

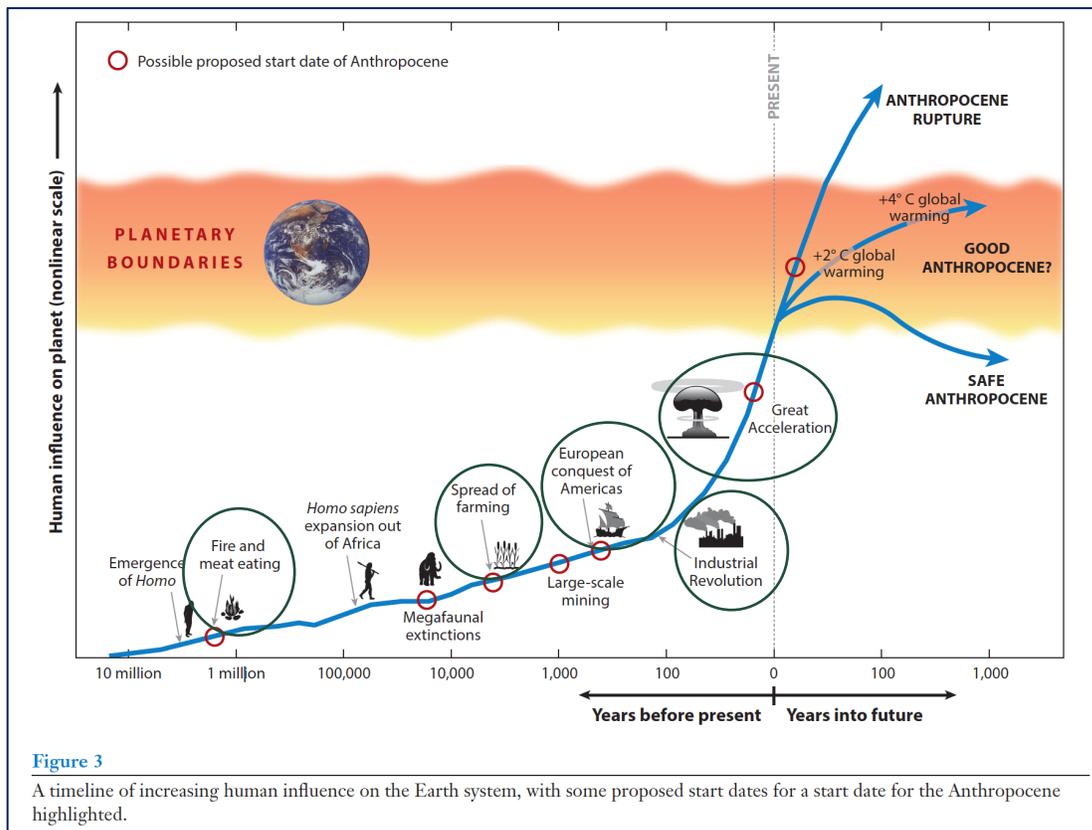
The “Golden Spike”

Evidence Sheets:

Industrialization (1800s)

Depending on the criteria used, the beginning of the Anthropocene can be dated to different time periods:

- Human control over fire (1.8 million years ago)
- Beginnings of agriculture (7-8 thousand years ago)
- Colonization (Circa 1610)
- Industrialization (Circa 1800)
- The Great Acceleration (Mid-20th Century)



Source: Malhi, 2017, p. 90.

○ = Possible “Golden spike”



Group Task:

You have been assigned to a group to examine one of the time periods above. Your group's task is to build a convincing argument about why that date should be recognized as the beginning of the Anthropocene.

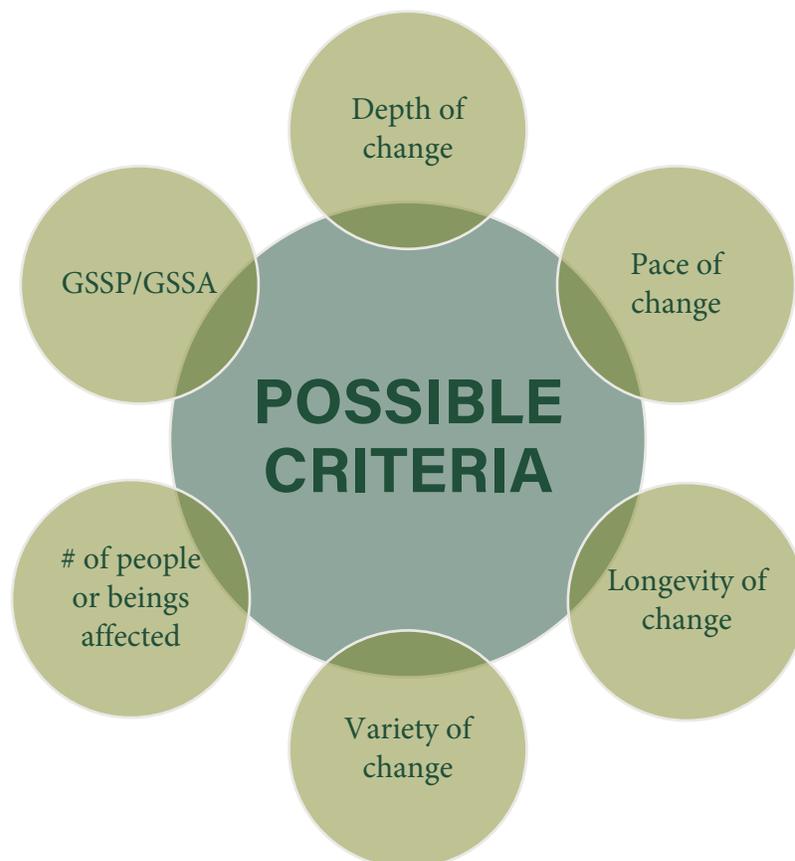
View an interactive timeline for more information by visiting the following link:

<https://tinyurl.com/54387b9f>

Examine the provided materials for your assigned time period (see the text, quotations, images and graphs below). You may also bring in your own information or sources (time permitting).

