CoastAdapt: *Risk assessment templates* (http://coastadapt.com.au/tools/decision-support-templates-create-risk-register)

Table 1: Three levels of risk assessment in CoastAdapt

	First-pass risk assessment	Second-pass risk assessment	Third-pass (detailed) risk assessment
Objective	Develop a quick and high-level understanding of climate change risk to determine whether you need to undertake further assessment or action planning at this time (e.g. develop a climate change adaptation plan).	Conduct a qualitative risk assessment (generally involving expert judgement) to identify **specific risks** that may become problematic under future climate change.	Helps users to develop a better understanding of site specific climate change related risks; conduct a detailed risk assessment (quantitative or qualitative) to identify **specific risks** of **different systems;** identify and **prioritise** adaptation options.
Data requirement (refer to *Information Manual 3: Available datasets* for more detail)	Nationally available datasets, which may be in a published report (e.g. summary regional projections and/or visualizations of climate variables and sea level rise). Available localised mapping and information.	Nationally available climate change datasets (e.g. *Climate Change in Australia* website, CoastAdapt) together with existing information available from local council studies and/or expert knowledge.	Some site-specific data (depending on the objective of the assessment and may not necessary every time), for example LIDAR data, in conjunction with high resolution (daily, spatially explicit) climate scenarios data, and local expert knowledge to understand exact scale of the risk.
Time and resource requirement	Minimum	Moderate	High
Expertise requirement	• **Minimum expertise** required to acquire data • **Local knowledge** required to interpret data • **Some understanding of climate change and its potential risks** (readily-available in CoastAdapt) • **Moderate expertise** required for stakeholder communication, understanding and liaison.	• **Minimum expertise** required to acquire data • **Moderate expertise and local knowledge** required to interpret data • **Moderate expertise** required to understand the consequences of a projected climate risk • **Moderate expertise** required for communication or community consultation.	• **High expertise** required to acquire site specific data (may not be necessary for all assessments) • **High expertise** required to apply data, analyse and interpret results • **High expertise** required for understanding how a given climate-risk can translate into a number of consequences for your business • **High expertise** required to understand uncertainties in the climate change projections • **High expertise** required in community engagement
Example outcome	**Inundation** around some of our coastal areas may be problematic in the future	Due to a rise in sea level there is a **high risk** that **Beach Road** may get inundated during future storm events	Beach Road likely to be inundated more frequently in the future (due to increase in sea level and intensity of storms). The road base material is not designed to withstand the projected level of flooding frequency and therefore may require higher maintenance costs. Foundation of the road may be destabilised as coastal erosion intensifies.
Example of suitable context of use	• Develop a quick understanding of climate change risk • Identify a need for strategic and ongoing response/commitment • Identify key localities for attention • Build awareness of risk amongst stakeholders and senior management.	• Develop a more detailed understanding of climate change risk to the community or organisation • Identify key risk localities with follow up resourcing requirements • Get buy-in from community or senior management for developing an adaptation strategy or plan • Produce targeted climate risk communication materials.	• Produce detailed impact studies of climate change effects on specific installations and activities, with a full understanding of probabilities and uncertainties involved • Estimate costs of adaptation action and prioritising allocation • Confirm emergency response procedures/requirements • Develop strategic and economic evaluation of adaptation options • Develop adaptation action plans.
Limitations	Based on high-level screening and therefore not suitable for making any final decisions on adaptation actions	Based primarily on local knowledge and qualitative expert judgement of risk, therefore results are as good as the qualitative judgment of the experts.	Resource and time intensive. Requires expert input as well as local knowledge.