

ual:

the
exchange

Climate Glossary

Enhancing teaching, learning and
careers education in partnership
with staff and students



CO₂e

Embodied carbon

Emissions

Carbon footprint

Zero carbon

Fossil fuel

Greenhouse gases

Net zero

Capitalism

Anthropocene

Greenhouse effect

Systemic racism

Tipping point

Global warming

Mitigation

Neocolonialism

Climate change

Sustainability

Greenwashing

Planetary boundaries

Regenerative practices

Decolonisation

Climate Crisis

Reparation

Adaptation

Decarbonisation

Sixth mass extinction

Ecocide

Degrowth

Epistemicide

Systemic change

Climate Justice

(environmental,
social and racial justice)

M.A.P.A.

Intersectionality

Social Justice

Activism

Climate anxiety

Advocacy

Resilience

Solastalgia

Climate change denial

Climate Crisis	Climate Crisis	Global warming	Sixth mass extinction	
		Greenhouse effect	Anthropocene	Planetary boundaries
	Climate change		Tipping point	Ecocide
Emissions	Emissions	Greenhouse gases	Carbon footprint	
		Embodied carbon		Zero carbon
		CO ₂ e	Fossil fuel	Net zero
Climate action	Mitigation	Sustainability	Regenerative practices	
				Adaptation
				Reparation
Systemic change	Systemic change		Neocolonialism	Systemic racism
	Degrowth	Greenwashing		Capitalism
		Decarbonisation	Decolonisation	
Climate Justice	Climate Justice (environmental, social and racial justice)	Epistemicide	Climate anxiety	Activism
		Intersectionality	Solastalgia	Advocacy
	M.A.P.A.	Social Justice	Resilience	Climate change denial
Main map				

Climate Crisis

The devastating impacts of climate change on people and the planet. Human actions have caused the climate crisis, such as burning fossil fuels which release greenhouse gases. This has led to rising temperatures and more extreme weather, heavy rains and severe drought, rising sea levels, loss of biodiversity and extinction of wildlife.

Climate change

A change in the climate which is attributed directly or indirectly to human activity. These changes are bigger than natural climate variability over comparable time periods.

Global warming

The global average increase in the Earth's temperature since the early 20th century. This timeframe makes the pattern before and after industrialisation clear. A visual way to understand this is by using Warming Stripes. Global warming is also known as global heating.

