

opportunities. The agency has made a commitment to expand and strengthen its partnerships with Minority Serving Institutions that will serve as a means to meet its principal goals of environmental stewardship, assessment, and prediction. In accordance with the policy of the U.S. Department of Commerce and NOAA to foster environment education and economic sustainability and the agency's mission, the purposes of the NOAA EPP/MSI Environmental Entrepreneurship Program are to support:

(1) *Educational and Training Opportunities.* To prepare students with the necessary complement of educational opportunities, business acumen and technical skills that will enable them to pursue careers, entrepreneurship opportunities and advanced academic study in sciences directly related to NOAA's mission.

(2) *Capacity Building.* To develop or enhance the capacity of academic programs at MSIs, directly related to the NOAA sciences, to ensure they are effective pipelines through which students and faculty can gain the necessary experience as a baseline for both educational and training opportunities.

(3) *Partnerships.* To facilitate or strengthen MSI partnerships between NOAA programs, laboratories and facilities, community colleges and universities, industry, governments (state, local, commonwealth, territorial and tribal), and organizations (public, nonprofit, or private) that foster cooperative educational and training opportunities for students and facilities.

(4) *Community Economic Development.* To support MSIs and partners in preparing students with the necessary knowledge, skills, tools and technologies that may be applied outside the classroom to create minority business enterprise and foster environmentally sustainable and economically viable local communities.

Rationale

The recruitment of minorities, particularly underrepresented minorities, in the fields of science and engineering, lags behind national expectations. Statistics from the National Science Foundation (NSF) show that of the 17,347 doctoral degrees granted in NOAA-related sciences in 2000 (the most recent data available as of July 2002), 1.9 percent were granted of African Americans, 2.3 percent were granted to Hispanics, and 0.3 percent were granted to American Indians and Alaska Natives. NOAA statistics also indicate that 3.8 percent of scientist and engineers employed by

NOAA are African Americans, 1.8 percent are Hispanics, and .25 percent are American Indians and Alaska Natives. In contrast, these groups make up 26 percent of the U.S. population (African Americans, 12.3 percent, Hispanics, 12.5 percent, and American Indians and Alaska Natives, 1.2 percent). The quality and nature of academic experiences at each point of the educational pipeline are crucial to bringing more minorities into earth and environmental science and engineering fields. Bachelors, Masters and Doctoral degrees are the underpinnings of environmental science career achievement and employment.

NOAA EPP/MSI Environmental Entrepreneurship Program

The goal of the NOAA EPP/MSI Environmental Entrepreneurship Program is to strengthen the capacity of Minority Serving Institutions to foster student careers, entrepreneurship opportunities, and advanced academic study in sciences directly related to NOAA. Proposals must be firmly grounded in "environmental fields" directly related to NOAA's mission. The term "environmental fields" is defined as those environmental, natural sciences (i.e., biology, earth sciences), physical and social sciences (i.e., economics, anthropology, geography, and history), engineering, professional and technical fields that are directly related to NOAA's mission which is to "describe and predict changes in the Earth's environment, and conserve and manage wisely the Nation's coastal and marine resources." (See <http://www.noaa.gov/>)

Proposals should identify mechanisms to be employed that involve an interdisciplinary approach to enhancing MSIs capacity to foster student opportunities, interest in, and pursuit of careers, entrepreneurship and advanced study in the NOAA sciences.

Proposals will be accepted that address one of the following categories:

(i) *Program Development and Enhancement*—approximately six grants or cooperative agreement awards, each up to a total of \$250,000 for a period of one, two or three years to support the capacity of MSIs in the development and enhancement of entrepreneurship training and educational opportunities for students directly related to the NOAA sciences. Developing and enhancing outreach, education, applied research and training capabilities at MSIs is intended to expand opportunities for students to develop the technical skills, entrepreneurial training, and experiences needed to pursue careers, entrepreneurship opportunities and advanced academic

study in NOAA-related environmental fields. Activities funded under this element should include an interdisciplinary approach to developing or enhancing: coastal, oceanic, atmospheric, environmental and remote sensing science courses coupled with entrepreneurship training through curriculum enhancement in economics, marketing, product development and services, practical learning experiences for students, applied research or hands-on training. These activities are designed to foster student careers, entrepreneurship opportunities and advanced academic study directly related to NOAA's mission.

(ii) *Environmental Demonstration Projects*—approximately six grants or cooperative agreement awards, each up to a total of \$300,000 for a period of one, two or three years, to support the engagement of MSI students and faculty in hands-on demonstration projects that apply environmentally sound methods and technologies to address real world environmental issues in local communities that directly relate to the NOAA sciences. Field demonstration projects should encourage partnerships that enable students to address challenging environmental issues such as, enhancing and restoring coastal and estuarine habitats, preventing marine pollution, reducing coastal hazards, assessing marine protected areas, protecting coral reefs, reducing the spread of invasive species, restoring fisheries and fisheries habitat, developing and expanding aquaculture, planning community waterfront revitalization, improving the prediction of weather and climate phenomena, or employing remotely sensed data and information systems to support environmental monitoring and prediction. The demonstration projects should involve students in collaborative field projects that will empower them to pursue careers, entrepreneurship opportunities and advanced academic study. Projects should train students with the necessary knowledge, skills, tools and technology that may be applied outside the classroom to create minority business enterprise and promote environmental sustainability and economic viability in their local communities. Projects should engage students in applied research to understand the nature and extent of environmental degradation within communities and to test and monitor methods for preventing, controlling, and reducing the degradation of natural environments.