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Nota di contenuto	Preface -- Chapter 1. Simple dynamic frameworks for tropical atmosphere and ocean -- Chapter 2. Role of air-sea interaction in shaping tropical mean climate -- Chapter 3. Madden-Julian oscillation -- Chapter 4. Tropical cyclone formation -- Chapter 5. Dynamics of El-Niño-southern oscillation -- Chapter 6. Monsoon dynamics and its interactions with ocean.
Sommario/riassunto	This textbook introduces fundamental dynamics of tropical atmosphere and ocean useful for advanced graduate courses in atmospheric and climate sciences. It presents an overview of simple atmospheric and oceanic models, as well as the observed phenomena associated with major climate modes in the tropics. It provides students with an up-to-date understanding of the dynamics of tropical climate and weather phenomena. A particular focus is given to scale interactions and atmosphere-ocean interactions associated with tropical mean climate (such as ITCZ asymmetry and annual cycles), synoptic-scale variability (such as synoptic wave trains, easterly waves and tropical cyclones), intraseasonal oscillations (such as Madden-Julian Oscillation and boreal summer intraseasonal oscillation), and interannual variability (such as El Niño-Southern Oscillation and Indian Ocean Dipole). Theoretical and conceptual models are presented for better understanding of physical

mechanisms behind the observational phenomena. This book aims to motivate graduate students in atmospheric sciences and oceanography by providing them with the key methods and tools necessary to conduct research.

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