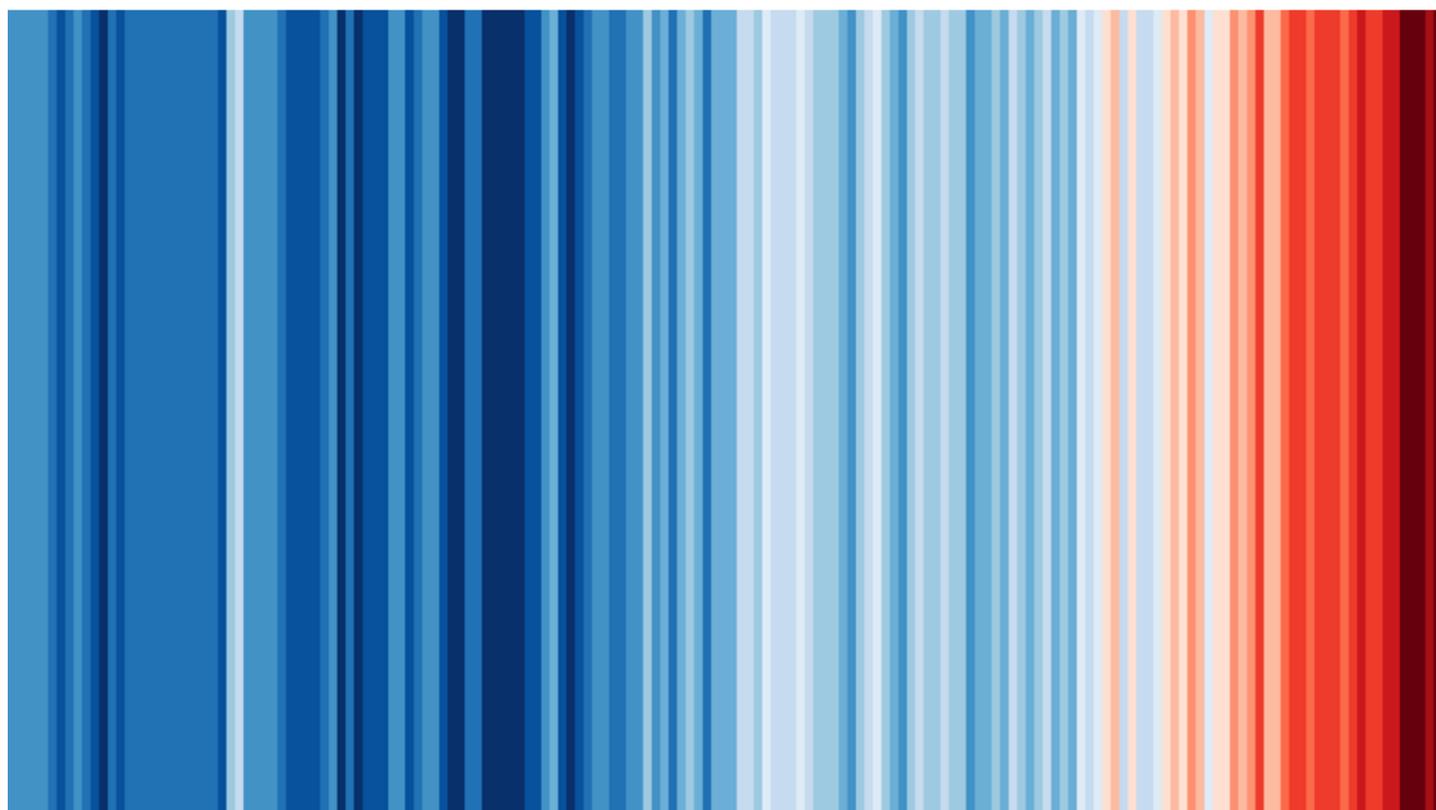


Fig. 1, Global Warming Stripe 1850-2021, by Ed Hawkins (Data Source: UK Met Office)

Greenhouse effect

The insulating effect of certain gases in the atmosphere. It is like a greenhouse because these gases let solar radiation warm the Earth and prevent the heat from escaping. As the concentration of greenhouse gases (including carbon dioxide, nitrous oxide and methane) rise, the temperature of our atmosphere increases.

