty, staff, and scientists conducting research and teaching and who may wish to utilize ships, facilities, and other services provided by FIO. In addition to the eleven (11) state universities, members grandfathered in (through Florida Institute of Oceanography membership) by consenting to and executing this MOU are: Eckerd College; Florida Sea Grant College; University of Miami, Rosenstiel School of Marine and Atmospheric Science; Florida Department of Environmental Protection; Florida Fish & Wildlife Conservation Commission, Fish and Wildlife Research Institute; Florida Institute of Technology; Mote Marine Laboratory; Nova Southeastern University; and the Smithsonian Institution Marine Laboratory.

(e) The governance and organizational structure of the AISO and criteria for appointments to the advisory board or executive committee, including terms, roles, authority, and number of members.

The FIO organization consists of the following (See Appendix A, *Organizational Chart*):

1) FIO Council, with an Executive Committee;
2) FIO Board of Visitors;
3) FIO Ship Scheduling and Coordination Committee; and
4) FIO Director and staff.

The **FIO Council** will consist of one (1) representative from each member organization and two (2) from the host institution appointed for a two (2) year term by its president or CEO or his/her

designee and who is an active member of the Florida coastal ocean research and education community. Members may be reappointed, but, in no case, shall any member serve more than three (3) consecutive terms. The foregoing notwithstanding, the second member appointed by the host institution may serve unlimited terms. Additionally, the FIO Director together with a representative of the BOG will serve as non-voting, *ex-officio* members.

The FIO Council shall elect a Chair biennially from the membership and will meet at least once, in person, each year and by telephone conference as needed. Agendas for the meetings will be set by the Chair of the FIO Council in consultation with the FIO Director and approved by the Provost of the host institution.

The FIO Council may elect to membership other institutions in the Florida ocean science education and research community that meet the criteria for membership approved by the FIO Council. Criteria for membership will address commitment to the support of shared use facilities; agreement to support legislative budget requests of the FIO as required to maintain and operate these facilities in a safe, efficient and cost-effective manner; commitment to attend all scheduled meetings of the FIO Council and FIO Executive Committee, if appropriate; and completion of assignments in a timely manner as agreed to by the FIO Council or FIO Executive Committee. Similarly, the FIO Council may elect to remove non-SUS member organizations for lack of participation.

The primary function of the FIO Council is advisory to the FIO leadership (i.e. Provost of the host institution and the FIO Director) regarding:

- Development and maintenance of an effective SUS and state-wide collaboration that will position the FIO as a respected national leader in oceanographic research and education;
- Development and strengthening of networks that facilitate achievement of the FIO's mission and goals;
- Policies and procedures involving members;
- Opportunities for efficiency and effectiveness improvements in research and education activities;
- Appropriateness and relevance of grant applications; programmatic research and education contracts;
- Strategic and operational plans;
- Alignment of FIO budget with strategic priorities;
- Adequacy of budget requests and identification of potential sources of revenue;
- Content of the Annual Report;
- Improvements identified by the BOT of the host university or its designee during its review of the Annual Report; and
- Findings of the Programmatic Evaluation/Review; and correction of weaknesses identified during financial audits.

The FIO Executive Committee will consist of five (5) FIO Council members including the FIO Council Chair and four elected members. At least one member of the FIO Executive Committee

shall be from the host institution. The FIO Executive Committee will meet at least three times per year and provide administrative oversight of the FIO in cooperation with the FIO Council and the Provost of the host institution. The FIO Director will serve as a non-voting, *ex officio* member. Written reports of the items discussed and actions taken at meetings will be sent to the FIO Council via email and posted on the FIO website for the benefit of the FIO Council and interested parties.

