

## ANNOUNCEMENT OF FEDERAL FUNDING OPPORTUNITY

### EXECUTIVE SUMMARY

Federal Agency Name(s): National Ocean Service (NOS), National Oceanic And Atmospheric Administration, Department of Commerce

Funding Opportunity Title: Coral Reef Ecosystem Studies (CRES)

Announcement Type: Initial

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Dates: Anticipated Publication Date: 6/1/2006

Competition: Coral Reef Ecosystem Studies (CRES)

Anticipated Award Date: 6/29/2007

Application Due Date: 11/1/2006

Funding Opportunity Description:

## FULL ANNOUNCEMENT TEXT

### I. Funding Opportunity Description

#### A. Program Objective

Coral reefs and associated seagrass and mangrove communities are among the most complex and diverse ecosystems on earth. They support important fishing and tourism industries, protect coasts from wave and storm damage, build tropical islands, contain an array of potential pharmaceuticals, and provide local communities with a source of food, materials and traditional activities. As shallow-water, near shore communities, coral reef ecosystems are ecologically closely linked to adjacent watersheds and are highly vulnerable to human activity. Because of their relative inaccessibility, deep water (50-100m) hermatypic, light dependent coral reef ecosystems can also serve as refugia for shallow water species. Deep reefs that serve as refugia may warrant special resource management attention and protection to help maintain local and/or regional biodiversity. In addition, deep coral reefs may also be colonized by disproportionately higher numbers of endemic species of fishes and invertebrates. Thus, research in this area offers potential findings of major interest for resource management.

Anthropogenic stresses in the coral reef environment include poor water quality from runoff and inadequate sewage treatment, over-harvesting and destructive fishing practices of reef resources, sedimentation, shoreline development, and damage from tourists and divers. Larger-scale changes in global climate also potentially affect coral reef ecosystems through changes in sea temperature, sea level, irradiance, wind and precipitation patterns, and frequency and severity of tropical storms. Natural and human-induced forces act separately and in combination, to degrade coral reef ecosystems. Symptoms of stress include mass bleaching (loss of symbiotic algae) of corals, regional reductions of certain reef framework corals, and disease outbreaks leading to mass mortalities of reef-building corals and associated organisms.

According to the 2004 report by the Global Coral Reef Monitoring Network (<http://www.gcrmn.org/>), the world has lost an estimated 20 percent of coral reefs and predicts that 24 percent of the world's reefs are under imminent risk of collapse though human pressures, and a further 26 percent are under a longer term threat of collapse. Significant further reductions in coral reef health, accompanied by major losses in biological diversity, are expected to continue for the next few decades unless coordinated action to manage and conserve these ecosystems is undertaken soon.

The 1998 Executive Order on Coral Reef Protection (E.O. 13089) directs Federal agencies to map, research, monitor, manage, and restore coral reef ecosystems. In response to the Executive Order, a U.S. Coral Reef Task Force established interagency working

groups to address six areas: (1) Coastal Uses, (2) Ecosystem Science and Conservation, (3) Mapping and Information Synthesis, (4) Water and Air Quality, (5) International Dimensions, and (6) Education and Outreach. One of the key components of the Task Force Action Plan is long-term regional ecosystem research, which this announcement addresses. This program is a collaborative effort within NOAA's Coral Reef Conservation Program (CRCP). The CRCP, authorized under the Coral Reef Conservation Act of 2000, works across NOAA to support effective management and sound science to preserve, sustain and restore valuable coral reef ecosystems.

This notice solicits proposals that seek a better understanding of the underlying processes that regulate coral reefs and associated ecosystems. Findings from this research will be used to directly support resource management decisions to protect healthy coral reef ecosystems and to reverse decline in degraded ones. This solicitation will focus on several geographic regions and two depth ranges: (1) typical, shallow water (0-50m) coral reef ecosystems in the location prioritized below, and (2) deep water (50-100m) hermatypic, light-dependent coral reef ecosystems. NCCOS/CSCOR's interest is to provide timely and high-quality scientific results that can be used to develop alternative management strategies to restore and protect coral reef ecosystems.

To meet this goal, highest consideration will be given to multi-disciplinary team proposals incorporating hypothesis-driven research involving both the natural and social sciences, which includes participation by the territory, state, or Federal resource management community. Because of the complex relationships among land-based activities, watershed/reef interactions, and local economies and values, the overall research proposal should include a component study that addresses social and economic aspects of the study area, and integrate this research into the study as a whole.

Results from such research must be applicable to the development of alternative management strategies, and the prediction of changes in the ecosystem in response to such management strategies. The development of predictive models (e.g., bio-physical models to investigate larval transport of reef organisms and their recruitment to reef systems in the context of variable oceanographic conditions; water quality models to investigate the relationship between watershed-based pollutant inputs and effects on reef ecosystems; economic models to investigate the relationship between coral reef health and local economies) as a component of these studies is required. Scientific information, syntheses, models, and ecosystem forecasting capabilities from this multi-disciplinary, long-term effort should be clearly usable by resource managers to make more informed decisions on managing US coral reef ecosystems.

## B. Program Priorities

### 1. Coral Reef Ecosystems Studies (CRES)

Two long-term CRES studies were initiated in FY02 focused on reefs of Puerto Rico, U.S. Virgin Islands (USVI), and Guam. The CRES research program was developed in response to the continued decline of U.S. coral reef ecosystems, and the need to define and understand causes and effects of reef degradation on a regional scale. The first two CRES projects were prioritized by geographic area and selected through a competitive process. Additional high-priority geographic areas not covered by the first announcement are described below.

