

Report Documentation Page

*Form Approved
OMB No. 0704-0188*

Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

1. REPORT DATE 1998	2. REPORT TYPE	3. DATES COVERED 00-00-1998 to 00-00-1998			
4. TITLE AND SUBTITLE Coastal Mixing and Optics Coordination and Data Management		5a. CONTRACT NUMBER			
		5b. GRANT NUMBER			
		5c. PROGRAM ELEMENT NUMBER			
6. AUTHOR(S)		5d. PROJECT NUMBER			
		5e. TASK NUMBER			
		5f. WORK UNIT NUMBER			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Woods Hole Oceanographic Institution, Department of Applied Ocean Physics and Engineering, Woods Hole, MA, 02543		8. PERFORMING ORGANIZATION REPORT NUMBER			
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)		10. SPONSOR/MONITOR'S ACRONYM(S)			
		11. SPONSOR/MONITOR'S REPORT NUMBER(S)			
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES See also ADM002252.					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 2	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

Coastal Mixing and Optics Coordination and Data Management

Albert J. Williams 3rd

AOP&E

MS 12

Woods Hole Oceanographic Institution

Woods Hole, MA 02543

Phone: 508-289-2725 fax: 508-457-2194 email: awilliams@whoi.edu

Grant #: N00014-96-1-0575

<http://cofdl.whoi.edu/cmotop.html>

LONG-TERM GOAL

I wish to understand mixing processes, particularly in boundary layers. I approach this goal by developing instrumentation that can be used in experiments to measure bottom boundary layer turbulence. Within Coastal Mixing and Optics, I have sought to facilitate the efforts of all PIs by coordinating ship use, tripod and mooring use, and by holding periodic meetings to develop our research plan and share ideas, data, and understanding.

OBJECTIVES

The CMO experiment was to have 12 months of field observation in the period July 1996 to June 1997. 14 cruises to the CMO site 50 miles south of Martha's Vineyard at 40.5N, 70.5W obtained underway observations of optical properties of the water column, suspended sediment, nano and pico plankton, microstructure, stratification, frontal structure, internal waves, and atmospheric forcing. Mooring cruises deployed surface moorings for air-sea interaction and wave measurements; subsurface moorings for sediment traps, particle samplers, current, temperature, and salinity measurements; and bottom tripods for boundary flow and optical measurements. Tracer injections to study mixing near the bottom and in the mid water were performed at four periods. In fact, the experimental period extended until August 1997 to accommodate ship demands. The objectives of the approximately 24 PIs were to understand physical process that control optical properties and mixing in a coastal environment.

APPROACH

Meetings have been scheduled with assistance of Judy White at WHOI. Our contact list includes program managers Steve Ackleson, Lou Goodman, Tom Kinder, and Joe Kravitz at ONR and Eric Itsweire at NSF; marine operators Tim Askew (Harbor Branch), Bill Hahn (URI), and Don Moller (WHOI); and scientists Yogi Agrawal (Sequoia), Steve Anderson, Bob Beardsley, Tim Duda, Jim Edson, Jim Ledwell, Steve Lentz, Jim Lynch, Rob Olson, Al Plueddemann, Bill Shaw, Heidi Sosik, Miles Sondermeyer, John Trowbridge, George Voulgaris, Judy White, and Sandy Williams (me) at WHOI; John Apel, Dave Porter, and Don Thompson at APL JHU; Jack Barth, Tim Boyd, Mike Kosro, Murray Levine, Scott Pegau, Ian Walsh, and Ron Zaneveld at OSU; Paula Coble at USF; Tommy Dickey at UCSB; Percy Donaghay at URI; Jeff Dusenberry and Allan Robinson at Harvard; Terry Ewart, Mike Gregg, Frank Henyey, Steve Reynolds, and Kevin Williams at APL UW; Wilf Gardner and M.J. Richardson at TAMU; Pat Gallacher, Ron Holyer, Chuck Luther, George Marmorino, Peter Smith, and Steve Stanic at NRL; Paul Hill at Dalhousie U.; Bob Houghton at LDEO; Ed Levine at

NUWC; Son Nghiem and Simon Yueh at JPL; Neil Oakey at BIO; and Collin Roesler at UCONN. This exhaustive list came and expended energy on steering the program at a series of meetings about a year apart between 1994 and 1998.

WORK COMPLETED IN FY98

During FY 98, the CMO fieldwork had been completed but the analysis phase was gathering momentum. Under support of the Coordination and Data Management portion of the program, a report was prepared and distributed to the mailing list of 60 CMO participants, managers, and interested parties, of the meeting held in Santa Fe in February 1997. This was the CMO Report III. The meeting had been held halfway through the field year and served to inform all of us about the observations while there was still some time for mid-course correction.

In August 1998 we held the fourth CMO working meeting in Keystone Colorado to present early analyses and to plan interactions and publications. Two special issues were identified for reports of first order results and other collaborations were reaffirmed. We discussed data serving and web sites. These tasks are still awaiting completion.

RESULTS ETC.

In the interest of brevity, the results, impact, transitions, references, publications, and patents will be found in the individual reports of CMO. However, there has been a conscious effort to connect the core CMO program with the two Primers: Synthetic Aperture Sonar, and Shelf Break.