

IS THE CONDITION OF WATER ENVIRONMENT OF TOKYO BAY IMPROVED?

Consideration on the Respective Changes of Concentration COD, DO and the Nutrient
Salts in 20 Years on 41 Measuring Points in Tokyo Bay -

**HISAKO OGURA¹, HARUO ANDO², NOBUHISA KASHIWAGI³, KATSUYUKI NINOMIYA⁴,
AND MASAO YAMAZAKI⁵**

¹Chiba Prefectural Environmental Research Center, Inagekaigan 3-5-1, Mihama-ku, Chiba, 261-0005, Japan

²The Tokyo Metropolitan Research Institute for Environmental Protection, Shinsuna 1-7-5, Koto-ku, Tokyo, 136-0075, Japan

³The Institute of Statistical Mathematics, Minamiazabu 4-6-7, Minato-ku, Tokyo, 106-8569, Japan

⁴Yokohama Environmental Research Institute, Takigashira 1-2-15, Isogo-ku, Yokohama, 235-0012, Japan

⁵Tokyo Metropolitan Industrial Technology Research Institute, Nishigaoka 3-3-10, Kita-ku, Tokyo, Japan

We made a presentation about the change of water quality in last 20 years in Tokyo Bay with visual maps in the 5th EMECS in 2001. As the maps were described from the standpoint of whole of Tokyo Bay, they could not explain the yearly change in detail. So we tried checking the water quality data of 20 years in every 41 measuring points respectively.

As the result of analysis, we found out the fact that COD of the surface water increased little by little yearly in the western and southern part of the Bay, but in the inner(northern) part it decreased or remained stable on many measuring points. These tendencies of change were more clearly found in the concentration of phosphoric phosphorus. The change of DO concentration in bottom water tended to improve in the recesses of the Bay, and according to the change of DO, the dissolved phosphoric phosphorus from the bottom sediment decreased.

Consequently, it was thought that the occurrence of red tide was decreased in surface water of the recesses of Tokyo Bay in last 20 years owing to the deduction of the inflow load from the land, but the eutrophication became more serious in the center and mouth of the Bay. On the other hand, the concentration of nitric nitrogen increased in 1980s and remained stable in 1990s in almost of Tokyo Bay though the load from the land has been reduced to 75% in 20 years. So we will analyze to find out the source of nitric nitrogen.