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Variability of physical parameters along the east coast of peninsular Malaysia and gulf of Thailand due to the northeast monsoon / Lim You Rang.



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**VARIABILITY OF PHYSICAL PARAMETERS ALONG
THE EAST COAST OF PENINSULAR MALAYSIA AND GULF OF THAILAND
DUE TO THE NORTHEAST MONSOON**

BY

LIM YOU RANG

This project report is submitted in partial fulfillment of
the requirement for the Degree of
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ABSTRACT

This study will provide additional information on the research on the variation of physical properties along the east coast of Peninsular Malaysia and Gulf of Thailand due to the northeast monsoon.

Data were obtained from both MV SEAFDEC cruises conducted before (September, 1995) and after (April, 1996) the northeast (NE) monsoon.

In this study, seasonal variations of the physical variables of water mass along the coast such as temperature (T), salinity (S‰), and density (σ_t) profiles from both MV SEAFDEC cruises are analyzed and compared.

It is concluded that the NE monsoon season induces various (slight or robust) range of variability on the physical parameters of water masses in the study area.

The movement of the thermocline, halocline and pycnocline layers are observed. This movement could be related to the vertical movement (downwelling and upwelling) processes in this region.

This study also shows that there are two different bodies of water in Gulf of Thailand. The first (namely “upper mass” herein) situated in northeast of the gulf while the second mass (namely ‘lower mass’ herein) situated in the southeast of the gulf.

ABSTRAK

Kajian ini akan menyumbangkan maklumat tambahan mengenai kajian atas ciri-ciri fizikal sepanjang pantai timur Semenanjung Malaysia serta Teluk Siam akibat monsun timur laut.

Data telah dikumpul daripada kedua-dua pelayaran MV SEAFDEC yang dijalankan sebelum (September 1995) dan selepas (April 1996) monsun timur laut.

Dalam kajian ini, perubahan ciri-ciri fizikal badan air terhadap musim sepanjang pantai timur, contohnya profil suhu (T), kemasinan ($S_{\text{‰}}$), dan ketumpatan (σ) daripada kedua-dua pelayaran MV SEAFDEEC telah dikaji dan dibandingkan.

Parameter fizikal daripada kedalaman yang berlainan dan beberapa transek, telah dianalisa dan taburannya ditunjukkan dalam bentuk peta kontor. Profil suhu, kemasinan dan ketumpatan juga diperolehi daripada setiap stesen hidrografi.

Adalah diringkaskan bahawa monsun timur laut mengenakan pelbagai (sedikit atau ketara) julat perubahan ke atas ciri-ciri fizikal badan air dalam kawasan kajian.

Pergerakan lapisan termoklin, haloklin dan pinoklin telah diperhatikan. Pergerakan tersebut boleh dikaitkan dengan proses-proses menegak (downwelling dan upwelling) dalam kawasan ini.

Kajian ini turut menunjukkan wujudnya dua badan air yang berlainan dalam Teluk Siam. Badan air pertama (dinamakan “badan atas” di sini) terletak di barat laut teluk, manakala badan air kedua (dinamakan “badan bawah” di sini) terletak di tenggara teluk.