O2. FATE OF SILTS AND CLAY FROM RIVER AND ITS CONTRIBUTION TO TRANSPARENCY

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Phytoplankton plays a key role as primary producer, forming the base of marine food webs. Knowledge in relation to permeability of light in water is important for the understanding of phytoplankton growth in the euphotic zone. In this study, we conducted laboratory experiments in relation to light attenuation using inorganic particle (silica particle) and field investigations in Osaka Bay. There was a positive correlation between the concentrations of the silica particle and integral values of the absorbance at photosynthetic active radiation (PAR: wavelength 400-700 nm) in the laboratory experiments. The highest integral value of the absorbance at PAR was observed for the particle size of 1.0 мm. In Osaka Bay, high contribution of the inorganic particle to light attenuation was observed compared to the organic particles. Multiple linear regression analysis using the particle size and the amount of total suspended solids (TSS: consisting of three component fractions; organic/inorganic tripton and phytoplanktons) showed that the particle size was an essential factor controlling the light attenuation in the coastal sea.