

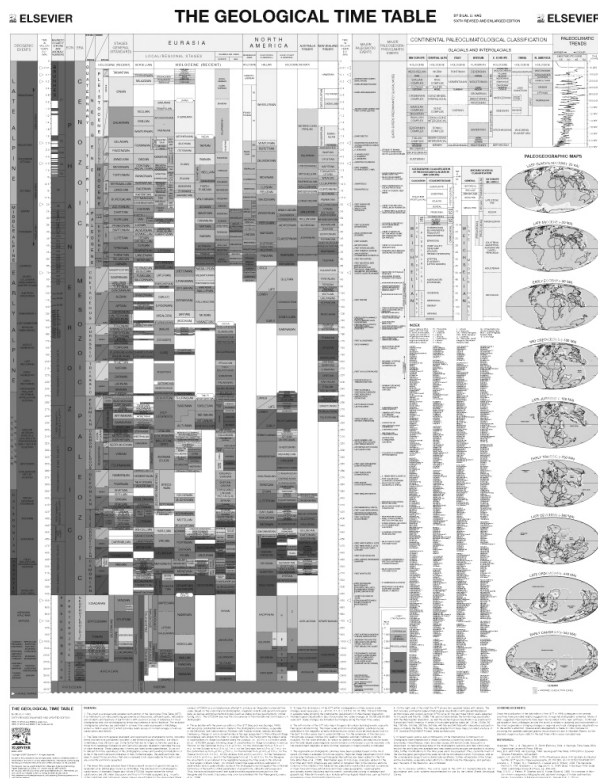
**The Geological Time Table** (6<sup>th</sup> revised and enlarged edition), by Bilal U. Haq, 2007. Elsevier Customer Service Department, 11830 Westline Industrial Drive, St. Louis, MO 63146, USA (usb-kinfo@elsevier.com). Wallchart. Price USD 35.00; EUR 29.95; GBP 20.99 (sets of 10 in tube: USD 245.00). ISBN 978-0-44-52982-4 (set of 10 in tube: 978-0-44-52983-1).

Elsevier's Geological Time Table is, already for several decades, the most frequently used geological time table worldwide. A detailed chronostratigraphy, compiled (and revised) on the basis of a huge number of publications, forms its basis, but the numerous additional data that it provides are also highly valuable. In the sixth edition, these additional data include (1) orogenic events; (2) magnetic polarity chrons; (3) local/regional stages for (3a) Eurasia (including mammalian ages), (3b) North America (with a subdivision between general/California and general/Gulf Coast; and also mammalian ages), (3c) Australia, (3d) New Zealand; (4) major paleobiotic events; (5) major paleogeographic/climatic events; (6) a continental paleoclimatical classification with (6a) glacials and interglacials in NW Europe, the central

Alps, Italy, Britain, Eastern Europe, China and North America, (6b) paleoclimatic trends, (6c) stratigraphic classification of the Weichselian in NW Europe, and (6d) the corresponding archeological classification; (7) nine paleogeographic world maps, ranging from the Early Cambrian to the Last Glacial Maximum; (8) lunar stratigraphy. All this is accompanied by an index that facilitates finding the hundreds of chronostratigraphic names in their context.

This index is particularly useful now because several chronostratigraphic names have changed since the publication of the previous edition. This is a result of the decisions taken by the International Commission on Stratigraphy (ICS) of the International Union of Geological Sciences (IUGS). Workers with experience in the West-European Late Carboniferous, for instance,

will need time to learn that this epoch no longer consists of Namurian, Westphalian and Stephanian, but of Bashkirian, Moscovian, Kasimovian and Gzhelian (earth scientists from central and Eastern European stratigraphy will enjoy this change!). Many more formally accepted name changes are to be found on this new edition of the wallchart.



Numerous chronostratigraphic units, based on rock successions in which 'golden spikes' indicate the - commonly invisible - chronostratigraphic boundaries, have been re-defined in the past few years. This must have made the preparation of the new edition extremely difficult, particularly since some proposals for changes have met severe resistance. This is well shown for the Cenozoic: this era is subdivided into two epochs, but when the map was published it was still not clear whether these to epochs should be the 'classical' Tertiary and Quaternary (as defended by, among others, the INQUA), or the previously less frequently used

Paleogene and Neogene (as proposed by the ICS). Haq has found a compromise: both subdivisions are indicated. An almost 'political' decision, but not truly contributing to uniform terminology in the years to come.

It is obvious that Haq had not really another choice: choosing for one of the options would have implied a 50% chance that the new wallchart were already outdated at the time of its publication! Other (small) shortcomings could, however, have been avoided easily, and without any risk of misinterpretation. Why, for instance, 'paleoclimate' in American English spelling and 'archaeological' in British English spelling? And why does the Precambrian (which is now an informal name) not include the earliest history of the Earth? And, among the many data that are present, I would have loved to see one more series of data (perhaps to be realized in the 7th edition?), viz. the exact ages (as far as indicated by the ICS) of the chronostratigraphic boundary units that have been defined by a 'golden spike'; similar datings for the other chronostratigraphic boundaries (which may still be re-defined) would, however, also have been very useful.

At first sight, the wallchart looks fairly complicated, and young earth scientists who see this wallchart for the first time may have many questions about the underlying data. Such questions will, at least for a major part, be answered by the highly informative 'Remarks' that are present as some kind of footnotes.

In summary, it must be deduced that the new edition of the wallchart is a great help that should be present not only in the library of all geological institutes, but that certainly deserves a place in the room of each individual professional earth scientist, being academic or working in industry, even though the price is high (but considerably lower if ordered in a set of at least 10 copies). Like its predecessors, this edition should be considered as a work that will rarely be cited, but that will be one of the fundamentals for countless earth-science publications.

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