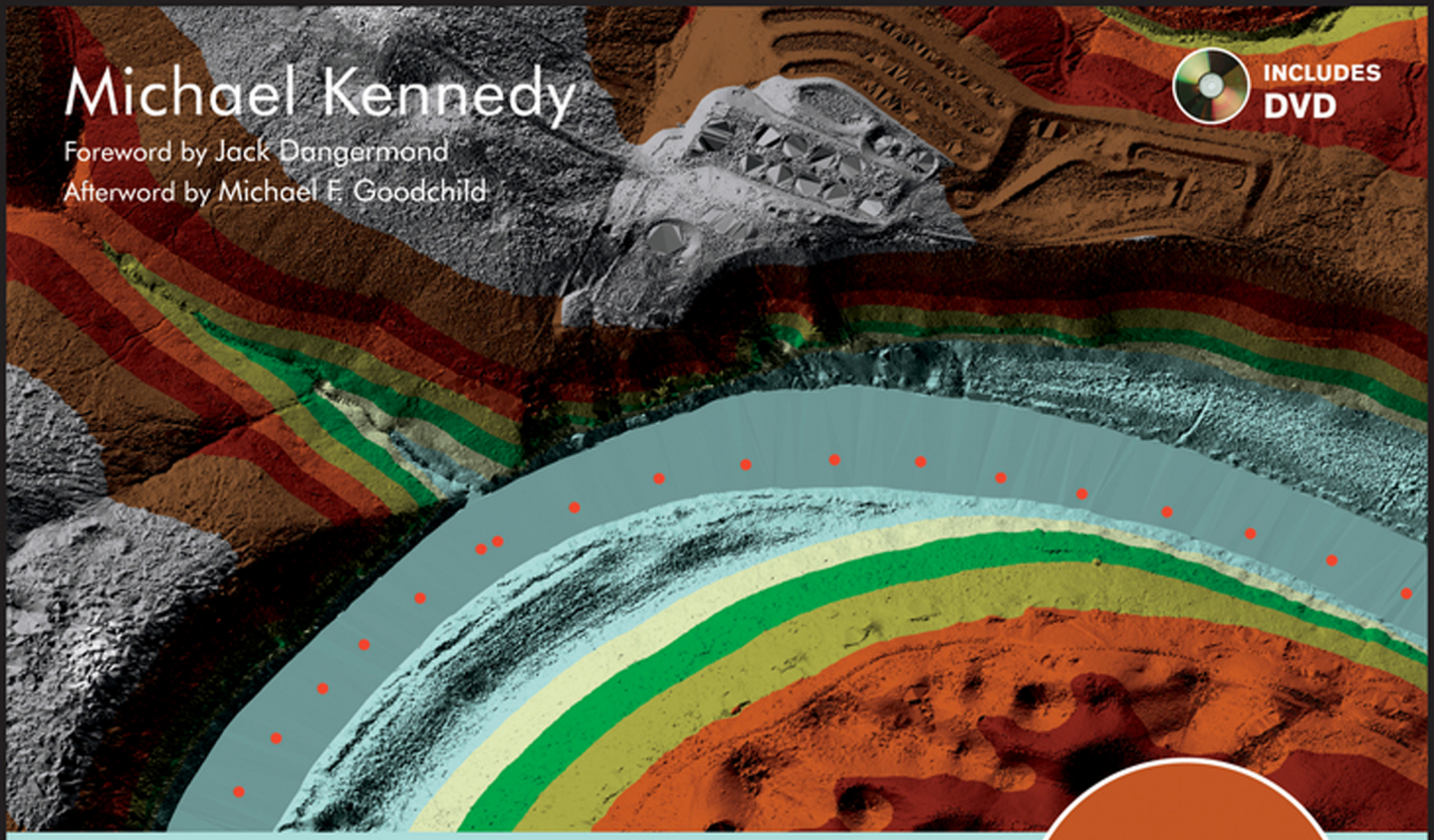
Michael Kennedy
Foreword by Jack Dangermond
Afterword by Michael F. Goodchild

