

# SOLGM Annual Summit 2019

## Protecting Communities

### Case Study: Clifton to Tangoio Coastal Hazard Strategy 2120



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# Introductions

**Chris Dolley**

**Hawke's Bay Regional Council**

Group Manager Asset Management

[Chris.Dolley@hbrc.govt.nz](mailto:Chris.Dolley@hbrc.govt.nz)



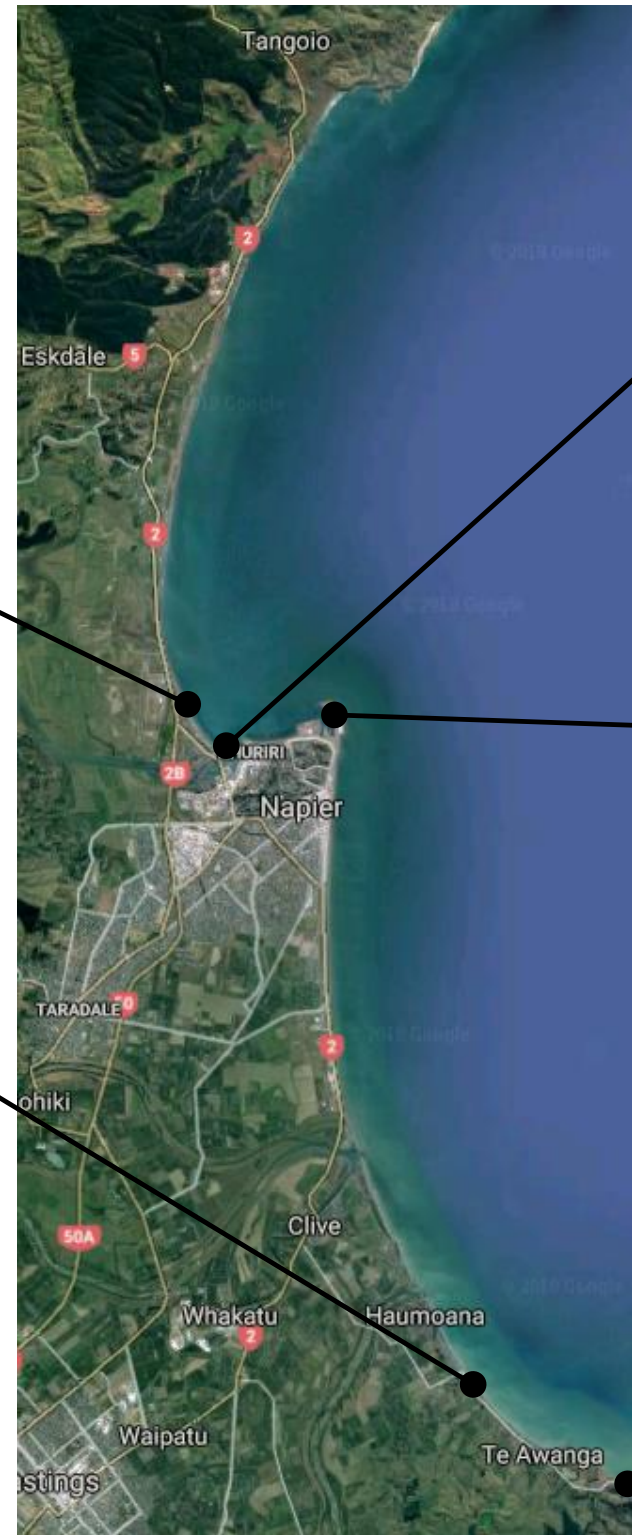
# Local Context



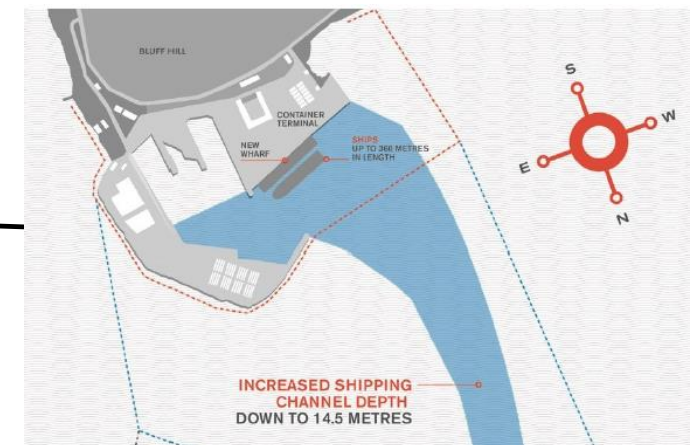
**Westshore Renourishment**



**Haumoana "21"**



**Whakarire Ave Revetment**



**Port of Napier Expansion**



**Erosion at Clifton**





# The Vision

That coastal communities, businesses and critical infrastructure from Tangoio to Clifton are resilient to the effects of coastal hazards.



