

A must-have book! The hefty weight and impressive size makes this handbook appear daunting and intimidating, however, this essential book should be kept within reach of any serious remote sensing professional. The quality and depth achieved in its exposition of relevant and current topics merits the glowing reviews, endorsements, and accolades it received from recognized authorities in the field.

In this first volume of his handbook, Dr. Thenkabail brought together experts in over ninety subjects. The information is organized into fourteen sections that follow the foreword, preface, and acknowledgments. Sections are organized in a total of thirty-one subsections, often numbering one to three per section, and rarely exceeding that number.

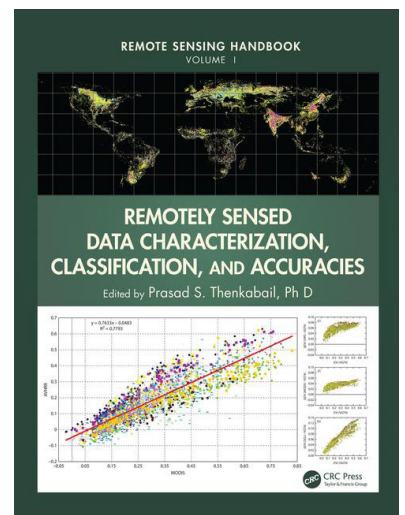
All the 'traditional' aspects of remote sensing science and technology, such as fundamentals of active and passive remote sensing, platforms and sensors, pre and post processing, image classification, and accuracy assessment are adequately covered. Current topics, such as cloud computing and storage, crowdsourcing, and the ubiquitous Google Earth are covered. Even present subjects such as the democratization of access to digital assets, and the legal ramifications of remote sensings, such as those affected by space law are also dealt with.

The rich list of references present at the end of each subsection provides the reader with hundreds of foundational publications cited for further development of his/her proficiency in the subject matter.

Having reviewed other handbooks in the past few years, I can say that the breadth, completeness, and depth of the knowledge and information contained in Dr. Thenkabail's handbooks are paramount, making it both essential and indispensable in the remote sensing professional's library.

Some of the topics covered in this handbook are:

- Remote Sensing Systems—Platforms and Sensors: Aerial, Satellite, UAV, Optical, Radar, and LiDAR
- Fundamentals of Remote Sensing for Terrestrial Applications: Evolution, Current State of the Art, and Future Possibilities
- Overview of Satellite Image Radiometry in the Solar-Reflective Optical Domain
- Postlaunch Radiometric Calibration of Satellite-Based Optical Sensors with Emphasis on Terrestrial Reference Standard Sites
- Remote Sensing Data Normalization
- Satellite Data Degradations and Their Impacts on High-Level Products
- Inter- and Intrasensor Spectral Compatibility and Calibration of the Enhanced Vegetation Indices
- Toward Standardization of Vegetation Indices
- Digital Image Processing: A Review of the Fundamental Methods and Techniques
- Urban Image Classification: Per-Pixel Classifiers, Subpixel Analysis, Object-Based Image Analysis, and Geospatial Methods
- Image Classification Methods in Land Cover and Land Use
- Hyperspectral Image Processing: Methods and Approaches
- Thermal Infrared Remote Sensing: Principles and Theoretical Background
- Object-Based Image Analysis: Evolution, History, State of the Art, and Future Vision
- Geospatial Data Integration in OBIA: Implications of Accuracy and Validity
- Image Segmentation Algorithms for Land Categorization
- LiDAR Data Processing and Applications
- Change Detection Techniques Using Multi-sensor Data
- Geoprocessing, Workflows, and Provenance
- Toward Democratization of Geographic Information: GIS, Remote Sensing, and GNSS Applications in Everyday Life
- Frontiers of GIScience: Evolution, State of the Art, and Future Pathways
- Object-Based Regionalization for Policy-Oriented Partitioning of Space
- Global Navigation Satellite Systems Theory and Practice: Evolution, State of the Art, and Future Pathways
- Global Navigation Satellite System Reflectometry for Ocean and Land Applications
- Global Navigation Satellite Systems for Wide Array of Terrestrial Applications
- Crowdsourcing and Remote Sensing: Combining Two Views of Planet Earth
- Processing Remote-Sensing Data in Cloud Computing Environments
- Google Earth for Remote Sensing
- Assessing Positional and Thematic Accuracies of Maps Generated from Remotely Sensed Data
- Remote Sensing Law: An Overview of Its Development and Its Trajectory in the Global Context
- Remote Sensing Data Characterization, Classification, and Accuracies: Advances of the Last 50 Years and a Vision for the Future



Remote Sensing Handbook – Volume I: Remotely Sensed Data Characterization, Classification, and Accuracies.

Prasad S. Thenkabail, Ph.D., Editor

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