

Dissolved organic carbon in the Indonesian Throughflow

*重光 雅仁¹、吉川 知里¹、脇田 昌英¹、村田 昌彦¹

*Masahito Shigemitsu¹, Chisato Yoshikawa¹, Masahide Wakita¹, Akihiko Murata¹

1. 国立研究開発法人 海洋研究開発機構

1. Japan Agency for Marine-Earth Science and Technology

Dissolved organic carbon (DOC) is considered to be an important reservoir of reduced carbon in the ocean. In this study, we aimed to gain insights into the amount of DOC transported via the Indonesian throughflow from the Pacific to the Indian Ocean. To this end, we measure DOC concentrations for the seawater samples obtained in a revisit cruise along World Ocean Circulation Experiment-Hydrographic Programme (WHP) line I10 between Indonesia and Australia, from December 2015 to January 2016. The repeatability of DOC is $\sim 1.0 \mu\text{mol kg}^{-1}$. Along the I10 line, DOC concentrations range from $\sim 38 \mu\text{mol kg}^{-1}$ in the deep waters to $\sim 80 \mu\text{mol kg}^{-1}$ in the shallow waters. The Indonesian Throughflow Waters are observed as the fresh surface and intermediate waters. In the intermediate waters, DOC concentrations are slightly higher compared to those in the other intermediate waters. The net transport along the line into the Indian Ocean is estimated to be $\sim 9\text{--}18 \text{ Sv}$, using several estimates of geostrophic velocity. In the presentation, we will discuss the transport of DOC from the Pacific to the Indian Ocean.

キーワード：溶存有機炭素、インド洋、インドネシア通過流

Keywords: Dissolved Organic Carbon, Indian Ocean, Indonesian Throughflow