

# **STUDY ON TURBIDITY TRANSMISSION AND DISTRIBUTION IN DO SON – HAI PHONG COASTAL AREA BY USING ANALYSIS REMOTE SENSING IMAGE**

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## **Summary**

The turbidity of water in coastal areas caused by the river's sediment, the muddy silt from the bedload due to the interaction of hydrodynamics, erosion, and other suspended contaminants, zooplankton... However, the turbidity is mainly caused by sediment transportation, and sediment diffusion from the river mouths/estuaries. This article presents some results of a study on the direction of turbidity distribution with remote sensing images analysis from 1995 to 2014 in Do Son coastal estuary - Hai Phong province. Hence, the turbidity direction and dissemination will be clarified with spatial timelines. In the rainy season, the impact of turbid water from the river creates an affected area about 30 km from the coast. Turbidity concentration in water (presented by Normalized Suspended Material Index-NSMI) has reached higher than 0.85 at the estuary location. In the dry season, the runoff and sediment from the river are small that reduce the turbidity in water. The maximum of turbid affected area only about 15 km from the coastline. At the northern of Do Son, the turbidity reduces less than 0.5 compared to that in the rainy season. On the basis of analyzing the direction of turbidity dissemination and distribution in Do Son area, it is said that the turbidity in Do Son is growing up with a higher concentration that that in other coastal areas in Vietnam. The turbid water may affects to water quality in resort beaches in Do Son area, and direct impacts on the alive creatures, livelihoods and economic development of Hai Phong province. Therefore, the outputs of this study finding the causes and mechanism of turbid contamination will be the basis for proposed appropriate technology solutions in order to reduce and improve the situation for the coastal zone in Do Son - Hai Phong.

**Keywords:** *Turbidity, remote sensing image analysis, Do Son - Hai Phong.*