



## **The vertical heat flux in the central Gulf of Mexico**

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Recent observational results show that the deep water column in the Gulf of Mexico, beneath the depth of the Florida Sill, is divided into two layers. The very deep layer exchanges water with and loses heat to the Caribbean. An intermediate layer extends from about 700 m to about 1300 m depth, through which the excess heat gained from the Caribbean by the mean circulation must be pumped into the upper layer (above 700 m depth) by means of a *countergradient*, upward, vertical eddy flux. New moored measurements in the central Gulf of Mexico suggest that such an upward eddy diffusion does indeed occur in the intermediate levels, and may be driven by the eddies prevalent in the upper layer.