

Keynotes

July 1998

Atlantic Oceanographic and Meteorological Laboratory

Volume 2, Number 6

NOAA is committed to a workplace in which all people are respected as individuals and are valued for their contributions to accomplishing NOAA's mission. We will foster an inclusive, supportive, open, challenging, and innovative work environment to enable employees to be positive, creative, and reach their full potential.

NOAA Diversity Vision Statement

For more information about the NOAA Diversity Council or the 1998 NOAA Diversity Plan visit the Diversity web page at <http://www.rdc.noaa.gov/diversity.html>.



Workshop Highlights Diversity



Diversity workshop speakers Dr. Taylor H. Cox, Jr., Dr. R. Roosevelt Thomas, and Dr. Anita Rowe.

On Wednesday, June 10, 1998, representatives from NOAA's Diversity Council presented a one-day workshop entitled "Managing Diversity" at the Rosenstiel School auditorium. AOML staff, as well as staff from the National Marine Fisheries Service, National Hurricane Center, and National Weather Service attended the workshop, which was designed to introduce participants to the tenets of the 1998 NOAA Diversity Plan. To better enable NOAA to carry out its mission, Under Secretary Dr. D. James Baker has made the issue of diversity a key priority for all executives, managers, and employees throughout the agency.

Workshop speakers included three nationally-recognized diversity consultants, Dr. R. Roosevelt Thomas, Dr. Anita Rowe, and Dr. Taylor H. Cox, Jr., who addressed the topic of diversity from a variety of perspectives including individual attitudes and beliefs, interpersonal relationships, management practices, and organizational values and policies.

"Diversity refers to our collective workforce, a mixture of individuals characterized by differences and similarities," stated Dr. Thomas. "Managing diversity is the process of creating and maintaining an environment that naturally enables all participants to contribute to their full potential in pursuit of organizational objectives."

According to Dr. Thomas, "managing diversity, whether the differences are racial or cultural, is about getting the best out of everyone." By examining and discussing diversity, it was hoped that workshop participants could achieve greater insight into understanding and appreciating their differences.

Travel

Jules Craynock attended a meeting of the ERL EEO Advisory Committee on June 2-4, 1998 at the Geophysical Fluid Dynamics Laboratory in Princeton, New Jersey. He gave a presentation on the topic of diversity.

John Proni attended ICA/ASA '98 in Seattle, Washington on June 22-23, 1998 and made a presentation entitled "Wind generated acoustic spectral effects in the surf zone in the presence and absence of rainfall at Duck, North Carolina."

Jules Craynock attended a Technical Panel Review of the NURC Aquarius Underwater Habitat in Key Largo, Florida on May 27-29, 1998 as a representative of the NOAA Diving Safety Board. The review included an on-site visit to the habitat, located offshore of Tavernier in the Florida Keys.

John Proni attended the Sixth International Conference on Precipitation in Mauna Lani Bay, Hawaii on June 29, 1998 and made a presentation entitled "Underwater acoustic monitoring for satellite rainfall estimation validation."

Judith Gray traveled to Shepherdstown, West Virginia on July 1, 1998 to represent ERL in discussions with National Marine Fisheries Service personnel regarding areas of potential OAR/NMFS interaction.

Thomas Carsey attended a conference in Utrecht, Netherlands on June 20-23, 1998 concerning the Indian Ocean Experiment (INDOEX), a major multi-national experiment scheduled for 1999.

Chinese Delegation Visits AOML



Pictured (left to right): Ms. Gu Wu, Dr. Hening Huang, Mr. Zhang Yushan, Mr. Li Changjian, Dr. John Proni, Professor Ding Dewen, Ms. Judith Gray, Mr. Ye Min, Dr. Yang Lianwu, and Dr. John Tsai.

A six-member delegation from China's State Oceanic Administration (SOA) visited AOML on Friday, May 29, 1998. The delegation met with Deputy Director Judith Gray and Ocean Acoustics Division Director John Proni to discuss an upcoming joint project between the SOA and OAD. The joint project will involve a waste water and/or material discharge study in China using an acoustic concentration profiler developed by OAD staff.

