

Drier climates in Papua New Guinea during interglacials over the past 1.68 million years

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The hydrology of the Indo-Pacific Warm Pool (IPWP) region is an essential component of global climate. It acts as a source of energy and water vapor to the other areas. But its long-term behavior is highly controversial. In this study, we generated 1.68 Myr records of the carbon and hydrogen isotopes of higher plant waxes, pyrogenic polycyclic aromatic hydrocarbons, and other terrestrial and marine biomarkers from the IODP Site U1486 in the Bismarck Sea. The results show glacial-interglacial cycles in interglacials with drier Papua New Guinea (PNG) climates. Precipitation was regulated by changes in carbon dioxide and ice volume, along with low-latitude insolation. Variations in PNG and Indian precipitations were antiphase, suggesting that the interhemispheric monsoons were coupled in the western Pacific and the Indian Oceans.