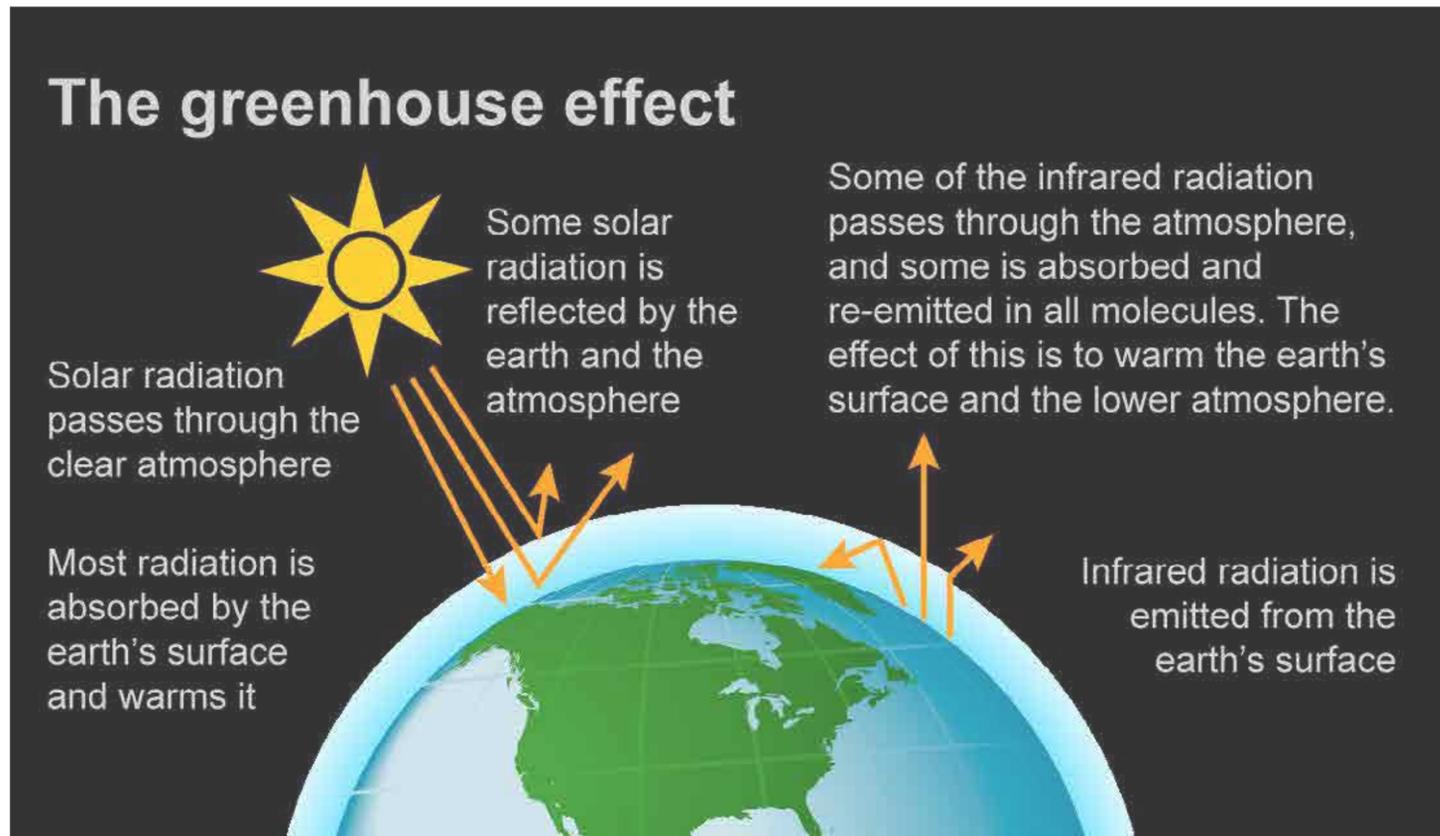


Fig. 2, The Greenhouse Effect, Adapted from U.S. Energy Information Administration

Anthropocene

We're living in this geological age. It's a time during which human activity has altered the climate and the Earth's systems.

Ecocide

Its literal meaning is killing our home. Ecocide happens when people and organisations act lawfully, or not, knowing that their actions will cause severe, widespread or long-term damage to the environment.

Planetary boundaries

The limits on how much the Earth and its atmosphere can be disturbed without pushing it into a new, unsafe state. These limits are scientifically based.

