

# MODELLING CLIMATE CHANGE: GLOSSARY OF TECHNICAL TERMS

Word	Definition
Albedo	The proportion of solar energy that is reflected by the Earth.
Anomaly	The difference from a long-term mean.
Climate	The mean 'weather' (e.g. temperature, rainfall or sunshine hours) over a period of tens to thousands of years. More strictly, climate is the mean, variability and other statistical characteristics of weather. A period of 30 years is often used to define climate.
Climate change	Any change in weather statistics (e.g. mean temperature and rainfall) due to natural causes or to human activity.
Climate sensitivity	The amount of warming or cooling that occurs in response to a change in a forcing factor (e.g. a change in the flow of energy from the Sun).
Enhanced greenhouse effect	The extra warming caused by an increase in greenhouse gases.
Equilibrium	A stable situation where the input is in balance with the output.
Forcing / forcing factors	Things that cause the climate to change; some are natural (e.g. changes in the flow of energy from the Sun) and some are man-made (e.g. increasing greenhouse gases).
Global warming	The increase in globally averaged temperature over the 20th century, due to the burning of fossil fuels and the release of greenhouse gases into the atmosphere.
Greenhouse gas	A gas that contributes to the natural or enhanced greenhouse effect by absorbing infrared radiation. Examples are carbon dioxide, water vapour and methane.
Model	An approximation to a real-life situation which uses only the most important variables. This can be used to help us understand complex scientific observations and make predictions.
Natural greenhouse effect	A natural effect where gases in the atmosphere absorb infrared radiation and act like a blanket to keep the Earth warm.
Negative feedback	When the response of a system acts to weaken the effect of an initial change. For example, as the Earth warms, emission of terrestrial radiation increases and this acts to cool the planet.
Positive feedback	When the response of a system acts to amplify the effect of an initial change. For example, as the Earth warms, ice and snow melt, more solar radiation is absorbed and so the atmosphere warms further.
Solar radiation	Incoming energy from the Sun.
Steady state	Where a system does not change over time because inputs into the system are balanced by outputs from the system.
Trend line	A line on a graph which connects significant points to show a statistical trend; this is not necessarily the same as the line of best fit.
Terrestrial radiation	Outgoing energy emitted by the Earth.