

## MSRC HOSTS INTERNATIONAL WORKSHOP

From 10-14 November 1976 MSRC hosted an international workshop on estuarine transport processes. The conveners were J. R. SCHUBEL (MSRC), H. H. CARTER (MSRC), R. E. WILSON (MSRC), D. W. PRITCHARD (Johns Hopkins University) and B. KJERFVE (University of South Carolina). Thirty-one of the world's leading physical and geological estuarine oceanographers attended the workshop which was held in MSRC's buildings on the University's South Campus.

The primary goals of the workshop were to identify the important unresolved problems of physical transport processes in estuaries, and to assess the personnel and physical resources that will be required for the larger scale--both in time and space--field experiments that will be required for a significant advancement. The workshop also explored ways of increasing the scientific and management effectiveness of the extensive and expensive estuarine monitoring studies now being conducted.

Support was provided by the U.S. Energy Research and Development Administration, the U.S. Environmental Protection Agency, the Office of Naval Research (Geography Branch), the National Oceanic and Atmospheric Administration (MESA, New York Bight Project), the U.S. Fish and Wildlife Service (Office of Biological Services), and our own Stony Brook Foundation.



B. Kjerfve, University of South Carolina; R. B. Krone, University of California, Davis; B. Brunn, U.S. Fish & Wildlife Service, Washington, D.C.; D. H. Peterson, U.S. Geological Survey, Menlo Park, California.

## RECENT AWARDS

Professors I. W. DUEDALL and R. DAYAL received an award of approximately \$58,000 from the National Science Foundation for a study of the basic physical chemistry of silicic acid in sea water.

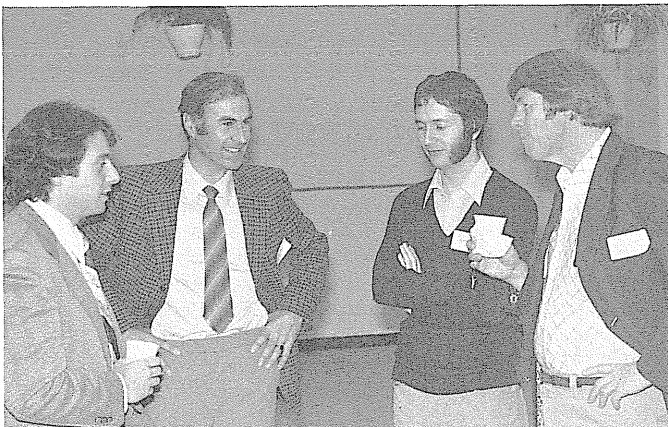
Professors J. R. SCHUBEL and H. H. CARTER received awards totalling nearly \$100,000 from the Rockefeller Foundation and the State of Maryland to develop a zoning plan for the Chesapeake Bay estuarine system.

Professors R. DAYAL and I. W. DUEDALL received a contract from the U.S. Environmental Protection Agency for their participation in a large multi-institutional study of the leakage of radioactive wastes from canisters dumped into the ocean. The contract is for a one year study at a level of approximately \$35,000.

Professors H. B. O'CONNORS and I. W. DUEDALL were recently awarded a contract from the N.Y. Energy Research and Development Administration to initiate a study to assess the environmental effects that would result from disposal in the sea of stabilized scrubber wastes from fossil-fuel power plants.

## MSRC ASSOCIATES

We are pleased to welcome as new MSRC Associates: William Swan, Stephen Spotte and Walker McKinney.



R. Weisberg, North Carolina State University; K. R. Dyer, Institute of Oceanographic Sciences, Somerset, United Kingdom; A. J. Elliott, N.A.T.O., La Spezia, Italy; R. B. Krone, University of California, Davis.

## PEOPLE AND MEETINGS

Professor CHARLES WURSTER presented an invited lecture entitled "American Scientists take legal action to improve pesticide regulations" at the International Conference on the Responsibility of Science in Modern Society held in Florence, Italy in October 1976.

