The Influence of Meteorology-Oceanography Factors on Spatial Distribution of Oil and Grease Pollutant in Donan Estuary, Cilacap

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Abstract	Donan Estuary is one of the watershed impacted by anthropogenic activitiesÃƒÂ,Ã‚Â which more particularly from ÃƒÂ,Ã‚Â industry and shipping releasing environmental pollutants i.e. oil and grease. Analysis of oil and grease distribution due to meteorology-oceanography factors used spatial analysis method from primary data was taken on June 2017. This research aims to understand the spatial distribution of the concentration of oil and grease in Donan Estuary and to asses the influence of meteorology-oceanography condition on oil and grease distribution. Our research showed oil and grease concentrations varied among the studied area. The higher concentration of oil and grease were found at station 3 while lower concentration was observed at station 12, closed to Penyu Bay. Accordingly, such differences might be due to the different sources of pollutants and different meteorology-oceanography parameter characteristics that affect oil and grease distribution. For instance, oil and grease concentration was inversely proportional to current velocity. Based on tidal current, oil and grease were move forward to the South, West and South East at low tide and move to North and West at high tide. We noted that the direction of wind gave the low influence to oil and grease movement. The high concentration of oil and grease in each station were followed by Total Suspended Solid (TSS) enhancement. On the other hand, temperature has an effect on evaporation process of oil and grease volatile fraction.
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Author	MUKTI TRENGGONO, S.Kel, M.Si