

Photogeology

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A discussion of the general categories of photogeologic procedures and photogrammetric instruments.

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The book is a 'Custom-made' primarily for the undergraduate students of Earth Sciences (Geology and Geophysics) in universities and colleges. It is also recommended as a side textbook for the undergraduate level courses in Agriculture, Archaeology, Civil Engineering, Defense Sciences, Forestry, Geography, Hydrology, Mining Engineering, Surveying, Space Sciences and Town Planning etc. Beginners in Computer Science may also benefit from it. The book may also be used as a manual for conducting workshops to give training in these fields. Chapter 1 is about Remote Sensing, Chapters 2 to 9 are about Aerial Photography, Chapters 10 to 13 deal with Earth Sciences disciplines whereas Chapter 14 and 15 are about Digital Image Processing and GIS respectively. The book includes exercises and worksheets at the end of the chapters, and is therefore a textbook, exercise-book and workbook at the same time.

During the past twenty years, thousands of remotely sensed imageries have been used by scholars all over the world for monitoring, among other things, landscape changes, the vulnerability of natural resources and the impact of man's activities on the environment. The use of such images follows a multi-discipline approach marked by experimental stages based on the identification of interpretative keys and the performance of ground checks. This book will provide students, teachers and scholars,

among others, with a critical and up-to-date review of remote sensing, covering acquisition, elaboration and the interpretation of data. A wide range of examples, in large part, the result of the author's experience, provide a comprehensive view of the remote sensing applications in the domain of earth sciences.

For nearly three decades there has been a phenomenal growth in the field of Remote Sensing. The second edition of this widely acclaimed book has been fully revised and updated. The reader will find a wide range of information on various aspects of geological remote sensing, ranging from laboratory spectra of minerals and rocks, ground truth, to aerial and space-borne remote sensing. This volume describes the integration of photogeology into remote sensing as well as how remote sensing is used as a tool of geo-exploration. It also covers a wide spectrum of geoscientific applications of remote sensing ranging from meso- to global scale. The subject matter is presented at a basic level, serving students as an introductory text on remote sensing. The main part of the book will also be of great value to active researchers.

Mineral Exploration: Principles and Applications, Second Edition, presents an interdisciplinary approach on the full scope of mineral exploration. Everything from grass root discovery, objective base sequential exploration, mining, beneficiation, extraction, economic evaluation, policies and acts, rules and regulations, sustainability, and environmental impacts is covered. Each topic is presented using theoretical approaches that are followed by specific applications that can be used in the field. This new edition features updated references, changes to rules and regulations, and new sections on oil and gas exploration and classification, air-core drilling, and smelting and refining techniques. This book is a key resource for both academics and professionals, offering both practical and applied knowledge in mineral exploration. Offers important updates to the previous edition, including sections on the cyclical nature of mineral industry, exploration for oil and gas, CHIM-electro-geochemical survey, air-core drilling, classification of oil and gas resources, smelting, and refining technologies Presents global case studies that allow readers to quickly apply exploration concepts to real-world scenarios Includes 385 illustrations and photographs to aid the reader in understanding key procedures and applications

Photogeology and Regional Mapping covers the geological interpretation of aerial photographs, the compilation of the interpretations on to maps, the use of aerial photographs in the field, and the use of aerial photography for the production of the final geological map. This book is organized into 10 chapters and starts with an introduction to the aerial photograph. The subsequent chapters deal with the properties of the aerial photograph, including the scale, parallax and their difference. These chapters also survey the process of stereoscopy, the stereoscopic vision, pseudoscopic vision, and setting up the aerial photographs. These topics are followed by discussions on interpretation of the aerial photographs encoded into a map. Other chapters describe the production of the photogeological map and field mapping with the use of aerial photographs. The last chapters consider the compilation of the encoded aerial photographs made into maps and the photogrammetry for geologists that explains the minor control plot, detail plotting, measurement of height differences using a stereometer. This book will be of value to geologists.

Covers maps published by the U.S. Geological Survey.

For some years I have felt there was a need for a single, comprehensive, reference

book on exploration geology. Numerous textbooks are available on subjects such as geophysical prospecting, exploration geochemistry, mining geology, photogeology and general economic geology, but, for the geologist working in mineral exploration, who does not require a specialist's knowledge, a general book on exploration techniques is needed. Many undergraduate university courses tend to neglect economic geology and few deal with the more practical aspects in any detail. Graduate geologists embarking on a career in economic geology or mineral exploration are therefore often poorly equipped and have to learn a considerable amount 'on the job'. By providing a book that includes material which can be found in some of the standard texts together with a number of practical aspects not to be found elsewhere, I hope that both recent graduates and more experienced exploration geologists will find it a useful reference work and manual. In addition, students of economic geology and personnel working in related fields in the mining and mineral extraction industries will find it informative. J. H. REEDMAN v Acknowledgements The author would like to thank Dr K. Fletcher, geochemist with the Department of Geology, University of British Columbia, and Kari Savario, geophysicist with Finnish Technical Aid to Zambia, for reading the original drafts and offering constructive criticism and advice on the chapters on geochemical and geophysical prospecting respectively.

Principles and Applications of Photogeology New Age International
Photogeology and Regional Mapping Elsevier

[Copyright: 0428f369fc6f7f71d62e9e57a427f073](https://doi.org/10.1016/B978-0-428-36967-1)