The FIO Ship Scheduling and Coordination Committee will consist of at least three (3) members (with at least one from the host institution) elected by the FIO Council and will assure that the research vessels can work efficiently in all of Florida's coastal ocean and surrounding waters (Straits of Florida, coastal Atlantic, Bahamas, Caribbean, northern Gulf of Mexico). The membership will reflect the geographical diversity of Florida. Recognizing that there are long transit times from the St. Petersburg-based port to Florida's east coast, efficient long-term planning assisted and overseen by the FIO Ship Scheduling and Coordination Committee will assure that FIO members will have access to these vessels from Jacksonville to Pensacola. The goal is for all FIO members to have access to state-supported ship time on the *R/V Bellows* and on the *R/V Weatherbird II.* The host university and all participating universities agree to provide appropriate support to effectively manage the costs of vessel operation, maintenance, repair and scheduling. Should those vessels not be available, then FIO members will seek information on the availability of other research vessels around the state. The members of the FIO Ship Scheduling and Coordination Committee will be elected by the FIO Council and will work closely with the FIO Marine Superintendent who receives the requests for initial scheduling of grant/contract awarded ship time.

For grant/contract awarded ship time, requests will be made to the FIO Marine Superintendent for initial scheduling. Verification of funding will be provided no later than three (3) months prior to sailing. The FIO Marine Superintendent, in consultation with the Ship Scheduling Committee, will establish the schedule for the *R/V Weatherbird II* and the *R/V Bellows* to assure maximum efficiency of transit operations. Principal investigators may have to share some of the cost of transit times. Such an assessment should be built into the budgets of proposals prior to submission. To determine an appropriate assessment, PIs should consult with the FIO Marine Superintendent prior to completing proposal budgets. It is important to note that any principal investigator from any institution (private or public) in Florida or elsewhere can purchase time on the *R/V Weatherbird II* for legitimate scientific purposes. No one organization has exclusive use of this vessel.

State-supported ship time is awarded through an annual competitive process with the goal of optimizing implementation of the established FIO mission and research goals. Faculty or research staff scientists associated with any of the FIO membership institutions may apply. The FIO Council will appoint an *Ad Hoc* Shiptime Proposal Review Committee whose members will determine the guidelines for an award and will judge each year's submissions. Once the awards are made, the FIO Marine Superintendent will establish a tentative schedule for review by the Ship Scheduling and Coordination Committee. The state-supported ship time will be cost-shared by the member institutions receiving state-supported awards. The level of cost-share will be determined each year at the annual meeting of the FIO Council (See Appendix B, *Business Operations Plan*).

The FIO Board of Visitors will have five (5) to nine (9) members appointed by the host institution President, in consultation with the FIO Council and the Council of Academic Vice Presidents (CAVP), for a three (3) year term to provide broad oversight to the FIO. Members may be reappointed, but shall serve no more than three (3) consecutive terms. Members will represent the overarching oceanographic research and education interests of global, national and Florida-focused entities. The FIO Board of Visitors shall include representatives from the private sector, higher education, government scientific laboratories and agencies, and others as deemed appropriate by the host institution President.

Reporting to the Provost of the host institution and the FIO Executive Committee, the role of the FIO Board of Visitors is to serve as a valued resource to FIO by providing advice on best practices for optimizing the resources of the FIO and member institutions; identifying strategic directions for potential cooperative programming; interfacing with potential funding sources; and representing FIO and the vital importance of oceanographic research to the broader community.

(f) Guidelines for appointing, funding, supervising, and evaluating the AISO leadership position.

The FIO Director shall be appointed by the Provost of the host institution in consultation with the FIO Executive Committee. The Director reports to the Provost of the host institution who will annually approve the FIO strategic and work plan, and operating budget, and will conduct a performance appraisal of the Director. Operational supervision may be delegated as appropriate.

