



## Sea-level rise information for councils



By 2090, sea-levels around Australia are expected to rise between 45 and 82 cm\*, depending on greenhouse gas emissions, how quickly land-based ice sheets melt, and regional differences. With millions of people and billions of dollars' worth of infrastructure in Australia's coastal regions, rising sea levels pose a significant threat to coastal communities.

Coastal councils are on the frontline of responding to this change, as they ensure that planning and services will accommodate impacts and disruptions that rising sea levels will bring.

Earth Systems and Climate Change Hub researchers prepared comprehensive sea-level projections for all coastal councils in Australia, making it easier for council planners and managers to know how sea-level rise will affect their council.

### What's new?

Prior to this research, information on future sea-level rise was not available at the council level. Although sea-level projections were released with the most recent climate change projections for Australia in 2015 (available through the marine explorer at [www.climatechangeinaustralia.gov.au](http://www.climatechangeinaustralia.gov.au)), information was only available for 24 locations for three future emissions scenarios at 2030 and 2090.

As a result of the Hub's research, sea-level rise information is now available for 255 coastal councils around Australia for each decade from 2020 to 2100 under four emissions scenarios. Researchers also developed corresponding allowances – the height that coastal defences need to be raised in order to provide the same level of protection as they do today.

### How is it used?

The sea-level rise projections and allowances are available through **CoastAdapt** ([www.coastadapt.com.au](http://www.coastadapt.com.au)), an online coastal risk management tool developed by the National Climate Change Adaptation Research Facility (NCCARF).

**CoastAdapt** provides councils and other coastal stakeholders with practical guidance on how to manage the risks from climate change and sea-level rise, together with the associated physical, social and economic risks.

The level of detail provided in the sea-level information on **CoastAdapt** is unprecedented for Australian councils, so planning decisions can be made on a more informed basis than in the past. On **CoastAdapt**, the sea-level projections and allowances information is co-located with other relevant tools for coastal managers such as the inundation tool and Smartline, developed by the CRC for Spatial Information, which provides guidance on the potential for coastal erosion. This combination of tools on the one platform makes relevant, up-to-date information readily accessible, saving time.

\*High emissions scenario (RCP8.5) projection for 2090; see Chapter 8 of the *Climate Change in Australia* technical report, available at [www.climatechangeinaustralia.gov.au](http://www.climatechangeinaustralia.gov.au).

## Who benefits?

Coastal councils can now easily access sea-level projections that are specific to their council area, to feed into planning and policy-making.

Others who may benefit from having ready access to this sea-level rise information and supporting resources include:

- State and federal government agencies
- Consultants
- Business and industry, including the investment sector and small to medium enterprises
- Natural resource managers
- Non-government agencies
- Coastal residents and community groups
- School, college and university students.



Screenshots from the National Climate Change Adaptation Research Facility's CoastAdapt tool, available at [www.coastadapt.com.au](http://www.coastadapt.com.au). The tool provides all Australian coastal councils (mainland, Tasmania and Torres Strait Islands) with information, guidelines and resources to help understand and respond to risks from climate change and sea-level rise.

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For more information contact:

Dr Kathy McInnes, Project 2.12 Lead Chief Investigator  
E: [kathleen.mcinnnes@csiro.au](mailto:kathleen.mcinnnes@csiro.au) T: 03 9239 4569