Professor W. E. ESAIAS presented an invited paper "The effects of man's activities on phytoplankton populations in New York-New Jersey offshore waters" at the conference entitled "Pollution of the Jersey Continental Shelf: Birth of an Ecological Crisis," held at Jersey State College on 8 December 1976.

Professor M. J. BOWMAN presented a paper entitled "Response of Hudson River Plume to Hurricane Belle" at the 1976 Fall Annual Meeting of the American Geophysical Union held in San Francisco, 6-10 December 1976.

Professor A. OKUBO attended the meeting of the International Congress for Wildlife Fund held in San Francisco from 27 November to 1 December 1976, and participated in the session on the marine environment.

Professors I. W. DUEDALL and E. J. CARPENTER participated in a workshop to assess the factors that led to the anoxic conditions along the middle Atlantic shelf during the summer of 1976. The workshop was sponsored by the National Science Foundation (NSF).

Professor J. L. MCHUGH presented invited lectures on "Whales and Whaling" at the Courant Institute of New York University on 28 October 1976 and at Columbia University on 9 December 1976.

Professor E. J. CARPENTER, a member of EPA's Hudson River Interagency Technical Committee, participated in its first N.Y. meeting to discuss the effects of power plants on the Hudson River.

Professor J. R. SCHUBEL presented an invited paper at the second annual meeting of The Coastal Society in New Orleans on 18 November 1976. The paper entitled: "Dredging and the Upper Chesapeake Bay: Some Observations" was written by J. R. Schubel and A. D. WILLIAMS.

## LOCKWOOD, KESSLER, & BARTLETT, INC. DONATES AERIAL MOSAIC TO MSRC

We are indebted to Lockwood, Kessler & Bartlett, Inc., of Syosset, N.Y. for their gift to MSRC of a beautiful aerial photographic mosaic of Long Island. The mosaic, at a scale of 1" per mile, will be displayed in our conference room in building G.

## SOME RECENT PUBLICATIONS

BOWMAN, M. J. 1976. The hydrodynamic characteristics of the East River tidal strait, N.Y. *Memoires Societi Royale des Sciences de Liege* 6<sup>e</sup> série, X: 165-174.

CARPENTER, E. J. 1976. *Plastics, pelagic tar, and other litter*, Chapt. 5. Pages 77-89 in Goldberg, E. D. (ed.) *Strategies for Marine Pollution Monitoring*, John Wiley and Sons, N.Y.

CARTER, H. H., D. W. PRITCHARD, and S. R. RIVES. 1975. Analysis and interpretation of a heated jet. Pages 1420-1435 in *Proceedings, Civil Engineering in the Oceans III*. American Society of Civil Engineers, N.Y.

DAYAL, R. 1977. Kinetics of silica sorption and clay dissolution reactions of 1 and 670 atm. *Geochemica et Cosmochemica Acta* 41:135-141.

DUEDALL, I. W., R. DAYAL, and J. D. WILLEY. 1976. The partial molal volume of silicic acid in 0.725 m NaCl. *Geochemica Acta* 40:1185-1189.

FISHER, M. S., R. R. L. GUILLARD, and C. F. WURSTER. 1976. Effects of a chlorinated hydrocarbon pollutant on the growth kinetics of a marine diatom. Pages 305-317 in Canale, R. P. (ed.) *Modeling Biochemical Processes in Aquatic Ecosystems*. Ann Arbor Science Publishers, Ann Arbor, Mich.

KOPPELMAN, L. E., P. K. WEYL, M. G. GROSS, and D. DAVIES. 1976. *The Urban Sea: Long Island Sound*. Praeger Publishing Co., N.Y. 223 p.

MANOWITZ, B., and J. R. SCHUBEL. 1976. A report on the symposium: "Effects of Energy-Related Activities on the Atlantic Continental Shelf." *Earth and Extraterrestrial Sciences*.

MCHUGH, J. L. 1976. The whale problem: a status report. *A book review and perspective*. *Ocean Development and International Law Journal* 3(4):389-411.

