

## **Relative Roles of Sea Level and Climate Change in the Evolution of the Stratigraphic Architecture of the Northeastern Continental Margin of the South China Sea**

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Nearly 1900 km of high resolution seismic reflection data and more than 800 km of chirp and side-scan sonar data were acquired on the northeastern margin of the South China Sea. The evolution of the margin from a carbonate dominated system to a siliciclastic dominated system was facilitated by changes in amplitude and frequency of sea level fluctuations and changes in the East Asian monsoon. These changes impacted accommodation space and sediment supply, which together controlled the development of the stratigraphic architecture. As recently as the early Pliocene, the margin evolved from a carbonate ramp to a carbonate rim system. After 1.0 Ma, a tipping point was crossed and siliciclastic sedimentation began to dominate the margin. An increase of clastics to the margin from the intensified summer monsoon, combined with longer exposure of the entire margin, terminated widespread carbonate deposition and initiated dominant siliciclastic sedimentation on the margin.