

# An assessment of the integration of coastal hazard risk into local government strategic and adaptation planning in South Australia

## Volume 1: State overview and synthesis



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Sustainability  
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# EXECUTIVE SUMMARY

## Purpose

Understanding South Australian coastal councils' approach to adaptation planning from a strategic management perspective has potential to lead to better coordination, resourcing, and information sharing.

The State's 34 coastal councils will be exposed to changing climatic conditions and some are already implementing actions to address coastal erosion and flooding.

## Approach and methodology

This study investigates the embeddedness of coastal hazard risk into councils' strategic planning frameworks, and stages of adaptation planning. It is based on desktop research limited to council strategic planning documentation and coastal adaptation studies *publicly available at the time of writing (2020/2021)*.

The outcome is a state synthesis presenting a high-level observation of current capacity of coastal councils to adapt to changing climatic conditions. Themes include:

- 1) coastal hazard risk and the time horizons councils anticipate they will encounter them
- 2) integration of coastal hazard risk into strategic planning frameworks, and
- 3) approaches and steps taken in the coastal adaptation planning process.

## Key findings

Each coastal council is unique. Coastal hazard risks are a consequence of geomorphology, siting of assets in relation to the coast, need for, and adequacy of, existing protection and management mechanisms, and the adaptive capacity of councils and communities.



## Coastal hazard risks

Settlements in low-lying areas along South Australia's coast are exposed to coastal erosion and flooding. In the past, structures were designed and built prior to consideration of changing climatic conditions. Some communities, properties, and critical infrastructure are now increasingly vulnerable to rising sea levels and associated impacts.

Of SA's coastal councils *at the time of writing (2020/2021)*:

- 71% (n=24 of 34) document they are currently experiencing coastal hazards (flooding and/or erosion)
- 79% (n= 27) anticipate they will be affected by coastal hazards by 2100.
- Three out of five councils anticipate both erosion and flooding.

### **Integration of coastal hazard risks into council-wide strategic management planning**

Integration of coastal hazard risks into council-wide strategic management frameworks is critical to address current and future impacts from erosion and flooding.

South Australia's LG Act requires all councils to develop and adopt the following strategic documents for the management of their local government area:

- Strategic management plans
- Long term financial plans
- Infrastructure asset management plans

### **Integration of coastal hazard risks – summary of findings**

Commitment to addressing coastal hazards is evident by:

- a) targeted objectives in strategic management plans (e.g., foreshore protection)
- b) funding commitment in long-term financial plans to address coastal hazard risks (including asset protection and other adaptation measures)
- c) actionable items with specific timeline and/or budget in infrastructure asset management plans.

Of SA's coastal councils *at the time of writing (2020/2021)*:

- 41% (n=14 of 34) have strategic management plans that identify foreshore protection or coastal hazard risk management as a goal/objective/priority, but do not make a connection to climate change.
- 9% (n=3 of 34) have long term financial plans that specify actionable item(s) to address coastal hazard risks (including asset protection and other adaptation measures). A further three plans acknowledge the need for protection or maintenance of foreshore assets, but they do not specify action(s).
- 18% (n=6 of 34) have infrastructure asset management plans that identify actionable item(s) to address coastal hazard risks and an indication of likely costs/expenditure and/or timeframe.



## Risk management frameworks

The LG Act stipulates that risk management should be embedded into the wide range of activities undertaken by and on behalf of a council to inform all aspects of council functions (this includes coastal adaptation).

- 41% of coastal councils (n=14 of 34) have published risk management frameworks.
- 27% (n=9 of 34) were accessible for this study.
- Five of these nine risk management frameworks specifically identify coastal hazards as a risk.

## Coastal adaptation planning

Given the 'design lifetime' of much coastal infrastructure, existing coastal assets not yet affected by impacts of coastal climate change are likely to be at risk in the future. Adaptation actions are essential to protect vulnerable communities, buildings, and assets.

### **Scoping studies, adaptation plans and strategies**

Over time the number of South Australian coastal councils engaging in coastal adaptation planning has increased progressively. Councils are at various stages in the coastal adaptation planning process.

Of SA's coastal councils *at the time of writing (2020/2021)*:

- 38% (n=13 of 34) have commenced the adaptation planning process by completing scoping/coastal hazard studies.
- 26% (n=9 of 34) have published their coastal adaptation strategies/plans.
- 9% (n=3 of 34) are preparing their coastal adaptation strategies/plan.
- 26% (n=9 of 34) have yet to commence coastal adaptation planning.
- Most councils experiencing coastal hazards have either commenced or completed their coastal adaptation planning.