# Setting up

## Coastal Hazards Joint Committee

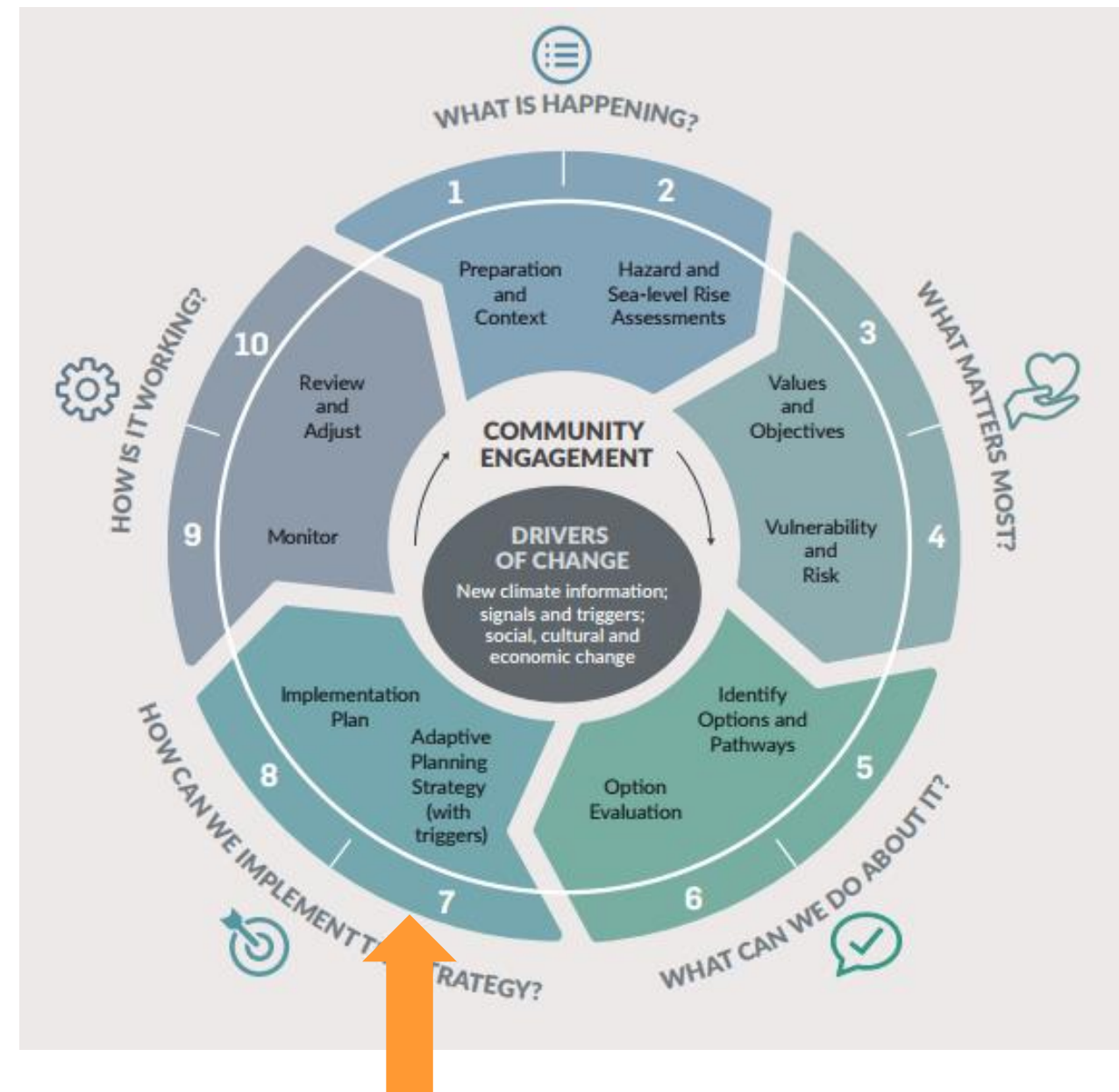
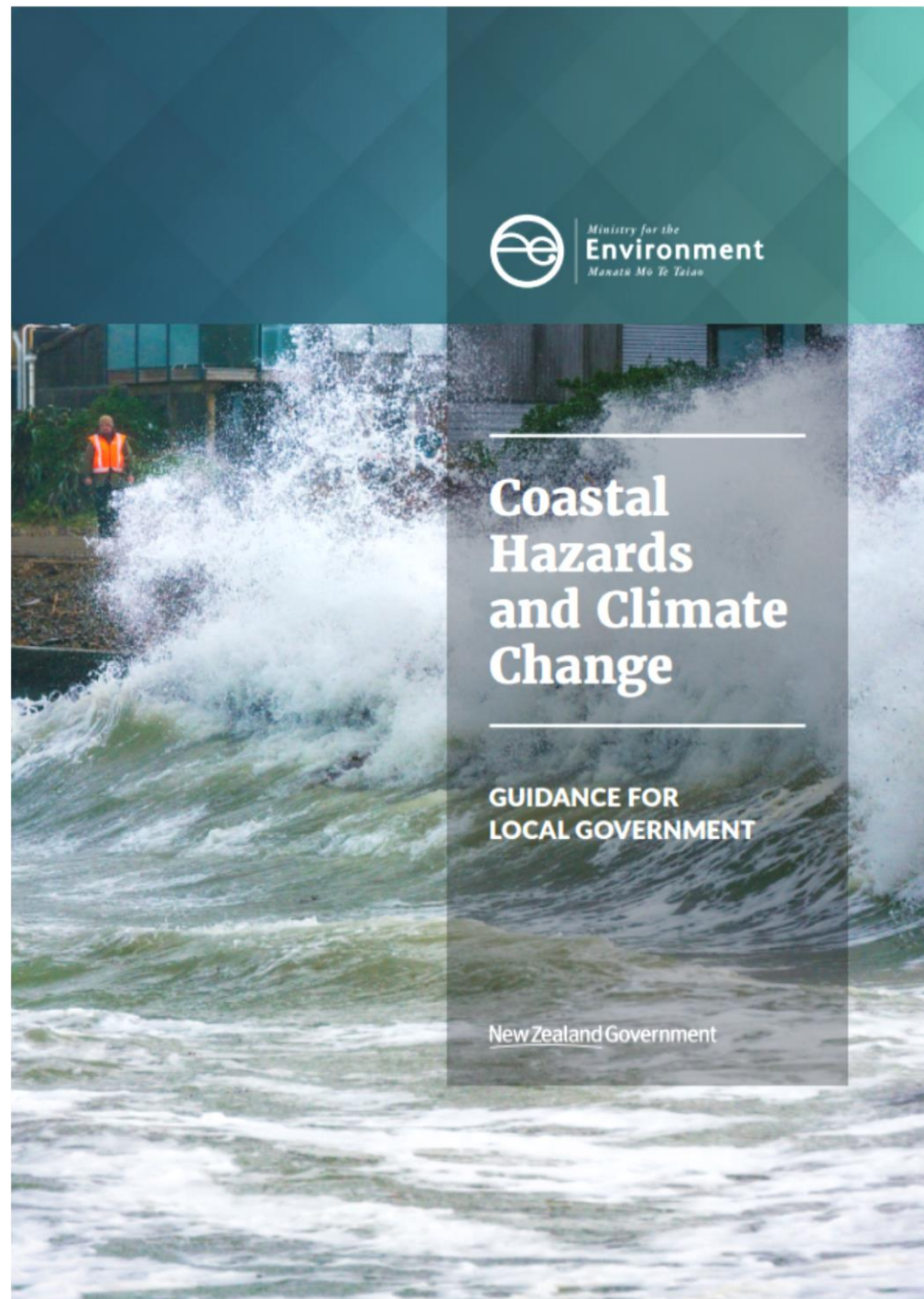


## Technical Advisory Group





# National Guidance



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# Inundation is the real threat...