Develop your argument and record your ideas on the Activity Sheet. Select the most relevant criteria for your time period, from the choices offered below. You may also want to anticipate the arguments of other groups and offer counter-arguments.

Be prepared to present your argument to the class in a brief 2-minute summary!



Industrialization (1800s)

The industrial era began in the late 1700s and by 1800 the use of fossil fuels was widespread. In Britain, coal was integral to the production of steam to power engines and played an increasingly larger role in the world economy. New technologies and expanding energy demands led to the exploitation of other fossil fuels, including oil and natural gas. By the 1890s, half of global energy use came in the form of fossil fuels.

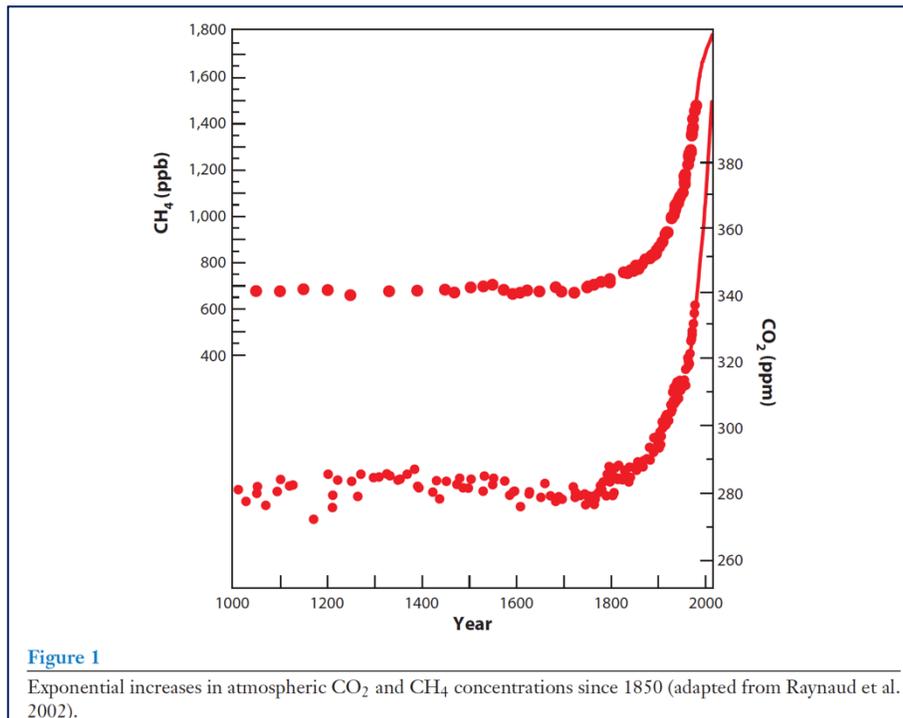
There is ample evidence of increasing human effects on the environment since 1800. Soils have been deeply eroded, ecosystems deteriorated, groundwater depleted, and coastal waters polluted. Lakes, streams, rivers, and oceans have become more acidic. Atmospheric concentrations of two major greenhouse gases (carbon dioxide and methane) began to rise exponentially by 1850. These trends owe their origins to industrialization, tied to rapid population growth, a rise in factory production, and the burning of fossil fuels.

Given the initial slow spread of coal use, ice core records show little impact on global atmospheric carbon dioxide levels until the 19th century. The twin surges of energy use and population growth support the case for the origin of the Anthropocene in the 1800s.

“agreeing [to] a later start date related to the Industrial Revolution may, for example, be used to assign historical responsibility for carbon dioxide emissions to particular countries or regions during the industrial era” (Lewis & Maslin, 2015, p. 171).

“The beginning of the Industrial Revolution has often been suggested as the beginning of the Anthropocene, because accelerating fossil fuel use and coupled rapid societal changes herald something important and unique in human history. Yet humans have long been engaging in industrial-type production, such as metal utilization from around 8,000 yr BP onwards, with attendant pollution... This metal pollution, like other examples predating the Industrial Revolution, is too local and diachronous to provide a golden spike” (Lewis & Maslin, 2015, p. 175).





Source: Ruddiman, 2013, p. 47.

“In 1780, about 800 million to 900 million humans walked the Earth. By 1930 there were some 2 billion, and by 2011, 7 billion. People at the time did not detect it, but in the middle of the eighteenth century a long-term surge in human numbers began. It started slowly and (as we shall see) built to a crescendo after 1950. No other primate, perhaps no other mammal, ever enjoyed such a frenzy of reproduction and survival in the history of life on Earth. There is nothing in the demographic history of our species anything like the modern rise of population – nor will there be again” (McNeill & Engelke, 2014, pp. 1-2).

“The Industrial Revolution thus provides a number of markers spreading from northwest Europe to North America and expanding worldwide since about 1800, although none provides a clear global GSSP primary marker” (Lewis & Maslin, 2015, p. 176).