Within six months of the effective date of the MOU, the FIO Director will provide drafts of by-laws and a five-year Strategic Plan for both research and education and a draft Vessel Management Plan for review by the FIO Council prior to submission to the Provost at the host institution. These plans will set annual performance objectives, with metrics, in at least the following areas:

- Increase in funds for at-sea research,
- New funding sources captured,
- New research initiatives,
- Ship days fully utilized,
- Degrees awarded in targeted areas with support of the FIO,
- New high skilled, high wage jobs created with the assistance of FIO,
- Federal and Total R&D awards/expenditures with assistance from the FIO,
- Student theses, dissertations completed with FIO assistance,
- Student papers produced as a result of FIO research,
- Educational workshops provided by FIO collaborators,
- Publications by faculty as a result of FIO research,
- Citations of above publications,

- Adherence to regulations/policies for safe and secure vessel operations (e.g. training sessions offered, copies of inspection certificates/copies of memos to personnel files, counseling sessions, safety seminars), and
- Avoidance of delays associated with Vessel Maintenance.

The FIO Director shall complete an annual report no later than September 1 of each year covering the previous fiscal year (July 1-June 30). The report shall include a summary of activities and accomplishments, provide actual expenditure and position data, and include a workplan for the current fiscal year [BOG regulation 10.014 (3) (a)]. Prior to its submission to the Chancellor, no later than October 31 of each year, the report will be distributed to members of the FIO Council for review and comment and will be approved by the Provost of the host institution.

The FIO Director will maintain active contact with FIO member institutions by visiting campuses, scheduling and conducting workshops, conducting needs assessments and providing advance knowledge of FIO activities to achieve the goals of the AISO. Under the FIO Director's guidance, the FIO staff has the primary responsibility for operation and maintenance of the vessels, implementation of the ship schedule, and support for PIs to achieve the research goals; coordination of the education components to achieve the education goals; maintenance of the FIO website; and support for grants and other services provided to member institutions.

In the event of a vacancy in the FIO Director position, a search committee will be appointed by the Provost and will follow the customary search process of the host institution.

(g) Expectations for administrative and logistical support for the AISO, including expectations regarding reimbursement to the host university for the direct costs of administrative services rendered by the university to the AISO.

The host institution through the College of Marine Science shall provide administrative and logistical support for the Institute including, but not limited to, reasonable office space with directly related support services, utilities, insurance, personnel services, purchasing, financial, legal, government relations/ advocacy and physical plant services. In the event of any unforeseen or additional costs incurred, the host university and all member institutions agree to provide appropriate support. The budgetary and administrative practices of FIO shall conform to those of the host institution.

FIO personnel may be eligible for consideration for appointment to faculty positions at the host institution or participating universities in conformity with established procedures.

All of the above conditions shall conform to all appropriate statutes and the rules and regulations of the BOG.

(h) Procedures for recommending increases/decreases in the appropriation of State funds for the AISO.

An effective FIO effort entails cohesive collaboration reaching throughout Florida. Support from the State Legislature and the Governor will be essential to achieving practical, positive and sustainable solutions to the coastal oceanographic problems that challenge Florida. Enabling the effective and continued achievement of the FIO's goals and research mission will enhance the quality of life for Floridians, attract and sustain tourism, provide oceanographic and educational leadership for the State and Nation and stimulate further economic development. Input will be sought broadly from member institutions and organizations interested in the goals of FIO. The FIO Council will hold an open budget planning session to seek input and identify statewide, collaborative initiatives that require funding requests to the Legislature. After review by the FIO Council, State appropriations will be requested via the established Legislative Budget Request (LBR) process and submitted by the host institution in consultation with, and on behalf of the FIO, through the CAVP to the BOG and shall correspond to the State University System's five-year strategic plan.

(i) Specifications for the processing of Grants and Contracts, including the percentage of overhead funds to be returned to the AISO.

Contracts and grants proposed by FIO to external sponsors shall be processed through the host institution's Division of Sponsored Research. Facilities and Administrative costs (also referred to as overhead or indirect costs) will be charged using appropriate F&A rates approved by the Division of Sponsored Research. The host institution's earned facilities and administrative costs will be managed in accord with Florida Statute 1004.22(5) with any balances earned by FIO to be distributed in accord with the host institution's Research Initiative Account (RIA) practice for the given year.

