



## **Interannual variation of seawater temperature in the southwestern coast of Korea and its probable cause**

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To understand the interannual variation of seawater temperature in the southwestern coast of Korea, Daily observed long-time series data by National Institute of Fisheries Science(NIFS) during the 46 years, 1965~2010, were analyzed. The linear regression result shows that the increasing trend of sea surface temperature(SST) in summer is more significant than in winter with a rate of  $0.01 [U+2103]/\text{year}$  over the whole period. This result suggests that the increased sea surface temperature in summer is associated with the weakened cold water in the southwestern coast(Jindo Cold Water, JCW). The JCW is known that the upwelled water mass by tidal pumping and mixing in the southwestern coast of Korea, and the temperature of this water mass is strongly correlated with the low temperature of bottom water affected by the Yellow Sea Bottom Cold Water(YSBCW). The YSBCW is well known that it is formed by sink into deeper layer during winter at the northern part of the Yellow Sea(YS) and occupies the central part and wide region below the YS thermocline in summer. The southern limit or area of the YSBCW in summer shows the interannual variability and is strongly correlated with the SST of the northern YS in winter. The more extended YSBCW to the south is bound to affect the bottom water temperature of the southwestern coast of Korea. Further research is essential to understand the mechanism of the southward movement and southern limit or area(volume) of the YSBCW.