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Book Reviews

Geodäsie, by Wolfgang Torge, 268 pages, ISBN 311-0043947, Sammlung Göschen de Gruyter, 1975

This new volume on Geodesy by Torge filled in a long existing gap in the German written text-books for the advanced students and non-specialists. It is updated to the newest developments in the field, giving a comprehensive and complete account in the representation of time dependant coordinate systems, the earth's surface and the gravity field.

It consists of 268 pages and is divided into six main parts. After a short introduction defining the scope of geodesy, its historical development and its national and international organisation, the gravity field is discussed in 30 pages. The third part consists of another 30 pages in which the geodetic coordinate systems are exposed. Part 4, consisting of 70 pages, considers the measuring techniques and instruments used in astronomic, gravimetric, terrestrial and sattelite geodesy. In part 5 (70 pages) the methods and computational procedures used in the astrogeodetic, gravimetric and sattelite geodesy and their relationship to the dynamic processes in the earth are comprehensively exposed. The last part (20 pages) is mainly concerned with the practical problems and procedures in establishing geodetic nets for triangulation, levelling and gravity points on the earth's surface.

The 372 literature quotations permit further reading and represent a good average from the vast literature existing. The volume is well printed with clear drawings and photographs, so that reading is pleasant.

J. Makris, Hamburg

Glacial Isostasy, by John T. Andrews (Ed.), 491 pages, Benchmark Papers in Geology, ISBN 0-87933-051-1, Dowden, Hutchinson and Ross, Inc. 1974

This book contains twenty-eight original papers treating the subject of glacial isostasy from mainly two scopes. The first is concerned with the findings and interpretation of geological evidence for postglacial rebound and deformation of the crust due to ice loading and unloading. The second scope is the geophysical treatment of the geological and geodetic results in deducing models of the elastic and viscous behavior of earth's crust and the upper mantle.

The papers reprinted are divided into three groups. The first gives an introduction to the subject and a synthesis of existing data. It consists mainly of 7 older papers which occupy 121 pages from a total of 475.

The second group of papers is mainly concerned with the geological evidence of postglacial uplift and crustal deformation from data obtained in North America, Great Britain and Fennoscandia. It consists of 17 papers which occupy 300 pages of the volume and extensively discusses problems of postglacial uplift and their modern representation, the methods used and their results. Since this part is by far the largest of the volume, it is obvious that the editor wishes to emphasize the modern observational data and their representation.

The third group consists of 4 papers, pages 418–475, and treats the geophysical interpretation of the geological evidence. Problems of elastic deformation of the crust in North America and Fennoscandia and viscous flow of the upper mantle as deduced by McConnell (1968), Broecker (1966), Brotchis and Silvester (1969), and Walcott (1970) are presented and discussed.

The task of the editor, in choosing a representative sample from numerous publications in this field, is not an easy one. It is well solved in this book, providing the student and the interested non-specialist quick access to the insights of the field. Particularly, the editor's comments on each paper help the reader in selectively reading the book according to his needs. That, which I feel, is rather underrepresented, is the geophysical interpretation.

J. Makris, Hamburg

Der Meeresboden, Ergebnisse und Probleme der Meeresgeologie. E. Seibold. 183 Seiten mit 86 Abbildungen und 8 Tabellen. Hochschultext. Berlin-Heidelberg-New York: Springer 1974.

Hier liegt ein Buch aus der Feder eines bekannten Meeresgeologen vor. Zu Beginn wird ein Überblick gegeben über die Formen des Meeresbodens im Bereich des Schelfs, des Kontinentalhanges und der Tiefsee. Dann folgen mehrere Kapitel, die einen Einblick in die Herkunft und dem Aufbau mariner, organischer und anorganischer Sedimente und deren Entstehung vermitteln. Ein besonderer Abschnitt ist den wichtigsten Rohstoffen – deren Eigenschaften, Vorkommen und Entstehung – gewidmet. Am Schluß wird eingegangen auf die Entwicklung der Ozeane nach den Hypothesen des Sea-Floor-Spreading und der Plattentektonik mit einer anschließenden Diskussion damit zusammenhängender Probleme. Im Anhang ist eine Auswahl weiterführender Literatur zu dem Thema des Buches zusammengestellt worden, sowie ein Quellenverzeichnis zu den Abbildungen.

Der Autor hat hier ein Buch geschrieben, das dem Studierenden einen Überblick über den vielfältigen geologischen Aufbau des Meeresbodens vermittelt, aber auch für den Geologen und Geophysiker wertvolle Informationen für seine Arbeit gibt. **W. Weigel, Buchholz/Nordh.**