

Application for travel funding for the US GEOTRACES Alaska-Tahiti section planning workshop – Mariko Hatta (University of Hawaii)

This workshop will plan the upcoming US GEOTRACES Pacific cruise (Section GP15) scheduled for Summer 2018, and participants will address their own anticipated research contribution to the section. I believe that I can contribute significantly to the discussion regarding the potential surface mineral dust deposition as well as the Equatorial Undercurrent (EUC) influence based on previous data from our lab.

My expertise is in the shipboard determination of dissolved trace elements and using the data obtained to better understand the geochemical cycle of trace elements in the global ocean. I've participated in the US CLIVAR (3 cruises) and US GEOTRACES (3 cruises) programs over the past 10 years to develop a database of dissolved trace elements over large areas of the ocean. I believe that shipboard analysis (especially for Fe) is very important for the success of the cruise especially to ensure that we obtain contamination-free seawater samples. In particular during the GEOTRACES Arctic cruise, we learned that some of the sampling bottles were contaminated with contamination-prone trace elements (i.e. Zn or Fe).

Also, our research group has developed a large database (upper 1000 m) in the Pacific Ocean (CLIVAR P2, P16, and P06), which has highlighted the main features across the North Pacific Ocean. Along CLIVAR P16N transect (150°W), we observed significant surface dAl enrichment at 30°N as a result of mineral dust deposition. We also observed elevated subsurface dAl values in the EUC that originated in the coastal waters of eastern New Guinea. These features need to be sampled during the proposed GP15 cruise. I expect to be able to contribute to the workshop in terms of both critical sampling assessment and understanding of Al and Fe based on the experience I have gained during various cruises, knowledge and the datasets over the last 10 years.

(298 words)