NCCOS/CSCOR will fund one new CRES project of 3 to 5 year duration that will be closely aligned with the original goals and objectives as articulated in the FY02 and FY06 CRES announcements. (<http://www.cop.noaa.gov/opportunities/grants/oldfunding.html>)

This announcement targets only the West Florida Shelf as the study region (delineated by the 200 m isobath, including Pulley Ridge and Florida Middle Grounds but not including the Dry Tortugas). The specific area of study within this region will be defined by the selected proposal. If remote sites are included within the study area, ship requirements (ship type, time, and cost) should be identified.

The proposal must address an integrated suite of key environmental issues that are critical to the West Florida Shelf Ecosystem and provide recommendations for alternative management strategies. Such issues may include hypoxia and associated mass mortalities, fisheries issues (e.g., population connectivity, fishing pressure, and onshore/offshore migration patterns), watershed impacts, or any other significant issues relevant to the ecosystem.

The project should be highly leveraged and build upon ongoing and prior regional research funded by NCCOS/CSCOR and other Federal, state, university, and agency partners. Because recent and current resources have been devoted to the east coast of Florida, Florida reef tract, Puerto Rico, USVI, Hawaiian Islands, Northwest Hawaiian Islands (NWHI), and other Pacific Islands, these areas are not included as potential study areas in this announcement. However, this will not preclude collaborative activities or funding to individual researchers from these areas as part of a multi-institutional team.

Applicants are strongly encouraged to seek out and coordinate with entities that are engaged in ongoing research on the West Florida Shelf. The proposal should reflect a thorough understanding of the current state of knowledge of the West Florida Shelf ecosystem and identify any significant literature sources or previous and ongoing major studies.

Because the NCCOS Center for Coastal Monitoring and Assessment (CCMA) may be conducting biogeographic studies on the West Florida Shelf, all proposals should include a

statement that if selected for funding, they will coordinate their activities as appropriate with CCMA. Contact information for CCMA will be provided at the time of funding. For more information on CCMA's Biogeography Program please see <http://biogeo.nos.noaa.gov/>.

Each proposal must:

i. Conduct ecosystem-scale studies to evaluate and assess the dynamics of the coral reef ecosystem, identify the key stressors that are impacting, or could potentially impact the health of the ecosystem, and evaluate management approaches to prevent or reverse ecosystem degradation.

ii. Develop tools, such as ecological forecasting models and/or data syntheses for decision making, to assist resource managers in predicting ecosystem health as a result of certain ecological impacts (e.g. climate change, coastal land-use, invasive species, extreme events, contaminants, etc.). Such tools should have the capacity to predict ecosystem health following alternative management actions, in order to assess and prioritize management strategies.

iii. Include the social, cultural, and economic context in developing tools and evaluating factors critical to the success of reef management strategies.

iv. Explicitly identify the end user group(s), provide a linkage between the scientific questions and management needs in the project description, and present evidence of coordination with management agencies. The participation of resource managers as co-Principal Investigators is highly encouraged.

In accomplishing the above four objectives, proposals must address the following four research focus areas:

(1) Relationship(s) between watershed-based activities and changes in coral reef ecosystems, for example: the mechanisms by which watershed-based pollutants are transported to and distributed within coral reef ecosystems.

(2) Primary causes of ecological stresses in reef ecosystems of the study region (such as, over fishing, destructive fishing practices, reef destruction and pollution, climate change, disease, invasive species, sedimentation, etc.) and prioritization of these stresses.

(3) The effect of changes in faunal components on the integrity of the reef ecosystem (such as, oceanic and ecological processes that regulate species recruitment, species interactions, population dynamics, and identification of keystone species).

(4) Evaluation of Marine Protected Areas (MPAs) as management tools for improving coral reef structure and function, and identification of important linkages among coral reef

ecosystems in the study region. Applicants are strongly encouraged to include existing or potential MPAs in the study design if possible, especially where collaborative research within MPAs would enhance the understanding of regional coral reef ecosystems and human use of these ecosystems. Research into the effectiveness of established local and regional MPAs is also a priority.

Typically, NCCOS/CSCOR programs of a size and design similar to CRES include five to eight lead researchers along with a management team, and a management team chair that serves as a main point of contact with the CRES program manager. Management teams typically include three to five senior individuals from different institutions that, as a group, provide strong leadership and solid partnerships that enable the program to be effectively implemented and produce meaningful results. Management teams must include representatives from the resource management community (e.g. Federal, state, local governments or non-governmental organizations such as a fishery management council).

#### Expected Products and Outcomes

Long-term multi-disciplinary research will provide a better understanding of the nature, extent, and consequences of anthropogenic and natural stress on coral reef ecosystems. Research results may be used to distinguish anthropogenic factors from natural variability in determining coral reef ecosystem health and potential impacts that may result from climate variability. Project proposals should clearly address a timetable and major program elements that will lead to specific interim and final management deliverables. In order for the study results to be useful to resource managers and decision makers, the study design and implementation should include a clear means to incorporate the information needs of the targeted region. Approaches for accomplishing this type of input could include annual workshops and Management and Technical Advisory Committees that include a broad spectrum of regional interests, particularly management agencies. Applicants are strongly encouraged to develop an approach in the proposal to ensure regional stakeholder input and participation. A final comprehensive synthesis report will be required that concisely summarizes the project results and their potential application to improving the condition of degraded reefs, protecting healthy reefs in the study region, and other critical information relevant to reef management. Guidelines for producing this report will be made available to the project management team during the project cycle.

