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## Sommario/riassunto

This reprint contains twenty-one scientific papers related to the determination of the nature, timing, and magnitude of natural hydroclimate variability and related sedimentary-diagenetic processes during geological eras past and present. Such an approach will be essential for addressing the challenges posed by climate change in coastal and deep marine sedimentary archives, for establishing the hydrological regime through the determination of environmental parameters and examining the subsequent response of the marine biota through time. Furthermore, this reprint is a significant contribution to the study of reservoir quality characteristics and the subsequent potentiality of several marine resources (ores, hydrocarbons, and geoheritage).