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Sommario/riassunto	This volume fills a research gap between the rapid development of High Performance Computing (HPC) approaches and their geospatial applications. With a focus on geospatial applications, the book discusses in detail how researchers apply HPC to tackle their geospatial problems. Based on this focus, the book identifies the opportunities and challenges revolving around geospatial applications of HPC. Readers are introduced to the fundamentals of HPC, and will learn how HPC methods are applied in various specific areas of geospatial study.

The book begins by discussing theoretical aspects and methodological uses of HPC within a geospatial context, including parallel algorithms, geospatial data handling, spatial analysis and modeling, and cartography and geovisualization. Then, specific domain applications of HPC are addressed in the contexts of earth science, land use and land cover change, urban studies, transportation studies, and social science. The book will be of interest to scientists and engineers who are interested in applying cutting-edge HPC technologies in their respective fields, as well as students and faculty engaged in geography, environmental science, social science, and computer science.