

عنوان مقاله:

Remote Sensing of Tidal Stage by Monitoring Change in SSC In Surface Waters

محل انتشار:

ششمین همایش علوم و فنون دریایی (سال: ۱۳۸۴)

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خلاصه مقاله:

Collecting information about Suspended Sediment Concentration (SSC), in coastal waters And estuaries is vital for proper management go coastal environments. Traditionally, SSC used to be measured by time consuming and costly point measurements. This Method allows you to accurately measure SSC only for a point in space and time. Remote sensing from air-borne and space-borne sensors have proved to be a useful method to such studies as it provides an instantaneous and synoptic view of sediments that would otherwise be unavailable. The reason for success of remote sensing in such surveys is the strong positive relationship that exists between SSC and remotely sensed spectral radiance. This Spectral radiance could be in the sun reflected and/or scattered or thermal terrestrial wavelength band. To find an algorithm relating SSC to spectral radiance over Bahmansheer River estuary at the North-West of Persian Gulf, a three-month field measurement (April to June ۲۰۰۳) was conducted while we had MODIS sensor on board of Terra over-passed the scene simultaneously. Ninety samples in fifteen trips were collected. Also the environmental parameters such as atmospheric visibility, air and water temperature, current direction and speed at the sampling point, wind speed and humidity were measured simultaneously. A close correction between tide and SSC was observed. It is found that in the flood, the width of the turbid areas at the estuary decreases while in the ebb, the suspended sediment distribution extends to the deeper region. Change detection by comparison between a base image of high tide/low tide conditions and any image can be used as a tool for detection of tidal conditions. This would be a powerful tool for monitoring erosion at the coastal area and estuaries.

کلمات کلیدی:

Remote Sensing. Coast, Tide, Ebb, Flood, Suspended Sediment Concentration

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