

Glossary

Adaptation (to climate variability and change) – Policies, actions, and other initiatives designed to limit the potential adverse impacts arising from climate variability and change (including extreme events), and exploit any positive consequences.

Adaptive capacity – The potential for adjustments, processes (both natural and human), practices, or structures to moderate or offset the potential for damage, or take advantage of opportunities, created by variations or changes in the climate.

Climate change – Trends or other systematic changes in either the average state of the climate, or its variability (including extreme events), with these changes persisting for an extended period, typically decades or longer (i.e., longer term). Climate change may be due to natural internal processes or external forcings, or to persistent anthropogenic changes in the composition of the atmosphere or in land use. Note that the United Nations Framework Convention on Climate Change (UNFCCC), in its Article 1, defines climate change as: “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.” The UNFCCC thus makes a distinction between “climate change” attributable to human activities altering the atmospheric composition and “climate variability” attributable to natural causes.

Climate extreme – A climatic event that is rare within its reference statistical distribution for a particular place. Typically “rare” is interpreted as an event that is below the 10th percentile or above the 90th percentile. An extreme climate event may be due to natural internal processes within the climate system, or to variations in natural or anthropogenic external forcing.

Climate proofing – a shorthand term for identifying risks to a development project, or any other specified

natural or human asset, as a consequence of climate variability and change, and ensuring that those risks are reduced to acceptable levels through long-lasting and environmentally sound, economically viable, and socially acceptable changes implemented at one or more of the following stages in the project cycle: planning, design, construction, operation, and decommissioning.

Climate variability – Variations in climatic conditions (average, extreme events, etc.) on time and space scales beyond that of individual weather events, but not persisting for extended periods of, typically, decades or longer (i.e., shorter term). 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).

Consequence – The end result or effect caused by some event or action. A detrimental consequence is often referred to as an “impact.”

El Niño Southern Oscillation - The El Niño Southern Oscillation (ENSO) is a result of ocean-atmosphere interactions internal to the tropical Pacific Ocean and the overlying atmosphere. Unusually warm temperatures in the eastern equatorial Pacific (termed an “El Niño event”) reduce the normally large sea surface temperature difference between the eastern and western portions of the tropical Pacific. As a consequence, the northeast and southeast trade winds weaken and sea level falls in the west and rises in the east, as warmer waters move eastward along the equator. At the same time, the weakened trade winds reduce the upwelling of cold water in the eastern equatorial Pacific, thereby strengthening the warm temperature anomaly. A corresponding “La Niña event” occurs when temperatures in the eastern equatorial Pacific are unusually cool.

Enabling environment – The enabling environment for adaptation comprises the high-level and robust systems and capabilities that foster the adaptation

process, including innovation, revitalization of traditional knowledge and practices, application of human knowledge and skills, policies, financing, legislation and regulations, information, markets, and decision support tools. It encourages and supports the climate proofing of development projects and related initiatives, as well as being supportive of the wider sustainable development process.

Global climate model – A numerical representation of the global climate system based on the physical, chemical, and biological properties of its components, their interactions and feedback processes, and accounting for all or some of its known properties. Global climate models are applied, as a research tool, to study and simulate the climate. They are also used for operational purposes, including monthly, seasonal, and interannual climate predictions.

Greenhouse gases – Those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and emit radiant heat energy at specific wavelengths within the spectrum of infrared radiation emitted by the Earth's surface, the atmosphere, and clouds. This property causes the greenhouse effect. Water vapor, carbon dioxide (CO₂), nitrous oxide (N₂O), methane (CH₄), and ozone (O₃) are the principal greenhouse gases in the Earth's atmosphere. Several entirely human-made greenhouse gases can also be found in the atmosphere, such as halocarbons and other chlorine- and bromine-containing compounds.

Incremental cost (of adaptation) – The additional costs arising from reducing climate risks through adaptation, when preparing for and implementing a policy, plan, or action.

Ka – A tropical tree (botanical name *Terminalia carolinensis*) the largest surviving stand of which can be found on the island of Kosrae, FSM.

La Niña event – See “El Niño Southern Oscillation”.

Likelihood – The probability, or statistical chance, of a given event occurring within a specified period of time.

Mainstreaming (of adaptation) – The effective and equitable integration of adaptation activities into the preparation and implementation of policies, plans, and other instruments concerned with economic development, social progress, and/or environmental protection.

Mitigation (of climate change) – Policies, actions, and other initiatives that reduce the net emissions of greenhouse gases (q.v.), such as CO₂, CH₄, N₂O, that cause climate change through global warming.

Monte Carlo techniques – a method of generating a model of change in which the likelihood of an event is first determined and then a random number is used to determine whether the event actually occurs.

No regrets – Policies, plans, or actions that would generate net social benefits whether or not climate change occurs. No regrets opportunities for greenhouse gas emissions reduction are defined as those options whose benefits, such as reduced energy costs and reduced emissions of local/regional pollutants, equal or exceed their costs to society, excluding the benefits of avoided climate change. No regrets potential is defined as the gap between the market potential and the socioeconomic potential. The cost of an economic activity forgone by the choice of another activity.

Projection – Any description of the future, and the pathway that leads to it.

Rational Method – a simple mathematical technique used in water engineering for estimating peak flows of runoff from small catchments, in which Discharge (Q) = CiA, where C is the runoff coefficient, i is the rainfall intensity and A is the catchment area.

Return period – The average length of time between the occurrences of a specified event.

Risk – The combination of a hazardous event occurring, and the impact or consequence of that event.

Scenario – A plausible and often simplified course of anticipated events or a probable future condition, based on a coherent and internally consistent set of assumptions about key driving forces and relationships, constructed for explicit use in investigating the potential consequences of changes from current conditions.

Sea-level rise (fall) – An increase (decrease) in the mean level of the ocean, persisting for an extended period, typically decades or longer. Eustatic sea-level rise is a change in global average sea level brought about by an alteration to the volume of the world ocean. Relative sea-level rise occurs where there is a net increase in the level of the ocean relative to local land movements. Climate modelers largely concentrate on estimating eustatic sea-level change; risk assessors focus on relative sea-level change.

Sea-level change – Trends and other systematic changes in mean sea level, persisting for an extended period, typically decades or longer (i.e., longer term).

Sea-level variability – variations in mean sea-level conditions (including extreme events) that do not persist for extended periods of, typically, decades or longer (i.e., shorter term).

Vulnerability (to climate variability and change) – The extent to which a natural or human system is susceptible to sustaining damage resulting from climate variability and change, despite human actions to moderate or offset such damage. Vulnerability is a function of the character, magnitude, and rate of climate variation to which a system is exposed, its sensitivity, and its adaptive capacity.