

Keynotes

July-August 2000

Atlantic Oceanographic and Meteorological Laboratory

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Panel Selects Best FY-1999 Scientific Papers

A panel of AOML scientists convened in early July to select AOML's best scientific papers published in FY-1999 (October 1, 1998-September 30, 1999). In spite of heavy competition, the following papers were chosen as the winners of AOML's FY-1999 Outstanding Scientific Paper Awards:

- Hock, T.F., and J.L. Franklin, 1999: The NCAR GPS dropwindsonde. *Bulletin of the American Meteorological Society*, 80(3):403-420.
- Molinari, R.L., R.A. Fine, W.D. Wilson, R.G. Curry, J. Abell, and M.S. McCartney, 1998: The arrival of recently formed Labrador Sea Water in the Deep Western Boundary Current at 26.5°N. *Geophysical Research Letters*, 25(13): 2249-2252.
- Willoughby, H.E., 1998: Tropical cyclone eye thermodynamics. *Monthly Weather Review*, 126(12):3053-3067.

Congratulations to AOML's award-winning authors. Their papers have been submitted to the Office of Oceanic and Atmospheric Research (OAR) as AOML's entries in the OAR-wide FY-1999 Outstanding Scientific Paper competition. Dr. Kelly Goodwin will represent AOML in this process by serving on the OAR-level Outstanding Paper Selection Panel.

Information about hurricane shutters can be found by visiting the hurricane shutters homepage at <http://www.aoml.noaa.gov/hrd/shutters>.



AOML Scientists Aid in Recent Spill Response Efforts

Scientists from AOML's Remote Sensing Division (RSD) recently played a critical advisory role in providing vital current data and other information to the Florida State Health Department and local Miami officials during a recent sewage spill crisis.

On June 20, 2000, a contractor accidentally drove a concrete pile through a submerged main sewage pipe bordering the Government Cut entrance to Miami Harbor. This pipe normally carries millions of gallons a day of raw sewage from Miami Beach to the Virginia Key Treatment Plant. Before repairs could be implemented and the flow diverted, at least 25 million gallons of raw sewage contaminated the waters of Government Cut, Miami Beach, Biscayne Bay, and Key Biscayne, resulting in extensive beach closures. The flow of raw sewage was diverted to an old World War II-era discharge pipe emptying 2.5 miles offshore of Miami Beach, where ocean currents cause dilution and transport of the effluent.



Remote Sensing Division scientists Jules Craynock, Jack Stamates, and Joe Bishop with an Acoustic Doppler Current Profiler used to monitor ocean currents during a recent Miami spill emergency.

Soon after the initial spill, Dr. John Proni, RSD Division Director, was contacted by the Miami-Dade Water and Sewer Department to attend the early response meetings of local health officials and city and county government representatives. Dr. Proni emphasized to meeting attendees that the area of ocean disposal offshore of Miami Beach was subject to periodic current reversals and changes occurring at the edge of the Florida Current where eddies may form, possibly leading to shoreward effluent transport. Ocean current data were needed for tracking the waters near the discharge point for unfavorable shifts in the current.

While repairs to the pipe were accelerated, a local crisis response team was quickly established. The Florida State Health Department initiated an intensive beach sampling and monitoring program while the Miami-Dade County Department of Environmental Resource Management (DERM) began daily monitoring of offshore sites near the oceanic outfall area. RSD scientists Jack Stamates, Joe Bishop, and Jules Craynock contributed to this effort by monitoring ocean currents near the outfall area (continued on page 2)



AOML is a research laboratory of NOAA's Office of Oceanic and Atmospheric Research



(continued from page 1)

utilizing a downward-looking acoustic Doppler current profiler (ADCP). The ADCP measured current speed and direction at various depths, thereby providing a profile of the currents in the water column. Daily ocean current reports were relayed directly to the Health Department as advisory information was collected and a risk status was determined through the Fourth of July weekend.

In a July 13 letter from the Florida State Health Department addressed to Dr. Proni and staff, the following expression of gratitude was conveyed: "We wanted to take the time to tell you how much we appreciated your expertise and assistance during the recent sewage spill. The information you provided enabled us to make decisions that protected the health of the community and prevented the outbreak of any waterborne illness. It was a privilege and a pleasure to work with you and we hope to do so in the future."



Know the "Plan"

AOML's Hurricane Preparedness and Recovery Plan for the 2000 hurricane season can be found in PDF or HTML format at the following Intranet address: <http://queue/>. The "Plan" outlines procedures for preparing the AOML facility for severe weather and requires the cooperation and support of all staff members. Know your responsibilities by reading the Plan.

