

## **Coastal Transport of Organic and Inorganic Matter from Ocean Color Remote Sensing**

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Ocean optical characteristics are determined by the dissolved and particulate components in the water, and these characteristics influence, and are influenced by, both physical and biological processes. The concentration of suspended particles, and its partitioning into organic and inorganic components, is of interest from both remote sensing and modeling aspects, particularly in coastal regions where temporal and spatial optical variability is great, due to the complex interactions of sediments, phytoplankton, and dissolved organic matter. We have developed new algorithms to estimate the concentration of total suspended solids, and to partition the total sediment load into organic and inorganic components.

The concentration and space/time distribution of the inorganic component, both river-borne and resuspended sediments, can be used to trace plumes and fronts, and can indicate regions of increased turbulence due to wave action and storm events. The distribution of the organic component does not necessarily mirror the distribution of the inorganic component, as they are influenced by different processes (physical vs. biological controls). We apply these new algorithms to SeaWiFS ocean color imagery and use the satellite products to trace coastal features, examine processes, and estimate horizontal particle flux.