

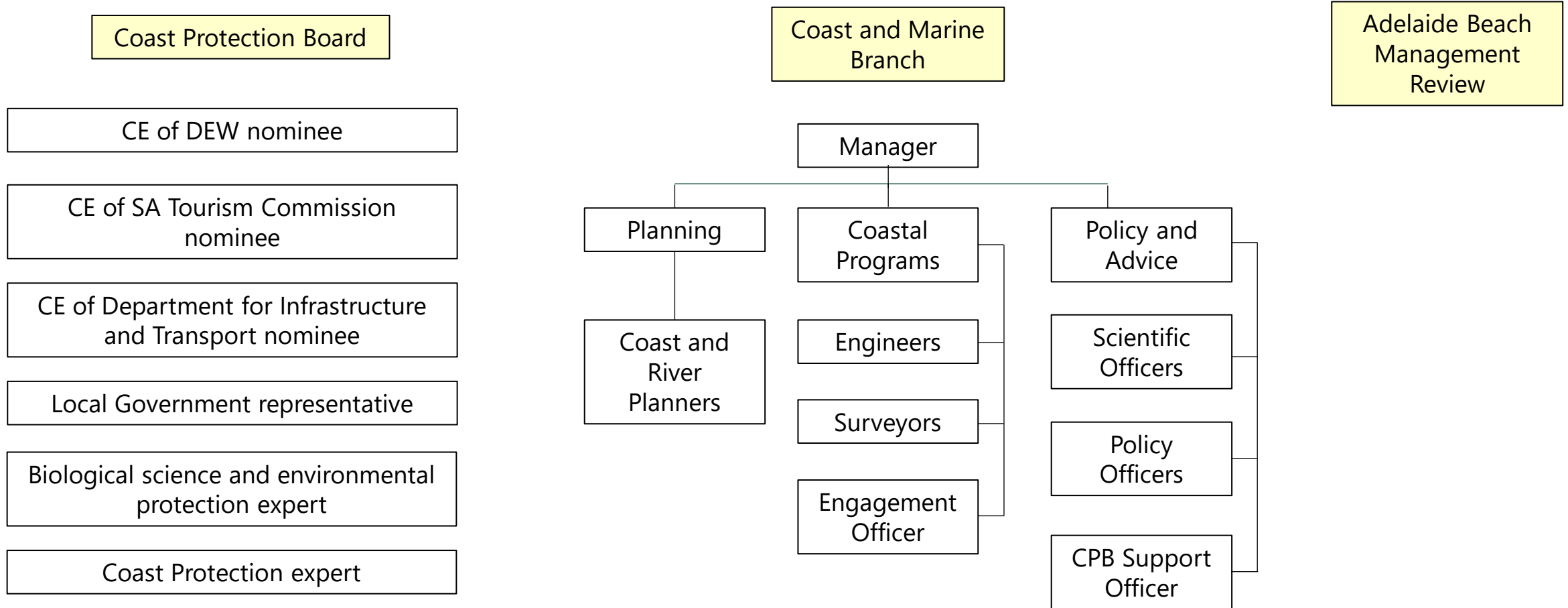
DEW and CPB Coastal Monitoring and Evaluation

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Government of South Australia
Department for Environment
and Water

CPB & DEW Coastal Expertise



Why we monitor

- Improve understanding of coastal processes e.g. sediment movement, particularly with regards to local influences.
- Inform and improve coastal hazard and coastal conservation assessments
- Identify and quantify changes in the state or condition of the coast
- Provide for evidence-based decision making
- Informing policy and adaptation planning.
- Ensure resources are prioritised and used efficiently



Coast Protection Board trip to Kingston in 1975

What and how we monitor

- Beach and seabed levels at locations vulnerable to coastal erosion
 - Beach profile lines
 - Beach surface modelling
 - Rods placed in the seabed
 - Beach poles
- Coastal Hazards (Flooding, Sand Drift, CASS)
 - LiDAR
 - Aerial and oblique imagery
 - Coastal habitat mapping
- Changes in coastal state or condition (e.g. environmental, social and economic/development).
 - Aerial and oblique imagery
 - Vegetation profiles
 - On-site inspections
 - Seagrass mapping

Beach profile network

- The profile network was established in 1975 and has continued to present.
- Over 400 profiles along the coast from the Far West to the Vic/SA border.
- The profiles are surveyed across the shore.
- Generally surveyed across the foredune to two km offshore.
- Significant advances in survey technology have occurred over that time.



