



## **A Holocene sea-level database for Southeast Asia**

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The study of former relative sea-level (RSL) changes is essential to disentangle changes in sea level due to vertical land motion (e.g. tectonics, Glacial Isostatic Adjustment - GIA) and eustatic (e.g. ice equivalent sea level) causes. To study RSL changes at a regional scale it is essential that databases of sea-level indicators are produced following standardized protocols (Hijma et al., 2015). This has been already done in several regions (e.g. the US Atlantic coast, the Caribbean, or the Mediterranean (Engelhart and Horton, 2012) A database has been compiled for Southeast Asia but was limited in geographical extent and didn't include the influence of local process such as tidal range changes and compaction. Southeast Asia is highly vulnerable to relative sea level changes, as it is characterized by low-lying, densely populated islands and subsiding deltas.

We present a database of Holocene sea-level histories in Southeast Asia and part of the Indo-Pacific from published and unpublished data, which has been evaluated and using a standardized protocol. We analyzed 526 sea level index points, defining their locations the height of former sea level and the age with their associated uncertainty. Radiocarbon ages were re-calibrated using Calib 7.0.0 / 7.1 (Stuiver et al., 2017) and the calibration curves Intcal13 or Marine13. In our database, we also indicated possible tectonic vertical land motion, and we present the results of GIA modelling for different areas in SE Asia. We also show regions of South East Asia and parts of the Indo-Pacific where there is an absence of data and where the collection of new RSL data is mostly needed.