

Multi-layer temperature variability at Kurasawa on the back of Suruga Bay.

*Mito Nakamura¹, Kazuyuki Uehara¹

1. tokai university the graduate school of marine science and technology

For the first time, Nakamura (1977) found the summer subsurface temperature drop in Suruga Bay from the 10-year mean monthly variability in temperature and salinity vertical profiles. He called this summer temperature drop "Secondary Temperature Minimum". In this study, we analyzed the time series obtained from the multi-layer water temperature system installed at Kurasawa, from 2008 to 2017 which was observed at a ten-minute interval. As a result, we found that the multi-layer temperature time series is divided into five parts concerning the time change. That is, 1. uniform heating period (April), 2. heating and stratification period (May to the middle of August), 3. surface cooling period (September to October), 4. temperature decrease period, and 5. the lowest temperature period (February and March). We, here, focus the second part, "heating and stratification period" (May to the middle of August). In this period, the water temperature at a depth of 5-m increases due to surface heating, but decreases below deeper than 20-m. These phenomena are thought to be "Secondary Temperature Minimum" pointed out by Nakamura (1977). Moreover, these subsurface temperature drops have time scale fluctuations smaller than a month and are very complicated. We would like to discuss the variabilities of these phenomena in this presentation.

Keywords: Suruga Bay, Characteristics of water temperature, Coastal environment