



Stratigraphical characterization of the Anthropocene

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The Anthropocene, currently under analysis as a potential addition to the Geological Time Scale, has been interpreted in a wide variety of ways since the term was first introduced into scientific debate by Paul Crutzen in 2000. If it is to become a formal geological time unit, it must be functional as both a geochronological unit (an 'abstract time' unit, for example, an Epoch) and a chronostratigraphical unit (the corresponding material 'time-rock' unit, a Series). The most compelling evidence collated to date by the Anthropocene Working Group comprises a range of stratigraphic proxies of physical (e.g. anthropogenic rock and mineral types), chemical (e.g. C, N isotopic changes, radionuclides, pesticides) and biological (species invasions, extinctions, assemblage changes) character; together these suggest that the most effective boundary may be placed around the mid-20th century. Formalisation will depend not just on the weight of stratigraphic evidence (already considerable) but also on perceived utility. As regards wider societal implications, the succession of phenomena associated with this concept strongly suggest that it will be associated with significant Earth system change for the foreseeable future, by contrast with the general stability of Holocene times.