There is no singular South Australian coastal adaptation planning guideline defined for local government. Three approaches inform adaptation planning in South Australia:

1. Use of adaptation planning guidelines/principles
2. Application of risk management frameworks
3. Adherence to the Coast Protection Board's 2016 Policy

Of the nine published coastal adaptation strategies/plans *at the time of writing (2020/2021)*:

- Seven cite the 2012 LGA *Coastal Adaptation Decision-Support Pathways* guideline.
- The most utilised risk assessment frameworks include the National Emergency Risk Assessment Guidelines 2010, CoastAdapt 2016, or those of Australian/New Zealand Standard Risk Management (AS31000:2009 and AS5334:2013).
- All follow the Coast Protection Board 2016 Policy.

### **Adaptation options identified within the studies/plans and strategies**

Adaptation options are typically categorised into: 'avoid', 'accommodate', 'protect', 'retreat' and 'do nothing'.

Of the nine published coastal adaptation strategies/plans:

- All nine identify at least 'accommodate' or 'protect' options.
- Five adaptation strategies/plans include a mix of at least three adaptation options.
- The 'do nothing' option (among a mix of options) is cited by only one strategy/plan.



### ***Sources of funding that have supported adaptation planning***

The funding councils have available to support adaptation work will influence the nature of their planning process.

The primary source of funds for coastal adaptation planning for three-quarters of the state's coastal councils is the South Australian Coast Protection Board. Only one council self-funded its adaptation planning. A mix of funding was sought by a number of councils.

### **State Synthesis**

A state synthesis of the integration of coastal hazard risk into the planning frameworks of SA's coastal councils reveals a spread of high to low levels of integration.

To achieve the highest level of integration in this analysis of coastal hazard risk, a council would have to have had:

- A coastal adaptation strategy/plan under development, completed or published;
- An infrastructure and asset management plan that identifies actionable item(s) to address coastal hazard risks - specifying likely expenditure/cost and timeline;
- A long term financial plan funding commitment to address coastal hazard risks (including asset protection and other adaptation measures)
- A strategic management plan that targets foreshore protection or coastal hazard risk management (goal/objective/priority)—and acknowledgement of coastal climate change.

### ***High-level integration of coastal hazard risk***

Five of 34 coastal councils (15%) are defined as achieving high-level integration having, as a minimum:

- a coastal adaptation strategy/plan under development, completed or published; and
- an infrastructure and asset management plan that identifies actionable item(s) to address coastal hazard risks - specifying timeline and/or likely cost/expenditure.

In addition, these five councils had either accounted for coastal hazard risks in their long term financial plans or their strategic management plans (but not both). All five councils are experiencing coastal hazards.



***Medium-level integration of coastal hazard risk***

To achieve mid-level integration of coastal hazard risk a council had a combination of the following attributes

- Completion of a coastal adaptation strategy/plan or scoping study
- Documented commitment to addressing coastal hazards in at least one other strategic plan (e.g. Strategic Management Plan, Long term financial plan or Infrastructure and asset management plan).

Fourteen of 34 coastal councils (41%) are defined as achieving mid-level integration. Thirteen of these councils are experiencing coastal hazards.

### ***Low-level integration of coastal hazard risk***

To achieve low-level integration a council would have the following attributes:

- A completed coastal adaptation strategy/plan but no inclusion of coastal hazard risk into their strategic planning document; or,
- Commencement of the coastal adaptation planning process but no inclusion of coastal hazard risk in strategic planning documents; or,
- Yet to commence the coastal adaptation planning process but coastal hazard risk is embedded into at least one strategic planning document.

Nine of 34 coastal councils (26%) are defined as achieving low-level integration. Half of these councils are not yet experiencing coastal hazards.

### ***Pre-integration of coastal hazard risk***

To achieve pre-integration councils had the following attributes:

- Not yet commenced the coastal adaptation planning process
- No mention of coastal hazards, foreshore protection, or coastal management in any strategic planning documents (infrastructure and asset management plan, long term financial plan or strategic management plan).

Six of 34 coastal councils (18%) are defined as pre-integration. Only one of these councils is experiencing coastal hazards.



There are significant differences across SA's coastal councils in terms of their experience of coastal hazards and accordingly councils are at various stages of the adaption planning process. In conclusion, there is:

- a clear link between experience of coastal hazard and planning response
- a growing anticipation of risk over future time horizons across councils
- limited embeddedness of coastal hazard risk within statutory plans – which potentially may limit action and expenditure on coastal adaptation.
- a possibility that coastal hazards *are* accounted for in finance and investment strategies but have not been articulated as such, and therefore, have not been captured here. In addition, some assets at risk may not be the responsibility of council and have not been picked up in this desktop study.

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