(j) Ongoing planning and operating expectations and criteria for the cyclic review of the AISO.

Planning and performance assessment shall take place every year on a five-year strategic planning cycle. All operations are to be included in the plan. Annual workplans will be developed to support each Strategic Plan component. Progress towards the goals will be assessed within the Annual Report and the annual evaluation of the FIO Director and in the Programmatic Evaluation/Review.

The minimum five-year Programmatic Evaluation/Review required for each AISO [BOG Regulation 10.0014(3)(b)2.] will be conducted by the host institution, with the advice and input of the FIO Council and FIO Board of Visitors and will include, at least:

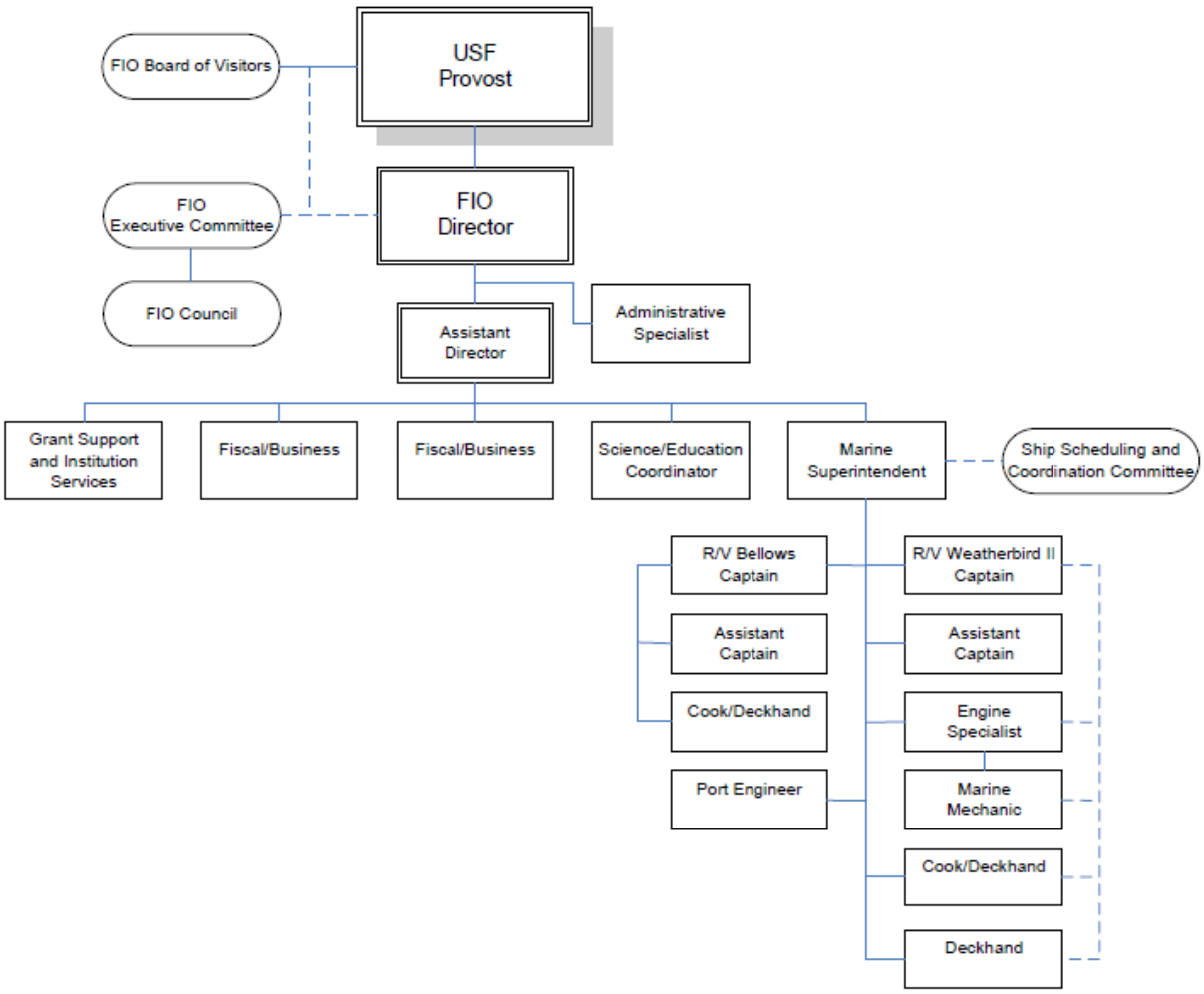
- A determination of the FIO progress against the defined goals and objectives within the context of the FIO mission, the participating universities' missions, and the current BOG Strategic Plan;

