

## On the mechanism of significant increasing trend of silicate in intermediate layer of Oyashio region

\*Tsuneo Ono<sup>1</sup>

1. Fisheries Research and Education Agency

A large multi-decadal increasing trend of Silicate was found in the intermediate later of Oyashio region [Whitney et al., 2013]. The rate of silicate increase was significantly rather than those observed in other nutrients under the asumption of normal Redfield ratio, but mechanism of such large Si increase has long remaind unknown.

Here, I demonstrate that the observed silicate increase can be exprained by the facts that 1)Rapid warming of intermediate waters of Okhotsk Sea had deepened isopycnal surfaces and 2)this causes steep increase of silicate concentration in the water that mixes with Oyashio waters on a same density surface.

Keywords: long-term trend, silicate, Oyashio, Okhotsk Sea