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Room:Convention Hall

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The changes of paleoceanography from benthic foraminiferal assemblages on the continental shelf of the Canterbury Basin

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The Quaternary benthic foraminiferal assemblages in cores at continental shelf of the Canterbury Basin (Hole U1353 and U1354 of IODP Exp. 317), were examined to understand the paleoceanographic history. The purpose of Exp. 317, is to understand the relative importance of eustasy and tectonic and sedimentary processes in controlling the development of continental margin sedimentary cycles (sequences). Sites U1353 and U1354 provide a high resolution record of recent glacial cycles covering the Holocene and late Quaternary in a continental shelf setting.

In the Pleistocene section, two alternating benthic foraminiferal assemblages were recognized. One assemblage consists mainly of *Notorotalia inornata* and *Elphidium charlottense* associated with *Zeaflorilus parri*, suggesting a shallow inner shelf environment. The other consists of *Notorotalia aucklandica*, *Nonionella flemingi* and *Anomarinoides sphericus*, implying a deeper depositional environment down to outer shelf.

Thus, these alternation of two assemblages is considered to represent the frequent paleo-depth changes between inner shelf and outer shelf or deeper. We will discuss the relationship between faunal changes and eustatic sea level changes.

Keywords: fossil benthic foraminifera, paleoceanography, the continental shelf of the Canterbury Basin, late Pleistocene, IODP Exp. 317