



## **Relative sea level proxy records from fossil coral microatolls in Western Borneo, South China Sea: Sea-level stability around 7 ka and possible Holocene faulting**

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The spatial variability of Holocene relative sea level (RSL) in the South China Sea is poorly known, with data restricted to Thailand, the Malay Peninsula, and a few other isolated sites. In this study, we present new continuous RSL proxy records for Borneo using surveyed and U-Th dated fossil coral microatolls from four sites in western Sarawak. We present a continuous 450-year record of RSL from 7450 to 7000 years BP. Our data suggest that RSL was higher than present and rapid RSL rise had ceased by 7450 years BP. We compare these RSL reconstructions with a regional model of glacio-isostatic adjustment (GIA). The RSL reconstructions from three sites off the coast of Sarawak show a spatial gradient opposite to that predicted by the GIA model. This disagreement can best be explained by tectonic deformation since 7000 years BP, which was previously unrecognized: we propose vertical offset of  $\sim 1.1$  m due to slip on the Serabang fault, which runs between our four sites. This slip may have occurred in response to the loading of the Sunda Shelf by rising sea level.