time-series boat-stations for 25 hours along each survey section and used to study the sediment dispersion off the Huanghe delta.

The results show that the river-laden sediment from the river mouth was dispersing within 5 m isobath and could only be delivered seaward no farther than 5 m isobath off the river mouth even in ebb tide due to the weak seaward flow during river low water discharge. The only moment for the turbid water from the river mouth broken through 5 m isobath was the transient period of two hours from ebb phase to flood phase due to the barrier effect of shear front. The turbid water with high concentration of sediment and less salinity behind the tidal shear front in water depth more than 5 m was transported by the ebb tide northward or southwestward by flood tide in paralleling to the coastline of the delta.

The southward transport of the turbid diluted waters driven by the flood tide current along the coastline was limited within 15 m and turned southwestward after the south end of the delta lobe, then entered the Laizhou Bay, forming a swirling in the southern area off the Huanghe Delta. Sediment flux at five stations in the Laizhou bay revealed that the landward transport of this turbid water body in Laizhou Bay during flood tide was limited to about 15 km from the shoreline by tide shear front and could not reach the shore. During ebb tide, the tide current with the turbid waters flowed southeastward at all the stations but except at the nearshore station B5, carrying out the turbid water seaward. Therefore, this turbid water body cannot reach the west seashore of the Laizhou Bay during the entire tide period. Thus, a narrow and relatively clear water band with low salinity and sediment concentration is formed between the turbid water body and the southwest coast of the Delta in paralleling to the shoreline. And this relatively clear water band is illustrated clearly on the satellite images. The shear front in flood tide and the seaward transport of the turbid water in ebb tide prevent the Delta southwest coast from sediment accumulation, resulting in formation of a weakly erosion zone in the Delta southwest coast.

The northward transport of the turbid diluted waters driven by the ebb tide current along the coastline was limited within 15 m as well. The sediment flux at four stations in the north section showed that there was a shear front between the nearshore station and the next deeper station, indicating that the turbid diluted water beyond 5m driven by the ebb tidal current northward could not reach the shore, which consists with the accumulation-erosion pattern of subaqueous delta in this area, a transition zone between the seaward accumulation area and the erosion area near the coast.

Coastal landform change in relation to monsoonal activity in Mekong River Delta, Vietnam

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The Mekong River Delta (MRD) southern Vietnam, is a typical mixed-tide and wave energy delta with a huge delta plain formed for the last 6 ka. Holocene delta formation is controlled by the changes in sea-level, sediment supply and monsoonal climate. The delta plain has prograded more than 250 km from Cambodia border to the present coastline (Nguyen et al., 2000). This study emphasizes on coastal landform change in relation to monsoonal activity at the active delta in the eastern part and delta margin in the southern part progradated for the last 3 ka. Two depositional patterns and their distinct landforms could be recognized in the following:

(1) The active delta plain shows tide- and wave-dominated delta and characterized by sandy beach-ridge systems well distributed on the subaerial delta plain. Almost sand and sandy silt deposited at the active delta to form delta front and pro-delta facies and fine sediments transport southwest-wards owing to longshore currents generated by northeast monsoon (Ta et al., 2005).

(2) Tide-dominated delta progradation occurred in the Ca Mau deltaic margin. It is characterized by well-developed mangrove marsh on the subaerial delta plain. There is not any sandy beach-ridge to be found in the subaerial delta plain, and subaqueous delta shows pro-delta and shelf mud facies.

In millennial dimension, for the last 3ka delta-progradation rates are 10-20m/y (Ta et al., 2002) and 45-50m/y in the active delta and Ca Mau deltaic margin plains, respectively. In centennial and decadal scales, coastline has changed considerably by both erosion and accretion processes at the active delta plain and Ca Mau deltaic margin. In Ca Mau coastline, particularly,

erosion rate is about 30-50 m/y for the last 200 years. Beside that at Ca Mau cape, accretion rate is approximately of 50-80 m/y. Moreover, present tidal sand flat is found at the Ca Mau cape, meanwhile, there is not any evidence of sand flat and beach ridges in Ca Mau deltaic margin (Nguyen and Ta, 2008). Above-mentioned data indicate that the change in coastal landforms of MRD seems to be effected more strongly by monsoonal activity in the recent years.

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Concentrations and possible sources of PAHs in sediments from Bohai Bay and its adjacent area

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Introduction: As typical persistent organic pollutants and semivolatile organic contaminants, polycyclic aromatic hydrocarbons (PAHs) are widely distributed in various environmental media (Gschwend and Hites, 1981; Brown and Maher, 1992; Yu wt al., 2008). Sixteen PAH compounds have been listed by the United States Environmental Protection Agency as priority pollutants due to their carcinogenicity, mutagenicity, and toxicity (Wilson and Jones, 1993; Carmichael et al., 1997), hence their distribution in the environment and potential human health risks have become the focus of much attention (Witt, 2002).

In the last 30 years, the population, the economy growth and urbanization along the coastline of the Bohai Bay have increased drastically. A large number of industrial and domestic wastewater from cities such as Tianjin and Beijing flow into Bohai Bay directly, causing marine pollution. Recent studies indicated that detectable chlorinated and non-chlorinated hydrocarbons (such as PAHs) were present in water samples from various locations around the Bohai Bay and rivers directed into Bohai Bay (Wang et al., 2007) and in aerosols sampled in the cities of Beijing and Tianjin (Zeng et al., 2002;Wu et al., 2004; Yu et al., 2008). However litter is known about the sources and concentrations of PAHs in sediments of Bohai Bay. The main objectives of the present work are to determine the distributions and concentrations of the 16 U.S. EPA priority PAHs (Wilson and Jones, 1993; Carmichael et al., 1997) in Bohai Bay. It is also hoped to identify the possible sources of these pollutants.

Materials and methods: A total of 26 Surface sediments were sampled with a stainless steel grab sampler in August, 2007. Sample extraction, cleanup and analysis of PAHs were conducted in the Suzhou Institute for Advanced Study, University of Science and Technology of China, following the methods described by Hu et al. (2008).

Result and discussion: Total concentration of 16 priority PAH were in the range of 140.6 300.7 ng/g (dry wt), with an average of 183.8 ng/g. The three predominant PAHs were Phenanthrene, Acenaphthene and Naphthalene. The PAH contaminants were concentrated on the mud patches in the Bohai Bay because of the inputs of industrial and domestic wastewater from rivers (Haihe River, Nanpaiwu River and Luanhe River), the hydrodynamic and sedimentation conditions. Based on the values of PAHs isomer, the potential sources of PAHs in sediments from each sampling station were identified. Results indicated that biomass burning might be the major origin of PAHs in the most sediment. While at other stations near the Luanhe River Estuary, the inputs of both petroleum combustion and biomass combustion were significant. One station located at the oil drilling platform appeared to be contaminated by petrogenic input and petroleum combustion.