

FUNDAMENTALS OF Remote Sensing

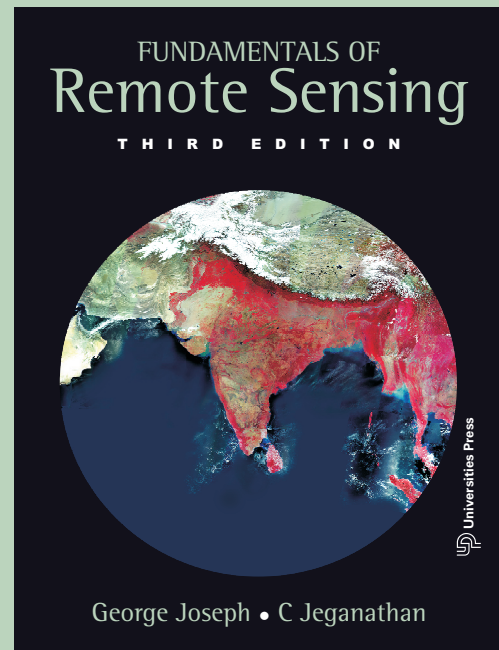
T H I R D E D I T I O N

George Joseph • C Jeganathan

Universities Press

The Third Edition of this book retains the basic principles of remote sensing, introduced in the earlier editions. It covers all aspects of the subject from electromagnetic radiation, its interaction with objects, various sensors, platforms, data processing, data product generation and end utilisation for earth resource monitoring and management. Apart from material that has retained value since the previous edition, this revised and updated edition presents additional information to keep the readers abreast of the emerging trends. The newer developments in sensor technology, supplementary information on image processing, data product generation, applications of remote sensing in disciplines such as archaeology, desertification and drought assessment are included. A relatively newer theme in remote sensing – GNSS remote sensing – has been introduced.

Since remote sensing is used by professionals from varied disciplines, the book is designed to cater to readers from various backgrounds. For those intending to pursue graduate studies in remote sensing, this book serves as an overview and introduction, so that the basic concepts of all topics – science, technology and applications – of remote sensing are clear. This directs them to delve deeper into their specific field of interest. The book serves as a source of information for professionals who come across remote sensing in their work and would like to learn more about its principles and practical uses to support their professional/research activity. For faculty who want to widen their horizons, the comprehensive bibliography and relevant websites will be extremely helpful. Overall the book serves as a 'single window' source to comprehend the basics of the subject.



Dr George Joseph started his research career at the Tata Institute of Fundamental Research (TIFR), Mumbai. He has been at the Space Applications Centre (SAC), Ahmedabad since 1973 where he was instrumental in developing a variety of electro-optical sensors for earth observation which were first of their kind in India. He served SAC in various capacities including as its director from 1994–1998 and has made substantial contributions toward the realisation of various remote-sensing-related activities for shaping the long-term remote sensing programme of ISRO. He has served in a number of national and international committees/organisations—President of Technical Commission-1 of the International Society for Photogrammetry and Remote Sensing (ISPRS) during 1996–2000, Director of the Centre for Space Science and Technology Education in Asia and the Pacific (CSSTE-AP) affiliated to the United Nations during 2006–2009, to name a few.

He is a Fellow of a number of national academies and professional bodies and is a recipient of several awards, including the Padma Bhushan in 1999 for his outstanding contributions to remote sensing in India. (<http://www.profgeorgej.com/>)



Dr Jeganathan Chockalingam has been working in the field of Geo-spatial Science and Technology since 1993, and possesses extensive teaching and research experience. He started his scientific career at the Regional Remote Sensing Service Centre (RRSSC, ISRO-Dehradun: 1993–1996), then worked at the Indian Institute of Remote Sensing (IIRS, Department of Space, Dehradun: 1996–2008) followed by the University of Southampton, United Kingdom (2008–2011). He has participated and contributed in the development of various RS-GIS educational programs at IIRS. He has also contributed significantly in many National Mission Projects (involving RS-GIS) of ISRO and developed many software packages (SPLAM, STAMP, ADAMS for ISRO, ICIMOD and IWMI, to mention a few). Since 2011, he has been Professor in the Department of Remote Sensing, Birla Institute of Technology, Mesra, Ranchi, India. His main research interests include geoinformatics, geostatistics, space–time dynamics of vegetation, natural resources monitoring and modelling, spatial decision modelling and downscaling.

He is the recipient of the Indian National Geospatial Award (2015) and Klaas Jan Beek Award (2003).

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