FACTSHEET No.1

Resilient Coast

Resilient Gulf

# Coastal landscapes, hazards and adaptation

**This fact sheet provides a description of some of the more commonly used terms relevant to coastal hazard adaptation.**

## The coastal setting

**Coastal geomorphology** - The physical shape, processes and patterns associated with the coast, including landforms, soils, and geology.

**Landform** - The natural shape of the Earth's surface. Landforms range in size from small features such as dunes and estuaries found at a local scale, to large features such as mountain ranges and coastal plains that may exist at regional scales.

**Shoreline** - A designated line representing the landward limit of the sea. Methods used to defin e shorelines include fixed vertical levels or identifying the physical interface of water and land (e.g. with aerial photography).

**Beach** - The portion of the coastal zone periodically subjected to wave action. The seaward limit of a beach is typically defined as the spring low tide line, while the landward limit, as the vegetation line.

**Coastal dunes** – A ridge or series of sand ridges that form at the rear of the beach, by wind action (aeolian transport of sand).

**Coastal plains** - Flat, low-lying land adjacent to a sea coast.

**Gulf** – A deep inlet of the sea almost surrounded by land, with a narrow mouth.

**Tides** - The regular rise and fall 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 an official tide gauge with respect to the land upon which it is situated.

**Climate change** - A change in the state of the climate that persists for an extended period, typically decades or longer.

**Sea-level rise** - An increase in the mean level of the ocean.

## Coastal hazards

**Coastal hazards** – Natural coastal processes that may negatively impact on the natural environment and human use of the coastal zone. Hazards include coastal erosion, storm tide inundation, and inundation due to sea-level rise.

**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 or East Coast Low.

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

**Storm tide inundation** - When ocean water levels and waves are high enough to cause localised flooding of normally dry land.

**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 experience a deposition of sand instead of erosion. Accretion occurs during the calmer seasons. Beach accretion is generally much slower than beach erosion.

Resilient Coast - Resilient Gulf

# Coastal landscapes, hazards and adaptation (continued)

## Resilience and adaptation

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

**Risk assessment** - A systematic process of evaluating the potential risks that may be associated with an event or activity.

**Resilience** - The capacity of social, economic and environmental systems to cope with or 'bounce back' following a hazardous event or disturbance, responding or reorganising in ways that maintain their essential function, identity and structure, while also maintaining the capacity to adapt and transform.

**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 help a system adjust to the expected climate and its effects.

**Adaptive capacity** - The ability of systems, institutions, humans, plants and animals to adjust to potential damage, to take advantage of opportunities or to respond to consequences.

**Adaptation pathway** - A series or sequence of management actions (over time) directed to achieving long-term adaptation objectives.

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

## Reference

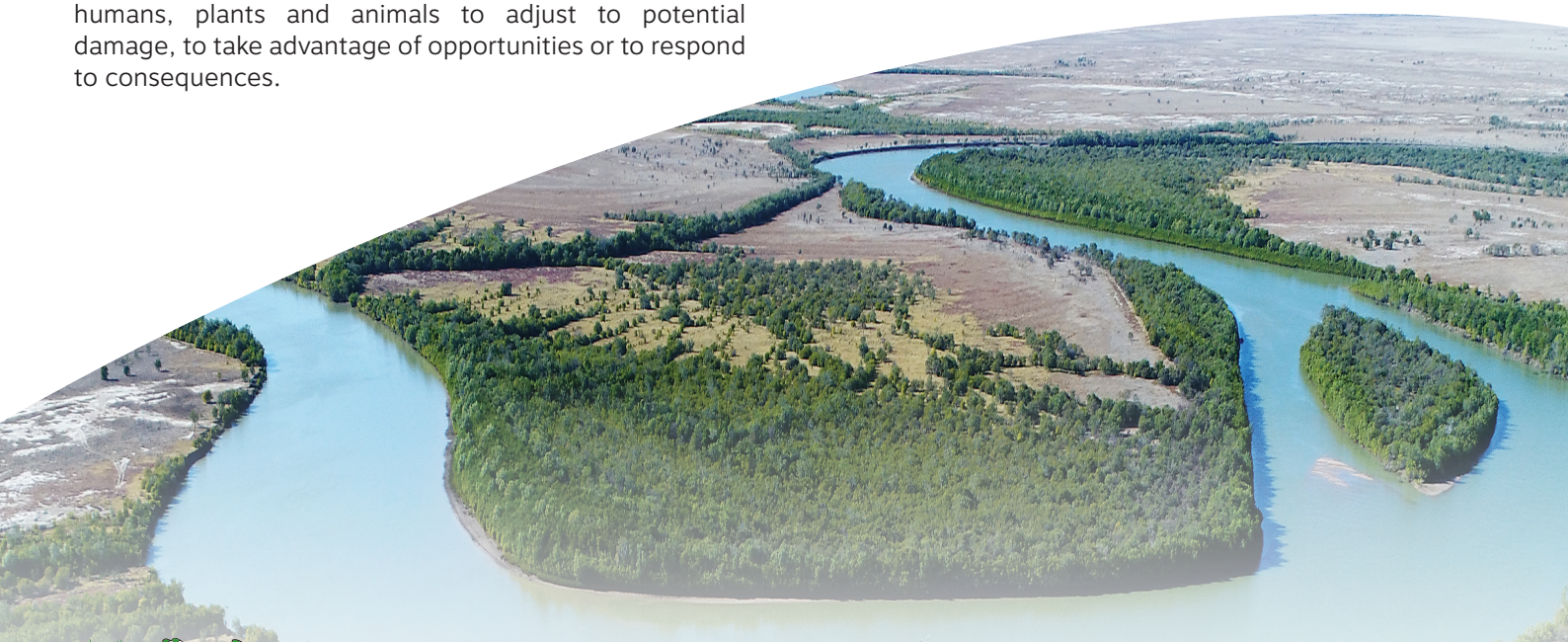
Terminology has been tailored for the Burke Shire Council *Resilient Coast - Resilient Gulf* program and is consistent with the National CoastAdapt information manuals: https://coastadapt.com.au/information-manuals, and other sources.

**More information on coastal hazards can be found at:**

CoastAdapt: **https://coastadapt.com.au/**

QCoast2100: **www.qcoast2100.com.au/**

**https://www.burke.qld.gov.au/**



BURKE SHIRE Council

QCoast2100 COUNCILS LEADING COASTAL ADAPTATION

alluvium

NCECONOMICS

JBP scientists and engineers