

# Adapting to Coastal Change

**Townsville City Council in partnership with the Queensland Government, is planning for coastal change via the, 'Adapting to Coastal Change in Townsville' project.**

**This project has been established to develop a long-term strategy to help the city prepare for, and manage changes brought by storm tide, sea level rise and coastal erosion.**

## What is the project for?

The aim of the project is to prepare a long-term coastal hazard adaptation strategy for the city. The strategy will help in understanding the risks coastal inundation and coastal erosion pose to the community and local infrastructure, and identify ways to manage the ongoing long-term changes to our coastline.

## Have your say

To help plan for coastal change, Council invited the community to take part in the Adapting to Coastal Change Survey which was available for completion from Monday 24 September to Friday 26 October 2018.

The survey aimed to identify what people value about living in Townsville and how these values are likely to be affected by coastal change. The feedback received will inform the development of coastal change adaptation strategies for Townsville.

## Project milestones

- The Adapting to Coastal Change survey was available for completion from Monday 24 September to Friday 26 October 2018.
- Survey responses will be considered, and the project team will report back via Council's website on key outcomes.
- Draft Adapting to Coastal Change in Townsville Strategy.
- Community Engagement on Draft Strategy.
- Contributions from the public consultation will be considered by Council.
- The final outcomes of the consultation will be documented on the Council website, with the Adapting to Coastal Change in Townsville Strategy Report.

## Where to from here?

The outcomes of the survey will be used by Council to better understand what the community values about living in Townsville and how this may be affected by coastal change. The outcomes of the survey are available on the Council website.





## Understanding Coastal Change

The coast is a dynamic zone where the atmosphere, ocean and land interact. Townsville has 180 km of coastline.

Coastal processes and interactions such as ocean temperature, waves, tides and wind all contribute to form and shape the coastline. Coastal hazards are caused by these naturally occurring processes.

Coastal hazards include:

- Coastal erosion (short-term or long-term)
- Coastal inundation – flooding of coastal areas
- Sand dune instability and sand movement – when sand blows inland across private property and parkland
- Geotechnical hazards (for example, rock fall and landslides)

The two main coastal hazards which impact the Townsville coastline are coastal erosion and coastal inundation due to storm and tidal events.

**Coastal Erosion** is a natural process that occurs when winds, waves and coastal currents act to shift sediments (such as sand) away from an area of the shore. Erosion can be classified as short-term or long-term. Short-term erosion is when a major natural event like a cyclone or storm causes the coast to erode. After the event has passed the coasts natural processes often result in the beach being restored naturally. Long-term erosion is when the erosion of the beach/coastline happens slowly as a result of changes in longer-term weather patterns.

**Coastal Inundation** is the flooding of a coastal area with ocean water. During a storm or cyclone, low atmospheric pressure and onshore winds can cause storm surge and extreme wave heights along the coast. When combined with astronomical tides this is known as a storm tide. The increase in water level from such an event may result in the flooding of coastal areas with ocean water.



Figure 1: example of coastal erosion after a weather event

## Why Plan for Coastal Change?

Some parts of Townsville's coast is affected by coastal erosion and coastal inundation. Both naturally occurring processes can impact our local infrastructure, buildings and the natural environment.

The Adapting to Coastal Change in Townsville Project is considering how these coastal events affect our city now and in the longer-term (to 2100). The project is looking to develop a Coastal Hazard Adaptation Strategy (CHAS), to help our city adapt to coastal change. Council will be consulting with key stakeholders and the community during the development of the strategy.



Figure 2: example of coastal inundation at the Rock Pool during a weather event

## For more information

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