

عنوان مقاله:

Remote sensing of the factors affecting marine food safety in coastal waters

محل انتشار:

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خلاصه مقاله:

Aquatic productivity including aquatic wildlife, fish farming, and shrimp breeding pools depends significantly on water quality in estuarine and coastal waters. Biogeochemical processes influence light penetration into the lower layers of water column as the most necessary element for primary productivity. These processes include algal blooms, high water turbidity due to chemical processes, resuspension due to tidal currents, and abnormal activity of marine bacteria and viruses due to sewage discharge and anthropogenic activities within coastal waters. Although these processes are highly important to be monitored and modeled, costly field measurements have made these essential goals hard to achieve. Besides, remote areas that are hard to access and make the field measurements costlier with respect to the regions closer to the coast. In order to deal with this matter, we use remote sensing methods and bio-optical modeling. Remote sensing methods not only provide a synoptic view of targeted processes in the study area, but also are cost effective. Likewise, the availability of historical satellite data, provides the time series of biogeochemical processes using bio-optical models in the coastal regions. In this paper, we explain the significant processes affecting marine primary productivity in coastal waters with a distinct interest in the Persian Gulf and Oman Sea. Moreover, we will show how bio-optical modeling can be of help in identifying critical regions and planning the future of aquaculture harvesting as a major economical source in the country.

کلمات کلیدی:

Remote sensing, marine food safety, coastal waters

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