

Spatial heterogeneity of picophytoplankton populations in the equatorial Pacific

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Picophytoplankton populations around the equatorial Pacific were measured by flow cytometry. We found the spatial heterogeneity of three picophytoplankton groups *Prochlorococcus*, *Synechococcus* and picoeukaryotes along the equator between 145E and 160W. We defined the equatorial Pacific to three regions spatially with the hydrological condition as the warm water region, the upwelling region and the frontal zone. We found that *Prochlorococcus* were abundant in the warm water region, *Synechococcus* were abundant in the frontal zone and picoeukaryotes were abundant in the upwelling region. We considered that the maximum abundance regions of each picophytoplankton groups were divided by the difference of environmental adaptation ability against light and nutrients.