

9/Oct
2018 **Tue**
10:00~11:00

場所：総合研究棟 | 4階会議室

Admission Free

Reservations
not required

Modelling the effect of atmospheric deposition on phytoplankton growth during the on-board incubation experiments conducted in South China Sea

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In situ incubation experiment is a popular method in the study of impact of atmospheric deposition on marine ecosystem. However, it cannot be easily used to reveal the processes in the experiment. In this study, we conducted onboard incubation experiments at three stations in the South China Sea (SCS), with addition of multiple dissolved inorganic nutrients, Asian dust and rainwater. In addition, we used a nutrient-phytoplankton-detritus biogeochemical box model (NPD model) to simulate the nutrient and phytoplankton dynamics in the onboard incubation experiments. The NPD model is able to reproduce the chlorophyll and nutrient variations for most of the incubation experiments. An interesting feature in some of the incubation experiments is an insufficient reduction in dissolved inorganic phosphorus (DIP) along with increasing of Chl.a, which suggests a possible utilization of dissolved organic phosphorus (DOP) in this oligotrophic low-productivity sea area. For catching this process, we propose a DOP utilization scheme for the NPD model, which significantly improves the simulation ability of the model. This study provides a reference for the parameterization of dissolved organic nutrient utilization in the future biogeochemical cycle modelling.