

Bohai Sea Study Project

Tetsuo Yanagi

Research Institute for Applied Mechanics, Kyushu University, Japan

Variability of the river discharge from the Yellow River is very large, that is, between 5,000 m³/sec in early 1960 and 0 m³/sec in late 1990, but the effect of such large variability to the marine environment in the Bohai Sea has not been clarified yet.

The objective of this project is to clarify the effect of variability of Yellow River discharge to the marine environment such as water temperature, salinity, current and lower trophic level ecosystem in the Bohai Sea.

The participants of this project are T. Yanagi (Kyushu Univ.), X. Guo (Ehime Univ.) and M. Hayashi (Kobe Univ.) from Japan and Prof. Gao and other staffs of the Ocean University of China from China.

The methodology is 1) to conduct intensive field observations two times in the Bohai Sea, 2) to build up a numerical hydrodynamical model of the Bohai Sea, 3) to build up a numerical ecosystem model of the Bohai Sea, 4) to gather visible and infrared satellite images during 1 year in the Bohai Sea, and 5) to synthesize the results of 1)- 4). The expected results are the difference of marine environment such as temperature, salinity, current and lower trophic level ecosystem in the Bohai Sea between high river discharge and low river discharge from the Yellow River will be clarified by this research.

In the fiscal year 2003, we will build up numerical hydrodynamical and ecosystem models of the Bohai Sea and to gather visible and infrared satellite images of the Bohai Sea. In the fiscal year 2004 and 2005, we will conduct intensive field observation in September 2004 in the Bohai Sea. In the fiscal year 2006, we will reproduce the results of field observations by the numerical hydrodynamical and ecosystem models and to compare the results of field observations with satellite images. In the fiscal year 2007, we will synthesize the results.