Senators Introduce NOAA Corps Legislation

On Friday, June 26, 1998, the "National Oceanic and Atmospheric Administration Corps Continuance Act," Senate bill S.2256, was introduced to Congress. Senate bill S.2256 would authorize not less than 264 and not more than 299 NOAA Corps officers, designate a flag officer as Director of the NOAA Corps, and immediately lift the hiring freeze imposed on the NOAA Corps in 1994 by Vice President Gore's National Performance Review. Co-sponsors of the bill included Senators John Kerry (D-MA), Olympia Snowe (R-ME), Fritz Hollings (D-SC), and Ted Stevens (R-AK).

Senator Kerry introduced the legislation to Congress, stating that "a thorough review of cost studies associated with the dissolution of the NOAA Corps clearly reflects that no real savings will be achieved over either the short or long term." Senator Snowe also testified before the Congress on behalf of S.2256, stating, "this legislation is the product of careful examination and deliberation by the Subcommittee on Oceans and Fisheries and it represents a responsible solution to a problem that has been lingering for four years."

GUEST SPEAKER RESEARCH REPORTS*

Date	Time	Speaker	Title of Report
July 2, 1998	10:30	Dr. Abderrahim Bentamy Institut Francais de Recherche pour l'Exploitation de la Mer	Surface winds from satellite microwave instruments: Data analysis and applications
July 10, 1998	10:00	Dr. Kelly D. Goodwin U.S. Geological Survey	Bromomethane biogeochemistry: Marine macroalgal production and bacterial degradation in waters of varying salinity.
July 29, 1998	3:00	Mr. Jason Dunion Cooperative Institute for Meteorological Studies, University of Wisconsin	Use of GOES high-density low-level VIS winds to improve the estimation of tropical cyclone outer wind radii.

*Research reports are presented in the first-floor conference room; doughnuts are served 15 minutes before presentations.

The National Ocean Conference: *Oceans of Commerce—Oceans of Life*

A Personal View by Kristina Katsaros

The National Ocean Conference was held at the U.S. Naval Postgraduate School in Monterey, California on June 11-12, 1998. Preparations had been underway for many months prior to the conference, however, to highlight the United States' commitment to the goals of the Year of the Ocean (YOTO).

I had the privilege of being included in a preparatory workshop in February on the science and technology aspects of oceanography. It was a very high-level forum, where directors of several types of oceanographic institutions were present. As a result of this forum, a draft document was prepared by NOAA's own Robert White, now with the Heinz Foundation.

In all, four separate fora met to prepare materials for presentation and discussion at the conference. The areas addressed by the fora included:

- Oceans and Commerce
- Oceans and Global Security
- Ocean Environment and Health
- Ocean Exploration, Education, and Research

Cross-cutting issues included:

- Ecosystem health
- Sustainable use of the ocean
- Sustainable use of coastal resources
- Research
- Law of the sea
- Ocean management

The National Ocean Conference had an action-packed program, which I will only highlight from my perspective here. For more information, please visit the YOTO web site (<http://www.yoto98.noaa.gov/oceanc/index.html>). For general perusal, I have placed the program, major documents resulting from the workshops, a short booklet by the National Ocean Board, and the elements of an "Agenda for the Oceans" in a display box in AOML's library. From Miami, the Dean of the Rosenstiel School, Otis Brown, and I (as an alternate for Dr. "Joe" Friday) were on location in Monterey.

The first day of the conference, June 11, began with a lovely breakfast in the ballroom of the Naval Postgraduate School's Hermann Hall. I arrived early and had the luck to find myself next to

Worth Nowlin of WOCE and Bob Weller and others from the Woods Hole Oceanographic Institution, our latest member in the joint institute family of NOAA. We were welcomed by Congressman Sam Farr of California (a House of Representatives co-sponsor of the Oceans Act). A pre-recorded message from Secretary of Commerce William Daley was played for us and transmitted by Dr. James Baker.

