

عنوان مقاله:

Calculation of absolute geostrophic current from CTD and comparison with in situ ADCP data in the Hormuz strait

محل انتشار:

ششمین همایش علوم و فنون دریایی (سال: 1384)

تعداد صفحات اصل مقاله: 1

نویسندگان:

S.Hassanzadeh - *Physics Department Isfahan University, Isfahan, ۸۱۷۴۴ Iran*

A. Sovini - *Marine Physics Department, Khoramshahr Marine Sciences and Technology University, Khoramshahr, Iran*

خلاصه مقاله:

The influence of the Hormuz strait on Persian Gulf, Middle East and on climate is well known. This region is crucial for the Gulf circulation as well as for the mass, salt and heat balance. Salt and heat are transported principally through the Hormuz Strait and Oman Sea. The Hormuz strait covering the region from 26.29_ _N to 26.97_ _N and from 57.011_ _E to 57.01_ _E and the input Currents (to the Persian Gulf) carries warm, saline Oman Waters Eastwards along the northern coasts of Iran. The huge amounts of salt and heat they contain are of immense significance to climatic variability, but direct measurements of their transport are still difficult. One of the key questions concerns the magnitude of Barotropic transport in comparison with that of baroclinic transport. The barotropic Component of the flow was unknown and the results depended on the choice of reference level. Geostrophic flow results from a balance in the hydrostatic and Coriolis forces. The net result of this balance is a flow with a direction perpendicular to the hydrostatic (pressure) gradient. To use Geostrophic to infer Currents at depth we need to determine not only the pressure gradient due to the Sloping Sea surface, but also the subsurface pressure gradients due to variable density stratification. In practice, we will estimate the slope of the Geopotential surface at one depth compared to another, and this tells us the relative strength of the current at the two depths. The purpose of this paper is to compare the computed geostrophic currents calculated from CTD casts with the currents measured by the Acoustic Doppler Current Profiler (ADCP) data. The main goals are: To calculate the computed Geostrophic current from CTD cast. To plot ADCP currents normal to the ship track. To compare both data. The comparison between the calculated Geostrophic currents and the ADCP velocities in shallower waters are in good agreement and tell us the about the .circulation in the region

کلمات کلیدی:

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