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Woods Hole Sea Grant: Physical Oceanography

The 17-meter Flume at the Coastal Research Laboratory. Part I: Description and User's Manual
Only available on loan from the National Sea Grant Library
Butman, C.A. and R.J. Chapman
Woods Hole Oceanographic Institution Technical Report WHOI-89-10 (CRC-89-2), 31 pp., 1989 WHOI-T-89-007
The growing interest in coastal ocean processes during the last decade has accentuated the need for laboratory facilities where various aspects of the coastal ocean environment can be simulated under controlled conditions. The 17-meter flume, a re-circulating, temperature-controlled, seawater channel constructed in the Coastal Research Laboratory at the Woods Hole Oceanographic Institution, was specifically designed for studies of biogeochemical and fluid-dynamical questions which can be adequately addressed in a steady-flow environment. Part I of a two-part report, this technical report provides comprehensive descriptions of the flume and associated instrumentation, examples of flume settings to achieve selected flow regimes, and detailed instructions for the use of this facility.

The 17-meter Flume at the Coastal Research Laboratory. Part II: Flow Characteristics
Only available on loan from the National Sea Grant Library
Trowbridge, J.H., W.R. Geyer, C.A. Butman, and R.J. Chapman
Woods Hole Oceanographic Institution Technical Report No. WHOI-89-11 (CRC-89-3), 37 pp., 1989 WHOI-T-89-008
Part II of a two-part report, this technical report evaluates measured characteristics of flow in the 17-meter flume relative to theoretical and empirical expectations.

On the Circulation of the Upper Waters in the Western Equatorial Pacific Ocean
Only available on loan from the National Sea Grant Library
Toole, J.M., E. Zou, and R.C. Millard
Deep-Sea Research, Vol. 35, No. 9, pp. 1451-1482, 1988 WHOI-R-88-013

Hydrography Study of Buzzards Bay, 1982-1983
Only available on loan from the National Sea Grant Library
Rosenfeld, L.K., R.P. Signell, and G.G. Gawarkiewicz
Woods Hole Oceanographic Institution Technical Report WHOI-84-5, 134 pp., 1984 WHOI-T-84-001

Recent Observations of the Mean Circulation on Georges Bank
Butman, B., R.C. Beardsley, B. Magnell, D. Frye, J.A. Vermersch, R. Schlitz, R. Limeburner, W.R. Wright, and M.A. Noble
Journal of Physical Oceanography, Vol. 12, No. 6, pp. 569-591, 1982 WHOI-R-82-021

The Seasonal Hydrography and Circulation Over Nantucket Shoals
Limeburner, R. and R.C. Beardsley
Journal of Marine Research, Vol. 40, pp. 371-406, 1982 WHOI-R-82-025
Nantucket Shoals is a submerged sand and gravel shallow ridge which extends southeastward from Nantucket Island, Massachusetts. In general, the shoals are the southwestern boundary of the Gulf of Maine and the New England continental shelf. To the east of Nantucket Shoals is a 60 m deep channel, the Great South Channel, and then Georges Bank extends toward Nova Scotia. The Gulf of Maine, with depths greater than 200 m, is located a few kilometers to the northeast of Nantucket Shoals but water depths are generally less than 100 m on the shelf to the south and southwest of the shoals. Increased interest in protecting regional fishery resources and development of offshore oil resources have motivated a new effort to understand the ecology of the northeast U.S. shelf and coastal environment. This paper presents an overview of previous physical oceanographic measurements made near Nantucket Shoals, describes hydrographic and moored current measurements made over the shoals during 1978-1979, and offers an improved circulation scheme for the shoals based on the authors' surveys and analysis.

Biological and Hydrographic Station Data Obtained in the Vicinity of Nantucket Shoals, May 1978-May 1979
Only available on loan from the National Sea Grant Library
Limeburner, R., R.C. Beardsley, and W. Esaias
Woods Hole Oceanographic Institution Technical Report WHOI-80-7, 87 pp., 1980 WHOI-T-80-001

Hydrographic Station Data Obtained in the Vicinity of Nantucket Shoals, May, July, September 1978
Only available on loan from the National Sea Grant Library
Limeburner, R. and R.C. Beardsley
1979 WHOI-T-79-003

Response of a Pendulum Spar to 2-dimensional Random Waves and a Uniform Current
Only available on loan from the National Sea Grant Library
Rodenbusch, G.
1979 WHOI-Y1-79-001

Review of the Physical Oceanography of Georges Bank
Bumpus, D.F.

1976 WHOI-R-76-010

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