Monitoring for understanding marine condition in Wakasa Bay:Characteristics of seasonal variation in backscatter intensity measured by ADCP

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Wakasa bay is one of the bays facing the Japan Sea and its marine environment is strongly influenced by Tsushima Warm Current flowing near the shore. This area is known as a good fishing grounds for the set-net fishery and the trawl fishery. Recently, a monitoring system has been constructed to understand the fishing ground environment in Wakasa Bay. Water temperature, salinity and current are measured using moorings and real time buoys under this system, and the data collected by real time buoy are utilized for fishermen via web site. In this study, we focused on temporal variations of the backscatter intensity measured by an ADCP (Acoustic Doppler Current Profiler). To reveal the characteristics of variations, the ADCP data collected at a mooring point around the baymouth were analyzed. In addition, the characteristics of temporal variation of the backscatter intensity were compared with the temporal variation of physical and biological data such as water temperature, salinity, and fish catch. The data of water temperature and current collected by the monitoring system showed that the seasonal variation of the Tsushima Warm Current was closely related to the decrease of the backscatter intensity of the ADCP and the change of the fish catch in summer.

Keywords: monitoring system, Wakasa Bay , Tsushima Warm Curernt