During the morning, the audience of about 500 was split into discussion groups which focused on the four major themes of the conference (listed in first column). Participants included every possible type of organization concerned with the sea, such as the Navy, fishermen, conservationists, aquaria, universities, etc. My group focused on exploration, education,



and research. The panel was led by the Honorable Kathleen McGinty, Chair, Council on Environmental Quality for the Executive Office of the President. Notably, Ms. Ursula Sexton, the nation's 1998 science teacher par excellence, spoke very eloquently, as did Sylvia Earle, Chair/Founder of Deep Ocean Exploration and Research, Inc., for the importance of action now to preserve the oceans, fully educating the young in the joy of science exploration, and teaching them to treasure this magnificent heritage.

The hour-long question and answer period that followed was lively and interesting (can't lose with a varied and great audience). Our own Bonnie MacGregor raised the issue of presenting "risk" or uncertainty in our predictions to the public. She advocated honesty in this regard, which rings a strong bell



President Bill Clinton and Vice President Al Gore at the 1998 National Ocean Conference in Monterey, California.

with me. The media doesn't like the caveat, but I also feel strongly that "honesty pays" in the long run.

An honors luncheon followed where many famous people were given awards. Sylvia Earle, who has spent 1,000 days in submersible diving vehicles, was honored, as was Ted Danson (of the television show *Cheers*) for his ocean conservation work. Jean Michel Cousteau was also honored on behalf of his father, Jacques, and himself. I happened to be next to him after the ceremony and got a chance to use my French to congratulate him and shake his hand. *Merci pour tout!* He is absolutely wonderful.

The plenary session in the afternoon was chaired by Vice President Gore, who heard eloquent summaries from the four panels, and then asked questions of several panel members. The Vice President was at home with this audience; he was relaxed and joking. In addition to education, the importance of consistent ocean observations came up in every context. Our own Jim Baker, it seemed totally unrehearsed, was asked to describe La Niña to the Vice President. Dr. Baker did very well—not such an easy task!

We had a three-hour break before an evening reception at the Monterey Aquarium. Dr. Baker filled the time by inviting a group of scientists to a discussion session about YOTO and the field in general. Increased funding for oceanography was mentioned here. Yours truly couldn't resist noting that even though this was a national conference, international observers, particularly from our

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National Ocean Conference

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close neighbors Canada and Mexico, should have been included. I'm sure there is a mechanism to do this.

The following day, June 12, we were taken to San Carlos Park overlooking Monterey Bay. Secretary Daley and Secretary of Transportation, Rodney Slater, congressional representatives from California, and representatives from several Pacific Islands (Hawaii and Guam) presented speeches as we awaited the arrival of "Hillary, Bill, and Al." I take the liberty to address them as such because in France it was always "President Bill" on the front pages of the newspapers. They arrived amidst a motorcade and helicopters while the band played, looking chipper and fit and so relaxed and charming.

I give the First Lady much credit for our nation's renewed emphasis on education and the children. We are a village on a small planet, which is mostly water. She had just learned (from her husband) that the composition of the human body resembles the oceans. She made that point in her speech and how appropriate it was in this context!

A special treat for me was sharing this moment of the nation's focus on conservation of sustainable fisheries and the ocean's health with Mr. Alvis Johnson, a representative of the 3,000-souls strong northern California Native American Karuk tribe. He was a very fine gentleman.

President Clinton announced 224 million dollars in new funding initiatives. The ten marine sanctuaries currently in existence will remain so in *perpetuity*: they have thus become national parks. The President also plans to extend the ten-year moratorium on offshore oil drilling for another decade and see to it that the U.S. becomes a signator of the Law of the Sea. He has already endorsed the Oceans Act, which has passed in the House of Representatives and is now under consideration in the Senate. The President's speech was broadcast live at the International Expo '98 in Lisbon, Portugal.

The future looks good or at least better for the oceans, but as emphasized through the two days of the conference, it is up to us. As the Year of the Ocean logo states: "Get into it!"

