

GOLDEN SPIKES

Proposed Anthropocene Markers cards

Proposed Anthropocene Marker #1



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Event: the extinction of about half of the world's large-bodied mammals due, in part, to overhunting by humans

Timing: 50,000 to 10,000 years ago

Golden spike/marker: the disappearance of these animals as seen in the fossil record

Geographical extent: global

Potential start date for the Anthropocene: unclear, possibly as old as 40,000 years ago

Proposed Anthropocene Marker #2



GOLDEN SPIKES

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Event: extensive farming

Timing: 8,000 years ago to the present

Golden spike/marker: increase in atmospheric carbon dioxide levels
as measured in ice cores

Geographical extent: farming was mostly in Eurasia, but the impact was global

**Potential start date for
the Anthropocene:** unclear

Proposed Anthropocene Marker #3



GOLDEN SPIKES

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Event: rice cultivation

Timing: 6,500 years ago to the present

Golden spike/marker: increase in atmospheric methane levels
as measured in ice cores

Geographical extent: cultivation was mostly in southeast Asia,
but the impact was global

**Potential start date for
the Anthropocene:** about 5,000 years ago

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Proposed Anthropocene Marker #4



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Event: Europeans reach the Americas

Timing: 1492–1800

Golden spike/marker: decrease in atmospheric carbon dioxide levels as measured in ice cores (the arrival of Europeans in the Americas led to a large decline in the Indigenous population due to disease exposure, resulting in a near-cessation of Indigenous land use and the regeneration of vast forests capable of absorbing CO₂)

Geographical extent: main parties were Europeans and North Americans, but the impact was global

Potential start date for the Anthropocene: 1610



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Event: Industrial Revolution

Timing: 1760 to present

Golden spike/marker: sharp increase in ash particles from coal burning

Geographical extent: local, but ash particles spread globally

**Potential start date for
the Anthropocene:** 1900

Proposed Anthropocene Marker #6



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Event: nuclear weapons testing

Timing: 1945 to present

Golden spike/marker: sharp increase in radioactive elements in the atmosphere and soil

Geographical extent: northern hemisphere, but global atmosphere and soil affected

Potential start date for the Anthropocene: 1964

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Proposed Anthropocene Marker #7



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Event: creation of new materials, especially aluminum

Timing: 1800 to present

Golden spike/marker: increase in aluminum products around the world

Geographical extent: produced locally but has global impacts

**Potential start date for
the Anthropocene:** 1960

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Proposed Anthropocene Marker #8



GOLDEN SPIKES

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Event: breeding and consumption of modern chickens

Timing: 1900 to present

Golden spike/marker: the increase in the number of chicken remains, paired with their genetic dissimilarity to ancestral species

Geographical extent: northern hemisphere, but global atmosphere and soil affected

Potential start date for the Anthropocene: unclear, later half of 20th century

Proposed Anthropocene Marker #9



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Event: widespread use of concrete

Timing: a building material for 2,000 years, but its massive scale of production and distinct modern geochemical properties date to the mid-20th century

Golden spike/marker: concrete becomes the most abundant new rock type in the world

Geographical extent: local production and sourcing of materials, but global use

Potential start date for the Anthropocene: 1950