Book Review

Glaciers and Glaciation by D.I. Benn and D.J.A. Evans, Second Edition, Hodder Education, London, 2010; ISBN 978-0-340-90579-1, paperback, US\$70

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As a graduate student working in glaciology, I have often found myself relying on the 4th edition of *The Physics of Glaciers* (CUFFEY and PATERSON, 2010) or the 2nd edition of *Principles of Glacier Dynamics* (HOOKE, 2005) for comprehensive coverage of the technical issues. Those books sometimes suffer from a lack of field pictures and color to dilute the reasonable number of equations, so the attractive and well-written updated version of the original *Glaciers and Glaciation* is a welcome addition to my reference list of books, because it gives some high-quality diagrams and pictures illustrating physical concepts. This second edition is, like the first (1998), split into two parts. The first part deals, in seven chapters (approx. 253 pages), with glaciological processes (snow and ice, glacier hydrology, and glacier dynamics) and their effects (for example sea-level change). There is also a new chapter on the Greenland and Antarctic ice sheets, containing well summarized information from the recent research literature. Part two treats, in five chapters and 455 pages, glacial geomorphology (erosional processes and landforms, and debris entrainment and transport) and glacial sedimentology (glacigenic sediments and depositional processes, sediment–landform associations, palaeoglaciology). Whereas the main focus of the first edition of the book was on glacial geomorphology and sedimentology, the new edition places greater emphasis on glaciology, because of advances

in observational techniques, theory, and numerical modeling in the last decade. The glaciology part of this edition also contains more equations than the first, but it often starts from the basics and places useful color sketches in front of them, to describe the physical process, and color pictures of field evidence lacking in the two books I mentioned above. This makes this textbook one of the most attractive books in the canon. Although theoretical aspects are not treated in as much detail as in the books by CUFFEY and PATERSON (2010) or HOOKE (2005), *Glaciers and Glaciation* fully integrates the literature in the text and provides an up-to-date final reference list. This makes the book really useful for tracking down recent literature on a particular topic in glaciology or glacial geomorphology. This book should be recommended to postgraduate students and researchers but it might be slightly difficult for undergraduate students without enough background in physics and geology to understand and be seduced by it.

REFERENCES

- CUFFEY, K. and PATERSON, W.S.B. *The physics of glaciers*. Fourth Edition, Elsevier, 2010; ISBN 978-0-12-369461-4
HOOKE, R.LeB. *Principles of glaciers dynamics*. Second Edition, Cambridge University Press, 2005; ISBN 978-0-52-154416-0

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