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Nota di contenuto	Frontmatter -- Contents -- Preface -- Acknowledgments -- Timeline: From the Glaciers to the Present -- Prologue: Step into the Forest—Today -- 1. Ecosystem and Ecological Studies at Hubbard Brook -- 2. The Small Watershed- Ecosystem Approach -- 3. Physical Setting and Climate -- 4. The Forest: Past and Present -- 5. A Rich Array of Organisms and Their Interactions -- 6. How Is Energy Transformed? -- 7. Hydrology: Water Balance and Flux -- 8. Biogeochemistry: How Do Chemicals Flux and Cycle? -- 9. The Discovery of Acid Rain at Hubbard Brook -- 10. The Consequences of Acid Rain and Other Air Pollutants -- 11. The Effects of Forest Harvesting and Other Disturbances: Whole-Watershed Manipulations -- 12. How Does the Forest Ecosystem Recover After Harvesting and Other Disturbances? -- 13. How Stream Ecosystems Are Integrated with Their Watersheds -- 14. What Causes Population Change in Forest Birds? -- 15. Scaling Up: Ecosystem Patterns and Processes Across the Valley -- 16. How Is Climate Change

Affecting the Forest Ecosystem? -- 17. Reaching Out: Hubbard Brook's Influence on Environmental Policy, Management, and Education -- 18. A Look Ahead: The Forest Ecosystem in the Future -- Epilogue: Step into the Forest—2065 -- APPENDIX 1. Scientific Units: Conversions and Abbreviations -- APPENDIX 2. Scientific Names and Lists of Selected Organisms -- Notes -- Bibliography -- Index

Sommario/riassunto

A beautifully illustrated overview and synthesis of how scientists have used a living forest as an experimental laboratory for more than 50 years For more than 50 years, the Hubbard Brook Experimental Forest in the White Mountains of New Hampshire has been one of the most intensely studied landscapes on earth. This book highlights many of the important ecological findings amassed during the long-term research conducted there, and considers their regional, national, and global implications. Richard T. Holmes and Gene E. Likens, active members of the research team at Hubbard Brook since its beginnings, explain the scientific processes employed in the forest-turned-laboratory. They describe such important findings as the discovery of acid rain, ecological effects of forest management practices, and the causes of population change in forest birds, as well as how disturbance events, pests and pathogens, and a changing climate affect forest and associated aquatic ecosystems. The authors show how such long-term, place-based ecological studies are relevant for informing many national, regional, and local environmental issues, such as air pollution, water quality, ecosystem management, and conservation.