Request For Demonstrations and Development Proposals 2008-2009
And
Proposal Guidelines

The Mid-Atlantic Bight National Undersea Research Center (MAB NURC), administered by the Institute of Marine and Coastal Sciences at Rutgers University, announces opportunities for demonstration and research development during calendar years 2008-2009.

MAB NURC Regional Research Priorities for 2008-2009

- **Studies demonstrating capabilities and advantages of autonomous underwater vehicles (AUVs)**
- **Exploring and mapping the distribution of living resources using AUVs**
- **Development of Undersea Technology facilitated by broadband capabilities at the Long-term Ecosystem Observatory (LEO-15)**

Demonstration Proposals are REQUIRED and DUE May 21, 2008 for full consideration. Proposals received after May 21 will be reviewed on a rotational basis dependent on funds.

CENTER CONTACTS

For information related specifically to the Mid-Atlantic Bight undersea science and technology programs, please contact:

Michael P. De Luca, Director
NOAA Undersea Research Center
Rutgers University
71 Dudley Road
New Brunswick, New Jersey 08903
Voice: 732-932-6555, ext. 508; Fax: 732-932-8578
email: **deluca@marine.rutgers.edu**

For general information about the National Program or other NURP centers, contact:

NOAA Undersea Research Program
SSMC3, R/OR2
1335 East-West Highway
Silver Springs, MD 20910
PH: 301-713-2427; FAX: 301-713-1976
email: **karen.kohanowich@noaa.gov**

Demonstration or development proposals are **required and must be submitted by email by May 21, 2008**. Proposals should be 2-3 pages not including cover pages, forms or addenda. Proposals should provide a summary of the proposed research demonstration or development, describe research goals and facilities/equipment requirements, outline time or logistic constraints, specify area of operations including depths, and estimate the level of support required. This will ensure that appropriate research guidelines are addressed, and permit operations staff to evaluate feasibility. Demonstration proposals have a limit of $15,000 per project, to include platform costs, travel, transportation, and salaries for NURP technical support (such as REMUS operators). Proposals for support of science beyond technical demonstrations or developments are discouraged during this funding cycle. Proposals should be sent to the appropriate contact listed above.

Proposal requirements:

- One original, signed copy with requisite forms and cover page
- Digital proposal in MS Word or Adobe PDF format
- All materials should be sent to M.P. De Luca via address above

Request for Demonstration and Development Proposals for Undersea Investigations

I. Funding Opportunity Description

A. Mid-Atlantic Bight National Undersea Research Center at Rutgers University

The National Oceanic and Atmospheric Administration (NOAA) is responsible for the assessment, protection, development and utilization of U.S. underwater resources and understanding the role of oceans in climate and environmental change. To help address this mandate, NOAA funds the NOAA Undersea Research Program (NURP), which consists of a national office in Silver Spring, Maryland and six regional centers that specialize in undersea research and technology. The MAB Center supports undersea research to improve knowledge of processes governing change and stability in ecosystems of coastal and oceanic waters and seabed south of Montauk Point, New York and off New York, New Jersey, Pennsylvania, Delaware, Maryland and Virginia. The Center provides undersea technology with an emphasis on the REMUS Autonomous Undersea Vehicle (AUV) and the LEO-15 Observatory and associated sensors in order to address research questions at a range of scales. Qualified proposals are eligible to receive support in the way AUV and LEO-15 Node access, including operators and divers, data download and processing, and AUV shipment and operator travel costs. Modest funds will be available for development project supplies. Final proposals are peer reviewed, and ranked according to scientific merit, relevance to NOAA and Center priorities, and feasibility. Additional information is available at the Center's web site: **http://marine.rutgers.edu/nurp/mabnurc.html**

About the National Undersea Research Program

NOAA's Undersea Research Program (NURP) is a comprehensive underwater research program that places scientists underwater, directly through the use of submersibles, underwater laboratories, and wet diving, or indirectly by using remotely operated vehicles (ROVs), autonomous underwater vehicles (AUVs), and observatories. This in situ approach allows acquisition of otherwise unobtainable observations, samples, and experimentation related to NOAA national research priorities. NURP is primarily a grant program with most of its funding going to the extramural (outside NOAA) research community, primarily academia. NURP-supported research must meet competitive and high standards of peer review.

