

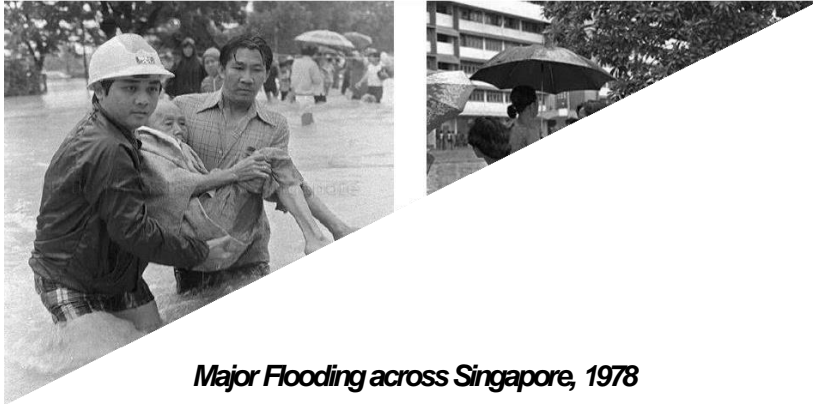
# Singapore's Approach Towards Coastal Protection

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# Singapore is vulnerable to flooding

**Then: 3,000ha**



*Major Flooding across Singapore, 1978*

**Now: 30 ha**



Source: [The Straits Times, Singapore](#)



Source: [Mothership, Singapore](#)



**30%**

**of our land is < 5 metres above mean sea level**



**Upto 1 metre**

**mean sea level rise projected by 2100**

**Upto 4-5 metres**

**taking into account extreme high tides and storm surges**

**About 25%**

**increase in rainfall intensity by 2100**

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NATIONAL DAY  
RALLY 2019

## TACKLING CLIMATE CHANGE

“ WE SHOULD TREAT CLIMATE CHANGE  
DEFENCES LIKE WE TREAT THE SAF -  
WITH UTMOST SERIOUSNESS ”

PM LEE HSIEN LOONG

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**PUB** appointed as the national coastal protection agency in 2020 to develop and lead the implementation of coastal protection measures in Singapore

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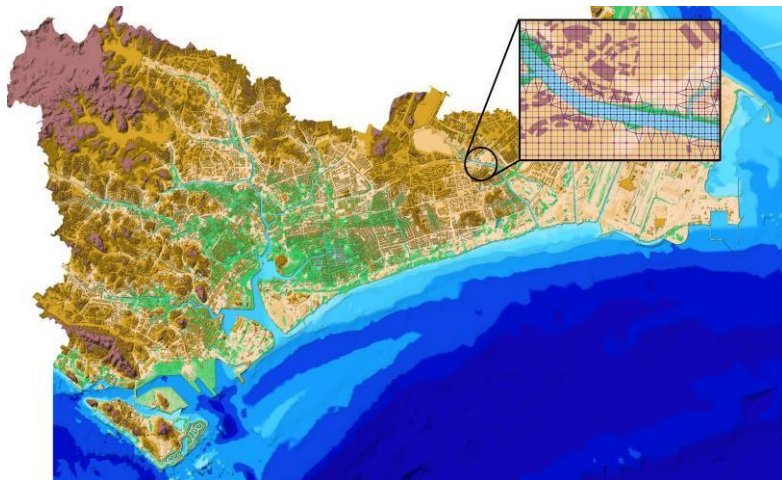


Coastal protection is one of our key strategies to **build a Resilient Future under the Singapore Green Plan 2030**

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## Holistic Risk Assessment

- Coastal-Inland Flood Model
- Continuous review of flood risks based on latest climate science data
- Predictive capability

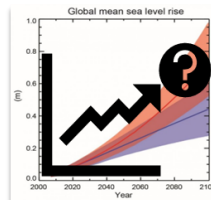


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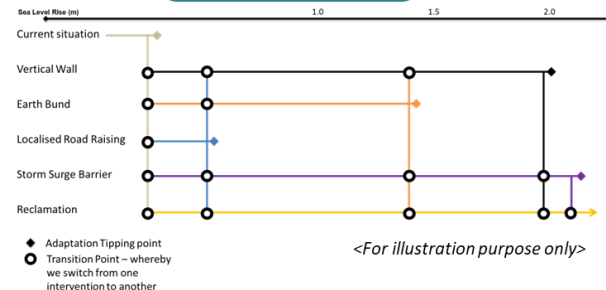
## Flexible & Adaptive

- Identify range of options that are flexible & adaptive to climate uncertainties
- Sequence options over time to form “pathways”

### Uncertainties



### Adaptation Pathways



# OUR APPROACHES

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## Integrated Planning

- Value creation through achieving multi-functionality
- Opportunity for nature-based solutions

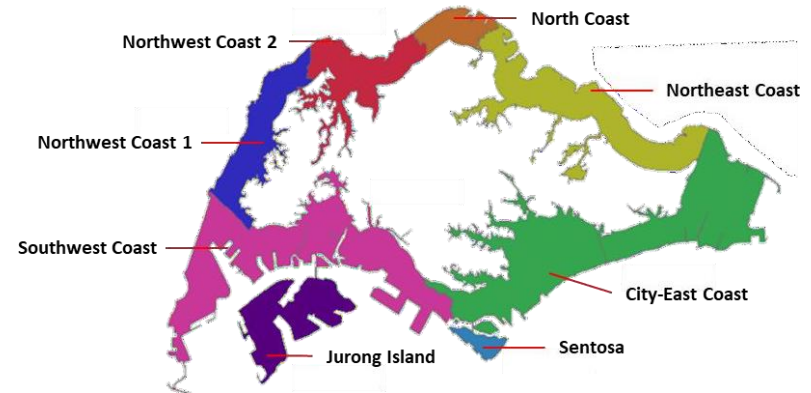


Bishan-AMK Park before and after redevelopment

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## Phased Implementation

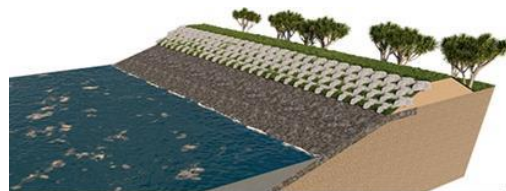
- Site-specific studies for different segments to be done progressively
- Phased implementation of measures to avoid bunching up of resources



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## Capability Building

- Drive coastal protection research and development to holistically address Singapore's flood protection challenge against climate change and build long-term capability



Potential application of Armour Rock units  
along Singapore's coasts



Pilot Polder Project at Pulau Tekong

© HDB

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## Shared Stewardship

- Educate:** Create understanding of the problem, awareness of challenges & recognition of opportunities
- Engage:** Garner ideas & aspirations, acknowledgement of trade-offs
- Embrace:** Encourage playing a part to co-develop solutions & build community resilience



"Our Coastal Conversation" –  
community dialogue



Deploying flood barriers  
at a residential house

Thank You