Circa 1980



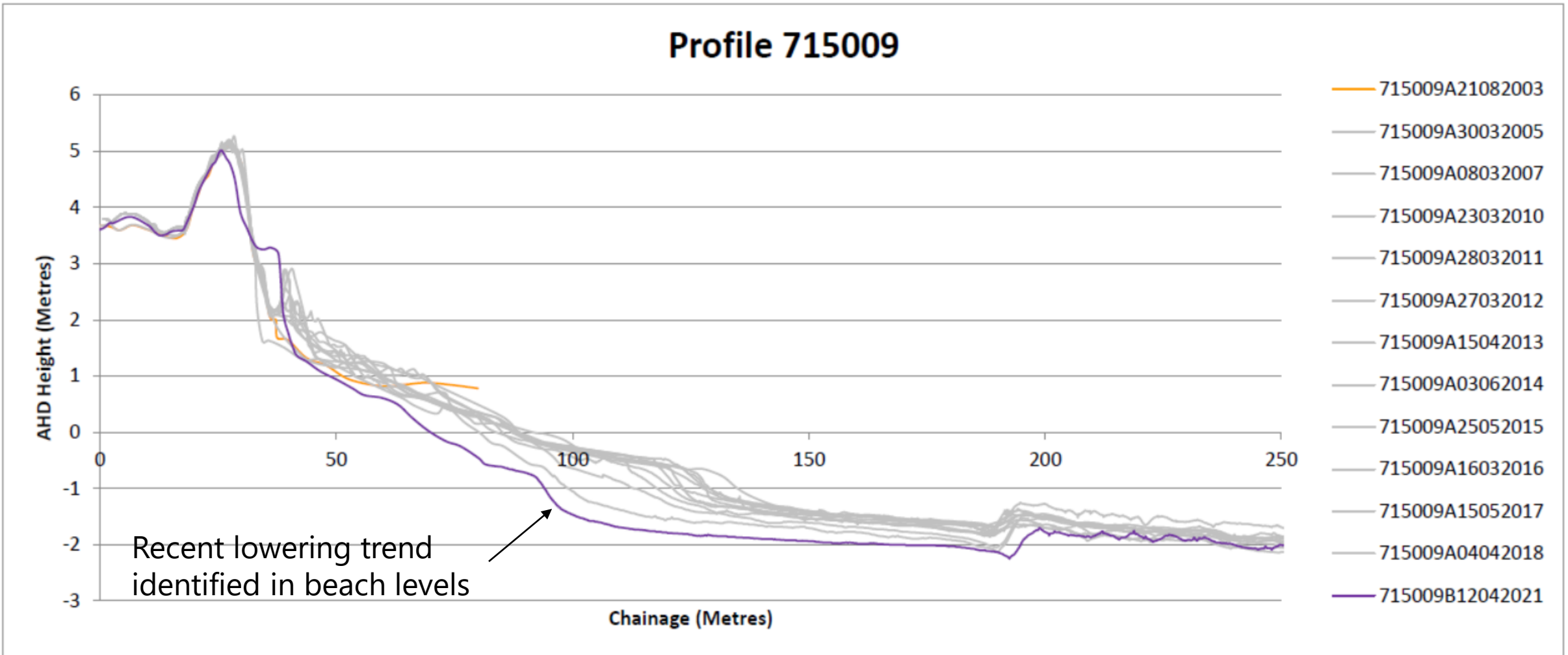
Circa 1990



Circa 2019



Wyomi Beach, Kingston Profile



Changes in height along the length of Profile 715009 which identifies a continuing lowering trend with the 2021 level being at its lowest since monitoring began.

Profile 715009 volume changes



Seabed Level Monitoring - Rods

- Used where precise measure of seabed depth change required.
- 1.6 metre brass rods are hammered into the seabed and the rod top is used as a datum to measure seabed height changes.
- Rods have been installed in the seabed along the Adelaide coast and at Beachport in the South East because of seabed change due to seagrass loss.



Coastal flood risk



Coastal flood mapping

Coastal Flood Mapping Viewer Find address or location...

General Tools Measure Tools Draw Tools

Full Extent Previous Extent Show Legend Identify Point Print Upload Data Zoom to XY Plot Coordinates Google Street View Share Map via Email Find a Ward Find an LGA

Homepage

Home

Coastal Flood Mapping Viewer

This interactive Flood Mapping Tool has been developed as a result of the partnerships between the Limestone Coast Local Government Association, the Eyre Peninsula Landscape Board, the Eyre Peninsula Local Government Association, the Coast Protection Board and the Department for Environment and Water. The maps identify areas on Eyre Peninsula and the Limestone Coast that may be vulnerable to coastal flooding due to storm surge and/or sea level rise.

