**DESCRIPTION**

Effective use of today’s powerful GIS technology requires an understanding of the science of problem-solving that underpins it. Since the first edition published over a decade ago, this book has led the way, with its focus on the scientific principles that support GIS usage. It has also provided thorough, up-to-date coverage of GIS procedures, techniques and public policy applications. This unique combination of science, technology and practical problem solving has made this book a best-seller across a broad spectrum of disciplines. This fully updated 4th edition continues to deliver on these strengths.

**ABOUT THE AUTHOR**

**Professor Paul Longley**, Department of Geography, University College London, UK.

**Professor Mike Goodchild**, Department of Geography, University of California Santa Barbara, USA.

**Professor David Maguire**, ESRI, Redlands, USA.

**Professor David Rhind**, Vice Chancellor and Principle, City University, London, UK.
NEW TO EDITION

• Subtle change in the title reflects the evolution of the science of problem solving using GI technologies.

• Sets out the challenges posed by geographically referenced Big Data and Open Data in representing our world

• Discusses the emergence of data science and other new perspectives

• Assesses the implications of mobile computing and smartphone technologies for the development of citizen-centered science

• Reviews the ways in which open software is reshaping the analysis of geographic information

• Discusses new computationally-intensive analytic methods

• Suggests how geographic information science and systems help us to address the pervasive and dynamic challenges facing humanity.

FEATURES

• Presents principles and techniques of GI systems alongside the latest trends in data, software, societal exploitation of technologies, and industry developments

• Covers applications of how GI systems are used to solve problems from the global to the local levels in a broad range of disciplines, and for government, business, and community initiatives.

• Includes coverage of the latest Internet mapping interfaces and hand-held devices, and discusses their adoption and use in scientific investigation
• Includes learning objectives and review boxes throughout each chapter

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