



Pliocene shorelines and the deformation of passive margins.

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Characteristic geomorphology described from three Pliocene scarps in Rovere et al. [2014] was used to guide a global search for additional Pliocene age scarps that could be used to document former Pliocene shoreline locations. Each of the Rovere et al. [2014] paleo-shorelines was measured at the scarp toe abutting a flat coastal plain. In this study, nine additional such scarp-toe paleo-shorelines were identified. Each of these scarps has been independently dated to the Plio-Pleistocene; however, they were never unified by a single formation mechanism. Even when corrected for Glacial Isostatic Adjustment post-depositional effects, Post-Pliocene deformation of the inferred shorelines precludes a direct assessment of maximum Pliocene sea level height at the scarp toes. However, careful interpretation of the processes at the inferred paleo-shoreline suggests specific amplitudes of dynamic topography at each location, which could lead to a corrected maximum sea level height and provide a target dataset with which to compare dynamic topography model output.