

Andrzej Jankowski

Institute of Oceanology, Polish Academy of Sciences, Sopot

Effect of bottom friction on the structure of wind-driven circulation

Oceanologia 1979, no. 11, pp. 23-40

Key words: bottom friction; wind-driven circulation; eddy viscosity, mathematical model

Abstract

This work deals with practical applications of the hydrodynamical-numerical scheme in the computations of the wind-driven circulation in an ideal water reservoir, by an analysis of the bottom friction coefficient in the formation of the circulation. The friction coefficient was considered in a number of versions, which were chosen to determine the effect of its magnitude and variability on the rate of approaching steady state of dynamic processes, the fields of mass transport, sea level, surface currents, and on the vertical distributions of current velocity components. In the versions of the friction coefficient presented herein this parameter has been related to the vertical eddy viscosity on the circulation and correlate the two.