

VI. PANEL SESSION

PERSPECTIVES FROM NOAA’S LEADERSHIP:

Progress and Impediments: Building Sustainable Alliances

This panel session provided Conference participants with an overview of the current progress and impediments in NOAA’s work to sustain diversity and to foster relationships with the HBMSCUs. The panelists described effective strategies and realistically assessed the structures that need to be implemented. After all the panelists spoke, the floor was opened for a question and answer session.

Moderator: Dr. William White, Associate Dean, School of Science and Technology, JSU
Panelists: Mr. John Oliver, Deputy Assistant Administration
National Marine Fisheries Service, NOAA
Ms. Louisa Koch, Deputy Assistant Administrator
Office of Oceanic and Atmospheric Research, NOAA
Captain Ted Lillestolen, Associate Deputy Assistant Administrator
National Ocean Service, NOAA
Ms. Mary Glackin, Deputy Assistant Administrator, National Environmental
Satellite, Data and Information Service, NOAA
Dr. Edward Johnson, Director of Strategic Planning and Policy
National Weather Service, NOAA

NOAA: A Good Place to Work, Committed to Diversity

All the panelists began by extolling the praises of a career in the service of NOAA, asking those Conference participants who were not yet employed to consider a career in public service. “We’ve got it all,” said Mr. Oliver, “career opportunities in every state and almost every field you can imagine from weather meteorology to satellite technology to undersea research.” NOAA’s mission—to describe and predict changes in the Earth’s environment, and to manage wisely the nation’s coastal and marine resources—provides a broad range of exciting and important responsibilities.

All the panelists also emphasized NOAA’s commitment to diversity, describing a history of NOAA’s outreach to HBMSCUs, pledging their Line Office’s dedication to NOAA’s Minority-Serving Institutions Council, and recognizing the need for continued and sustained alliances and resources.

NOAA’s Minority-Serving Institutions Council: A Financial Commitment

Ms. Louisa Koch spoke as the Chair of NOAA’s Minority-Serving Institutions Council which “serves as the focal point for NOAA’s leadership to work together to identify ways for NOAA to strengthen its partnership with MSIs.” NOAA’s partnership with MSIs increases the likelihood of a diverse workforce at NOAA. NOAA’s work requires people with advanced degrees, particularly science and engineering, but “statistics from the National Science Foundation Science and Engineering Indicators 2000 Report illustrate that the number of minority students receiving

Doctoral and Master's degrees in science and engineering, continues to be well below the national average. The most recent National Science Foundation (NSF) data state that of the approximately 18,000 doctoral degrees granted in science and engineering, only 3% were granted to African Americans, 3.5% to Hispanics and 0.3% to American Indians and Alaska Natives. Since about 40% of minority students receive their undergraduate degrees at Minority-Serving Institutions, direct collaboration with Minority-Serving Institutions is an excellent way to increase the number of minority students with degrees in NOAA-related fields.”

Ms. Koch announced, with great pleasure, that NOAA's budget for this year includes \$15M for NOAA to partner with Minority-Serving Institutions. She praised the hard work of many people who made this funding possible: the faculty and administration of the MSIs themselves, Commerce Secretary Norm Mineta and former Deputy Secretary Robert Mallet, who made this program a top priority, and the current Acting Under Secretary of NOAA, Scott Gudes, whose leadership and vision turned a dream into reality. Ms. Jacqueline Rousseau with the Educational Partnership Program Office, OAR, also spent many hours building coalitions to ensure the program would be a success.

The New NOAA-MSI Partnership Program

There are four components of this program.

1) Creation of Cooperative Science Centers

Cooperative Science Centers will be created at select MSIs to support research in the areas of atmospheric, oceanic, and environmental sciences, and remote sensing. By developing these centers, we wish to improve opportunities for, and retention of, students and faculty from under-represented groups in the NOAA related sciences in order to increase the number of students graduating in NOAA Science areas. We are looking to enhance collaborative research opportunities and experiences for faculty and students with NOAA research facilities, stronger infrastructure at MSIs, and an increase in staff exchanges between NOAA and MSIs.

