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Nota di contenuto	Progress of North Pacific Mode Water Research in the Past Decade -- Review on North Pacific Subtropical Countercurrents and Subtropical Fronts: Rold of Mode Waters in Ocean Circulation and Climate -- New Perspectives on Eighteen-Degree Water Formation in the North Atlantic -- Mixed Layer Depth Front and Subduction of Low Potential Vorticity Water under Seasonal Forcings in an Idealized OGCM -- The Role of Meso-Scale Eddies in Mixed Layer Deepening and Mode Water Formation in the Western North Pacific -- Roles of Mode Waters in the Formation and Maintenance of Central Water in the North Pacific -- Interannual Variations of the Hawaiian Lee Countercurrent Induced by Potential Vorticity Variablitiy in the Subsurface -- Interannual Variability of the North Pacific Subtropical Countercurrent: Role of Locan Ocean-Atmosphere Interaction -- Response of the North Pacific Subtropical Countercurrent and Its Variability to Global Warming -- Interannual Variations in Low Potential Vorticity Water and the Subtropical Countercurrent in an Eddy-Resolving OGCM.
Sommario/riassunto	This book consists of the articles from the special issue of "New developments in mode-water research: Dynamic and climatic effects" in the Journal of Oceanography, Vol. 68 No. 1, 2012, comprising 10 chapters that cover a wide spectrum of topics. Topics range from the formation, circulation, and variability of mode waters to their dynamic

effect on surface current and climate impact, and point to new directions for mode-water research. How do mode waters vary on decadal and longer timescales, and how will they change in response to global warming? What causes mode-water variability, and how does it affect surface circulation and climate? What are the roles of mesoscale eddies in the formation and dissipation of mode waters and in their variability and change? This book serves as a signpost in our endeavor to answer these and other challenging questions.

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