

Welcome to the Anthropocene

population matters

Informing people about the new world order

The impact of human activity upon our planet is now so profound and potentially long-lasting that the renaming of our geological era as the Anthropocene – ‘the age of humans’ - is being advocated by a growing body of scientists. In parallel, there is growing consensus that the Earth is undergoing the ‘Sixth Mass Extinction’, a permanent loss of multiple species caused not by natural phenomena but human activity.

The public rely on many institutions and organisations to inform them about the natural world. Many address the impact of human activity but such is the pace and intensity of the changes now happening that the gravity of the current situation is rarely fully presented. In particular, the interrelated effects of exponential population growth and massively expanding consumption are frequently under-represented or neglected.

The public has a right to the information about these critical developments and urgent threats, to allow them to make decisions about their own actions and seek changes from policymakers which can ameliorate or avert the ongoing crisis in the natural world. **Organisations which take on the responsibility of informing the public about natural history have the authority, expertise and duty to provide that vital service.**

The Anthropocene

Planetary scientists divide Earth’s history into geological time spans such as “periods” and “epochs”. Our current epoch is the Holocene, which began approximately 12,000 years ago. Now, a growing body of scientists from multiple disciplines are proposing the official recognition of a new epoch, **the Anthropocene**, to recognise the human impact upon the Earth’s biodiversity, climate and other ecosystems.

That term’s official adoption as a geological era is currently being considered by the global scientific body responsible for these classifications, the Subcommittee on Quaternary Stratigraphy, following a recommendation for its adoption by a dedicated working group in 2016¹.

The name is widely recognised as a useful classification of the period in which human activity has created and continues to generate deep and lasting effects on the Earth and its living systems. **In particular, it represents the transition from a planetary system which furnishes human beings with natural resources enabling them to flourish, to a system in which human beings drive changes which threaten the planet’s ability to support us.**

RECENT GEOLOGICAL TIME SCALE

Millions of years ago	Epoch	Period
0.01	HOLOCENE	QUATERNARY
2.6	PLEISTOCENE	
5.3	PLIOCENE	NEOGENE
23.0	MIOCENE	
33.9	OLIGOCENE	PALEOGENE
56.0	EOCENE	
66.0	PALEOCENE	

¹ <http://quaternary.stratigraphy.org/workinggroups/anthropocene/>

Population, consumption and the Anthropocene

“The size and scale of the human enterprise have grown exponentially since the mid-20th Century... The future of many living organisms is now in question.”

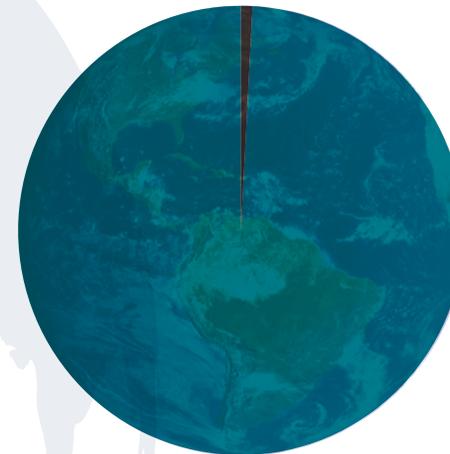
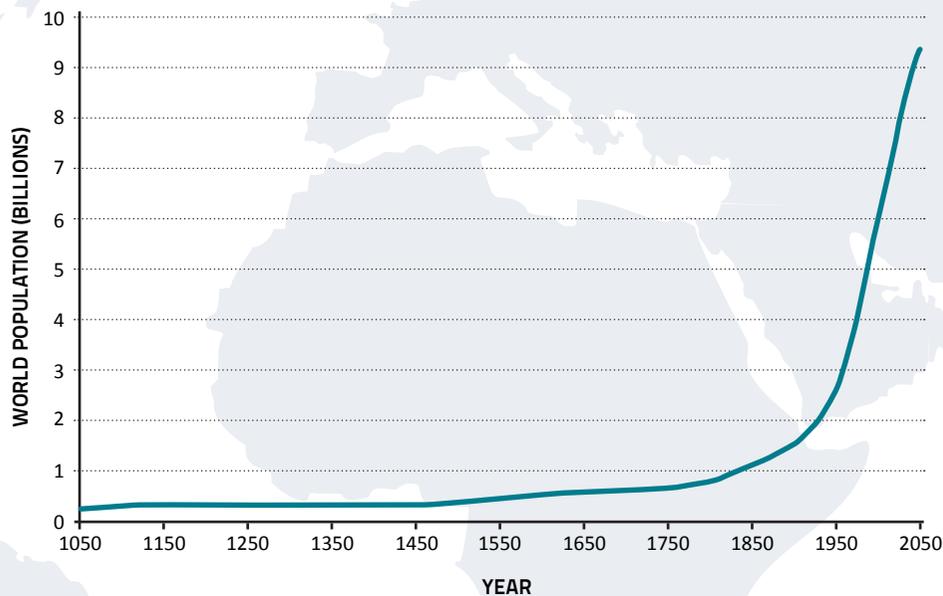
WWF¹²

The consensus amongst most advocates for the adoption of the Anthropocene is that its start date would be the onset of the Industrial Revolution, 1750/1800. In addition to industrialisation and the development of technology, that period has been marked by exponential growth of the human population, which has multiplied by more than seven times.

