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Collana	Innovations in Sustainable Technologies and Computing, , 2731-8818
Altri autori (Persone)	SahariaManabendra
Disciplina	006.3
Soggetti	Computational intelligence Python (Computer program language) Quantitative research Environmental education Computational Intelligence Python Data Analysis and Big Data Environmental and Sustainability Education
Lingua di pubblicazione	Inglese
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Nota di contenuto	Data Analysis in the Water and Environment -- Python Environment and Basics -- Python Essentials -- Exploratory Analysis of Hydrological Data -- Graphical Hydrological Data Analysis -- Curve Fitting and Regression Analysis -- Hydrological Time Series Analysis -- Common Hypothesis Testing -- Uncertainty Estimation -- Introduction -- Surface Flow Models -- Subsurface Flow Models -- Transport Phenomena -- Contaminant Transport Models -- Conclusion.
Sommario/riassunto	This textbook delves into the practical applications of surface and groundwater hydrology, as well as the environment. The Part I, "Practical Python for a Water and Environment Professional," guides readers through setting up a scientific computing environment and conducting exploratory data analysis and visualization using reproducible workflows. The Part II, "Statistical Modeling in Hydrology," covers regression models, time series analysis, and common hypothesis testing. The Part III, "Surface and Subsurface Water," illustrates the use of Python in understanding key concepts related to

seepage, groundwater, and surface water flows. Lastly, the Part IV, "Environmental Applications," demonstrates the application of Python in the study of various contaminant transport phenomena.