#### CRES Products Will Include:

(1) Research data (to be archived in an appropriate data center such as the NODC), assessments, publications, summary reports, and any other useful activity or product that will provide resource managers and the public with timely information that is readily understandable;

(2) Syntheses of the research, including specific recommendations for management action, that lead to improved coral reef ecosystem health through novel and/or traditional approaches, particularly with respect to integrated watershed management and MPAs, and;

(3) Predictive tools such as simulation models (including ecological forecasts) that will help managers make informed decisions, and assess alternative management strategies (e.g., watershed and coastal water quality models to assess changes in land inputs and impacts on reefs and related habitats; larval transport and recruitment of reef organisms in the context of variable oceanographic conditions, and information for optimizing site selection for MPAs).

## 2. Deep-water (Hermatypic) Coral Reef Ecosystems Studies (Deep-CRES)

Research focusing on ecosystem processes in deep water (50-100 m), hermatypic, light-dependent coral reefs continues to be a priority in this announcement. In FY 2006, NCCOS/CSCOR funded one Deep-CRES project in the Atlantic Region. In FY 2007 NCCOS/CSCOR anticipate funding one new Deep-CRES project of 3 years duration that targets one or more of the Pacific Islands either associated with or under the jurisdiction of the United States. This would include the Hawaiian Islands, American Samoa, Republic of Palau, Freely Associated States of Micronesia, Commonwealth of the Northern Marianas Islands, and Guam. Much attention has been devoted to the diversity and ecology of deep sea environments in abyssal depths, and hundreds of studies have been conducted on shallow water coastal communities, although relatively little attention has been paid to coastal environments in the 50-100 m depth range. Most of the work on coral reefs has focused on relatively shallow (< 30 m) environments, and those studies that are below 50 m which are typically on slopes, are difficult to sample with conventional techniques and are far less common.

The deep water coral reef ecosystems described here are distinct from ?true? deep water corals that occur at greater depths and are not light-dependent. The depth range where deep water hermatypic coral reefs occur is referred to in the scientific literature as the ?twilight zone.? These reefs may act as refugia for exploited species that also occur in the shallow water reefs and be colonized by a disproportionately high number of endemic species of fishes and invertebrates. Key objectives of this research would be to understand

the processes that regulate deep hermatypic reef ecosystems and assess their vulnerability to exploitation and human disturbance. Deep reefs that serve as refugia may warrant special resource management attention and protection to help maintain local and/or regional biodiversity. Protection may also offer a hedge against extinction to endemic species, which are more vulnerable to disturbance due to their limited geographic ranges. Thus, these studies offer potential findings of major interest for resource management.

Proposals should address research to:

- a. Understand the processes that regulate deep hermatypic reef ecosystem
- b. Examine the potential for deep reefs to serve as refugia for shallow water species
- c. Assess the deep reef coral ecosystem's vulnerability to exploitation and human disturbance. Deep reefs that serve as refugia may warrant special resource management attention and protection to help maintain local and/or regional biodiversity.

Examine the potential for management strategies, such as Marine Protected Areas to serve as a hedge against extinction to endemic species, which are more vulnerable to disturbance due to their limited geographic ranges.

Conducting research on deep water (50-100 m) hermatypic, light dependent coral reef ecosystems will require specialized technology beyond standard SCUBA diving, such as advanced diving technologies (e.g., mixed gas SCUBA diving, closed-circuit rebreathers, etc.); remotely operated vehicles; and/or shallow diving submersibles. Applicants must include all operating costs for these specialized technologies and any necessary ship costs in their proposals.

The duration of the study is anticipated to be up to three years. The research team should include three to five lead researchers along with a management team, and a management team chair that serves as a main point of contact with the CRES program manager. The management team should include three to five senior individuals from different institutions that, as a group, provide strong leadership and solid partnerships that enable the program to be effectively implemented and produce meaningful results. The management team must include representatives from the resource management community (e.g. Federal, state, local governments or non-governmental organizations such as a fishery management council).

Expected Products and Outcomes

This research will provide a better understanding of the nature, extent, and consequences of anthropogenic and natural stress on deep coral reef ecosystems. Research results may be used to determine the primary factors that regulate ecosystem processes in deep coral reef environments (between 50-100m). Project proposals should clearly address a timetable and major program elements that will lead to specific interim and final management deliverables. In order for the study results to be useful to resource managers and decision makers, the study design and implementation should include a clear means to incorporate the information needs of targeted study areas. Approaches for accomplishing this type of input could include annual workshops and Management and Technical Advisory Committees that include a broad spectrum of regional interests. A final comprehensive synthesis report will be required that concisely summarizes the project results and their potential application to improving the condition of degraded reefs, protecting healthy reefs in the study region, and other critical information relevant to reef management. Guidelines for producing this report will be made available to the project management team during the project cycle.

#### Deep-CRES Products Will Include:

(1) Research data (to be archived in an appropriate data center such as the NODC), assessments, publications, summary reports, and any other useful activity or product that will provide resource managers and the public with timely information that is readily understandable;

(2) Syntheses of the research that increases awareness of deep coral reef ecosystems, and provides natural resource management agencies with the information necessary to better manage this unique environment, and;

(3) Predictive tools such as simulation models (including ecological forecasts) that will help managers determine the effect of biotic processes and abiotic factors (i.e. physical disturbance such as sediment and salinity plumes; larval transport and recruitment of reef organisms) on the deep water coral reef ecosystem, and provide information on the value of considering deep water coral reefs as potential MPAs.