MCHUGH, J. L. 1976. Effects of climatic change on fisheries. In *The National Climate Program Act. Hearings before the Subcommittee on the Environment and the Atmosphere, of the Committee on Science and Technology, U.S. House of Representatives, 94th Congress, 2nd Session, 18-27 May 1976*. U.S. Govt. Printing Off., Washington, D.C.:545-562.

MCHUGH, J. L., and A. D. WILLIAMS. 1976. Historical statistics of the fisheries of the New York Bight area. New York Sea Grant Institute NYSSGP-RS-76-013. 73 p.

- O'CONNORS, H. B., L. F. SMALL, and P. L. DONAGHAY. 1976. Particle-size modification by two size classes of the estuarine copepod *Acartia clausi*. *Limnology and Oceanography* 21:300-308.
- OKUBO, A., and C. C. EBBESMEYER. 1976. Determination of vorticity, divergence, and deformation rates from analysis of drogoue observations. *Deep Sea Research* 23:349-352.
- OKUBO, A., C. C. EBBESMEYER, and J. M. HELSETH. 1976. Determination of Lagrangian deformations from analysis of current followers. *J. Phys. Oceanography* 6:524-527.
- OWENS, V. H., and W. E. ESAIAS. 1976. Physiological responses of phytoplankton to major environmental factors. *Annual Reviews of Plant Physiology* 27:461-483.
- SCHUBEL, J. R., T. S. Y. KOO, and C. F. SMITH. 1976. Thermal effects of power plant entrainment on survival of fish eggs and larvae: a laboratory assessment. Report PPRP-13 of the Power Plant Siting Program, State of Maryland (Chesapeake Science, in press).
- SCHUBEL, J. R. 1976. Distribution and transportation of suspended sediment. Pages 207-230 in Manowitz, B. (ed.) *Effects of Energy-Related Activities on the Atlantic Continental Shelf*. Brookhaven National Laboratory, Upton, N.Y.
- TERRY, O. 1975. Review of *Aquaculture* by Bardach, Ryther and McLarney. Wiley Interscience. *Quarterly Review of Biology* 50:516-517.
- WEYL, P. K. 1976. Pollution susceptibility: an environmental parameter for coastal zone management. *Coastal Zone Management Journal* 2:327-343.
- WRIGHT, W. R., H. H. CARTER, and J. R. SCHUBEL. 1976. Sampling marine waters, Chapter 13. Pages 259-267 in Goldberg, E. D. (ed.) *Strategies for Marine Pollution Monitoring*. John Wiley & Sons, N.Y.

Requests for reprints should be addressed to MSRC, Attention Mrs. HIRLSA WHITE. There is a small charge for some reports.

## NEW PROJECTS

*Dowling College and MSRC Initiate Joint Research Project*

Dowling College and MSRC have, with support of the N.Y. Sea Grant Institute, initiated a joint research program on the sand and gravel resources of the lower Bay of New York Harbor and the inner Bight. Dowling's participation will be under the direction of Professor CHARLES FRAY, the

director of Dowling's marine sciences program. Professor Fray also holds an adjunct appointment with MSRC. Professors R. E. WILSON and J. R. SCHUBEL are coordinating MSRC's portion of the study.

During the next year, Dowling will continue the research started last year by MSRC to document the extent and character of the sand and gravel resource in three dimensions. Fray will also use mineralogical analyses of samples of surface sediments to estimate the routes of sand movement.

At the present time mining of sand and gravel in the lower Bay is restricted to two areas, in part, because of concerns that changes in bathymetry might adversely affect water quality by altering circulation patterns. Using an existing numerical model of the circulation of the lower Bay, Professor R. E. Wilson and his graduate student, K. C. WONG, will determine how changes in bathymetry produced by a variety of mining strategies would affect both the tidal and non-tidal circulation patterns. Sand in the two approved mining areas is suitable for fill but is too fine-grained for use as aggregate material for building and construction. Aggregate grade sand does however, blanket much of the outer Bay and inner Bight. If this resource could be recovered without adverse environmental effects, it would fill an important need for the material and generate appreciable royalties for the State.

