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Nota di contenuto	1. Statistical Indices for Diagnosing and Detecting Changes in Extremes -- 2. Statistical Methods for Nonstationary Extremes -- 3. Bayesian Methods for Nonstationary Extreme Value Analysis -- 4. Return Periods and Return Levels Under Climate Change -- 5. Multivariate Extreme Value Methods -- 6. Methods of Extreme Value Index and Tail Dependence Estimation -- 7. Stochastic Models of Climate Extremes: Theory and Observations -- 8. Methods of Projecting Future Changes in Extremes -- 9. Climate Variability and Weather Extremes: Model-Simulated and Historical Data -- 10. Uncertainties in Observed Changes in Climate Extremes -- 11. Uncertainties in Projections of Future Changes in Extremes -- 12. Global Data Sets for Analysis of Climate Extremes -- 13. Nonstationarity in Extremes and Engineering Design -- Index.
Sommario/riassunto	This book provides a collection of the state-of-the-art methodologies and approaches suggested for detecting extremes, trend analysis, accounting for nonstationarities, and uncertainties associated with extreme value analysis in a changing climate. This volume is designed so that it can be used as the primary reference on the available methodologies for analysis of climate extremes. Furthermore, the book addresses current hydrometeorologic global data sets and their applications for global scale analysis of extremes. While the main

objective is to deliver recent theoretical concepts, several case studies on extreme climate conditions are provided. Audience The book is suitable for teaching in graduate courses in the disciplines of Civil and Environmental Engineering, Earth System Science, Meteorology and Atmospheric Sciences.