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**Hydroclimate dynamics during the Plio-Pleistocene transition
in the northwest Pacific realm**

Romain Vaucher

The appraisal of sedimentary archives is key for predicting sea level changes and extreme weather event behavior under varying greenhouse gas levels. Here, we assess the hydroclimate variability of the northwest Pacific realm during the Pliocene-Pleistocene transition by using a continuous record of gamma-ray log data from two boreholes comprising shallow-marine strata in the Western Foreland Basin, Taiwan. The derived sedimentary records provide a high temporally resolved stratigraphic record spanning from ~3.15 to ~1.95 million years ago. The comparison of the astronomically tuned gamma-ray logs to global sea-level and regional sea-surface temperature reconstructions highlights the impact of high- and low-latitude climate drivers on depositional cycles during the Plio-Pleistocene transition. During the late Pliocene, the interplay between the orbitally-paced East Asian Summer Monsoon and tropical cyclones dominates the fluctuation in sediment supplied from Taiwan to our study sites. With the intensification of Northern Hemisphere glaciation from the late Pliocene through the early Pleistocene, sea-level changes were ruled by increasingly pronounced glacial-interglacial cycles, and the sedimentary record during this time interval is paced first by obliquity and subsequently by precession. In turn, this study reveals a more complex history of past hydroclimatic dynamics in the northwest Pacific than that described by the traditional climate archives.