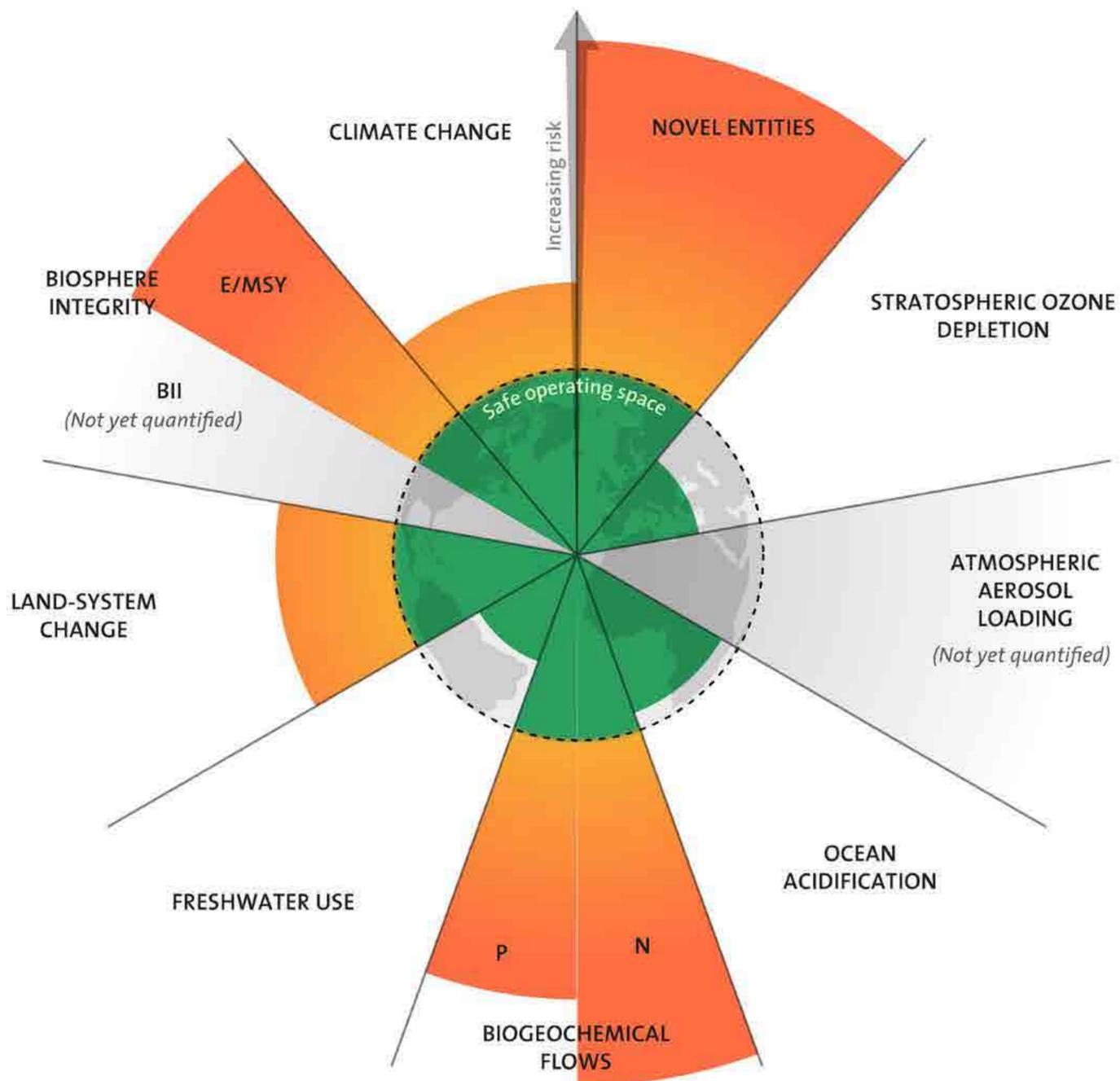


Fig. 3, Planetary boundaries illustration, Azote for Stockholm Resilience Centre, 2022, based on analysis in Persson et al 2022 and Steffen et al 2015

Tipping point

A critical point that, when reached, results in a situation which is difficult to reverse. Recent scientific studies suggest that tipping points could begin to be reached between 1°C and 2°C of warming. Here are the major climate tipping points:

Melting

- 1 - Arctic Sea-Ice
- 2 - Greenland Ice Sheet
- 3 - Permafrost
- 4 - Alpine Glaciers
- 5 - Antarctic Ice Sheet

Biome Loss

- 6 - Boreal Forest Dieback
- 7 - Amazon Rainforest Dieback
- 8 - Coral Reef Death
- 9 - Marine Biological Carbon Pump
- 10 - Sahel Drying

Circulation Change

- 11 - Atlantic circulation
- 12 - El Niño Southern Oscillation
- 13 - West African Monsoon
- 14 - Indian Summer Monsoon

