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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Dynamics of Vortices in Rotating and Stratified Fluids -- Stability of Quasi-Two-Dimensional Vortices -- Oceanic Vortices -- Lagrangian Dynamics of Fronts, Vortices and Waves: Understanding the (Semi-) geostrophic Adjustment -- Wave–Vortex Interactions.
Sommario/riassunto	Most well known structures in planetary atmospheres and the Earth’s oceans are jets or fronts interacting with vortices on a wide range of scales. The transition from one state to another, such as in unbalanced or adjustment flows, involves the generation of waves as well as the interaction of coherent structures with these waves. This book presents

a fluid mechanics perspective to the dynamics of fronts and vortices and their interaction with waves in geophysical flows. It provides a basic physical background for modeling coherent structures in a geophysical context, and it gives essential information on advanced topics such as spontaneous wave emission and wavemomentum transfer in geophysical flows. Based on a set of lectures by leading specialists, this text is targeted at graduate students, researchers and engineers in geophysics and environmental fluid mechanics.