#### C. Program Authority

16 USC 6401

## II. Award Information

## A. Funding Availability

Funding is contingent upon availability of Federal appropriations. NOAA is committed to continual improvement of the grants process and accelerating the award of financial assistance to qualified recipients in accordance with the recommendations of the Business Process Reengineering Team. In order to fulfill these responsibilities, this solicitation announces that award amounts to be determined by the proposals and available funds are typically not to exceed \$1,000,000 per year with project duration from 3-5 years for the West Florida Shelf study; and \$500,000 per year with a project duration of up to 3 years for the deep hermatypic coral reef study. It is anticipated that one project will be funded for the West Florida Shelf study, and one project will be funded for the deep hermatypic coral reef study. Support in out years after FY 2007 is contingent upon the availability of funds.

Applicants are hereby given notice that funds have not yet been appropriated for this program. In no event will NOAA or the Department of Commerce be responsible for proposal preparation costs if this program fails to receive funding or is cancelled because of other agency priorities. There is no guarantee that sufficient funds will be available to make awards for all qualified projects. Publication of this notice does not oblige NOAA to award any specific project or to obligate any available funds. If one incurs any costs prior to receiving an award agreement signed by an authorized NOAA official, one would do so solely at one's own risk of these costs not being included under the award.

Publication of this notice does not obligate any agency to any specific award or to obligate any part of the entire amount of funds available. Recipients and subrecipients are subject to all Federal laws and agency policies, regulations and procedures applicable to Federal financial assistance awards.

## B. Project/Award Period

Full proposals may cover a project/award period of up to 5 years, but shorter-term project proposals will also be welcomed. Multi-year awards may be funded incrementally on an annual basis, but once awarded those awards will not compete for funding in subsequent years. Each award requires a project description that can be easily divided into annual increments of meaningful work representing solid accomplishments.

The following is a description of multi-year awards for those applicants subsequently recommended for award. Multi-year awards are awards which have an award/project period of more than 12 months of activity. Multi-year awards are partially funded when the awards are approved, and are subsequently funded in increments. One of the purposes of multi-year awards is to reduce the administrative burden on both the applicant and the operating unit. For example, with proper planning, one application can suffice for the entire multi-year award period. Funding for each year's activity is contingent upon the availability of funds from Congress, satisfactory performance, and is at the sole discretion of the agency. Multi-

year funding is appropriate for projects to be funded for 2 to 5 years. Once approved, full applications are not required for the continuation out years.

### C. Type of Funding Instrument

Funding instruments available are project grants and cooperative agreements.

#### (1) Research Project Grants: A research project grant is one in which substantial

programmatic involvement by the Federal government is not anticipated by the recipient during the project period. Applicants for grants must demonstrate an ability to conduct the proposed research with minimal assistance, other than financial support, from the Federal government.

(2) Cooperative Agreements: A cooperative agreement implies that the Federal government will assist recipients in conducting the proposed research. The application should be presented in a manner that demonstrates the applicant's ability to address the research problem in a collaborative manner with the Federal government. A cooperative agreement is appropriate when substantial Federal government involvement is anticipated. This means that the recipient can expect substantial agency collaboration, participation, or intervention in project performance. Substantial involvement exists when: responsibility for the management, control, direction, or performance of the project is shared by the assisting agency and the recipient; or the assisting agency has the right to intervene (including interruption or modification) in the conduct or performance of project activities.

(3) NOAA will review the applications in accordance with the evaluation criteria. Before issuing awards, NOAA will determine whether a grant or cooperative agreement is the appropriate instrument based upon the need for substantial NOAA involvement in the project.

(4) In an effort to maximize the use of limited resources, applications from non-Federal, non-NOAA Federal and NOAA Federal applicants will be competed against each other.

Research proposals selected for funding from non-Federal researchers will be funded through a project grant or cooperative agreement. Research proposals selected for funding from non-NOAA Federal applicants will be funded through an interagency transfer, provided

legal authority exists for the Federal applicant to receive funds from another agency. PLEASE NOTE: Before non-NOAA Federal applicants may be funded, they must demonstrate that they have legal authority to receive funds from another Federal agency in excess of their appropriation. Because this announcement is not proposing to procure goods or services from the applicants, the Economy Act (31 U.S.C. section 1535) is not an appropriate basis. Support may be solely through NCCOS/CSCOR or partnered with other Federal offices and agencies.

### III. Eligibility Information

#### A. Eligible Applicants

Eligible applicants are institutions of higher education, other non-profits, state, local, Indian Tribal Governments, commercial organizations and Federal agencies that possess the statutory authority to receive financial assistance.

NCCOS/CSCOR will not fund any Federal FTE salaries, but will fund travel, equipment, supplies, and contractual personnel costs associated with the proposed work.

(1) Researchers must be employees of an eligible entity listed above; and proposals must be submitted through that entity. Non-Federal researchers should comply with their institutional requirements for proposal submission.

(2) Non-NOAA Federal applicants will be required to submit certifications or documentation showing that they have specific legal authority to receive funds from the Department of Commerce (DOC) for this research.

(3) NCCOS/CSCOR will accept proposals that include foreign researchers as collaborators with a researcher who has met the above stated eligibility requirements.

(4) Non-Federal researchers affiliated with NOAA-University Joint Institutes should comply with joint institutional requirements; they will be funded through grants either to their institutions or to joint institutes.

#### B. Cost Sharing or Matching Requirement

Competition: Coral Reef Ecosystem Studies (CRES)

There is no cost sharing requirement for this competition.

#### C. Other Criteria that Affect Eligibility

It is the applicant's responsibility to obtain all necessary Federal, state and local government permits and approvals where necessary for the proposed work to be conducted. Applicants are expected to design their proposals so that they minimize the potential adverse

impact on the environment. If applicable, documentation of requests or approvals of environmental permits must be received by the Program Officer prior to funding. Applications will be reviewed to ensure that they have sufficient environmental documentation to allow program staff to determine whether the proposal is categorically excluded from further NEPA analysis, or whether an Environmental Assessment is necessary in conformance with requirements of the National Environmental Policy Act. For those applications needing an Environmental Assessment, affected applicants will be informed after the peer review stage; and will be requested to assist in the preparation of a draft of the assessment (prior to award).

