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Sedimentary Dispersal and Accumulation in the oceanic basin, South China Sea, revealed by Sediment Budget

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South China Sea (SCS) is not only the crucial pathway for transporting terrigenous materials from Eurasia to the Western Pacific Ocean since the early Oligocene, but also the dominant accumulation and preservation place as a result of limited material exchange between the semi-closed oceanic basin and the open ocean since the middle Miocene. Diverse factors, including global climate changes, eustatic sea level change, regional and local tectonic events, et al., controlled the sedimentary dispersal and accumulational patterns in the oceanic basin of the SCS, which can be revealed by the calculation of sediment budget at different geological times, as the sediment budget can illustrate directly the sediment influx, storage, loss in a basin system *(Hapke et.al, 2010).*

By interpreting the multichannel seismic profiles covering the whole oceanic basin with constraints from International Ocean Discovery Program (IODP) Expeditions 349, 367 and 368, we reconstructed the sequence stratigraphy framework of the study area, and then calculated the sedimentary budget at different geological time. This work aims to quantitate the sedimentary dispersal and accumulation in the oceanic basin for the first time.

Until now we have completed the sequence boundary identification and dating, as well as the division of sedimentary units of all multichannel seismic profiles. The grid data of different sequence boundaries have been obtained and posted on the bathymetric map, and by the time-depth conversion with appropriate function in different region referred from the drilling results of IODP expeditions, we have figured out the thickness of each sedimentary unit. In the following we will do the decompaction correction before calculating the sedimentary budget of the whole oceanic basin at different times. This work could increase our understandings on the major controlling factors and possible material sources of the deposition process.