

Why do we care about oxygen minimum zones?

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Abstract

Dissolved oxygen is one of the longest ever measured parameters in the ocean. In combination with temperature and salinity, oxygen is a very useful water mass tracer. But more important, oxygen is the basic requirement for (nearly) all life in the sea. It has been recognized that ventilation, circulation and respiration determine the interior ocean oxygen distribution. Of particular importance for life in the ocean are regions with "low" oxygen. Typically these regions are located in the eastern boundary upwelling regimes where nutrients are transported into the euphotic zone and rich marine life can develop. For many organisms the low oxygen below their 'sea of milk and honey' is a life threatening zone and they try to stay out of it. However, observations show that the low oxygen zones increase in extent and intensity. The origin and variability of the low oxygen zones will be reviewed in this talk.