

# Seasonal variation of the surficial sediment grain size of East China Sea and its indication to sediment supply and transportation dynamic

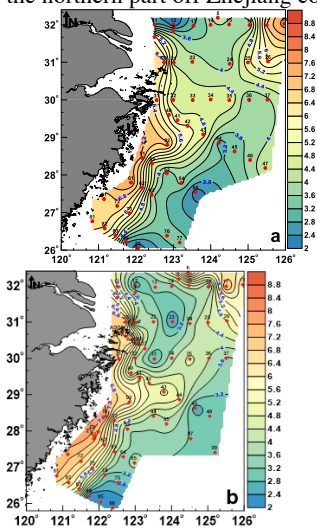
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Due to the large number of terrigenous sediments input, the continental shelf plays an important role in the global material cycle. It's crucial to make clear the sediments distribution, transport pathways and their seasonal variations in the continental shelf to further understanding the marine environmental change over geological time and the impacts on coastal morphology and ecosystem nowadays[1].

The surficial sediment grain size distribution in the East China Sea presents apparent spatial characteristics and seasonal variations. The granularity characteristic of surficial sediment changed significantly in the Yangtze River estuary, the coastal area off the Fujian and Zhejiang provinces, the southwest of Cheju Island and the area that effected by the CPF. Sediment grain size distribution also indicates the trend that fine-grained sediments transport crossing the continental shelf in the northern part off Zhejiang coast.



**Figure 1:** Distributions of mean grain size in East China Sea continental shelf surface sediments(a:summer;b:autumn)

The seasonal variations of the surficial sediment grain size distribution and its effect factors have been discussed. A clear seasonal variation can be seen in the above graph. Previous studies suggest that there have obvious cross-shelf penetrating fronts (CPFs) in the East China Sea[2]. Through the above research we found that the sediment fronts extend to the east has the same position with the CPFs. Further works are necessary to do more contrast between seasons and different years, especially in winter and summer contrast.

[1] Wang et al. (2014) CONT SHELF RES, 90: 17-32.

[2] Yuan et al. (2008) J MARINE SYST, 70: 134-149.