# Project Timeline

Stakeholder Engagement

**Late 2014** Project Establishment and Context setting

**2015** Hazard Evaluation and Risk Assessments undertaken by Tonkin & Taylor (Stage 1)

**2016** Decision Making Framework + Funding Model developed (Stage 2)

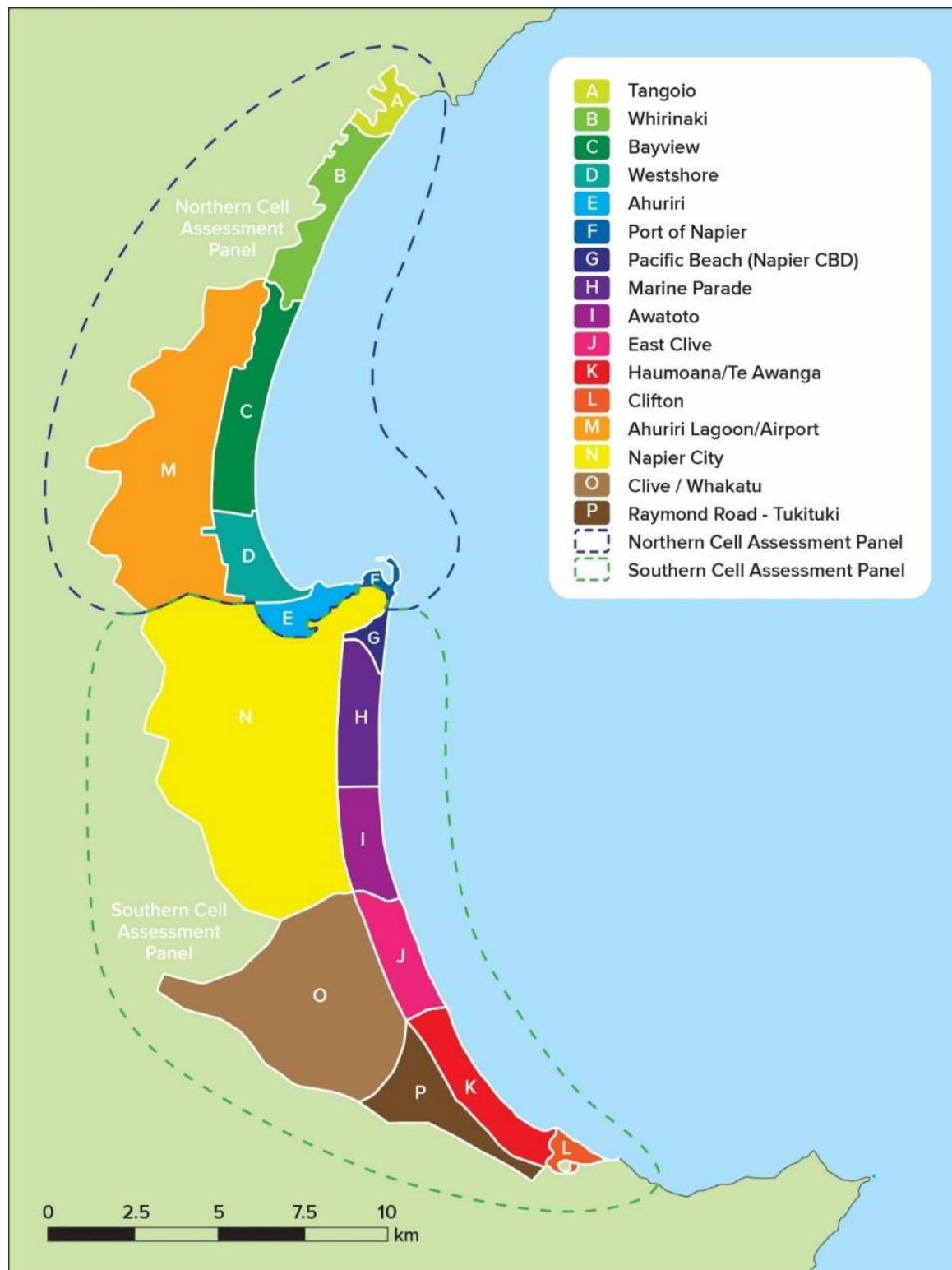
**2017** Evaluation Panel Process (Stage 3)

