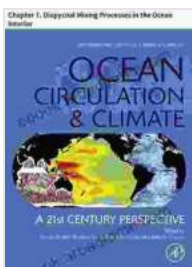


# Chapter Diapycnal Mixing Processes In The Ocean Interior International

Diapycnal mixing is the process by which water masses of different densities are mixed together across density surfaces. It is an important process in the ocean climate system because it can affect the distribution of heat, salt, and nutrients, and can influence the circulation of the ocean.



## Ocean Circulation and Climate: Chapter 7. Diapycnal Mixing Processes in the Ocean Interior (International Geophysics Book 103)

★★★★★ 5 out of 5

Language : English  
File size : 1555 KB  
Text-to-Speech : Enabled  
Screen Reader : Supported  
Enhanced typesetting : Enabled  
Print length : 79 pages



## Theoretical Foundations of Diapycnal Mixing

The theoretical foundations of diapycnal mixing are based on the laws of conservation of mass, momentum, and energy. These laws can be used to derive equations that describe the rate of diapycnal mixing. The most important of these equations is the equation of state, which relates the density of seawater to its temperature, salinity, and pressure.

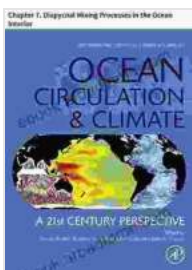
## Observational and Numerical Modeling Results

A variety of observational and numerical modeling studies have been conducted to investigate diapycnal mixing in the ocean interior. These studies have shown that diapycnal mixing is a complex process that can vary significantly in space and time. The rate of diapycnal mixing is typically higher in regions of the ocean where there is a lot of shear, such as near the equator and in the western boundary currents.

## Implications for the Ocean Climate System

Diapycnal mixing has a number of important implications for the ocean climate system. It can affect the distribution of heat, salt, and nutrients, and can influence the circulation of the ocean. Diapycnal mixing can also play a role in the formation of ocean eddies and in the transport of heat and salt across the ocean basins.

Diapycnal mixing is an important process in the ocean climate system. It is a complex process that can vary significantly in space and time. The rate of diapycnal mixing is typically higher in regions of the ocean where there is a lot of shear, such as near the equator and in the western boundary currents. Diapycnal mixing has a number of important implications for the ocean climate system, including affecting the distribution of heat, salt, and nutrients, and influencing the circulation of the ocean.



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