*Effects of Hurricane Belle on the New York Bight Apex*

Hurricanes are notorious for causing widespread destruction of property and lives in coastal areas. They also are important to the coastal marine environment because of inducing strong transient currents and storm surges, wind mixing of the water column with subsequent resuspension of bottom sediment, and the injection of large amounts of nutrients and contaminants from the flushing of sewers caused by heavy rainfall.

Professor MALCOLM J. BOWMAN is engaged in a research program funded by the MESA program of NOAA to determine the immediate physical and biological consequences of the passage of Hurricane Belle through the Apex early on 10 August 1976. Data from three cruises aboard the R/V ONRUST made during the few days following the storm are being combined with all other available meteorological and oceanographic data to assess the oceanographic effects of the hurricane. Special attention is being given to the areas surrounding the sewage sludge and dredge spoil dumping grounds. The study is expected to provide the initial input into a predictive model of the marine environmental consequences of major storm events in the Apex region.

## NEW COURSES FOR SPRING SEMESTER

During the spring semester, MSRC will offer three new courses under Special Topics, MAR.550--Section 3, Scientific Photography; Section 4, The Nature of Marine Ecosystems; and Section 5, Environmental Law. All three courses will be offered jointly with other departments: Scientific Photography with Anatomical Sciences, The Nature of Marine Ecosystems with Ecology and Evolution, and Environmental Law with Political Science.

Scientific Photography will be taught by FRITZ GORO the distinguished scientific photographer and will be an intensive workshop from 28 February through 5 March 1977. The course will meet 3-4 hours each day during this period, and again for the entire day on Sunday, 27 March 1977 when the students will present their completed photographic assignments to Mr. Goro and to their colleagues. Students will work on a variety of photographic problems including: photomicrography, macro-photography and aerial photography.

The Nature of Marine Ecosystems is an advanced graduate course that will cover a variety of topics including: dynamics of ecosystems; microbial populations; environmental processes and their effects on primary production; distribution and abundance of zooplankton, herbivory and carnivory in marine food webs; the role of nekton in marine ecosystems; and ecosystem processes in the New York Bight. The course will be taught by scientists from the Brookhaven National Laboratory's Division of Oceanography and from MSRC: J. J. WALSH, F. BARVENIK, J. VAUGHN, P. FALKOWSKI, T. WHITLEDGE, D. JUDKINS, M. DAGG, H. B. O'CONNORS and E. J. CARPENTER.

The well known environmental lawyer, IRVING LIKE, will teach our course in Environmental Law. The course will cover:

the legal, political and economic implications of the National Environmental Policy Act (NEPA) and other statutes relating to the protection of air, water, and natural resources; litigation strategies available to citizens concerning use of NEPA to promote environmental protection; and practical advice to scientists responsible for developing environmental impact statements. The course will meet Friday evenings.

For additional information on courses contact Mrs. JUNE CHAPMAN (516) 246-6546.

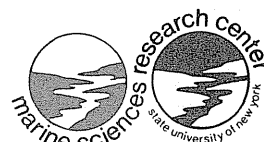
## SEMINAR SCHEDULE

- Jan.  
24 11:00 Puget Sound Circulation  
Dr. C. EBBESMEYER, Evans-Hamilton, Inc.
- 27 4:00 Persistent Pollutants and Microalgae  
Dr. C. D. POWERS, Marine Sciences Research Center
- Feb.  
3 4:00 A New Look at Methane in Aquatic Systems  
Dr. W. REEBURGH, Institute of Marine Sciences, University of Alaska
- 10 4:00 The Fate of Metals in Estuaries  
Dr. K. K. TUREKIAN, Geology and Geophysics, Yale Univ.
- 17 4:00 The Sea Ranch, California: Ecology and Architecture  
Dr. L. KRASNER, Dept. of Psychology, SUNY, Stony Brook
- Mar.  
10 4:00 Arcto-Norwegian Cod Migration Tactics, Strategy and Control  
Dr. P. WOODHEAD, Marine Sciences Research Center

All seminars are held in Building G on the South Campus.



Jeffrey Parker, Jack Lekan, install an electronic navigation station atop an oil rig in the Gulf of Mexico, October 1976.



Stony Brook, New York 11794

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