

Autostratigraphy of delta-feeding continental shelves: A strategy to explore

MUTO, Tetsuji^{1*}

¹Graduate School of Fisheries Science and Environmental Studies, Nagasaki University

Autostratigraphy is the stratigraphy that takes full account of large-scale, deterministic non-equilibrium response of the depositional systems to steady dynamic forcing of basins. The primary target of autostratigraphy so far has been river deltas which are built during a single sea level rise or a single sea level fall. However, it is desired, and perhaps possible, to extend the autostratigraphy framework to a delta-feeding continental shelf system that grows under the intense influence of multiple sea level cycles. A preliminary view to explore such a new scheme of autostratigraphy is addressed. A key issue is to test by model experiments the hypothesis that (1) non-equilibrium stratigraphic responses *proper to* a delta-shelf system can change drastically as the shelf progressively expands seaward (i.e. as the sea level cycles proceed), and (2) this can account for a particular stratigraphic pattern of Quaternary shelf systems.

Keywords: autostratigraphy, continental shelf, river deltas, sea level changes, model experiment, non-equilibrium response