Climate change risk assessment basics

CoastAdapt

Basic concepts

Climate change **projections**
(e.g., change in climate variables, sea level etc.)

Leads to **hazards**
(e.g., increase in sea levels can increase inundation frequency and erosion, permanent inundation etc.)

Leads to **risks**
(e.g., further erosion of the coast will destabilise foundation of nearby infrastructure)

Risk assessment

step 1 — **Establish the context** (scope of risk assessment)

step 2 — **Identify existing climate risks** (past and current)

step 3 — **Identify future climate change risks and opportunities**

step 4 — **Analyze and evaluate risks**

Rating of a given risk: Risk = Consequence x Likelihood

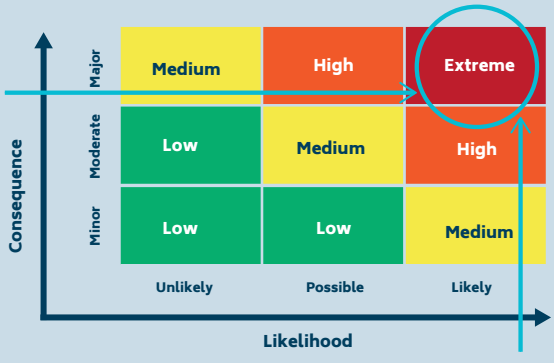
Low	Medium	High	Extreme

Example

Consequence: A sewage pumping station located near an eroding coast pumps out the treated waste of the full catchment. Therefore destabilisation of the foundation of the sewage pumping station has *Major* consequence.

Likelihood: A 1 in 50 year storm event can trigger this, therefore it is *Likely* to occur within the design life of the pump.

Finding the risk rating:
Using the rating for consequence and likelihood, find the risk rating from the risk matrix:



Adaptive capacity influences the consequence
Adaptive capacity is the capacity of the system at risk to sustain change. In general, the consequences of a risk will be relatively lower if the adaptive capacity of the system is higher (and *vice versa*).

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NCCARF National Climate Change Adaptation Research Facility