Rank	avg rank score	Research Component, short title
		Exact intent of RC title may require context provided by surrounding text in the 2006-2007 Annual Research Plan
1	12.42	***RC 12: Establish real-time interdisciplinary observing systems in areas that currently have no or minimal observing.***
2	13.45	***RC 74: Identify and evaluate new technologies—including but not limted to sensors (LIDAR, sonar, passive acoustics, infrared), telemetry (radio, satellite, telephone) and bio-chemical analyses (elemental isotopic, genetic)—for their potential to measure biological activity continuously at a level similar to that presently used to monitor water quality, hydrology, and climate. These technologies and/or techniques should be compatible and simultaneously deployed with Integrated Oceanographic Observation Systems (IOOS) that are located in coastal waters around the United States.***
3	14.55	***RC 17: Establish continuous, long-term monitoring of salinity and dissolved-oxygen conditions to support development of modeling tools, assess the impact of sea-level rise, and assist in resource management (for instance, commercial and sport fisheries) in the estuaries.***
4	15.92	***RC 49: Using a historical approach, estimate the effect of the loss of coastal mangrove and seagrass habitat on the species that depend upon them.***
5	16.25	***RC 15: Develop, install, and implement new and improved biological monitoring instrumentation and protocols that will make biological observations match the geographic scale of physical oceanography measurements. Examples are tracking migratory species, developing methods for interdisciplinary observations of nutrients, chlorophyll, algal blooms, and fisheries and other aquatic resources to link physical-chemical conditions to biological effects.***
6	16.5	***RC 14 Establish an interdisciplinary remote sensing capacity for Florida's coastal and offshore waters.***
7	17.67	***RC 6: Produce present-day highest-resolution bathymetric maps, identifying physical geologic setting (sediment/rock) and submarine aquatic vegetation with the goal of mapping the entire State's waters by 2015.***
8	18.36	***RC 23: Use existing technology, including satellite remote sensing, to better link red tide research and monitoring to physical oceanography in order to better predict red tide size, trajectory, and intensity and potential impacts and to provide an early warning system.***
9	19.82	***RC 38: Develop an integrated statewide water budget, considering watersheds outside of Florida as necessary, that accounts for inputs, storages, transfers, and losses of atmospheric, surface, and ground waters to identify the extent of inflow change to the state's coastal waters.***
10	20.08	***RC 100: Develop new methods for the assessment of fishery populations that include acoustical and genetic methods.***
11	20.25	***RC 1: Identify and prioritize specific coastal areas around the State for bathymetric mapping - with the goal of mapping the entire State's coast by 2010.***
12	22	***RC 101: Conduct monitoring, assessment, and modeling evaluations of the impacts of fishing on ecosystems. These studies will include impacts of various gear uses; removal of both predator and prey species, sex, size population-dynamic relationships; loss of keystone species; and other trophic-level interactions.***
12	22	***RC 28: Develop coastal, estuarine, riverine, and lagoonal models to be nested with adjacent shelf models to improve understanding of land-sea linkages .***
14	22.25	***RC 49.5 Evaluate the long-term stability of coastal wetlands (marshes, mangroves, seagrasses) in relation to sea-level rise and episodic disturbances (i.e., hurricanes).***
15	22.33	***RC 99: Assess effectiveness of Marine Protected Areas and Marine Reserves and other types of protected areas to enhance the surrounding ecosystem, for instance through "spillover" effect.***

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16	22.58	***RC 133: Determine the market and non-market values for all sectors of the Florida ocean and coastal economy using a consistent methodology and available data bases that can be repeated periodically to track the performance of each sector dependent on the coast and ocean. Make the information available to the legislature and the public on the web.***
17	22.64	***RC 22: Integrate HAB monitoring with data collection in the Ocean Observing System to allow examination of empirical relationships between HAB occurrence, spatial extent and intensity with physical-chemical data and provide an improved understanding of factors controlling HABs.***
18	23.75	***RC 2: Create maps to link previously mapped areas on the coast (identified through the State Coastal Inventory) seamlessly to existing offshore data where possible. This will show where gaps exist and identify datasets that are not compatible***
19	24.17	***RC 16: Establish and enhance hydrological, chemical, and biological monitoring and assessment, including stationary and mobile systems such as shipboard surveys with accompanying modeling of the systems being monitored, to support agency programs to preserve and manage Florida's natural resources.***
20	24.18	***RC 66: Assess the effect that human waste management, and septic tank use in particular, has on nutrient loading and water quality in nearshore habitats.***
21	25.27	***RC 56: Identify quantitative relationships between nutrient concentrations in coastal waters and impairment of flora and fauna, so that agencies can use this information to establish scientifically-sound targets (such as nutrient criteria) for nutrient concentrations and loads.***
22	25.33	***RC 59: Assess the impacts of non-point source pollution, particularly storm-water runoff from urban areas, and determine the most effective means of abatement.***
23	26.08	***RC 8: Perform bathymetric and benthic-habitat mapping of important Florida tidal rivers and estuaries by 2010. These are to be used to determine essential environmental conditions needed for living marine resources and to provide data for modeling the environmental impacts of management decisions regarding water use.***
24	26.92	***RC 41: Develop and field-test biotic indicators (species, species groups, habitats, communities) as criteria and targets for statewide use in determining whether watershed and stream management practices are protecting natural estuaries and marine ecosystems, and restoring impaired ones.***
25	27	***RC 104: Work with fishers to identify fishery spawning aggregation sites around the state, and then validate and characterize these areas.***
26	27.08	***RC 47: Determine the relationship of the timing, quantity, and distribution of major river outflows and submarine groundwater discharges to the distribution and abundance patterns of coastal marine organisms.***
27	27.25	***RC 127: Develop and demonstrate recirculating marine aquaculture technology for marine sport fish stock enhancement and restoration.***
28	27.33	***RC 92: Quantify the impacts of HABs on commercial and recreational fisheries, coastal tourism, contact recreation, and other human activities integral to the economy of Florida's coastal areas.***
29	27.5	***RC 141: Determine the economic impacts of long term trends in beach loss, including:*** ***a) a) Determine the economic and environmental costs and benefits of continued beach-renourishment projects, including determining the economic feasibility, extent, availability, quantity and quality of offshore sands suitable for beach renourishment. Link to water quality studies of this issue in the Water Quality section.*** ***b) b) Determine the effect of continued beach-renourishment projects on turtle, seabird, and adjacent coral and fish populations and on other organisms dependent on beach ecosystems for food, shelter, and reproduction. Include subsequent economic impact as well.***

