THE RELATIONSHIP BETWEEN TOTAL SUSPENDED SOLID (TSS) AND CORAL REEF GROWTH (CASE STUDY OF DERAWAN ISLAND, BERAU REGENCY, EAST KALIMANTAN).

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Abstract : Derawan Island is located in Berau Regency East Kalimantan was the study area for this research. In front of Derawan, there is Berau Delta which has unique ecosystem which is protected and surrounded by mangrove forest and fishpond. In the upland, there is Berau watershed with three big rivers namely Berau, Segah and Kelay. Total Suspended Solid (TSS) is one of several parameters resulted from so many activites in the upland dissolved to the river. In the other hand TSS is one of limiting factor for reef growth. Landsat remote sensing data with multi channels are used in this study. The TSS extraction algorithm for Berau waters has been validated with insitu data. The result is TSS= 3.3238 * exp $^{(34.099*\text{Red Band})}$,Red band=the atmospheric reflectance band 2 validated with field data. Water column approach method developed bg Lyzenga is used for Reef evaluation. The result is reef in Derawan Island decreased about 12.805 Ha from 35.505 Ha in 1979 become 22.701 Ha in 2002, several part is known as sand dune. The fluctuation of TSS value around Derawan Island is increased from 18,644 mg/l in 1979 become 37.986 mg/l in 2002 in upper side and about 20.052 mg /l become 37.569 mg in the bottom side. The conclusion is increasing TSS is follwed by decreasing reef area.