A Distinguished Professorship will be created at each of the Science Centers. These professors will be required to develop significant research projects for their respective Centers with other professors and students. Staff and faculty exchanges will also be part of this program, and there will be opportunities to participate in collaborative research. Where appropriate, NOAA staff may teach courses, develop curricula, or conduct joint research.

2) Funding by the Environmental Entrepreneurship Program

The Environmental Entrepreneurship Program will provide funds to MSIs to support training research, outreach and employment opportunities in effective management of natural resources in depleted environments. We hope this support will develop new and enhance existing academic programs in the environment and increase the number of students from under-represented groups to enter careers in environmental fields. These funds will also be used to support MSI faculty and students in demonstration projects on environmental restoration and protection that integrate education, outreach, and research focused on the application of sound methods and technology.

3) Establishing a Junior Year Scholarship Program

The goal of this program is to increase the number of students who undertake course work and graduate with degrees in NOAA related areas.

4) Graduate Scientist Program

This program is aimed at recruiting new NOAA employees and providing them with graduate level training in NOAA related areas.

National Marine Fisheries Service: Connect and Coordinate

Mr. Oliver described the role of NMFS or NOAA Fisheries: “We are the stewards of the nation’s living marine resources and the environments in which they live.” He noted that the research conducted at the five major science centers is done in cooperation with universities and other coastal partners, and this research is used both domestically and internationally to further conservation of living marine resources. This theme of cooperation was evident in NMFS’s history of sustaining diversity. Mr. Oliver related a 25-year history of NMFS involvement with Minority-Serving Institutions (MSIs), sponsoring educational workshops, developing marine programs, and doing cooperative research, including its current funding of two JSU master’s degree students working on red snapper. Most recently, NMFS has established a research cruise off the Chesapeake Bay for faculty and students from MSIs. Fulfilling the commitment made at the second *Expanding Opportunities* Conference, NMFS appointed Dr. Brad Brown (NMFS, Miami Laboratory) to coordinate all of the MSI activities. “We hope, with this appointment, we can take greater advantage of our research facilities and NOAA vessels to provide research platforms and internship opportunities for students and faculty from MSIs.”

Office of Oceanic and Atmospheric Research: The Sea Grant Programs

Last year, Sea Grant called for proposals for innovative partnerships to strengthen the capacity of MSIs to foster student careers, research, and workforce competitiveness in marine and related sciences. Sea Grant made available \$300,000 per year for three years.

Here are four of these programs:

1) **Jackson State University** received a three-year grant to strengthen their marine science program. This project is to increase the number of students receiving degrees in marine science and to enhance the capacity of JSU to train students in research. Students will be selected to gain field and laboratory research experience at JSU.

2) **Morgan State University and the Smithsonian Environmental Research Center** received a three-year grant to increase research and education opportunities in marine and related sciences. The partnership will include (1) field and laboratory work under the guidance of scientist mentors, (2) a series of short courses on topics ranging from the scientific method to experimental design (3) a biweekly seminar series and, (4) a series of marine and environmental science laboratory modules for infusion into undergraduate and graduate courses. The most talented and brightest participants will be selected to present their research at two regional Conferences each year.

3) **Savannah State University** received a three-year grant to use mariculture as a tool to encourage diversity in Marine Science careers. This project establishes a Research Fellowship Program to provide research opportunities and on-the-job training for under-represented students in areas such as aquaculture. It will also establish a sea grass nursery in partnership with the private sector. Savannah State University will partner with the James M. Waddell Research and Development Center, one of the country's largest facilities for aquaculture research.

4) **South Carolina State University** received a three-year grant to enhance experimental learning in marine sciences. This project focuses on organizing South Carolina State University's marine science resources to provide "hands-on" learning experiences, especially in aquaculture, to high school and undergraduate level students. It will provide research and development opportunities to students seeking graduate degrees in the marine sciences.

