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Holocene sea-level changes in SE Asia – Fieldwork in Indonesia and first results

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Changes in sea level are endangering global settlements and are making coastal populations more vulnerable to flooding. In order to understand which processes are contributing to local sea level changes, it is necessary to investigate paleo sea-level proxies and compare them to different glacio-isostatic adjustment models (GIA). Within the framework of the project “Holocene sea-level changes in SE Asia”, part of Spp. 1889 “Regional Sea Level and Society”, we measured Holocene sea-level proxies in October 2017 in Indonesia, on small islands of the Spermonde Archipelago, South Sulawesi. The fieldwork focused on fossil and living microatolls, which grow as high as the lowest astronomical tide and modify their growth behavior following changes in local sea level. In total, 26 fossil microatolls were sampled and will be dated with radiocarbon. Their elevation was measured above MSL, and compared with that of living microatolls, which were treated as modern analogues. The results will be used to improve the current knowledge of Holocene sea-level changes in the Spermonde Archipelago. We intend to compare this data with a new sea-level database for the Indo-Pacific and with different GIA models to disentangle which processes are driving Holocene sea level changes in the broader region, and identify best-performing ice and earth models.