

WIND STRESS AND SEA TEMPERATURE CHANGES OFF THE WEST COAST OF THAILAND

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ABSTRACT

Weather observations collected at the Phuket International Airport during 1976-1980 was summarized for a general description of climatic conditions off the west coast of Thailand. Analysis of wind information showed the prevailing winds to be off-shore (E, NE, SE) during the northeast monsoon and on-shore (W, NW, SW) during the southwest monsoon, with the cumulative strength of the on-shore winds greater than the off-shore winds. There were considerable variations in the strength of the monsoons with the 2 most recent monsoons weaker than those of the 2 previous years. Bathythermographs were used during pole and line fishing cruises conducted from September 1979 to December 1980 to monitor sub-surface sea temperatures. Marked changes in sub-surface sea temperatures occurred over the continental shelf concomitant with shift in wind stress. Water over the shelf was strongly stratified during the northeast monsoon and homogeneous during the southwest monsoon. Upwelling off this coast is generated primarily by wind and differs from upwelling off the west coast of India and the major upwelling systems of the eastern boundary currents where the prevailing current is the principal generating force.