

Coastal Adaptation Study

Middleton

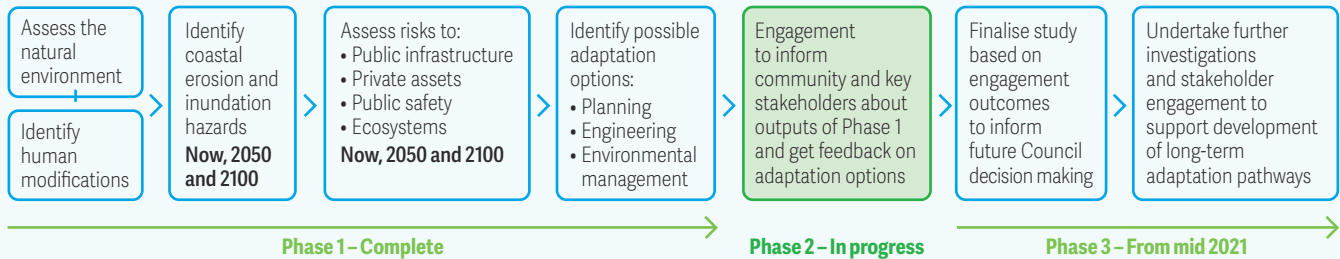
The Alexandrina coastline is of significant cultural, social, environmental and economic value to the local community, Ngarrindjeri nation and visitors to the region.

Climate change is causing sea levels to rise. The Coastal Adaptation Study aims to understand how people, the natural environment and built assets might be impacted by rising sea levels so that Council and other stakeholders, such as State Government and private landowners, can plan for the future.

What is the Study investigating?

The Study is being undertaken in 3 phases. Phase 1 investigated current and future (2050 and 2100) risks to coastal assets and has recently been completed. Phase 2 consultation is commencing now.

Alexandrina Council Coastal Adaptation Study Process



What area was assessed?

Phase 1 of the project has divided the coast into a series of areas. This fact sheet summarises the key findings of the Middleton section of the coast.



Map of area assessed

About Middleton

Middleton Beach from Tokuremour Reserve in the east through to Ratalang-Basham Beach in the west, is a sandy high energy beach facing the South Ocean.

At the western end, the sandy beach has rocky outcrops which extend into a low profile reef that protects Middleton Point. East from Middleton Creek, the beach is fringed by low cliffs. Moving further east most of the beach is fringed by coastal dunes apart from a section of cliff around 6m high between Boettcher Road and Miami Boulevard. The cliffs along this section have been eroding and collapsing in recent years and it is estimated that the cliff top in this area has moved about 15m landwards since 1949.

Between 1949 and 2006 much of the shoreline retreated along the Middleton coast however since 2006 some areas show evidence of accretion – meaning the sand is building up on the beach and the shoreline is moving sea-ward. It is not known if this accretion trend will continue in these areas, or if rising sea levels will reverse this trend.

Houses, roads, carparks and footpaths have been constructed along the Middleton coast, many located very close to the shoreline. The coast west of Middleton Creek is moderately exposed to erosion, in contrast to the long stretch of beach to the east of Middleton Creek which is very exposed to coastal erosion. Exposure to flooding is low for the entire Middleton coast, apart from a small section to the east of Miami Boulevard where further research is required.

Coastal hazards

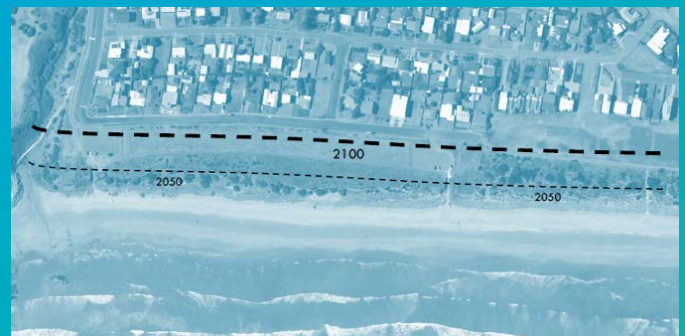
Now to 2050

In the shorter term (next 20–30 years), if sea levels continue to rise as projected, during high water and storm events waves are predicted to break closer to the current base of the dunes. This would have serious erosion impacts, causing the shoreline to move inland – this is known as shoreline recession. East of Middleton Creek, it is estimated that the shoreline may recede up to 30m by 2050. Several carparks are likely to be at risk and the cliff sections of the coast are likely to recede further towards Surfers Parade. The rate of erosion will vary depending on the nature and elevation of the backshore. Erosion is expected to be less significant in the area to the west of Middleton Creek.

Long term – 2050 to 2100

As sea levels rise, high water and storm events are projected to have an even greater impact on the coastal cliffs and dunes along the Middleton coast. Shoreline recession of between 60–114m has been projected for Middleton Beach, east of Middleton Creek by 2100.

This map shows the projected extent of shoreline recession immediately east of Middleton Creek. Assets at risk along the Middleton coast to 2100 include beach access points, carparks, walking paths and public toilets. It is possible that esplanade roads such as Surfers Parade, and thus private properties behind the road, may also come under attack from actions of the sea in the latter part of the century.



Projected shoreline recession east of Middleton Creek
Source: Integrated Coasts 2019

Learn more about the draft Coastal Adaptation Study and provide your feedback

Join us at one of the 3 virtual Coastal Adaptation Community Webinars to

- Hear about the draft Coastal Adaptation Study and learn how sea level rise and coastal erosion may impact Alexandrina's coastline now and in the future (2050 and 2100).
- Learn about the possible adaptation options for Alexandrina's coastline.
- Ask questions and share feedback.

Complete the online feedback form mysay.alexandrina.sa.gov.au/CA and share your thoughts about what you value about our coastline and how Council and the community might work together to adapt to changes along the coast over time.

Community Webinar dates

Murray Estuary (Hindmarsh Island)

3 Nov 2020, 6.30–8.30pm

Goolwa/Middleton

12 Nov 2020, 6.30–8.30pm

Port Elliot/Boomer Beach

17 Nov 2020, 6.30–8.30pm

To register and view the reports, visit mysay.alexandrina.sa.gov.au/CA; and RSVP by following the links to Eventbrite.

For further information please contact Council's Environmental Strategy Officer on 8555 7000 or alex@alexandrina.sa.gov.au