- An assessment of the return on investment of State dollars;
- The need for continuation of FIO;
- Proposed changes in mission or organizational structure;
- Recommendations for budget reductions or expansion; and
- Recommendations for status or location change, if applicable.

The BOG, the CAVP, and/or the host institution may request a programmatic review outside the cyclic review schedule. A copy of all review reports shall be provided to the CAVP to inform any related budget recommendations.

The conditions of termination of the AISO are included by reference to the BOG AISO regulations cited at 10.014(4)(a)(b)(c)(d).

Appendix A: Organizational Chart



Appendix B

FLORIDA INSTITUTE OF OCEANOGRAPHY
Business Operations Plan

The Florida Institute of Oceanography (FIO) will provide affordable vessel platforms, and lab support to FIO member organizations, state government organizations, and non-governmental entities. This will be accomplished by operating and providing the *R/V Weatherbird II*, and the *R/V Bellows* on a fee basis and a no-cost basis to successful applicants from the FIO member institutions.

Operational revenue will be generated by daily charges for the use of the *R/V Weatherbird II* and the *R/V Bellows.* Additional revenue support may be allocated from the Florida Legislature and will be utilized to fund the free SUS days awarded to member institutions.

Daily Operations:

Research Vessels

Ship time will be provided and revenue generated by the following:

1. Ship time will be awarded to member institutions through a peer-review process. Awards are based on competitive proposals submitted to FIO. Total awarded shipdays have ranged from 125 days to 145 days per year based on funds allocated by the Florida Legislature and daily operational costs. (See Appendix 3: *Five-Year Budget*.)

2. Ship time will be provided to University researchers, and other governmental agencies. The daily rate is $5,100 per day for the *R/V Weatherbird II*, and $3,300 per day for the *R/V Bellows.* Fee based contracted days average 150 days per year.

3. Ship time will be marketed and provided to commercial non-governmental entities at a daily rate of $9,500 per day.

    - Rates are based on a 24-hour operations day and are all-inclusive. One ship day is the basic unit of charge. Daily charges are not prorated or adjusted for number of passengers or transit vs. station time.