**2018+** Implementation Phase (Stage 4)





# Focus on Stage 3: Assessment Panels



- 16 Coastal Units identified – 7 prioritised
- Northern and Southern Cell Assessment Panels Formed
- Panel members from Mana Whenua, Coastal Communities, Wider 'inland' Communities, Business Interests, DOC, Lifelines
- Recommendations to Joint Committee developed





# Key Concept : Responding to Uncertainty with Pathways

- Panels have developed “pathways” for each priority unit
- Pathways (in this project) set out a 100 year plan in **short**, **medium** and **long** term steps.
- Each pathway is **adaptive** for an uncertain future:
- Both:
  - The timeframe for shifting between actions; and
  - The specifics of the action
- can be adjusted in response to changing hazards risks and pre-defined triggers (signals and triggers)





# Decision Making

## Te Awanga Coastal Unit Example

Unit K2: Te Awanga												
Pathway	Short term	→	Medium term	→	Long term	MCDA Score	MCDA ranking	Cost + Loss <sup>1</sup> (\$m)	Cost + Loss <sup>1</sup> ranking	VFM <sup>2</sup> (\$'000/ point)	VFM <sup>2</sup> ranking	Short Term build costs <sup>3</sup> (\$m)
PW 1	Renourishment	→	Retreat the Line	→	Managed Retreat	50	4	24.15	6	403	6	8.84 (0.55 / yr)
PW 2	Renourishment + Control Structures	→	Renourishment + Control Structures	→	Retreat the Line	58	2	17.08	2	194	2	8.98 (0.60 / yr)
PW 3	Renourishment + Control Structures	→	Renourishment + Control Structures	→	Renourishment + Control Structures	62	1	16.77	1	171	1	8.98 (0.60 / yr)
PW 4	Renourishment + Control Structures	→	Renourishment + Control Structures	→	Sea wall	53	3	18.48	3	232	3	8.98 (0.60 / yr)
PW 5	Renourishment	→	Sea wall	→	Retreat the Line	43	5=	20.00	5	329	5	8.84 (0.55 / yr)
PW 6	Sea wall	→	Sea wall	→	Sea wall	43	5=	18.67	4	291	4	9.08 (0.66 / yr)
PW 30	Retreat the Line					--	--	14.94	--	--	--	





# Te Awanga - Recommended Pathway

## UNIT K2: TE AWANGA – PATHWAY 3

Short term (0 – 20 years)	→	Medium term (20 – 50 years)	→	Long term (50 – 100 years)
Renourishment + Groynes	→	Renourishment + Groynes	→	Renourishment + Groynes



- **Short term** offset erosion losses with renourishment, Groynes will reduce erosion losses and the larger beach will reduce the impact of storms.
- **Medium - Long term** groynes may be raised and lengthened with more material added, to create a larger beach, to account for sea level rise and maintain the standard of protection.



# Decision Making





# Challenge 1: Who Pays (and who collects)?

- Implementing Strategy will be expensive
- But so is the cost of doing nothing!
- Section 101 (3) LGA sets the process and considerations a local authority must consider, e.g.
  - Public versus private good / Intergenerational equity / Affordability test
- Related political issue – who collects the rate? Owns the structure? Holds the debt?



# Who pays is the big issue

- River Managers discussion paper “Central Government Co-investment in River Management for Flood protection”
  - MfE- Pilot Study
  - Productivity Commission
  - LGNZ Climate Change Project
  - Zero Carbon Act
- 
- Focus on technical/ impacts vs Focus on funding decisions
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- Benefactor?
  - Exacerbator?
  - Social insurance?





# Questions / Discussion



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Thank you