Hurricane Recovery Information cards and Hurricane Recovery Report forms, recently distributed, are materials to be utilized in the event that a hurricane impacts south Florida. The Hurricane Recovery Information card lists the names and telephone numbers of AOML's Hurricane Recovery Team coordinators. The Hurricane Recovery Report form can be of aid in assessing your predicament and conveying information to recovery team coordinators. Contact Joe Pica (pica@aoml.noaa.gov or 305-361-4544) for more information about the Plan or to receive hurricane recovery materials.

GOOS Center Generates Valuable Data Products

The Global Ocean Observing System (GOOS) Center at AOML manages the United States' XBT (eXpendable BathyThermograph) and drifting buoy programs. XBTs are small probes dropped by ships that measure water temperature as they fall towards the ocean floor. The GOOS Center deploys approximately 15,000 XBTs annually throughout the world's oceans. About 400 buoys are also placed in the water each year. As the buoys drift, they measure ocean currents and the temperature of the sea surface; some buoys also carry barometers and wind speed sensors. The XBT and buoy data are transmitted within hours by satellite and used by the National Weather Service and ocean and climate modelers to create and later check their forecast products. Because the data are also useful to other users (researchers, fishermen, even elementary schools!), the GOOS Center creates a number of "value-added" products available over the Internet.

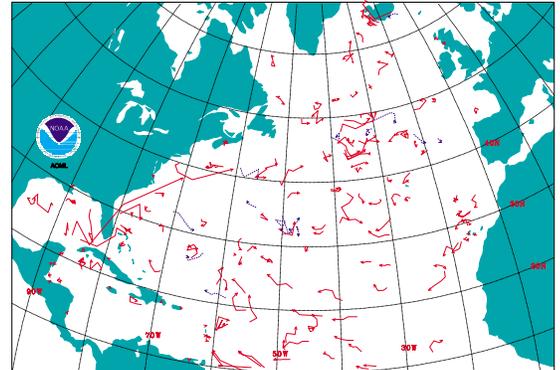


Figure 1. Example of a monthly drifter buoy trajectory map (June 5-July 6, 2000) for the Atlantic Ocean. Red lines indicate drogued buoys; blue lines indicate buoys with lost or unknown drogues.

At www.aoml.noaa.gov/phod/dac/dacdata.html, information about the status of all drifting buoys, the annual mean ocean currents as measured by the buoys, or the monthly drifter trajectories (Figure 1) can be found. There is a special discussion of the monthly currents in the tropical Pacific that is also published in the *Climate Diagnostics Bulletin*. A hypertext link allows access to a database of historical buoy data.

At www.aoml.noaa.gov/phod/goos/xbtplot_list_monthly.htm, plots of global ocean temperature anomalies for various depths are updated monthly (Figure 2). At www.dbcp.nos.noaa.gov/seas/, users can view statistics of all the data flowing through the GOOS Center. Merchant vessels can also download the Shipborne Environmental data Acquisition System (SEAS) software, a package developed by the GOOS Center that enables mariners at sea to send weather and ocean data to the GOOS Center via satellite.

An exciting new technology that combines the best of the XBT and drifting buoy methodologies is the PALACE float, a buoy that "drifts" at a thousand or more meters depth but periodically rises to the surface, collecting temperature and salinity data along the way. The GOOS Center is creating an operational program to deliver quality-controlled float data to forecasters and researchers. Additional information can be found at www.aoml.noaa.gov/phod/acce. Visit the GOOS Center website at www.aoml.noaa.gov/phod/goos to learn more about the GOOS Center mission and its other programs and products.