Failure to apply for and/or obtain Federal, state, and local permits, approvals, letters of agreement, or failure to provide environmental analysis where necessary (i.e. NEPA environmental assessment) will also delay the award of funds if a project is otherwise selected for funding.

Each proposal must also include the twelve elements listed under Proposal Submission/Required Elements, (a)-(l) or it will be returned to sender without further consideration.

#### IV. Application and Submission Information

##### A. Address to Request Application Package

Applications submitted in response to this announcement are strongly encouraged to be submitted through the Grants.gov Web site. The full funding announcement for this program is available via the Grants.gov Web site: <http://www.grants.gov>. This announcement will also be available at the NOAA Web site <http://www.ofa.noaa.gov/%7Eamd/SOLINDEX.HTML> or by contacting the program official identified below. You will be able to access, download and submit electronic grant applications for NOAA Programs in this announcement at <http://www.grants.gov>. The closing dates will be the same as for the paper submissions noted in this announcement. NOAA strongly recommends that you do not wait until the application deadline date to begin the application process through Grants.gov.

Applicants should contact the program office for non-electronic submission instructions.

Facsimile transmissions and electronic mail submission of full proposals will not be accepted.

To apply for this NOAA federal funding opportunity, please go to [www.grants.gov](http://www.grants.gov), and use the following funding opportunity # NOS-NCCOS-2007-2000701

[www.noaa.gov](http://www.noaa.gov)

## B. Content and Form of Application

This document requests full proposals only. The provisions for proposal preparation provided here are mandatory. Proposals received after the published deadline (refer to DATES) or proposals that deviate from the prescribed format will be returned to the sender without further consideration. Information regarding this announcement and additional background information are available on the NCCOS/CSCOR home page.

### 1. Proposals

Refer to IV. Application and Submission Information for further application submission details.

### 2. Required Elements

Each proposal must include the following eleven elements or it will be returned to sender without further consideration. The Summary, Title Page, Abstract, Project Description, References, Biographical Sketch, Current and Pending Support, and Collaborators List must be in 12-point font with 1-inch margins. The twelve elements are as follows:

(a) Standard Form 424. At the time of proposal submission, all applicants requesting direct funding must submit the Standard Form, SF-424, "Application for Federal Assistance," to indicate the total amount of funding proposed for their institution for the whole project period. This form is to be the cover page for the original proposal. Multi-institutional proposals must include signed SF-424 forms from all institutions requesting direct funding. Original signatures are required on SF424 forms provided to a lead institution by a collaborating institution's hard copy proposal for grants.gov submission.

(b) Summary title page. The Summary title page identifies the project's title, starting with the acronym: CRES, and the PI's name and affiliation, complete address, phone, FAX and E-mail information. The requested budget for each fiscal year should be included on the Summary title page. Multi-institution proposals must also identify the lead investigator for each institution and the requested funding for each fiscal year for each institution on the title page. Lead investigator and separate budget information is not requested on the title page for institutions that are proposed to receive funds through a subcontract to the lead institution; however, an accompanying budget justification must be submitted for each subcontractor. For further details on budget information, please see Section (g) Standard Form SF424A of this part.

(c) One-page abstract/project summary. A project summary (abstract) is to be submitted at time of application, shall include an introduction of the problem, rationale, scientific objectives and/or hypotheses to be tested, and a brief summary of work to be completed.

The summary should appear on a separate page, headed with the proposal title, institution(s), investigator(s), total proposed cost, and budget period. It should be written in the third person. The summary is used to help compare proposals quickly and allows the respondents to summarize these key points in their own words. Project summaries of applications that receive funding may be posted on program related websites.

(d) Project description. The description of the proposed project must include narratives of the proposed research and of the project management structure.

The research narrative must be thorough and explicitly indicate its relevance to 2007 Coral Reef Ecosystem Studies program goals and scientific priorities by:

(1) Identifying the objectives that are being addressed by the proposal;

(2) Describing the proposed scientific objectives and research activities in relation to the present state of knowledge in the field and in relation to previous and current work by the proposing principal investigator(s);

(3) A discussion of how the proposed project lends value to the program goals; and

(4) If specified in the Funding Opportunity Description (refer to Section I above), establishing the connection to relevant resource management needs by explicitly identifying the end user group(s) including evidence of the linkage between the scientific questions and management needs. The linkage should reflect coordination with one or more management entities.

The research narrative should provide a full scientific justification for the research, rather than simply reiterating justifications presented in this document.

Specific research activities must be divided into annual increments of work that include specific objectives, methodology, and expected significance.

The project management narrative must identify the function of each PI. One of the PIs must be designated as the Lead PI, who will be responsible for communicating with the Federal Program Officer on all pertinent verbal or written information. If applicable, the format and role of management and technical advisory committees should be included in this section. Please consult the Program Description regarding the direct participation of resource managers as co-Principal Investigators and if required as members of management and technical advisory committees.

The project description must not exceed 20 pages in 12-point, easily legible font with 1 to 2 pages for the project management narrative and the balance used for the research narrative inclusive of figures and other visual materials, but exclusive of references, a milestone chart, letters of intent from unfunded collaborators, and letters of endorsement.

(e) References cited. Reference information is required. Each reference must include the names of all authors in the same sequence they appear in the publications, the article title, volume number, page numbers, and year of publications. While there is no established page limitation, this section should include bibliographic citations only and should not be used to provide parenthetical information outside of the 17-page proposal descriptions.