The main goals of the coastal flood maps are to:

- Identify areas that may be vulnerable to coastal flooding at a regional scale,
- Visualise the potential impacts from different sea level rise scenario's through maps, and
- Inform policy-making and strengthen partnerships in managing coastal hazards.

[View Coastal Flooding Data](#)

[Coastal Flooding homepage](#)

[FAQs](#)

Imagery Web Mercator X 14907301.81 Y -3951906.78 0 50 100km Scale 1: 4,622,324

Coastal Flooding Mapping Viewer Find address or location...

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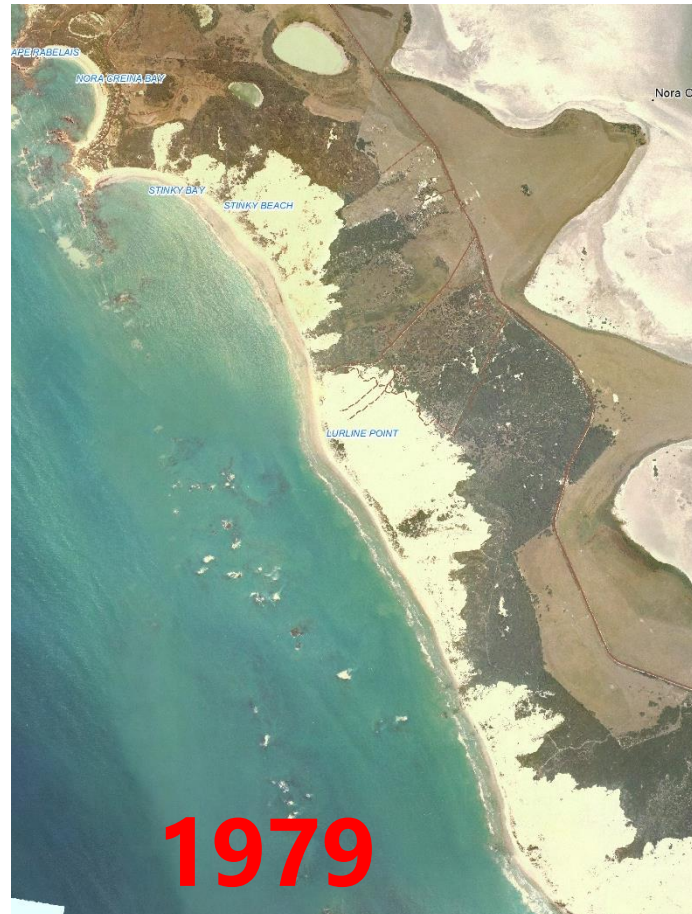
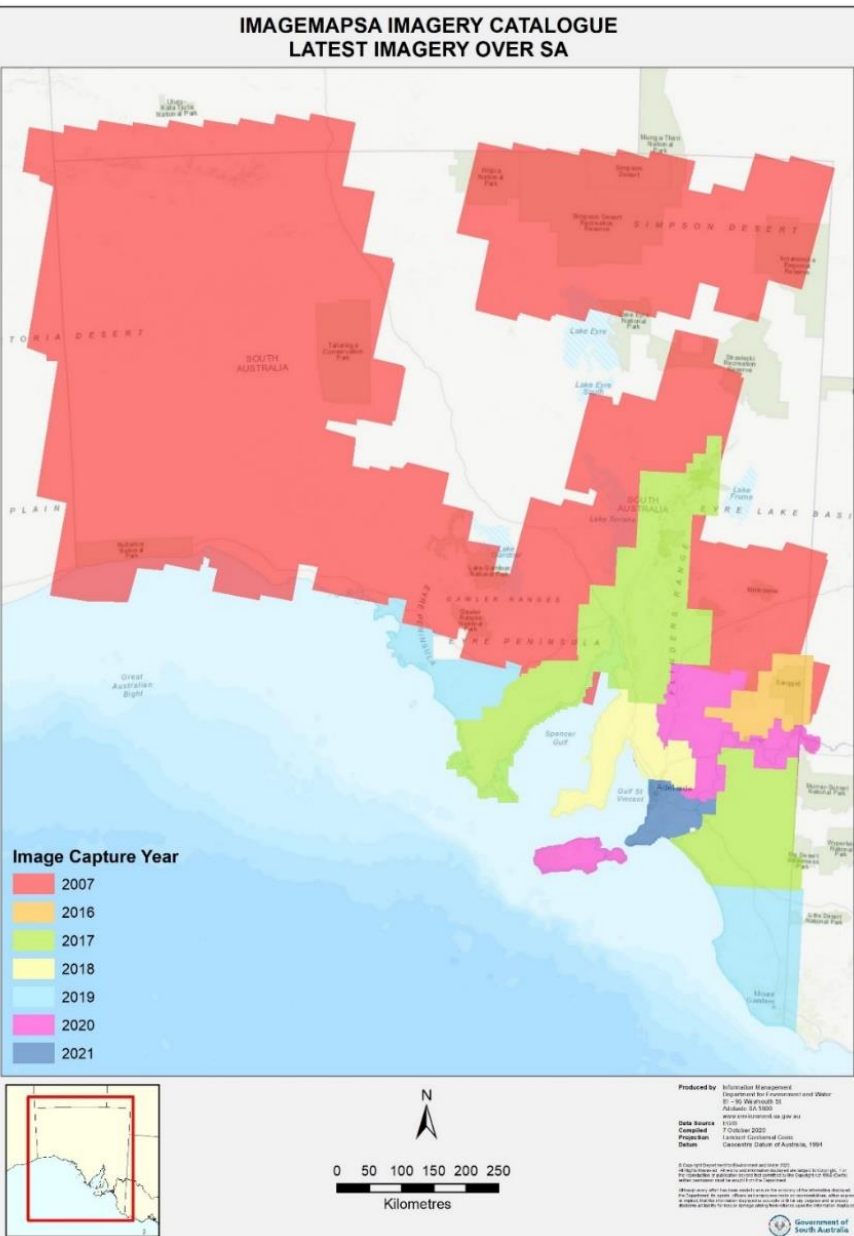
Layers

