

黒潮域における植物プランクトン群集別基礎生産と動物プランクトン個体数密度との関係
Phytoplankton Community Structure and Zooplankton Abundance around The Kuroshio Western
Boundary Current

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The Kuroshio is one of the largest western boundary currents in the world. In spite of the recognition of its importance on coastal fisheries in the Kuroshio waters, ecological mechanisms supporting fisheries production are poorly known. Recent marine ecosystem models made significant advancement in representing interactions among physical, biogeochemical and biological processes, yet interactions among different organisms within the biological processes is not necessarily well represented, mainly due to a lack of sufficient observation data required for modeling. Here we extended in situ observation of multiple phytoplankton groups into satellite observation and investigated their interactions with zooplankton such as copepods, using Artificial Neural Network. We found that phytoplankton (especially diatoms) played an important role in explaining zooplankton variability but only so in summer time in some waters. In winter-time, however, zooplankton abundance was rather independent of phytoplankton (chlorophyll) biomass (regardless of phytoplankton groups) and was largely explained by environmental factors such as a velocity of the Kuroshio. These results did not contradict the dilution-recoupling hypothesis, although a further investigation remains necessary to support the hypothesis.

キーワード：植物プランクトン、動物プランクトン、黒潮

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