

Natural Environment Climate Change Adaptation Action Plan 2022-2026

Supporting document – Glossary of key terms

Glossary of key terms

Term	Description	Source
(Climate change) Adaptation	Any process of adjusting to actual or expected climate and its effects that (a) in human systems, seek to moderate or avoid harm or exploit beneficial opportunities and (b) in natural systems, may be facilitated by human interventions. For types of adaptation, see incremental adaptation and transformational adaptation.	<i>Climate Change Act 2017</i> ⁱ
Adaptive Capacity	The ability of systems, institutions, humans, and other organisms to adjust to potential damage, to take advantage of opportunities, or to respond to consequences.	IPCC AR5 ⁱⁱ
Biodiversity	Biodiversity encompasses all components of the living world: the number and variety of plants, animals and other living things, including fungi and micro-organisms, across our land, rivers, coast and ocean. It includes the diversity of their genetic information, the habitats and ecosystems within which they live, and their connections with other life forms and the natural world.	Protecting Victoria's Environment – Biodiversity 2037 ⁱⁱⁱ
Climate Change	A change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.	<i>Climate Change Act 2017</i>
Climate scenario	A plausible and often simplified representation of the future climate, based on an internally consistent set of climatological relationships that has been constructed for explicit use in investigating the potential consequences of anthropogenic climate change, often serving as input to impact models. Climate projections often serve as the raw material for constructing climate scenarios, but climate scenarios usually require additional information such as the observed current climate.	IPCC AR5
Climate variability	Climate variability refers to variations in the mean state and other statistics (such as standard deviations, the occurrence of extremes, etc.) of the climate on all spatial and temporal scales beyond that of individual weather events. Variability may be due to natural internal processes within the climate system (internal variability), or to variations in natural or anthropogenic external forcing (external variability).	IPCC AR5
Disaster	Severe alterations in the normal functioning of a community or a society due to hazardous physical events interacting with vulnerable social conditions, leading to widespread adverse human, material, economic, or environmental effects that require immediate emergency response.	IPCC AR5
Ecological Resilience	A measure of the amount of change needed to change an ecosystem from one set of processes and structures to a different set of processes and structures, or the amount of disturbance that a system can withstand before it shifts into a new regime or alternative stable state (Holling, 1973). In applied ecology, ecological resilience is also used as a measure of the capacity of an ecosystem	Chambers, J.C. <i>et al</i> (2019) ^{iv}

	to regain its fundamental structure, processes, and functioning (or remain largely unchanged) despite stresses, disturbances, or invasive species.	
Ecosystem	An ecosystem is a functional unit consisting of living organisms, their non-living environment and the interactions within and between them.	IPCC AR5
Emissions scenario	A plausible representation of the future development of emissions of substances that are potentially radiatively active (e.g., greenhouse gases (GHGs), aerosols) based on a coherent and internally consistent set of assumptions about driving forces (such as demographic and socio-economic development, technological change, energy and land use) and their key relationships.	IPCC AR5
Exposure	The presence of people, livelihoods, species or ecosystems, environmental functions, services, and resources, infrastructure, or economic, social, or cultural assets in places and settings that could be adversely affected.	IPCC AR5
Greenhouse gas emissions	Emissions of (a) carbon dioxide, methane, nitrous oxide or sulphur hexafluoride or (b) a hydrofluorocarbon or perfluorocarbon that is specified in regulations made under the National Greenhouse and Energy Reporting Act 2007 of the Commonwealth.	<i>Climate Change Act 2017</i>
Hazard	The potential occurrence of a natural or human-induced physical event or trend or physical impact that may cause loss of life, injury, or other health impacts, as well as damage and loss to property, infrastructure, livelihoods, service provision, ecosystems, and environmental resources. The term hazard usually refers to climate-related physical events or trends or their physical impacts.	IPCC AR5
Incremental adaptation	Adaptation actions where the central aim is to maintain the essence and integrity of a system or process at a given scale.	IPCC AR5
Mitigation (of climate change)	A human intervention to reduce the sources or enhance the sinks of greenhouse gases.	IPCC AR5
Resilience	The capacity of social, economic, and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity, and structure, while also maintaining the capacity for adaptation, learning, and transformation.	IPCC AR5
Resistant	The capacity of environmental systems to withstand climate-related impacts and remain essentially unchanged.	Chambers, J.C. <i>et al</i> (2019)
Risk	The potential for consequences where something of value is at stake and where the outcome is uncertain, recognizing the diversity of values. Risk is often represented as probability of occurrence of hazardous events or trends multiplied by the impacts if these events or trends occur. Risk results from the interaction of vulnerability, exposure, and [climate change] hazard.	IPCC AR5
Sensitivity	The degree to which a system or species is affected, either adversely or beneficially by variability or change. The effect may be direct (e.g., a change in crop yield in response to a change in the mean, range, or variability of temperature) or indirect (e.g., damages caused by an increase in the frequency of coastal flooding due to sea level rise).	IPCC AR5
Transformational adaptation	Adaptation that changes the fundamental attributes of a system in response to climate and its effects.	IPCC AR5
Transition	The result of environmental systems not recovering to their previous state and moving to a different state. For instance, they could change structure or composition and, in some cases, even become a 'novel' ecosystem.	Chambers, J.C. <i>et al</i> (2019)

Vulnerability	The propensity or predisposition to be adversely affected. Vulnerability encompasses a variety of concepts and elements including sensitivity or susceptibility to harm and lack of capacity to cope and adapt.	IPCC AR5
----------------------	---	----------

ⁱ Climate Change Act 2017 (Vic) Part 1. Retrieved from: <https://www.legislation.vic.gov.au/in-force/acts/climate-change-act-2017/005>

ⁱⁱ IPCC, 2014: Annex II: Glossary [Mach, K.J., S. Planton and C. von Stechow (eds.)] in Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, pp. 117–130.

ⁱⁱⁱ Department of Environment, Land, Water and Planning (2017) Protecting Victoria’s Environment – Biodiversity 2037. Melbourne, Victoria.

^{iv} Chambers, J.C. Allen, C.R., Cushman, S.A. (2019) Operationalizing Ecological Resilience Concepts for Managing Species and Ecosystems at Risk Front. *Ecol. Evol.* 7:241.