Search Layers... Search

- Flood Mapping 2019
- Flood Mapping 2050 (2019 +30cm SLR)
 - Mean High Water
 - 1 in 100 Storm Surge
- Flood Mapping 2100 (2019 +1m SLR)
 - Mean High Water
 - 1 in 100 Storm Surge
- Administrative Boundaries
- Cadastral Information
- Crown Lands
- Coastline
- Land Use
- Overlays

Imagery Web Mercator X 15661853.2512 Y -4585696.6184 0 0.2 0.4km Scale 1: 18,056

Aerial Photo Program



Aerial Photo Program

1979



2019



Oblique Photo Program



Recreational use of the coast



Off-road driving



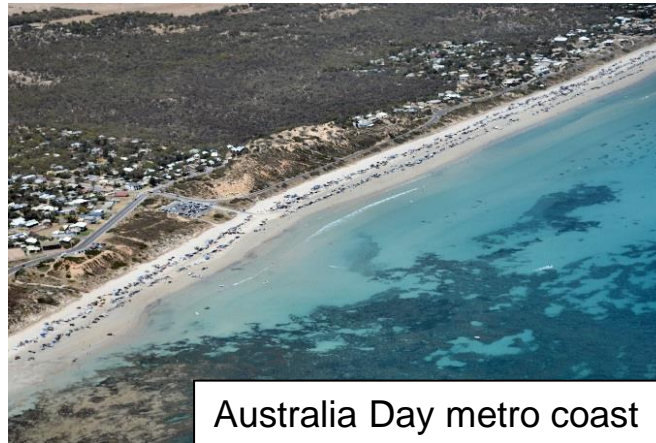
Australia Day metro coast



Fishing



Camping in vegetated dunes



Australia Day metro coast



Four-wheel driving

Planning and Development

Proposed subdivision



Proposed tourism development



Proposed dwelling



Proposed redevelopment



Visual amenity impacts



Constructed dwelling



Future CPB & DEW Monitoring

- Maintain and enhance critical long-term monitoring programs
- Continual innovation, adaptation and improvement
- Establishment of new programs or projects as required (eg. Blue carbon, dredge and sand pumping management), cessation of monitoring programs or projects no longer required
- Supporting, engaging and collaborating with other partners
- Improving the provision and availability of data
- Citizen Science opportunities

Evaluation tools available to Council & Public...

- NatureMaps (<https://data.environment.sa.gov.au/NatureMaps/>).
 - Aerial and oblique imagery, beach and vegetation profile line locations, habitat mapping, coastal hazards, administrative layers, protected areas, cadastral layers, other environmental layers
- Coastal Flood Mapping Viewer (<https://data.environment.sa.gov.au/Coast-and-Marine/Data-Systems/Coastal-Flood-Mapping-Viewer/>)
 - Eyre Peninsula and South East bathtub modelling of different sea level rise scenarios
- Coastal Conservation Assessments (<https://data.environment.sa.gov.au/Coast-and-Marine/Reporting/Pages/home.aspx>)
 - Combination of conservation and threat data, recommended management actions
- Elvis <https://elevation.fsdf.org.au/>
 - LiDAR data
- DEA (<https://maps.dea.ga.gov.au/story/DEACoastlines>)
 - External website that used our beach profile data



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