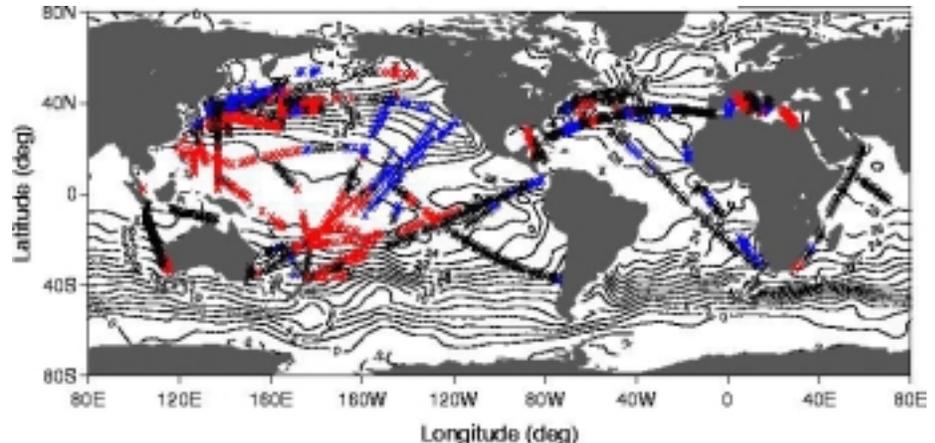


Figure 2. Example of a monthly XBT real-time data plot (May 1-June 1, 2000) of surface global ocean temperature anomalies. Red x's denote the location of XBTs recording temperatures $>2^\circ$ above the contoured Levitus climatology, blue x's denote XBTs recording temperatures $<2^\circ$ below the climatology, and black x's denote temperatures within $\pm 2^\circ$ the climatology.

Congratulations

Nirva Morisseau-Leroy, Oracle DBA/ Application Developer at AOML's Hurricane Research Division, has published her second book, *Oracle8i Java Components* (programming with EJB, CORBA, and JSP). Published by Osborne McGraw-Hill, the book instructs readers how to build Java components using JDBC and SQLJ implementations and is based on real applications developed at the Hurricane Research Division. Nirva's first book, *Oracle8i SQLJ Programming*, was published last year. Both books can be found at the Internet web sites of amazon.com and bn.com.

Welcome Aboard

Deborah Danaher joins the staff of the Ocean Chemistry Division as a Senior Research Associate to work with Dr. Jim Hendee in support of the Coral Health and Monitoring Program (CHAMP). Deborah obtained a M.S. degree from the University of Maryland's Marine Estuarine Environmental Science Program in coral biology. She will be responsible for establishing a data quality control protocol for the SEAKEYS, Bahamas, and Virgin Islands CREWS (Coral Reef Early Warning) stations, as well as for 20 other proposed CREWS stations over the next five years. Deborah will also update the CHAMP literature abstract page, write research papers that interpret SEAKEYS and CREWS data, and help assess coral bleaching episodes in the Florida Keys.

Peter Lane of the Rosenstiel School's Marine Biology and Fisheries (MBF) Division has become a part-time employee of AOML's Ocean Chemistry Division. Peter graduated from Southampton College on Long Island in 1979 as a Marine Science major and shortly thereafter began employment with Brookhaven National Laboratory. For most of his tenure at Brookhaven, Peter assisted Dr. Sharon Smith, now a member of the RSMAS/MBF faculty. Peter has extensive experience in field and laboratory biological oceanography, particularly in regard to zooplankton distribution and physiology. He will be assisting Shailer Cummings and Dr. Peter Ortner with the ongoing south Florida coastal ecosystem study.

Norman Mineta to Lead Commerce Department

Norman Y. Mineta, nominated by President Clinton to succeed William M. Daley as Secretary of the Department of Commerce, was confirmed by the Senate on July 21, 2000. A native of San Jose, California, Mineta hails from a long and distinguished career in public service.

After serving as both the Vice Mayor and Mayor of the city of San Jose, Mineta was elected to the U.S. House of Representatives (Dem.-CA) in 1974 to represent the 15th District of California. During his 11 consecutive terms in Congress, Mineta played a leadership role in legislation involving the transportation industries, the environment, the Voting Rights Act reauthorization bills, the Americans with Disabilities Act, and the Family and Medical Leave Act of 1993. He also served as Chairman of the Public Works and Transportation Committee and Deputy Whip for the House Democratic leadership. Mineta resigned from Congress midterm in 1995 to join Lockheed Martin Corporation as Senior Vice President of its transportation systems and services division.

During World War II, Mineta and his family were among the 120,000 Japanese-Americans interned in camps by the United States government. While serving in Congress, he helped to found the Congressional Asian Pacific American Caucus and was the driving force behind passage of the Civil Liberties Act of 1988 which provided reparations and an official apology to former internees for government violations of their civil liberties and constitutional rights.

Mineta's term in office as the Secretary of Commerce will be shortlived, lasting approximately six months, due to the upcoming presidential election in November 2000. A new cabinet will most likely be appointed in January 2001 by the next president.

It's a Boy!