(f) Milestone chart. Provide time lines of major tasks covering the duration of the proposed project.

(g) Standard Form 424A. At time of proposal submission, all applicants are required to submit a SF424A Budget Form for each fiscal year increment. Multi-institution proposals must include a SF424A for each institution, and multi-investigator proposals using a lead investigator with a contractor/subgrantee approach must submit a SF424A for each contractor/subgrantee. Each contractor or subgrantee should be listed as a separate item. Describe products/services to be obtained and indicate the applicability or necessity of each to the project. Provide separate budgets for each subgrantee or contractor regardless of the dollar value and indicate the basis for the cost estimates. List all subgrantee or contractor costs under line item 6.f. contractual on the SF424A.

In order to allow reviewers to fully evaluate the appropriateness of costs, all applications must include a detailed budget narrative and a justification to support all proposed budget categories for each fiscal year. Personnel costs should be broken out by named PI and number of months requested per year per PI. Support for each PI should be commensurate with their stated involvement each year in the milestones chart (see Required Elements (f) Milestone chart).

Any unnamed personnel (graduate students, post-doctoral researchers, technicians) should be identified by their job title, and their personnel costs explained similar to PI personnel costs above. The contribution of any personnel to the project goals should be explained. Travel costs should be broken out by number of people traveling, destination and purpose of travel, and projected costs per person. Equipment costs should describe the equipment to be purchased, and its contribution to the achievement of the project goals. For additional information concerning each of the required categories and appropriate level of disclosure please see [http://www.cop.noaa.gov/opportunities/grants/other\\_instructions.html](http://www.cop.noaa.gov/opportunities/grants/other_instructions.html).

Any ship time needs must be clearly identified in the proposed budget. The applicant is responsible for requesting ship time through appropriate channels and for meeting all requirements to ensure the availability of requested ship time. Copies of relevant ship time request forms (e.g. UNOLS ship request forms at <http://www.gso.uri.edu./unols/ship/mainmenu.html>. should be included with the proposal.

(h) Biographical sketch. All principal and co-investigators must provide summaries of up to 2 pages that include the following:

(1) A listing of professional and academic credentials and mailing address;

(2) A list of up to five publications most closely related to the proposed project and five other significant publications. Additional lists of publications, lectures, and the rest should not be included.

(i) Current and pending support. Describe all current and pending federal financial/funding support for all principal and co-investigators, including subsequent funding in the case of continuing grants. The capability of the investigator and collaborators to complete the proposed work in light of present commitments to other projects should be addressed. Therefore, please discuss the percentage of time investigators and collaborators have devoted to other Federal or non-Federal projects, as compared to the time that will be devoted to the project solicited under this notice.

(j) A list of all applicable permits that will be required to perform the proposed work.

(k) Provide one list that includes all collaborators, advisors, and advisees for each investigator (principal and co-principal investigators, post-docs, and subawardees), complete with corresponding institutions. Submit only one, combined and alphabetized list per proposal. Collaborators are individuals who have participated in a project or publication within the last 48 months with any investigator, including co-authors on publications in the resumes. Collaborators also include those persons with which the investigators may have ongoing collaboration negotiations. Advisees are persons with whom the individual investigator has had an association as thesis advisor or postdoctoral sponsor. Advisors include an individual's own graduate and postgraduate advisors.

Unfunded participants in the proposed study should also be listed (but not their collaborators). This information is critical for identifying potential conflicts of interest and avoiding bias in the selection of reviewers.

(1) Proposal format and assembly. Proposals submitted via Grants.gov APPLY should follow the format guidelines below:

Attachments must be submitted in Adobe Acrobat PDF format to maintain format integrity. Please submit the required documents as described below.

Follow the instructions found on the grants.gov web site for application submission into the grants.gov system. All required forms that do not have specific placeholders in the "Mandatory Document" box must be submitted in the "Optional Form" box as "Other Attachments" and labeled with the document name, i.e. budget narrative, project description, milestone chart etc.

For multi institutional proposal: The SF424's of the additional institutions should be uploaded separately and labeled using the name of the institution/SF424 and then submitted in the "Optional Form" box as "Other Attachments". Combine all of the remaining required documents for the individual institution into one PDF file and submit the file labeled with the name of the institution. Repeat this procedure for each collaborating institution.

Save your completed application package with two different names before submission to avoid having to re-create the package should you experience submission problems. If you experience submission problems that may result in your application being late, send an e-mail to support@grants.gov and call the grants.gov help desk. Their phone number is posted on the grants.gov web site. The program manager associated with the RFA will use programmatic discretion in accepting late arriving proposals due to documented electronic submission problems. Please note: If more than one submission of an application is performed, the last application submitted before the due date and time will be the "official" version.

In addition to the twelve required elements, it is requested the SF424B, CD511 and the indirect rate agreement be provided upon application submission. These forms can be uploaded in to the "Optional Form" box under "Other Attachments" in grants.gov.

### C. Submission Dates and Times

Anticipated Publication Date: 6/1/2006

The deadline for receipt of proposals at the NCCOS/CSCOR office is 3 p.m. EST, [153 days from publication] (Note that late-arriving hard copy applications provided to a delivery service on or before [153 days from publication], with delivery guaranteed before 3 p.m., EST on [153 days from publication] will be accepted for review if the applicant can document that the application was provided to the delivery service with delivery to the address listed below guaranteed by the specified closing date and time; and, in any event, the proposals are received in the NCCOS/CSCOR office by 3 p.m., EST, no later than 2 business days following the closing date.)

