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Nota di contenuto	An introduction to the biogeochemistry of river-coastal systems / T.S. Bianchi, M.A. Allison, and W.-J. Cai -- Water and sediment dynamics through the wetlands and coastal water bodies of large river deltaic plains / M.A. Allison, A. Kolker, and E. Meselhe -- Freshwater and sediment dispersal in large river plumes / R.D. Hetland and T.J. Hsu -- Self and slope sedimentation associated with large deltaic systems / J.P. Walsh [and others] -- Changjiang (Yangtze) and Huanghe (Yellow) rivers: historical reconstruction of land-use change and sediment load to the sea / H. Wang, Z. Yang, and N. Bi -- Flux and fate of the Yellow (Huanghe) River-derived materials to the sea: impacts of climate change and human activities / P. Liu and H. Wang -- Carbon dioxide dynamics and fluxes in coastal waters influenced by river plumes / W.-J. Cai, C.T. Arthur Chen, and A. Borges -- Impacts of watershed processes on exported riverine organic carbon / N. Blair and E.L. Leithold -- Black carbon in coastal and large river systems / S. Mitra

[and others] -- Carbon biogeochemistry in the continuum of the Changjiang (Yangtze) River watersheds across the East China Sea / J. Zhang [and others] -- Dynamics of phytoplankton blooms and nutrient limitation in the Pearl River (Zhujiang) estuarine coastal waters / K. Yin [and others] -- The Mekong river and its influence on the nutrient chemistry and matter cycling in the Vietnamese coastal zone / M. Voss [and others] -- Physical dynamics and biogeochemistry of the Pearl River plume / M. Dai [and others] -- The evolution of carbon signatures carried by the Ganges-Brahmaputra river system: a source-to-sink perspective / V. Galy [and others] -- Carbon and nutrient fluxes across tropical river-coastal boundaries / D.M. Alongi [and others] -- Sediment, organic carbon, nutrients, and trace elements: sources, transport, and biogeochemical cycles in the lowermost Mississippi River / S. Duan . [and others] -- Climate change effects on the ecology of the Mississippi River Delta / J.M. Visser [and others] -- Nutrient and carbon dynamics in a large river-dominated coastal ecosystem: the Mississippi-Atchafalaya River system / S.E. Lohrenz [and others] -- Sedimentary carbon dynamics of the Atchafalaya and Mississippi River Delta system and associated margin / T.S. Bianchi [and others] -- Composition and fluxes of carbon and nutrient species from the Yukon River basin in a changing environment / L. Guo, R.G. Striegl, and R. Macdonald -- Fluxes, processing, and fate of riverine organic and inorganic carbon in the Arctic Ocean / P.J. Hernes [and others] -- Geochemistry of the Congo river, estuary, and plume / R.G.M. Spencer, A. Stubbins, and J. Gaillardet -- The Nile delta in the anthropocene: drivers of coastal change and impacts on land-ocean material transfer / W. Moufaddal -- Fate of nutrients in the aquatic continuum of the Seine River and its estuary: modeling the impacts of human activity changes in the watershed / J. Garnier [and others] -- Anthropogenic changes in sediment and nutrient retention in the Rhine delta / H. Middelkoop, M. van der Perk, and G. Erkens.

Sommario/riassunto

This volume provides a state-of-the-art summary of biogeochemical dynamics at major river-coastal interfaces for advanced students and researchers. River systems play an important role (via the carbon cycle) in the natural self-regulation of Earth's surface conditions by serving as a major sink for anthropogenic CO2. Approximately 90 percent of global carbon burial occurs in ocean margins, with the majority of this thought to be buried in large delta-front estuaries (LDEs). This book provides information on how humans have altered carbon cycling, sediment dynamics, CO2 budgets, wetland dynamics, and nutrients and trace element cycling at the land-margin interface. Many of the globally important LDEs are discussed across a range of latitudes, elevation and climate in the drainage basin, coastal oceanographic setting, and nature and degree of human alteration. It is this breadth of examination that provides the reader with a comprehensive understanding of the overarching controls on major river biogeochemistry.