

Marine diatoms in the Paleocene of the SW – Pacific

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Quantitative analysis of the acid-insoluble residue of the late Paleocene sediments of ODP Site 1121B, located at the foot of the Campbell Plateau in the SW-Pacific, reveals a 30 m long interval, in which siliceous microfossils are relatively well preserved.

Correlation with results from analysis of the stable carbon- and oxygen isotopes from the same site shows that this abundance maximum in siliceous microfossils and the interval, in which they are best preserved, coincides with the late Paleocene productivity maximum.

Taxonomic analysis of the diatoms suggests dominance a) of species indicating high productivity and b) of heavily silicified neritic species, but an absence of freshwater species and benthic species. The abundance of neritic species in these deep sea sediments makes it highly probable that west-wind driven currents across a broad shelf on Campbell Plateau displaced these diatoms into the depo-center at the eastern foot of the plateau.

The implications of these findings are discussed.