

BASIC KNOWLEDGE IN MARINE SCIENCES

Edited by

Normawaty Mohammd-Noor



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Introduction

The Littoral Environmental Observation or also known as LEO is a simple technique for field measurement of beach parameters. This visual observation consists of wave breaker height, period, direction, and type; wind speed, angle and direction; and also long-shore current velocity and direction (Schneider 1981). The field measurements typically recorded in the sheet are formed by visual estimations made during each sampling activity.

The tabulated LEO data provides useful information for the planning, designing, operation, and maintenance of coastal works. While the data may not be as accurate as obtained from recording sensors such as wave gauges and current meters, it is obtained at a relatively low cost. Because of this, data can often be obtained from it when instrumented information cannot provide data. This method is practical because data is collected *in-situ* with direct observation at shore.

An anemometer is used to measure the wind speed while a compass is used to estimate the direction of wind, wave and current. The use of stopwatch is to calculate the wave period during the observation. Normally, the collected data will be compiled together and integrated with the data available from various agencies such as Meteorological Department of Malaysia or Royal Malaysian Navy.

The data obtained such as the rainfall distribution and wind velocity is useful to describe the beach environment at a particular site. Coastal engineers have a continuing need for wind, wave, and near-shore zone and to design coastal works that are both functionally and