In the early 21st century, we are adding an extra billion people to the global population every 12 to 15 years. The UN's median population projection foresees no peak in our growth until the 22nd century, at more than 11 billion people (approximately 50% more than today)¹³ – unless positive action is taken to manage that growth.

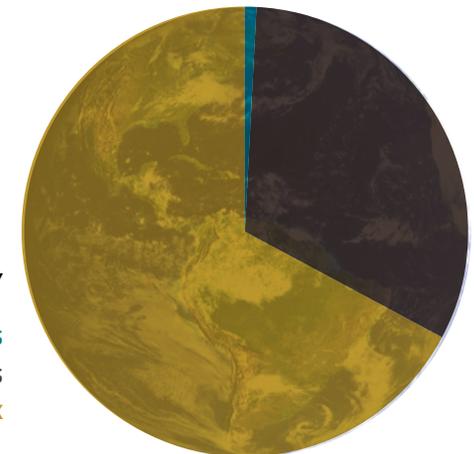
The scale of humanity's presence and effect can be strikingly illustrated by the transition from a world in which wild animals composed the vast majority of the weight of mammals on the land (known as biomass) to one in which they have almost disappeared in statistical terms. When the biomass of domesticated animals is included, based on the best available estimates for 10,000 years ago, wild mammals have gone from being 99% of terrestrial mammal biomass to a little over 1%¹⁴.

Clearly, such numerical transformations are key – and indeed fundamental – factors in driving the negative impacts witnessed on a global scale during the Anthropocene.



10,000 YEARS AGO

99% Wild Animals
1% Humans



TODAY

1% Wild Animals
32% Humans
67% Livestock

¹² WWF <https://www.worldwildlife.org/pages/living-planet-report-2016>

¹³ United Nations Population Division 2017 <https://esa.un.org/unpd/wpp/Graphs/Probabilistic/POP/TOT/>

¹⁴ Based on Smil http://www.vaclavsmil.com/wp-content/uploads/PDR37-4_Smil_pgs613-636.pdf

The impact of consumption

The future of the natural world in the Anthropocene

“Consumption and demography are closely inter-twined. Every person must consume, and each additional person on the planet will add to total consumption levels.”

Royal Society, 2012¹⁵

Individual human beings are consumers of natural resources, from food and water to fuels and minerals. We are also all producers of “waste” which the natural environment must process or absorb, such as greenhouse gases, effluent and chemical pollutants. Immense disparities exist between the richest and poorest, with the developed world overwhelmingly responsible for negative impacts globally. Even those who consume and produce the least, however, have a significant, sometimes deeply destructive, impact on their local environments.

The Global Footprint Network assesses humanity’s annual demand on the Earth’s natural resources and ecosystems, comparing renewable natural resources available (both nationally and globally) with the human demands placed upon them. It has established that since the 1970s, humanity has been in ecological “overshoot”, with annual demand on resources exceeding what Earth can regenerate each year. **Today, humanity uses the equivalent of 1.7 Earths to provide the resources we use and absorb our waste**¹⁶.

Exceeding the Earth’s capacity to provide is impossible to sustain.

The Brookings Institution projects that our current global ‘middle class’ of 3.2 billion people consuming at a high level in 2016 will rise to roughly 5 billion by 2030¹⁷. The UN estimates that by 2050, we will require 70% more food¹⁸ and the International Energy Agency calculates that the global demand for energy will increase by 30% by 2040¹⁹. Each of these developments and many more, threaten the natural world. **The Sixth Mass Extinction is already underway and the pressures on our planet’s biodiversity, renewable resources, habitats and species can only multiply as population and consumption increase.**

In a world of finite resources, addressing population size and overall consumption is essential to creating a sustainable future in which everyone enjoys secure lives on a healthy planet. The more we are, the less planet there is per person –and per species.

“Ignoring this diagnosis will have major implications for humanity. We can restore the planet’s health but only through addressing the root causes, population growth and overconsumption.”

Jonathan Baillie, Zoological Society of London²⁰

Informing and empowering people

Whether the term Anthropocene is adopted or not, our age is marked by the fundamental and undeniable impact of human beings on the natural world. The general public, however, still lack clear, accessible information, alerting them to the facts, communicating the urgency of the issues, and making them aware of the positive choices that are available to mitigate the impacts.

Organisations with a mission to inform, educate and stimulate people to think about and appreciate the natural world have a vital role in putting that right.



Natural History Museum © Kathryn Yengel

¹⁵ Royal Society <https://royalsocietypublishing.org/doi/10.1098/rsos.120128>
¹⁶ Global Footprint Network <http://www.footprintnetwork.org/our-work/ecological-footprint/>
¹⁷ Brookings Institution https://www.brookings.edu/wp-content/uploads/2017/02/global_20170228_global-middle-class.pdf
¹⁸ UN Food and Agriculture Organisation <http://www.fao.org/documents/card/en/c/a2128b09-361c-5468-9d93-2189cc430234/>
¹⁹ International Energy Agency https://www.iea.org/publications/freepublications/publication/WEO_2014_ES_English_WEB.pdf
²⁰ WWF <http://www.wwf.org.uk/26840/Rising-consumption-increased-resource-use-by-a-growing-population-puts-unbearable-pressure-on-our-Planet-WWF-2012-Living-Planet-Report>



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WELCOME TO THE ANTHROPOCENE