#### D. Intergovernmental Review

Applications under this program are not subject to Executive Order 12372, ?Intergovernmental Review of Federal Programs.? It has been determined that this notice is not significant for purposes of Executive Order 12866. Pursuant to 5 U.S.C. 553(a) (2), an opportunity for public notice and comment is not required for this notice relating to grants, benefits and contracts. Because this notice is exempt from the notice and comment provisions of the Administrative Procedure Act, a Regulatory Flexibility Analysis is not required, and none has been prepared. It has been determined that this notice does not contain policies with Federalism implications as that term is defined in Executive Order 13132.

#### E. Funding Restrictions

Indirect Costs: Regardless of any approved indirect cost rate applicable to the award, the maximum dollar amount of allocable indirect costs for which DOC will reimburse the recipient shall be the lesser of (a) the line item amount for the Federal share of indirect costs contained in the approved budget of the award or (b) the Federal share of the total allocable indirect costs of the award based on the indirect cost rate approved by a cognizant or oversight Federal agency and current at the time the cost was incurred, provided the rate is approved on or before the award end date. NCCOS/CSCOR will not fund start up or operational costs for private business ventures and neither fees nor profits will be considered as allowable costs.

#### F. Other Submission Requirements

Proposals must include evidence of linkages between the scientific questions and management needs, such as the participation of co-investigators from both scientific and management entities. Proposals previously submitted to CSCOR FFOs and not recommended for funding must be revised and reviewer or panel concerns addressed before resubmission. Resubmitted proposals that have not been revised will be returned without review.

## V. Application Review Information

### A. Evaluation Criteria

1. Importance and/or relevance and applicability of proposed project to the program goals: This ascertains whether there is intrinsic value in the proposed work and/or relevance to NOAA, Federal, regional, state, or local activities (30 percent). For this competition: this includes the degree to which the research addresses the specific "Program Priorities" Section above and the likelihood that it will produce results that will help in achieving program goals;

2. Technical/scientific merit: This assesses whether the approach is technically sound and/or innovative, if the methods are appropriate, and whether there are clear project goals and objectives (30 percent). For this competition, proposals will be judged on soundness of scientific principles and the likelihood that it will lead to outcomes that represent substantial impact or progress in their fields. The proposed work should have focused objectives and a complete and technically sound strategy for project design, methodologies, data management data analysis, and development of products in support of the objectives;

3. Overall qualifications of applicants: This ascertains whether the applicant possesses the necessary education, experience, training, facilities, and administrative resources to accomplish the project (20 percent). For purposes of this competition, the capability of the investigator and collaborators to complete the proposed work as evidenced by past research accomplishments, previous cooperative work, timely communication, and sharing of findings, data, and other research products;

4. Project costs: The Budget is evaluated to determine if it is realistic and commensurate with the project needs and time-frame (10 percent); adequacy of the proposed resources to accomplish the proposed work, and the appropriateness of the requested funding with respect to the total available funds;

5. Outreach and education: NOAA assesses whether this project provides a focused and effective education and outreach strategy regarding NOAA's mission to protect the Nation's natural resources (10 percent). For this competition, the applicant must demonstrate clear

connections to management entities that will use the results of the proposed work and define the specific products, outcomes and timing of the proposed work that will be used in achieving this goal.

## B. Review and Selection Process

Once a full application has been received by NOAA, an initial administrative review is conducted to determine compliance with requirements and completeness of the application. All proposals will be evaluated and scored individually in accordance with the assigned weights of the above evaluation criteria by independent peer mail review and/or by independent peer panel review. Both Federal and non-Federal experts may be used in this process. The peer mail reviewers will be several individuals with expertise in the subjects addressed by particular proposals. Each mail reviewer will see only certain individual proposals within his or her area of expertise, and score them individually on a scale of one to five, where scores represent respectively: Excellent (5), Very Good (4), Good (3), Fair (2), Poor (1).

The peer panel will comprise 3 to 4 individuals, with each individual having expertise in a separate area, so that the panel, as a whole, covers a range of scientific expertise. The panel will have access to all mail reviews of proposals, and will use the mail reviews in discussion and evaluation of the entire slate of proposals. All proposals will be evaluated and scored individually. The peer panel shall rate the proposals using the evaluation criteria and scores provided above and used by the mail reviewers. The individual peer panelist scores shall be averaged for each application and presented to the program officer. No consensus advice will be given by the independent peer mail review or the review panel.

The program officer will neither vote or score proposals as part of the independent peer panel review nor participate in discussion of the merits of the proposal. Those proposals receiving an average panel score of "Fair" or "Poor" will not be given further consideration, and applicants will be notified of non-selection.

For the proposals scored by the panel as either "Excellent," "Very Good," or "Good", the program officer will (a) create a ranking of the proposals to be recommended for funding using the average panel scores (b) determine the total duration of funding for each proposal; and (c) determine the amount of funds available for each proposal subject to the availability of fiscal year funds. Awards may not necessarily be made in rank order. In addition, proposals rated by the panel as either "Excellent," "Very Good," or "Good" that are not

funded in the current fiscal period, may be considered for funding in another fiscal period without having to repeat the competitive review process.

Recommendations for funding are then forwarded to the selecting official, the Director of NCCOS, for the final funding decision. In making the final selections, the Director will award in rank order unless the proposal is justified to be selected out of rank order based on the selection factors listed below in C.

Investigators may be asked to modify objectives, work plans or budgets, and provide supplemental information required by the agency prior to the award. When a decision has been made (whether an award or declination), verbatim anonymous copies of reviews and summaries of review panel deliberations, if any, will be made available to the applicant. Declined applications will be held in the NCCOS/CSCOR for the required 3 years in accordance with the current retention requirements, and then destroyed.

