

Book Review

Introduction to remote sensing

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In this sixth edition of *Introduction to remote sensing*, Campbell, Wynne and Thomas continue setting the standard in the field of remote sensing. This edition – now in full colour – introduces new chapters that delve into remote sensing platforms, including the latest advancements in satellite and unmanned aerial systems. Additionally, this edition expands on agricultural analysis via satellite imagery and forestry applications, such as fuel type mapping and fire monitoring. These additions reflect the rapid technological advancements and the growing importance of remote sensing in various fields.

Introduction to remote sensing serves as a dual-purpose resource: acting as both an accessible introduction to remote sensing and as a foundational reference. For those specialising in remote sensing, the book provides not only an introductory framework but also a basis for more advanced study. The authors introduce key topics in remote sensing while acknowledging the need for further depth in specialised areas.

Previous editions of *Introduction to remote sensing* have been instrumental in educating tens of thousands of students on the core principles of collecting, analysing, and interpreting remotely sensed images. The authors present state-of-the-art tools and practical applications pertinent to land and water use analysis, natural resource management, and climate change adaptation. Each chapter is meticulously crafted as an independent unit, allowing instructors the flexibility to tailor their teaching sequence. This modular approach ensures that the book can be adapted to different course structures and learning objectives, making it a versatile resource for educators.

The instructional features of *Introduction to remote sensing* are robust and thoughtfully designed to enhance the learning experience. With over 400 figures, chapter-opening topic lists, case studies, end-of-chapter review questions, and links to recommended online videos and tutorials, the book provides a comprehensive suite of learning aids. These features not only help to illustrate complex concepts but also encourage critical thinking and practical application of the material.

Each chapter of this edition begins with a list of major topics and includes new case examples, such as the Oso River debris flow in Washington State, to illustrate key concepts. Chapters conclude with review questions to reinforce the material covered. Additionally,

many chapters feature a short list of teaching and learning resources, primarily online tutorials or brief videos, such as those on YouTube. These resources, selected for their brevity (most are under 3–4 minutes) and effectiveness, provide additional depth or breadth to the chapter content. Promotional videos have been largely excluded, except where they present technical content effectively without endorsing specific products or services.

Noteworthy additions to this edition are discussions on Landsat 8 and Sentinel-2, the burgeoning field of unmanned aerial systems, mobile data collection, and contemporary directions in climate change detection, fire monitoring, and disaster response. These topics are particularly relevant given the current global focus on environmental monitoring and disaster management. The inclusion of these discussions ensures that students are well informed about the latest technologies and methodologies in the field.

Introduction to remote sensing also incorporates new case studies, such as river erosion, the impact of Hurricane Sandy on Mantoloking, New Jersey, and the challenges faced by coastal communities, such as Miami Beach. These case studies provide real-world examples of how remote sensing can be applied to address pressing environmental issues. The authors also highlight the practical implications of the theoretical concepts discussed in the book, bridging the gap between theory and practice.

With 60% of the material revised and hundreds of new full-colour figures, this edition is significantly enhanced (Guilford Press, n.d.). These updates ensure that the content remains current and relevant, reflecting the latest developments in remote sensing technology and applications. This comprehensive and up-to-date resource is invaluable for students and professionals alike, offering a thorough grounding in the fundamentals of remote sensing while also exploring advanced topics and applications.

Introduction to remote sensing provides a clear and thorough introduction to the fundamentals of a rapidly evolving, interdisciplinary field. This book has prepared a generation of remote sensing scientists and remains highly relevant today. The focus of this sixth edition of *Introduction to remote sensing* on unmanned aerial systems and small satellites is timely, with an increased emphasis on digital imagery and its processing. Suitable for both undergraduate and graduate students, the book offers ample content for one or more remote sensing courses. The book effectively covers land remote sensing, addressing natural, urban, ecological, hydrological, and other land-cover and land-use applications. For students not pursuing remote sensing beyond the introductory level, this book offers a broad overview, helping them understand applications in the field across various disciplines and their significance in the contemporary world. The primary focus for many will be on chapters and methods most relevant to their major field of study.

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REFERENCES

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