

RESILIENT COAST

DOUGLAS SHIRE COUNCIL

COASTAL HAZARD ADAPTATION TERMINOLOGY

This information sheet provides a description of some of the more commonly used terms relevant to a Coastal Hazard Adaptation Strategy (CHAS).



THE COASTAL SETTING

Coastal geomorphology - The physical shape, processes and patterns associated with the coast, including landforms, soils, geology and the factors that influence them.

Landform - A naturally shaped feature of the Earth's surface. Landforms range in size from small features apparent at a local scale to large structures apparent at a land system or regional scales.

DRIVERS OF CHANGE

Coastal hazards - The interaction of coastal processes with human use, property or infrastructure, the action of which adversely affects or may adversely affect human life, property or assets. Hazards include coastal erosion and coastal flooding.

Tides - The periodic rising and falling of the water surface resulting from gravitational attraction of the moon and sun and other astronomical bodies acting upon the rotating earth.

Relative sea level - Sea level as measured by a tide gauge with respect to the land upon which it is situated.

Sea-level rise - An increase in the mean level of the ocean. Eustatic sea-level rise is a change in global average sea level brought about by an increase in the volume of the world ocean. Relative sea-level rise occurs where there is a local increase in the level of the ocean relative to the land, which might be due to ocean rise and/or land-level subsidence.

Shoreline - A discrete line representing the landward limit of the sea at some point in time. Methods to define shoreline vary and may be based upon a fixed vertical level, or by the apparent interface of water and land using a particular means of detection, such as aerial photography.

Beach - The portion of the coastal zone which is, at some time, subject to wave action. The seaward limit of a beach is typically defined as the spring low tide line, and the landward limit is often defined as the vegetation line.

Climate change - A change in the state of the climate that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forces such as solar cycles, volcanic eruptions, and persistent anthropogenic (human induced) changes in the composition of the atmosphere or in land use.

Coastal flooding (inundation) - When ocean water levels and waves are high enough to cause flooding of normally dry land. May also be contributed to by riverine flooding.

Storm surge - Elevated sea level at the coast caused by the combined influence of low pressure and high winds associated with a severe storm such as a tropical cyclone.

Storm tide - The total elevated sea height at the coast combining storm surge and the predicted tide height.

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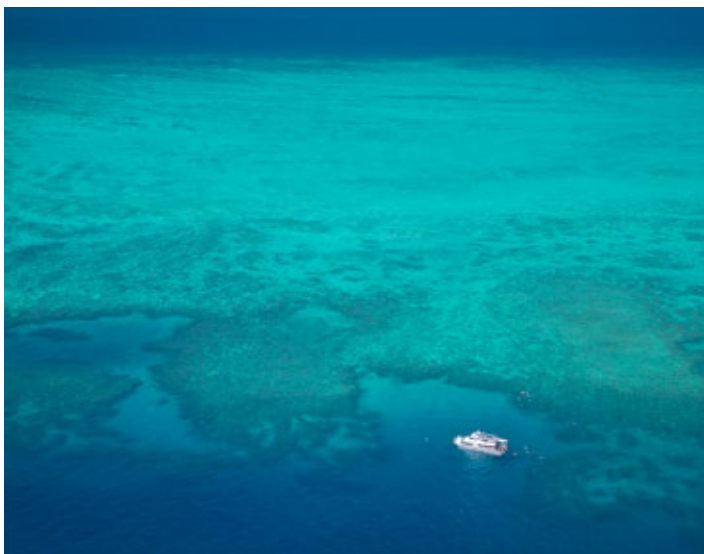
Coastal erosion - Erosion occurs when winds, waves and coastal currents act to shift sediments away from an area of the shore.

Short term erosion (storm bite) - Erosion that occurs periodically on a short term basis, often during a storm. The shoreline and beach then gradually regain sediment (rebuild).

Long term erosion (recession or retreat) - Erosion resulting in a continuing landward movement (loss) of the shoreline OR a net landward movement of the shoreline within a specified time.

Accreting coast - Coasts that are marked by a deposition of sand instead of erosion. Accretion occurs during the calmer seasons. Beach accretion is generally much slower than beach erosion.

RESILIENCE AND ADAPTATION



Coastal vulnerability - The threat to coastal landforms, associated infrastructure or land use that may be caused by a sustained shift in environmental conditions.

Resilience - The capacity of social, economic and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganising in ways that maintain their essential function, identity and structure, while also maintaining the adaptive capacity for adaptation, learning and transformation.

Adaptation - The process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities. In some natural systems, human intervention may facilitate adjustment to expected climate and its effects.

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.

Adaptation pathway - The sequence of management actions (over time) directed to achieving long-term adaptation objectives.

Coastal adaptation - Future modification of behaviour through construction of infrastructure or change in land-use practices that prevents or reduces adverse impacts associated with coastal hazards.

Risk assessment - A systematic process of evaluating the potential risks that may be involved in a projected activity or undertaking.



NOTES

Terminology is consistent with the National CoastAdapt information manuals:

<https://coastadapt.com.au/information-manuals>