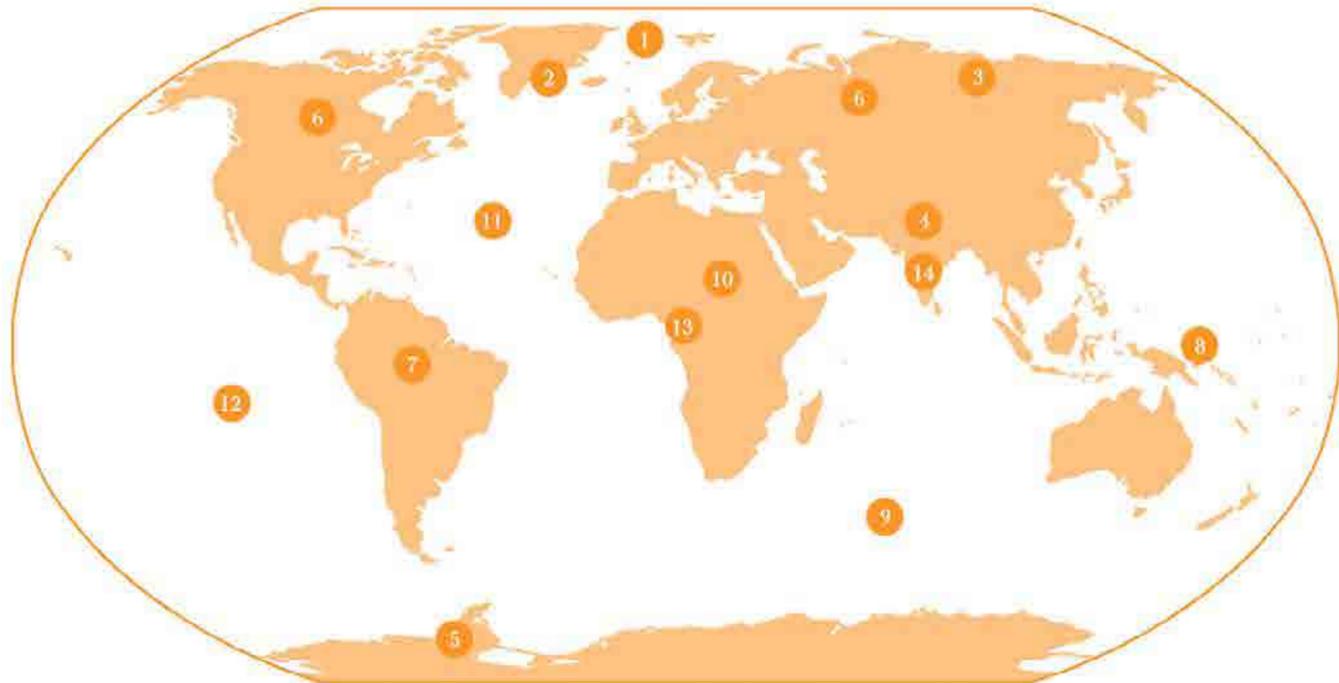


Fig. 4, Tipping elements in the Earth's climate system, by Alejandro Martínez, 2022

