

Image Interpretation in Geology

Third Edition, by Steve Drury

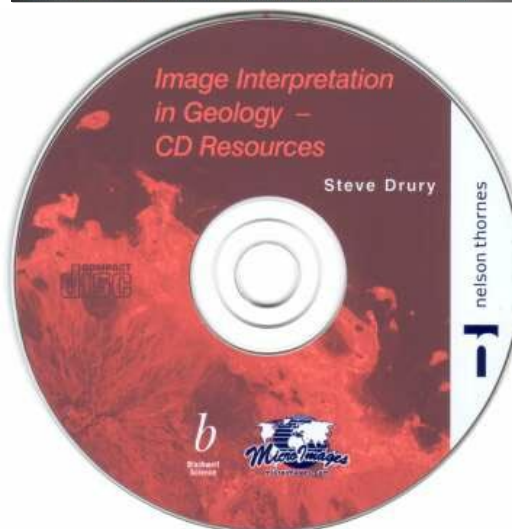
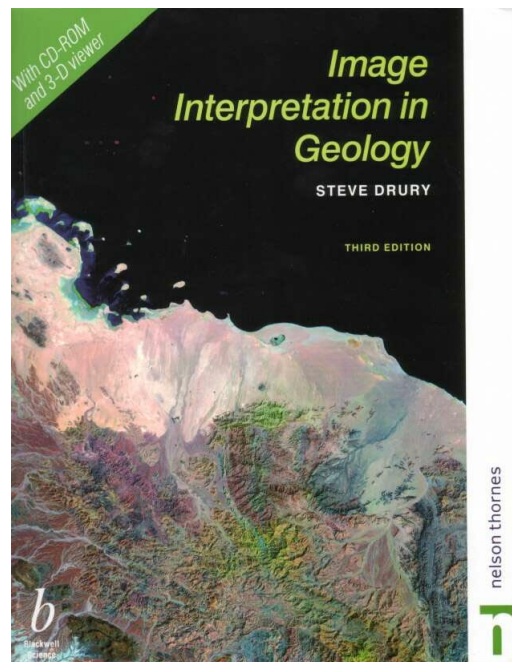
Blackwell Science (U.S.) and Nelson Thornes (U.K.) have co-published *Image Interpretation in Geology*, a 304-page textbook by S A Drury. Included with every copy is a CD-ROM containing TNTlite 6.4.

Since the first edition in 1987, *Image Interpretation in Geology* by Dr. Steven Drury has established itself as essential reading for earth science, environmental science and physical geography students studying the geological applications of remote sensing and image interpretation.

The new Third Edition of this book describes the fundamentals of remote data capture and image processing, their practical limitations, and new techniques such as digital radar imaging and hyperspectral data analysis.

Geological applications such as mapping, mineral exploration, and geohazards are illustrated by numerous black-and-white photographs and a color plate section.

New to the Third Edition is a CD-ROM (combined Mac and PC format) which contains an image gallery (with accompanying spectacles for viewing in 3-D), exercises, and TNTlite 6.4. This software, a fully-functional version of MicroImages Inc's TNTmips 6.4, encourages students to experience at first-hand the immense power of modern image processing and interpretation software, and allows lecturers to use a wide range of sample data and practical exercises to support their courses.



Contents of the CD-ROM

- **Geodata** for TNTlite in MicroImages Project Files (*.rvc). Each Project File contains several data objects of various kinds.
- **Getting Started** tutorials in Adobe Acrobat format (*.pdf) for each of the 54 booklets (over 1300 pages with over 3000 color illustrations).
- The latest **Adobe Acrobat Reader** software that automatically runs when you open one of the Getting Started .pdf documents. You can either double-click directly on a *.pdf file or select a Getting Started booklet from the TNTlite Help menu.
- The full, 2500-page **TNTmips Reference Manual** as HTML files and linked GIF images.

- **Order from Blackwell Science:** www.blackwell-science.com
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TNTlite V6.40 CD-ROM

From the Preface...

The first two editions of *Image Interpretation in Geology* won a wide readership among undergraduate and professional geologists, since 1987, but advances in the technology of remote sensing and its application demand some updating. In addition, there are always better ways of expressing concepts, so I have revised the style in most of the chapters. I have replaced several of the images with more instructive ones, and the further reading extends to 1999. Most important, I have added a CD-ROM that I hope will supplement and extend the usefulness of the book. In its new form, *Image Interpretation in Geology* transcends the original textbook to become potentially a complete, distance-learning course on remote sensing, image processing and digital mapping for geologists.

Thanks to MicroImages of Lincoln, Nebraska, the CD includes the students' version of their professional mapping and image processing system, TNTmips. This package, called TNTlite, is a unique example of highly sophisticated freeware, in that it is equally as functional as the professional version, limited only in terms of the maximum usable image size and with export from TNTmips format to other formats disabled. The CD includes both Windows and MacOS versions, so that almost everyone with access to a modern desktop or portable computer will be able to learn essential skills to a high level of sophistication. The package contains the full and comprehensive TNTmips reference manual and a series of Adobe Acrobat format, Getting Started tutorials, which cover all aspects of the system's functionality. Moreover, I have added 11 exercises that focus on all the geological applications of remote sensing covered by the text, which are based on a variety of image and non-image data, mainly covering an area of stunning geology in the semiarid terrain of north-east Africa. They begin at an elementary level and progressively guide the user through the means whereby TNTlite manages, enhances and analyses digital image data that bear on geological problems. As well as the image data that the exercises use, many of the other digital images on the CD form a resource that instructors can use to create their own exercises and assignments, together with advice on how to import their own data in a TNTlite-compatible form. My choice of TNTlite as a teaching tool was solely because of MicroImages' unique policy of freely distributing fully functional software, and does not constitute an endorsement-readers must make their own judgement.

The CD-ROM includes the full set of stereoscopic pairs of aerial photographs that appear in Chapter 4 in the form of anaglyphs that can be viewed stereoptically using the viewing spectacles packed with the CD-ROM. This supplements the need to use a lens stereoscope to obtain full benefit from the text figures. Finally there is a collection of various types of image that contain important geological features.

Because there may be readers who wish to study the book simply as a textbook, and some who have no easy access to a computer, the text does not depend on the CD. At the end of each chapter is a brief guide to the relevant CD-ROM resources. Appendix C gives instructions for installing TNTlite, and also appears as Resources.rtf on the CD-ROM.