National Ocean Service: Partnerships to Develop Opportunities

Captain Ted Lillestolen reported that the NOS has created several partnerships over the years to increase awareness of and employment in oceanic and atmospheric sciences for women and minorities. He spoke about four current partnerships

1) **NOS' Center for Coastal Monitoring and Assessment** and Dr. Livingston Marshall, an Associate Professor of Biology at Morgan State University (MSU) entered into a partnership to focus one environmental studies class on concerns stemming from environmental sampling in the Chesapeake Bay. NOS is working with the National Aquarium in Baltimore, Maryland and MSU to train MSU students in the Reserve Systems Ecological Monitoring Program.

2) **NOS' Estuarine Reserve Division** and the Coastal Service Center are cooperating with professionals and volunteers at the Chesapeake Bay National Estuarine Research Reserves in both Virginia and Maryland.

3) **NOAA committed \$35 thousand** during the fiscal year 2000, to the Chesapeake Bay National Estuarine Research in Virginia to train undergraduate and graduate students in data collection and analysis technologies currently employed at the Reserve.

4) **NOS, through the Coastal Zone Management Program**, is partly funding a project at Jackson State University. JSU is assisting the Mississippi Coastal Management Agency with the development of a geographic information system application incorporating attributes extracted from a digital permit database of regulated in-water activities of the Mississippi Gulf Coast.

National Environmental Satellite, Data, and Information Service (NESDIS): Multi-levelled Partnerships, Sustained Commitments

Ms. Mary Glackin began by summarizing NESDIS' mission: to develop and sustain the nation's environmental satellite systems and to provide stewardship of the nation's environmental data.

Ms. Glackin emphasized that NESDIS employs people with a wide range of skills, from oceanic sciences to remote sensing. NESDIS' approach to increasing and bolstering diversity is equally wide ranging, emphasizing broad coalitions among public, private, and academic sectors and supporting these coalitions through long-term, sustained commitment. She reminded Conference participants that long-term success requires initial leadership and support, citing NOAA's first-hand involvement in the establishment of the Atmospheric Sciences Department at JSU which will soon celebrate its 25th anniversary. Three other programs also demonstrate both partnership and commitment:

1) **National Aeronautics and Space Administration (NASA) and Howard University** partnered to bring graduate students in atmospheric sciences to Howard during the summer. This program provides students the opportunity to learn about our research and scientists the chance to meet and talk with students.

2) **Wallops Island Summer Science Camp**. This program, now in its second year, envisioned by Ms. Eveline Cropper and in partnership with the University of Maryland, Eastern Shore, helps middle school children stay involved in the sciences. At this science summer camp, students gain exposure to NOAA science, experience a campus setting, and get a chance to see scientists as role models.

3) **NESDIS' New Coastal Data Development Center** and scientists from JSU will partner to work on the use of satellite data and GIS technology. This \$2.5 million grant was supported by Senator Thad Cochran of Washington, D.C. and approved by Congress.

National Weather Service: Impediments and Outreach

Dr. Edward Johnson began by reminding participants of California, "the most populous state in the nation which now has less than 50% non-Hispanic white population." The "minority" is the majority, and this change in demographics is the trend predicted for the future. Dr. Johnson then urged that if institutions do not take advantage of this nation's diversity, they simply would not survive. A commitment to increasing diversity is a commitment to the health and sustainability of NOAA and the National Weather Service (NWS). The NWS currently is committed to increasing the representation of minorities, women, and persons with disabilities by 1% per year in its workforce, which it did last year. Dr. Johnson lauded this, but acknowledged that 1% falls far short of what is needed to create a sustained diverse workforce.

The biggest impediment the NWS faces is that it is not currently hiring in great numbers. The workforce is "comparatively young" and NWS does not lack applicants for entry level positions, especially in meteorology. Nonetheless, the applicant pool is not representative of the diverse population of the United States. We are using outreach to build our applicants.

1) **Outreach to Minority-Serving Institutions**

One of our major activities is to establish partnerships with minority-serving institutions. We are using our nine national centers, which provide a variety of services from environmental modeling to weather forecasting, to make contact with MSIs. These contacts are not just with the

meteorology departments, but also any department related to Weather Service concerns, including physics, mathematics, and the social sciences. One of our challenges is to learn how to communicate more effectively to the decision-makers in this country. A clearer understanding of the relationships between the work of NWS and economic matters would benefit us.

