DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

SWIMS3 Measurements during NRL's Mixing Over Rough Topography (MORT)

Michael C. Gregg
Applied Physics Lab., University of Washington
1013 NE 40th St
Seattle, WA 98105
phone: (206) 543-1353 fax: (206) 543-6785 email: gregg@apl.washington.edu

Award Number: N00014-11-0385

LONG-TERM GOALS

To understand and quantify processes mixing the ocean.

OBJECTIVES

To measure mixing intensity simultaneously with key characteristics of processes producing the mixing and use the results to parameterize the mixing in terms of model-scale variables. Over the East Flower Garden Bank on the Texas shelf, where MORT is focused, we expect that hydraulic controls may produce the dominant mixing. Hydraulic jumps have been shown to be important mixing agents, but the mixing they produce is not understood well enough to be parameterized.

APPROACH

We are scheduled to work within NRL's mooring array at the East Flower Garden Bank during the first two weeks of November 2011. SWIMS3, a depth-cycling towed body will be our primary instrument, supplemented by Modular Microstructure Profilers (MMPs). We plan tows along set paths across the bank, each lasting a tidal cycle

WORK COMPLETED

Nothing has been completed, as we are preparing for the measurements.

RELATED PROJECTS

Mixing and the internal tide in Monterey Canyon (NSF).