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Abstract

We carried out sensitivity analysis using ECOS3D model(Nakata et al.,2004) in order to investigate to influence what on the spatial distribution of nutrients(NO_3, PO_4), Net Primary Production(NPP), export flux and CO_2 fugacity(fCO_2) in the world ocean by changing parameter of phytoplankton of half saturation constants for PO_4 and NO_3 uptake, maximum cell-quota capacity(P-quota and N-quota), C/P and C/N ratio and minimum growth temperature. It revealed the possibility that small size phytoplankton may hardly to have cell-quota by comparing the model result with the observation data(WOA01) on nutrients. The model result on fCO_2, NPP and export flux also showed the possibility that the activity of phytoplankton in high latitude region may influence on CO_2 absorption assessment in the world ocean.