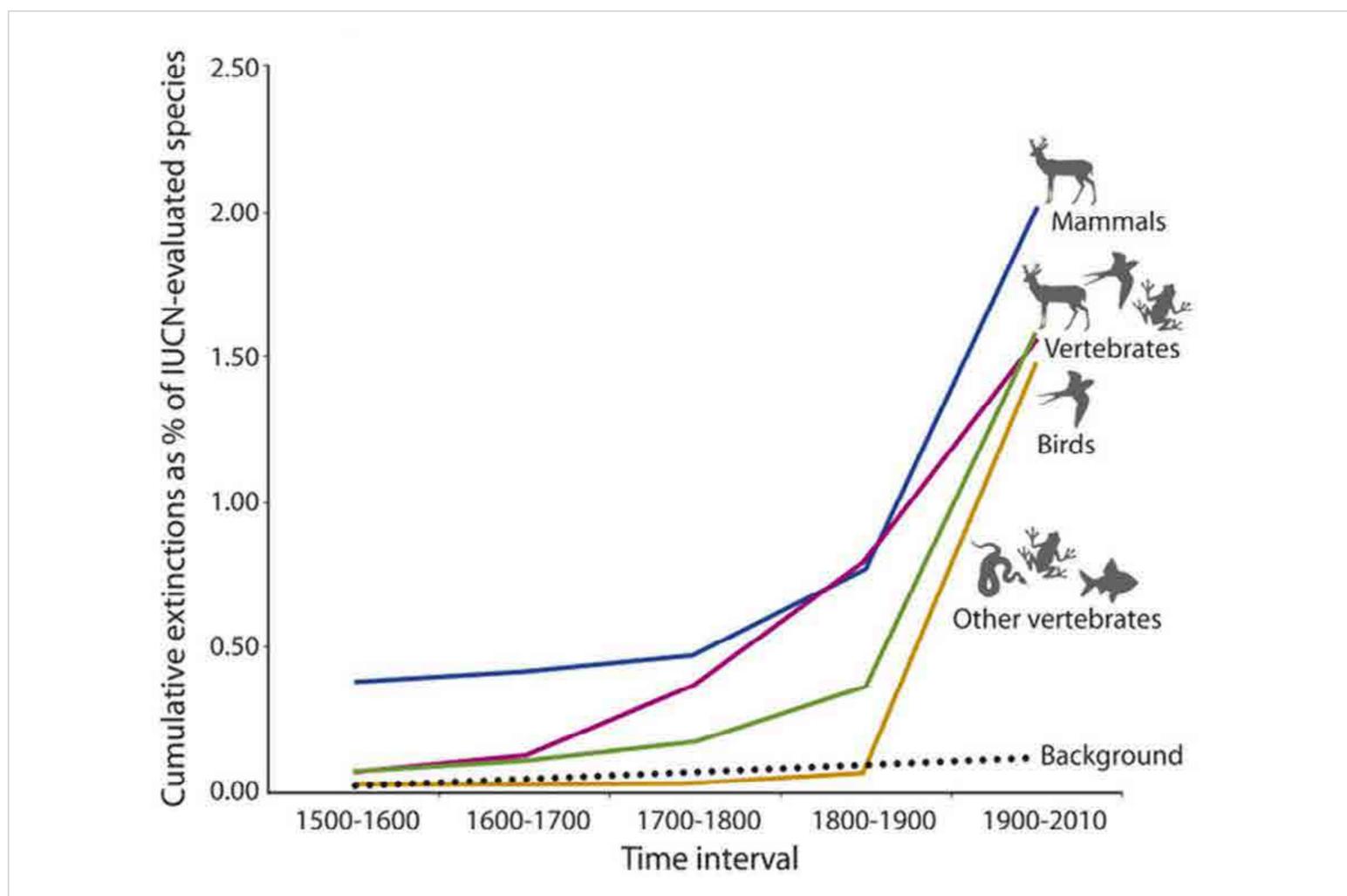


Fig. 5, Gerardo Ceballos, Paul R. Ehrlich, Anthony D. Barnosky, Andrés García, Robert M. Pringle, and Todd M. Palmer, Accelerated modern human-induced species losses: Entering the sixth mass extinction. doi:10.1126/sciadv.1400253

Sixth mass extinction

The ongoing extinction of species as a result of human activity. Unlike previous mass extinctions this one has a single species – humans – which are responsible. You can see in this graph how much the cumulative vertebrate species recorded as extinct or extinct in the wild have increased in the last century (conservative estimate) (fig. 5).



Fig. 6, The Quarry series by Megan Morrish, 2021, BA Graphic Communication Design, see more [here](#)

Emissions

In the context of climate change, emissions usually refers to greenhouse gases (GHG) being released into the atmosphere.

Direct emissions are directly caused by people and organisations.

Indirect emissions are a consequence of the activities of people or organisations, but occur at sources caused or controlled by someone else.

Greenhouse gases

Any gas that traps heat by letting sunlight pass through the atmosphere but prevents heat from leaving the atmosphere.

Greenhouse gases (GHG) include carbon dioxide (CO₂), nitrous oxide (N₂O), methane (CH₄), ozone (O₃); water vapour (H₂O), and gases from industrial activity.

CO₂e

The abbreviation for carbon dioxide equivalent, sometimes also written as “CO₂eq”. CO₂e is used to measure emissions from greenhouse gases to calculate how much they contribute to global warming.

Fossil fuel

After exposure to heat and pressure in the Earth over hundreds of millions of years, decayed plants and animals are naturally transformed into coal, oil or natural gas. When fossil fuels are burnt, they release carbon dioxide.

Carbon footprint

The amount of carbon emitted by a person or an organisation in a given timeframe. It can also refer to the amount of carbon emitted when a product is manufactured.

Embodied carbon

The total greenhouse gas emissions used to produce an item.

Zero carbon

No carbon emissions are produced by a product or service.

Net zero

When the amount of carbon dioxide produced by a product or service is matched by the amount removed or absorbed from the atmosphere.



Fig. 7, by Megan Morrish, 2021, BA Graphic Communication Design, Central Saint Martins, [discover more here](#)

Mitigation

Using strategies to avoid and reduce emissions of greenhouse gases in a bid to prevent the planet from warming more.

Regenerative practices

Actions that restore, renew or revitalise their own sources of energy and materials. For example, it might refer to farmers improving soil health by moving away from fossil fuel reliant farming.

Sustainability

Following sustainable principles (eg, environmental, economic, social) should prevent the depletion of natural or physical resources, so that they are available for the long-term. Some people argue that it is not possible to achieve real sustainability within the capitalist system.

Reparation

(Loss and damage) Actions to alleviate and compensate for any harm resulting from extreme climate events.

