

The Anthropocene as a Geological Time Unit

The Anthropocene, a term launched into public debate by Nobel Prize winner Paul Crutzen, has been used informally to describe the time period during which human actions have had a drastic effect on the Earth and its ecosystems. This book, written by the high-profile international team analysing the Anthropocene's potential addition to the Geological Time Scale, presents evidence for defining the Anthropocene as a geological epoch. The evidence ranges from chemical signals arising from pollution to landscape changes associated with urbanisation and biological changes associated with species invasion and extinctions. Global environmental change is placed within the context of planetary processes and deep geological time, allowing the reader to appreciate the scale of human-driven change and compare the global transition taking place today with major transitions in Earth history. This is an authoritative review of the Anthropocene for graduate students and academic researchers across scientific, social science and humanities disciplines.

The editors and contributing authors, most being part of the Anthropocene Working Group (AWG), have been involved in the geological analysis of the Anthropocene from the beginning, playing a central role in characterising and defining it as a unit of geological time and contributing to its wider multidisciplinary study.

Jan Zalasiewicz is Professor of Palaeobiology at the University of Leicester and Chair of the Anthropocene Working Group. His research interests include mudrock processes; early Paleozoic and Quaternary stratigraphy and sedimentology; and stratigraphic analysis, notably the study of the Anthropocene concept.

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Colin P. Summerhayes is an Emeritus Associate of the Scott Polar Research Institute at the University of Cambridge. He is a marine geologist and oceanographer with expertise in the role of climate in forming marine sediments and in interpretation of the history of climate from sedimentary records. He is a former manager of the Stratigraphy Branch of the Exploration Division of BP Research and former director of the Institute of Oceanographic Sciences Deacon Laboratory, Wormley, United Kingdom.

The Anthropocene as a Geological Time Unit

A Guide to the Scientific Evidence and Current Debate

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Paul Crutzen first developed the term Anthropocene during work with many of his colleagues on the International Geosphere-Biosphere Programme, when the term Holocene seemed inappropriate to describe the scale and rate of recent change to the physics, chemistry and biology of the Earth System. Since then, he has seen the term grow and develop hugely, within a wide range of studies. This book summarises research on the geological context of the Anthropocene as geology, work that might see the Anthropocene become part of the Geological Time Scale. We dedicate this book to Paul, who is glad to see these studies proceeding, on a topic that affects us all.

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