



Vulnerability Assessment Program: Glossary

Adaptation: The process of adjusting to new climate conditions in order to reduce risks to valued assets (U.S. Climate Resilience Toolkit).

Adaptive Capacity: The ability of a person, asset, or system to adjust to a hazard, take advantage of new opportunities, or cope with change (U.S. Climate Resilience Toolkit).

Bivariate Choropleth Mapping: A mapping technique that displays two variables within the same map and map legend, utilizing graduated color symbols.

Climate: Climate in a narrow sense is usually defined as the average weather, or more rigorously, as the statistical description in terms of the mean and variability of relevant quantities over a period of time ranging from months to thousands or millions of years. The classical period for averaging these variables is 30 years, as defined by the World Meteorological Organization (WMO). The relevant quantities are most often surface variables such as temperature, precipitation and wind. Climate in a wider sense is the state, including a statistical description, of the climate system (IPCC AR6).

Climate Change: A change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/ or the variability of its properties and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forcings such as modulations of the solar cycles, volcanic eruptions and persistent anthropogenic changes in the composition of the atmosphere or in land use. (IPCC AR6).

Disadvantaged communities: Communities that are marginalized, underserved, and overburdened by pollution and environmental hazards (NCCOS).

Drought: An exceptional period of water shortage for existing ecosystems and the human population (due to low rainfall, high temperature, and/or wind) (IPCC AR6).

Engagement: Connecting with potential or realized project partners or stakeholders about assessment planning needs, ongoing assessment-level communications, coordinated product reviews, and communication of results.

Exposure: The presence of people, assets, and ecosystems in places where they could be adversely affected by hazards (U.S. Climate Resilience Toolkit).

Extreme heat: The occurrence of abnormally and uncomfortably hot weather conditions (adapted from IPCC AR6).



Flood: The overflowing of the normal confines of a stream or other water body, or the accumulation of water over areas that are not normally submerged. Floods can be caused by unusually heavy rain, for example during storms and cyclones. Floods include river (fluvial) floods, flash floods, urban floods, rain (pluvial) floods, sewer floods, coastal floods and glacial lake outburst floods (GLOFs) (IPCC AR6).

Coastal flooding: Floods that occur as a result of sea level rise, above-normal high tides, wave-driven run up, storm surge, and other coastal and ocean dynamics (e.g., ENSO, PDO).

Stormwater flooding: Floods that occur as a result of rainwater.

Riverine flooding: Floods that occur along riverways as a result of river overflows.

Hazard: An event or condition that may cause injury, illness, or death to people or damage to assets (U.S. Climate Resilience Toolkit), including loss of property, infrastructure, livelihoods, service provision, ecosystems and environmental resources (IPCC AR6). Hazard profiles may incorporate location, extent, previous occurrences, likelihood, and/or future probability.

Impacts: The consequences of realized risks on natural and human systems, where risks result from the interactions of climate-related hazards (including extreme weather/climate events), exposure, and vulnerability. Impacts generally refer to effects on lives, livelihoods, health and well-being, ecosystems and species, economic, social and cultural assets, services (including ecosystem services), and infrastructure. Impacts may be referred to as consequences or outcomes and can be adverse or beneficial (IPCC AR6).

Mitigation: Sustained action that can reduce or eliminate risk to people and property from hazards and their effects (FEMA).

Partner: Key personnel from other agencies, governments, or organizations who are engaged throughout the assessment process, comprise an assessment-level advisory group, and serve as liaisons to local stakeholders.

Resilience: The ability to prepare and plan for, absorb, recover from, and more successfully adapt to adverse events (NOS Priorities Roadmap 2016).

Risk: The potential for negative consequences where something of value is at stake. In the context of the assessment of climate impacts, the term risk is often used to refer to the potential for adverse consequences of a climate-related hazard (U.S. Climate Resilience Toolkit). In this program, risk is estimated by intersecting vulnerability with hazard probability.

Sea level rise: An increase in the height of sea level, both globally and locally (relative sea level change) at seasonal, annual, or longer time scales due to: (i) a change in ocean volume as a result of a change in the mass of water in the ocean (e.g., due to melt of glaciers and ice sheets), (ii) changes in ocean volume as a result of changes in ocean water density (e.g., expansion under warmer conditions), (iii) changes in the shape of the ocean basins and changes in the Earth's gravitational and rotational fields, and (iv) local subsidence or uplift of the land (IPCC AR6).



Sensitivity: The degree to which a system, population, or resource is or might be affected by hazards (U.S. Climate Resilience Toolkit). In this program, sensitivity is estimated by intersecting exposure with hazard probability.

Stakeholder: Local partners of project partners whose interests may be positively or negatively affected as a result of project execution or outcomes.

Underserved communities -- Populations sharing a particular characteristic, as well as geographic communities, that have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life...such as Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality (E.O. 13985, Sec. 2; NCCOS)

Vulnerability: The propensity or predisposition of assets to be adversely affected by hazards (U.S. Climate Resilience Toolkit). Vulnerability can include concepts of sensitivity and adaptive capacity, dependent upon data availability.

Wildfire: An uncontrolled fire that burns in wildland vegetation.

Sources:

U.S. Climate Resiliency Toolkit: <https://toolkit.climate.gov/content/glossary>

International Panel on Climate Change's (IPCC) 6th Assessment Report (AR6): https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_AnnexVII.pdf

FEMA: https://www.fema.gov/sites/default/files/2020-07/mitigation_homeowners_fact_sheet_2017.pdf

NOS Roadmap: <https://aambpublicoceanservice.blob.core.windows.net/oceanserviceprod/about/NOSRoadmap.pdf>

NCCOS: https://cdn.coastalscience.noaa.gov/page-attachments/about/UnderservedCommunitiesandEnvironmentalJustice.pdf?utm_medium=email&utm_source=GovDelivery

For more information on this research program:
<https://coastalscience.noaa.gov/project/programmatic-execution-of-nccos-vulnerability-assessments/>



Note: Our research team re-evaluated and updated our terminology in 2022 to better align with established climate adaptation networks and communities of practice.