Congratulations to Dawn Marie Boyer (nee Welcher), Executive Director of the Ocean Chemistry Division's South Florida Ecosystem Restoration, Prediction, and Modeling Program, and her husband Joe Boyer on the birth of their first child, Rowan Nelson, on July 25, 2000. Rowan, a healthy baby boy, was born at 10:00 p.m. and weighed in at 7 lbs. 9 oz. Mother, baby, and father are doing well.

A poster for an "ETHNIC POT LUCK LUNCHEON" held on August 8, 2000, at 11:30 A.M. in the AOML Lobby. The poster features a circular arrangement of various national flags around the text. The text includes the event title, date, time, location, and instructions to bring a favorite dish to share. It also mentions that sign-up sheets are located in the main elevator and at the receptionist's desk in the lobby. The event is sponsored by the Morale, Welfare, and Recreation Committee.

ETHNIC POT LUCK LUNCHEON

AUGUST 8, 2000
11:30 A.M., AOML LOBBY

*BRING YOUR FAVORITE DISH
TO SHARE WITH OTHERS*

SIGN UP SHEETS ARE LOCATED IN THE MAIN
ELEVATOR AND AT THE
RECEPTIONIST'S DESK IN THE LOBBY

(SPONSORED BY THE MORALE, WELFARE, AND RECREATION COMMITTEE)

Travel

Stanley Goldenberg will attend the Second Workshop on Regional Climate Prediction and Applications as an invited guest lecturer at the University of Oklahoma in Norman, Oklahoma on June 27-30, 2000.

John Proni will discuss potential coastal ocean environmental projects with personnel from the United Nations and present scientific findings at the ECUAA 2000 Conference in Paris, France on July 1-19, 2000.

Douglas Wilson will attend a Principal Investigators Meeting at the Interamerican Institute for Global Change Research in Mexico City, Mexico on July 5-7, 2000.

Michael Farmer will attend the Laboratory Safety and Environmental Management Conference sponsored by NOAA's Environmental Compliance and Safety Division in Alexandria, Virginia on July 10-14, 2000.

Terry Nelsen, James Hendee, and Charles Featherstone will attend the Coastal Society's 17th Annual Conference in Portland, Oregon on July 9-12, 2000.

Tsung-Hung Peng, Rik Wanninhof, and Jia-Zhong Zhang will attend the U.S. Joint Global Ocean Flux Study Principal Investigators Meeting in Woods Hole, Massachusetts on July 10-14, 2000.

Joyce Berkeley will attend the Federally Employed Women's 31st National Training Program in New Orleans, Louisiana on July 14-22, 2000.

James Hendee will attend the Coral Reef Task Force Meeting in American Samoa on July 30-August 9, 2000.

Judy Gray and Silvia Garzoli will attend a leadership training session at the Federal Executive Institute in Charlottesville, Virginia on July 31-August 11, 2000.

Craig Engler will attend the 7th International South Atlantic Buoy Program Committee Meeting in Salvador, Brazil on July 31-August 4, 2000.

Robert Roddy will participate in a high-density XBT cruise in the Atlantic Ocean aboard the TMM *Morelos* on August 5-19, 2000.

July-August 2000 Presentations*

Informal Research Reports:

- July 11** *The Role of Biology in the Biogeochemistry of Brominated Methanes*
Dr. Kelly Goodwin
Ocean Chemistry Division
- August 22** *The Vent Imaging Pacific 2000 (VIP 2000) Cruise: Imaging Hydrothermal Plumes on the Juan de Fuca Ridge using the ROV JASON*
Dr. David Palmer
Remote Sensing Division
- August 30** *The Political, Legal, and Scientific Context of South Florida Ecosystem Restoration*
Dr. Peter Ortner
Ocean Chemistry Division

Guest Lecturers:

- July 6** *The Impact of Satellite Winds on Experimental GFDL Hurricane Model Forecasts*
Dr. Brian J. Soden
NOAA/Geophysical Fluid Dynamics Laboratory
- July 24** *Vertical Wind Shear Effects in Tropical Cyclones*
Dr. John Molinari
State University of New York
- August 10** *Wind Estimation from Satellites: Direct Methods and Balance Approximation*
Dr. Mark DeMaria
NOAA/CIRA/Colorado State University

*Unless otherwise announced, presentations begin at 3:00 p.m. in the first-floor conference room. Coffee and tea are served at 2:45 p.m.

Keynotes can be viewed online in PDF format at the following World-Wide Web Internet address:
<http://www.aoml.noaa.gov/keynotes>

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