

# 貧酸素化の進行による底生生物群集構造の変化が底泥—海水間の窒素収支に与える影響—底生生態系モデルによる解析—

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## Abstract

Changes in the nitrogen budget between the sediment and overlying water, were evaluated using a benthic ecosystem model for the shallow area of Mikawa bay, Japan. The model was run for the period between June to July (1996) when a water mass, severely deficient in dissolved oxygen, developed and resulted in drastic benthic community changes.

The model result indicated that the nitrogen budget changed greatly as a dissolved oxygen deficient water mass developed. The shallows had the capability of reducing the particulate organic nitrogen at higher efficiency than the rate of elution of dissolved inorganic nitrogen when ambient oxygen conditions were normal. But, After the oxygen deficient water mass developed, the removal rate of particulate organic nitrogen decreased with the death of macrobenthic suspension feeders more rapidly than the elution rate in dissolved inorganic nitrogen and consequently, the budget of total nitrogen swunged from sink to source.

It is very important to keep the dissolved oxygen saturation level that the benthic fauna can survive to maintain the water purification capacity of the shallows.