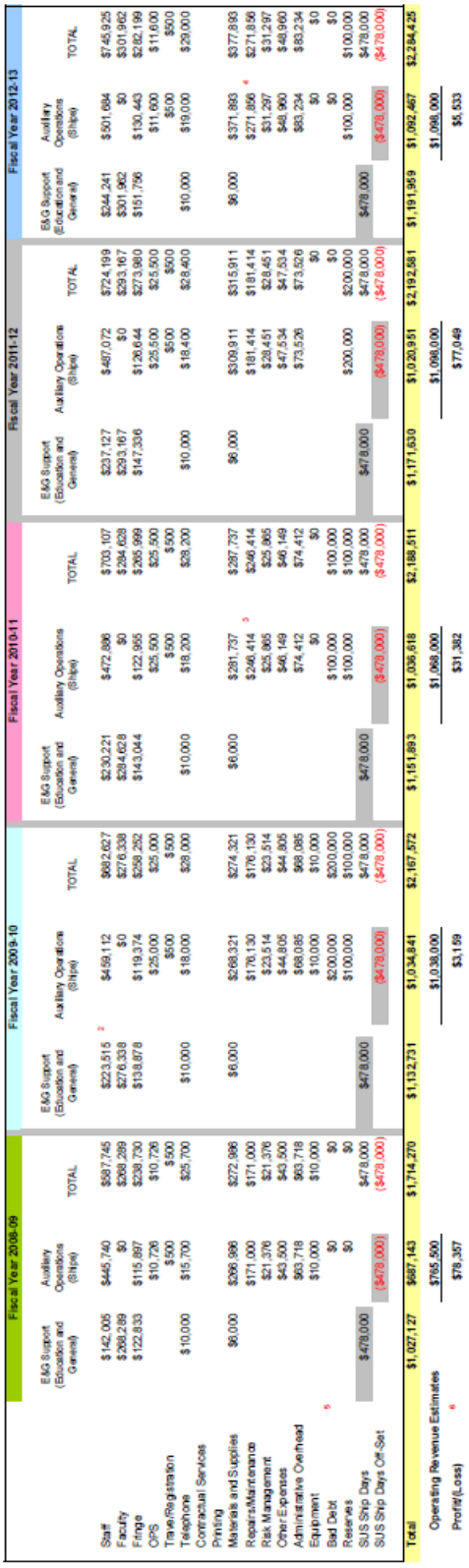
Vessel operations are projected to have a net operating profit of approximately $3,159 for fiscal year 2009-2010. This includes the continued level of State support and 145 days of free paid days on the *R/V Weatherbird II*. (See Appendix 3: *Five-Year Budget).* Profit generated from vessel operations will be utilized to provide a reserve for scheduled haul-outs and maintenance, upgrades to scientific equipment, as recommended by the FIO Council, and may be utilized to increase awarded shipdays.

Future markets:

Major research programs in the Florida/Atlantic/Gulf of Mexico/Caribbean region are underway or under development at the state and federal level and will provide additional market opportunities. The following are some examples:

- Florida Governor's Climate Action Team research recommendations in anticipation of climate change.
- Florida Oceans and Coastal Council research recommendations emphasizing monitoring, mapping, and climate change research including ocean acidification.
- Florida Coastal Ocean Observing System (FLCOOS), a growing state-wide consortium of universities and business cooperatively seeking federal funds for a national ocean observing network.
- Environmental impact of potential Gulf of Mexico and West Florida Shelf oil and gas exploration.
- Red tide research (FWRI and cooperating universities).
- Increased concern with sustainable fisheries in Florida.
- There are additional opportunities to expand operations in the greater Caribbean Sea with an appropriate vessel.

Appendix C: Five-Year Budget



Projected Five-Year Operational Budget[1]

