

Assessment of particulate organic carbon fluxes by satellite observations and sediment trap measurements in the northern Ulleung basin of the East/Japan Sea

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Surface concentrations and vertical fluxes of particulate organic carbon (POC) were assessed in the northern Ulleung basin of the East/Japan Sea during November 2010 and July 2014 by using satellite observations and sediment trap measurements. Primary production rates varied from 0.58 to 2.55 $\text{gCm}^{-2}\text{day}^{-1}$ and the vertical total mass fluxes ranged from 0.12 to 1.47 $\text{gm}^{-2}\text{day}^{-1}$ at 500m depth, 0.05 to 1. $\text{gm}^{-2}\text{day}^{-1}$ at 1000m depth and 0.12 to 1.43 $\text{gm}^{-2}\text{day}^{-1}$ at 2000m depth, respectively. Based on the these results, the ratio of the settling flux of POC to net production in the euphotic zone is roughly estimated at 10~100 % of primary production and about 5~10% of them were arrived at bottom sediment and buried.