

CERAMAH TEKNIK TECHNICAL TALK

Basin physiographic controls on shoreline–shelf sedimentary processes and preservation: Integrating numerical tidal modelling and sedimentary facies analysis in the Oligo–Miocene, NW Borneo, South China Sea

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Abstract: Shoreline–shelf stratigraphy is an inherently fragmentary record of competing fluvial, tidal, wave and storm processes, and longer-term controls on accommodation space creation, burial and erosion. These controls are influenced by a multitude of regional- to local-scale factors fundamentally related to plate tectonics, principally climate and basin physiography (depth and geometry), which are encapsulated in time-averaged palaeogeographic reconstructions.

This talk investigates the following:

- Utility of numerical palaeotidal modelling for assessing the impact of palaeogeographic changes and uncertainty on tidal processes in the Oligo–Miocene of Southeast Asia.
- Comparison of tidal model results to sedimentary facies and biostratigraphic data from Oligo–Miocene successions in and around the South China Sea
- Sedimentological and stratigraphic characteristics and preservation in mixed-process deltaic successions in the Middle Miocene Baram Delta Province, Northwest Borneo
- Potential impact of evolving tidal systems on mangrove-related carbon burial in the Oligo–Miocene of Southeast Asia.