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29	27.5	***RC 42: Determine the locations and sizes, dominant physico-chemical features, living resources, and unique ecological functions of all oligohaline and tidal-fresh waters in Florida.***
29	27.5	***RC 98: Conduct studies linking key fish spawning areas to larval distribution and adult population-distributions on the Florida shelf, for example Riley's Hump in the Tortugas Ecological Reserve.***
32	27.67	***RC 19: Coordinate methods of sampling and analysis among the multiple State, Federal, and local agencies and universities and research institutions that monitor and research HABs in Florida.***
33	28.08	***RC 148: Determine coastal construction and design practices related to reducing shoreline erosion. Determine the social, economic, and environmental consequences of increasing rates of beach erosion, coastal armoring, and beach renourishment.***
34	28.42	***RC 93: Develop and implement rapid monitoring and assessment tools and procedures for identifying microbial pathogens in rivers, coastal waters, sediments (including beaches), and seafood.***
35	29	***RC 68: Compare the environmental risk to water quality of septic systems to that of centralized sewage systems to area waters, particularly on islands.***
36	29.42	***RC 67: Assess the effects of nutrients from ocean outfalls on coastal habitats.***
36	29.42	***RC 78: Determine the hydrologic conditions that result in HAB development, using a combination of observations and modeling. Enhance the collection of data on the size, duration, intensity of blooms.***
38	30.36	***RC 79: Determine influence of watershed nutrients resulting from land-use practices on HAB formation and collapse***
39	30.91	***RC 125: Evaluate the potential benefits and risks of offshore aquaculture in Florida.***
40	30.92	***RC 134: Determine the economic value of coastal ecosystems and habitat when left to function as a natural system.***
41	31.25	***RC 108: Determine which geospatial habitat conditions support an increase in fish recruitment as a result of marine reserves. This research should consider the size and location in relation to biotic and abiotic conditions.***
41	31.25	***RC 71: Building on existing initial efforts (DEP, FWC, WMDs, CERP), hold a statewide workshop to identify initial habitats for which to develop bioassessment methods. Discuss possible pilot projects in different regions that pose different expectations.***
43	31.75	***RC 122: Demonstrate economically feasible the production and marketing of a high-value marine fish species that can be farmed in a land-based recirculating production system.***
44	31.83	***RC 136: Determine the social and economic costs and benefits that derive from public and private conversion of coastal and waterway access points to non-water dependent uses. Determine incentives to retain water-dependent and water-related facilities that serve public needs and reflect public values in order to maintain public access to public coastal waters. Produce annual reports stating the length of Florida's sandy beaches that are publicly accessible.***
45	32	***RC 91: Determine factors resulting in macro-algal blooms.***
46	32.58	***RC 105: Create coastal ocean environmental indices in support of fisheries research and spatial management of the fisheries. Monitoring of habitat conditions on a daily basis will be important to understanding linkages of the environment to marine resources.***
47	33	***RC 149: Determine the role of the shoreline in reducing wave and flood damage, including ways to implement shoreline protection measures that do not damage the coastal and offshore natural environment. Develop a scientific basis for determining erosion and coastal setback zones.***
48	33.64	***RC 50: Develop methods for determining sources of nutrients so agencies can improve source regulation.***

Rank	avg rank score	Research Component, short title
49	34	***RC 62: Define potential impacts of offshore oil and gas development of Florida's coastline with an emphasis on effects on fish, wildlife and their habitats.***
50	34.27	***RC 20: Use existing water quality monitoring programs to collect samples for algal identification and toxin analysis concurrent with nutrient and other water-quality samples.***
51	34.33	***RC 33: Determine the relationship, if any, of the increased frequency of coral diseases and elevated seasonal seawater temperatures to better target management activities that may focus on other possible causes.***