

# Historical transition and prediction of Northern Pacific ecosystem associated with human impact and climate change

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## **【 Outline of survey 】**

This project will focus on the analysis of historical fish catch data and the other historical information on fish, and investigate the role of human impact (mainly fishing) and climate change on fish abundance. And also we make models (physical-ecological coupled models and population models that will be embedded in physical-ecological model), which will be able to predict future status of Northern Pacific ecosystem especially of Pacific saury, squid and salmon.

## **【 Expected results 】**

We will be able to predict the future status of pelagic fish abundance of Northern Pacific by newly developed model. This will help the decision-making or management of fish catch in near future.

## **【 References by the principal researcher 】**

Aita, Maki N., Y. Yamanaka and M. J. Kishi (2003): Effect of ontogenetic vertical migration of zooplankton on the results of NEMURO embedded in a general circulation model. *Fisheries Oceanography*, **12**, 284- 290

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Ito, S., M. J. Kishi, Y. Kurita, Y. Oozaki, Y. Yamanaka, B. A. Megrey and F.E. Werner (2004): A fish bioenergetics model application to Pacific saury coupled with a lower trophic ecosystem model. *Fisheries Oceanog.*, (*in press*).

**【 Term of project 】** FY 2004 - 2008

**【 Budget allocation 】** 81,100,000 yen

**【 Homepage address 】**

<http://www.pml.ac.uk/globec/main.htm>