

## Global ocean pigments transport by mesoscale eddies

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Mesoscale eddies can trap ocean pigments and move them from one region to another. The concentration of oceanic pigments change with depth. However, satellite can only observe ocean pigments concentration at the sea surface. Here, we estimate eddy-induced ocean pigments transport based on satellite observations, Argo float measurements, and an empirical model of vertical distribution of ocean pigments. In this paper, we focus on the global chlorophyll transportation by mesoscale eddies. The result shows mesoscale eddies have a strong influence on the distribution and transport of ocean pigments, and therefore can have a significant impact on marine ecosystems.

Keywords: Global ocean pigments transportation, Mesoscale eddies, Chlorophyll-a transportation, Ocean pigments vertical distribution, Marine ecosystems