Based on the panel review scores, the program officer will provide a listing of proposals in rank order to the Selecting Official for final funding recommendations. A program officer may first make recommendations to the Selecting Official applying the selection factors below. The Selecting Official shall award in the rank order unless the proposal is justified to be selected out of rank order based upon one or more of the following factors:

1. Availability of funding.
2. Balance/distribution of funds:
  - a. Geographically
  - b. By type of institutions
  - c. By type of partners
  - d. By research areas
  - e. By project types
3. Whether this project duplicates other projects funded or considered for funding by NOAA or other federal agencies.
4. Program priorities and policy factors.
5. Applicant's prior award performance.
6. Partnerships and/or participation of targeted groups.

7. Adequacy of information necessary for NOAA to make a NEPA determination and draft necessary documentation before recommendations for funding are made to the grants officer

#### C. Selection Factors

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1. Availability of funding.
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  - a. Geographically
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3. Whether this project duplicates other projects funded or considered for funding by NOAA or other federal agencies.
4. Program priorities and policy factors.
5. Applicant's prior award performance.
6. Partnerships and/or participation of targeted groups.

7. Adequacy of information necessary for NOAA to make a NEPA determination and draft necessary documentation before recommendations for funding are made to the grants officer.

#### D. Anticipated Announcement and Award Dates

Anticipated Publication Date: 6/1/2006

Subject to the availability of funds, review of proposals will begin in October 2006. June 1, 2007 should be used as the proposed start date on proposals, unless otherwise directed by the Program Officer.

## VI. Award Administration Information

### A. Award Notices

The notice of award is signed by the NOAA Grants Officer and is the authorizing document. It is provided by postal mail or electronically through the Grants Online system to the appropriate business office of the recipient organization.

### B. Administrative and National Policy Requirements

The Department of Commerce Pre-Award Notification Requirements for Grants and Cooperative Agreements

The Department of Commerce Pre-Award Notification Requirements for Grants and Cooperative Agreements contained in the Federal Register notice of December 30, 2004 (69 FR 78389) are applicable to this solicitation.

### Limitation of Liability

In no event will NOAA or the Department of Commerce be responsible for proposal preparation costs if these programs fail to receive funding or are cancelled because of other agency priorities. Publication of this announcement does not oblige NOAA to award any specific project or to obligate any available funds.

### National Environmental Policy Act (NEPA)

NOAA must analyze the potential environmental impacts, as required by the National Environmental Policy Act (NEPA), for applicant projects or proposals which are seeking NOAA federal funding opportunities. Detailed information on NOAA compliance with NEPA can be found at the following NOAA NEPA website: <http://www.nepa.noaa.gov/>, including our NOAA Administrative Order 216-6 for NEPA, [http://www.nepa.noaa.gov/NAO216\\_6\\_TOC.pdf](http://www.nepa.noaa.gov/NAO216_6_TOC.pdf), and the Council on Environmental Quality

implementation regulations, [http://ceq.eh.doe.gov/nepa/regs/ceq/toc\\_ceq.htm](http://ceq.eh.doe.gov/nepa/regs/ceq/toc_ceq.htm)).

Consequently, as part of an applicant's package, and under their description of their program activities, applicants are required to provide detailed information on the activities to be conducted, locations, sites, species and habitat to be affected, possible construction activities, and any environmental concerns that may exist (e.g., the use and disposal of hazardous or toxic chemicals, introduction of non-indigenous species, impacts to endangered and threatened species, aquaculture projects, and impacts to coral reef systems).

In addition to providing specific information that will serve as the basis for any required impact analyses, applicants may also be requested to assist NOAA in drafting of an environmental assessment, if NOAA determines an assessment is required. Applicants will also be required to cooperate with NOAA in identifying and implementing feasible measures to reduce or avoid any identified adverse environmental impacts of their proposal. The failure to do so shall be grounds for the denial of an application.

In conformance with the Uniform Administrative Requirements for Grants and Cooperative Agreements section 15 CFR 14.36, any data collected in projects supported by NCCOS/CSCOR should be delivered to a National Data Center (NDC), such as the National Oceanographic Data Center (NODC), in a format to be determined by the institution, the NODC, and the Program Officer. It is the responsibility of the institution for the delivery of these data; the DOC will not provide additional support for delivery beyond the award. Additionally, all biological cultures established, molecular probes developed, genetic sequences identified, mathematical models constructed, or other resulting information products established through support provided by NCCOS/CSCOR are encouraged to be made available to the general research community at no or modest handling charge (to be determined by the institution, Program Officer, and DOC).

### C. Reporting

All financial and performance (i.e. progress) reports shall be submitted electronically through the Grants Online system unless the recipient does not have internet access. In that case, hard copy financial reports are to be submitted to the NOAA Grants Officer and performance (technical) reports are to be submitted to the NOAA program officer. Financial reports are semi-annual and performance reports are annual.

## VII. Agency Contacts

Technical Information. Michael Dowgiallo, CRES Program Manager, 301-713-3338/ext 161 Internet: [Michael.Dowgiallo@noaa.gov](mailto:Michael.Dowgiallo@noaa.gov).

Business Management Information. Laurie Golden, NCCOS/CSCOR Grants  
Administrator, 301-713-3338/ext 151, Internet: Laurie.Golden@noaa.gov

#### VIII. Other Information

##### Collection of information requirements

Notwithstanding any other provision of law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection displays a currently valid OMB control number.

This notification involves collection-of-information requirements subject to the Paperwork Reduction Act. The use of Standard Forms 424, 424A, 424B, and SF-LLL has been approved by the Office of Management and Budget (OMB) under control numbers 0348-0043, 0348-0044, 0348-0040 and 0348-0046.