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PII: S0264-8172(16)30454-8

DOI: [10.1016/j.marpetgeo.2016.12.025](https://doi.org/10.1016/j.marpetgeo.2016.12.025)

Reference: JMPG 2773

To appear in: *Marine and Petroleum Geology*

Received Date: 18 July 2016

Revised Date: 1 December 2016

Accepted Date: 26 December 2016

Please cite this article as: Jiang, J., Shi, H., Lin, C., Zhang, Z., Wei, A., Zhang, B., Shu, L., Tian, H., Tao, Z., Liu, H., Sequence architecture and depositional evolution of the Late Miocene to quaternary northeastern shelf margin of the South China Sea, *Marine and Petroleum Geology* (2017), doi: 10.1016/j.marpetgeo.2016.12.025.

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# Sequence architecture and depositional evolution of the Late Miocene to Quaternary northeastern shelf margin of the South China Sea

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## Abstract

Based on an integrated analysis of seismic, well logging and paleontological data, the sequence architecture and depositional evolution of the northeastern shelf margin of the South China Sea since Late Miocene are documented. The slope deposits of the Late Miocene to Quaternary can be divided into two composite sequences (CS1 and CS2) bounded by regional unconformities with time spans of 3–7 Ma, and eight sequences defined by local unconformities or discontinuities with time spans of 0.8–2.3 Ma. Unconformities within CS1 feature shelf-edge channel erosion, while in CS2 they form truncations at the top of the shelf margin as prograding complexes and onlap contacts against the slope.

Depositional systems recognized in the slope section include unidirectionally migrating slope channels, slope fans or aprons, shelf-edge deltas and large-scale slope clinoforms. CS1 (Late Miocene to Pliocene) is characterized by development of a series of shelf-margin channels and associated slope fan aprons. The shelf-margin channels, oriented mostly NW-SE, migrate unidirectionally northeastwards and intensively eroded almost the entire shelf-slope zone. Two

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