Adaptation

Actions that help natural and human systems cope with the impacts of climate change.



Fig. 8, Seaweed flower pots by Diana Tso, Central Saint Martins, MA Material Futures.

Systemic change

Systemic change is intentional. It is used to shift the function or structure of a system, using purposeful interventions, with the aim of bringing about lasting change. This may include a reset of policies, routines, relationships, resources, power structures and values.

Decarbonisation

The process of reducing the individual, organisational, national, and global carbon footprint.

Decolonisation

Challenging colonial and imperial legacies and disrupting ways of seeing, listening, thinking and making, in order to drive cultural, social and institutional change.

Neocolonialism

The control of countries in the global South by the global North through indirect means, including economic, political, cultural, or other pressures.

Degrowth

Removing economic growth as a driver for societies because it is detrimental to sustainability and wellbeing. Degrowth offers a new direction in which societies will use fewer natural resources, thus reducing production and consumption. Degrowth should mean less use of energy and raw materials. It will also see societies organised differently from the way they are today.

Greenwashing

A common practice that sees companies market themselves, or their products and services, in a misleading way as environmentally aware or beneficial in contrast to their actual environmental impact or carbon footprint. Greenwashing may be deliberately used to confuse consumers.

Systemic Racism

Form of structural racism that is embedded in the laws and regulations of a society or an organization, not always being conscious, explicit, or readily visible. It produces and perpetuates widespread unfair treatment, inequities and oppression of people of racial minorities. This form of racism occurs regardless of the intentions or actions of individuals.

Capitalism

The dominant economic and political system. In capitalism, private owners (and sometimes the state) control a country's trade and industry. Many people argue that capitalism is unsustainable because it anticipates infinite economic growth underpinned by the use of natural resources that are finite.



Fig. 9, Carnival of Crisis - basecamp images by Kath Smith, 2021, UAL

Climate Justice
(Environmental,
social and
racial justice)

The climate crisis has global impacts, but it does not affect all people in equal ways. If climate justice is not included when tackling the climate crisis by sustainable transformation or climate policy, social inequality may be widened.

Climate Justice acknowledges the historical responsibility of countries in the global North for the climate emergency. It also advocates for those who have done the least to cause the climate crisis but are the most affected. Building climate justice into solutions aims to create an inclusive, fair, free, equal and sustainable future.

Social Justice

Social justice is about fairness. It considers and critiques the ways that privileges, opportunities and wealth are distributed.

MAPA
(Most Affected
People and Areas)

Groups and territories disproportionately affected by climate change. These include:

- women and girls
- indigenous peoples
- racial minorities
- LGBTQ+ people
- young, older and poorer people

In general MAPA includes all territories in the global South (Africa, Latin America, Pacific Islands, etc.) and marginalised communities that might live anywhere in the world.

Epistemicide

The destruction and devaluing of existing knowledge in the context of colonisation. The term has referred particularly to indigenous lost knowledge when the global South was colonised by Europeans. Because it is an ongoing process, epistemicide needs us to question who (or what) is seen to be a legitimate producer of knowledge in our current systems.

Intersectionality

A way of describing how we experience oppression and how this intersects to create unique dynamics and impacts. These might include our race, ethnicity, gender and gender identification, sexual orientation, age, religion, class and disability.

Activism

The use of direct and noticeable action to highlight a problem and/or encourage political change. Activism promotes, prevents, directs or intervenes in social, political, economic or environmental reform. It is driven by a desire to make positive changes in society.

Advocacy

Individuals or groups trying to influence the decisions of a government or other authority (eg, council, business, industry).

Climate anxiety

Sense of fear, worry or tension linked to climate change and how this may impact on our future and the Earth's.

Solastalgia

Pain or distress caused by environmental change on a small or large scale. It has some overlap with the feelings of nostalgia and homesickness.

Resilience

The strength of a person, community or ecosystem to adapt in the face of adversity. Resilience is about having the mental or physical capacity to prevent, withstand, respond to, and recover from disruption.

Climate change denial

Denial, dismissal, or unwarranted doubt that contradicts the scientific consensus on climate change, including the extent to which it is caused by humans; its impact on wildlife and people, or the potential of adaptation to the climate crisis.



Fig. 10, Carnival of Crisis - basecamp images by Kath Smith, 2021, UAL

Climate Glossary

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