Recent Travels of the AOML Director

A Few Observations by Kristina Katsaros

WOCE Conference

May 24-29, 1998

Halifax, Nova Scotia, Canada

The World Ocean Circulation Experiment (WOCE) is a decade-long research effort to specify the general oceanic circulation. Planning for WOCE started more than 15 years ago. From the morning lectures and afternoon poster sessions the impression was clear: this was a very important undertaking, which is in the process of reaping a golden harvest. The final official phase runs to the year 2002, but WOCE leads directly into the Climate Variability (CLIVAR) program, so work is not yet finished. Silvia Garzoli and Robert Molinari from the Physical Oceanography Division participated with posters entitled "The Benguela Current Experiment," and "Atlantic Ocean upper layer thermal structure characterized by pre-WOCE and WOCE expendable bathythermograph data." I presented an invited talk entitled "Contributions of scatterometer observations to surface flux estimates."

What is fascinating about this endeavor is that its sponsorship is very international. Contributions of pieces of this giant puzzle have been made by a large number of nations via an organizing international office and numerous workshops and planning meetings. As such, it is a marvelous example of how the oceanographic community can work as a unified and committed whole. Please visit the WOCE web site (<http://www.soc.soton.ac.uk/OTHERS/woceipo/ipo.html>) for the full story.

Pacific Marine Environmental Laboratory 25th Anniversary

June 23-24, 1998

Seattle, Washington

It was wonderful for me to be invited by my longtime colleagues in Seattle, since I was already a faculty member (a lowly one) at the University of Washington when PMEL came into being. Many of the accomplished scientists at PMEL are University of Washington graduates that I have seen mature, and some were my contemporaries as students. It was an elegant show, all in Powerpoint, and all on a web site (<http://www.pmel.noaa.gov/programs/>

98prog-agenda.html) for you to participate in on your own. Director Eddie Bernard emphasized the **relevance and quality** of research at PMEL

Their Tropical Atmosphere Ocean (TAO) buoy array in the Pacific Ocean has given them much pride during the 1997 El Niño. Their VENTS, deep ocean research, at the San Juan de Fuca Ridge and their fisheries oceanography program in the Alaskan waters are also great examples, as is the Tsunami Watch project. Congratulations PMEL! We are proud to be your sister laboratory and long-term partner in several of your projects. We look forward to even closer cooperation as the climate change and sustainable fisheries issues seem to grow more and more important and require all the talents we can muster.

NASA Honor Awards Ceremonies

June 30, 1998

Pasadena, California

NASA's honor awards ceremonies, held at the Jet Propulsion Laboratory and presided over by Drs. Wesley T. Huntress, NASA Associate Administrator, and Edward C. Stone, Director, JPL, could be compared to the Oscars for space science. It was a beautiful day in southern California. Trees with purple flowers glorified the ceremony and infused it with the rich fragrance of honey. The "Titanic" of the ceremony was, of course, the Pathfinder mission to Mars, and the many aspects of Sojourner's success could be compared to that of the romantic couple on the great ship. I had the honor to receive an award on behalf of the Scatterometer Science Team. This instrument, NSCAT, was flown on the Japanese Advanced Earth Observation Satellite, ADEOS I, launched in 1996, but only functional for nine months, unfortunately. This instrument measured vector surface winds over the oceans globally. It will soon be followed by Quikscat, which will complete the mission. The honor of the NASA Exceptional Achievement Medal was given to team leader, JPL employee, W. Timothy Liu (who also happens to be my very first graduate student). Was I proud? You guessed it.

Science Teachers Learn in Nature's Classroom

Fifty south Florida high school and middle school science teachers participated in an eight-day intensive marine science training program from June 22-30, 1998. The University of Miami's Rosenstiel School of Marine and Atmospheric Science (RSMAS) sponsored the first Science Teacher Institute program in conjunction with the Miami-Dade Public School system and the National Science Foundation as a means of providing teachers with "hands-on" learning experiences. Upon completion of the course, each teacher earned three graduate-level credits from the University of Miami.

The Science Teacher Institute is a part of the Investigating Nature Through Science Teacher Active Research (INSTAR) Project. The goal of INSTAR is to stimulate the "joy of science" and science inquiry in students by providing meaningful and useful geoscience research experience and technology training sessions for their teachers. In addition to the intensive training, teachers were also given "tool kits" to take back to their classrooms which contained instructional materials and equipment readily integrated into learning and teaching environments.