	Fiscal Year 2008-09			Fiscal Year 2009-10			Fiscal Year 2010-11			Fiscal Year 2011-12			Fiscal Year 2012-13		
	E&G Support (Education and General)	Auxiliary Operations (Ships)	TOTAL	E&G Support (Education and General)	Auxiliary Operations (Ships)	TOTAL	E&G Support (Education and General)	Auxiliary Operations (Ships)	TOTAL	E&G Support (Education and General)	Auxiliary Operations (Ships)	TOTAL	E&G Support (Education and General)	Auxiliary Operations (Ships)	TOTAL
Staff	$142,005	$445,740	$587,745	$223,515 [2]	$459,112	$682,627	$230,221	$472,886	$703,107	$237,127	$487,072	$724,199	$244,241	$501,684	$745,925
Faculty	$268,289	$0	$268,289	$276,338	$0	$276,338	$284,628	$0	$284,628	$293,167	$0	$293,167	$301,962	$0	$301,962
Fringe	$122,833	$115,897	$238,730	$138,878	$119,374	$258,252	$143,044	$122,955	$265,999	$147,336	$126,644	$273,980	$151,796	$130,443	$282,199
OPS		$10,726	$10,726		$25,000	$25,000		$25,500	$25,500		$25,500	$25,500		$11,600	$11,600
Travel/Registration		$500	$500		$500	$500		$500	$500		$500	$500		$500	$500
Telephone	$10,000	$15,700	$25,700	$10,000	$18,000	$28,000	$10,000	$18,200	$28,200	$10,000	$18,400	$28,400	$10,000	$19,000	$29,000
Contractual Services															
Printing															
Materials and Supplies	$6,000	$266,986	$272,986	$6,000	$268,321	$274,321	$6,000	$281,737	$287,737	$6,000	$309,911	$315,911	$6,000	$371,893 [4]	$377,893
Repairs/Maintenance		$171,000	$171,000		$176,130	$176,130		$246,414 [3]	$246,414		$181,414	$181,414		$271,856	$271,856
Risk Management		$21,376	$21,376		$23,514	$23,514		$25,865	$25,865		$28,451	$28,451		$31,297	$31,297
Other Expenses		$43,500	$43,500		$44,805	$44,805		$46,149	$46,149		$47,534	$47,534		$48,960	$48,960
Administrative Overhead		$63,718	$63,718		$68,085	$68,085		$74,412	$74,412		$73,526	$73,526		$83,234	$83,234
Equipment		$10,000	$10,000		$10,000	$10,000		$0	$0		$0	$0		$0	$0
Bad Debt [5]		$0	$0		$200,000	$200,000		$100,000	$100,000			$0		$0	$0
Reserves		$0	$0		$100,000	$100,000		$100,000	$100,000		$200,000	$200,000		$100,000	$100,000
SUS Ship Days	$478,000		$478,000	$478,000		$478,000	$478,000		$478,000	$478,000		$478,000	$478,000		$478,000
SUS Ship Days Off-Set		($478,000)	($478,000)		($478,000)	($478,000)		($478,000)	($478,000)		($478,000)	($478,000)		($478,000)	($478,000)
Total	$1,027,127	$687,143	$1,714,270	$1,132,731	$1,034,841	$2,167,572	$1,151,893	$1,036,618	$2,188,511	$1,171,630	$1,020,951	$2,192,581	$1,191,959	$1,092,467	$2,284,425
Operating Revenue Estimates		$765,500			$1,038,000			$1,068,000			$1,098,000			$1,098,000	
Profit/(Loss) [6]		$78,357			$3,159			$31,382			$77,049			$5,533	

[1] *This is a proposed continuation budget based upon current State Appropriations. It does not represent funding for strategic priorities and/or expansion initiatives identified in the FIO proposal.*

This budget does not include USF's cost share for facility and administrative costs (e.g. budget and payroll processing, security, utilities, grant administration), calculated at approximately 49 percent. Contracts and grants awarded to the FIO are not reflected in this operating budget.

[2] *Increase 1-E&G Supported Marine Tech position*

[3] *Ship haul-out (Bellows)*

[4] *Ship haul-out (Weatherbird II)*

[5] *Repay R/V Suncoaster downtime*

[6] *Actual net profit will be utilized for haul-out and repairs*

ACRONYMS USED:

AISO	Academic Infrastructure Support Organization
BOG	Florida Board of Governors
BOT	Board of Trustees
CAVP	Council of Academic Vice Presidents
CI	Cooperative Institutes
CMS	College of Marine Science
FIO	Florida Institute of Oceanography
FIO	Florida Institute of Oceanography
FL COOS	Florida Coastal Ocean Observing System Consortium
FOA	Florida Ocean Alliance
FOCC	Florida Oceans and Coastal Council
FFWCC	Florida Fish and Wildlife Conservation Commission
FWRI	Fish and Wildlife Research Institute
GSP	Gross State Product
HBOI	Harbor Branch Oceanographic Institute
LBR	Legislative Budget Request
NCEP	National Centers for Environmental Prediction
NCRI	National Coral Reef Institute
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
OCS	Outer Continental Shelf
PIs	Principal Investigators
SUS	State University System
UM	University of Miami
UNOLS	University National Oceanographic Laboratory System
USF	University of South Florida