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Descrizione fisica	1 online resource (xxvii, 501 pages) : illustrations, maps
Collana	Advancing weather and climate science
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Climatology of the tropical atmosphere and oceans -- Hydrological and heat exchange processes -- Fundamental dynamical processes -- Kinematics and tropical waves -- Simple models of the tropics -- Equatorial waves in simple basic states -- Waves in a longitudinally and vertically varying basic state -- Moist processes and large-scale tropical dynamics -- Extratropical influence on the tropics -- Tropical influence on extratropics : a zonally averaged perspective -- A tropical-extratropical synergy -- Dynamics of arid and desert climates -- Near-equatorial precipitation -- Large-scale, low-frequency coupled ocean-atmosphere systems -- Intraseasonal oscillations in the tropical atmosphere -- Dynamics of the large-scale monsoons -- The coupled monsoon system -- The changing tropics -- Some concluding remarks
Sommario/riassunto	"This brief introduction to the climatology of the tropics identifies a number of phenomena that characterize the spatial and temporal variability of the tropical climate. Planetary scale circulations include Hadley-like circulations, the more zonal Walker systems, westerly

ducts, tropical upper tropospheric troughs, quasi-biennial lower stratospheric oscillations and the monsoon systems. Each of these features is "planetary" in scale and oscillates on interannual time scales. Within these slowly varying features of the tropical atmosphere and ocean, there is a myriad of circulation features with higher frequency variability. These include the Madden-Julian Oscillation (MJO), quasi-biweekly variability, easterly waves, tropical cyclones and depressions and a high amplitude diurnal cycle. These higher frequency scales of variability are not independent and are modulated by lower frequency events such as the MJO, which, in turn, is modulated by the annual cycle and interannual variability. In subsequent chapters we will clarify the underlying mechanisms of these circulation features and their roles in weather and climate"--