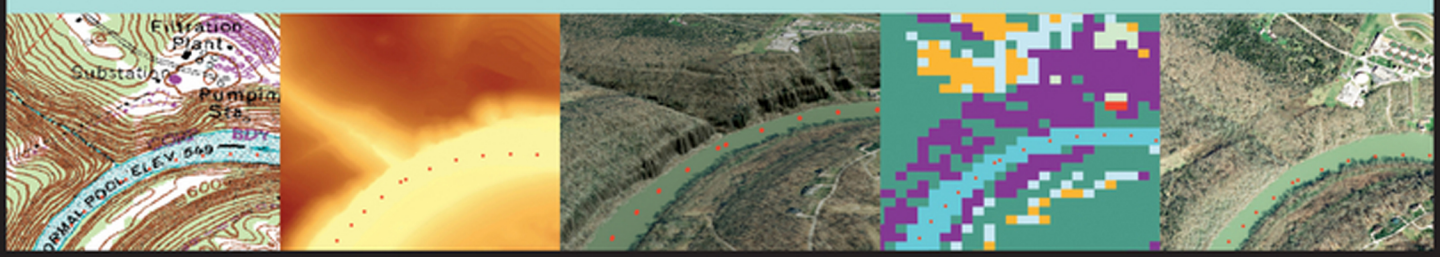
INCLUDES DVD



Third Edition

Introducing Geographic Information Systems with ArcGIS®

A WORKBOOK APPROACH TO LEARNING GIS



Introducing Geographic Information Systems with ArcGIS®

About the Cover

The cover shows six images of the same geographic area, demonstrating various GIS data formats, depicting both natural and human-made features. The scene is a river flowing through a canyon. North of the river is a water filtration plant. The top scene is a TIN (Triangulated Irregular Network) indicating the elevation of the surface. Across the bottom of the cover, left to right, the first two images are portions of (a) a DRG (Digital Raster Graphics) file digitized from a US Geological Survey 7.5 minute quadrangle and (b) a DEM (Digital Elevation Model). The last two images, left to right are (d) a raster-based (cell-based, grid-based) depiction of different types of land cover and (e) a DOQ (Digital Ortho Quadrangle), which is an aerial photograph that has been rectified so it can be used as a map. In the center at the bottom is (c) a three-dimensional view in which ArcGIS software was used to "drape" a DOQ over an elevation model. The red dots along the river depict points collected by a GPS (Global Positioning System) receiver on a boat moving along the river.

Introducing Geographic Information Systems with ArcGIS® Third Edition

A Workbook Approach to Learning GIS

Michael Kennedy

University of Kentucky

WILEY

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To the memory of Evan Kennedy,
who had every gift but that of years

Contents

Foreword

by Jack Dangermond

Introducing Geographic Information Systems with ArcGIS offers a unique approach to GIS instruction. In it, Michael Kennedy re-creates his time-tested methods of teaching GIS in the classroom in a step-by-step guidebook to GIS. Students on a journey to learn GIS with Professor Kennedy may feel like he is taking the journey with them, offering them his sage advice each step of the way. Professor Kennedy cares deeply for his students, and the detail of this care and years of teaching GIS come through in this book. In it, he walks students through the multitude of questions that come up daily in the classroom. His goal is to help students understand GIS concepts and learn GIS skills. It takes a master teacher to map GIS knowledge, making it clear to students and enabling them to gain confidence in their growing skills.

Once GIS students have learned the basics, the next step is to learn how to analyze spatial data and identify problems and create solutions. Learning to analyze spatial data moves students beyond exploration, beyond locating places on maps, and helps them create maps that guide better decisions.

All of us learn GIS skills in different ways. Some people are visual learners, some are auditory learners, and some need a hands-on approach. As the learning styles of students in general vary, so do the learning needs of students of GIS. Some students will need classroom study, with conversations and time to process information about GIS concepts, spatial data, geodatabases, map projections, attribute tables, feature classes, datasets, and building maps, while others need only a guidebook with clear graphic illustrations. So, a variety of approaches to teaching GIS will help ensure that the increasing number of students worldwide have opportunities to gain GIS skills in ways that best suit their needs.

GIS is becoming part and parcel of the daily work lives of most people in many fields, from architects to zoologists, from academia to the business world, from city planning to national and international spatial data portals. Teachers are now taking on the essential task of opening the door for students to learn GIS. In *Introducing Geographic Information Systems with ArcGIS*, Professor Kennedy opens such a doorway for students to learn the skills basic to understanding GIS and to prepare students to make our communities better places.