

Subtropical seawater transport pathway of the North Pacific Transition Domain observed with drifting buoys

*Hatsumi Nishikawa¹, Humio Mitsudera¹, Takeshi Okunishi², Shin-ichi Ito³, Taku Wagawa⁴, Daisuke Hasegawa², Toru Miyama⁵, Hitoshi Kaneko²

1. Institute of Low Temperature Science, Hokkaido University, 2. Tohoku National Fisheries Research Institute, Japan Fisheries Research and Education Agency, 3. Atmosphere and Ocean Research Institute, The University of Tokyo, 4. Japan Sea National Fisheries Research Institute, Japan Fisheries Research and Education Agency, 5. Agency for Marine-Earth Science and Technology

The North Pacific Transition Domain is the area where water exchange between subtropical and subarctic is carried out and it is very important area for air-sea interaction, ocean mixed layer formation, biological production, and so on.

To clarify the flow structure in the transition domain, we analyzed the data of drifting buoys observation in 2015 and modelled particles trajectory. The buoy trajectories and the modelled trajectories show that the main flow is northeastward flow with J1 and J2 (Isoguchi et al., 2006), bifurcation flow avoiding the low rise bottom topography around 42°N -157°E. These results suggested that the flow structure in the transition domain is dominated by low rise bottom topography. We carried out drifting buoys observation in 2017. The new data also show the importance of low rise bottom topography. It is suggest that barotropic flow over the bottom topography contribute to the seawater transport paths in the North Pacific Transition Domain.

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