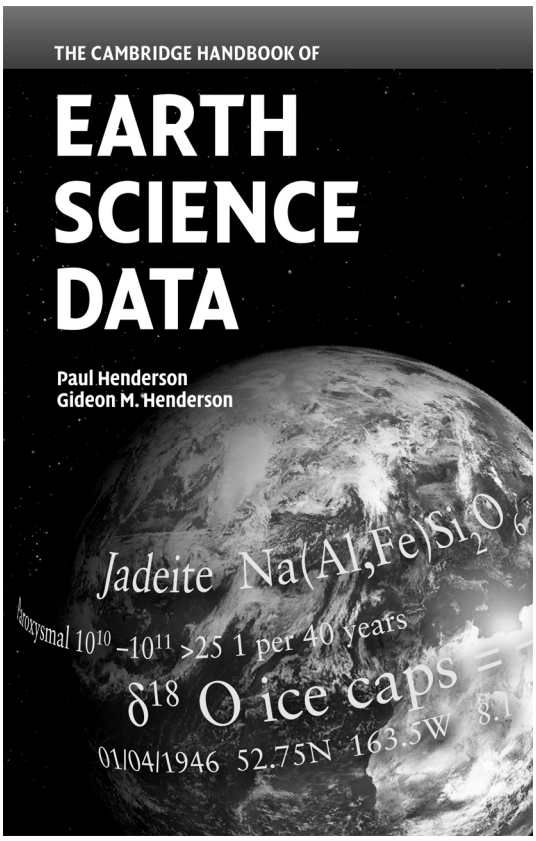
The Cambridge handbook of earth science data, by Paul Henderson & Gideon M. Henderson, 2009. Cambridge University Press, The Edinburgh Building, Cambridge CB2 8RU, UK (published in the United States of America by Cambridge University Press, New York). Paperback, 277 pages. Price GBP 17.99; USD 30.00. ISBN 978-0-521-69317-2.



This handbook is a compilation of facts and figures about the Earth. It combines physical, chemical, biological and historical data in a set of 145 easy-to-read tables, maps, charts and colour plates. The book contains 11 chapters: (1) The solar system, (2) Solid Earth, (3) Geophysics, (4) Aqueous Earth, (5) Gaseous Earth, (6) Biological Earth: element cycles, (7) Earth history, (8) Chemistry and isotopes, (9) Crystallography and mineralogy, (10) Resources, and (11) Hazards. The first author compiled most of the chapters, and the second author contributed to chapters 4, 5, 7 and 8. It is intended for use as a starting-off point on a given topic by students, instructors, researchers, professional geoscientists, and even non-scientists. The authors' aim was to enable use of the book in the laboratory, in the lecture hall, while travelling, and in the field.

The book is compact, easy to use, and offers many basic datasets (e.g., Table 2.2 Earth properties; Table 3.1 Physical properties of rocks; Table 7.5 Main impact structures). Nevertheless, it falls short of the intended goal for the following reasons:

(1) Incomplete datasets. The book, which begins abruptly with Table 1.1 (Solar system – elemental abundances), has no explanation for the selection of the 11 chapters and the philosophy behind the inclusion of only certain topics in a given chapter. For example, the chapter on 'Hazards' does not include critical topics such as (a) wildfire, (b) drought, (c) heat

wave, (d) river floods, (e) sinkholes, (f) limnic eruption or lake overturn, (g) maelstroms, (h) rogue waves, (i) submarine landslides, and (j) gas seeps and hydrates. Even the topics that are included (e.g., hurricanes and tsunamis) are not adequately represented, despite the availability of a great wealth of information from various government sources (see Shanmugam, 2008). Although this book offers information on other celestial bodies (e.g., the Moon, Mercury, Venus and Mars), it fails to provide datasets on the vast array of 'Sedimentary environments and facies' (Reading, 1996) that prevail on planet Earth!

(2) Insufficient explanation of datasets. In classifying hurricanes (Table 11.11), the Saffir-Simpson Scale is used. But this scale is specifically applied for tropical cyclones that form in the North Atlantic Ocean. In the Western Pacific, tropical cyclones are classified using the Japan Meteorological Agency's scale. The Regional Specialized Meteorological Centre (RSMC) in New Delhi (India) uses a different scale to classify tropical cyclones in the Bay of Bengal, which is touted as the "storm-surge capital of the world". The Australian Bureau of Meteorology uses the Australian tropical cyclone intensity scale. But these details are left out.

(3) Disconnected presentation of datasets. Although this book is not intended as an in-depth research tool, the divorced presentation of datasets on the same topic in different chapters, without any explanation, could be confusing to undergraduate students or to non-scientists. For example, the Beaufort wind scale (Table 5.9) in the chapter on 'Gaseous Earth', the tornado intensity scale (Table 11.10) and the Saffir-Simpson Hurricane Scale (Table 11.11) in the chapter on 'Hazards' are all about classifications of meteorological phenomena, adopted by various countries, based on wind speed. But the authors have neglected to point out this obvious link among three datasets. Similarly, earthquake magnitude scales (Table 3.16) in the chapter on 'Geophysics' and the European Macroseismic Scale (Table 11.4) in the chapter on 'Hazards' are isolated.

(4) Imprecise presentation of datasets. In the Saffir-Simpson Hurricane Scale (Table 11.11), maximum sustained wind speed (km $\cdot h^{-1}$) of Category 2 should read 154–177 (not 154–175), and Category 3 should read 178–209 (not 177–209) (NHC, 2009).

(5) Erroneous data sources. The Weddell-Scotia Confluence, which is located in the Southern Ocean (see, among others, Neale et al., 1998), is erroneously reported to be located in the North Atlantic Ocean (Table 4.7). Here, the authors have a responsibility to verify the accuracy of their data sources.

(6) Inappropriate references for original data sources. (a) The grain-size scale for sediments (Table 2.7) was originally devised by Wentworth (1922), but the credit is given to Tucker (2001). (b) The classification of sandstones shown in Figure 2.7 was originally conceived by R.L. Folk in 1966 (see Folk, 1968, p. 123–124), but the credit is given to Tucker (2001). (c) The classification of siliciclastic sediments based on sand, silt, and clay content (Fig. 2.8) was originally published by Folk in 1954 (see also Folk, 1968, p. 28), but the credit is given to Tucker (2001).

(7) Out-of-sequence placement of colour figures. For example, Figure 4.1 showing the global surface current system and Figure 4.2 showing the global rainfall chart from chapter 4 (Aqueous Earth) are placed in chapter 7 (Earth History), perhaps to reduce the production cost of colour figures. But this is awkward.

In short, reading this book is like browsing the internet.

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