NOAA's Mission: ***To understand and predict changes in the Earth's environment and conserve and manage coastal and marine resources to meet the Nation's economic, social, and environmental needs.***

NURP responds to NOAA's mission by using its expertise in undersea in *situ* science and technology.

NURP's Mission: ***To support NOAA's mission through advanced undersea research, sampling, observation, experimentation, and education.***

NURP's mission directly supports NOAA by providing an *improved understanding of the nation's underwater resources to enable effective ecosystem-based management.* NURP supports targeted research that enables NOAA to achieve its Ecosystem Mission Goal to "protect, restore and manage the use of coastal and ocean resources through ecosystem-based management." The NOAA Strategic Plan identifies five fundamental activities by which the Ecosystem Goal can be met:

- **Monitor and observe** the land, sea, atmosphere and space and create a data collection network to track Earth's changing systems.
- **Understand and describe** how natural systems work together through investigation and interpretation of information.

- **Assess and predict** changes in natural systems and provide information about the future.
- **Engage, advise and inform** individuals, partners, communities and industries to facilitate information flow, assure coordination and cooperation, and provide assistance in the use, evaluation and application of information.
- **Manage** coastal and ocean resources to optimize benefits to the environment, the economy, and public safety.

NURP supports primarily the activity to **Understand and Describe**, and also contributes information to support activities to **Monitor and Observe, Assess and Predict, Engage, Advise and Inform,** and **Manage.**

Regional Areas of Interest for 2008-2009

AUV capabilities and broadband-instrumentation at LEO-15 – MAB-NURC is particularly interested in studies demonstrating capabilities and advantages of autonomous underwater vehicles (AUVs), particularly as they pertain to the exploration and mapping the distribution of living resources and in the Development of Undersea Technology facilitated by broadband capabilities at the Long-term Ecosystem Observatory (LEO-15).

The MAB Center will entertain proposals that demonstrate advanced, novel, and cost-effective applications of AUVs to address challenges in the description and quantification of underwater processes, especially bio-physical interactions. The Center has a REMUS – 100 AUV (100 m depth capacity) with YSI CTD, upward and downward looking RDI ADCP, Marine Sonics sidescan sonar, and Aanderaa oxygen optode; optionally, a LOTEK MAP hydrophone for the detection and geo-location of CDMA-coded acoustic (76.8 kHz) transmitters is available. Access to the vehicle is provided along with operators, internally and externally supported navigation aids, and includes data reporting and processing (e.g. sidescan output, acoustic transmitters mapping, etc.). The AUV can be used locally or in the coastal US or Great Lakes. The Center has also established a Long-term Ecosystem Observatory (LEO) at an inner shelf site (15 m depth) located directly offshore of the Rutgers University Marine Field Station at Tuckerton, NJ (LEO-15). Guest ports are available to supply power, operate instruments, and transmit data. It is available to all qualified investigators who wish to conduct in situ experiments, and provides an excellent site to test and deploy sampling and sensing equipment, especially those with moderate to high power and data stream requirements. Development of sensors for studying living resources is of special interest. A description of the LEO-15 nodes is available on the Internet:
http://marine.rutgers.edu/nurp/facilities.html

For additional information on REMUS AUV and LEO-15 please contact Rose Petrecca, Technical Director, at **petrecca@marine.rutgers.edu**.

Forms (click on individual form for Word file)
Applicant Agreement
Biographical Sketch (or use NSF format)
Budget Sheet
Cover Sheet
Current and Pending Support (or use NSF format)
Project Summary
Table of Contents (and Checklist)
Time Request Form