AOML has provided administrative and technical support for this first Science Teacher Institute. It has also made a commitment to provide follow-up scientific speakers to participating schools and has pledged an even greater involvement in future INSTAR workshops. Scientists from AOML have tentatively agreed to teach workshops on tropical meteorology and marine chemistry during future INSTAR Science Teacher Institute sessions. If you would like to become involved in this worthwhile project, please contact Evan B. Forde (forde@aoml.noaa.gov or 305-361-4327) for more information.

FOURTH OF JULY

HOLIDAY
JULY 3, 1998

Hurricane Predictions Updated for Atlantic Basin

Colorado State University hurricane forecaster Dr. William Gray and associates released their third updated prediction report for the 1998 Atlantic Basin hurricane season on June 5, 1998.

Gray's latest prediction report calls for an increase in hurricane activity for the 1998 season, due mainly to the weakening of the current El Niño, which greatly suppressed hurricane activity in 1997. According to Gray, "the basis of our forecast is that the El Niño, the strongest one we've ever had by nearly a factor of two, is fading out fast, and should be dissipated by the start of the active part of the hurricane season in mid-August."

In addition to the fading El Niño, other climatic factors such as above average sea surface temperatures in the tropical Atlantic and a ridge of eastern Atlantic air near the Azores Islands in the North Atlantic (that has remained weak since October 1997) are also expected to favorably impact the formation of storms this year.

Gray's latest update calls for ten tropical storms to form in the Atlantic Basin through November 30, 1998. Six tropical storms are predicted to evolve into hurricanes, and two will go on to become intense hurricanes with winds of 111 mph or more.

AOML Represents United States at International Workshop

AOML Director Dr. Kristina Katsaros, and Drs. Peter Black and Christopher Landsea of the Hurricane Research Division represented the United States as delegates at the Fourth International Workshop on Tropical Cyclones (IWTC-IV) in the Peoples Republic of China on April 21-30, 1998. The main objective of the workshop, organized by the World Meteorological Organization, was to provide a forum for discussion between researchers and forecasters on the current state of tropical cyclone knowledge. Representatives from 39 countries affected by tropical cyclones were present at the workshop. The International Workshop on Tropical Cyclones is held every four years.

Coral Bleaching Predicted

In early June, the Coral Reef Early Warning System (CREWS), an artificial intelligence system developed by Jim Hendee of the Ocean Chemistry Division, accurately predicted a coral bleaching event in the Florida Keys.

CREWS alerted coral researchers via email and the world-wide web to the strong probability of a coral bleaching event 17 days in advance of other researchers detecting the environmental parameters. Recent dives by NOAA scientists in the Florida Keys National Marine Sanctuary have confirmed the beginning phases of coral bleaching, although it has not yet become as widespread as originally expected.

Coral bleaching is thought by many to occur as a stress response to elevated water temperatures and, possibly, increased amounts of ultraviolet radiation. When water temperatures become too warm, usually above 30°C, corals react by expelling the symbiotic dinoflagellate phytoplankton. The phytoplankton, called zooxanthellae, are rich in color and give the naturally white coral a colorful appearance. When zooxanthellae are expelled, the coral is left looking as though it's been bleached, thus the term "coral bleaching."

Keynotes is published monthly by the Atlantic Oceanographic and Meteorological Laboratory. Contributions are welcome and should be submitted prior to the last week of each month to ensure inclusion in the following month's edition. Please address all correspondence to Ms. Gail Derr, Office of the Director, 4301 Rickenbacker Causeway, Miami, FL 33149. Contributions may also be submitted by fax at (305) 361-4442 or by email (derr@aoml.noaa.gov). If you have comments, questions, or suggestions, feel free to send them along as well; we're always interested in hearing from you.

Editor - Kristina Katsaros
Publishing Editor - Gail Derr

The deadline for submitting material for the August issue of *Keynotes* is Friday, July 24, 1998.