UNIVERSITI TEKNOLOGI MARA

INVESTIGATING THE SPATIO-TEMPORAL DISTRIBUTION OF CHLOROPHYLL-A AROUND KUALA PERLIS COASTAL AREA

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AUTHOR'S DECLARATION

I declare that the work in this thesis/dissertation was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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ABSTRACT

Chlorophyll-a is one of the most defining parameters of the quality of the water. The dynamics of the Chlorophyll-a concentration distribution depend on the oceanographic conditions, so it can vary according to the environmental and seasonal circumstances. This study aims to investigate the distribution of Chlorophyll-a around Kuala Perlis. This assessment was conducted by using a remote sensing technique which is from the Landsat-8 data satellite imagery to locate the distribution of Chlorophyll-a around the Kuala Perlis coastal area in 2019. ERDAS Imagine and ArcGIS software were used in processing data to see the distribution of Chlorophyll-a. The patterns of distribution of Chlorophyll-a concentration have been influent by the monsoon. From the result in 2019, the distribution of Chlorophyll-a in transition monsoon April shows the highest concentration of Chlorophyll-a with 1 (mg/m^3) while the lowest was shows in transition monsoon October with 0.295476(mg/m^3). Besides that, the result obtained through correlation clearly shows certain Chlorophyll-a and factors indicate that there is a negative linear relationship because the values R^2 are not approximately close to +1. The high relationship appears on Northwest monsoon January – March 2019 when shows a significant correlation R^2 =0.4777 for Chlorophyll-a with rainfall average and R^2 =0.0005 for Chlorophyll-a with temperature average. It means that the value of Chlorophyll-a and factors influence is not acceptable and no relationship with chlorophyll-a. The result of this study will benefit by providing insight understanding and meaningful information related to Chlorophyll-a.

TABLE OF CONTENT