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Nota di contenuto	Introduction -- Extreme Precipitation Events, Floods and Associated Socio-economic Damages in China in Recent Decades -- Changes of Water Quality in the Yangtze River Basin -- Spatiotemporal Evaluation of Water Quality and Water Quality Incidents over Japan -- Assessment of Precipitation Amounts and Climate Extremes in Japan -- Precipitation Changes in Hokkaido and Future Water Resources in Its Main Rivers -- Estimation of Nutrient and Suspended Sediment Loads in the Ishikari River -- The Aral Sea Basin Crisis and Future Water-Climate- Food Nexus in Turkmenistan.
Sommario/riassunto	With the rapid increase of world population, the global water shortage is set to be the major crises of the twenty-first century; that is, population dynamics (growth, age distribution, urbanization and migration) create pressures on freshwater resources due to the increased water demands and pollution. Moreover, water resources management faces a new uncertainty- i.e. the potential for longer-term and more persistent climate change nowadays, which, in coming years, may significantly affect the availability of supply and patterns of water demand. This book mainly focuses on the impact of climate change and

human activities on water quality and water resources in Asia Countries. It begins by describing the characteristics of water related disasters in the world. Then, the book analyzes the changes of floods and associated socio-economic damages for whole China over the last century, and assesses water quality and pollution source for the Yangtze River Basin, suggesting water-related disasters would become more intense, longer lasting, and/or more frequent in a future warmer climate. Then, after investigating spatiotemporal trends and causes of water quality and water quality incidents (Chapter 4) and precipitation extreme events (Chapter 5) in Japan, subsequent two chapters mainly evaluate the climate and human impacts on precipitation variations, water quality and water resources in the Hokkaido area. The final chapter comprehensively analyzes climate change impacts on water resources in the Aral Sea Basin, and then estimate the water requirements and water deficits for irrigation, future agricultural yields of seven major crops, and land and water productivity in four provinces of Turkmenistan considering climate change, population growth, and three socio-economic development scenarios. All results obtained from this book may provide a means to reduce water quality incidents and mitigate future negative impacts by adapting water management. Furthermore, the improved methods for water quality modeling in data scarce regions are transferable to other study areas and applicable in future research.