2) Outreach to Primary and Secondary Educational Institutions

The Weather Service has a responsibility to support the atmospheric sciences and the physical sciences in general. We provide school visits for career days. Each of our weather forecast offices has a position called a Science and Operations Officer whose duty, in part, is to reach out to science programs at academic institutions, particularly elementary and secondary education.

3) Student Internships: Federal Employees and Non-Federal Employees

We have two types of student internships, both of which allow students to gain exposure to NOAA career paths. The first internship results in students becoming federal employees, either temporarily or on a direct career path. In our last fiscal year, 1999, we had 28 women and minority students under our student career employment program and 27 under the temporary employment program. We also take advantage of the non-FTE program under the Oak Ridge Institute for Science and Education (ORISE) to bring students on board through a contract approach. These internships are open to students at the high school level as well. They have the advantage of not being affected during times of administration change or hiring freezes.

4) A Central Web Site

A central web site identifies grant opportunities between the Weather Service and minority-serving institutions. (www.rdc.noaa.gov/~grants/index.html).

5) Two New Faculty Appointments

NWS has budgeted for two new faculty hires for the NOAA Faculty Student Research Participation Program. Positions are open for all faculty members from minority-serving institutions. The position announcements are available from the National Weather Service EEO Program Office at (301)713-0692.

QUESTION AND ANSWER SESSION

A lively question and answer session followed, marked by the openness of participants and panelists alike willing to share their expertise and knowledge. Three main questions were asked:

- ▶ Can we have more information about SBIR (Small Business Innovation and Research) in relationship to NOAA's programs?
- ▶ What are the general impediments to the progress of achieving diversity?
- ▶ What opportunities are there for juniors and seniors in college?

Small Business Innovative Research Program

NOAA is an active participant in the Small Business Innovative Research Program (SBIR), which is an excellent vehicle for small and minority-owned businesses to contract with NOAA. Every

year NOAA solicits proposals to fund innovative research and technology products. NOAA has made some special efforts within the Department of Commerce to put in place pre-completed contract vehicles with small businesses to support our operations. This is called the COMETS program and it has been very successful.

General Impediments to Progress

The greatest impediment is the lack of funding at HBMSCIs. There is not adequate financial aid for minority students and this directly impacts the number of minority students graduating with the needed degrees.

What NOAA is currently trying to do is to achieve parity between majority and minority institutions in terms of partnerships, business opportunities, and financial support. These partnerships are crucial because one of the primary ways any student is attracted to a given field is by personal contact, meeting and establishing a relationship with someone at NOAA.

Developing feeder programs, contracts, summer work opportunities at HBMSCIs allows minority students the opportunity to establish contact at an early point in their college career, possibly even during high school. These personal, direct contacts with NOAA employees are the single greatest way minority students are recruited to work at the various Line Offices. NOAA must continue a policy of direct promotion, visiting each and every one of the 117 HBMSCIs, despite the great time and personal commitment this takes.

Student Opportunities

There are a number of student opportunities in NOAA. The Line Offices of NOAA want to stress that NOAA hires a wide range of applicants, from those associated with oceanography to those interested in electronic technology. Currently, there is a program for those students who are interested in environmental studies in which NOAA will pay a salary and send the student to graduate school in a mutually beneficial area. Even the range of majors is open, as NOAA also needs grant writers and financial analysts. It is important to note that for those who are interested in oceanic studies, graduate programs tend to recruit from biology, chemistry, physics, and geology, but not environmental studies.

Student opportunities are created through a two-way process. Students and their institutions must be willing to contact NOAA, to impress upon NOAA the urgency of diversifying. NOAA is, after all, a public, government agency. Students can contact NOAA to see how their tax dollars are working. Likewise, NOAA also has to reach out and directly contact students. As an example of this, the Weather Office charged every one of its weather offices, all 121 of them, to identify within their area of responsibility minority-serving institutions. Last year 300 such contacts were made, and it is hoped that these types of contacts will spread across the country to become a network of long-term relationships between NOAA and minority-serving institutions.