

## Our coastal landscape

Our coastal landscape is the dynamic backdrop to life in and around our foreshores, canals and estuaries. Whether it's our beaches on Bribie Island, canal communities in Newport and beyond, or the many coastal settlements along our rivers and passage, people continue to choose the Moreton Bay Region as a place to live, work and visit.


The coastal landscape is rich with cultural heritage. In Deception Bay's early days, local Aboriginal peoples would use traditional fishing methods, often supplying immigrants to the area with food from their local catch.

Our community supports the protection and preservation of the natural environment across parts of our coastal landscape, participating in voluntary conservation projects. Many Bushcare groups meet regularly to undertake tree planting and other activities to help restore areas, including at Beachmere and Griffin.


### Our coastal landscape...



... provides a stage for many major events. Celebrations such as the Redcliffe Kite Festival traditionally attract thousands of families to our region's coast and provide a major boost to our local economy.



... has been shaped by a long history of change. The melting of the ice 10,000 years ago altered the local landscape, creating the scenery and features you see today, including Bribie, Moreton and Stradbroke islands. More recently, severe weather events have continued to leave their mark on our coastal or river systems, such as Ex-tropical cyclone Marcia in 2015 which caused significant erosion to parts of Pine Rivers Park in Strathpine.



... is constantly changing. Coastal impacts are varied and can range from erosion to storm tide inundation from predicted sea-level rise. These are referred to as coastal hazards. (refer Fact sheet - Coastal hazards).

Change to our coastal landscape has been and will continue to be a characteristic of our beach, canal and estuary environments. Given our vast coastline, parts of the Moreton Bay Region are more susceptible to change from hazards including coastal erosion, storm tide inundation and predicted sea-level rise. We need to plan for the following key changes.

#### Tides

The periodic rise and fall (or flood and ebb) of the daily tide moves sediment both on and off-shore and shapes the form of the beach and near-shore environment. The Moreton Bay coast experiences semi-diurnal tides, meaning there are two high tides and two low tides each day.

The difference between the lowest and highest tides experienced under normal conditions is called the tidal range. The tidal range is usually under 2m in our region, but extreme weather events can cause considerably higher tides.

#### Wind and waves

Waves are generated by wind blowing across the water. Wind, combined with the morphology (shape) of the sea floor, drives the size, frequency, duration and energy of waves. Wave energy has the potential to move sediment both off-shore, on-shore, and along the coastline. Wind and wave energy can vary greatly across our coastal landscape, from the surf beaches on Bribie Island to more protected canal estates at Newport.

#### Weather and climate patterns

Local climatic conditions (e.g. dominant wind patterns) as well as extreme events like cyclones will influence how the coastal landscape develops and changes over time. Extreme weather events can drive major coastal landscape changes in a short period of time, including erosion (loss) of sand.

Sandy beaches and dunes typically rebuild gradually between extreme events. Long-term changes in climate also influence sea level and coastal processes.

#### Sediment supply

Catchments, rivers, dunes and off-shore environments can deliver sediment to our coastline. When historical sediment supplies reduce or cease, coastlines may be prone to erosion. When sediment supply is vast, our coastlines are likely to build seaward.

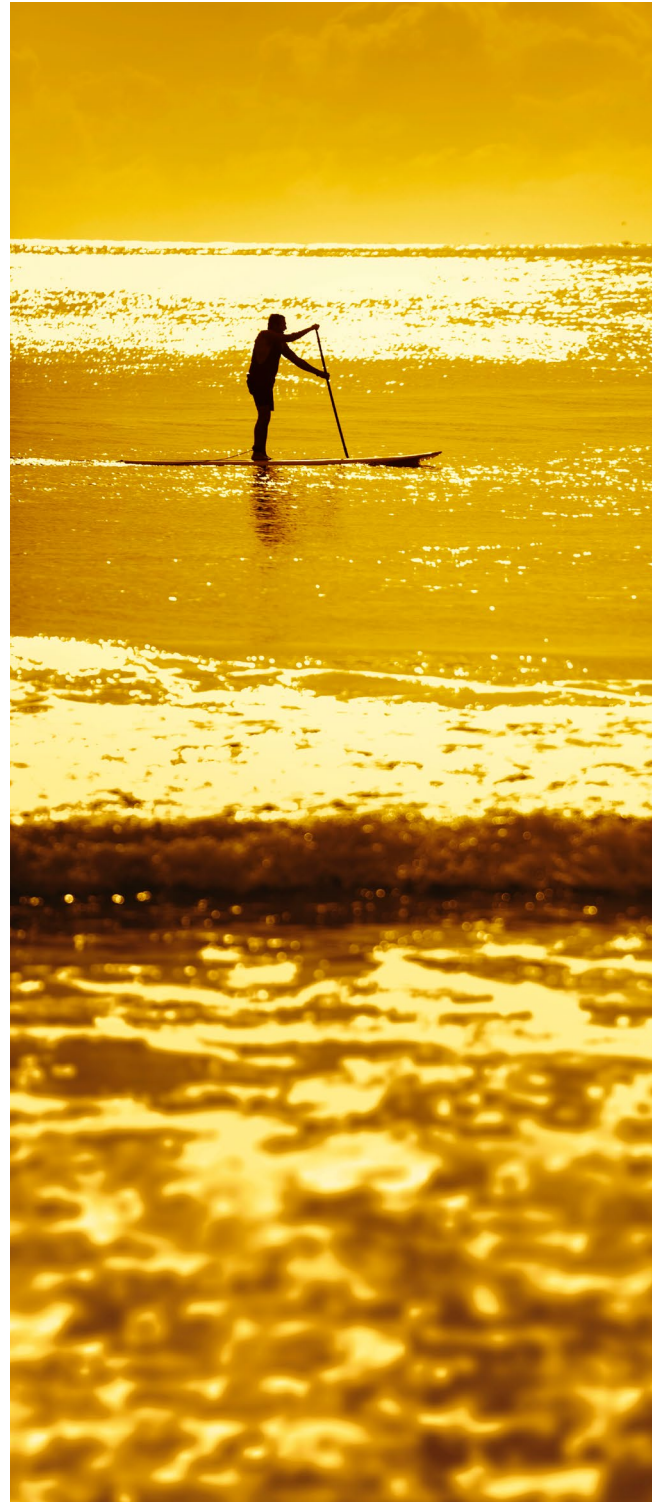
#### Land use and population

As our population increases, our coastal landscape changes to accommodate the development of urban areas and supporting infrastructure. The Moreton Bay Region's population is expected to grow by 40% over the next two decades. The number of people living, working and visiting our coastline also contribute to a changing landscape.

## Planning for change

Understanding the key drivers of change in the coastal zone helps to inform management activities. This includes proactive planning to mitigate the risk of coastal hazards. Coastal hazards typically include flooding of low-lying coastal areas and erosion of the existing shoreline. Managing the risk (likelihood and consequence) of coastal hazards involves understanding which areas are likely to be impacted, both now and into the future.

Moreton Bay Regional Council is one of over 30 Councils along the Queensland coast preparing a Coastal Hazard Adaptation Strategy with the support of the Queensland Government under the QCoast2100 program. The development of a Coastal Hazard Adaptation Strategy will guide short and long-term management of our coastline.



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